Search history

Search 1: FT=toner and cartridge and latch and (handle or knob or tab) (Results 23)

Search 2: FT=toner and hook* and cartridge (Results 202)

Search 3: FT=toner and (secur* or attach* or fix*) and (hook* or latch* or lever* or clip) (Results 2768)

Search 4: FT=toner and (secur* or attach* or fix*) and (hook* or latch* or lever* or clip) and cartridge (Results 466)

- session log created:12 July 2017 04:09:04
- Update information:

PatBase Coverage at Update 2017 Week 27 (Year 2017 Week 27)

PatBase Coverage includes 100+ million documents from over 100 patent–issuing authorities and includes patent applications, granted patents, utility models and designs â€“ detailed in the below coverage listings.

Major countries

Publishing body	Document type	Bibliographic publication date		Full–Text publication date	
		Earliest	Latest	Earliest	Latest
CN China	Patent Applications	19850910	20170707	19850910	20170707
	Patents	19930106	20170707	19930106	20170707
	Utility Model Applications	19850409	19921230	19850409	19921230
	Utility Models	19930106	20170704	19930106	20170704
	Designs	19850910	20170707	19850910	20150819
DE Germany	Patent Applications	19211221	20170706	19650317	20170706
	Patents	18770101	20170706	19200113	20170706
	Utility Models	19280626	20170706	19610831	20170706
	EP/WO Patents	19871217	20140410		
EP European Patent Office	Patent Applications	19781220	20170705	19781220	20170705
	Patents	19800109	20170705	19800109	20170705
FR France	Patent Applications	19690307	20170707	19810102	20170616
	Patents	18550227	20170707	19600502	20170707
	Utility Model Applications	19720107	20170707	19800104	20170616
	Utility Models	19730112	20170707	19690802	20170623
GB United Kingdom	Unpublished Patent Applications	19830209	20170621		
	Patent Applications	19790104	20170705	19790104	20170621
	Patents	17820704	20170705	19020911	19811216
JP Japan		19710116	20170706	19930108	20170629

	Patent Applications				
	Patents	19281026	20170621	19960529	20170621
	Utility Model Applications	19710723	20060209	19990817	20031107
	Utility Models	19640805	19960329		
	Registered Utility Models	19940726	20170622	19940726	20101216
	Designs	20141110	20170703		
KR Republic of Korea	Patent Applications	19781209	20170707	19940103	20170706
	Patents	19700820	20170707	19970104	20170706
	Utility Model Applications	19781127	20170707	19940730	20170706
	Utility Models	19780110	20170707	19970104	20170706
US United States of America	Patent Applications	20010315	20170706	20010315	20170706
	Patents	18360101	20170704	18560617	20170704
	Designs	18650912	20170704	19770719	20170704
WO World Intellectual Property Organization (WIPO)	Patent Applications	19781019	20170706	19781019	20170706
	Designs	20151127	20170707	20151127	20170707

20170708 21:00

- Login to Patbase:12 July 2017 04:09:04
- **search:** SS1 FT=toner and cartridge and latch and (handle or knob or tab) (Results 23)
- List: SS1 1–50 (FT=toner and cartridge and latch and (handle or knob or tab)) (Results 23)

0) US2015098721A – TONER CARTRIDGE HAVING LOADING AND LATCHING FEA...

1) Family number: 58902356 (US2015098721A) © PatBase

Title: TONER CARTRIDGE HAVING LOADING AND LATCHING FEATURES

Priority: US20110888698P 20111009 US20130058352 20131021 US20130888698P 20131009 US20130058370 20131021 US20130058382 20131021 WO2014US58007 20140929

Family:

Publication number	Publication date	Application number	Application date
AR097956 AA	20160420	AR2014P103740	20141007
AU2014332398 AA	20150416	AU20140332398	20140929
AU2014332398 BB	20170316	AU20140332398	20140929
CA2923632 AA	20160307	CA20142923632	20140929
CL2016000589 A1	20160708	CL20160000589	20160311
CN105612462 A	20160525	CN201480055174	20140929
CO16119692 A2	20161121	CO20160119692	20160509
EP3055738 A1	20160817	EP20140851604	20140929
EP3055738 A4	20170621	EP20140851604	20140929
IL244474 A0	20160421	IL20140244474	20140929
IN201617013301 A	20160831	IN201617013301	20160416
KR101722378 B1	20170405	KR20167012150	20140929
KR20160067223 A	20160613	KR20167012150	20140929
PH2016500485 A	20160516	PH20160500485	20160311
SG11201601700X A1	20160428	SG20161101700	20140929
TW201525622 A	20150701	TW20140132775	20140923
US2015098721 AA	20150409	US20130058352	20131021
US2015098730 AA	20150409	US20130058370	20131021
US2015098731 AA	20150409	US20130058382	20131021
US9152083 BB	20151006	US20130058370	20131021
US9164425 BB	20151020	US20130058352	20131021
US9229367 BB	20160105	US20130058382	20131021
WO15053973 A1	20150416	WO2014US58007	20140929
ZA201601532 A	20161130	ZA20160001532	20140929

Probable Assignee: LEXMARK INT INC

Assignee(s):(std)**:** BUCHANAN JOHN ANDREW ; CAVILL GREGORY ALAN ; LEEMHUIS JAMES RICHARD ; LEXMARK INT INC ; WILLIAMSON RANDAL SCOTT

Inventor(s):(std)**:** BUCHANAN JOHN ANDREW ; CAVILL GREGORY ALAN ; LEEMHUIS JAMES RICHARD ; WILLIAMSON RANDAL SCOTT ; SCOTT WILLIAMSON RANDAL ; RICHARD LEEMHUIS JAMES ; ANDREW BUCHANAN JOHN ; ALAN CAVILL GREGORY ; RANDAL SCOTT WILLIAMSON ; JOHN ANDREW BUCHANAN ; JAMES RICHARD LEEMHUIS ; GREGORY ALAN CAVILL

Agent(s): WRAYS PTY LTD; ROBIC; JUAN ENRIQUE PUGA V; JAIME EDUARDO DELGADO VILLEGAS; BOERNER ROBERT; JUSTIN M; TROMP JUSTIN MICHAEL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9): G03G G03G15/00 G03G15/06 G03G15/08 G03G21/16 (Advanced/Invention); G03G (Subclass/Invention)

CPC: G03G15/0875 G03G15/0865 G03G15/0894

US class: 1/1 399/258 399/262 399/90

Classification Explorer

Cited documents: US8567932 BB, US8401434 BB, US8342642 BB, US8292411 BB, US8200126 BB, US7992982 BB, US7953347 BB, US7905572 BB, US7840165 BB, US7831168 BB, US7769321 BB, US7734230 BB, US7641313 BB, US7305204 BB, US7272336 BA, US7258558 BA, US7258558, US7174121 BB, US7168799 BB, US7159973 BB, US7136609 BB, US7133629 BB, US6692107 BB, US6530399 BB, US6386681 BA, US6301456 BA, US6134410 A, US6115571 A, US5842093 A, US5819139 A, US5758233 A, US5583612 A, US5434655 A, US5313993 A, US5066976 A, US2013287448 AA, US2013209141 AA, US2013170868 AA, US2013170867 AA, US2013147885 AA, US2012315066 AA, US2012315066, US2011129252 AA, US2011091222 AA, US2010322676 AA, US2009142103 AA, US2009080909 AA, US2009016779 AA, US2007229619 AA, US2007098455 AA, US2006013621 AA, US2005265736 AA, US2003219284 AA, US2003053819 AA, US2002057317 AA, KR20100103807 A, KR20100103807, JP8030079 A2, JP8030079, JP2009134097 A2, JP2009080477 A2,

Forward Citations: US9411303, US9317004, US9291992, US9285758,

Abstract:
Source: US2015098721A A toner cartridge according to one example embodiment includes a housing having a front, rear, first side, second side, top and bottom forming a toner reservoir. An outlet port is positioned on the front of the housing proximate the first side for transferring toner out of the reservoir. A drive gear is positioned on the front of the housing and has a center proximate the second side for receiving rotational power. A cavity is formed in the bottom of the housing. A latch catch is positioned in the cavity on an inner side of the front of the housing for receiving a latch for securing the toner cartridge in an image forming device. The latch catch is positioned closer to the bottom of the housing than the outlet port and the drive gear and between the center of the drive gear and the outlet port in the side−to−side direction.

0) US2002059880A – METHOD AND APPARATUS FOR COMMUNICATING BETWEEN ...

2) Family number: 32712656 (US2002059880A) © PatBase

Title: Method and apparatus for communicating between printer and card supply

Priority:

EP20000911626	20000121	EP20030724021	20030415	EP20040758811	20040402
US19990117123P	19990125	EP20040758794	20040402	EP20110156304	20040402
US20020126427	20020419	US20000604214	20000627	US20020126441	20020419
US20030459712	20030402	US20010967501	20010928	US19990310770	19990510
US20020071554	20020208	US20000489591	20000121	US20030722377	20031125
WO2003US11440	20030415	WO2003US11413	20030415	US20030647666	20030823
WO2002US28509	20020906	WO2000US01697	20000121	US20040917947	20040813
US20030459712P	20030402	US20030647666	20030825	US20030497009P	20030819
US20050222505	20050908	US20040607880P	20040908	US20050135619	20050523
US20030647798	20030825	US20040611256P	20040917	US20060431170	20060510
WO2005US31861	20050908	WO2005US31861	20050908	WO2004US10273	20040402
WO2004US10216	20040402	WO2003US11440	20041013		

Family:

Publication number	Publication date	Application number	Application date
AT526265 E	20111015	AT20030724021T	20030415
AU200033494 A5	20000807	AU20000033494	20000121
AU2002326841 AA	20030414	AU20020326841	20020906
AU2003221921 AA	20031103	AU20030221921	20030415
AU2003230915 AA	20031103	AU20030230915	20030415
AU2004228646 AA	20041021	AU20040228646	20040402
AU2004228646 BB	20080828	AU20040228646	20040402
BRPI0406377 A	20050809	BR2004PI06377	20040402
BRPI0406377 B1	20170207	BR2004PI06377	20040402
CA2497551 AA	20050302	CA20042497551	20040402
CA2497551 C	20100824	CA20042497551	20040402
CN100336705 C	20070912	CN20028018880	20020906
CN100352749 C	20071205	CN20038008777	20030415
CN100567014 C	20091209	CN200480000718	20040402
CN101124137 A	20080213	CN200580029727	20050908
CN101124137 B	20100407	CN200580029727	20050908
CN1128720 C	20031126	CN20008002852	20000121
CN1351543 A	20020529	CN20008002852	20000121
CN1635975 A	20050706	CN20028018880	20020906
CN1646402 A	20050727	CN20038008777	20030415
CN1764540 A	20060426	CN200480007989	20040402
CN1764540 B	20110216	CN200480007989	20040402
CN1914047 A	20070214	CN200480000718	20040402
CO5720983 A2	20070131	CO20050027927	20050330
DE60042395 D1	20090730	DE20006042395	20000121
DE602004036372 D1	20120329	DE200460036372T	20040402
DE602004045540 D1	20140904	DE200460045540T	20040402
DE602004047222 D1	20150625	DE200460047222T	20040402
DE602005024412 D1	20101209	DE200560024412T	20050908
DE60338531 D1	20111117	DE20036038531	20030415
EP1145164 A2	20011017	EP20000911626	20000121
EP1145164 A3	20040602	EP20000911626	20000121
EP1145164 B1	20090617	EP20000911626	20000121
EP1497210 A1	20050119	EP20030724021	20030415

EP1497210 B1	20110928	EP20030724021	20030415	
EP1525991 A1	20050427	EP20040028859	20000121	
EP1608508 A2	20051228	EP20040758811	20040402	
EP1608508 A4	20091202	EP20040758811	20040402	
EP1608508 B1	20120201	EP20040758811	20040402	
EP1625017 A2	20060215	EP20040758794	20040402	
EP1625017 A4	20121205	EP20040758794	20040402	
EP1625017 B1	20150520	EP20040758794	20040402	
EP1786711 A2	20070523	EP20050803865	20050908	
EP1786711 A4	20090304	EP20050803865	20050908	
EP1786711 B1	20101027	EP20050803865	20050908	
EP2335933 A2	20110622	EP20110156304	20040402	
EP2335933 A3	20120321	EP20110156304	20040402	
EP2335933 B1	20140723	EP20110156304	20040402	
ES2330915 T3	20091217	ES20000911626T	20000121	
ES2353144 T3	20110225	ES20050803865T	20050908	
ES2379727 T3	20120503	ES20030724021T	20030415	
ES2381978 T3	20120604	ES20040758811T	20040402	
ES2495349 T3	20140917	ES20110156304T	20040402	
ES2545638 T3	20150914	ES20040758794T	20040402	
HK1042142 A1	20091231	HK20020102857	20020416	
IN02091CN2005 A	20071109	IN2005CN02091	20050830	
JP2002535172 T2	20021022	JP20000595284T	20000121	
JP2007524525 T2	20070830	JP20060509635T	20040402	
JP4579906 B2	20101110	JP20060509635T	20040402	
KR100894092 B1	20090420	KR20047016382	20030415	
KR101079371 B1	20111102	KR20057003271	20040402	
KR101150126 B1	20120621	KR20077003153	20050908	
KR20020015304 A	20020227	KR20017009324	20010725	
KR20050019067 A	20050228	KR20047016382	20030415	
KR20050113162 A	20051201	KR20057003271	20040402	
KR20070050047 A	20070514	KR20077003153	20050908	
MXPA05009274 A1	20060317	MX2005PA09274	20040402	
US2002059880 AA	20020523	US20020071554	20020208	
US2002105135 AA	20020808	US20010967501	20010928	
US2003024422 AA	20030206	US20020126427	20020419	
US2003152409 AA	20030814	US20020126441	20020419	
US2004109715 AA	20040610	US20030647666	20030825	
US2004114981 AA	20040617	US20030647798	20030825	
US2004136768 AA	20040715	US20030722377	20031125	
US2005019078 AA	20050127	US20040917947	20040813	
US2005271439 AA	20051208	US20050135619	20050523	
US2006071420 AA	20060406	US20050222505	20050908	
US2006204308 AA	20060914	US20060431170	20060510	
US6315283 BA	20011113	US19990310770	19990510	
US6386772 BA	20020514	US20000489591	20000121	
US6536758 BB	20030325	US20010967501	20010928	
US6694884 BB	20040224	US20020071554	20020208	
US6758470 BA	20040706	US20000604214	20000627	
US6758616 BB	20040706	US20020126427	20020419	

US6832866 BB	20041221	US20030722377	20031125	
US6932527 BB	20050823	US20020126441	20020419	
US7018117 BB	20060328	US20030647798	20030825	
US7154519 BB	20061226	US20050135619	20050523	
US7237485 BB	20070703	US20040917947	20040813	
US7344325 BB	20080318	US20030647666	20030825	
US7878505 BB	20110201	US20050222505	20050908	
WO0043932 A2	20000727	WO2000US01697	20000121	
WO0043932 A3	20010517	WO2000US01697	20000121	
WO03029117 A2	20030410	WO2002US28509	20020906	
WO03029117 A3	20030724	WO2002US28509	20020906	
WO03089247 A1	20031030	WO2003US11413	20030415	
WO03089348 A1	20031030	WO2003US11440	20030415	
WO04089633 A2	20041021	WO2004US10216	20040402	
WO04089633 A3	20061005	WO2004US10216	20040402	
WO04089633 C1	20070125	WO2004US10216	20040402	
WO04089634 A2	20041021	WO2004US10273	20040402	
WO04089634 A3	20050519	WO2004US10273	20040402	
WO06029205 A2	20060316	WO2005US31861	20050908	
WO06029205 A3	20070510	WO2005US31861	20050908	

Probable Assignee: ASSA ABLOY AB

Assignee(s):(std)**:** ASSA ABLOY AB ; HID GLOBAL CORP ; TAPP SPENCER L ; MEIER JAMES R ; PRIBULA MARTIN A ; LUKASKAWCEZ STACY W ; LOKKEN ANTHONY L ; FARGO ELECTRONICS INC ; JOHNSON CHADWICK M

Assignee(s): LASALLE BANK NATIONAL ASSOCIATION ; GERSHENOVICH LEON ; FARGO ELECTRONICS INC6533 FLYING CLOUD DRIVEEDEN PRAIRIEMN55344US ; HID GLOBAL CORP9292 JERONIMO ROADIRVINECA92618US ; UPIN JEFFREY D ; LIEN BRENT D ; PARK RYAN G ; MEIER JAMES M ; PLATNER THOMAS C ; KLINEFELTER GARY M ; LENZ GARY A ; GERSHENOVICH LEONID S ; ASSA ABLOY ABKLARABERGSVIADUKTEN 90P.O. BOX 70340SE–107 23STOCKHOLMSE ; BRANDT STEVEN J ; COUNTRYMAN GARY P JR ; DUNHAM MATTHEW K ; FARGO ELECTRONICS ; INC

Inventor(s):(std)**:** BRANDT STEVEN J ; COUNTRYMAN GARY ; COUNTRYMAN GARY P JR ; DUNHAM M K ; DUNHAM MATTEW K ; DUNHAM MATTHEW ; GARY P COUNTRYMAN JR ; GERSHENOVIC LEON ; FLINEFELTER GARY M ; IBS JON ; JAMES M MEIER ; JOHNSON CHADWICK ; KLINEFELTER G M ; KLINEFELTER GARY ; LENZ GARY ; LIEN BRENT D ; LOKKEN ANTHONY ; MEIER JAMES ; MEIER JAMES M JOHNSON CHADWICK ; LUKASKAWCEZ STACY ; MEIER JAMES R JOHNSON CHADWICK ; MEIRER JAMES M ; PARK RYAN ; PAULSON B A ; PLATNER THOMAS ; PRIBULA MARTIN ; TAPP SPENCER L ; UPIN JEFFERY D ; UPIN JEFFREY ; UPIN JEFFREY D ; THOMAS C PLATNER ; STACY W LUKASKAWCEZ ; SKOGLUND JOHN P ; RYAN G PARK ; REYNOLDS KOTZ THOMAS J ; PRIBULA MARTIN A ; MEIER JAMES R ; MATTHEW K DUNHAM ; MARTIN A PRIBULA ; LUKASKAWCEZ STACY W ; LOKKEN ANTHONY L ; LEONID S GERSHENOVICH ; LEON GERSHENOVICH ; LENZ GARY A ; KLINEFELTER GARY M ; JOHNSON CHADWICK M ; JEFFREY D UPIN ; JAMES R MEIER ; JAMES M MEIRER ; HAAS DARREN W ; GERSHENOVICH LEONID S ; GARY P JR COUNTRYMAN ; GARY M KLINEFELTER ; GARY A LENZ ; ANTHONY L LOKKEN ; PLATNER THOMAS C ; PARK RYAN G ; MEIER JAMES M ; IBS JON J ; GERSHENOVICH LEON ; COUNTRYMAN GARY P ; PAULSON BRADLEY A ; MEIER JAMES R BRANDT STEVEN J ; DUNHAM MATTHEW K ; DUMITRU AURELIAN ; CAMPION KEVIN R ; COUNTRYMAN JR GARY P ; CHADWICK M JOHNSON

Inventor(s): B A PAULSON ; G M KLINEFELTER ; M K DUNHAM ; UPIN JEFFREY D EDINA ; UPIN JEFFREY DUS ; PRIBULA MARTIN A EDEN PRAIRIE ; RYAN GPARK ; SPENCER L TAPP ; STEVEN J BRANDT ; PLATNER THOMAS C EDEN PRAIRIE ; PLATNER THOMAS CUS ; PARK RYAN G FARMINGTON ; PARK RYAN GUS ; MK DUNHAM ; MEIER JAMES R JOHNSON CHADWICK M COUNTRYMAN GARY P ; LUKASKAWCEZ STACY W SHAKOPEE ; LUKASKAWCEZ STACY WUS ; MEIER JAMES M JOHNSON CHADWICK M COUNTRYMAN GARY P ; MEIER JAMES M ST PAUL ; MEIER JAMES M STPAUL ; MEIER JAMES MUS ; MEIER JAMES R FALCON HEIGHTS ; LOKKEN ANTHONY L EDEN PRAIRIE ; LENZ GARY A CHANHASSEN ; LENZ GARY AUS ;

KLINEFELTER GARY M EDEN PRAIRIE ; KLINEFELTER GARY MUS ; JOHNSON CHADWICK M SAVAGE ; JOHNSON CHADWICK MUS ; JR GARY P ; KEVIN R CAMPION ; IBS JON J MINNEAPOLIS ; GARY M FLINEFELTER ; GERSHENOVIC LEON EDEN PRAIRIE ; GERSHENOVICH LEON EDEN PRAIRIE ; GERSHENOVICH LEONUS ; GM KLINEFELTER ; DUNHAM MATTHEW K EAGAN ; DUNHAM MATTHEW KUS ; COUNTRYMAN GARY P JR COLUMBIA HEIGHT ; COUNTRYMAN GARY P JRUS ; COUNTRYMAN GARY PJR ; BRENT D LIEN ; COUNTRYMAN ; AURELIAN DUMITRU ; BA PAULSON ; BRADLEY A PAULSON

Agent(s): FREEHILLS PATENT AND TRADE MARK ATTORNEYS; FREEHILLS PATENT ATTORNEYS; HERBERT SMITH FREEHILLS; FPA PATENT ATTORNEYS PTY LTD; BORDEN LADNER GERVAIS LLP; HOARTON LLOYD DOUGLAS CHARLES; GROSFILLIER PHILIPPE; MCLEISH NICHOLAS ALISTAIR MAXWELL; CURELL MIREIA; CHIBA AKIO; MASUI CHUJI; ONO SHINJIRO; HASHIMOTO MASAO; TOMITA HIROYUKI; SHAMOTO ICHIO; KOBAYASHI YASUSHI; ITO TAKAMI; BRIAN D KAUL WESTMAN CHAMPLIN AND KELLY; WESTMAN CHAMPLIN AND KELLY PA; WESTMAN CHAMPLIN AND KELLY

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KM KP KR KZ LC LI LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RU SC SD SE SG SI SK SL SM SN SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

International class (IPC 8–9): B41F1/40 B41F1/54 B41J11/00 B41J11/44 B41J13/10 B41J13/12 B41J17/32 B41J17/36 B41J2/01 B41J2/175 B41J2/355 B41J27/12 B41J29/00 B41J29/38 B41J3/407 B41J31/00 B41J32/00 B41J33/00 B41J35/28 B41J35/36 B65H1/00 B65H1/04 B65H1/06 B65H15/00 B65H29/00 B65H29/58 B65H3/06 B65H3/24 B65H3/50 B65H3/52 B65H3/56 B65H39/10 B65H43/00 B65H5/02 G03G21/00 G06Q10/08 G06Q20/20 (Advanced/Invention); B41J13/12 B41J17/36 B41J2/01 B41J2/175 B41J29/00 B41J29/38 B41J3/407 B41J31/00 B41J32/00 B41J33/00 B65H1/06 B65H43/00 G03G21/00 (Advanced/Non–invention); B41J11/00 B41J13/10 B41J13/12 B41J17/32 B41J17/36 B41J2/175 B41J27/00 B41J35/36 B65H1/06 B65H15/00 B65H29/00 B65H29/58 B65H3/06 B65H39/10 B65H43/00 B65H5/02 (Core/Invention); B41J2/175 B65H43/00 (Core/Non–invention); B41J B65H (Subclass/Invention)

International class (IPC 1–7): B41F1/40 B41F1/54 B41F13/24 B41F17/00 B41J0/00 B41J1/00 B41J11/26 B41J11/44 B41J11/58 B41J11/62 B41J13/10 B41J13/12 B41J17/36 B41J2/01 B41J2/175 B41J25/38 B41J27/12 B41J29/00 B41J29/38 B41J29/54 B41J3/407 B41J31/00 B41J32/00 B41J33/00 B41J35/28 B41J35/36 B65H1/00 B65H1/06 B65H3/06 B65H3/34 B65H3/52 B65M1/06 G03G21/00 G06F17/60

CPC: B41J2/355 B41J17/12 B65H1/04 B65H2405/31 G06Q20/203 B41J17/32 G06Q10/087 B65H1/06 B41J11/0035 B65H3/24 B65H3/50 B65H3/56 B65H2301/42322 B65H2403/513 B65H3/06 B65H5/18 B41J17/16 B41J11/0015 B65H15/00 B65H29/58 B65H2301/33214 B65H2402/10 B65H2404/1421 B65H2511/212 B65H2511/234 B65H2553/612 B65H2601/422 B65H3/063 B65H2404/623 B65H2511/12 B65H2511/13 B65H2511/20 B65H2701/1914 B41J13/12 B41J2/17546 B41J11/009 B41J13/103 B41J17/36 B41J35/36

European class: B41J11/00C B41J11/00E B41J11/00U B41J13/10B B41J13/12 B41J17/12 B41J17/32 B41J17/36 B41J2/175C7E B41J2/355 B41J35/36 B65H1/04 B65H1/06 B65H15/00 B65H29/58 B65H3/06 B65H3/06F B65H3/24 B65H3/50 B65H3/56 B65H5/18 G06Q10/087 G06Q20/203 L65H301/33214 L65H301/42322 L65H333/214 L65H402/10 L65H403/513 L65H405/31 L65H511/120 L65H511/130 L65H511/212 L65H511/234 L65H553/612 L65H601/422 L65H701/1914

US class: 101/232 101/232S 101/35 101/35P 101/483 101/484 235/380 235/385 235/472.02 271/10.09 271/10.11 271/10.13 271/104 271/113 271/116 271/121 271/121P 271/124 271/138 271/167 271/167S 271/171 271/176 271/272 271/272P 271/298 271/300 271/302 271/9.01 280/270 340/500 347/105 347/177 347/211 347/214 358/1.1 358/1.14 400/120.01 400/191 400/191P 400/202.4 400/202.400P 400/208 400/208P 400/621 400/624 400/663 400/663P 400/668 400/692 400/718 400/718P 400/76 400/76P 700/79 705/22 705/28 705/50 711/108

Classification Explorer

Cited documents: WO9949379 A2, WO9921713 A1, WO9904368 A1, WO9852762 A2, WO9509084 A1, WO05070687 A2, WO04011268 A1, WO03089348 A1, WO03060811, WO03019459 A3, WO03019459 A2, WO02070262 A2, WO0192019 A2, WO0043932 A2, US7170537 BB, US6985167 BB, US6832866 BB, US6816968 BA, US6798434 BB, US6798434 BA, US6798434 B1, US6776470 BB, US6776470 BA, US6762780 BB, US6762780 BA, US6762780 B1, US6758616 BB, US6722649 BB, US6702282 BB, US6694884 BB, US6694884 BA, US6688519 BB, US6663100 BB, US6650351 BB, US6650351 BA,

US6650351 B1, US6647871 BB, US6644771 BA, US6640717 BB, US6631967 BA, US6593952 BA, US6592032 BA, US6582141 BB, US6554512 BB, US6512594 BA, US6485012 BA, US6464317 BB, US6464317 BA, US6464317 B1, US6431537 BA, US6428132 BA, US6412991 BA, US6412770 BA, US6409086 BA, US6405055 BA, US6402135 BA, US6386772 BA, US6386722 BB, US6380965 BA, US6371586 BA, US6362868 BA, US6341839 BA, US6325495 BA, US6318918 BA, US6318914 BA, US6315283 BA, US6312106 BA, US6312083 BA, US6305795 BB, US6305795 BA, US6305795 B1, US6302527 BA, US6298336 BA, US6286828 BA, US6286772 BA, US6279901 BA, US6271928 BA, US6267463 BA, US6267370 BA, US6264301 BA, US6264296 BA, US6263170 BA, US6253329 BA, US6252791 BA, US6249303 BA, US6236420 BA, US6220511 BA, US6213392 BA, US6195111 BA, US6193230 BA, US6179401 BA, US6179401 B1, US6171928 BA, US6163658 A, US6113208 A, US6102388 A, US6099178 A, US6099101 A, US6091918 A, US6076982 A, US6076982, US6076913 A, US6072402 A, US6071024 A, US6062558 A, US6059469 A, US6039430 A, US6037879 A, US6029972 A, US6017031 A, US6011948 A, US6011741 A, US5999908 A, US5995774 A, US5984546 A, US5980011 A, US5978621 A, US5974085 A, US5966160 A, US5959278 A, US5941522 A, US5941414 A, US5936008 A, US5927713 A, US5906366 A, US5891259 A, US5889866 A, US5882127 A, US5860363 A, US5837991 A, US5829631 A, US5820281 A, US5814796 A, US5802976 A, US5790162 A, US5772199 A, US5771058 A, US5769408 A, US5762431 A, US5755519 A, US5751330 A, US5709485 A, US5709484 A, US5707162 A, US5703347 A, US5695589 A, US5694849 A, US5685043 A, US5673076 A, US5667316 A, US5646388 A, US5642877 A, US5630581 A, US5588763 A, US5584589 A, US5558449 A, US5545882 A, US5536328 A, US5530468 A, US5516218 A, US5502464 A, US5494364 A, US5466319 A, US5455617 A, US5401111 A, US5368677 A, US5350168 A, US5327201 A, US5326179 A, US5318370 A, US5318369 A, US5301834 A, US5299796 A, US5296874 A, US5295675 A, US5277501 A, US5267800 A, US5266968 A, US5266781 A, US5255606 A, US5244197 A, US5239926 A, US5184181 A, US5150174 A, US5149211 A, US5148187 A, US5138344 A, US5128763 A, US5111239 A, US5098210 A, US5082268 A, US5079565 A, US5077467 A, US5037216 A, US5027288 A, US5019839 A, US5019539 A, US5018614 A, US4970544 A, US4961566 A, US4961088 A, US4848941 A, US4845490 A, US4830354 A, US4822191 A, US4797018 A, US4789079 A, US4782363 A, US4781985 A, US4750743 A, US473980 A, US4734868 A, US4733980 A, US4716346 A, US4687358 A, US4686540 A, US4685702 A, US4680596 A, US4676678 A, US4676678, US4673304 A, US4604631 A, US4534313 A, US4471885 A, US4443006 A, US4437658 A, US4393386 A, US4350454 A, US4350453 A, US4161312 A, US4146900 A, US4102267 A, US4083302 A, US4068028 A, US4061329 A, US4032135 A, US4031578 A, US4031518 A, US4021032 A, US4017068 A, US4015839 A, US4009047 A, US4006507 A, US3991998 A, US3960072 A, US3948506 A, US3908983 A, US3899065 A, US3889795 A, US3889742 A, US3889472 A, US3887106 A, US3761079 A, US3755653 A, US3598396 A, US3584867 A, US3446415 A, US3290042 A, US2937019 A, US2867437 A, US2007086823 AA, US2007025790 AA, US2006251461 AA, US2006071420 AA, US2005084315 AA, US2005019078 AA, US2004223011 AA, US2004114981 AA, US2004109715 AA, US2004022572 AA, US2003216826 AA, US2003215274 AA, US2003197770 AA, US2003152409 AA, US2003128269 AA, US2003109750 AA, US2003059050 AA, US2003028766 AA, US2003024422 AA, US2002180993 AA, US2002172537 AA, US2002171728 AA, US2002158399 AA, US2002118243 AA, US2002106229 AA, US2002051167 AA, US2002005116 AA, US2001052923 AA, US1515986 A, JP7267507 A2, JP7101580, JP63268675 A2, JP6297739 A2, JP6238997 A2, JP60174674 A2, JP60174674, JP6008560 A2, JP55080630, JP55080630, JP4241972 A2, JP411105359, JP411105359, JP4105948 A2, JP404105948, JP401310987, JP363268675, JP3292177 A2, JP3028157 U1, JP3005178 A2, JP2074378 A2, JP2003146510 A2, JP2002120446 A2, JP2002120446, JP2002120446, JP2002109476 A2, JP2001310492 A2, JP2001310492, JP2001039588 A2, JP2000313531 A2, JP2000293027 A2, JP2000293027, JP2000099807 A2, JP1310987 A2, JP11265463 A2, JP11240638, JP11240638, JP11105359 A2, JP11010979 A2, JP0274378, GB2258459 A1, GB2120821 A1, GB1237145 A, FR2770174 A1, FR1068162 A, EP1095783 B1, EP0979736 A1, EP0887197 A2, EP0562979 A2, EP0473191 A1, EP0431172 A1, EP0350050, EP0253618, EP0115208 A1, DE2535699 A1, DD2535699,

Forward Citations: WO17083721, WO17005633, WO16198350, WO16171696, WO16014898, WO16014027, WO15071884, WO14127710, WO12168814, WO12090176, WO12077709, WO11109456, WO11109456, WO11006640, WO10025141, WO09079125, WO09048505, WO08118424, WO08108925, WO08108905, WO08091451, WO08083438, WO08035327, WO07133717, WO07050768, WO06033430, WO05123403, WO05105632, WO05096724, WO05026025, WO05021275, WO05021275, WO05015353, WO05015353, WO04058503, WO04058503, WO04022464, WO03089348, WO03075218, WO03060811, WO03060811, WO03029117, WO03029117, WO03013864, USRE44220, USD775274, USD763350, USD753585, USD522566, US9676179, US9665329, US9662903, US9630436, US9600951, US9592676, US9589400, US9584681, US9566771, US9560221, US9558606, US9558377, US9544451, US9524460, US9481200, US9432529, US9415611, US9415604, US9394122, US9346294, US9338312, US9336633, US9333777,

US9333776, US9327510, US9296214, US9272805, US9268975, US9244644, US9237244, US9219832, US9211747, US9197767, US9195923, US9191530, US9191529, US9185247, US9185246, US9180706, US9179020, US9168761, US9167109, US9154648, US9154647, US9153083, US9152909, US9148530, US9143636, US9143635, US9137398, US9137397, US9131083, US9124745, US9124737, US9124736, US9124735, US9113010, US9113009, US9113008, US9113007, US9108430, US9108419, US9106775, US9100516, US9088675, US9083830, US9083829, US9060128, US9060081, US9055221, US9049318, US9044965, US9036162, US9029129, US9013717, US8960669, US8953178, US8953061, US8953060, US8947679, US8947592, US8937727, US8936196, US8934053, US8934027, US8933978, US8928897, US8922791, US8922670, US8917159, US8913182, US8913151, US8913137, US8908075, US8908069, US8908051, US8902357, US8902340, US8902333, US8902324, US8897021, US8896724, US8896720, US8891008, US8890970, US8890969, US8885180, US8885179, US8878953, US8876110, US8872952, US8866926, US8866923, US8854538, US8854494, US8854493, US8854492, US8845218, US8836809, US8834046, US8823823, US8820878, US8820743, US8810723, US8810619, US8801162, US8800247, US8789939, US8783144, US8764174, US8730283, US8721205, US8721203, US8702328, US8695311, US8690151, US8678570, US8678569, US8667276, US8662386, US8646770, US8630012, US8596770, US8529034, US8525676, US8523664, US8500349, US8478080, US8477357, US8464638, US8454256, US8454141, US8421869, US8404333, US8382265, US8363262, US8351907, US8325016, US8319609, US8317285, US8303201, US8303199, US8301886, US8300261, US8290512, US8286858, US8285137, US8281983, US8274665, US8274569, US8228198, US8220708, US8218195, US8210759, US8197334, US8162228, US8159332, US8127991, US8126272, US8116813, US8113641, US8103307, US8102568, US8099187, US8096642, US8091774, US8090403, US8087772, US8083152, US8081351, US8079511, US8072629, US8070594, US8061913, US8057296, US8042735, US8040541, US8027055, US8025391, US8023935, US8019693, US8016202, US8010155, US8010128, US8005561, US7992213, US7988042, US7983715, US7982904, US7980596, US7973978, US7970435, US7934881, US7931269, US7925300, US7922407, US7918453, US7916031, US7878505, US7874751, US7871213, US7870824, US7860533, US7859412, US7824029, US7815124, US7804982, US7798413, US7793589, US7793353, US7789311, US7767050, US7761090, US7760945, US7738862, US7728048, US7722172, US7717632, US7703881, US7694887, US7689249, US7672664, US7668540, US7665920, US7664257, US7663780, US7661600, US7620815, US7609407, US7600747, US7572077, US7516950, US7512455, US7494414, US7490055, US7445151, US7441970, US7434728, US7430762, US7419154, US7414517, US7408663, US7399131, US7398972, US7394373, US7346184, US7344325, US7342597, US7331576, US7314271, US7290146, US7286257, US7284921, US7259654, US7249583, US7248145, US7239413, US7237485, US7213992, US7212637, US7206010, US7192208, US7154519, US7137000, US7131585, US7131585, US7128482, US7128482, US7126107, US7126107, US7056045, US7032988, US7018118, US7017799, US6985167, US6971808, US6963351, US6945524, US6932527, US6905013, US6896431, US6880992, US6857714, US6832866, US6805285, US6758616, US6694884, US6644771, US6554512, US6536758, US2016243843, US2014377048, US2014366753, US2014306018, US2014293375, US2014063086, US2013220984, US2013215182, US2013118369, US2013093821, US2012286464, US2012257918, US2012200894, US2012069397, US2012055301, US2011315758, US2011230233, US2011217149, US2011217109, US2011188914, US2011150621, US2011123241, US2011098084, US2011092250, US2011083572, US2011069354, US2011058235, US2011019367, US2011007934, US2010328701, US2010328050, US2010313775, US2010304093, US2010295290, US2010289627, US2010284531, US2010283584, US2010279735, US2010277528, US2010273527, US2010260985, US2010257100, US2010248686, US2010234069, US2010231981, US2010225949, US2010223393, US2010165401, US2010135679, US2010134815, US2010099181, US2010069116, US2009309730, US2009294068, US2009277956, US2009271316, US2009268003, US2009175643, US2009162123, US2009153599, US2009152342, US2009149978, US2009131157, US2009121835, US2009121409, US2009097955, US2009088206, US2009070264, US2009070259, US2009058756, US2009039147, US2009033581, US2008316523, US2008316508, US2008298822, US2008279602, US2008278772, US2008236761, US2008236728, US2008219739, US2008219735, US2008217842, US2008217841, US2008216693, US2008216688, US2008216686, US2008184903, US2008179392, US2008153581, US2008153580, US2008106585, US2008105150, US2008035696, US2008030529, US2008024581, US2008024580, US2007286660, US2007274755, US2007262864, US2007251190, US2007134042, US2007104526, US2007086823, US2007081842, US2007067825, US2007066355, US2007066354, US2007066343, US2007066341, US2007066290, US2007064258, US2007064130, US2007047974, US2007043684, US2007029721, US2007029383, US2007025790, US2007023516, US2007012768, US2006267272, US2006267265, US2006251461, US2006251457, US2006239744, US2006238562, US2006228142,

US2006204308, US2006191022, US2006175395, US2006163352, US2006146081, US2006138217, US2006123471, US2006122912, US2006104697, US2006071420, US2005275891, US2005275708, US2005271439, US2005268880, US2005257253, US2005242488, US2005242487, US2005240922, US2005231583, US2005219600, US2005210610, US2005191064, US2005160271, US2005123719, US2005120260, US2005109450, US2005104281, US2005084315, US2005063027, US2005060239, US2005059482, US2005058482, US2005019078, US2004247051, US2004246503, US2004181681, US2004181671, US2004178559, US2004136768, US2004136764, US2004114983, US2004114981, US2004109715, US2004080777, US2004080775, US2004060984, US2003231948, US2003231361, US2003226873, US2003216826, US2003179413, US2003164982, US2003152409, US2003128269, US2003063139, US2003024422, US2002180993, US2002140976, KR101408846, KR101348682, KR101282294, KR100850724, JP5057403, JP4273427, JP2014506839, JP2012121645, JP2010515438, JP2010132003, JP2008162114, JP2006096052, ITTO20130932, ITMI20111022, ITMI20102478, EP3000607, EP2829407, EP2735447, EP2676803, EP2241446, EP2236306, EP2146331, EP2125370, EP2125370, EP2117157, EP2110259, EP1813431, EP1719623, EP1663827, EP1661717, EP1352749, EP1066967, DE102015212492, DE102015212492, DE102013219591, DE102009033221, DE102008012430, DE102008012426, DE102008012424, DE102008012423, DE102008012420, DE102008012419, DE102007059747, DE102007059746, CN1871618, CN105905659, CN104670935, CN104553348, CN104002567, CN103402778, CN103213409, CN103213409, CN103101322, CN102834265, CN102834265, CN102686404, CN102431816, CN102431816, CN102398785, CN102173213, AU2012265967, AU2011350665, AU2011329117, AU2008204727, AU2005200191,

Abstract:
Source: US2002059880A A card supply for use with an identification card printing system includes a card hopper and a supply circuit. The card hopper contains a stack of cards. The supply circuit is mounted to the card hopper that includes a memory containing supply information relating to parameters of the card supply.

0) US2015139698A – ELECTROPHOTOGRAPHIC IMAGE FORMING DEVICE LATCHI...

3) Family number: 59284925 (US2015139698A) © PatBase

Title: ELECTROPHOTOGRAPHIC IMAGE FORMING DEVICE LATCHING SYSTEM FOR RETAINING A REPLACEABLE UNIT

Priority: US20130084906 20131120

Family:

Publication number	Publication date	Application number	Application date
US2015139698 AA	20150521	US20130084906	20131120
US9280087 BB	20160308	US20130084906	20131120

Probable Assignee: LEXMARK INT INC

Assignee(s):(std)**:** LEXMARK INT INC

Inventor(s):(std)**:** BAST CHARLES ALAN ; LEEMHUIS MICHAEL CRAIG

Agent(s): JUSTIN M

International class (IPC 8–9)**:** G03G15/08 G03G21/16 (Advanced/Invention)

CPC: G03G15/0865 G03G21/1647 G03G21/1676 G03G2221/1654 G03G2221/1869

US class: 1/1 399/258

Classification Explorer

Cited documents: US8567932 BB, US8401434 BB, US8342642 BB, US8292411 BB, US8200126 BB, US7992982 BB, US7953347 BB, US7905572 BB, US7840165 BB, US7831168 BB, US7769321 BB, US7734230 BB, US7641313 BB, US7305204 BB, US7272336 BA, US7258558 BA, US7168799 BB, US7159973 BB, US7136609 BB, US7133629 BB, US6692107 BB, US6530399 BB, US6470163 BA, US6386681 BA, US6301456 BA, US6134410 A, US6115571 A, US5842093 A, US5819139 A, US5758233 A, US5583612 A, US5434655 A, US5313993 A, US5066976 A, US2013287448 AA, US2013209141 AA, US2013170868 AA, US2013170867 AA, US2013147885 AA, US2012315066 AA, US2011286771 AA, US2011129252 AA, US2011091222 AA, US2009080909 AA, US2009016779 AA, US2007229619 AA, US2007098455 AA, US2006013621 AA, US2005265736 AA, US2003219284 AA, US2003053819 AA, US2002057317 AA,

Forward Citations: US9599931, US9563169, US9436126, US9411303, US9317004, US9291992, US9285758,

Abstract:
Source: US2015139698A An electrophotographic image forming device according to one example embodiment includes a tray having a storage area extending between a front end and a rear end of the tray. The tray has an opening at the front end permitting insertion and removal of a replaceable unit into and out of the storage area. A biasing member biases the replaceable unit toward the front end of the tray. A latch on the tray is movable between a latched position restraining the replaceable unit from moving toward the front end of the tray and an unlatched position freeing the replaceable unit to move toward the front end of the tray permitting removal of the replaceable unit from the storage area. A latch releasing mechanism on the replaceable unit unlatches the latch on the tray for removing the replaceable unit from the storage area.

0) US5610692A – TONER HOPPER LOCKOUT MECHANISM

4) Family number: 11123511 (US5610692A) © PatBase

Title: TONER HOPPER LOCKOUT MECHANISM

Priority: US19940306049 19940914 US19960734933 19961022

Family:

Publication number	Publication date	Application number	Application date
DE69511194 D1	19990909	DE19956011194	19950424
DE69511194 T2	20000309	DE19956011194T	19950424
EP0702281 A2	19960320	EP19950106129	19950424
EP0702281 A3	19960619	EP19950106129	19950424
EP0702281 B1	19990804	EP19950106129	19950424
JP3860853 B2	20061220	JP19950262204	19950914
JP8087176 A2	19960402	JP19950262204	19950914
US5610692 A	19970311	US19940306049	19940914
US5802435 A	19980901	US19960734933	19961022

Probable Assignee: HEWLETT PACKARD DEVELOPMENT CO LP

Assignee(s):(std)**:** HEWLETT PACKARD CO ; KONISHIROKU PHOTO IND

Assignee(s): HEWLETT PACKARDCOMPANY LEGAL DEPARTMENT M S ; KONICA CORP ; HP INC ; HEWLETT PACKARD CO HP ; HEWLETT PACKARD DEVELOPMENT CO LP ; HEWLETT PACKARDCOMPANY

Inventor(s):(std)**:** HONDA HIROYUKI ; JIEFURII ERU TORASUKU ; SATO KENJI ; TRASK JEFFREY L

Designated states: DE FR GB IT

International class (IPC 8–9)**:** G03G15/01 G03G15/08 G03G21/00 G03G21/16 (Advanced/Invention); G03G15/01 G03G15/08 G03G21/00 G03G21/16 (Core/Invention)

International class (IPC 1–7)**:** G03G15/01 G03G15/08 G03G21/00 G03G21/16

CPC: G03G15/0855 G03G15/0856 G03G15/086 G03G15/0865 G03G15/0879 G03G15/0126

European class: G03G15/01D8 G03G15/08H2 G03G15/08H3

US class: 399/224 399/262 399/27

Classification Explorer

Cited documents: US5610692 A, US5430531 A, US5392102 A, US5313993 A, US5289243 A, US5184181 A, US4878091 A, JP6345566 U, JP63220287 A2, JP63220287, JP6250522 A2, JP61170760 A2, JP61170760, JP466982, JP4066982 A2, JP387778, JP1142764 A2, JP1142764,

Forward Citations: US8437648, US6961531, US6829462, US6778801, US6591077, US6438328, US6032010, US6006046, US5802435, US2010329704, EP0686892, EP0686892,

Abstract:
Source: US5610692A A lockout mechanism for preventing an operator from filling a toner hopper in an electrographic printing device until the hopper is at least empty enough to accept the entire contents of a toner cartridge. An interlock mechanism takes advantage of the already existing selector shaft to selectively de–activate lockout members in response to a low toner level transducer. Each hopper is provided with a lockout member which is pivotable between a locked out position and a refill position. The locked out position has the lockout members interfering with a connection between toner cartridges and the top of toner hoppers. The lockout members are held in their locked out positions by cam follower members, which are slidable between an upward locked out position and a downward refill position. The slider member interacts with the cam follower members, via follower pins and notches, to lock the cam follower members in their upwards position or to allow them to move down against the selector cams.

0) US4868599A – DEVICE AND METHOD FOR STORING TONER WASTE

5) Family number: 4623516 (US4868599A) © PatBase

Title: DEVICE AND METHOD FOR STORING TONER WASTE

Priority: JP19860127806 19860602 JP19860209316 19860905 US19870057882 19870602

Family:

Publication number	Publication date	Application number	Application date
JP62284380 A2	19871210	JP19860127806	19860602
JP63064072 A2	19880322	JP19860209316	19860905
US4868599 A	19890919	US19870057882	19870602
US5021825 A	19910604	US19890403513	19890906
US5038180 A	19910806	US19890400434	19890830

Probable Assignee: SEIKO EPSON CORP

Assignee(s):(std)**:** SEIKO EPSON CORP

Inventor(s):(std)**:** NIKI HIROSHI ; NIKI YUJI

International class (IPC 8–9)**:** G01N5/00 G03G21/00 G03G21/10 G03G21/12 (Advanced/Invention); G01N5/00 G03G21/00 G03G21/10 G03G21/12 (Core/Invention)

International class (IPC 1–7)**:** G01N5/00 G03G15/00 G03G21/00

CPC: Y10S222/01 G03G21/12

European class: G03G21/12

US class: 222/DIG.1 355/200 355/210 355/260 355/298 399/111 399/35 399/360

Classification Explorer

Cited documents: US4757344 A, US4754293 A, US4690544 A, US4685798 A, US4530594 A, US4491161 A, US4436414 A, US4436412 A, US4325628 A, US4251155 A, US4218132 A, US4174902 A, US4173405 A, US4140389 A, US3985436 A, US3947107 A, JPS6298376, JPS62294276, JPS6225776, JPS6210684, JPS62105176, JPS6151160, JPS60254072, JPS60107763, JPS60107663, JPS59155878, JPS58203479, JPS58147758, JPS5814177, JPS5726881, JPS55142364, JP62294276 A2, JP62105176 A2, JP62098376 A2, JP62025776 A2, JP62010684 A2, JP6156371 A2, JP6151160 A2, JP61051160 A2, JP60254072 A2, JP60107763 A2, JP60107663 A2, JP59155878 A2, JP58203479 A2, JP58147758 A2, JP58014177 A2, JP57026881 A2, JP5535504 T2, JP55142364 A2, EP0078019 A2, AU20744 A1,

Forward Citations: US9671743, US9523947, US9469130, US8836747, US8805216, US8369720, US7949275, US7426365, US7280776, US7257363, US7205738, US6961528, US6834173, US6731885, US6697589, US6580881, US6505009, US6151472, US6134410, US5809376, US5722019, US5594541, US5530521, US5465619, US5400127, US5268727, US5257076, US5204713, US5160964, US5138394, US5109254, US5084734, US2017010563, US2016078331, US2011243585, US2010196021, US2008260410, US2007065196, US2006120779, US2005260018, US2005212472, US2005163545, US2005008395, US2003086723,

Abstract:
Source: US4868599A In storing toner waste collected from the surface of an image carrier within an image forming apparatus, the toner waste is compressed within a container by a resilient cantilever member. A diaphragm located within the container expands through an opening of the container based on the pressure exerted on the diaphragm by the compressed toner waste. Upon traveling a predetermined distance, the diaphragm forces a switch to close which triggers an alarm indicating that the container is full of toner waste.

0) US2002154480A – CARTRIDGE FOR ELECTRONIC DEVICES

6) Family number: 28826915 (US2002154480A) © PatBase

Title: Cartridge for electronic devices

Priority:

US19930026902 19930305
US20020128731 20020424
US20080016646 20080118
US20070684770 20070312
US20030727400 20031203
WO1992JP00649 19920520
US19950439633 19950512
US19990452625 19991201
US20080016616 20080118
US20050314726 20051220
US20030442873 20030521
US20020315781 20021210
US19970866195 19970530
US20040128731 20040424
US20040962364 20041008
US20090509644 20090727

Family:

Publication number	Publication date	Application number	Application date
DE69227522 D1	19981210	DE19926027522	19920520
DE69227522 T2	19990506	DE19926027522T	19920520
EP0608418 A1	19940803	EP19920910593	19920520
EP0608418 A4	19950802	EP19920910593	19920520
EP0608418 B1	19981104	EP19920910593	19920520
US2002154480 AA	20021024	US20020128731	20020424
US2003086245 AA	20030508	US20020315781	20021210
US2003198023 AA	20031023	US20030442873	20030521
US2004141294 AA	20040722	US20030727400	20031203
US2005047096 AA	20050303	US20040962364	20041008
US2006158858 AA	20060720	US20050314726	20051220
US2007177357 AA	20070802	US20070684770	20070312
US2008158829 AA	20080703	US20080016646	20080118
US2009185513 AA	20090723	US20080016616	20080118
US2009284913 AA	20091119	US20090509644	20090727
US5659459 A	19970819	US19950439633	19950512
US6025993 A	20000215	US19970866195	19970530
US6404639 BA	20020611	US19990452625	19991201
US6515864 BB	20030204	US20020128731	20020424
US6608753 BB	20030819	US20020315781	20021210
US6771509 BB	20040803	US20030442873	20030521
US6845014 BB	20050118	US20030727400	20031203
US7035108 BB	20060425	US20040962364	20041008
US7345883 BB	20080318	US20070684770	20070312
US7359202 BB	20080415	US20050314726	20051220
US7583505 BB	20090901	US20080016646	20080118
US7804688 BB	20100928	US20090509644	20090727
US8213431 BB	20120703	US20080016616	20080118
WO9323825 A1	19931125	WO1992JP00649	19920520

Probable Assignee: SEIKO ESPON CORP

Assignee(s):(std): BOEING CO ; FLEISCHMAN ERIC W ; SEIKO EPSON CORP ; WAKABAYASHI KENICHI ; TAKAYAMA CHITOSHI ; SHIOZAKI TADASHI ; SEIKO ESPON CORP

Assignee(s): SEIKO EPSON CORP TOKIO TOKYO JP

Inventor(s):(std): FLEISCHMAN ERIC W ; SHIOZAKI TADASHI ; TAKAYAMA CHITOSHI ; WAKABAYASHI KEN ICHI ; WAKABAYASHI KENICHI

Inventor(s): WAKABAYASHI KEN ICHI SUWA SHI NAGANO KEN 392 JP ; TAKAYAMA CHITOSHI SUWA SHI NAGANO KEN 392 JP ; SHIOZAKI TADASHI SUWA SHI NAGANO KEN 392 JP ; SEIKO EPSON CORP

Agent(s):

TOWNSEND AND TOWNSEND AND CREW LLP; HARNESS DICKEY AND PIERCE PLC

Designated states: AT BE CH DE DK ES FR GB GR IT JP LU MC NL SE

International class (IPC 8–9): G06K19/077 H04B7/00 H04L12/56 H05K7/20 (Advanced/Invention); H04B7/00 H05K7/20 (Core/Invention)

International class (IPC 1–7): G06F1/20 G06K19/00 G06K19/077 G11C5/04 H05K5/02 H05K7/20 H05K9/00

CPC: B41J29/377 G06K19/077 G06K19/07735 G06K19/07741 G06K19/07743 H05K5/0208 H05K5/0256 H05K7/20445 H04L65/4069 H04L65/607 H04L65/80 H04L1/0083

European class: B41J29/377 G06K19/077 G06K19/077E9 G06K19/077G4 G06K19/077K H04L1/00F2 H04L29/06M6E H05K5/02C H05K5/02H H05K7/20F2 H05K7/20F4B T04L29/06M4S T04L29/06M8

US class: 174/51 257/718 257/719 257/719S 358/1.16 361/679.32 361/679.54 361/679.540P 361/687 361/704 361/705 361/714 361/714S 361/719 361/719P 361/737 361/737S 361/753 361/818 365/52 370/310 370/310P 370/392 370/392S 711/115

Classification Explorer

Cited documents: WO0106732 A1, US7345883 BB, US7310685 BB, US7286479 BB, US7284162 BB, US7161929 BA, US7035108 BB, US6990111 BB, US6907039 BB, US6845014 BB, US6845014 BA, US6845014 B1, US6771509 BB, US6771509 BA, US6771509 B1, US6608753 BB, US6608753 BA, US6608753 B1, US6515864 BB, US6515864 BA, US6515864 B1, US6515823 BB, US6515823 BA, US6515823 B1, US6404639 BA, US6025993 A, US5659459 A, US5616085 A, US5615085 A, US5548487 A, US5526229 A, US5504669 A, US5481656 A, US5475563 A, US5474563 A, US5473506 A, US5437041 A, US5432913 A, US5424913 A, US5389819 A, US5289342 A, US5287247 A, US5262922 A, US5241453 A, US5227631 A, US5208732 A, US5198965 A, US5195176 A, US5187645 A, US5184211 A, US5162610 A, US5142614 A, US5138521 A, US5136464 A, US5136146 A, US5060112 A, US5031076 A, US5024264 A, US5016086 A, US4987478 A, US4962444 A, US4914551 A, US4887148 A, US4879632 A, US4872091 A, US4855869 A, US4849944 A, US4833570 A, US4823234 A, US4791608 A, US4771365 A, US4739444 A, US4729060 A, US4682566 A, US4649990 A, US464990 A, US4639829 A, US4636916 A, US4626980 A, US4626960 A, US4621304 A, US4563725 A, US4557225 A, US4545030 A, US454030 A, US4521829 A, US4517624 A, US4381552 A, US4323914 A, US4323478 A, US4137563 A, US4092697 A, US4029999 A, US4027206 A, US3993123 A, US325262 A, US3225262 A, US2011149838 AA, US2008212566 AA, US2006029074 AB, US2006029035 AA, US2005175009 AA, US2005041591 AA, US2004228343 AA, US2004181740 AA, US2004141294 AA, US2003198023 AA, US2003137974 AA, US2003086245 AA, JPS6350096, JPS63208251, JPS63184397, JPS63181385, JPS63167796, JPS63119554, JPS6245841, JPS621181, JPS61222763, JPS6032397, JPS60254641, JPS60173791, JPS59194458, JPS5830994, JPS58201349, JPS58162694, JPS58140691, JPS5775499, JPS5775498, JPS542834, JP64074797 A2, JP64074797, JP63292661 A2, JP63289999 A2, JP63284896 A2, JP63284869, JP63278261 A2, JP63208251 A2, JP63187796 U1, JP63184397 A2, JP63181385 A2, JP63167796 U1, JP63167796 A2, JP63119554 A2, JP63050096 A2, JP63020825 A2, JP62045841 U1, JP62045841 A2, JP62001181 A2, JP61222763 A2, JP60254841 A2, JP60254641 A2, JP60179791 A2, JP60173791 A2, JP60032397 A2, JP59194458 A2, JP58201349 A2, JP58162694 A2, JP58140691 A2, JP58030994 A2, JP57198798 A2, JP57075499 A2, JP57075498 A2, JP56129353 A2, JP54002834 A2, JP53091375 A2, JP363208251, JP36320825 A1, JP3182397, JP3036615, JP3022160 A2, JP3011409 A2, JP3006724 A2, JP2277700 A2, JP2253289 A2, JP2123798 U1, JP2123798, JP2119299 A2, JP2066962 A2, JP2066962, JP2058789 A2, JP1319194 A2, JP1319194, JP1298753 A2, JP1298753, JP1220898 A2, JP1220898, JP1200898 A2, JP1165415 A2, JP1140799 A2, JP1140799, JP1122195 A2, JP1122195, JP11066962 A2, JP1089791 U1, JP1089791 A2, JP1089791, JP1074797 A2, GBA2248973, GB2248973 A1, GB2164803 A1, FR2601791 A1, EP0198378 A2, DE9112099 U, DE9112099, DE3416348 A1, DE3237878 A1,

Forward Citations: WO09061948, WO04063867, WO04063867, WO0141521, USRE40154, USRE40150, USD769833, USD727861, USD700899, USD691101, USD673515, USD622663, USD617289, USD603352, USD576968, USD574337, USD562818, US9674987, US9635768, US9615490, US9578760, US9577759, US9485893, US9367297, US9362040, US9320162, US9258934, US9254531, US9215833, US9184850, US9142477, US9079434, US9076593, US9042120, US9035597, US9030822, US8971041, US8971038, US8964392, US8902582, US8885360, US8885334, US8849123, US8830665, US8810833, US8742255, US8727794, US8687371, US8681503, US8630093, US8614900, US8547703, US8515284, US8456842, US8432670, US8406142, US8368207, US8315043, US8314522, US8289721, US8244941, US8243454, US8218335, US8159956, US8086100, US8066528,

US8049319, US7864535, US7804688, US7782621, US7705873, US7705442, US7697300, US7696614, US7684620, US7646598, US7645005, US7583505, US7582959, US7542294, US7502229, US7490336, US7447004, US7433184, US7369413, US7359202, US7345883, US7292459, US7291783, US7255577, US7253365, US7193844, US7190589, US7145781, US7118281, US7103760, US7037011, US7035108, US6994478, US6974265, US6943854, US6942395, US6934150, US6904842, US6883971, US6882536, US6874953, US6865349, US6863547, US6863448, US6853560, US6851867, US6840680, US6832856, US6814502, US6811317, US6796715, US6782347, US6781847, US6781846, US6771509, US6767147, US6722908, US6704204, US6692159, US6669095, US6661664, US6659655, US6654828, US6644876, US6628529, US6608753, US6607308, US6585534, US6547570, US6522542, US6515871, US6515864, US6505665, US6487082, US6485322, US6449163, US6411514, US6404639, US6381136, US6351394, US6343020, US6272021, US6267606, US6252313, US6251219, US6250934, US6239973, US6220878, US6201704, US6195597, US6157538, US6089919, US6046905, US6043983, US6031718, US6026187, US6025993, US5973399, US5838542, US5807005, US2017094092, US2017023970, US2016119812, US2016106006, US2015319890, US2015264820, US2015109747, US2014298104, US2014268578, US2014252649, US2014016283, US2013271923, US2013107434, US2013083499, US2013058052, US2013044436, US2012155031, US2012044521, US2011292621, US2011289521, US2011242762, US2011216507, US2011205710, US2011103027, US2011013370, US2010102425, US2010039786, US2009287863, US2009284913, US2009251867, US2009225522, US2009215285, US2009190290, US2009184155, US2009116194, US2009097209, US2009091889, US2009067134, US2009034180, US2009032291, US2008316720, US2008266812, US2008225477, US2008158829, US2008158808, US2008144290, US2008125035, US2008100668, US2008023818, US2007249188, US2007243748, US2007218719, US2007217176, US2007188692, US2007177357, US2007153485, US2007153484, US2007147004, US2006234541, US2006215910, US2006203439, US2006185890, US2006158858, US2006139900, US2006139860, US2006104034, US2006082974, US2006064708, US2005248916, US2005183872, US2005151762, US2005120003, US2005088827, US2005047096, US2004267380, US2004232447, US2004219842, US2004179882, US2004127102, US2003231478, US2003215245, US2003198023, US2003174486, US2003169572, US2003139083, US2003096524, US2003040353, US2003030989, US2002171857, GB2378823, GB2378823, GB2334386, GB2334386, GB2327540, EP1785807, EP1785807, EP1429276, EP1282198, CN105375415, CN102833156, CN102833156,

Abstract:
Source: US2002154480A An add−on cartridge structure for electronic devices having a housing formed from upper and lower case sections. The upper case is typically made from plastic and has a conductive layer formed on inside surfaces, while the lower case is made from a metallic material such as aluminum. A wall−like mating member is disposed on an outer edge of the lower case, and mates with the sides of the upper case to form a nearly rectangular cross section housing. The double conductive layer formed by the outside surface of the mating member and the inside surface of the upper case prevents leakage of electromagnetic radiation from the cartridge. Furthermore, high frequency noise is prevented by grounding both the signal ground of the printed circuit board and the frame ground at multiple locations. The conductive layer has a surface break caused by a through−hole through which the printed circuit board plug protrudes to the outside. Such an opening tends to allow electromagnetic noise to leak outside of the casing, but by grounding the signal and frame grounds at locations near the ends and middle of the plug, harmful noise from electromagnetic radiation is reduced.

0) US5410641A – INTELLIGENT CARTRIDGE FOR ATTACHMENT TO A PRINT...

7) Family number: 30912793 (US5410641A) © PatBase

Title: Intelligent cartridge for attachment to a printer to perform image processing tasks in a combination image processing system and method of image processing

Priority: JP19910305457 19911023 JP19920504705T 19920224 US19910816455 19911230 US19920883753 19920515 US19950461224 19950605 WO1992JP00245 19920227 US19920895536 19920608 WO1992JP00197 19920224 US19950372488 19950112 WO1992JP00337 19920319

Family:

Publication number	Publication date	Application number	Application date
EP0572665 A1	19931208	EP19920905293	19920224
EP0572665 A4	19941102	EP19920905293	19920224
EP0572668 A1	19931208	EP19920906231	19920227
EP0572668 A4	19941102	EP19920906231	19920227
EP0572668 B1	19971105	EP19920906231	19920227
JP3097130 B2	20001010	JP19920504705T	19920224
JP3103867 B2	20001030	JP19920506734T	19920319
US5410641 A	19950425	US19910816455	19911230
US5461705 A	19951024	US19920883753	19920515
US5504669 A	19960402	US19920911558	19920707
US5537517 A	19960716	US19950461224	19950605
US5592595 A	19970107	US19950372488	19950112
WO9308027 A1	19930429	WO1992JP00197	19920224
WO9308028 A1	19930429	WO1992JP00245	19920227
WO9308029 A1	19930429	WO1992JP00337	19920319

Probable Assignee: SEIKO EPSON CORP

Assignee(s):(std)**:** SEIKO EPSON CORP

Assignee(s): SEIKO EPSON A CORP OF JAPAN CORP

Inventor(s):(std)**:** WAKABAYASHI KENICHI ; WAKABAYASHI KEN ICHI ; TAKAYAMA CHITOSHI ; SHIOZAKI TADASHI ; NISHIZAWA HAJIME ; NISHIMURA KIYOTAKA ; NAKAJIMA AKIRA ; MORIKAWA TSUYOSHI ; HATAKOSHI KAORU

Designated states: AT BE CH DE DK ES FR GB GR IT JP LU MC NL SE

International class (IPC 8–9)**:** B41J29/00 B41J29/38 B41J5/44 G06F13/38 G06F13/42 G06K15/00 G06K15/12 (Advanced/Invention); B41J29/00 B41J29/38 B41J5/44 G06F13/38 G06F13/42 G06K15/00 G06K15/12 (Core/Invention)

International class (IPC 1–7)**:** B41J29/00 B41J29/38 G06F13/42 G06F15/00 G06F19/00 G06F3/12 G06K15/00

CPC: G06K15/128 B41J5/44 B41J29/00 G06F13/385 G06F13/4226 G06K15/00 G06K2215/0002 G06K2215/0025 G06K2215/0082

European class: B41J29/00 B41J5/44 G06F13/38A2 G06F13/42C2A G06K15/00 G06K15/12G S06K215/00B S06K215/00B4B2 S06K215/00D

US class: 345/502 347/6 347/86 358/1.11 358/1.13 358/1.14 358/1.16 364/131 395/112 395/115 395/166 395/502 700/2

Classification Explorer

Cited documents: WO9012359 A1, US5208732 A, US5200958 A, US5195176 A, US5142614 A, US5137379 A, US5109490 A, US5075874 A, US5051925 A, US5041918 A, US5038025 A, US4953103 A, US4949188 A, US4908637 A, US4872091 A, US4730947 A, US4691317 A, US4441164 A, JPS647281, JPS6459274, JPS6341163, JPS63255750, JPS63250788, JPS6275991, JPS625875, JPS62299892, JPS6214689, JPS621181, JPS62111776, JPS61196495, JPS6052885, JPS6052884, JPS60218939, JPS60142730, JPS58211285, JP64059274 A2, JP64007281 A2, JP63255750 A2, JP63250788 A2, JP63041163 A2,

JP62299892 A2, JP62282322 A2, JP62111776 A2, JP62075991 A2, JP62014689 A2, JP62005875 A2, JP62001181 A2, JP61196495 A2, JP60218939 A2, JP60142730 A2, JP60052885 A2, JP60052884 A2, JP58211285 A2, JP55255750 A2, JP55083982 A2, JP3053635 A2, JP3051938 A2, JP3045365 A2, JP3022160 A2, JP2301890 A2, JP2301463 A2, JP2288985 A2, JP2253289 A2, JP2249022 A2, JP2244851 A2, JP2159615 A2, JP2155675 A2, JP2122343 A2, JP2121023 A2, JP2088985 A2, JP2064728 A2, JP2058789 A2, JP2053289 A2, JP2049022 A2, JP2044851 A2, JP2037590 A2, JP1159274 A2, JP1059274 A2, JP1007281 A2, EP0383518 A1,

Forward Citations: WO9941677, USRE42725, USRE41377, USRE41238, USRE40677, USRE38111, US9389822, US9383956, US9298407, US9296214, US9203980, US9164718, US9110622, US9092177, US9069510, US9042811, US9037088, US9036181, US9015329, US9008572, US8989064, US8964220, US8810833, US8721203, US8714849, US8630000, US8547703, US8474938, US8363262, US8332934, US8313189, US8303199, US8289535, US8277044, US8277028, US8261140, US8177340, US8176549, US8128186, US8118395, US8104889, US8089652, US8069478, US8069477, US8061793, US8057032, US8057006, US8052238, US8028170, US8027055, US8020979, US8020002, US8018478, US8016414, US8009321, US8001432, US7999964, US7997682, US7991432, US7953818, US7944577, US7934822, US7934794, US7808660, US7804688, US7705873, US7686441, US7669993, US7614732, US7589850, US7583505, US7575313, US7513590, US7502136, US7452048, US7393092, US7388879, US7385715, US7359202, US7345883, US7344214, US7325915, US7268915, US7267415, US7259588, US7237883, US7237882, US7234801, US7195346, US7146534, US7146534, US7137113, US7137113, US7134738, US7133954, US7116241, US7116241, US7102767, US7068387, US7054028, US7044589, US7035108, US7014301, US6995861, US6979079, US6975817, US6975241, US6969140, US6955422, US6955411, US6954278, US6943906, US6924902, US6923531, US6845014, US6837576, US6830323, US6771509, US6755501, US6750987, US6747563, US6734988, US6722753, US6715864, US6712459, US6709093, US6705714, US6705713, US6702435, US6633405, US6608753, US6608564, US6606161, US6588872, US6565198, US6542253, US6515864, US6505926, US6488352, US6480922, US6467888, US6404639, US6388763, US6375314, US6375301, US6330067, US6323865, US6299280, US6267463, US6264301, US6263170, US6196670, US6161913, US6126265, US6113208, US6111659, US6108100, US6106172, US6065824, US6053645, US6039430, US6034673, US6023343, US6019449, US5990907, US5978781, US5971632, US5963713, US5930407, US5917723, US5862367, US5850230, US5838358, US5835817, US5813009, US5812156, US5807005, US5805950, US5748860, US5726894, US5699091, US5652870, US5604843, US5561528, US5535310, US2013070301, US2012044521, US2011276846, US2011225327, US2011224810, US2011211226, US2011176850, US2011103027, US2011098084, US2011092250, US2011058235, US2011004768, US2011004746, US2011002002, US2010277528, US2010269902, US2010245505, US2010234067, US2010203824, US2010201996, US2010195133, US2010182648, US2010149582, US2010125765, US2010110139, US2010081471, US2010013900, US2010002043, US2009284913, US2009273628, US2009256869, US2009220077, US2009213150, US2009168119, US2009109255, US2009088209, US2009070411, US2009067002, US2009066768, US2009027467, US2009027439, US2009015605, US2009002760, US2008318602, US2008278746, US2008239360, US2008161046, US2008158829, US2008055346, US2007279464, US2007243748, US2007188539, US2007182793, US2007177357, US2007103522, US2007103515, US2007081842, US2007055971, US2006284947, US2006268028, US2006252456, US2006250483, US2006190324, US2006164667, US2006158858, US2006109507, US2006007261, US2005280679, US2005264625, US2005234737, US2005200670, US2005200637, US2005174404, US2005174372, US2005146581, US2005088495, US2005057980, US2005047096, US2005024416, US2004253011, US2004218934, US2004177173, US2004141294, US2004138945, US2004135857, US2004125397, US2004095407, US2004012660, US2003198023, US2003197751, US2003193403, US2003193402, US2003156129, US2003128380, US2003095514, US2003058297, US2003053539, US2003035143, US2003007027, US2002186392, US2002180851, US2002170051, US2002158948, US2002077980, US2002062406, US2002054281, SG138433, GB2287623, GB2287623, EP1476309, AU2011207606, AU2006200716,

Abstract:
Source: US5410641A The image processing performance of a present day or existing page printer, e.g., electrophotographic printer, is improved and accelerated with the use of a detachable intelligent cartridge which contains a CPU and necessary memory to process print data into image dated for the electronic control unit of the printer to which the cartridge is attached. Depending upon the page description language (PDL) to be employed, a cartridge can be selected for use with the printer and accelerate its PDL conversion and printing output. The intelligent cartridge CPU, which is different from the printer CPU, receives print data from the printer and, since the data bus connecting the intelligent cartridge and the electronic control unit of the printer has only a read only capability from the electronic control unit, data transfer to the cartridge is made possible by utilizing the print data as an index for the read address accomplished by the printer CPU. The bit image data is accomplished by the

cartridge CPU from print data received via the printer CPU and after data development, the bit image data is transferred to the printer for hardcopy printout.

0) US2004009007A – TWO PART CARTRIDGES WITH FORCE BIASING BY PRINT...

8) Family number: 30217639 (US2004009007A) © PatBase

Title: TWO PART CARTRIDGES WITH FORCE BIASING BY PRINTER

Priority: US20020195270 20020715 US20030736355 20031215 US20050057550 20050214 US20060535096 20060926 US20050057650 20050214

Family:

Publication number	Publication date	Application number	Application date
US2004009007 AA	20040115	US20020195270	20020715
US2004126133 AA	20040701	US20030736355	20031215
US2005147430 AA	20050707	US20050057550	20050214
US2007019986 AA	20070125	US20060535096	20060926
US6678489 BA	20040113	US20020195270	20020715
US6879792 BB	20050412	US20030736355	20031215
US7139510 BB	20061121	US20050057550	20050214
US7305204 BB	20071204	US20060535096	20060926

Probable Assignee: LEXMARK INT INC

Assignee(s):(std)**:** FAIN JULIA L ; FOSTER MARK D ; CARTER PHILIP S ; LEXMARK INT INC

Assignee(s): LEXMARK INTIONAL ; LEXMARK INTERNATIONAL INC ; CARTER PHILIP SCOT ; FOSTER MARK DUANE ; LEXMARK INT

Inventor(s):(std)**:** CARTER PHILIP S ; CARTER PHILIP SCOT ; FAIN JULIA L ; FOSTER MARK D ; FOSTER MARK DUANE

Inventor(s): CARTER PHILIP ; FOSTER MARK ; FAIN JULIA

Agent(s): LEXMARK INT INC INTELLECTUAL PROPERTY LAW DEPARTMENT; JOSEPH; ARTHUR I; NAVARRO LAW OFFICES PC; COATS AND BENNETT PLLC

International class (IPC 8–9): G03G21/18 (Advanced/Invention)

International class (IPC 1–7): G03G21/18

CPC: G03G21/1821 G03G2221/1853 G03G2221/1861

European class: G03G21/18C4C S03G221/18P3 S03G221/18P3A

US class: 399/107 399/113 399/113P 399/114

Classification Explorer

Cited documents: US6879792 BB, US6879792 BA, US6678489 BA, US6549737 BB, US6397026 BA, US6173140 BA, US6173140 B1, US6163666 A, US6163660 A, US6118961 A, US6101350 A, US6070029 A, US6041203 A, US5708912 A, US5369479 A, US5266998 A, US5226998 A, US5204713 A, US5049940 A, US5028966 A,

Forward Citations: US9417603, US9411303, US9317004, US9298130, US9291992, US9285758, US9280087, US9261851, US9256198, US9229367, US9182739, US9164425, US9152083, US9104169, US9042773, US8761639, US8010011, US7957669, US7844197, US7684729, US7647004, US7522859, US7505709, US7389069, US7369792, US7321739, US7302205, US7242890, US7233760, US7184688, US7139510, US7020416, US6879792, US6871031, US2013302067, US2009169248, US2008199212, US2007177893, US2007048007, US2006171738, US2006110184, US2006029422, US2006029420, US2005260010, US2005169663, US2005147430, US2004179859, US2004126133, US2004062566,

Abstract:
Source: US2004009007A A two part cartridge having a photoconductor part (1) and a toner part (5) having no force biasing element on either part. The two parts fit together so that a developer roller (7) in the toner part contacts a photoconductor drum (3) in the other part. When the two parts are installed in a printer the cover (50), when closed, brings a spring (62) into contact with one side of the toner part while the frame (F) of the printer blocks movement away from the cover. An advantage of the two part cartridge is that the toner part can be replaced without replacing the photoconductor part. Members on the cartridge for force biasing are avoided and

the need for training or skill to latch the parts together is avoided.

0) US5189480A – APPARATUS FOR FIXING A TONER IMAGE INCLUDING EC...

9) Family number: 9494470 (US5189480A) © PatBase

Title: APPARATUS FOR FIXING A TONER IMAGE INCLUDING ECCENTRICALLY MOUNTED PRESSURE RELIEVING MEANS

Priority: US19920829858 19920131 US19920830033 19920131 US19920830034 19920131 US19920830037 19920131 US19920830048 19920131 US19920830040 19920131 WO1993US00690 19930119

Family:

Publication number	Publication date	Application number	Application date
DE69304824 D1	19961024	DE19936004824	19930119
DE69304824 T2	19970410	DE19936004824T	19930119
EP0578813 A1	19940119	EP19930904639	19930119
EP0578813 B1	19960918	EP19930904639	19930119
JP6507029 T2	19940804	JP19930513384T	19930119
US5189480 A	19930223	US19920830040	19920131
US5191380 A	19930302	US19920829858	19920131
US5200785 A	19930406	US19920830037	19920131
US5214481 A	19930525	US19920830033	19920131
US5239349 A	19930824	US19920830034	19920131
US5305065 A	19940419	US19920830048	19920131
WO9315446 A1	19930805	WO1993US00690	19930119

Probable Assignee: EASTMAN KODAK CO

Assignee(s):(std)**:** EASTMAN KODAK CO

Assignee(s): EASTMAN KODAK CO A NEW JERSEY CORP ; EASTMAN KODAK CO A NJ CORP ; EASTMAN KODAK COMPANY ; EASTMAN KODAK CO ROCHESTER N Y US ; EASTMAN KODAK CO A OF NEW JERSEY CORP ; CITICORP NORTH AMERICA INC AGENT AS

Inventor(s):(std)**:** HOOVER LINN ; HOOVER LINN C ; HOOVER LINN CHRISTMAN ; O DEA DENNIS J ; WILLIAMS RALPH ; WILLIAMS RALPH E ; WILLIAMS RALPH EDWARD

Inventor(s): WILLIAMS RALPH EDWARD ROCHESTER NY 14613 US ; HOOVER LINN CHRISTMAN ROCHESTER NY 14609 US

Designated states: AT BE CH DE DK ES FR GB GR IE IT JP LU MC NL PT SE

International class (IPC 8–9): B05C1/02 G03G15/20 (Advanced/Invention); B05C1/02 G03G15/20 (Core/Invention)

International class (IPC 1–7): B05C1/02 G03G15/20

CPC: G03G21/1652 G03G21/168 G03G15/2035 G03G15/2032 G03G15/2025 G03G15/2064 G03G2215/20 G03G2221/1639 G03G2221/1663 G03G2221/18 G03G21/1685

European class: G03G15/20H2P G03G15/20H2P1 G03G15/20H2P1M G03G15/20H2P2 S03G215/20 S03G221/16F S03G221/16L S03G221/18

US class: 100/168 118/60 219/216 355/282 355/284 355/285 355/295 399/114 399/122 399/323 399/335 399/339 432/60

Classification Explorer

Cited documents: US5172177 A, US5114818 A, US5087939 A, US5083488 A, US5081495 A, US5045887 A, US5043768 A, US5043764 A, US5041871 A, US5038173 A, US5021828 A, US4965640 A, US4939541 A, US4908670 A, US4899197 A, US4873549 A, US4839694 A, US4806970 A, US4802439 A, US4791448 A, US4782359 A, US4708455 A, US4682878 A, US4585325 A, US4429990 A, US4127764 A, US4121089 A, US3964431 A, US3856462 A, US2986086 A, JPS63107319, JP63107319 A2, JP1274175 A2, JP1201690 A2, EP0333106 A2, EP0213745 A1, CH641255,

Forward Citations: WO05047867, WO05047867, WO0069640, USD523067, US9342045, US9310724, US8882424, US8837958, US8761649, US7986893, US7796907, US7773239,

US7743655, US7729651, US7649638, US7412181, US7251450, US7231153, US7103292, US7103292, US6876832, US6850721, US6785493, US6775508, US6697589, US6564026, US6104888, US5848331, US5822668, US5787323, US5749038, US5729798, US5716714, US5623720, US5534986, US5486908, US5481350, US5477316, US5436430, US5406362, US5379092, US5353107, US5327204, US5319426, US2015071680, US2015063868, US2013129362, US2013108397, US2011236091, US2009196642, US2009162081, US2009133488, US2007140757, US2007140754, US2007140718, US2007063013, US2006153578, US2005084276, US2004247351, US2004247339, US2004090647, US2004084838, JP2015064423, EP1197815, EP1156397, EP0833224, EP0833224, DE19655048, DE10023715,

Abstract:
Source: US5189480A A toner image fixing apparatus includes first and second fixing members, at least the first member including a rotatable roller. The rotatable roller includes a bearing support that has a shaft eccentrically positioned and fixed in it. The bearing support supports rotation of the roller about a primary axis of rotation, while the shaft is rotatable around a secondary axis of rotation displaced from the primary axis of rotation. The rotation of the shaft changes the position of the primary axis of rotation with respect to a pair of shaft support arms to move the roller away from the second fixing member to relieve the pressure between the fixing members.

0) US2004164147A – CURRENCY CASSETTE ACCESS BASED ON FACIAL RECOGN...

10) Family number: 30737755 (US2004164147A) © PatBase

Title: CURRENCY CASSETTE ACCESS BASED ON FACIAL RECOGNITION

Priority:

CA20032508943	20031230	CA20032689839	20031230	CA20032689840	20031230
CA20042517436	20040309	CA20042642599	20040309	CA20042642596	20040309
CA20042642597	20040309	CA20032750021	20031230	CA20042642600	20040309
US20030450993P	20030228	US20030450983P	20030228	US20030450583P	20030228
US20030450984P	20030228	US20030450992P	20030228	EP20040718814	20040309
EP20030808633	20031230	US20020437636P	20021231	US20020437637P	20021231
CA20082517436	20081202	CA20112508943	20110906	EP20080014821	20040309
US20030750571	20031230	US20040788917	20040227	US20040788916	20040227
US20030451140P	20030228	US20040789280	20040227	US20040788610	20040227
US20040788611	20040227	US20040789746	20040227	US20040797403	20040309
US20040797441	20040309	US20040797332	20040309	US20040797405	20040309
US20030451084P	20030228	US20040788634	20040227	US20030451086P	20030228
US20040790633	20040227	US20030451001P	20030228	US20040788612	20040227
US20030451085P	20030228	US20040788605	20040227	US20060522747	20060918
US20040797331	20040309	US20060819697P	20060710	US20030453609P	20030310
WO2004US07035	20040309	US20070805747	20070524	US20070881013	20070725
US20080288579	20081020	US20100803607	20100630	WO2003US41760	20031230

Family:

Publication number	Publication date	Application number	Application date
AR043910 AA	20050817	AR2004P100767	20040310
AR064818 AB	20090429	AR2008P100075	20080109
AR064819 AB	20090429	AR2008P100076	20080109
AR064820 AB	20090429	AR2008P100077	20080109
AR064821 AB	20090429	AR2008P100078	20080109
AU2003303505 AA	20040729	AU20030303505	20031230
AU2003303505 AH	20040729	AU20030303505	20031230
BRPI0317860 A	20051206	BR2003PI17860	20031230
BRPI0408280 A	20060307	BR2004PI08280	20040309
BRPI0408280 B1	20160614	BR2004PI08280	20040309
CA2508943 AA	20050606	CA20032508943	20031230
CA2508943 C	20130611	CA20032508943	20031230
CA2517436 AA	20050829	CA20042517436	20040309
CA2517436 C	20090127	CA20042517436	20040309
CA2642596 AA	20040923	CA20042642596	20040309
CA2642596 C	20120313	CA20042642596	20040309
CA2642597 AA	20040923	CA20042642597	20040309
CA2642597 C	20120103	CA20042642597	20040309
CA2642599 AA	20040923	CA20042642599	20040309
CA2642599 C	20120424	CA20042642599	20040309
CA2642600 AA	20040923	CA20042642600	20040309
CA2642600 C	20130702	CA20042642600	20040309
CA2689839 AA	20040722	CA20032689839	20031230
CA2689839 C	20120327	CA20032689839	20031230
CA2689840 AA	20040722	CA20032689840	20031230
CA2689840 C	20120313	CA20032689840	20031230
CA2750021 AA	20040722	CA20032750021	20031230
CA2750021 C	20141209	CA20032750021	20031230
CN100398424 C	20080702	CN200480006491	20040309
CN100458684 C	20090204	CN200380107892	20031230
CN101165725 A	20080423	CN200710194804	20040309

CN101165725 B	20100915	CN200710194804	20040309	
CN101188030 A	20080528	CN200710194807	20040309	
CN101188030 B	20100915	CN200710194807	20040309	
CN101256691 A	20080903	CN200710194808	20040309	
CN101256691 B	20100804	CN200710194808	20040309	
CN101369357 A	20090218	CN200810210100	20031230	
CN101369357 B	20110824	CN200810210100	20031230	
CN101436324 A	20090520	CN200710194812	20040309	
CN101436324 B	20100818	CN200710194812	20040309	
CN101866510 A	20101020	CN201010201252	20031230	
CN101866510 B	20110907	CN201010201252	20031230	
CN101866511 A	20101020	CN201010201293	20031230	
CN101866511 B	20110914	CN201010201293	20031230	
CN101866512 A	20101020	CN201010201321	20031230	
CN101866512 B	20110914	CN201010201321	20031230	
CN101866513 A	20101020	CN201010201353	20031230	
CN101866513 B	20110914	CN201010201353	20031230	
CN1732431 A	20060208	CN200380107892	20031230	
CN1759055 A	20060412	CN200480006491	20040309	
DE602004017147 D1	20081127	DE200460017147T	20040309	
DE602004040587 D1	20130228	DE200460040587T	20040309	
DE60339859 D1	20120322	DE20036039859	20031230	
EP1606684 A2	20051221	EP20040718814	20040309	
EP1606684 A4	20060628	EP20040718814	20040309	
EP1606684 B1	20081015	EP20040718814	20040309	
EP1609054 A2	20051228	EP20030808633	20031230	
EP1609054 A4	20071010	EP20030808633	20031230	
EP1609054 B1	20120125	EP20030808633	20031230	
EP1843303 A1	20071010	EP20070013062	20031230	
EP1843303 B1	20160810	EP20070013062	20031230	
EP2015260 A2	20090114	EP20080014821	20040309	
EP2015260 A3	20111130	EP20080014821	20040309	
EP2015260 B1	20121226	EP20080014821	20040309	
ES2314386 T3	20090316	ES20040718814T	20040309	
ES2379780 T3	20120503	ES20030808633T	20031230	
ES2400447 T3	20130409	ES20080014821T	20040309	
ES2599578 T3	20170202	ES20070013062T	20031230	
IN01789DN2007 A	20070831	IN2007DN01789	20070307	
IN01790DN2007 A	20070831	IN2007DN01790	20070307	
IN01791DN2007 A	20070831	IN2007DN01791	20070307	
IN01792DN2007 A	20070831	IN2007DN01792	20070307	
IN01793DN2007 A	20070831	IN2007DN01793	20070307	
IN01794DN2007 A	20070831	IN2007DN01794	20070307	
IN02365DN2005 A	20090327	IN2005DN02365	20050603	
IN03701DN2005 A	20090320	IN2005DN03701	20050822	
IN09635DN2007 A	20080328	IN2007DN09635	20071213	
IN09636DN2007 A	20080328	IN2007DN09636	20071213	
IN10067DN2007 A	20080404	IN2007DN10067	20071226	
IN10068DN2007 A	20080404	IN2007DN10068	20071226	
IN243255 B	20101008	IN2005DN03701	20050822	

IN243789 B	20101112	IN2005DN02365	20050603	
IN258766 B	20140207	IN2007DN01789	20070307	
IN260185 B	20140411	IN2007DN01791	20070307	
IN268337 B	20150828	IN2007DN01793	20070307	
IN276178 B	20161007	IN2007DN10067	20071226	
IN276179 B	20161007	IN2007DN10068	20071226	
IN279668 B	20170203	IN2007DN09635	20071213	
IN279674 B	20170203	IN2007DN09636	20071213	
MXPA05007111 A1	20050826	MX2005PA07111	20031230	
MXPA05009127 A1	20051020	MX2005PA09127	20040309	
PL212097 B1	20120831	PL20040378443	20040309	
PL376078 A1	20051212	PL20030376078	20031230	
PL378443 A1	20060403	PL20040378443	20040309	
RU2005124279 A	20060120	RU20050124279	20031230	
RU2005131182 A	20060320	RU20050131182	20040309	
RU2299466 C2	20070520	RU20050124279	20031230	
RU2309107 C2	20071027	RU20050131182	20040309	
US2004164147 AA	20040826	US20040788917	20040227	
US2004164167 AA	20040826	US20040788916	20040227	
US2004164168 AA	20040826	US20040789280	20040227	
US2004169074 AA	20040902	US20040788610	20040227	
US2004169075 AA	20040902	US20040788611	20040227	
US2004172730 AA	20040902	US20040789746	20040227	
US2004173672 AA	20040909	US20030750571	20031230	
US2004178263 AA	20040916	US20040797403	20040309	
US2004178559 AA	20040916	US20040797441	20040309	
US2004178564 AA	20040916	US20040797332	20040309	
US2004178568 AA	20040916	US20040797331	20040309	
US2004178569 AA	20040916	US20040797405	20040309	
US2004188920 AA	20040930	US20040788634	20040227	
US2004188921 AA	20040930	US20040790633	20040227	
US2004195302 AA	20041007	US20040788612	20040227	
US2004205024 AA	20041014	US20040788605	20040227	
US2007013124 AA	20070118	US20060522747	20060918	
US2007228152 AA	20071004	US20070805747	20070524	
US2007267806 AA	20071122	US20070881013	20070725	
US2009084841 AA	20090402	US20080288579	20081020	
US2010288831 AA	20101118	US20100803607	20100630	
US6913192 BB	20050705	US20040789746	20040227	
US6918483 BB	20050719	US20040788634	20040227	
US6935558 BB	20050830	US20030750571	20031230	
US6948655 BB	20050927	US20040788610	20040227	
US6976634 BB	20051220	US20040788611	20040227	
US6997377 BB	20060214	US20040788612	20040227	
US7000832 BB	20060221	US20040788916	20040227	
US7004383 BB	20060228	US20040797332	20040309	
US7004384 BB	20060228	US20040797403	20040309	
US7070111 BB	20060704	US20040789280	20040227	
US7121461 BB	20061017	US20040790633	20040227	
US7249761 BB	20070731	US20040797331	20040309	

US7293699 BB	20071113	US20040788917	20040227	
US7309005 BB	20071218	US20040788605	20040227	
US7413189 BB	20080819	US20040797405	20040309	
US7438221 BB	20081021	US20070805747	20070524	
US7780073 BB	20100824	US20060522747	20060918	
US8033455 BB	20111011	US20100803607	20100630	
US8052044 BB	20111108	US20080288579	20081020	
WO04061787 A2	20040722	WO2003US41760	20031230	
WO04061787 A3	20041125	WO2003US41760	20031230	
WO04081735 A2	20040923	WO2004US07035	20040309	
WO04081735 A3	20050707	WO2004US07035	20040309	
ZA200505250 A	20060426	ZA20050005250	20050629	
ZA200507597 A	20060628	ZA20050007597	20050920	

Probable Assignee: DIEBOLD SELF SERVICE SYS

Assignee(s):(std)**:** DIEBOLD SELF SERVICE SYSTEMS D ; GRAEF H THOMAS ; HARTY MICHAEL ; JOHNSON MICHAEL S ; KONTOR KENNETH ; JONES BRIAN ; BLACKFORD DAMON J ; DIEBOLD INC ; DIEBOLD SELF SERVICE SYSTEM ; DIEBOLD SELF SERVICE SYSTEMS ; DIEBOLD SELF SERVICE SYS ; DIEBOLD SELF SERVICE SYSTEMS A ; WASHINGTON JON E ; VANKIRK THOMAS A

Assignee(s): WASHINGTON JON ; DAJBOLD INKORPOREJTED ; CHRISTIE JOHN ; DIEBOLD SELF SERVICE SYSTEMS A DIVISION OF DIEBOLD INC ; DIEBOLD INC5995 MAYFAIR ROADNORTH CANTONOH44720US ; DIEBOLD INC NORTH CANTON ; DIEBOLD SELF SERVICE SYSTEMS A DIVISION OF ; DIEBOLD SELF SERVICE SYSTEMS A DIVISION OF DIEBOLD ; BLACKSON DALE ; BLACKSON DALE H ; BARKER DAVID ; BARKER DAVID A ; GRAEF H ; DIEBOLD SELF SERVICE SYSTEMS DIVISION OF DIEBOLD I ; DIEBOLD SELF SERVICE SYSTEMS DIVISION OF ; TUROCY KENNETH ; MA SONGTAO ; MAGEE PAUL D ; SPICER GREGORY ; GEITHER JEFF ; DOMINICK DOUGLAS ; JENKINS RANDALL ; EASTMAN JEFFREY ; VANKEULEN ERIC ; DIEBOLD SELF SERVICE SYSTEMS DIVISION OF DIEBOLD INC ; JPMORGAN CHASE BANK NA ADMINISTRATIVE AGENT AS

Inventor(s):(std)**:** BARKER DAVID ; BARKER DAVID A ; BARKER DEHVID ; BLAC WASHINGTON JON VANKEULEN ; BLACKFORD DAMON J ; BLACKSON DALE ; BLACKSON DALE H ; BLEHKFORD DEHJMON DZH ; BLEHKSON DEJL KH ; CHRISTIE JOHN ; DALE H BLACKSON ; DAVID BARKER ; DOMINICK DOUGLAS ; DOMINIK DUGLAS ; DOUGLAS DOMINICK ; DZHEJTER DZHEFF ; DZHENKINS REHNDALL ; EASTMAN JEFFREY ; GRAEF H THOMAS ; GRAEF THOMAS H ; GRAF KH TOMAS ; GREGORY SPICER ; H THOMAS GRAEF ; HARTY MICHAEL ; ISTMAN DZHEFFRI ; JEFF GEITHER ; JEFFREY EASTMAN ; JENKINS RANDALL ; JO GRAEF H THOMAS BLACKFORD DA ; JOHN CHRISTIE ; JOHNSON MICHAEL J ; JON E WASHINGTON ; JON WASHINGTON ; ERIC VANKEULEN ; GEITHER JEFF ; JONES BRIAN ; KENNETH TUROCY ; KONTOR KENENTH ; KRISTI DZHON ; MA SONGTAO ; MEHDZHI POL D ; PAUL D MAGEE ; RANDALL JENKINS ; SONGTAO MA ; SPAJSER GREGORI ; SPICER GREGORY ; MAGEE PAUL D ; T JUROSI KENNET ; THOMAS A VANKIRK ; TUROCY KENNETH ; VANKEULEN ERIC ; VANKIRK TOMAS A ; VANKULEN EHRIK ; VASHINGTON DZHON ; WASHINGTON JON ; VANKIRK THOMAS A ; WASHINGTON JON E ; WASHINGTON JON VANKEULEN ERIC GEITHER JEFF BARKERD ; VANKEULEN ERIC S ; GRAEF H T ; KONTOR KENNETH C ; JOHNSON MICHAEL S ; HARTY MICHAEL J ; BESKITT WILLIAM D ; WASHINGTON J E ; VANKIRK THOMAS ; KONTOR KEN ; JONES B ; HARTY M ; BLACKFORD D ; VASHINGTON DZHON EH ; THOMASA VANKIRK ; MAGEE PAUL ; KONTOR KENNETH ; KONTOR KENNET ; KHARTI MAJKL ; KENNETH KONTOR ; GRAEF H ; DZHOUNZ BRAJAN ; DZHONSON MAJKL S ; BRIAN JONES ; BLEHKFORD DEJMON DZH ; BLACKFORD DAMON ; THOMAS GRAEF H ; MICHAEL HARTY

Inventor(s): A ; BESKITT WILLIAM ; JOHNSON MICHAEL ; VANKIRK THOMASA ; THOMAS H GRAEF ; GRAEF H THOMASUS ; JENKINS RANDALLUS ; GEITHER JEFFUS ; EASTMAN JEFFREYUS ; DOMINICK DOUGLASUS ; CHRISTIE JOHNUS ; BLACKSON DALE HUS ; BLACKFORD DAMON JUS ; TUROCY KENNETHUS ; SPICER GREGORYUS ; MAGEE PAUL DUS ; MA SONGTAOUS ; WASHINGTON JON VANKEULEN ERIC GEITHER JEFF BARKERDAVID MAGEE PAUL D ; WASHINGTON JONUS ; VANKIRK THOMAS AUS ; VANKEULEN ERICUS ; WASHINGTON JON VANKEULEN ERIC GEITHER JEFF ; VANKIRK THOMAS A WOOSTER ; WASHINGTON JON CLINTON ; VANKEULEN ERIC NORTH CANTON ; TUROCY KENNETH WADSWORTH ; T'JUROSI KENNET ; MAGEE PAUL D NORTH CANTON ; SPICER

GREGORY CUYAHOGA FALLS ; MICHAEL J JOHNSON ; MICHAEL S JOHNSON ; MA SONGTAO WADSWORTH ; KENENTH KONTOR ; GEITHER JEFF NORTH RIDGEVILLE ; JON WASHINOGTON ; JENKINS RANDALL ORVILLE ; H ; GRAEF H THOMAS BLACKFORD DAMON J ; GRAEF H THOMAS BLACKFORD DAMON J JOHNSON MICHAEL S ; GRAEF H THOMAS BOLIVAR ; GRAEF HTHOMAS ; EASTMAN JEFFREY NORTH CANTON ; DOMINICK DOUGLAS NORTH CANTON ; DAMON J BLACKFORD ; CHRISTIE JOHN BATESVILLE IN ; BLACKSON DALE H CANTON ; BLACKFORD DAMON J AKRON ; BARKER DAVID AUS ; BARKER DAVID NORTH CANTON

Agent(s): DIMOCK STRATTON LLP; EISEN MARK B; D YOUNG AND CO LLP; WSL PATENTANWAELTE PARTNERSCHAFT MBB; MELDRUM DAVID JAMES ET AL; MELDRUM DAVID JAMES; PERAL DAVID; ISERN JORGE; RALPH E JOCKE WALKER AND JOCKE LPA; RALPH E JOCKE WALKER AND JOCKE; WALKER AND JOCKE; WASIL DANIEL D; JOCKE RALPH E; RALPH E; DANIEL D; JOCKE RALPH

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NA NE NI NL NO NZ OM PG PH PL PT RO RU SC SD SE SG SI SK SL SN SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

International class (IPC 8–9): B65D83/08 B65G23/44 B65G59/00 B65H1/00 B65H31/30 B65H5/02 B65H5/06 G06F17/60 G06F19/00 G06F7/08 G06K5/00 G06K7/10 G06Q20/00 G06Q20/10 G06Q40/00 G06Q40/02 G07D11/00 G07D13/00 G07F19/00 (Advanced/Invention); B65G59/00 B65H1/00 G06K5/00 G06K7/10 G07F19/00 (Core/Invention); B65H G06F (Subclass/Non–invention)

International class (IPC 1–7): B65H1/00 B65H3/32 B65H5/00 B65H5/02 B65H5/02 G06F0/00 G06F1/00 G06F17/60 G06F7/08 G06K5/00 G06K7/00 G07B15/00 G07C9/00 G07D G07D11/00 G07D13/00 G07F11/00 G07F7/00 G07F9/10 G11B15/00 G11B17/00 G11B5/008 H04N7/18

CPC: G07D11/0012 G07F19/20 G07F19/201 G07F19/205 B65H5/025 B65H5/026 B65H5/06 B65H31/3081 B65H2301/42266 B65H2404/1114 B65H2404/1316 B65H2404/255 B65H2404/264 B65H2701/1912 G07D11/0003 G07D11/0021 G07D11/0024 G07D11/0081 G07F19/203 G06Q20/1085 G07D11/0006 G06Q20/40 B65H1/26 B65H2401/113 B65H2405/1142

European class: B65H1/26 B65H31/30F B65H5/02B4 B65H5/02B8 B65H5/06 G06Q20/1085 G06Q20/40 G07D11/00D G07D11/00D2 G07D11/00D2D G07D11/00D6 G07D11/00D6B G07D11/00H G07F19/00F G07F19/20 G07F19/201 G07F19/203 G07F19/205 L65H301/42266 L65H342/266 L65H401/113 L65H404/1114 L65H404/1316 L65H404/255 L65H404/264 L65H405/1142 L65H701/1912

US class: 194/350 206/459.1 221/1 221/198 221/1S 221/259 232/15 232/15P 235/379 235/379P 235/380 235/381 235/381P 235/382 235/382P 235/383 235/385 235/435 235/486 235/486P 235/492 271/113 271/113P 271/145 271/145P 271/147 271/162 271/162P 271/162S 271/171 271/188 271/198 271/209 271/264 271/264P 271/272 271/275 705/43 705/43P 705/44 726/6 726/6P 901/13 901/14 902/13 902/13S 902/6 902/6S 902/8 902/9

Classification Explorer

Cited documents: WO9953452 A1, WO9919847 A1, WO9905624 A1, WO0152196 A1, US99174801, US7494049 BB, US7322528 BB, US7249761 BB, US7165717 BB, US7144007 BB, US7143933 BB, US7070111 BB, US7059596 BB, US6976634 BB, US6896116 BB, US6845905 BB, US6826383 BB, US6786354 BB, US6786354 BA, US6786354 B1, US6758470 BA, US6724303 BB, US6724303 BA, US6724303 B1, US6705470 BB, US6685183 BB, US6685183 BA, US6685183 B1, US6639647 BA, US6637647 BB, US6637647 BA, US6637647 B1, US6592118 BB, US6592118 BA, US6592118 B1, US6591001 BA, US6557757 BA, US6540136 BA, US6516998 BB, US6516998 BA, US6510985 BA, US6505177 BA, US6494342 BA, US6488276 BB, US6484938 BA, US6454163 BB, US6454163 BA, US6443442 BA, US6427998 BA, US6402025 BA, US6398168 BA, US6398108 BA, US6378770 BA, US6371473 BA, US6296245 BA, US6293540 BA, US6276678 BA, US6276603 BA, US6273413 BA, US6257154 BA, US6196464 BA, US6196457 BA, US6160678 A, US6109522 A, US6073837 A, US6065672 A, US6059090 A, US60437637, US6032948 A, US6029800 A, US6025936 A, US6023688 A, US5945602 A, US5908189 A, US5901950 A, US5900607 A, US5863036 A, US5850075 A, US5797599 A, US5775145 A, US5719383 A, US5709381 A, US5695038 A, US5577720 A, US5563393 A, US5541795 A, US5507481, US5497334 A, US5467334 A, US5451757 A, US5435542, US5422773 A, US5342165 A, US5280902 A, US5251426 A, US5240368 A, US5234209 A, US5213202 A, US5177730 A, US5172903 A, US5172643 A, US5141127 A, US5099423 A, US5071032 A, US5065955 A, US5040779 A, US5039086 A, US5021639 A, US5006940 A, US4992648 A, US4928944 A, US4927130 A, US4917792 A, US4874160 A, US4871085 A, US4854570 A, US4822990 A, US4816652 A, US4795889 A, US4787617 A, US4764821 A, US4747493

A, US4697803 A, US4659008 A, US4655391 A, US4638746 A, US4603847 A, US4570548 A, US4530081 A, US4529119 A, US4474365 A, US4462509 A, US43763602 P, US4350332 A, US4337393 A, US4275667 A, US4235433 A, US4113140, US3667825 A, US3140621 A, US2998731 A, US2009084841 AA, US2007109130 AA, US2005258236 AA, US2005184444 AA, US2005140084 AA, US2004207151 AA, US2004206811 AA, US2004080095 AA, US2004016034 AA, US2003230464 AA, US2003227127 AA, US2003168508 AA, US2003080495 AA, US2003006546 AA, US2002104785 AA, US2002071244 AA, US2002071200 AA, US2002063035 AA, US2002062898 AA, US2002060400 AA, US2002050679 AA, US2002046171 AA, US2001041986 AA, JPS6144441 U, JP61044441 U1, JP61044441 U, JP11015972 A2, GB2308712 A1, GB2202066 A1, EP1258842 A2, EP1126120 A1, EP1082514 B1, EP0827117 A2, EP0392731 A2, DE29600787 U1, DE10135005 A1,

Forward Citations: WO16196167, WO16061088, WO16061086, WO16061084, WO15179854, WO15082346, WO14186472, WO14172696, WO12076592, WO09120391, WO09120391, WO09103980, WO09047742, WO08100861, WO08092754, WO08024043, WO07067106, WO07016091, US9666010, US9633500, US9613502, US9613487, US9603467, US9569908, US9536055, US9517904, US9514610, US9511001, US9508208, US9505582, US9505570, US9501885, US9483911, US9483896, US9466172, US9443399, US9443377, US9430893, US9384637, US9368003, US9368002, US9355532, US9345644, US9330515, US9321602, US9302867, US9299229, US9299206, US9296573, US9291341, US9280881, US9275512, US9251672, US9245405, US9242812, US9189820, US9163978, US9145257, US9127495, US9121197, US9120007, US9119488, US9111408, US9111078, US9082258, US9064366, US9052994, US9038892, US9038805, US9014845, US8985298, US8973817, US8959029, US8920236, US8920233, US8915427, US8910827, US8910771, US8870647, US8851988, US8851373, US8826022, US8819124, US8789787, US8784212, US8746908, US8744621, US8708288, US8701985, US8667457, US8646650, US8635159, US8631501, US8622295, US8621215, US8608056, US8600842, US8588966, US8579278, US8577042, US8573405, US8567664, US8496167, US8495582, US8485432, US8485391, US8479979, US8448939, US8430303, US8423790, US8419011, US8412768, US8396798, US8386075, US8382584, US8371501, US8366542, US8366035, US8353425, US8317188, US8317089, US8317088, US8274364, US8243346, US8225988, US8215520, US8196826, US8196820, US8190289, US8186670, US8177132, US8157162, US8136723, US8123219, US8121944, US8109434, US8109379, US8103379, US8087581, US8052044, US8047428, US8033455, US8033454, US8011581, US8006502, US8001796, US7900829, US7896148, US7878318, US7850164, US7844520, US7832629, US7789299, US7789298, US7780073, US7757940, US7694877, US7641072, US7559459, US7542627, US7533800, US7533784, US7513432, US7510181, US7494059, US7464832, US7450012, US7448535, US7438221, US7431205, US7428983, US7419090, US7341179, US7322518, US7249707, US7230223, US7140608, US7140608, US7103958, US6968997, US6957767, US2017147806, US2017022018, US2016275518, US2015348352, US2015284212, US2015248803, US2015178692, US2015066564, US2014263619, US2014261110, US2014229002, US2014174995, US2014124334, US2014069769, US2014067668, US2013205723, US2013161385, US2013153371, US2013119126, US2013093442, US2013081561, US2012175217, US2012153094, US2012132654, US2012080530, US2011315708, US2011196538, US2011156560, US2011140831, US2011133613, US2011049020, US2011048890, US2011042178, US2011031308, US2010288831, US2010247000, US2010228805, US2010207316, US2010200447, US2010176699, US2010148418, US2010134624, US2010117844, US2010100230, US2010093441, US2010063605, US2010016068, US2009289104, US2009195992, US2009188973, US2009184129, US2009166957, US2009121011, US2009108059, US2009103145, US2009084841, US2009051103, US2009008857, US2008283450, US2008237335, US2008223930, US2008195540, US2008142538, US2008107274, US2008093437, US2008061127, US2008011840, US2008011832, US2007296137, US2007267806, US2007267488, US2007251798, US2007228152, US2007228151, US2007205259, US2007194106, US2007187486, US2007025746, US2007023255, US2007013124, US2006237381, US2006218474, US2006212391, US2006203299, US2006169770, US2006163797, US2006157916, US2006104497, US2006071404, US2006032913, US2005269407, US2005263582, US2005212203, US2005211720, US2005173515, US2005140084, US2005116032, US2005006452, US2004207151, US2004164141, US2004164085, US2004155105, TWI394100, TWI389056, TWI383338, TWI380239, TWI378407, TWI354951, TWI354949, TWI354244, TWI352941, RU2616558, RU2540821, RU2494462, RU2475856, KR100607561, EP2977967, EP2975205, EP2879102, EP2568447, EP2541516, EP2515279, EP2227792, EP2096606, EP1934952, EP1544807, DE102011053443, DE102010061069, DE102007059846, CN106132707, CN105473466, CN105336026, CN105243758, CN105225361, CN105205949, CN104989184, CN104876049, CN104484940, CN104335256, CN104335256, CN104091299, CN104077854, CN103959351, CN103632434, CN103280032, CN103247104, CN103030037, CN102479404, CN102479403, CN102479403, CN102398785, CN102360477, CN102324152, CN101551925,

AU2008309213,

Abstract:
Source: US2004164147A An ATM currency cassette (208) includes a plurality of movable cassette information indicator buttons (214). Each button can be rotated about an axis for repositioning. The buttons can be axially moved outward and inward relative to the cassette housing (210) by rotation thereof. Different axial arrangements of the buttons represent respective different characteristics of cassette content. The cassette can be inserted into an ATM where the button positions can be read by the ATM. The cassette enables unused buttons to remain therewith and also permits a button arrangement to be changed without requiring opening of the cassette.

0) US2011089173A – BIODEGRADABLE MATERIAL AND CONTAINER FOR FLUIDS...

11) Family number: 48765810 (US2011089173A) © PatBase

Title: BIODEGRADABLE MATERIAL AND CONTAINER FOR FLUIDS

Priority: US20090603395 20091021 US20100709496 20100221 US20110270573 20111011 US20120590377 20120821 US20140483155 20140911 US20140515468 20141015 WO2010US31887 20100421 WO2010US60794 20101216 WO2011US22316 20110125 US20140553479 20141125 US20140553437 20141125 US20150948335 20151122

Family:

Publication number	Publication date	Application number	Application date
CN102232042 A	20111102	CN201080002441	20101216
CN102232042 B	20150114	CN201080002441	20101216
US2011089173 AA	20110421	US20100709496	20100221
US2011091672 AA	20110421	US20090603395	20091021
US2012138503 AA	20120607	US20110270573	20111011
US2012315688 AA	20121213	US20120590377	20120821
US2014377797 AA	20141225	US20140483155	20140911
US2015032060 AA	20150129	US20140515468	20141015
US2015075532 AA	20150319	US20140553479	20141125
US2015079413 AA	20150319	US20140553437	20141125
US2016145413 AA	20160526	US20150948335	20151122
US8519018 BB	20130827	US20100709496	20100221
US8852157 BB	20141007	US20120590377	20120821
US9527619 BB	20161227	US20110270573	20111011
WO11049640 A1	20110428	WO2010US31887	20100421
WO11102873 A1	20110825	WO2010US60794	20101216
WO11102940 A1	20110825	WO2011US22316	20110125

Probable Assignee: INNOVATIVE BOTTLES LLC

Assignee(s):(std)**:** INNOVATIVE BOTTLES LLC ; PATEL SHANTU ; SAI TECHNOLOGIES INC ; INNOVATIVE BOTTLES INC

Assignee(s): INNOVATIVE BOTTLES LCC

Inventor(s):(std)**:** PATEL SHANTU ; SHANTU PATEL

Agent(s): LARRY E; MINTZ LEVIN COHN FERRIS GLOVSKY AND POPEO PC; FRED C; SEVERIN LARRY

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9): A61B17/32 A61L31/04 A61L31/06 A61L31/14 A61M16/06 A61M16/10 A61M5/00 A61M5/178 A61M5/20 A61M5/32 B01L3/00 B32B1/00 B32B1/02 B32B27/06 B32B27/08 B32B27/30 B65D1/02 B65D50/04 B65D51/00 B65D55/02 B65D6/28 B65D65/46 B65D83/04 B65D85/84 C08F2/42 C08F2/46 C08F2/48 C08F2/50 C08J3/28 C08J7/18 C08K3/34 C08K5/11 C08L1/00 C08L1/02 C08L23/06 C08L3/02 C08L33/08 C08L67/00 C08L67/02 C08L67/04 C08L83/06 C12P1/00 C12S99/00 H05H1/24 (Advanced/Invention); C08F222/10 (Advanced/Non–invention)

CPC: A61M2005/3126 C08K5/0016 C08L101/16 Y10T428/1352 Y10T428/1397 A61M16/0622 A61M16/0694 A61M16/1005 A61M16/104 A61M2016/103 Y10T428/31786 Y10T428/31938 Y10T428/31971 Y02W90/14 B65D65/466 B65D41/065 B65D41/3447 B65D50/046 B65D2251/0015 B65D2251/0093 A61L31/14 A61L31/148 C12P1/00 A61L31/041 A61L2300/80 C08L1/02 C08L67/02 C08L67/04 A61M5/3216 A61M5/3202 A61M5/3205 A61M2205/6081 C08K5/11 A61L31/06 B65D1/0215 B65D65/46 C08F2/50 C08F222/1006 C08J7/18 C08J2300/16 C08J2367/04 C08J2433/06 Y02W90/12 Y02W90/13 C08L23/06 A61L31/141

European class: B32B9/02 B65D1/02B1 B65D41/06B B65D41/34D1 B65D50/04F2 B65D65/46 B65D65/46C C08F2/50 C08K5/00P1 C08L101/16 L65D251/00Y2D L65D251/00Y6M M08F222/10B

US class: 106/163.01 128/206.24 206/524.7 206/524.700P 220/200 264/322 264/328.17 264/523 422/547 422/557 427/385.5 427/385.500S 427/387 427/387S 427/393.5 427/393.500S 427/496 427/496S 427/508 427/508S 427/579 427/579S 428/35.7 428/35.700P 428/36.92 428/446 428/446S 428/480 428/523 428/532 435/262 435/262.5 435/41 522/113 522/120 522/121 522/144 522/148 522/162 522/172 522/178 522/182 522/182S 522/87 522/88 522/89 523/124 523/125 523/128 524/311 524/506 524/506S 524/560 524/560S 524/585 524/599 524/599S 524/601 524/604 524/605 600/235 604/181 604/187 604/189 604/19 604/192 604/218 604/246 604/317 604/48 604/93.01 606/167 606/181

Classification Explorer

Cited documents: WO07130402 A2, WO07011119 A1, US8852157 BB, US7569619 BB, US7422780 BB, US7279205 BB, US7084187 BB, US6767980 BB, US6756422 BA, US6736898 BB, US6706345 BA, US6419729 BA, US6279766 BA, US6235832 BA, US6168035 BA, US6168035 B1, US6112921 A, US6039899 A, US6036036 A, US5908125 A, US5865330 A, US5706963 A, US5602321 A, US4477529 A, US3917097 A, US2015079413 AA, US2015075532 AA, US2015032060 AA, US2014377797 AA, US2010282623 AA, US2010184926 AA, US2010015200 AA, US2009258175 AA, US2009246544 AA, US2009246250 AA, US2009234035 AA, US2009226655 AA, US2009220545 AA, US2009162683 AA, US2009124756 AA, US2009047531 AA, US2008264894 AA, US2008213209 AA, US2008188597 AA, US2008145564 AA, US2008067141 AA, US2007267304 AA, US2007264520 AA, US2007043148 AA, US2007034589 AA, US2005236354 AA, US2005173436 AA, US2002160201 AA, JP5086307 A2, JP2013091763 A2, JP2008220811 A2, JP2004277682 A2, JP2004161802 A2, JP10305532 A2, CN1919696 A, CN101142260 A, CN101031477 A,

Forward Citations: WO16025670, USD756776, USD756234, USD753287, US9655517, US9505858, US9458268, US9452863, US9228050, US9228044, US9193818, US9187597, US9174000, US9090372, US8870003, US8701905, US2016213250, US2016145413, US2014291273, US2013126462, US2013023830, US2012205373, US2010252617, US2010155396, US2010084361,

Abstract:
Source: US2011089173A A resin includes: an acrylate; and a curing agent to cure the acrylate. The resin is adapted to adhere to a degradable material selected from the group consisting of polylactic polymer (PLA), polyhydroxyalkonate (PHA), poly 3 hydroxybutrate co 3 hydroxyhexanote (PHBH), and paper. The curing agent includes a photoinitiator or a sensitizer that, when cured, form a hard coat when the resin is exposed to ultraviolet radiation or an electron beam.

0) US2008069587A – LOCKING FEATURE FOR USE IN CARTRIDGE INSERTION ...

12) Family number: 41620357 (US2008069587A) © PatBase

Title: LOCKING FEATURE FOR USE IN CARTRIDGE INSERTION GUIDE APPLICATIONS

Priority: US20060522755 20060918

Family:

Publication number	Publication date	Application number	Application date
US2008069587 AA	20080320	US20060522755	20060918
US7756442 BB	20100713	US20060522755	20060918

Probable Assignee: XEROX CORPORAITON

Assignee(s):(std)**:** XEROX CORP

Assignee(s): XEROX CORPORAITON

Inventor(s):(std)**:** BARTLETT MARK T ; KEEFE DAVID L ; KURZ KARL E

Agent(s): JAMES J RALABATE; JAMES J

International class (IPC 8–9)**:** G03G15/02 G03G21/18 (Advanced/Invention); G03G15/02 G03G21/18 (Core/Invention)

CPC: G03G21/1661 G03G2221/1654 G03G2221/1693 G03G2221/1807

European class: G03G21/16 S03G221/16K1 S03G221/16T S03G221/18A

US class: 399/115 399/168 399/170 399/172

Classification Explorer

Cited documents: US7295793 BB, US6735407 BB, US5485253 A, US4914480 A, US2297691 A, JPS58193560, JP58193560 A2, JP2003122092 A2,

Forward Citations: US9483015, US8576265, US2012294645, US2010020155,

Abstract:
Source: US2008069587A A guide is used to protect a corona cartridge during shipping and during insertion into an electrostatic marking apparatus. The guide has dimensions that will permit the cartridge to fit therein and has a locking mechanism that securely holds the cartridge in place during shipment or movement. When the cartridge is to be removed from the guide and inserted into an electrostatic marking system, a handle attached to a latch is used to free the latch from a groove in the guide. The groove in the guide is located between two upwardly protruding ramps having a slidable side and a locking side that abuts the latch and holds it in place until activation when the latch handle frees it from the groove.

0) US2004076446A – SUPPORT BRACKET/BACKUP SHOW ASSEMBLY FOR WEB–CL...

13) Family number: 30499794 (US2004076446A) © PatBase

Title: SUPPORT BRACKET/BACKUP SHOW ASSEMBLY FOR WEB–CLEANING CARTRIDGE

Priority: US20000738751 20001215

Family:

Publication number	Publication date	Application number	Application date
US2004076446 AA	20040422	US20000738751	20001215
US6901227 BB	20050531	US20000738751	20001215

Probable Assignee: EASTMAN KODAK CO

Assignee(s):(std): NEXPRESS SOLUTIONS LLC

Assignee(s): EASTMAN KODAK CO ; CITICORP NORTH AMERICA INC AGENT AS ; JPMORGAN CHASE BANK NA ADMINISTRATIVE AS ; NEXPRESS SOLUTIONS LLCROCHESTER NEW YORK ; WILMINGTON TRUST NATIONAL ASSOCIATION AGENT AS ; PAKON INC ; BANK OF AMERICA NA AGENT AS ; BARCLAYS BANK PLC ADMINISTRATIVE AGENT AS

Inventor(s):(std): CARRONE MARIA B ; DUNN CAROL K ; ZIEGELMULLER FRANCISCO L ; TAYLOR RANDALL J ; GROSS GEORGE D

International class (IPC 8–9): G03G15/16 G03G21/00 (Advanced/Invention); G03G15/16 G03G21/00 (Core/Invention)

International class (IPC 1–7): G03G21/00

CPC: G03G15/166

European class: G03G15/16E1G1C

US class: 399/101 399/123 399/343 399/345 399/350 399/351 399/99

Classification Explorer

Cited documents: US6453134 BA, US5426485 A, US4866483 A,

Forward Citations: US8774697, US8139981, US8086133, US7796913, US7764899, US7548711, US2013315617, US2010111559, US2010111558, US2009185825, US2007280723, US2007231004,

Abstract:
Source: US2004076446A A cleaning station for removing particulate material from a moving web in an electrostatic printer/copier includes a customer–replaceable web–cleaning cartridge and a support bracket/backup shoe assembly. The latter serves to support the cleaning cartridge for movement between an operative position in which web–cleaning components of the cartridge exert a substantially uniform pressure on the web, and a service position in which the cartridge is sufficiently spaced from the web to facilitate replacement and/or service. Preferably, a bracket that supports the cleaning cartridge is pivotally connected to a backup shoe that is fixed with respect to the web path and exerts a uniform pressure on the rear surface of the web, opposite that contacted by the cleaning cartridge. A quick disconnect feature enables the cartridge–supporting bracket to be de–coupled from the back–up shoe and removed from the instrument.

0) US2009214255A – IMAGING CARTRIDGE AND IMAGE FORMING APPARATUS

14) Family number: 43651907 (US2009214255A) © PatBase

Title: IMAGING CARTRIDGE AND IMAGE FORMING APPARATUS

Priority: JP20080041417 20080222

Family:

Publication number	Publication date	Application number	Application date
CN101515154 A	20090826	CN200810173068	20081126
JP2009198885 A2	20090903	JP20080041417	20080222
US2009214255 AA	20090827	US20080241891	20080930

Probable Assignee: KONICA MINOLTA BUSINESS TECHNOLOGIES INC

Assignee(s):(std)**:** KONICA MINOLTA BUSINESS TECH

Assignee(s): KONICA MINOLTA BUSINESS TECHNOLOGIES INC

Inventor(s):(std)**:** HIROSHI MIZUNO ; ISAMU KUGIMIYA ; KONDO NOZOMI ; KONDO NOZOMU ; KUGIMIYA ISAMU ; MIZUNO HIROSHI ; NAOTO YOSHIDA ; NOZOMU KONDO ; YOSHIDA NAOTO

Agent(s): MORRISON AND FOERSTER LLP

International class (IPC 8–9)**:** G03G15/00 G03G21/16 G03G21/18 (Advanced/Invention); G03G15/00 G03G21/16 G03G21/18 (Core/Invention)

CPC: G03G21/1846

European class: G03G21/18H1H

US class: 399/111

Classification Explorer

Cited documents: US7457566 BB, US7305202 BB, US7292803 BB, US7274894 BB, US7236718 BB, US7139508 BB, US7136604 BB, US5963759 A, US5832343 A, US5331373 A,

Forward Citations: CN102193367,

Abstract:
Source: US2009214255A The present invention provides an imaging cartridge in which a handle, which is used for mounting the imaging cartridge to either one of two image forming apparatuses in which the attachment/detachment directions of the imaging cartridge are different, does not obstruct the mounting operation of the imaging cartridge to the other image forming apparatus. The imaging cartridge can be attached to or detached from a main body of a first image forming apparatus in a first direction, while can be attached to or detached from a main body of a second image forming apparatus in a second direction that is different from the first direction by 90 degrees. The imaging cartridge includes a pair of handles gripped upon attaching or detaching the imaging cartridge to or from the main body of the first image forming apparatus in the first direction. The handle of the pair of handles, which is positioned at the far side when the imaging cartridge is attached to or detached from the main body of the second image forming apparatus, is made of a movable handle that moves so as not to hinder the attaching or detaching operation.

0) WO16129730A1 – COMPACT, UPRIGHT ELECTROPHOTOGRAPHIC APPARATUS ...

15) Family number: 63200537 (WO16129730A1) © PatBase

Title: COMPACT, UPRIGHT ELECTROPHOTOGRAPHIC APPARATUS

Priority: WO2015KR01513 20150214

Family:

Publication number	Publication date	Application number	Application date
KR20160110412 A	20160921	KR20167020823	20150214
WO16129730 A1	20160818	WO2015KR01513	20150214

Probable Assignee: YI JANG HO

Assignee(s):(std)**:** YI JANG HO ; YI JANGHO

Inventor(s):(std)**:** YI JANG HO ; YI JANGHO

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9)**:** G03G15/16 G03G21/12 G03G21/16 G03G21/18 (Advanced/Invention)

CPC: G03G21/1619 G03G21/181 G03G21/1814 G03G21/1609

Classification Explorer

Cited documents: US6496670 BA, US6115571 A, US5799230 A, US2014027012 AA, US2006024094 AA,

Abstract:
An electrophotographic image forming apparatus for forming an image on a recording material includes an upright sheet feeding inlet, an upright sheet discharging outlet, a permanently mounted electrophotographic photosensitive drum, and toner replenishing means for refilling a toner reservoir as needed, rendering the device compact, portable, and inexpensive to maintain.

16) Family number: 57638048 (US2015093150A) © PatBase

Title: ROTATIONAL FORCE DRIVING ASSEMBLY AND PROCESS CARTRIDGE

Priority: CN201310460347 20130929 CN201410359975 20140725 CN201420313988U 20140612 CN201420363432U 20140702 CN201410642209 20141113 CN201510012016 20150110 CN201510243037 20150513 CN201510746337 20151104 US20140496379 20140925 CN201610179379 20141113 CN201610762288 20130929 CN201610754245 20130929 CN201610756784 20130929 CN201610754349 20130929 US20160015241 20160204 WO2014CN084677 20140819 WO2015CN096280 20151203 WO2015CN092715 20151023 WO2015CN084489 20150720

Family:

Publication number	Publication date	Application number	Application date
CN104516224 A	20150415	CN201310460347	20130929
CN105334711 A	20160217	CN201410359975	20140725
CN105589318 A	20160518	CN201410642209	20141113
CN105700305 A	20160622	CN201610179379	20141113
CN105824225 A	20160803	CN201510012016	20150110
CN106125524 A	20161116	CN201610762288	20130929
CN106125532 A	20161116	CN201610754245	20130929
CN106125533 A	20161116	CN201610756784	20130929
CN106154794 A	20161123	CN201510746337	20151104
CN106154795 A	20161123	CN201510876053	20151202
CN106200297 A	20161207	CN201610754349	20130929
CN106773584 A	20170531	CN201710155991	20151104
CN203894537 U	20141022	CN201420313988U	20140612
CN204009372 U	20141210	CN201420363432U	20140702
CN205539952 U	20160831	CN201620021096U	20160108
CN205608398 U	20160928	CN201520877958U	20151104
EP3029527 A1	20160608	EP20140847263	20140819
EP3029527 A4	20160921	EP20140847263	20140819
EP3153933 A1	20170412	EP20150825452	20150720
EP3153933 A4	20170628	EP20150825452	20150720
JP2016533536 T2	20161027	JP20160544702T	20140819
JP6128405 B2	20170517	JP20160544702T	20140819
US2015093150 AA	20150402	US20140496379	20140925
US2016154376 AA	20160602	US20160015241	20160204
US9280121 BB	20160308	US20140496379	20140925
WO15043043 A1	20150402	WO2013CN86551	20131105
WO15043339 A1	20150402	WO2014CN084677	20140819
WO16011925 A1	20160128	WO2015CN084489	20150720
WO16074559 A1	20160519	WO2015CN092715	20151023
WO16180008 A1	20161117	WO2015CN096280	20151203

Probable Assignee: APEX TECHNOLOGY CO LTD

Assignee(s):(std)**:** APEX TECH CO LTD ; APEX TECHNOLOGY CO LTD ; ZHUHAI AIPAIKE TECHNOLOGY CO LTD ; ZHUHAI APEXMIC TECH CO LTD ; ZHUHAI SEINE TECHNOLOGY CO LTD ; ZHUHAI KINGWAY REAL ESTATE CO LTD ; XIAO HONGBIAO ; ZHUHAI KAIWEI HOUSE PURCHASING CO LTD

Assignee(s): ZHUHAI KAIWEI HOUSE PURCHASING CO ; ZHUHAI AIPAIKE TECHNOLOGY CO ; ZHUHAI SEINE TECHNOLOGY CO ; ZHUHAI KINGWAY REAL ESTATE CO ; ZHUHAI APEXMIC TECHNOLOGY CO ; NINESTAR CORP ; CHU HAI YI PARKER TECHNOLOGY CO LTD ; PRINT ZHUHAI SEINE TECHNOLOGY CO LTD ; APEX TECHNOLOGY CO

Inventor(s):(std): CAO HUI ; CAO JIANXIN ; CHEN DE ; CHIEN DE ; DAI SHUCHUN ; DING GEMING ; DING WENYI ; LIU JINLIAN ; LUO QIN ; MA HAILONG ; WANG CHAO ; XIAO HONGBIAO ; YANG MIAOLING ; ZENG LIKUN

Agent(s): SUN YIMING; YAGI TOSHIYASU; TROUTMAN SANDERS LLP; SHENZHEN BAIRUI PATENT AND TRADMARK OFFICE; SHENZHEN BAIRUI PATENT AND TRADEMARK OFFICE; LEADER PATENT AND TRADEMARK FIRM

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9): F16D1/10 F16D3/04 F16D3/10 F16D3/16 F16D3/18 F16D3/205 G03G15/00 G03G21/16 G03G21/18 (Advanced/Invention)

CPC: F16D3/18 G03G21/1857 G03G21/18 F16D3/04 F16D3/10 F16D3/16 F16D3/2052 F16D3/265 G03G15/757 G03G21/1853 G03G21/186 G03G2221/1657 G03G21/1647

US class: 1/1 399/111 399/167

Classification Explorer

Cited documents: WO16011925 A1, WO12113299 A1, WO11091639 A1, US7869735 BB, US2015093150 AA, US2013136492 AA, US2013064569 AA, US2012275824 AA, US2012183331 AA, US2011255900 AA, US2011217073 AA, US2010028050 AA, US2009175652 AA, US2008304865 AA, US2002085858 AA, JP2010079284 A2, JP2009169035 A2, JP2009134284 A2, JP2009134284, JP2007101770 A2, JP2007101770, JP2004076855 A2, CN204807923 U, CN204044516 U, CN203930340 U, CN203573085 U, CN202886848 U, CN202710923 U, CN202661778 U, CN202421744 U, CN201532527 U, CN201434968 Y, CN104267589 A, CN104035311 A, CN103809420 A, CN103713501 A, CN103439871 A, CN102109806 A, CN102096352 A, CN102053528 A, CN101907858 A, CN101819400 A, CN101583910 A,

Forward Citations: WO17012394, WO15169205, US2016154376,

Abstract:
Source: US2015093150A The present invention relates to a rotational force driving assembly and a process cartridge used for being engaged with a rotational force driving head inside an electrophotographic image forming device so as to transmit rotary driving force, comprising a photosensitive member hub, a rotational force receiving component, a side plate, and an axis offset adjusting mechanism of the rotational force receiving component, wherein the axis offset adjusting mechanism can slide relative to the side plate; the axis offset adjusting mechanism of the rotational force receiving component is connected with the rotational force receiving component; when the rotational force driving assembly is not installed into the electrophotographic image forming device, and thus is not subjected to external force, the axis offset adjusting mechanism enables the axis of the rotational force receiving component to make parallel offset relative to the axis of the photosensitive member hub; and after the electrophotographic image forming device is arranged in the rotational force driving assembly and is installed in place, the axis offset adjusting mechanism is subjected to the external force to move relative to the side plate, so that the axis of the rotational force receiving component is coincident with the axis of the photosensitive member hub, the rotational force receiving component extends out along the axial direction of the photosensitive member hub to be engaged with the rotational force driving head, and the driving assembly does not interfere with the rotational force driving head.

0) US2011044721A – UNIVERSAL MAGNET ROLLER PRESS APPARATUS, ASSEMB...

17) Family number: 48343408 (US2011044721A) © PatBase

Title: UNIVERSAL MAGNET ROLLER PRESS APPARATUS, ASSEMBLY, AND METHOD

Priority: US20090274617P 20090818 US20090283254P 20091130 US20100806717 20100818

Family:

Publication number	Publication date	Application number	Application date
US2011044721 AA	20110224	US20100806717	20100818
US8528210 BB	20130910	US20100806717	20100818

Probable Assignee: MITSUBISHI KAGAKU IMAGING CORP

Assignee(s):(std)**:** HOLMES DENNY ; MITSUBISHI KAGAKU IMAGING CORP ; OHANYAN TIGRAN

Inventor(s):(std)**:** HOLMES DENNY ; OHANYAN TIGRAN

Agent(s): MITSUBISHI KAGAKU IMAGING CORP

International class (IPC 8–9)**:** B21D53/00 B30B1/18 B30B13/00 B41F1/34 G03G15/08 (Advanced/Invention)

CPC: G03G15/0894 G03G15/0921 G03G2215/00987 G03G2215/0863

European class: G03G15/08R G03G15/09E S03G215/00R S03G215/08B1B

US class: 100/289 100/289S 100/35 100/35S 101/480 29/450 29/895.1 399/109 399/109P

Classification Explorer

Cited documents: US7331288 BB, US6876827 BA, US6463648 BB, US6321048 BA, US6131261 A, US5638754 A, US4763394 A, US3541665 A, US3061914 A,

Forward Citations: US2017090350,

Abstract:
Source: US2011044721A There is provided a universal magnet roller press apparatus, assembly, and method for removing and installing a magnet and a hub of a magnet roller of a toner printer cartridge. The apparatus has a mounting base, a screw drive assembly, an alignment cradle, a front support assembly, a back support assembly, and a first rod stop and a second rod stop. The assembly has the universal magnet roller press apparatus and a plurality of magnet roller adaptors for attached to the magnet roller during removal and installation of the magnet and the hub.

0) US2002097964A – FIBER OPTIC CONNECTOR HAVING AN ANNULAR–SHAPED ...

18) Family number: 30989592 (US2002097964A) © PatBase

Title: FIBER OPTIC CONNECTOR HAVING AN ANNULAR–SHAPED FLOATING SEAL ASSEMBLEY

Priority: US19990119227P 19990209 US19990119367P 19990209 US19990119367P 19990209 US20000647759 20001004 US20000712026 20001114 US19990440025 19991112 US20000712015 20001114 US20020102243 20020319 US20000666693 20000921 WO2000US03255 20000208

Family:

Publication number	Publication date	Application number	Application date
AU200028749 A5	20000829	AU20000028749	20000208
US2002097964 AA	20020725	US20020102243	20020319
US6305849 BA	20011023	US19990440025	19991112
US6305849 C1	20090331	US19990440025	19991112
US6357929 BA	20020319	US20000712015	20001114
US6371660 BA	20020416	US20000712026	20001114
US6394661 BA	20020528	US20000666693	20000921
US6499839 BA	20021231	US20000647759	20001004
WO0047419 A1	20000817	WO2000US03255	20000208
WO0047419 B1	20001123	WO2000US03255	20000208

Probable Assignee: FIBER SYSTEMS INT

Assignee(s):(std)**:** FIBER SYSTEMS INT ; FOX JAMES E ; HUDD ALAN L ; FIBER SYSTEMS INTERNAT ; BAILEY MICHAEL E ; BUSBY MILES T ; WHITAKER KERRY W ; SOURCE TECHNOLOGIES INC

Assignee(s): SOURCE TECHNOLOGIES LLC A DELAWARE LTD ; SOURCE TECHNOLOGIES LLC A DELAWARE LIABILITY CO LT ; SOURCE TECHNOLOGIES LLC A DELAWARE LIABILITY CO LTD ; CONGRESSIONAL BANK ; DIAMOND CREEK CAPITAL LLC ; FARRAGUT MEZZANINE PARTNERS III LP ; FIBER SYSTEMS INT SUITE 103 1681 FA ; FIBER SYSTEMS INT 1681 FA ; LIBERTY PARTNERS LENDERS LLC ; LIBERTY PARTNER LENDERS LLC ; FIBER SYSTEMS INTERNATIONAL ; ROEHRS MICHAEL ; ROEHRS DANIEL ; SC HOLDINGS 001 LLC ; OPUS BANK

Inventor(s):(std)**:** BAILEY MICHAEL E ; BUSBY MILES T ; CULL BRYAN D ; FOX JAMES E ; HUDD ALAN L ; ROEHRS DANIEL C ; WHITAKER KERRY W ; WHITAKER KERRY ; ROEHRS MICHAEL ; ROEHRS DANIEL

Inventor(s): ALAN L HUDD ; JAMES E FOX ; MICHAEL E BAILEY ; MILES T BUSBY

Designated states: AE AL AM AT AU AZ BA BB BE BF BG BJ BR BY CA CF CG CH CI CM CN CR CU CY CZ DE DK DM EE ES FI FR GA GB GD GE GH GM GN GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX NE NL NO NZ PL PT RO RU SD SE SG SI SK SL SN SZ TD TG TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

International class (IPC 8–9): B41J2/175 C09D11/00 G02B6/38 (Advanced/Invention); B41J2/175 C09D11/00 G02B6/38 (Core/Invention)

International class (IPC 1–7): B41J2/17 B41J29/38 G02B6/38

CPC: C09D11/38 G02B6/3851 G02B6/389 G02B6/3825 G02B6/3878 B41J2/175 C09D11/322 G02B6/383 G02B6/3831 G02B6/3849 G02B6/3869 G02B6/3877 G02B6/3887 G02B6/3894

European class: B41J2/175 C09D11/322 C09D11/38 G02B6/38D10A4 G02B6/38D10A6 G02B6/38D14 G02B6/38D14S G02B6/38D2N G02B6/38D2S3 G02B6/38D2S5 S02B6/38D10A4 S02B6/38D12 S02B6/38D2S3 S02B6/38D2S5 S02B6/38D6H2 S02B6/38D8

US class: 347/100 347/106 347/96 385/56 385/56S 385/58 385/58S 385/59 385/59P 385/60 385/69 385/70 385/71 385/76 385/77 385/78

Classification Explorer

Cited documents: USD424020, USD412312 S1, US6305849 BA, US6234693 BA, US6234683 BA, US6206579 BA, US6179481 BA, US6081647 A, US6059407 A, US6048439 A, US6024890 A, US5808637 A, US5796896 A, US5736606 A, US5608828 A, US5590229 A, US5553528 A, US5542487 A, US5517223 A, US5515466 A, US5510884 A, US5463416 A, US5394497 A, US5394494 A, US5382963 A, US5291243 A, US5285510 A, US5283848 A, US5280556 A, US5274567 A, US5064268 A, US4928125 A, US4878730 A, US4812007 A, US4758275 A, US4639748 A, US4599629 A, US4595839 A, US4552469 A, US4493529 A, US4432003 A, US4315267 A, US4309319 A, US4258977 A, US4258371 A, US4197563 A, US4158862 A, US4143381 A, US4140366 A, US4131899 A, US4122459 A, US4107698 A, US4107238 A, US4103306 A, US4078238 A, US4075636 A, US4070679 A, US4068240 A, US4063252 A, US4060812 A, US4045770 A, US4027308 A, US4025925 A, US3998160 A, US3992712 A, US3979756 A, US3972053 A, US3971033 A, US3959797 A, US3928855 A, US3916419 A, US3878518 A, US3864692 A, US3864691 A, US3808272 A, US3787879 A, US3739396 A, US3509816 A, FR166636, EP0166636 A1,

Forward Citations: WO14041450, WO14041449, WO13177014, WO08005204, WO07142845, WO07142845, WO07106713, WO07106713, WO07046840, WO06012354, WO06009701, WO05054381, USRE42522, USD478549, US9664862, US9599777, US9599771, US9568689, US9482829, US9482828, US9435962, US9395499, US9310570, US9239441, US9116307, US9110253, US9052470, US9017468, US8834037, US8821033, US8814442, US8770862, US8672560, US8573761, US8556521, US8540435, US8515233, US8475200, US8454737, US8414196, US8393804, US8202008, US8137002, US8128294, US8123547, US8038354, US7959361, US7942590, US7938686, US7927412, US7918609, US7914135, US7881576, US7878716, US7785015, US7766557, US7762726, US7744288, US7744286, US7722258, US7706645, US7699533, US7686519, US7677814, US7674046, US7651278, US7614798, US7614797, US7591595, US7585116, US7572065, US7572063, US7556437, US7481586, US7476035, US7465103, US7463803, US7458855, US7441962, US7396165, US7350981, US7331827, US7318751, US7290941, US7265176, US7258493, US7255433, US7244066, US7237965, US7220062, US7186144, US7172458, US7165893, US7156560, US7150567, US7137742, US7123836, US7113679, US7111990, US7090407, US7090406, US7048448, US7048446, US7044650, US7008270, US6986607, US6886931, US6874946, US6848834, US6827597, US6769813, US6719461, US6659654, US6394662, US6394661, US2016238796, US2015043870, US2013236140, US2013236139, US2013230284, US2013183002, US2012237169, US2012033921, US2011217016, US2011217014, US2011151706, US2011066718, US2011003501, US2010296779, US2010266244, US2010266242, US2010183264, US2010178008, US2010172616, US2009289180, US2009252459, US2009196563, US2009191759, US2009162016, US2009148104, US2009148103, US2009148102, US2009060423, US2009060420, US2009041411, US2009025603, US2009003772, US2008310796, US2008273840, US2008253717, US2008226234, US2008219626, US2008175546, US2008175543, US2008175541, US2008159699, US2008037946, US2008037938, US2008013890, US2008013889, US2007297723, US2007281552, US2007279467, US2007263959, US2007238360, US2007222838, US2007110384, US2007077010, US2007058907, US2006269194, US2006257076, US2006251359, US2006239620, US2006193567, US2006193562, US2006173112, US2006154529, US2006088247, US2006056770, US2006045430, US2006045428, US2005285918, US2005135755, US2005117850, US2005069262, US2005053342, US2004247255, US2004228589, US2004223720, US2004223699, US2004184739, US2004161203, US2004135863, US2004120655, US2003210870, US2003152332, TWI422887, RU2615592, GB2467028, GB2467028, FR3034345, EP3114178, EP2910989, EP1784469, EP1672401, CN102508340, CN101955706,

Abstract:
Source: US2002097964A A multi−channel fiber optic cable connector is provided for connecting the terminal ends of fiber optic cables utilizing continuous ceramic sleeves to align the adjacent termini of optical fibers included within respective ones of the cables. The continuous ceramic sleeves have internal bores which are slightly larger than the outside diameter of the periphery of the termini, providing a clearance fit between the continuous ceramic sleeves and respective ones of the termini. The termini are independently gimbaled, with gimbal points being disposed distally from respective mating planes between opposing terminal ends of the termini. Floating seal assemblies extend around respective ones of the termini between the mating planes and the gimbal points, and seal between the respective ones of the termini and a connector housing. The floating seal assemblies each include an annular−shaped, floating collar having an aperture through which a respective one of the termini extends. The floating collar is free to move parallel to a longitudinal axis of the respective termini, and also transverse thereto. A first seal element seals between the aperture of the floating collar and the respective termini. The floating collar includes a face which extends transverse to the longitudinal axis of the respective termini. A second seal element extends around the longitudinal axis of the respective termini and is sealingly engaged between the face of the floating collar and a seal surface of a bore in the connector housing.

0) US2006221168A – IMAGE FORMING APPARATUS

19) Family number: 33433304 (US2006221168A) © PatBase

Title: IMAGE FORMING APPARATUS

Priority: JP20050088418 20050325 JP20060024572 20060201

Family:

Publication number	Publication date	Application number	Application date
JP2006301590 A2	20061102	JP20060024572	20060201
JP4865342 B2	20120201	JP20060024572	20060201
US2006221168 AA	20061005	US20060376298	20060316
US7454156 BB	20081118	US20060376298	20060316

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK

Assignee(s): CANON INC ; CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** WAKIYAMA EIJI

Agent(s): FITZPATRICK CELLA HARPER AND SCINTO

International class(IPC 8–9)**:** B41J29/13 G03G15/00 G03G21/16 H04N1/00 (Advanced/Invention); B41J29/12 G03G15/00 G03G21/16 H04N1/00 (Core/Invention)

CPC: B41J13/106

European class: B41J13/10C

US class: 347/108 399/111 399/114

Classification Explorer

Cited documents: US7341387 BB, US7203448 BB, US7006776 BB, US6973279 BB, US6125251 A, JP8016062 A2, JP2000112195 A2, JP2000039827 A2, JP11296048 A2,

Forward Citations: US9579033, US9457595, US9250608, US9113003, US8585201, US2016183820, US2015050042, US2014376014, US2012001993,

Abstract:
Source: US2006221168A An image forming apparatus includes a first opening and closing device provided in an apparatus body and openable and closable with respect to the apparatus body, an operating member operable by a user to open the first opening and closing device, a first recess for receiving the hand of the user and to permit the hand to contact and operate the operating member to open the first opening and closing device, and a second recess for receiving the hand of the user and to permit the hand to contact and operate the operating member to open the first opening and closing device when the hand of the user is inserted thereinto. The second recess is located at a position different from the first recess.

0) US5564690A – SHEET SUPPLY APPARATUS

20) Family number: 9466409 (US5564690A) © PatBase

Title: Sheet supply apparatus

Priority: JP19920189971 19920624 JP19920193112 19920626 US19950483550 19950607 US19930079894 19930622

Family:

Publication number	Publication date	Application number	Application date
DE69321771 D1	19981203	DE19936021771	19930623
DE69321771 T2	19990506	DE19936021771T	19930623
EP0575996 A1	19931229	EP19930110050	19930623
EP0575996 B1	19981028	EP19930110050	19930623
JP2916044 B2	19990705	JP19920193112	19920626
JP3193776 B2	20010730	JP19920189971	19920624
JP6009070 A2	19940118	JP19920193112	19920626
JP6009077 A2	19940118	JP19920189971	19920624
US5564690 A	19961015	US19950483550	19950607

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK

Assignee(s): KYANON KK ; CANON INC ; CANON K K ; CANON K K TOKIO TOKYO JP ; CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** OSHIDA HARUHISA

Inventor(s): OSHIDA HARUHISA OHTA KU TOKYO 146 JP

Designated states: DE FR GB

International class (IPC 8–9)**:** B65H1/12 B65H1/14 B65H1/24 B65H1/26 G03G15/00 (Advanced/Invention); B65H1/08 B65H1/12 B65H1/14 B65H1/26 G03G15/00 (Core/Invention)

International class (IPC 1–7)**:** B65H1/12 B65H1/14 B65H1/24 B65H1/26 G03G15/00

CPC: B65H1/12

European class: B65H1/12

US class: 271/127 271/157 271/160 271/164

Classification Explorer

Cited documents: US5222725 A, US5078380 A, US4280692 A, US4269407 A, JP52053255 A2, JP52053225 A2, JP44026054, JP4260542 A2, JP2295828 A2, JP2295828, GBA2019366, GB2019366 A1, DE2929117 A1,

Forward Citations: US9670015, US9637331, US8910933, US8500117, US8251364, US7926805, US7819398, US7708265, US7540493, US7510181, US7448613, US7165766, US6408147, US6231042, US6129348, US5775687, US5713568, US2016214811, US2014353907, US2013154184, US2012248692, US2011140353, US2010059930, US2009243206, US2009057988, US2008048384, US2007200284, US2007001370, US2006244197, US2006071404, JP5843811, JP2015009933, JP2008174331, FR2726222, EP2612830, EP0709321, EP0675414,

Abstract:
Source: US5564690A The present invention provides a sheet supplying apparatus including a sheet cassette removably mountable to the sheet supply apparatus and having a rockable sheet support plate for supporting sheets, and a biasing device for biasing the sheet support plate toward a sheet supply device of the sheet supplying apparatus for feeding out the sheets; a locking device for locking the sheet support plate at a position spaced apart from the sheet supply device in opposition to a biasing force of the biasing means; a releasing device for releasing a locking condition of the locking device when the sheet cassette is mounted to the sheet supplying apparatus; and a buffer device for reducing a shifting speed of the sheet support plate effected by the biasing device when the locking condition of the locking device is released by the releasing device. The present invention further provides an image forming apparatus including such sheet supplying apparatus.

0) US6082854A – MODULAR INK–JET HARD COPY APPARATUS AND METHODO...

21) Family number: 15583030 (US6082854A) © PatBase

Title: Modular ink–jet hard copy apparatus and methodology

Priority: US19980039735 19980316 US19980039735 19980316 US20000568448 20000510 US20000568112 20000510 US20000568277 20000510 WO1999US05527 19990312

Family:

Publication number	Publication date	Application number	Application date
AU199930035 A1	19991011	AU19990030035	19990312
BRPI9908943 A	20001114	BR1999PI08943	19990312
DE69929039 D1	20060126	DE19996029039T	19990312
DE69929039 T2	20060803	DE19996029039T	19990312
EP1062096 A1	20001227	EP19990911384	19990312
EP1062096 B1	20051221	EP19990911384	19990312
ES2251185 T3	20060416	ES19990911384T	19990312
IN00003CA1999 A	20060217	IN1999CA00003	19990101
IN206450 B	20070427	IN1999CA00003	19990101
JP2002506758 T2	20020305	JP20000536571T	19990312
JP4121705 B2	20080723	JP20000536571T	19990312
KR20010041830 A	20010525	KR20007010117	20000914
RU2000125902 A	20021110	RU20000125902	19990312
RU2207958 C2	20030710	RU20000125902	19990312
TW427945 B	20010401	TW19980119968	19981202
US6082854 A	20000704	US19980039735	19980316
US6234626 BA	20010522	US20000568448	20000510
US6257717 BA	20010710	US20000568112	20000510
US6264322 BA	20010724	US20000568277	20000510
WO9947355 A1	19990923	WO1999US05527	19990312

Probable Assignee: HEWLETT PACKARD DEVELOPMENT CO

Assignee(s):(std): HEWLETT PACKARD CO ; KH JULETT PAKKARD KOMPANI ; HEWLETT PACKARD DEVELOPMENT CO

Assignee(s): KH'JULETT–PAKKARD KOMPANI ; HP INC ; HEWLETT PACKARD COMPANY ; HEWLETT PACKARD DEVELOPMENT CO L P ; HEWLETT PACKARD CO N D GES D STAATES DELAWARE PA ; HEWLETT PACKARD CO N D GES D STAATES DELAWARE PALO ALTO

Inventor(s):(std): AXTELL JAMES P ; AXTELL P ; BENDZHAMIN TRUDI L ; BENJAMIN L ; BENJAMIN TRUDY L ; EHKSTELL DZHEJMS P ; KENT BLAIR M ; KENT BLEHJR M ; KENT M ; LOUEH DEHVID DZH ; LOWE DAVID J ; LOWE J ; SEU D ; SEU PRESTON D

Inventor(s): TRUDY L BENJAMIN ; TRUDY L BENJAMINN ; PRESTON D SEU ; JAMES P AXTELL ; BLAIR M KENT ; DAVID J LOWE

Agent(s): FURUYA SATOSHI; MIZOBE TAKAHIKO

Designated states: AL AM AT AU AZ BA BB BE BF BG BJ BR BY CA CF CG CH CI CM CN CU CY CZ DE DK EE ES FI FR GA GB GE GH GM GN GR GW HR HU ID IE IL IS IT JP KE KG KP KR KZ LC LK LR LS LT LU LV MC MD MG MK ML MN MR MW MX NE NL NO NZ PL PT RO RU SD SE SG SI SK SL SN SZ TD TG TJ TM TR TT UA UG UZ VN YU ZW

International class (IPC 8–9): B41J2/005 B41J2/01 B41J2/165 B41J2/175 B41J25/34 B41J29/00 (Advanced/Invention); B41J2/01 B41J29/00 (Advanced/Non–invention); B41J2/01 B41J2/165 B41J2/175 B41J25/00 B41J29/00 (Core/Invention)

International class (IPC 1–7): B41J2/005 B41J2/01 B41J2/175 B41J21/175 B41J25/34 B41J29/00 G06K15/04

CPC: B41J2/16517 B41J2/175 B41J25/34

European class: B41J2/165C B41J2/175 B41J25/34

US class: 347/108 347/85 347/86

Classification Explorer

Cited documents: US5929883 A, US5798777 A, US5689291 A, US5650811 A, US5614930 A, US5576741 A, US5539436 A, US5519422 A, US5506611 A, US5463415 A, US5455609 A, US5455608 A, US5448818 A, US5448270 A, US5440331 A, US5409134 A, US5409062 A, US5408746 A, US5396277 A, US5369429 A, US5359353 A, US5325119 A, US5289211 A, US5245365 A, US5151715 A, US5151714 A, US5146243 A, US5138344 A, US5115250 A, US5103244 A, US5067832 A, US5027134 A, US4992802 A, US4968998 A, US4853717 A, US4847631 A, US4831389 A, US4809015 A, US4800398 A, US4789874 A, US4709246 A, US4567494 A, US4436439 A, US4329698 A, US4277790 A, JP60085964 A2, JP59167264 A2, JP54013338 A2, JP11192697, GB2221426 A1, EP0863013 A2, EP0813974 A2, EP0764538 A2, EP0724959 A1, EP0664218 A2, EP0419876 A1, EP0401944 A1,

Forward Citations: WO16053814, WO11058953, WO03089246, USD605223, US9427973, US8894192, US8864290, US8807703, US8764164, US8628260, US8550597, US8544988, US8534806, US8412068, US8240820, US8235508, US8235499, US8147045, US8147027, US8066354, US8025391, US7923057, US7918546, US7891789, US7878624, US7857413, US7798609, US7794071, US7775629, US7758164, US7731353, US7681986, US7674082, US7637587, US7637580, US7625063, US7611217, US7594507, US7556334, US7544723, US7461928, US7460267, US7448739, US7448735, US7445330, US7438399, US7413272, US7404623, US7384134, US7322673, US7118192, US7063409, US6846063, US6799842, US6769764, US6565173, US6490504, US6375314, US6145980, US2012218348, US2012044305, US2011052248, US2010277546, US2010150637, US2009273627, US2009257806, US2009109250, US2009066767, US2009058941, US2009058918, US2009002418, US2008316286, US2008316283, US2008309715, US2008303881, US2008303878, US2008259101, US2008252699, US2008206017, US2008204501, US2008186354, US2008186344, US2008043060, US2008024581, US2008024580, US2008024552, US2008024532, US2008018677, US2007263026, US2007256709, US2007252863, US2007222817, US2007182775, US2007126825, US2007126824, US2007126818, US2007076040, US2007070132, US2007070109, US2007070107, US2007070099, US2007068560, US2007042113, US2007024664, US2007015848, US2007015847, US2007014933, US2006292291, US2006274123, US2006187504, US2006185587, US2006164474, US2006159843, US2006156975, US2006134939, US2006109296, US2006109290, US2006093751, US2006092219, US2006092218, US2006092207, US2006092204, US2006092199, US2005255253, US2005253917, US2005157051, US2005083384, US2004212665, TWI402637, KR20120100966, KR100644685, JP2011048260, JP2007144905, EP2105159, EP1803578, EP1803578, EP1695831, EP1547779, EP1318019, EP1318019, CN102649356, CN102649356, CN102602147, CN102320194,

Abstract:
Source: US6082854A The present invention provides ink–jet writing engine modules for use with a compatible hard copy engine module, a hard copy apparatus based thereon, and methods of manufacturing, operation, and use. Fluidic and electronic partitioning for ink–jet hard copy apparatus is redefined. Modular separation of a hard copy engine from a writing engine allows a replaceable writing module containing all of the key elements of the ink–jet writing system based on writing system technology requirements, particularly for those most likely to age or fail as a result of time, frequency of use, or end–user actions. The writing engine subsystem includes: one or more printing modules having print head elements with concomitant ink manifold components and ink flow and pressure regulation mechanisms; one or more ink containers–either permanent, refillable, or replaceable; one or more ink formulations; one or more ink delivery means, such as tubes and valves fluidically coupling the ink containers to the ink manifolds; service station components; and a framework to retain the elements in a unitary module, insertable cassette–like manner. The present invention further provides a hard copy engine compatible with such a writing engine. The hard copy engine does not contain any components requiring direct contact with ink. Ink–wetted components are predisposed to ink–jet technological changes without affecting the electrical interface and the mechanical interface between the writing engine and the hard copy engine.

0) JP2016053656A – MACHINE PART, TONER CARTRIDGE, AND IMAGE FORMIN...

22) Family number: 62187160 (JP2016053656A) © PatBase

Title: MACHINE PART, TONER CARTRIDGE, AND IMAGE FORMING APPARATUS

Priority: JP20140179562 20140903

Family:

Publication number	Publication date	Application number	Application date
JP2016053656 A2	20160414	JP20140179562	20140903

Probable Assignee: SAMSUNG ELECTRONICS CO LTD

Assignee(s):(std)**:** SAMSUNG ELECTRONICS CO LTD

Assignee(s): SAMSUNG ELECTRONICS CO LTD SAMSUNG ELECTRONICS CO LTD

Inventor(s):(std)**:** MURASE JINICHI

International class (IPC 8–9): G03G15/08 G03G21/16 (Advanced/Invention)

Classification Explorer

Abstract:
Source: JP2016053656A PROBLEM TO BE SOLVED: To provide a machine part for easily removing a case from a mechanism.SOLUTION: A machine part 62 is attached to a case 61. The machine part 62 includes a main body 71 that has an end face part 74 and a side face part 76, a handle 72 that is connected to the main body 71 with a first elastic deformation part 78, and a latch 73 that is connected to the main body 71 with a second elastic deformation part 83. The handle 72 has a first interlocking part 84. The latch 73 has a second interlocking part 86 that is overlapped with the first interlocking part 84 in a first direction D1 in which the handle 72 moves.SELECTED DRAWING: Figure 3

0) BRPI0504577A – INSTRUMENTO CIRURGICO INCORPORANDO UM MECANISMO...

23) Family number: 34729164 (BRPI0504577A) © PatBase

Title: INSTRUMENTO CIRURGICO INCORPORANDO UM MECANISMO DE TRAVAMENTO DE ARTICULACAO ELETRICAMENTE ACIONADO SURGICAL INSTRUMENT INCORPORATING A LOCKING MECHANISM articulation ELECTRICALLY DRIVEN (Machine translation)

Priority: BR2005PI04577 20050823

Family:

Publication number	Publication date	Application number	Application date
BRPI0504577 A	20070427	BR2005PI04577	20050823

Probable Assignee: JOHNSON AND JOHNSON

Assignee(s):(std)**:** JOHNSON AND JOHNSON

Inventor(s):(std)**:** FREDERICK E SHELTON IV ; SHELTON FREDERICK E IV

International class (IPC 8–9): A61B1/008 (Advanced/Invention); A61B1/008 (Core/Invention)

Classification Explorer

Abstract:
Source: BRPI0504577A • • V J– • • # # # ss»# ## ? ss • . • • V • • e • • j # # c •« „ j# •••«'" " • • i • e ~ • ss • • • • ss . • – ss –i • • RESUMO Patente de Invencao: "INSTRUMENTO CIRURGICO INCORPORANDO UM MECANISMO DE TRAVAMENTO DE ARTICULACAO ELETRICAMENTE ACIONADO". 5 A presente invencao refere–se a um instrumento cirurgico parti– cularmente adequado para uso endoscopico que articula um executor de extremidade incluindo um mecanismo de articulacao em um eixo alongado que incorpora um atuador de mecanismo de travamento de articulacao de polimero acionado eletricamente (EAP). Dessa maneira, opcoes adicionais 10 para articulacao tornam–se possiveis, especialmente essas que sao ativa– mente energizadas e de outra forma dissipariam o calor e forca se requerido para manter a posicao. Alternativamente, um mecanismo de articulacao me– canicamente acionado pode ser projetado com resistencia reduzida, e assim tamanho, desde que o mecanismo de travamento de articulacao de EAP a– 15 jude na prevencao do retorno depois da articulacao. Versoes de um meca– nismo de travamento de articulacao de EAP travam uma junta de articulacao articulada e outros travam uma junta de articulacao de gargalo flexivel. V J– • • • • # # # ss "# ##? ss •. V • • • • • • j and c # # • "" j # ••• " " • • i • e ~ ss • • • • • ss. • – ss –i • • SUMMARY Patent Invention:. "CIRURGICO INSTRUMENT INCORPORATING A joint LOCKING MECHANISM ELECTRICALLY powered" 5 The present invention relates to a surgical instrument par– ticularly suited to endoscopic use articulates an end performer including an articulation mechanism in an elongate shaft that incorporates an articulation locking mechanism actuator electrically actuated polymer (AND AP). Thus, additional options 10 for articulation become possible, especially those that are actively energized and otherwise dissipate heat and force is required to keep the position. Alternatively, an articulation mechanism actuated mechanically can be designed with reduced strength, and thus size, since the articulation locking mechanism EAP a– 15 Jude in preventing return after articulation. Versions of a mechanism for EAP articulation locking catch an articulated joint articulation and other wage a joint articulation of flexible neck.

- **search:** SS2 FT=toner and hook* and cartridge (Results 202)
- List: SS2 1–50 (FT=toner and hook* and cartridge) (Results 202)

0) US2009129813A – DEVELOPER SUPPLY CONTAINER AND DEVELOPER SUPPLY...

1) Family number: 33339196 (US2009129813A) © PatBase

Title: DEVELOPER SUPPLY CONTAINER AND DEVELOPER SUPPLYING SYSTEM

Priority:

EP20060715570	20060306	EP20060715571	20060306	EP20110192828	20060306
EP20110192824	20060306	EP20110192821	20060306	EP20130172409	20060306
JP20090114182	20090511	JP20050060317	20050304	JP20050345485	20051130
JP20060058893	20060306	JP20060058894	20060306	HK20080105369	20080514
EP20140168782	20060306	EP20140168782	20140519	JP20090114183	20090511
WO2006JP04819	20060306	US20080719483	20081111	US20100787833	20100526
US20090719361	20090226	US20120366612	20120206	US20120353602	20120119
US20120353642	20120119	US20120353655	20120119	US20060719361	20060306
RU20070136799	20071003	WO2006JP04820	20060306	US20130748800	20130124
US20060719483	20060306	US20130906529	20130531	US20140188949	20140225
WO2006JP304820	20060306	WO2006JP304819	20060306		

Family:

Publication number	Publication date	Application number	Application date
BRPI0608720 A2	20101207	BR2006PI08720	20060306
BRPI0609034 A2	20101116	BR2006PI09034	20060306
CN100594443 C	20100317	CN200680001423	20060306
CN101080677 A	20071128	CN200680001423	20060306
CN101080678 A	20071128	CN200680001424	20060306
CN101080678 B	20100407	CN200680001424	20060306
CN101706644 A	20100512	CN200910205695	20060306
CN101706644 B	20120822	CN200910205695	20060306
CN101770198 A	20100707	CN201010121269	20060306
CN101770198 B	20120606	CN201010121269	20060306
CN101776857 A	20100714	CN201010121288	20060306
CN101776857 B	20130807	CN201010121288	20060306
CN101788778 A	20100728	CN200910205693	20060306
CN101788778 B	20131113	CN200910205693	20060306
CN101794099 A	20100804	CN200910205694	20060306
CN101794099 B	20130807	CN200910205694	20060306
DE602006038342 D1	20131107	DE200660038342T	20060306
DE602006038536 D1	20131114	DE200660038536T	20060306
DE602006038627 D1	20131121	DE200660038627T	20060306
DE602006041663 D1	20140703	DE200660041663T	20060306
DE602006043339 D1	20141120	DE200660043339T	20060306
DE602006047382 D1	20151231	DE200660047382T	20060306
DE602006049168 D1	20160630	DE200660049168T	20060306
DK1859323 T3	20140630	DK20060715571T	20060306
DK2796936 T3	20160822	DK20140168782T	20060306
EP1859322 A1	20071128	EP20060715570	20060306
EP1859322 B1	20130911	EP20060715570	20060306
EP1859323 A1	20071128	EP20060715571	20060306
EP1859323 B1	20140521	EP20060715571	20060306
EP2428849 A2	20120314	EP20110192821	20060306
EP2428849 A3	20120801	EP20110192821	20060306
EP2428849 B1	20130918	EP20110192821	20060306
EP2428850 A2	20120314	EP20110192824	20060306
EP2428850 A3	20120801	EP20110192824	20060306
EP2428850 B1	20130925	EP20110192824	20060306

EP2428851 A2	20120314	EP20110192828	20060306	
EP2428851 A3	20120801	EP20110192828	20060306	
EP2428851 B1	20141008	EP20110192828	20060306	
EP2645177 A1	20131002	EP20130172409	20060306	
EP2645177 B1	20151118	EP20130172409	20060306	
EP2796936 A1	20141029	EP20140168782	20060306	
EP2796936 B1	20160518	EP20140168782	20060306	
EP3081991 A1	20161019	EP20160166855	20060306	
ES2435670 T3	20131220	ES20110192821T	20060306	
ES2436097 T3	20131227	ES20060715570T	20060306	
ES2436352 T3	20131230	ES20110192824T	20060306	
ES2474197 T3	20140708	ES20060715571T	20060306	
ES2524710 T3	20141211	ES20110192828T	20060306	
ES2554461 T3	20151221	ES20130172409T	20060306	
ES2582152 T3	20160909	ES20140168782T	20060306	
HK1110952 A1	20140117	HK20080105369	20080514	
HK1110952 A3	20080725	HK20080105369	20080514	
HK1110953 A1	20140815	HK20080105370	20080514	
HK1110953 A3	20080725	HK20080105370	20080514	
HK1163263 A1	20140124	HK20120103954	20080514	
HK1163264 A1	20150213	HK20120103955	20080514	
HK1163265 A1	20140124	HK20120103956	20080514	
HK1184550 A1	20160610	HK20130111750	20080514	
HK1198453 A1	20150424	HK20140111939	20141126	
HK1198453 A1	20170217	HK20140111939	20141126	
HU030025 T2	20170428	HU20140168782T	20060306	
IN02112CN2012 A	20130621	IN2012CN02112	20120307	
IN02114CN2012 A	20130621	IN2012CN02114	20120307	
IN04368CN2007 A	20080125	IN2007CN04368	20071004	
IN04372CN2007 A	20080125	IN2007CN04372	20071004	
IN251708 B	20120406	IN2007CN04372	20071004	
IN251976 B	20120427	IN2007CN04368	20071004	
JP2007178971 A2	20070712	JP20060058893	20060306	
JP2007178972 A2	20070712	JP20060058894	20060306	
JP2009175759 A2	20090806	JP20090114182	20090511	
JP2009175760 A2	20090806	JP20090114183	20090511	
JP4324174 B2	20090902	JP20060058893	20060306	
JP4328773 B2	20090909	JP20060058894	20060306	
JP4388132 B2	20091224	JP20090114182	20090511	
JP4388133 B2	20091224	JP20090114183	20090511	
KR101281900 B1	20130703	KR20117005299	20060306	
KR101285431 B1	20130712	KR20117005362	20060306	
KR101340731 B1	20131212	KR20117005298	20060306	
KR101340816 B1	20131211	KR20077020115	20060306	
KR101340834 B1	20131211	KR20077020113	20060306	
KR101341724 B1	20131216	KR20117005382	20060306	
KR101349988 B1	20140113	KR20117005392	20060306	
KR101368151 B1	20140228	KR20127032174	20060306	
KR101472240 B1	20141211	KR20137019684	20060306	
KR101556871 B1	20151001	KR20147014126	20060306	

KR101582016 B1	20151231	KR20137022795	20060306	
KR101582433 B1	20160111	KR20147017397	20060306	
KR20070106749 A	20071105	KR20077020113	20060306	
KR20070108220 A	20071108	KR20077020115	20060306	
KR20110028667 A	20110321	KR20117005299	20060306	
KR20110028669 A	20110321	KR20117005362	20060306	
KR20110028670 A	20110321	KR20117005382	20060306	
KR20110031254 A	20110324	KR20117005298	20060306	
KR20110031255 A	20110324	KR20117005392	20060306	
KR20130001742 A	20130104	KR20127032174	20060306	
KR20130095847 A	20130828	KR20137019684	20060306	
KR20130106445 A	20130927	KR20137022795	20060306	
KR20140084288 A	20140704	KR20147014126	20060306	
KR20140097456 A	20140806	KR20147017397	20060306	
KR20150038616 A	20150408	KR20157005880	20060306	
KR20150052352 A	20150513	KR20157010600	20060306	
KR20160130865 A	20161114	KR20167030821	20060306	
PL2796936 T3	20161130	PL20140168782T	20060306	
PT1859323 T	20140716	PT20060715571T	20060306	
PT2796936 T	20160714	PT20140168782T	20060306	
RU2007136793 A	20090410	RU20070136793	20060306	
RU2007136799 A	20090410	RU20070136799	20060306	
RU2010147677 A	20120527	RU20100147677	20101122	
RU2012143627 A	20140420	RU20120143627	20121011	
RU2014112313 A	20151010	RU20140112313	20140331	
RU2398257 C2	20100827	RU20070136793	20060306	
RU2414734 C2	20110320	RU20070136799	20060306	
RU2472200 C2	20130110	RU20100147677	20101122	
RU2519783 C2	20140620	RU20120143627	20121011	
SI1859323 T1	20140930	SI20060031797T	20060306	
SI2796936 T1	20160930	SI20060032089	20060306	
TR201610864 T4	20160822	TR20160010864T	20060306	
TW200702184 A	20070116	TW20060107512	20060306	
TW200900249 A	20090101	TW20080123356	20060306	
TW200902325 A	20090116	TW20080123360	20060306	
TW200918321 A	20090501	TW20080123362	20060306	
TW201111177 A	20110401	TW20100141039	20060306	
TWI315263 B	20091001	TW20060107512	20060306	
TWI335867 B	20110111	TW20080123362	20060306	
TWI339619 B	20110401	TW20080123360	20060306	
TWI353305 B	20111201	TW20080123356	20060306	
TWI380907 B	20130101	TW20100141039	20060306	
US2009129813 AA	20090521	US20060719483	20060306	
US2009297226 AA	20091203	US20060719361	20060306	
US2010278564 AA	20101104	US20100787833	20100526	
US2012134717 AA	20120531	US20120353602	20120119	
US2012134718 AA	20120531	US20120353642	20120119	
US2012134719 AA	20120531	US20120353655	20120119	
US2012134720 AA	20120531	US20120366612	20120206	
US2013136505 AA	20130530	US20130748800	20130124	

US2013336680 AA	20131219	US20130906529	20130531	
US2014169838 AA	20140619	US20140188949	20140225	
US7848685 BB	20101207	US20060719483	20060306	
US8190068 BB	20120529	US20060719361	20060306	
US8320801 BB	20121127	US20120353642	20120119	
US8369753 BB	20130205	US20100787833	20100526	
US8463164 BB	20130611	US20120353655	20120119	
US8472848 BB	20130625	US20120353602	20120119	
US8509658 BB	20130813	US20120366612	20120206	
US8693926 BB	20140408	US20130748800	20130124	
WO06093361 A1	20060908	WO2006JP304819	20060306	
WO06093362 A1	20060908	WO2006JP304820	20060306	

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK ; NAGASHIMA TOSHIAKI ; MURAKAMI KATSUYA ; OKINO AYATOMO

Assignee(s): KEHNON KABUSIKI KAJSJA ; CANON INC ; CANON K K ; CANON KABUSHIKI KAISHA ; CANON KABUSHIKI KAISHAJP

Inventor(s):(std)**:** TOSHIAKI NAGASHIMA ; OKINO NORITOMO ; OKINO AJATOMO ; NAGASIMA TOSIAKI ; MURAKAMI TAKEYA ; MURAKAMI KATSUJA ; KATSUYA MURAKAMI ; AYATOMO OKINO ; TAKEYA MURAKAMI ; OKINO AJAMOTO ; NORITOMO OKINO ; MURAKAMI KATSUYA ; NAGASHIMA TOSHIAKI ; OKINO AYATOMO

Inventor(s): OKINO AYATOMO TOKYO ; NAGASHIMA TOSHIAKI TOKYO ; MURAKAMI KATSUYA TOKYO

Agent(s): TBK; DURAN CARLOS; ELISAVET YAKOVIDIS CINLEMEZ; FITZPATRICK CELLA HARPER AND SCINTO

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT KE KG KM KN KP KR KZ LC LI LK LR LS LT LU LV LY MA MC MD MG MK ML MN MR MW MX MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RU SC SD SE SG SI SK SL SM SN SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

International class (IPC 8–9): B41F31/20 B41J23/14 B41F31/02 B65D83/06 G03G15/00 G03G15/04 G03G15/08 G03G15/18 G03G21/18 (Advanced/Invention);
G03G15/08 (Advanced/Non–invention);
B65D83/06 G03G15/00 G03G15/04 G03G15/08 (Core/Invention);
B41F31/02 B41F31/20 B41J23/14 G03G15/08 (Core/Non–invention);
G03G (Subclass/Invention)

International class (IPC 1–7): G03G15/08

CPC: G03G21/1647 G03G2221/1657 G03G15/0865 G03G15/0887 G03G15/0877 G03G21/1676 G03G15/08 G03G15/0808 G03G21/1832 G03G15/0822 G03G15/0836 G03G15/0867 G03G15/087 G03G15/0872 G03G2215/0802

European class: G03G15/08H3C G03G15/08H3C1 S03G221/16K2

US class: 399/119 399/119P 399/258 399/258P 399/260 399/262 399/262P 399/262S 399/263

Classification Explorer

Cited documents: WO8905231 A1, US8190068 BB, US8131189 BB, US7957679 BB, US7848685 BB, US7796923 BB, US7773919 BB, US7764909 BB, US7412192 BB, US7266330 BB, US6985686 BB, US6879789 BB, US6839533 BB, US6788912 BB, US6785497 BA, US6766133 BA, US6704533 BB, US6603939 BA, US6493516 BB, US6438345 BA, US6418290 BA, US6298208 BA, US6256469 BA, US5966574 A, US5842093 A, US5832343 A, US5797073 A, US5659860 A, US5593068 A, US5235389 A, US5036341 A, US2012114393 AA, US2011194876 AA, US2010278565 AA, US2010278564 AA, US2010027856 AA, US2008304872 AA, US2008304871 AA, US2008304870 AA, US2007280743 AA, US2007104505 AA, US2007036565 AA, US2006193658 AA, US2006104671 AA, US2005271426 AA, US2005135842 AA, US2005008400 AA, US2004223790 AA, US2004208668 AA, US2003223782 AA, US2002141788 AA, US2002003974 AA, TW556058 B, TW556058, TW377664 Y, RU2057028 C1, JPS5346040, JP8185034 A2, JP7168435 A2, JP6035321 A2, JP53046040 A2,

JP3288875 A2, JP2004170747 A2, JP2004170747 A, JP2004170747, JP2003107892 A2, JP2003107892, JP2003107892, JP2001201925, JP200105272, JP11184242, JP0862980, JP07199620, JP0603392 Y2, EP2796936 A1, EP1859322 A1, EP1818729 A1, EP1533664 A1, EP1437632 A1, EP14168782, EP1022621 B1, EP0864945 A1, EP06715571, EP06715570, EP0670530 B1, EP0670530 A2,

Forward Citations: WO13044756, USD618721, USD618720, US9639028, US9639026, US9618879, US9612569, US9612553, US9612552, US9612551, US9612548, US9606504, US9606503, US9606473, US9605734, US9599954, US9599953, US9599929, US9594329, US9581937, US9563169, US9547258, US9513576, US9482988, US9482987, US9477178, US9465317, US9411268, US9389538, US9360797, US9280088, US9146499, US9052688, US9031451, US9008555, US8983341, US8909093, US8792809, US8792804, US8781372, US8712293, US8676096, US8649711, US8606140, US8548360, US8472848, US8463164, US8380111, US8369742, US8320801, US8213838, US8190068, US8180259, US8160471, US8131189, US7983590, US7957679, US2015227082, US2015063872, US2015010334, US2014241758, US2013195510, US2013129389, US2012263504, US2012219330, US2012134719, US2012099904, US2011217067, US2011194876, US2011150536, US2010278565, US2010119265, US2009297226, US2009214268, US2009185824, US2009087215, TWI432340, TWI407272, KR101365666, JP5110219, JP4908932, JP4886366, JP4370540, JP2010211025, JP2007322992, JP2007322991, EP3081991, EP2428851, EP2428850, EP2428849, EP2228689, EP2028559, CN103425020, CN103425020, CN102269958, CN102269958, CN102269957, CN101833270, CN101833270, AU2010200496,

Abstract:
Source: US2009129813A A developer supply container detachably mountable to a developer receiving apparatus and settable in a developer receiving apparatus by a setting operation including at least a rotation toward a setting position, includes a containing portion for containing the developer; a rotatable discharging member for discharging the developer out of said containing portion; drive transmitting means, engageable with a driving gear provided in said developer receiving apparatus and rotatable in a direction opposite the setting direction, for transmitting a rotating force from said driving gear to said discharging member.

0) US2005135838A – REMOVABLE TONER CARTRIDGE UNIVERSAL ADAPTER

2) Family number: 32021031 (US2005135838A) © PatBase

Title: REMOVABLE TONER CARTRIDGE UNIVERSAL ADAPTER

Priority:

CA20042548821	20040826	CA20042649082	20040826	CA20042686399	20040826
CA20042687354	20040826	CA20042706915	20040826	CA20042706645	20040826
CA20042686405	20040826	CA20042714018	20040826	CA20042714039	20040826
US20050160894	20050714	EP20040782220	20040826	CA20052561070	20050401
EP20050735117	20050401	US20050120685	20050503	US20050120684	20050503
US20050120493	20050503	US20040521326P	20040401	US20030742323	20031219
CA20052681904	20050401	CA20092561070	20091110	CA20102548821	20100927
US20060279814	20060414	US20050161192	20050726	US20060382577	20060510
US20060532646	20060918	US20060382593	20060510	US20060382593	20060510
US20070757161	20070601	US20050162930	20050928	US20060382589	20060510
US20080013387	20080111	US20080043892	20080306	US20080043900	20080306
US20080043902	20080306	US20080043886	20080306	US20080122098	20080516
US20080043896	20080306	US20090616624	20091111	US20050907471	20050401
US20060614279	20061221	US20050162878	20050927	US20060334980	20060119
US20060537080	20060929	US20050907470	20050401	US20060279819	20060414
WO2005US11160	20050401	US20090618312	20091113	US20100707355	20100217
US20100721795	20100311	WO2004US27687	20040826	US20100780553	20100514
US20100793471	20100603	US20100815211	20100614	US20100852207	20100806
US20110010673	20110120	US20110008777	20110118	US20110243879	20110923
US20120566762	20120803				

Family:

Publication number	Publication date	Application number	Application date
BRPI0417289 A	20070724	BR2004PI17289	20040826
BRPI0508061 A	20070717	BR2005PI08061	20050401
CA2548821 AA	20060607	CA20042548821	20040826
CA2548821 C	20101214	CA20042548821	20040826
CA2561070 AA	20060925	CA20052561070	20050401
CA2561070 C	20100316	CA20052561070	20050401
CA2649082 AA	20050728	CA20042649082	20040826
CA2649082 C	20100316	CA20042649082	20040826
CA2681904 AA	20051020	CA20052681904	20050401
CA2681904 C	20130625	CA20052681904	20050401
CA2686399 AA	20050728	CA20042686399	20040826
CA2686399 C	20121023	CA20042686399	20040826
CA2686405 AA	20050728	CA20042686405	20040826
CA2686405 C	20111101	CA20042686405	20040826
CA2686685 AA	20050728	CA20042686685	20040826
CA2687354 AA	20050728	CA20042687354	20040826
CA2687354 C	20120424	CA20042687354	20040826
CA2706645 AA	20050728	CA20042706645	20040826
CA2706645 C	20111101	CA20042706645	20040826
CA2706915 AA	20050728	CA20042706915	20040826
CA2706915 C	20121023	CA20042706915	20040826
CA2714018 AA	20050728	CA20042714018	20040826
CA2714018 C	20130730	CA20042714018	20040826
CA2714039 AA	20050728	CA20042714039	20040826
CA2714039 C	20130813	CA20042714039	20040826
CA2714098 AA	20050728	CA20042714098	20040826
CA2714124 AA	20050728	CA20042714124	20040826
EP1695153 A2	20060830	EP20040782220	20040826
EP1695153 A4	20080924	EP20040782220	20040826

EP1730601 A2	20061213	EP20050735117	20050401	
EP1730601 A4	20100217	EP20050735117	20050401	
EP2058707 A2	20090513	EP20090153638	20040826	
EP2058707 A3	20100901	EP20090153638	20040826	
EP2196865 A2	20100616	EP20100158326	20050401	
EP2196865 A3	20100901	EP20100158326	20050401	
EP2228688 A2	20100915	EP20100165930	20040826	
EP2228688 A3	20121219	EP20100165930	20040826	
EP2530530 A2	20121205	EP20120178254	20040826	
EP2530530 A3	20150513	EP20120178254	20040826	
US2005135838 AA	20050623	US20030742323	20031219	
US2005163530 AA	20050728	US20050907470	20050401	
US2005163536 AA	20050728	US20050907471	20050401	
US2006153598 AA	20060713	US20060279819	20060414	
US2006153599 AA	20060713	US20060279814	20060414	
US2007014592 AA	20070118	US20060532646	20060918	
US2007019987 AA	20070125	US20060537080	20060929	
US2007127936 AA	20070607	US20060614279	20061221	
US2007223942 AA	20070927	US20070757161	20070601	
US2008145111 AA	20080619	US20080013387	20080111	
US2008152377 AA	20080626	US20080043886	20080306	
US2008152381 AA	20080626	US20080043892	20080306	
US2008152382 AA	20080626	US20080043900	20080306	
US2008152383 AA	20080626	US20080043902	20080306	
US2008212994 AA	20080904	US20080122098	20080516	
US2008304859 AA	20081211	US20080043896	20080306	
US2010053683 AA	20100304	US20090616624	20091111	
US2010061761 AA	20100311	US20090618312	20091113	
US2010143012 AA	20100610	US20100707355	20100217	
US2010162842 AA	20100701	US20100721795	20100311	
US2010221035 AA	20100902	US20100780553	20100514	
US2010247141 AA	20100930	US20100793471	20100603	
US2010254727 AA	20101007	US20100815211	20100614	
US2010310273 AA	20101209	US20100852207	20100806	
US2011110681 AA	20110512	US20110008777	20110118	
US2011116811 AA	20110519	US20110010673	20110120	
US2012014712 AA	20120119	US20110243879	20110923	
US2012301184 AA	20121129	US20120566762	20120803	
US7039345 BB	20060502	US20050907471	20050401	
US7068954 BA	20060627	US20050160894	20050714	
US7106993 BA	20060912	US20050161192	20050726	
US7113710 BB	20060926	US20060279814	20060414	
US7113710 C1	20121226	US20060279814	20060414	
US7136607 BA	20061114	US20060382577	20060510	
US7136608 BB	20061114	US20030742323	20031219	
US7174123 BA	20070206	US20050120684	20050503	
US7177565 BA	20070213	US20050120493	20050503	
US7177567 BB	20070213	US20050907470	20050401	
US7187874 BA	20070306	US20060334980	20060119	
US7221886 BA	20070522	US20060382593	20060510	

US7257356 BB	20070814	US20060532646	20060918	
US7257356 C1	20121002	US20060532646	20060918	
US7286774 BA	20071023	US20050162878	20050927	
US7319833 BA	20080115	US20050162930	20050928	
US7356279 BB	20080408	US20070757161	20070601	
US7362988 BA	20080422	US20060382589	20060510	
US7373096 BA	20080513	US20050120685	20050503	
US7447464 BB	20081104	US20060279819	20060414	
US7512360 BB	20090331	US20080013387	20080111	
US7526234 BB	20090428	US20080043892	20080306	
US7551859 BB	20090623	US20060614279	20061221	
US7565097 BB	20090721	US20080043902	20080306	
US7639964 BB	20091229	US20080043886	20080306	
US7643773 BB	20100105	US20080122098	20080516	
US7643773 C1	20121015	US20080122098	20080516	
US7647007 BB	20100112	US20080043900	20080306	
US7664432 BB	20100216	US20080043896	20080306	
US8045884 BB	20111025	US20100815211	20100614	
WO05067440 A2	20050728	WO2004US27687	20040826	
WO05067440 A3	20060119	WO2004US27687	20040826	
WO05098549 A2	20051020	WO2005US11160	20050401	
WO05098549 A3	20081113	WO2005US11160	20050401	
WO05098550 A1	20051020	WO2005US11177	20050401	

Probable Assignee: ADVANCED CARTRIDGE TECHNOLOGIES LLC

Assignee(s):(std)**:** CARTRIDGE CORP OF AMERICA IN ; CARTRIDGE CORP OF AMERICA INC ; CARTRIDGE OF AMERI CORP ; MILLER STEVEN ; SCHNELL HERMAN ; SOFTWARE CORP OF AMERICA INC

Assignee(s): CARTRIDGE OF AMERICA IN CORP ; INNOVATIVE CARTRIDGE TECHNOLOGIES ; INNOVATIVE CARTRIDGE TECHNOLOGIES INC ; STATIC CONTROL COMPONENTS INC ; IMAGING TECHNOLOGIES HOLDING LLC ; GLOBAL INNOVATIONS LLC ; WHITNEY NATIONAL BANK ; UNIVERSAL IMAGING HOLDINGS LLC ; UNIVERSAL IMAGING PROPERTIES LLC ; CARTRIDGE OF AMERICA INC CORP ; STEVEN MILLER ; SOFTWARE OF AMERICA INC CORP ; CARTRIDGE CORPORATIONS OF AMERICA INC ; ADVANCED CARTRIDGE TECHNOLOGIES LLC ; AMERICAN IMAGING CARTRIDGE LLC

Inventor(s):(std)**:** CARTRIDGE CORPORATION OF AMERI ; CARTRIDGE OF AMERI CORP ; MILLER STEVEN ; SCHNELL HERMAN

Inventor(s): STEVEN MILLER ; CARTRIDGE OF AMERICA INC CORP ; CARTRIDGE CORPORATION OF AMERICA INC

Agent(s): FINLAYSON AND SINGLEHURST; MEISSNER BOLTE AND PARTNER; MEISSNER BOLTE AND PARTNER GBR; SMITH AND HOPEN PA; SMITH HOPEN PA; STEVEN MILLER; JESSE DELCAMP; THOMAS E; TONER THOMAS E; DELCAMP JESSE; JESSE; JESSE E

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LI LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NA NE NI NL NO NZ OM PG PH PL PT RO RU SC SD SE SG SI SK SL SM SN SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

International class (IPC 8–9): B23P11/00 B41J2/41 B41J29/393 F16H1/20 F16H55/02 F16H57/00 G01D15/28 G03G15/00 G03G15/04 G03G15/06 G03G15/08 G03G15/10 G03G21/00 G03G21/12 G03G21/16 G03G21/18 G03G9/00 G03G9/08 G06F3/12 (Advanced/Invention); B41J2/41 B41J29/393 G01D15/00 G03G15/00 G03G15/04 G03G15/08 G03G15/10 G03G21/00 G03G21/18 G03G9/08 (Core/Invention)

International class (IPC 1–7): G03G15/00 G03G15/08 G03G21/18

CPC: G03G15/0863 G03G21/1892 G03G15/0855 G03G15/0865 G03G15/0868 G03G15/0877 G03G15/0856 G03G15/0862 G03G15/0889 G03G15/0875 G03G2215/0695 G03G2215/0634 G03G2215/0802 G03G21/1857 G03G2221/1624 G03G15/0898 G03G15/0817 G03G2221/166 G03G15/0896 G03G21/1867 G03G21/181 G03G21/1821 G03G2215/085 G03G2215/0888 G03G21/12 G03G15/0894 G03G21/1652 G03G21/1878 G03G21/1896 G03G2215/0697 G03G2215/0852 G03G2221/1815 G03G2221/1823 Y10T29/49826 Y10T74/19642

European class: G03G15/08F6 G03G15/08H2 G03G15/08H3 G03G15/08H3B G03G15/08H3D G03G15/08R G03G15/08S G03G15/08S1 G03G15/50F G03G21/12 G03G21/16C2 G03G21/18C2 G03G21/18C4C G03G21/18H2 G03G21/18H3 G03G21/18L1 G03G21/18L2 S03G215/06B S03G215/06C8 S03G215/06C8E S03G215/08A S03G215/08A5 S03G215/08A5A S03G215/08D S03G221/16C2 S03G221/16K3 S03G221/18C S03G221/18E

US class: 29/428 29/428S 347/152 347/19 358/1.15 358/1.150P 399/103 399/105 399/107 399/107P 399/109 399/109P 399/110 399/110P 399/111 399/111P 399/113 399/113P 399/114 399/117 399/117P 399/119 399/12 399/120 399/120P 399/12P 399/13 399/167 399/222 399/24 399/25 399/254 399/254P 399/258 399/258P 399/260 399/262 399/262P 399/262S 399/263 399/27 399/360 399/360P 399/61 399/90 399/90P 74/412.00RP 74/412R

Classification Explorer

Cited documents: WO0002096 A1, US7643773 BB, US7565097 BB, US7526234 BB, US7356279 BB, US7286774 BA, US7257356 BB, US7254346 BB, US7232209 BB, US7221878 BB, US7187874 BA, US7136608 BB, US7113710 BB, US7106993 BA, US7099606 BB, US7088928 BB, US7068963 BB, US7054577 BB, US7047635 BB, US6980753 BB, US6947685 BB, US6941082 BB, US6940613 BA, US6934489 BB, US6931216 BB, US6912365 BB, US6912365 BA, US6904400 BA, US6904248 BB, US6904248 BA, US6904248 B1, US6882810 BB, US6882810 BA, US6876826 BB, US6876826 BA, US6856775 BB, US6832056 BB, US6826380 BB, US6826380 BA, US6801733 BB, US6782222 BB, US6782222 BA, US6771922 BB, US6771922 BA, US6771922 B1, US6751428 BB, US6735405 BB, US6721520 BB, US6714749 BB, US6701107 BB, US6701107 BA, US6701096 BB, US6684039 BA, US6678481 BB, US6678481 BA, US6678481 B1, US6671476 BA, US6654569 BB, US6654569 BA, US6654569 B1, US6654567 BB, US6654567 BA, US6646571 BA, US6643482 BB, US6641134 BA, US6636702 BB, US6603933 BA, US6556792 BB, US6556792 BA, US6556792 B1, US6546213 BB, US6546213 BA, US6546213 B1, US6539867 BB, US6529691 BB, US6519430 BB, US6459876 BA, US6406128 BB, US6397015 BB, US6389243 BB, US6385407 BA, US6343192 BA, US6330410 BA, US6321048 BA, US6289189 BA, US6263170 BA, US6246841 BA, US6226476 BA, US6181885 BA, US6181885 B1, US6175706 BA, US6175706 B1, US6173140 BA, US6173140 B1, US6137966 A, US6104888 A, US6070029 A, US6064846 A, US6064842 A, US6029019 A, US6018637 A, US6016409 A, US6009289 A, US5995774 A, US5966566 A, US5937239 A, US5909603 A, US5907753 A, US5907752 A, US5907748 A, US5899602 A, US5878317 A, US5878309 A, US5875378 A, US5870654 A, US5867751 A, US5845176 A, US5815644 A, US5807005 A, US5787323 A, US5784671 A, US5768661 A, US5754923 A, US5745824 A, US5652647 A, US5634169 A, US5614996 A, US5579088 A, US5485249 A, US5479467 A, US5446525 A, US5365315 A, US5331378 A, US5331377 A, US5298952 A, US5294960 A, US5268720 A, US5119137 A, US5089853 A, US4961088 A, US4949983 A, US4771313 A, US4739367 A, US2010061761 AA, US2008120216 AA, US2007106523 AA, US2005036800 AA, US2005025522 AA, US2004114959 AA, US2003215261 AA, US2003212565 AA, US2003185587 AA, US2003170045 AA, US2003161658 AA, US2003161654 AA, US2003123896 AA, US2003091361 AA, US2003063311 AA, US2003049046 AA, US2003035017 AA, US2002110379 AA, US2002064395 AA, US2002031359 AA, US2001041079 AA, US10742323, JP7098538 A2, JP2003084631 A2, JP2003057888 A2, JP2002108086 A2, JP2001305935 A2, JP2001175080 A2, JP11237821 A2, JP11084850 A2, GB2389196 A1, GB2354735 A1, EP1363168 A2, EP1146609 A2,

Forward Citations: WO17083223, WO17002355, WO15039432, WO15030812, WO15016875, WO14110384, WO14107369, WO14004189, WO14003828, WO13184102, WO13120441, WO12024355, WO12024355, WO11127820, WO11110044, WO11091025, WO11053426, WO11016895, WO10068612, WO09110693, WO09097258, WO06020217, USD627389, USD597129, USD590012, USD590011, USD580968, USD578155, USD560713, US9690230, US9658590, US9645546, US9619663, US9599945, US9581938, US9575460, US9563169, US9557684, US9551974, US9542222, US9535373, US9529319, US9519243, US9494914, US9494913, US9465351, US9429899, US9417603, US9395684, US9389582, US9360835, US9360834, US9357091, US9342047, US9335656, US9329525, US9298130, US9291989, US9280124, US9280084, US9250590, US9207632, US9203980, US9195207, US9170559, US9152080, US9141816, US9128444, US9128443, US9128414, US9104134, US9098216, US9098015, US9079410, US9069327, US9069286, US9063506, US9046868,

US9046822, US9046817, US9031424, US9030682, US9020399, US9020398, US9020397, US9020396, US8989611, US8977163, US8938179, US8926869, US8909095, US8879953, US8873999, US8867966, US8862027, US8855527, US8714849, US8712259, US8666263, US8606124, US8599424, US8554090, US8532506, US8472815, US8453260, US8394563, US8386781, US8346103, US8332934, US8330966, US8311420, US8311419, US8281983, US8275285, US8177340, US8176549, US8160476, US8160473, US8150275, US8116657, US8099012, US8069478, US8069477, US8045884, US7965957, US7894729, US7829840, US7792438, US7788490, US7693448, US7664432, US7647007, US7643773, US7627257, US7596340, US7515837, US7512360, US7509081, US7496314, US7373096, US7346297, US7319828, US7254346, US2017075295, US2016214391, US2016187813, US2016048704, US2015185662, US2015071434, US2015023694, US2015003877, US2015003858, US2013317668, US2013170875, US2013164032, US2013070301, US2013064570, US2013064568, US2012327455, US2012327451, US2012321338, US2012173051, US2012134687, US2012134686, US2011315758, US2011236064, US2011206387, US2011176850, US2011128567, US2011109938, US2011075189, US2011004768, US2011004746, US2011002002, US2010322641, US2010254727, US2010247141, US2010232815, US2010214597, US2010162842, US2010141715, US2010125844, US2010107909, US2010107908, US2010061761, US2010053684, US2010053683, US2010045762, US2009222886, US2009222664, US2009220077, US2009219559, US2009190962, US2009154951, US2009154950, US2009110815, US2008305422, US2008304859, US2008253799, US2008219698, US2008212994, US2008199222, US2008187358, US2008175624, US2008170866, US2008152382, US2008145112, US2008145111, US2008131163, US2008098218, US2008050129, US2007279464, US2007269225, US2007264040, US2007147853, US2007092269, US2006245767, US2006224889, US2006204284, US2006188273, RU2584826, GB2485889, GB2485889, GB2485888, GB2485888, FR2956490, EP3040780, EP2829923, EP2798408, EP2710649, EP2525980, EP2365397, EP2250605, EP2250605, EP2250605, EP2250600, EP2250600, EP1782131, EA024354, EA023481, CN105431837, CN103268060, CN102858551, CN102858551, CN102689530, CN102689530, CN102555552, CN102555552, CN102442073, CN102063034, CN102063031, AU2011207606,

Abstract:
Source: US2005135838A A universal adapter for a toner cartridge enables a single toner cartridge to be used with printers made by different manufacturers and differing printer models made by a common manufacturer. The toner cartridge includes a waste bin having a leading end that is sculpted to mate with the cartridge−receiving cavities of a large number of printers. Additional improvements include an improved planar having a common thickness along its extent, the elimination of a pivotal motion between the waste bin and the hopper, an enhanced interconnection between the waste bin and the hopper, improved ergonomics along a trailing edge of the waste bin to facilitate its handling, a structure that prevents mounting of a circuit board over a host circuit board, reduced friction media guide ribs, an improved circuit board mounting pad, and a microswitch actuating tab that functions even in a printer with worn hinges and latches.

3) Family number: 32612005 (US2006029418A) © PatBase

Title: PHOTOSENSITIVE MEMBER CARTRIDGE, DEVELOPER CARTRIDGE AND PROCESS CARTRIDGE

Priority:

EP20050014218 20050630	EP20050014238 20050630	EP20100010068 20050630
JP20040231201 20040806	JP20040231202 20040806	JP20040305551 20041020
JP20040305552 20041020	JP20040375936 20041227	JP20040377284 20041227
WO2005IB02301 20050803	WO2005IB02301 20050803	US20050196463 20050804
US20080071258 20080219	US20050197545 20050805	US20080216686 20080709
JP20080214681 20080822	US20050196713 20050804	US20090379863 20090303
JP20100166555 20100723	US20100908505 20101020	JP20040377285 20041227

Family:

Publication number	Publication date	Application number	Application date
AT475911 E	20100815	AT20050014236T	20050630
AT527582 E	20111015	AT20050014238T	20050630
AT537486 E	20111215	AT20050014218T	20050630
AU2005270972 AA	20060216	AU20050270972	20050803
AU2005270972 BB	20101209	AU20050270972	20050803
CA2577617 AA	20070219	CA20052577617	20050803
CA2577617 C	20101207	CA20052577617	20050803
CN100419587 C	20080917	CN200510088580	20050802
CN100445890 C	20081224	CN200510091107	20050803
CN100480882 C	20090422	CN200510091105	20050804
CN100535781 C	20090902	CN200510091151	20050805
CN101329544 A	20081224	CN200810144056	20050802
CN101329544 B	20101103	CN200810144056	20050802
CN101354562 A	20090128	CN200810212877	20050804
CN101354562 B	20110810	CN200810212877	20050804
CN101943880 A	20110112	CN201010269229	20050802
CN101943880 B	20121205	CN201010269229	20050802
CN102117034 A	20110706	CN201010545124	20050804
CN102117034 B	20130619	CN201010545124	20050804
CN102236301 A	20111109	CN201110124832	20050804
CN102236301 B	20140903	CN201110124832	20050804
CN1731293 A	20060208	CN200510088580	20050802
CN1731296 A	20060208	CN200510091105	20050804
CN1731297 A	20060208	CN200510091151	20050805
CN1737696 A	20060222	CN200510091107	20050803
CN1755541 A	20060405	CN200510091106	20050804
CN1755541 B	20110706	CN200510091106	20050804
CN201004157 Y	20080109	CN200520113087U	20050805
CN2849777 Y	20061220	CN200520105209U	20050808
CN2849778 Y	20061220	CN200520113085U	20050804
CN2893755 Y	20070425	CN200520113086U	20050805
CN2919308 Y	20070704	CN200520113139U	20050803
DE602005022526 D1	20100909	DE200560022526T	20050630
DE602005030321 D1	20120105	DE200560030321T	20050630
DE602005031613 D1	20120308	DE200560031613T	20050630
DE602005037939 D1	20130314	DE200560037939T	20050630
EP1637933 A2	20060322	EP20050014236	20050630

EP1637933 A3	20060405	EP20050014236	20050630	
EP1637933 B1	20100728	EP20050014236	20050630	
EP1640814 A2	20060329	EP20050014238	20050630	
EP1640814 A3	20060405	EP20050014238	20050630	
EP1640814 B1	20111005	EP20050014238	20050630	
EP1640820 A2	20060329	EP20050014218	20050630	
EP1640820 A3	20060405	EP20050014218	20050630	
EP1640820 B1	20111214	EP20050014218	20050630	
EP2365396 A1	20110914	EP20100010068	20050630	
EP2365396 B1	20130116	EP20100010068	20050630	
ES2347793 T3	20101104	ES20050014236T	20050630	
HK1081670 A1	20090508	HK20060103790	20060327	
HK1081670 A3	20060519	HK20060103790	20060327	
HK1081672 A1	20091218	HK20060103895	20060328	
HK1081672 A3	20060519	HK20060103895	20060328	
HK1082299 A1	20090814	HK20060104392	20060411	
HK1082299 A3	20060602	HK20060104392	20060411	
HK1082550 A3	20060609	HK20060104051	20060403	
HK1083894 A1	20120518	HK20060106314	20060601	
HK1083894 A3	20060714	HK20060106314	20060601	
IN01652DN2007 A	20070824	IN2007DN01652	20070301	
IN268289 B	20150828	IN2007DN01652	20070301	
JP2006072284 A2	20060316	JP20040305551	20041020	
JP2006072285 A2	20060316	JP20040305552	20041020	
JP2006184401 A2	20060713	JP20040375936	20041227	
JP2006184501 A2	20060713	JP20040377284	20041227	
JP2006184502 A2	20060713	JP20040377285	20041227	
JP2008276273 A2	20081113	JP20080214681	20080822	
JP2010266893 A2	20101125	JP20100166555	20100723	
JP4221671 B2	20090212	JP20040305552	20041020	
JP4269241 B2	20090527	JP20080214681	20080822	
JP4348625 B2	20091021	JP20040305551	20041020	
JP4352335 B2	20091028	JP20040377284	20041227	
JP4463676 B2	20100519	JP20040375936	20041227	
JP4770171 B2	20110914	JP20040377285	20041227	
JP4798297 B2	20111019	JP20100166555	20100723	
KR100719003 B1	20070516	KR20050071652	20050805	
KR100752890 B1	20070828	KR20050071657	20050805	
KR101006012 B1	20110105	KR20070057657	20070613	
KR20060050245 A	20060519	KR20050071652	20050805	
KR20060050248 A	20060519	KR20050071657	20050805	
KR20070067059 A	20070627	KR20070057657	20070613	
MY144840 A	20111130	MY20050003658	20050805	
NZ553334 A	20100226	NZ20050553334	20050803	
RU2007108301 A	20080920	RU20070108301	20050803	
RU2402797 C2	20101027	RU20070108301	20050803	
TW200615717 A	20060516	TW20050126593	20050804	
TWI266157 B	20061111	TW20050126593	20050804	
US2006029418 AA	20060209	US20050196463	20050804	
US2006029419 AA	20060209	US20050196688	20050804	

US2006029420 AA	20060209	US20050196713	20050804	
US2006029421 AA	20060209	US20050197545	20050805	
US2006029422 AA	20060209	US20050197598	20050805	
US2006029423 AA	20060209	US20050197550	20050805	
US2008170882 AA	20080717	US20080071258	20080219	
US2008279583 AA	20081113	US20080216686	20080709	
US2009169248 AA	20090702	US20090379863	20090303	
US2011064461 AA	20110317	US20100908505	20101020	
US7369792 BB	20080506	US20050197598	20050805	
US7386253 BB	20080610	US20050196463	20050804	
US7412188 BB	20080812	US20050197545	20050805	
US7450882 BB	20081111	US20050196688	20050804	
US7522859 BB	20090421	US20050196713	20050804	
US7565092 BB	20090721	US20050197550	20050805	
US7796915 BB	20100914	US20080071258	20080219	
US7844197 BB	20101130	US20090379863	20090303	
US7873296 BB	20110118	US20080216686	20080709	
US7957669 BB	20110607	US20100908505	20101020	
VN15981 A1	20161025	VN20070000298	20050803	
WO06016242 A2	20060216	WO2005IB02301	20050803	
WO06016242 A3	20060427	WO2005IB02301	20050803	
WO06016244 A2	20060216	WO2005IB02305	20050803	
WO06016244 A3	20060427	WO2005IB02305	20050803	

Probable Assignee: BROTHER IND LTD

Assignee(s):(std)**:** BROTHER IND LTD ; ISHII MAKOTO ; KISHI ISAO ; SATO FUMIKAZU ; BORTHER KOGYO K K ; BRAZER KOGIO KK ; BROTHER IND CO LTD ; BROTHER KOGYO KABUSHIKI KAISAH ; SHIMIZU TAKASHI

Assignee(s): BROTHER INDUSTRY CO LTD ; BROTHER KOGYO NAGOYA SHI KK ; BROTHER KOGYO KK ; BROTHER IND CO ; BORTHER KOGYO KK ; BRAZER KOGIO KABUSIKI KAJSJA ; BROTHER KOGYO KABUSHIKI KAISHA ; BROTHER KOGYO K K ; BROTHER INDUSTRIES LTD ; BROTHER INDUSTRY CO

Inventor(s):(std)**:** FUMIKAZU ISHII MAKOTO SATO ; FUMIKAZU SATO ; ISAO KISHI ; ISHII AKIRA ; ISHII MAKOTO ; ISHII MAKOTO SATO FUMIKAZU ; KISHI ISAAKI ; KISHI ISAO ; MAKOTO ISHII ; MASATOSHI SHIRAKI ; SATO FUMIKAZU ; KIJI ISHII MAKOTO SATO FUMIKAZ ; SHIMIZU TAKASHI ; TAKASHI SHIMIZU ; TAKAJI ISHII AKIRA GAN KUSAO S ; SIMIZU TAKASI ; SHIMIZU KISHI ; RYO ISHII ; KISI ISAO ; KISHIISAO ; KISHI SHIMIZU ; KIJI KIYOMI ; ISIJ MAKOTO ; SHIRAKI MASATOSHI ; ISHII RYO ; FUMIKAZU ISHII SUKE SATO

Inventor(s): ISHII AKIRA GAN KUSAO SHIMIZU TAKAJI ; SHIRAKI MASATOSHI C O BROTHER INDUSTRIES LTD ; SHIRAKI MASATOSHIC O BROTHER IND LTD ; ISHII SUKE SATO FUMIKAZU ; KIYOMI KIJI ; SHIMIZU TAKASHI C O BROTHER INDUSTRIES LTD ; KISHI IASO ; SATO FUMIKAZU C O BROTHER INDUSTRIES LTD ; SATO FUMIKAZUC O BROTHER IND LTD ; KISHI ISAO C O BROTHER INDUSTRIES LTD ; ISHII MAKOTO SATO FUMIKAZU KIYOMI KIJI ; ISHII MAKOTOC O BROTHER IND LTD ; ISHII MAKOTO C O BROTHER INDUSTRIES LTD

Agent(s): GRIFFITH HACK; BERESKIN AND PARR LLP SENCRL SRL; KUHNEN AND WACKER PATENT U RECHTSANWALTSBUERO; KUHNEN AND WACKER; Kuhnen Wacker; OLIFF AND BERRIDGE PLC; OLIFF JAMES A; JAMES A

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT KE KG KM KP KR KZ LC LI LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RU SC SD SE SG SI SK SL SM SN SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

International class (IPC 8–9): B41J2/00 G03G15/00 G03G15/02 G03G15/04 G03G15/06 G03G15/08 G03G21/16 G03G21/18 (Advanced/Invention);

B41J2/00 G03G15/06 G03G15/08 G03G21/18 (Advanced/Non−invention);
B41J2/00 G03G15/00 G03G15/02 G03G15/04 G03G15/06 G03G15/08 G03G21/16 G03G21/18 (Core/Invention);
G03G (Subclass/Invention)

International class (IPC 1−7): G03G0/08 G03G15/00 G03G15/08 G03G21/18

CPC: G03G15/087 G03G15/0887 G03G21/1857 G03G21/1867 G03G15/06 B41J2/00

European class: G03G15/08H3C G03G21/18H2 G03G21/18H3

US class: 399/111 399/111P 399/112 399/113 399/113P 399/113S 399/114 399/116 399/116P 399/119 399/119P 399/119S 399/167 399/90

Classification Explorer

Cited documents: US89114204, US86300 A, US7873296 BB, US7280784 BB, US6842598 BB, US6823160 BB, US6763210 BB, US6751428 BB, US6690903 BB, US6678489 BA, US6643482 BB, US6546217 BB, US6501927 BA, US6501926 BA, US6411789 BA, US6400914 BA, US6349188 BA, US6343192 BA, US6330410 BA, US6266502 BA, US6240266 BA, US6226478 BA, US6226476 BA, US6215969 BA, US6185390 BA, US6175706 BA, US6175706 B1, US6169865 BA, US6169865 B1, US6163666 A, US6128454 A, US6118961 A, US6101350 A, US6041203 A, US5987278 A, US5950048 A, US5940658 A, US5923926 A, US5907749 A, US5903803 A, US5878309 A, US5839028 A, US5832342 A, US5828929 A, US5828928 A, US5825472 A, US5794103 A, US5784671 A, US5682579 A, US5669042 A, US5659847 A, US5623328 A, US5608509 A, US5470635 A, US5294960 A, US5208634 A, US5010365 A, US4583832 A, US2006029423 AA, US2006029422 AA, US2006029421 AA, US2006029419 AA, US2006029418 AA, US2005047814 AA, US2004126132 AA, US2004086300 AA, US2003185594 AA, US2003049046 AA, US2002018666 AA, US18666 A, US185594 A, US126132 A, JPU545716, JP943927, JP943925, JP926737, JP9062079 A2, JP9043927 A2, JP9043925 A2, JP9026737 A2, JP84647, JP8339152 A2, JP8305102 A2, JP8202136 A2, JP8114962 A2, JP78702, JP6460549, JP64060549 A2, JP62079, JP619229, JP60549, JP6019229 A2, JP545716, JP5045716 A2, JP43927, JP43925, JP4362961 A2, JP4156575 A2, JP362961, JP350307, JP3243, JP305102, JP295614, JP280519, JP280490, JP267547, JP26737, JP250378, JP250310, JP240103, JP2168278 A2, JP207408, JP202136, JP200384647, JP2003295614 A2, JP2003280490 A2, JP2003084647 A2, JP2002207408 A2, JP2001350307 A2, JP2000280519 A2, JP2000267547 A2, JP2000250378 A2, JP2000250310 A2, JP2000221779 A2, JP2000132059 A2, JP2000112200 A2, JP19229, JP168278, JP167335, JP161131, JP156575, JP153912, JP132059, JP112200, JP11167335 A2, JP11161131 A2, JP103243, JP10240103 A2, JP10153912 A2, JP10078702 A2, JP10003243 A2, EP0813119 A1, EP0679959 A2, EP0622698 A2, CN2893755, CN1746780 A, CN1448804, CN1335541, CN1132865, CN1066546 A,

Forward Citations: WO14010134, WO14010125, WO14010115, WO11106983, USD724139, USD723614, USD694816, USD694815, USD638053, USD601184, USD601183, USD595344, USD595343, USD588191, USD533215, USD531661, USD531660, USD528148, US9658590, US9658568, US9658567, US9645545, US9625875, US9612572, US9575460, US9557684, US9547253, US9529319, US9494914, US9494913, US9494891, US9483017, US9471035, US9465354, US9456103, US9440755, US9436415, US9429899, US9423769, US9423765, US9417603, US9395688, US9395684, US9395681, US9395680, US9383681, US9348299, US9342036, US9335731, US9335655, US9298130, US9291986, US9280082, US9274457, US9266337, US9261857, US9256198, US9250603, US9213256, US9207632, US9201388, US9201340, US9195207, US9182739, US9170529, US9128455, US9122236, US9122235, US9122232, US9104169, US9092003, US9086677, US9069327, US9069280, US9058018, US9058017, US9052686, US9042776, US9042773, US9026004, US9020399, US9020398, US9020397, US9020396, US9020395, US9014594, US9008556, US9008522, US9004676, US8995876, US8995866, US8977163, US8958720, US8938187, US8918046, US8918019, US8867949, US8862027, US8862013, US8831462, US8781377, US8737876, US8682216, US8644730, US8611787, US8594526, US8588664, US8582999, US8554116, US8538291, US8515309, US8515306, US8463153, US8457525, US8417131, US8358951, US8346123, US8315536, US8280273, US8233820, US8195069, US8190059, US8185014, US8155552, US8135300, US8036587, US7957671, US7957669, US7844197, US7826767, US7792465, US7787797, US7747198, US7680436, US7620347, US7613414, US7561827, US7555251, US7522859, US7512363, US7493071, US2017160692, US2017075295, US2017031299, US2017003618, US2015261174, US2015023692, US2015003877, US2014178105, US2014168722, US2014072335, US2014050503, US2013243499, US2013051852, US2013051833, US2012308270, US2011236099, US2011236064, US2011236063, US2011236060, US2011236051, US2011206407, US2011200359, US2011158710, US2011158704, US2011158688, US2011158686, US2011158682, US2010329746,

US2010329730, US2010290803, US2010135693, US2010119256, US2010104327, US2009290904, US2009226209, US2009219706, US2009175652, US2009169257, US2009169256, US2009169248, US2009169235, US2008298836, US2008199205, US2007237549, US2007217818, US2007196136, US2007147890, US2007140725, US2007071483, US2007003311, US2006140683, US2006029420, TWI528120, KR101610191, KR101474306, JP6098554, JP6098410, JP6056999, JP5953996, JP5953930, JP5895400, JP5403018, JP4636097, JP2016105207, JP2015169935, JP2015129817, JP2015034854, JP2015022181, JP2014016494, JP2013242366, JP2013054052, JP2013050493, JP2012140011, JP2011215629, JP2011201640, JP2011197197, JP2011150377, JP2011133765, JP2011133760, JP2011065181, JP2011065180, JP2011039565, JP2011008299, JP2010128336, JP2009216802, JP2009162912, JP2009162905, JP2007058057, EP2505371, EP2343607, EP1950625, DE202010018296, DE202010018295, CN103488071, CN102968019, CN102968019, CN102236301, CN102200751, CN102200751, CN102200728, CN102200728, CN102109798, CN102109798, CN101887224, CN101840192,

Abstract:
Source: US2006029418A A developer cartridge including a frame, a developer housing section, a developer supplying section, a developer electrode, and an input gear is provided. The frame includes a first side wall and a second side wall, and the first side wall and the second side wall extend substantially in a length direction. The developer housing section, for housing a developer, extends from the first side wall to the second side wall in a width direction substantially perpendicular to the length direction. The developer supplying section, for supplying the developer to a photosensitive member, extends from the first side wall to the second side wall in the width direction and houses a developer carrying member. The developer carrying member includes a developer carrying member shaft and a developer carrying member body that is supported on the developer carrying member shaft. The developer carrying member shaft extends in the width direction and is rotatably supported by the first side wall and the second side wall. The developer electrode electrically biases the developer carrying member, and at least a portion of the developer electrode is connected to the first side wall and the developer carrying member. The input gear supplies a driving force for rotating the developer carrying member.

0) US2008317510A – TONER CARTRIDGE LOCKING APPARATUS, IMAGE FORMIN...

4) Family number: 42756499 (US2008317510A) © PatBase

Title: TONER CARTRIDGE LOCKING APPARATUS, IMAGE FORMING APPARATUS HAVING THE SAME, TONER CARTRIDGE, AND MOUNTING AND DISMOUNTING METHOD FOR A TONER CARTRIDGE

Priority: KR20070062479 20070625 KR20070086290 20070827

Family:

Publication number	Publication date	Application number	Application date
AT485539 E	20101115	AT20080153194T	20080325
BRPI0801485 A2	20090225	BR2008PI01485	20080415
CN101334626 A	20081231	CN200810093042	20080415
CN101334626 B	20110720	CN200810093042	20080415
DE602008003062 D1	20101202	DE200860003062T	20080325
EP2009510 A1	20081231	EP20080153194	20080325
EP2009510 B1	20101020	EP20080153194	20080325
IN00466MU2008 A	20090626	IN2008MU00466	20080307
KR100873443 B1	20081211	KR20070086290	20070827
RU2008114663 A	20091020	RU20080114663	20080414
RU2380236 C2	20100127	RU20080114663	20080414
US2008317510 AA	20081225	US20080027336	20080207
US7974558 BB	20110705	US20080027336	20080207

Probable Assignee: S PRINTING SOLUTION CO LTD

Assignee(s):(std)**:** SAMSUNG ELECTRONICS CO LTD

Assignee(s): S PRINTING SOLUTION CO LTD ; SAMSUNG EHLEKTRONIKS KO ; SAMSUNG ELECTRONICS CO

Inventor(s):(std)**:** CHOI SAM SEOK ; LEE JIN HYUNG ; SAM SEOK CHOI ; LI DZIN KHIUNG ; JIN HYUNG LEE ; CHOJ SAM SEOK

Inventor(s): LI DZIN–KHIUNG ; CHOJ SAM–SEOK

Agent(s): SHERRARD SMITH HUGH; STANZIONE AND KIM LLP

Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK TR

International class (IPC 8–9)**:** B41J11/24 B41L29/00 G03G15/00 G03G15/06 G03G15/08 G03G21/18 (Advanced/Invention); B41J11/00 B41L29/00 G03G15/00 G03G15/06 G03G15/08 (Core/Invention)

International class (IPC 1–7)**:** G03G15/08

CPC: G03G15/0877 G03G15/0872 G03G2215/0675 G03G2215/0692 G03G2221/1654 G03G2221/1684 G03G2221/1815

European class: G03G15/08H3D S03G215/06C1C S03G215/06C7 S03G221/16K1 S03G221/16S2 S03G221/18C

US class: 399/258 399/262 399/262P

Classification Explorer

Cited documents: WO9905446 A1, US5568237 A, RU63289 U1, RU63289, RU2198121 C2, KR20030081092 A, KR199930324, KR19990030324 A, JP2006208574 A2, EP1840668 A1, EP1722279 A1, EP0668546 A2, CN1503072 A,

Forward Citations: WO12015930, US9533846, US9298130, US9068879, US8948660, US8948659, US8364061, US8238799, US7918308, US2010322676, US2009010680, KR101331459, GB2482310, GB2482310, EP3051363,

Abstract:
Source: US2008317510A The present general inventive concept relates to a toner cartridge locking apparatus,

which includes a rotation handle rotatably disposed at a first end of a toner tank, and having a locking blade formed at an outer circumferential surface thereof, and a hooking portion disposed at a developing unit to which the toner tank is mounted, wherein when the rotation handle is rotated in a predetermined angle, the locking blade of the rotation handle is inserted into the hooking portion.

0) US5630198A – TONER FILLABLE CARTRIDGE HAVING PROTRUSIONS ENG...

5) Family number: 16256887 (US5630198A) © PatBase

Title: TONER FILLABLE CARTRIDGE HAVING PROTRUSIONS ENGAGEABLE WITH A DEVELOPMENT CASE SHUTTER

Priority: JP19950039458U 19951228 JP19960953596U 19960403 US19960638780 19960429 US19960638776 19960429 US19960638779 19960429

Family:

Publication number	Publication date	Application number	Application date
DE29608446 U1	19960919	DE19962008446U	19960509
DE69600064 D1	19971113	DE19966000064	19960509
DE69600064 T2	19980205	DE19966000064T	19960509
DE69600491 D1	19980910	DE19966000491	19960509
DE69600491 T2	19990128	DE19966000491T	19960509
EP0793149 A1	19970903	EP19960107356	19960509
EP0793149 B1	19970910	EP19960107356	19960509
EP0805379 A1	19971105	EP19960107354	19960509
EP0805379 B1	19980805	EP19960107354	19960509
JP10048938 A2	19980220	JP19970103548	19970421
JP10055103 A2	19980224	JP19970103453	19970421
JP3931379 B2	20070613	JP19970103453	19970421
US5630198 A	19970513	US19960638776	19960429
US5678147 A	19971014	US19960638779	19960429
US5697014 A	19971209	US19960638578	19960429
US5761585 A	19980602	US19960638711	19960429
US5771427 A	19980623	US19960638780	19960429

Probable Assignee: BROTHER KOGYO KK

Assignee(s):(std): BROTHER IND LTD

Assignee(s): BROTHER KOGYO K K NAGOYA AICHI JP ; BROTHER KOGYO KABUSHIKI KAISHA ; BROTHER KOGYO KK

Inventor(s):(std): MAKINO KAZUMASA ; MAKINO KAZUNORI ; SUZUKI TSUTOMU

Inventor(s): MAKINO KAZUMASA NAGOYA SHI AICHI KEN JP

Agent(s): TOMIZAWA TAKASHI; YAMANAKA IKUO; OKADO AKIYOSHI

Designated states: CH DE FR GB LI

International class (IPC 8–9): G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)

International class (IPC 1–7): B29C49/00 G03G15/08 G03G15/10 G06K15/14

CPC: Y10S222/01 G03G15/0856 G03G15/0855 G03G15/0865 G03G15/0868 G03G15/0872 G03G15/0886 G03G15/0862 G03G15/0881 G03G2215/067 G03G2215/0675 G03G2215/0692 G03G2215/0894 G03G2215/0897

European class: G03G15/08H2 G03G15/08H3 G03G15/08H3B G03G15/08H3C1 S03G215/06C1A2 S03G215/06C1C S03G215/06C7 S03G215/08D1A S03G215/08D1A1

US class: 222/153.14 222/325 222/DIG.1 264/523 399/120 399/258 399/260 399/262 399/263 399/30 399/64 399/65

Classification Explorer

Cited documents: US5678147 A, US5630198 A, US5581334 A, US5574549 A, US5557368 A, US5548384 A, US5530528 A, US5528349 A, US5526101 A, US5515143 A, US5506665 A, US5499077 A, US5489976 A, US5428436 A, US5428427 A, US5424816 A, US5419468 A, US5398106 A, US5385181 A, US5384629 A, US5383007 A, US5331382 A,

US5319421 A, US5287151 A, US5235389 A, US5220382 A, US5216462 A, US5184177 A, US5172003 A, US5160963 A, US5121275 A, US5091750 A, US5089854 A, US5078303 A, US5036358 A, US4993661 A, US4989111 A, US4963929 A, US4937628 A, US4924920 A, US4665808 A, US4646679 A, US4620781 A, US4615364 A, US4460267 A, US4389972 A, US4292530 A, US4197813 A, US4026241 A, US3689035 A, US3274392 A, JPS632087, JPS6263880, JPS6244780, JPS6216964, JPS6153677, JPS61248066, JPS602660, JPS55163562, JP7306589, JP7281519 A2, JP7168435, JP64051962 U, JP63002087 A2, JP6222631 A2, JP62063880 A2, JP62044780 A2, JP62044780, JP62016964 A2, JP61248066 A2, JP61053677 A2, JP60002660 A2, JP55163562 A2, JP4048232 A2, JP3053232 A2, JP2198473 A2, JP2073262 A2, JP1316766 A2, JP1302282 A2, EP0682297 A2, EP0668546 A2, EP0661608 A2, EP0483440 A1, EP0435596 A2, EP0435259 A2, EP0385865 A2, EP0225745 A1, DE950258 A, DE3323086 A1,

Forward Citations: WO13101347, WO10029826, WO08004566, USD781376, USD571394, US9658568, US9207578, US9176426, US9176424, US8977160, US8958725, US8958718, US8849164, US8718509, US8693924, US8600262, US8369738, US8320800, US8121518, US8078088, US7949287, US7937018, US7925191, US7907875, US7787806, US7783234, US7747192, US7738818, US7634218, US7574161, US7522866, US7450890, US7433632, US7426363, US7266330, US7248806, US7019870, US6741820, US6650847, US6453129, US6269234, US6266506, US6249654, US6236826, US6185401, US6141519, US6088556, US6047152, US6006060, US5986241, US5970293, US5970292, US5970291, US5913097, US5890034, US5771427, US5729797, US2017045841, US2011129260, US2010278566, US2009263165, US2008212997, US2008124105, US2007077099, US2007071503, US2006257171, US2006233571, US2006133856, US2006104671, US2005135841, US2002118403, JP5656047, JP4719192, JP4434523, JP4419991, JP4386053, JP4386052, JP2011227168, JP2011186198, JP2010079118, JP2008015108, JP2008015107, JP2008015106, JP2008006823, JP2007155904, JP2005196138, JP2003029510, EP2367069, EP2273319, EP1768002, EP1767999, EP1722279, EP1721222, EP1533664, CN102221803, AU2013200139,

Abstract:
Source: US5630198A A toner fillable cartridge for use with a toner developing device includes a toner body having first and second ends, a toner exhaust port between the first and second ends, a toner box shielding member rotatably mounted on the toner body to open and close the toner exhaust port as the toner body is rotated with respect to the development device and the toner box shielding member, and a pair of protrusions formed on each side of the toner box shielding member. Each of the pair of protrusions are structured to engage a developing device shielding member movably positioned over a toner introduction port of the developing device. Rotation of the toner body with respect to the development device causes each of the pair of protrusions to engage and displace the developing device shielding member to open and close the toner introduction port as the toner exhaust port rotates to align with the toner introduction port.

0) US2004057747A – PRESSURE–SENSITIVE SEAL ASSEMBLIES AND STRIP AS...

6) Family number: 28489199 (US2004057747A) © PatBase

Title: PRESSURE–SENSITIVE SEAL ASSEMBLIES AND STRIP ASSEMBLIES USING KISS–CUTS, ADHESIVE–MASKING, MULTIPLE SEAL–ASSEMBLY PAGES AND MULTIPLE STRIP–ASSEMBLY PAGES

Priority: US19950370968 19950110 US19970896491 19970718 US20030336070 20030103 US20020094833 20020310 US20000463171 20000119 US19970979735 19971126 US20030679533 20031005 US20030601211 20030620 US20030336071 20030103 US20030662100 20030911 US20030614654 20030707 WO1998US14862 19980717

Family:

Publication number	Publication date	Application number	Application date
AU199884112 A1	19990210	AU19980084112	19980717
US2004057747 AA	20040325	US20030662100	20030911
US5878306 A	19990302	US19970896491	19970718
US6356724 BA	20020312	US19970979735	19971126
US6552780 BA	20030422	US19950370968	19950110
US6591074 BA	20030708	US20000463171	20000119
US6925273 BA	20050802	US20030679533	20031005
US7054575 BA	20060530	US20030601211	20030620
US7054576 BB	20060530	US20030662100	20030911
US7076186 BA	20060711	US20030336071	20030103
WO05007201 A2	20050127	WO2004US21586	20040706
WO05007201 A3	20050609	WO2004US21586	20040706
WO9904320 A1	19990128	WO1998US14862	19980717

Probable Assignee: MICHLIN PATENT HOLDINGS LLC

Assignee(s):(std)**:** MICHLIN STEVEN B ; MICHLIN STEVEN BRUCE ; ANDERSON JEFFREY BYRON ; KIM ANDREW C ; STEVEN B MICHLIN

Assignee(s): MICHLIN PATENT HOLDINGS LLC ; STEVEN BRUCE MICHLIN ; STEVEN B MICHLIN LLC

Inventor(s):(std)**:** ANDERSON JEFFREY BYRON ; KIM ANDREW C ; MICHLIN STEVEN B ; MICHLIN STEVEN BRUCE ; STEVEN B MICHLIN

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NA NE NI NL NO NZ OM PG PH PL PT RO RU SC SD SE SG SI SK SL SN SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

International class (IPC 8–9): A61B17/04 G03G15/00 G03G15/08 G03G21/00 (Advanced/Invention); A61B17/00 A61B17/06 A61B17/28 (Advanced/Non–invention); A61B17/04 G03G15/00 G03G15/08 G03G21/00 (Core/Invention); A61B17/00 A61B17/06 A61B17/28 (Core/Non–invention); A61L (Subclass/Invention)

International class (IPC 1–7): A61B17/04 A61B17/08 A61F13/00 A61F13/02 A61L15/00 A61L15/16 A61N1/30 B05D5/10 B32B31/01 B32B35/00 B32B4/00 G03G15/00 G03G15/08 G03G21/00

CPC: A61B17/0401 A61B17/0482 A61B17/0483 A61B17/0485 A61B17/06109 A61B17/0625 A61B17/29 A61B2017/00539 A61B2017/0414 A61B2017/044 A61B2017/06171 G03G15/0884 G03G2215/0883 G03G21/0017 G03G15/0812 G03G15/0894 G03G2215/00987 G03G21/0029 G03G15/0882

European class: A61B17/04G A61B17/04H A61B17/04J A61B17/062N A61B17/06N12 G03G15/08F3 G03G15/08H35D2 G03G15/08H3P G03G15/08R G03G21/00B1 S03G215/00R S03G215/08C1B

US class: 222/153.07 355/200 355/260 399/106 399/106P 399/107 399/111 399/120 399/272 399/273 399/274

Cited documents: WO9904320 A1, USRE36920 E, US6782220 BB, US6775493 BB, US6775493 BA, US6591074 BA, US6552780 BA, US6539187 BB, US6539187 BA, US6356724 BA, US6350503 BA, US6118958 A, US6044238 A, US6041202 A, US5930559 A, US5909606 A, US5906707 A, US5878306 A, US5826140 A, US5781831 A, US5765887 A, US5752131 A, US5724631 A, US5685833 A, US5672224 A, US5621508 A, US5562683 A, US5546162 A, US5525183 A, US5523828 A, US5501661 A, US5479250 A, US5446525 A, US5401346 A, US5389180 A, US5337126 A, US5306374 A, US5296902 A, US5282003 A, US5258814 A, US5229824 A, US5204110 A, US5184182 A, US5181755 A, US5177540 A, US5152538 A, US5150807 A, US5142335 A, US5110646 A, US4981218 A, US4958197 A, US4942432 A, US4931838 A, US4930684 A, US4915102 A, US4895104 A, US4862210 A, US4827307 A, US4816877 A, US4781294 A, US4778086 A, US4732277 A, US4688926 A, US4653789 A, US4650070 A, US4641945 A, US4641643 A, US4638043 A, US4615608 A, US4614286 A, US4573614 A, US4538651 A, US4523834 A, US4491161 A, US4478512 A, US4456154 A, US4441636 A, US4406535 A, US4325572 A, US4321101 A, US4226525 A, US4224947 A, US4089601 A, US4073530 A, US4062385 A, US3999654 A, US3923391 A, US3864993 A, US3854653 A, US3840017 A, US3717533 A, US3684869 A, US3618826 A, US3454210 A, US3385500 A, US3339807 A, US3076588 A, US2904000 A, US2805183 A, US2673007 A, US2001033909 AA, JPS6141167, JPS59197070, JP9034253 A2, JP8305163 A2, JP7168428 A2, JP7056428 A2, JP6308824 A2, JP61041167 A2, JP6035386 A2, JP59197070 A2, JP55090979 A2, JP5273897 A2, JP5216338 A2, JP4353435 A2, JP4179976 A2, JP2002351201 A2, JP1315779 A2, GB2321219 A1, GB2292469 A1, EP0429386 A1,

Forward Citations: WO16171954, WO16149200, WO10078362, WO08073880, WO05024523, WO0140879, USD722641, USD638018, USD637191, USD636776, USD636775, USD559893, US9213267, US9201376, US9096054, US8699934, US8676084, US8600268, US8526854, US8509649, US8444658, US8213850, US8038821, US8005416, US8005395, US7986900, US7699857, US7689141, US7519311, US7333747, US7321381, US7257363, US7212765, US7197260, US7123855, US7123855, US7076186, US7054576, US7054575, US6993265, US6925273, US6842595, US6782220, US6775498, US6775493, US6754460, US6654577, US6591074, US6587657, US6522851, US6044238, US6041202, US2017082949, US2015355580, US2014078413, US2012321364, US2012076529, US2012057896, US2012008988, US2011041278, US2011011526, US2010135690, US2010107293, US2010074664, US2010059154, US2010005748, US2009320707, US2009245853, US2009110431, US2008318751, US2007248378, US2007224856, US2007140730, US2007065196, US2006204274, US2006198656, US2006133848, US2005281580, US2005074258, US2005054371, US2005008390, US2004057747, US2004004656, US2003223770, US2003086725, CN102419538, CN102265224,

Abstract:
Source: US2004057747A Strips, gaskets and shipping seals may be installed for various industries. A toner cartridge of a laser printer, copier or facsimile machine has various strips in it for various functions. Among the strips are recovery blades, spreader blades, wiper blades, certain shipping seals, doctor blades and other miscellaneous strips. A device and method is shown that enables any strip or modular shipping seal to be ergonomically installed in a user−friendly way by leaving a handle protruding from the strip−assembly or seal−assembly for easy separation of the release liner when installing the strip−assembly or seal−assembly. Also, seal−assemblies may be manufactured and installed where there is a page consisting of the same material that the seal−insert is made of and the seal−inserts are die−cut into the page. Since the seal−insert perimeter is formed with a kiss−cut to the bottom release liner, the seal−assembly can be built−into a page. Then when it is time for the seal−assembly installer to install the seal−assembly, he simply pulls on the seal−assembly and the seal−assembly lifts right off of the page, ready to install, adhesive exposed because lifting it off the page separated the seal−assembly from the bottom release liner layer of the page. This invention has applications that can be used in many industries and is not limited to the imaging industry.

0) US5425481A – TONER CARTRIDGE

7) Family number: 10947423 (US5425481A) © PatBase

Title: TONER CARTRIDGE

Priority: CA19932104752 19930824 EP19930113514 19930824 JP19930045093 19930305 JP19920226173 19920825 JP19920226174 19920825 JP19920226175 19920825 JP19930045093U 19930305 JP19930136242 19930607

Family:

Publication number	Publication date	Application number	Application date
AU199344826 A1	19940303	AU19930044826	19930824
AU670604 B2	19960725	AU19930044826	19930824
CA2104752 AA	19940226	CA19932104752	19930824
CN1090400 A	19940803	CN19931018237	19930824
CN1248007 A	20000322	CN19991010492	19990715
CN1280321 A	20010117	CN19991010493	19990715
DE69310286 D1	19970605	DE19936010286	19930824
DE69310286 T2	19971106	DE19936010286T	19930824
EP0584796 A2	19940302	EP19930113514	19930824
EP0584796 A3	19940323	EP19930113514	19930824
EP0584796 B1	19970502	EP19930113514	19930824
EP0713159 A2	19960522	EP19960100373	19930824
EP0713159 A3	19960529	EP19960100373	19930824
ES2103403 T3	19970916	ES19930113514T	19930824
JP2790942 B2	19980827	JP19920226173	19920825
JP2790962 B2	19980827	JP19930136242	19930607
JP2930481 B2	19990803	JP19920226174	19920825
JP6075473 A2	19940318	JP19920226173	19920825
JP6075474 A2	19940318	JP19920226174	19920825
JP6075475 A2	19940318	JP19920226175	19920825
JP6314023 A2	19941108	JP19930136242	19930607
SG45261 A1	19980116	SG19960002231	19930824
TH17559 A	19960123	TH19931001492	19930824
TW266269 B	19951221	TW19930106782	19930823
TW281736 B	19960721	TW19950105384	19930823
US5425481 A	19950620	US19930111375	19930824

Probable Assignee: MITA INDUSTRIAL CO LTD A JAPAN CORP

Assignee(s):(std): KYOCERA DOCUMENT SOLUTIONS INC ; MITSUTA IND CO LTD ; MITA INDUSTRIAL CO LTD ; MITAJIRI IND CO LTD ; MITAJIRI INDUSTRY CO LTD

Assignee(s): MITA INDUSTRIAL CO LTD OSAKA JP ; MITAJIRI INDUSTRY CO ; MITA INDUSTRIAL CO LTD A JAPAN CORP ; OKAMOTO EIJI ; MITAJIRI IND CO ; Mita Industries Inc. ; TANAKA YOSHIHISA ; MITSUTA INDUSTRIAL CO LTD ; MITA KOGYO KK ; MAKIE IKUO ; MITA IND CO LTD ; MITA INDUSTRIAL CO ; KAMIDAIRA KAZUYA ; KUSUDA TOSHIAKI

Inventor(s):(std): EIJI ; EIJI OKAMOTO ; IKUO MAKIE ; IKUO MEKIE ; KAMIDAIRA KAZUYA ; KAMIDAIRA KAZUYA C O MITA INDU ; KUSUDA TOSHIAKI ; KUSUDA TOSHIAKI C O MITA INDUS ; MAKIE IKUO ; MAKIE IKUO C O MITA INDUSTRIAL ; OKAMOTO EIJI ; OKAMOTO EIJI C O MITA INDUSTRI ; TANAKA YOSHIHISA ; TANAKA YOSHIHISA C O MITA INDU ; KAMIHIRA KAZUYA ; TOSHIAKI KUSUDA

Inventor(s): ToshiakiOkamoto ; YOSHIHISA TANAKA ; KAZUYA KAMIDAIRA ; TANAKA YOSHIHISA C O MITA INDUSTRIAL CO ; TANAKA YOSHIHISA C O MITA INDUSTRIAL CO LTD OSAKA ; OKAMOTO EIJI C O MITA INDUSTRIAL CO ; OKAMOTO EIJI C O MITA INDUSTRIAL CO LTD OSAKA SHI ; MAKIE IKUO C O MITA INDUSTRIAL CO ; MAKIE IKUO C O MITA INDUSTRIAL CO LTD OSAKA SHI OS ; MEKIE IKUO ; KUSUDA

TOSHIAKI C O MITA INDUSTRIAL CO ; KUSUDA TOSHIAKI C O MITA INDUSTRIAL CO LTD OSAKA S ; Makie ; KAMIDAIRA KAZUYA C O MITA INDUSTRIAL CO ; KAMIDAIRA KAZUYA C O MITA INDUSTRIAL CO LTD OSAKA ; IkuoKusuda ; etc.

Agent(s): DAVIES COLLISON CAVE; DAVIES COLLISON CAVE PTY LTD; KIRBY EADES GALE BAKER

Designated states: CH DE ES FR GB IT LI

International class (IPC 8–9): G02F1/133 G03G15/00 G03G15/08 G03G15/16 G09F9/30 G09G3/20 G09G3/28 G09G3/30 H01L23/28 H01L51/50 H05B33/00 H05B33/04 H05B33/14 (Advanced/Invention); G02F1/13 G03G15/00 G03G15/08 G09F9/30 G09G3/20 G09G3/28 G09G3/30 H01L23/28 H01L51/50 H05B33/00 H05B33/04 H05B33/14 (Core/Invention)

International class (IPC 1–7): B65D25/38 G03G15/00 G03G15/08 G03G15/16

CPC: Y10S222/01 G03G15/0882 G03G15/0855 G03G15/0865 G03G15/0875

European class: G03G15/08H3 G03G15/08H3P

US class: 141/351 141/364 206/455 222/160 222/325 222/541 222/541.5 222/DIG.1

Classification Explorer

Cited documents: WO92001247, US5329340 A, US5261568 A, US5260749 A, US5194900 A, US5175587 A, US5142335 A, US5077584 A, US5030998 A, US5018560 A, US4969557 A, US4895104 A, US4834246 A, US4799608 A, JP6235383, JP62035383, JP5273853, JP4362671, JP4220668, JP4159579 A2, JP4159579, JP384853 U, JP3086371 A2, JP3084853 U, JP3084853 U, JP3056951 A2, DE4134997 A1,

Forward Citations: USD647127, USD542334, US9063460, US8923734, US8918032, US8918031, US6495190, US6058278, US5737675, US2014079441, US2014079439, JP5862255, JP5482984, JP3527384, JP2013120315, JP2010197971, JP2003015414, JP10069160, EP0757301, DE19642003, DE19642003, DE19606097, DE19606097, AU697900,

Abstract:
Source: US5425481A A toner cartridge is extractably set in a storing recess of an image forming apparatus main body, and toner is supplemented to a specified part of the image forming apparatus main body. While the toner cartridge is brand–new, an inner seal member peelably adhered to the lower surface of the toner cartridge main body seals the toner dropping opening at the lower surface. After setting the toner cartridge in the storing recess, by peeling off and taking up the inner seal member by the take–up shaft, the toner dropping opening is unsealed. An outer seal member provided slidably along the lower surface of the toner cartridge main body opens or closes the toner dropping opening beneath the inner seal member. When the toner cartridge is drawn out from the storing recess, an outer seal member operating member becomes engaged with an engaging part of the image forming apparatus main body, thereby automatically closing the outer seal member.

0) US6314262B – TONER SUPPLY SYSTEM AND TONER CARTRIDGE

8) Family number: 13110571 (US6314262B) © PatBase

Title: TONER SUPPLY SYSTEM AND TONER CARTRIDGE

Priority: EP20000305705 20000706 JP19990208726 19990723 JP19990225875 19990810 JP19990225876 19990810

Family:

Publication number	Publication date	Application number	Application date
DE60023801 D1	20051215	DE20006023801	20000706
DE60023801 T2	20060720	DE20006023801T	20000706
DE60038829 D1	20080619	DE20006038829	20000706
EP1070993 A2	20010124	EP20000305705	20000706
EP1070993 A3	20020123	EP20000305705	20000706
EP1070993 B1	20051109	EP20000305705	20000706
EP1503252 A1	20050202	EP20040077857	20000706
EP1503252 B1	20080507	EP20040077857	20000706
JP2001034052 A2	20010209	JP19990208726	19990723
JP2001051484 A2	20010223	JP19990225876	19990810
JP2001051486 A2	20010223	JP19990225875	19990810
JP3498013 B2	20040216	JP19990208726	19990723
JP3498016 B2	20040216	JP19990225875	19990810
JP3498017 B2	20040216	JP19990225876	19990810
US6314262 BA	20011106	US20000604533	20000627

Probable Assignee: SHARP KK

Assignee(s):(std)**:** SHARP KK

Assignee(s): SHARP CORP ; SHARP K K ; SHARP K K OSAKA ; SHARP KABUSHIKI KAISHA

Inventor(s):(std)**:** ICHIKAWA YOSHIKI ; KUNIHIRO HISASHI ; KUNIHIRO HISHASHI ; MIZOGUCHI FUMITO ; MIZOGUCHI FUSATO ; NAGATA KENICH ; NAGATA KENICHI ; NAKAKUMA AKIRA

Agent(s): BROWN KENNETH RICHARD ET AL

Designated states: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

International class (IPC 8–9)**:** B65D83/06 G03G15/08 (Advanced/Invention); B65D83/06 G03G15/08 (Core/Invention)

International class (IPC 1–7)**:** B65D83/06 G03G15/08

CPC: Y10S222/01 G03G2215/0673 G03G2215/0678 G03G2215/0687 G03G2215/0692 G03G15/0886 G03G15/0855 G03G15/0865 G03G15/0867

European class: G03G15/08H3 S03G215/06C1B S03G215/06C1D S03G215/06C5 S03G215/06C7

US class: 222/DIG.1 399/120 399/258 399/262

Classification Explorer

Cited documents: US5933691 A, US5737675 A, US5729794 A, US5475479 A, US5089854 A, US4491161 A, JP667534, JP5289516 A2, JP5281855, JP3245172, JP3180874, JP289516, JP2802854, EP0843233 A2,

Forward Citations: WO13165830, US9658590, US9298130, US7676178, US7043173, US6968147, US2017075295, US2005191085, US2004062573, RU2621460, KR20150012245, KR101654756, JP4694100, JP2004264475, EP2845058, AU2013256674,

Abstract:
Source: US6314262B A shutoff lid of a toner hopper is formed with locking elements for locking the lid and a fixing element for fixing the locking elements. In the front face of a bottle slider, a pair of projected abutments abutting the fixing element are arranged on the left and right sides and a pair of switching portions for moving the locking

elements are formed. The rear face of the fixing element is shaped with a stepped face which corresponds to the projected abutments. As the bottle slider moves forwards, each projected abutment abuts the stepped face of the fixing element and moves the fixing element, to thereby cancel restraint of the fixing element on the locking elements. A further advancement of the bottle slider causes the locking elements to move and release the locked state. If a projected abutment does not match the fixing element, the fixing element cannot be moved thus making release of the lock impossible. On the other hand, when the bottle slider has reached the toner supply position, contact portions of the releasing elements oppose a guide frame. When the releasing element is rotated about bridges by holding its handle, the contact portions abut the guide frame and function as the fulcrum so as to act a leverage force on the bridges, whereby it is possible to break off the bridges by a weak force. Thus, the releasing element is separated from the bottle slider and then a sealing element is peeled off.

0) US2015098721A – TONER CARTRIDGE HAVING LOADING AND LATCHING FEA...

9) Family number: 58902356 (US2015098721A) © PatBase

Title: TONER CARTRIDGE HAVING LOADING AND LATCHING FEATURES

Priority: US20110888698P 20111009 US20130058352 20131021 US20130888698P 20131009 US20130058370 20131021 US20130058382 20131021 WO2014US58007 20140929

Family:

Publication number	Publication date	Application number	Application date
AR097956 AA	20160420	AR2014P103740	20141007
AU2014332398 AA	20150416	AU20140332398	20140929
AU2014332398 BB	20170316	AU20140332398	20140929
CA2923632 AA	20160307	CA20142923632	20140929
CL2016000589 A1	20160708	CL20160000589	20160311
CN105612462 A	20160525	CN201480055174	20140929
CO16119692 A2	20161121	CO20160119692	20160509
EP3055738 A1	20160817	EP20140851604	20140929
EP3055738 A4	20170621	EP20140851604	20140929
IL244474 A0	20160421	IL20140244474	20140929
IN201617013301 A	20160831	IN201617013301	20160416
KR101722378 B1	20170405	KR20167012150	20140929
KR20160067223 A	20160613	KR20167012150	20140929
PH2016500485 A	20160516	PH20160500485	20160311
SG11201601700X A1	20160428	SG20161101700	20140929
TW201525622 A	20150701	TW20140132775	20140923
US2015098721 AA	20150409	US20130058352	20131021
US2015098730 AA	20150409	US20130058370	20131021
US2015098731 AA	20150409	US20130058382	20131021
US9152083 BB	20151006	US20130058370	20131021
US9164425 BB	20151020	US20130058352	20131021
US9229367 BB	20160105	US20130058382	20131021
WO15053973 A1	20150416	WO2014US58007	20140929
ZA201601532 A	20161130	ZA20160001532	20140929

Probable Assignee: LEXMARK INT INC

Assignee(s):(std)**:** BUCHANAN JOHN ANDREW ; CAVILL GREGORY ALAN ; LEEMHUIS JAMES RICHARD ; LEXMARK INT INC ; WILLIAMSON RANDAL SCOTT

Inventor(s):(std)**:** BUCHANAN JOHN ANDREW ; CAVILL GREGORY ALAN ; LEEMHUIS JAMES RICHARD ; WILLIAMSON RANDAL SCOTT ; SCOTT WILLIAMSON RANDAL ; RICHARD LEEMHUIS JAMES ; ANDREW BUCHANAN JOHN ; ALAN CAVILL GREGORY ; RANDAL SCOTT WILLIAMSON ; JOHN ANDREW BUCHANAN ; JAMES RICHARD LEEMHUIS ; GREGORY ALAN CAVILL

Agent(s): WRAYS PTY LTD; ROBIC; JUAN ENRIQUE PUGA V; JAIME EDUARDO DELGADO VILLEGAS; BOERNER ROBERT; JUSTIN M; TROMP JUSTIN MICHAEL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9): G03G G03G15/00 G03G15/06 G03G15/08 G03G21/16 (Advanced/Invention); G03G (Subclass/Invention)

CPC: G03G15/0875 G03G15/0865 G03G15/0894

US class: 1/1 399/258 399/262 399/90

Classification Explorer

Cited documents: US8567932 BB, US8401434 BB, US8342642 BB, US8292411 BB, US8200126 BB, US7992982 BB, US7953347 BB, US7905572 BB, US7840165 BB, US7831168 BB, US7769321 BB, US7734230 BB, US7641313 BB, US7305204 BB, US7272336 BA, US7258558 BA, US7258558, US7174121 BB, US7168799 BB, US7159973 BB, US7136609 BB, US7133629 BB, US6692107 BB, US6530399 BB, US6386681 BA, US6301456 BA, US6134410 A, US6115571 A, US5842093 A, US5819139 A, US5758233 A, US5583612 A, US5434655 A, US5313993 A, US5066976 A, US2013287448 AA, US2013209141 AA, US2013170868 AA, US2013170867 AA, US2013147885 AA, US2012315066 AA, US2012315066, US2011129252 AA, US2011091222 AA, US2010322676 AA, US2009142103 AA, US2009080909 AA, US2009016779 AA, US2007229619 AA, US2007098455 AA, US2006013621 AA, US2005265736 AA, US2003219284 AA, US2003053819 AA, US2002057317 AA, KR20100103807 A, KR20100103807, JP8030079 A2, JP8030079, JP2009134097 A2, JP2009080477 A2,

Forward Citations: US9411303, US9317004, US9291992, US9285758,

Abstract:
Source: US2015098721A A toner cartridge according to one example embodiment includes a housing having a front, rear, first side, second side, top and bottom forming a toner reservoir. An outlet port is positioned on the front of the housing proximate the first side for transferring toner out of the reservoir. A drive gear is positioned on the front of the housing and has a center proximate the second side for receiving rotational power. A cavity is formed in the bottom of the housing. A latch catch is positioned in the cavity on an inner side of the front of the housing for receiving a latch for securing the toner cartridge in an image forming device. The latch catch is positioned closer to the bottom of the housing than the outlet port and the drive gear and between the center of the drive gear and the outlet port in the side−to−side direction.

0) US5110705A – CONTACT TYPE DEVELOPING METHOD AND DEVELOPING U...

10) Family number: 3443082 (US5110705A) © PatBase

Title: CONTACT TYPE DEVELOPING METHOD AND DEVELOPING UNIT

Priority: JP19890081919 19890331 JP19890081920 19890331 JP19890081922 19890331 JP19890081923 19890331 JP19890168605 19890630

Family:

Publication number	Publication date	Application number	Application date
DE69015403 D1	19950209	DE19906015403	19900330
DE69015403 T2	19950713	DE19906015403T	19900330
EP0390605 A2	19901003	EP19900303476	19900330
EP0390605 A3	19920701	EP19900303476	19900330
EP0390605 B1	19941228	EP19900303476	19900330
JP2259773 A2	19901022	JP19890081920	19890331
JP2259783 A2	19901022	JP19890081919	19890331
JP2259785 A2	19901022	JP19890081922	19890331
JP2259786 A2	19901022	JP19890081923	19890331
JP2809794 B2	19981015	JP19900058865	19900309
JP2953664 B2	19990927	JP19890081920	19890331
JP2992293 B2	19991220	JP19890081923	19890331
JP3087759 A2	19910412	JP19900058865	19900309
KR930008608 B1	19930910	KR19900004502	19900331
US5110705 A	19920505	US19900502171	19900330

Probable Assignee: TEC CORP

Assignee(s):(std)**:** TOKYO ELECTRIC CO LTD ; TOSHIBA KAWASAKI KK ; TOSHIBA CO LTD ; TOSHIBA KK ; TOSHIBA CORP

Assignee(s): TOSHIBA TEC KK ; TOSHIBA TETSUKU KK ; TOKYO ELECTRIC CO LTD TOKIO TOKYO JP ; TOSHIBA CO ; KABUSHIKI KAISHA TOSHIBA ; KABUSHIKI KAISHA TOSHIBA KAWASAKI KANAGAWA JP ; TEC CORP ; TOKYO ELECTRIC CO

Inventor(s):(std)**:** ENDO MITSUHARU ; ENDO MITSUHARU C O PATENT DEPA ; FUTAMATA YUKIO ; FUTAMATA YUKIO C O PATENT DEPA ; NIMATA YUKIO ; ODAKA YOSHIMITSU ; OHTAKA YOSHIMITSU ; OHTAKA YOSHIMITSU C O PATENT D ; HOSOYA MASAHIRO ; HOSOYA MASAHIRO C O INTELLECTU ; OTAKA YOSHIMITSU ; SAITO MITSUNAGA ; SAITO MITSUNAGA C O INTELLECTU ; SAITO MITSUNAKA ; SAITOU MITSUNAGA

Inventor(s): SAITO MITSUNAGA C O INTELLECTUAL PROPERTY DIV ; HOSOYA MASAHIRO C O INTELLECTUAL PROPERTY DIV ; HOSOYA MASAHIRO C O INTELLECTUAL PROPERTYDIV ; OHTAKA YOSHIMITSU C O PATENT DEPARTMENT ; OHTAKA YOSHIMITSU C O PATENT DEPARTMENT CHIYODA KU ; OOTAKA YOSHIMITSU ; FUTAMATA YUKIO C O PATENT DEPARTMENT ; FUTAMATA YUKIO C O PATENT DEPARTMENT CHIYODA KU TO ; FUTAMATA YUKIO C O PATENT DEPARTMENT CHIYODA... ; ENDO MITSUHARU C O PATENT DEPARTMENT ; ENDO MITSUHARU C O PATENT DEPARTMENT CHIYODA KU TO ; ENDO MITSUHARU C O PATENT DEPARTMENT CHIYODA...

Designated states: DE FR GB

International class (IPC 8–9): G03G13/08 G03G15/06 G03G15/08 (Advanced/Invention); G03G13/06 G03G15/06 G03G15/08 (Core/Invention)

International class (IPC 1–7): G03G13/08 G03G15/06 G03G15/08

CPC: G03G13/08 G03G15/0806 G03G15/0812 G03G2215/0614 G03G2215/0636

European class: G03G13/08 G03G15/08F G03G15/08F3 S03G215/06A1C S03G215/06B1

US class: 399/285 430/120 430/123.58

Classification Explorer

Cited documents: US4913088 A, US4868600 A, US4760422 A, US4710015 A, US4232628 A, US3754953 A, JP64052180 A2, JP64049066 A2, JP63100482 A2, JP63085659 A2, JP63080565 U1, JP63080565 U, JP62223771, JP61240261 A2, JP61176959 A2, JP61165780 U1, JP61165780 U, JP6022352 A2, GB2216438 A1, EP0387096 A2, EP0323252 A2,

Forward Citations: US9581933, US8948665, US8548344, US7869743, US7462146, US7426358, US7386261, US6453142, US6442357, US6256471, US6215509, US6154627, US6035171, US5946536, US5900893, US5887231, US5863626, US5655197, US5557060, US5438394, US5289237, US5270786, US5235387, US5232500, US2015382473, US2013120013, US2011211848, US2008310886, US2007253740, US2006088341, US2005049127, JP8202130, JP6051630, JP5313474, JP5046020, JP4189172, JP3350851, JP3332224, JP3110640, JP3103704, JP3086324, JP3068121, JP2014029557, JP2012155262, JP2007298557, JP2002365902, JP2002023486, JP2000137379, EP1037119, EP1037119, EP0939349, EP0939349, EP0625733, EP0529609, EP0515210, DE4318306, CN102799089,

Abstract:
Source: US5110705A In a developing method in which a thin layer of toner is formed on the surface of a toner carrier to which a developing bias voltage is applied and the thin layer of toner is supplied to an electrostatic latent image to thereby render the electrostatic latent image visible, the improvement wherein: when let it be supposed that: a quantity of electrification of toner that adheres to a latent image holding body by development is q [C/kg]; a quantity of charges accumulated by the toner due to its triboelectrification with the latent image holding body is qp [C/kg]; an electric resistance of the toner carrier is R [OMEGA xm2]; an effective length of the toner carrier is l [m]; an effective surface area of the toner carrier is Sr [m2]; a quantity of the toner that adheres to the latent image holding body by development is mp [k grams per square metre]; a speed of movement of the surface of the latent image holding body is Vp [m/sec]; a quantity of the toner that adheres to the surface of the toner carrier is m [k grams per square metre]; and a speed ratio of the surface of the toner carrier to that of the latent image holding body is k, these values are so adjusted as to satisfy the following conditional expression: −100<{−(q−qp) mp Vp l+qp (km−mp) Vpl}xR/Sr<100. A developing unit is selectively arranged so that this developing method can suitably be applied. The developing method and the developing unit cause an appropriate quantity of toner to be supplied constantly to the electrostatic latent image formed on the surface of the electrostatic latent image holding body through the toner carrier, thereby allowing a uniform, high density, sharp image with no fog on non−image portions to be provided.

0) US2016109827A – TONER CONTAINER, PROCESS CARTRIDGE, AND IMAGE F...

11) Family number: 57945894 (US2016109827A) © PatBase

Title: TONER CONTAINER, PROCESS CARTRIDGE, AND IMAGE FORMING APPARATUS

Priority: JP20130114144 20130530 JP20130141524 20130705 JP20130162345 20130805 WO2014JP65021 20140530 JP20170002644 20170111

Family:

Publication number	Publication date	Application number	Application date
AU2014271625 AA	20141204	AU20140271625	20140530
CA2913879 AA	20151127	CA20142913879	20140530
CN105408820 A	20160316	CN201480042631	20140530
EP3004987 A1	20160413	EP20140804165	20140530
EP3004987 A4	20160615	EP20140804165	20140530
ID201704390 A	20170428	ID2015P0008663	20140530
IN04181KN2015 A	20160311	IN2015KN04181	20151222
JP2014232270 A2	20141211	JP20130114144	20130530
JP2015014720 A2	20150122	JP20130141524	20130705
JP2015031865 A2	20150216	JP20130162345	20130805
JP2017062515 A2	20170330	JP20170002644	20170111
JP6075546 B2	20170208	JP20130114144	20130530
JP6119984 B2	20170426	JP20130141524	20130705
KR20160014671 A	20160211	KR20157036417	20140530
MX2015016317 A1	20160316	MX20150016317	20140530
PH2015502627 A	20160307	PH20150502627	20151125
TW201502726 A	20150116	TW20140119147	20140530
TW201627783 A	20160801	TW20160112139	20140530
TWI536127 B	20160601	TW20140119147	20140530
US2016109827 AA	20160421	US20140893826	20140530
US9690231 BB	20170627	US20140893826	20140530
WO14192975 A1	20141204	WO2014JP65021	20140530

Probable Assignee: RICOH CO LTD

Assignee(s):(std)**:** ARASAWA SHINICHI ; JUNG GOO CHUL ; OGATA YASUNOBU ; PARK JIN SAM ; SAKAYA KOHTA ; YOSHIDA TOMOFUMI ; RICOH CO LTD ; RICOH KK

Assignee(s): RICOH CO

Inventor(s):(std)**:** JUNG GOO CHUL ; KOHTA SAKAYA ; OGATA YASUNOBU ; OGATA YASUYOSHI ; PARK JIN SAM ; SAKATANI KOTA ; SAKAYA KOHTA ; SAM PARK JIN ; SHINICHI ARASAWA ; TOMOFUMI YOSHIDA ; YASUNOBU OGATA ; YOSHIDA TOMOFUMI ; YOSHIDA TOMOSHI ; ARASAWA SHINICHI ; CHUL JUNG GOO ; CHUNG U SEONG ; JEONG KU CHEOL

Inventor(s): JIN SAM PARK ; GOO CHUL JUNG

Agent(s): WRAYS PTY LTD; SMART AND BIGGAR; SCHWABE SANDMAIR MARX; ANDROMEDA BA SH; OBLON MCCLELLAND MAIER AND NEUSTADT LLP; SAKAI HIROAKI

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9): G03G15/08 G03G21/16 G03G21/18 (Advanced/Invention)

CPC:

G03G15/0865 G03G15/0886 G03G2215/067 G03G2221/1869 G03G15/0875 G03G21/1821

US class: 399/260

Classification Explorer

Cited documents: US9031451 BB, US5608501 A, US2015346636 AA, US2015030355 AA, US2014161491 AA, US2014050507 AA, US2013170865 AA, US2012321341 AA, US2012189345 AA, US2012033982 AA, US2011052266 AA, US2011052266, US2011052256 AA, US2011052255 AA, US2010067957 AA, US2009232547 AA, US2009154973 AA, US2009126876 AA, US2009115071 AA, US2009110452 AA, US2008260421 AA, US2008181661 AA, US2007223965 AA, US2007212118 AA, US2006171744 AA, US2006104663 AA, JP8152784 A2, JP8062979 A2, JP8062979, JP7225514 A2, JP7225514, JP6035321 A2, JP4459025 B2, JP4181967 A2, JP4084835 B2, JP2013160874 A2, JP2013160874, JP2013109031 A2, JP2013109031, JP2013068823 A2, JP2013068823, JP2012242770 A2, JP2012242770, JP2012234219 A2, JP2012234219, JP2012103418 A2, JP2012037554 A2, JP2010256806 A2, JP2010256806, JP2010170100 A2, JP2010170100, JP2010128437 A2, JP2009163059 A2, JP2009163059, JP2008216452 A2, JP2008216452, JP2008134570 A2, JP2008134570, JP2008134526 A2, JP2008134526, JP2008083517 A2, JP2008083517, JP2007101710 A2, JP2007101710, JP2006330151 A2, JP2006309147 A2, JP2006309147, JP2006235592 A2, JP2006201813 A2, JP2006139110 A2, JP2006139110, JP2006139069 A2, JP2002328586 A2, JP11095638 A2, JP11095638, JP10020746 A2, JP07225514, CN1773395 B, CN1773395 A,

Forward Citations: TWI567511,

Abstract:
Source: US2016109827A A toner container includes a container body that is used to house a toner and that is detachably attachable to a mounting portion in a developing device; and an operating member that is used to open and close a shutter. The shutter as well as the operating member includes an engaging portion that can engage with a linking member which is disposed in the mounting portion and which can perform a reciprocating linear movement. In the state in which the container body is not mounted in the mounting portion, the shutter and the operating member are in a non−linked state with each other. In contrast, in the state in which the container body is mounted in the mounting portion, the shutter and the operating member become able to be linked to each other via the linking member.

0) US2002031638A – DRIVING FORCE RECEIVING MEMBER AND DRIVING MECH...

12) Family number: 19241567 (US2002031638A) © PatBase

Title: DRIVING FORCE RECEIVING MEMBER AND DRIVING MECHANISM

Priority: JP20000266733 20000904 JP20010162729 20010530

Family:

Publication number	Publication date	Application number	Application date
CN1229698 C	20051130	CN20011042729	20010904
CN1349137 A	20020515	CN20011042729	20010904
DE60142325 D1	20100722	DE20016042325	20010903
EP1184739 A2	20020306	EP20010121095	20010903
EP1184739 A3	20090225	EP20010121095	20010903
EP1184739 B1	20100609	EP20010121095	20010903
JP2002072689 A2	20020312	JP20000266733	20000904
JP2002351204 A2	20021206	JP20010162729	20010530
JP3862491 B2	20061227	JP20000266733	20000904
KR100425896 B1	20040403	KR20010053791	20010903
KR20020018965 A	20020309	KR20010053791	20010903
US2002031638 AA	20020314	US20010944133	20010904
US6934494 BB	20050823	US20010944133	20010904

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON INC ; CANON KK ; TAZAWA FUMIO ; YAMADA YUSUKE

Assignee(s): MINAGAWA HIRONORI ; CANON K K ; CANON KABUSHIKI KAISHA ; CANON KABUSHIKI KAISHA AB ; BAN YUTAKA

Inventor(s):(std)**:** FUMIO TAZAWA ; FUMIO YAMADA YUSUKE TOMO YUTAK ; MINAGAWA HIRONORI ; BAN YUTAKA ; TAZAWA BUNRO ; TAZAWA FUMIO ; TOMO YUTAKA ; YAMADA YUSUKE ; YAMADA YUSUKE TOMO YUTAKA TAZAWA FUMIO ; YUSUKE YAMADA ; YUTAKA TOMO

Inventor(s): YAMADA YUSUKE CANON KABUSHIKI KAISHA ; TAZAWA FUMIO CANON KABUSHIKI KAISHA ; BAN YUTAKA CANON KABUSHIKI KAISHA ; MINAGAWA HIRONORI CANON KABUSHIKI KAISHA

Agent(s): TBK PATENT; FITZPATRICK CELLA HARPER AND SCINTO

Designated states: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI TR

International class (IPC 8–9): B65D83/06 F16D1/112 G03G15/00 G03G15/08 G03G21/18 (Advanced/Invention); G03G15/08 (Advanced/Non–invention); B65D83/06 F16D1/00 G03G15/00 G03G15/08 G03G21/18 (Core/Invention)

International class (IPC 1–7): B32B3/06 B65D83/06 G03G15/00 G03G15/08 G03G21/00 G03G21/18

CPC: Y10S222/01 G03G21/186 F16D1/112 G03G15/757 G03G2215/0692 G03G2221/1657 G03G2221/183 G03G15/0855 G03G15/0865 G03G15/0872 G03G15/0886 Y10T428/24008 Y10T428/24017 G03G15/08

European class: F16D1/112 G03G15/08H3 G03G15/75F G03G21/18H2C S03G215/06C7 S03G221/16K2 S03G221/18P

US class: 222/DIG.1 399/120 399/262 428/100 428/100S 428/99 428/99P

Classification Explorer

Cited documents: US6256470 BA, US5691021 A, US5634245 A, US5482962 A, US5418600 A, US5307129 A, US5149573 A, US3143895 A, JPS6449720, JP7113796 A2, JP7044000 A2, JP64049720 A2, JP10020744 A2, EP0797125 A1, DE1940981 A1,

Forward Citations: US9256194, US8649711, US8131189, US8099028, US7957679, US7925184, US7899371, US7796923, US7773919, US7764909, US7729644, US7676182, US7539445, US7412192, US7391999, US7369798, US7209686, US7155138,

US6993273, US6980754, US2011194876, US2010278565, US2010178081, US2009232546, US2009154956, US2008304872, US2008304871, US2008304870, US2008213004, US2007280743, US2007269236, US2007264055, US2006133855, US2006104673, US2006029434, US2005147428, US2004190945, US2004028427, JP4570895, JP2012088637, JP2005292676, EP2202588, CN104632908, CN104632908,

Abstract:
Source: US2002031638A A driving force receiving member for receiving a driving force from an image forming apparatus includes a driving force receiving portion for receiving the driving force from a driving force applying portion of the image forming apparatus, wherein said driving force receiving portion is movable relative to the driving force applying portion to permit engagement and disengagement relative to the driving force applying portion; wherein said driving force receiving portion is provided with a surface fastener.

0) US6088561A – TONER CARTRIDGE, IMAGE FORMATION APPARATUS COMP...

13) Family number: 11300087 (US6088561A) © PatBase

Title: Toner cartridge, image formation apparatus comprising toner cartridge, and method of recycling the toner cartridge

Priority: JP19960279045 19961022 JP19970043803 19970227 JP19970286386 19971020 JP20030383378 20031113 JP20030201477 20030725

Family:

Publication number	Publication date	Application number	Application date
CN1115602 C	20030723	CN19971021228	19971022
CN1182893 A	19980527	CN19971021228	19971022
DE69732079 D1	20050203	DE19976032079	19971022
DE69732079 T2	20051208	DE19976032079T	19971022
EP0838733 A2	19980429	EP19970118369	19971022
EP0838733 A3	19990616	EP19970118369	19971022
EP0838733 B1	20041229	EP19970118369	19971022
ES2233989 T3	20050616	ES19970118369T	19971022
HK1011226 A1	20040416	HK19980112246	19981124
JP10301382 A2	19981113	JP19970286386	19971020
JP2004004930 A2	20040108	JP20030201477	20030725
JP2004133479 A2	20040430	JP20030383378	20031113
JP3545919 B2	20040721	JP19970286386	19971020
JP3786655 B2	20060614	JP20030201477	20030725
KR100299647 B1	20010903	KR19970054230	19971022
MX9708116 A1	19980830	MX19970008116	19971021
SG71053 A1	20000321	SG19970003831	19971022
TW405063 B	20000911	TW19970115541	19971021
US6088561 A	20000711	US19970955745	19971022

Probable Assignee: RICOH CO LTD

Assignee(s):(std)**:** RICOH KK

Assignee(s): ROCOH COMPANY LTD ; RICOH CO ; RICOH CO LTD ; RICOH COMPANY LTD

Inventor(s):(std)**:** HIDEO ICHIKAWA ; ICHIKAWA HIDEO ; KANDA SHIGEMI ; KAWAMURA YOSHIHIDE ; YOSHIHIDE KAWAMURA

Inventor(s): SHIGEMI KANDA

Designated states: AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

International class (IPC 8–9): B65D83/06 G03G15/00 G03G15/06 G03G15/08 (Advanced/Invention); B65D83/06 G03G15/00 G03G15/06 G03G15/08 (Core/Invention); G03G (Subclass/Invention)

International class (IPC 1–7): B41M5/00 B65D83/06 G03G15/00 G03G15/06 G03G15/08 G03G21/12

CPC: G03G15/0894 G03G15/0896 G03G2215/00987

European class: G03G15/08R G03G15/08S S03G215/00R

US class: 366/312 399/106 399/120 399/262 399/263

Classification Explorer

Cited documents: US5765079 A, US5697038 A, US5682584 A, US5655195 A, US5627631 A, US5564607 A, US5555081 A, US5548384 A, US5526101 A, US5515143 A, US5500719 A, US5495323 A, US5489976 A, US5455662 A, US5381217 A, US5322198 A, US5293913 A, US5185616 A, US5084734 A, US4993829 A, US4825244 A, US4813563 A, US3853246 A, JP8095380, JP7199617, JP7028317, JP63078184, JP58112769 U, JP4013166, JP1085849 U,

Forward Citations: US9639026, US9618879, US9612569, US9612553, US9612552, US9612551, US9612548, US9606504, US9606503, US9606473, US9605734, US9599954, US9599953, US9599929, US9594329, US9411268, US9298136, US9207567, US9069292, US8973759, US8948661, US8774683, US8761643, US8688015, US8666293, US8126372, US8055164, US7873308, US7853173, US7505718, US7149462, US7116931, US6980755, US6944417, US6854493, US6587660, US6418290, US6389257, US6385422, US6246854, US2012033997, US2008286014, US2008286012, US2006251448, US2006062604, US2005196198, US2004223791, US2004126131, US2003172958, KR101030554, KR100724569, JP5972236, JP5115607, JP4083722, JP3814524, JP2015045683, JP2014044282, JP2013011911, JP2012053095, JP2011053368, JP2009122545, JP2006293214, JP2006106045, JP2003162149, EP2423760, EP2423760, CN105966065, CN104062870, CN104062870, CN102621853, CN102385285, CN102236932,

Abstract:
Source: US6088561A A toner cartridge includes a container body for holding toner therein, at least one rotatable member including a rotation center shaft, for discharging the toner outside from the container body, disposed in the container body, the container body having an opening at one end thereof in the axial direction of rotation of the rotatable member, and a cap member for opening and closing the opening formed in the container body, which is capable of serving as a bearing member for the rotatable member thereon and is detachable through the opening in the direction of the axis of rotation of the rotatable member. This toner cartridge is available with toner loaded therein, and can be recycled when the toner is used up. A method of recycling this toner cartridge is provided. In addition, an image formation apparatus including this toner cartridge is proposed.

0) US2015261176A – CARTRIDGE AND ELECTROPHOTOGRAPHIC IMAGE FORMING...

14) Family number: 60339207 (US2015261176A) © PatBase

Title: CARTRIDGE AND ELECTROPHOTOGRAPHIC IMAGE FORMING APPARATUS USING THE SAME

Priority: EP20150150365 20150107 KR20140029162 20140312

Family:

Publication number	Publication date	Application number	Application date
CN104914701 A	20150916	CN201510084010	20150216
DE602015000336 D1	20161103	DE201560000336T	20150107
EP2919075 A1	20150916	EP20150150365	20150107
EP2919075 B1	20160921	EP20150150365	20150107
KR101585058 B1	20160113	KR20140029162	20140312
KR20150106731 A	20150922	KR20140029162	20140312
US2015261176 AA	20150917	US20140462737	20140819
US9235188 BB	20160112	US20140462737	20140819
WO15137576 A1	20150917	WO2014KR07482	20140812

Probable Assignee: S PRINTING SOLUTION CO LTD

Assignee(s):(std)**:** SAMSUNG ELECTRONICS CO LTD

Assignee(s): SAMSUNG ELECTRONICS CO LTD SUWON SI ; S PRINTING SOLUTION CO LTD ; SAMSUNG ELECTRONICS CO

Inventor(s):(std)**:** HO JIN JANG ; JANG HO JIN ; KIM JOON HEE ; KWON OH DUG ; JI WON MOON ; JOON HEE KIM ; MOON JI WON ; OH DUG KWON

Agent(s): GULDE AND PARTNER PATENT U RECHTSANWALTSKANZLEI MBB; APPLEYARD LEES; APPLEYARD LEES IP LLP; STAAS AND HALSEY LLP; YPLEE MOCK AND PARTNERS

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9): G03G15/00 G03G15/08 G03G21/16 G03G21/18 (Advanced/Invention)

CPC: G03G21/1633 G03G21/1885

US class: 1/1 399/90

Classification Explorer

Cited documents: US7978997 BB, US6079816 A, US2014072333 AA, US2011091222 AA, US2009214249 AA, US2008240776 AA, US2007098437 AA, US2003215248 AA, KR20070047177 A, JP2011164398 A2, JP2008090124 A2, JP2007079284 A2, JP2007079284, JP2006221010 A2, JP2004061596 A2, JP2004061596, JP2004046808 A2, JP2003195723 A2, JP2003195723, JP2002365863 A2, JP2002365863,

Forward Citations: US9625876,

Abstract:
Source: US2015261176A A cartridge is attached to or detached from a main body of an image forming apparatus that has an opening portion and a door that opens or closes the opening portion. The cartridge includes: a memory unit with a contact portion via which the cartridge is connected to the main body to transmit information of the cartridge to the main body; and a moving member on which the contact portion is mounted, wherein the moving member is moved to a first position where the contact portion is hidden inside the cartridge and a second position where the contact portion protrudes out of the cartridge to be connected to a connection portion provided in the main body, the moving member being moved to the second position in connection with closing of the door.

0) US2013170861A – TONER CARTRIDGE HAVING A PIVOTING EXIT PORT COV...

15) Family number: 54253460 (US2013170861A) © PatBase

Title: TONER CARTRIDGE HAVING A PIVOTING EXIT PORT COVER

Priority: US20110340797 20111230 US20120723888 20121221 US20160149895 20160509 US20140340797 20140725

Family:

Publication number	Publication date	Application number	Application date
CN103186072 A	20130703	CN201210536025	20121212
EP2610681 A2	20130703	EP20120194280	20121126
EP2610681 A3	20141105	EP20120194280	20121126
EP2610681 B1	20170315	EP20120194280	20121126
US2013170861 AA	20130704	US20110340797	20111230
US2013170872 AA	20130704	US20120723888	20121221
US2016250910 AA	20160901	US20160149895	20160509
US8649710 BB	20140211	US20110340797	20111230
US8774684 BB	20140708	US20120723888	20121221
US9701180 BB	20170711	US20160149895	20160509

Probable Assignee: LEXMARK INT INC

Assignee(s):(std)**:** BARNA GEORGHE ; BUCHANAN JOHN ANDREW ; CAVILL GREGORY ALAN ; KELLEY JONATHAN DAVID ; CARTER JAMES ANTHANY ; FOSTER MARK ; LEXMARK INT INC ; SEAMAN KEITH ; WILLIAMS TYLER FREDRICK ; ROGERS MATTHEW LEE ; LEEMHUIS MICHAEL ; WILLIAMS TYLER FREDERICK

Inventor(s):(std)**:** BARNA GEORGHE ; BUCHANAN JOHN ANDREW ; CAVILL GREGORY ALAN ; CARTER JAMES ANTHANY ; FOSTER MARK ; CARTER III JAMES ANTHANY ; LEEMHUIS MICHAEL ; WILLIAMS TYLER FREDERICK ; FOSTER MARK DUANE ; SEAMAN KEITH ; ROGERS MATTHEW LEE ; KELLEY JONATHAN DAVID ; WILLIAMS TYLER FREDRICK ; LEEMHUIS MICHAEL CRAIG

Agent(s): HUGHES ANDREA MICHELLE; BOERNER ROBERT; JUSTIN M

Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL NO PL PT RO RS SE SI SK SM TR

International class (IPC 8–9): B60J3/02 G03G15/08 G03G21/16 (Advanced/Invention); B60J1/20 (Advanced/Non–invention)

CPC: G03G15/0832 G03G15/0837 G03G15/0834 G03G15/0836 B60J3/0208 B60J1/2063 B60J1/2077 B60J3/02 B60J3/0204 G03G15/0863 G03G15/0865 G03G15/0868 G03G15/0872 G03G15/0875 G03G15/0886 G03G2215/0668 G03G2215/067

US class: 296/97.8 399/258 399/260 399/262 399/263

Classification Explorer

Cited documents: USRE37068 E, USD524206 S1, USD431805 S1, US9233598 BA, US8789870 BA, US8246099 BB, US8165505 BB, US7606520 BB, US7548710 BB, US7421234 BB, US7386250 BB, US6978101 BB, US6968139 BB, US6853828 BB, US6792228 BB, US6594458 BB, US6565140 BB, US6266505 BA, US6259874 BA, US6139084 A, US6128453 A, US5848342 A, US5842748 A, US5758233 A, US5711570 A, US5608501 A, US5156434 A, US5133585 A, US5083158 A, US2501371 A, US2016023541 AA, US2013170869 AA, US2013170868 AA, US2013170866 AA, US2013170865 AA, US2013170864 AA, US2013033059 AA, US2012133173 AA, US2009152891 AA, US2009142103 AA, US2009058125 AA, US2008107453 AA, US2008101821 AA, US2007003325 AA, US2006171744 AA, US2005169672 AA, JP2009116306 A2, JP2000356895 A2, JP2000221766 A2, EP2388655 A2, EP1184741 A2, EP0864945 A1, EP0668546 A2,

Forward Citations: US9477178, US9477176, US9360797, US9354547, US9213303, US9098055, US9063460, US8948650, US8923734, US8918032, US8918031, US8867968, US8682213, US2015185659, US2015168909, US2014079441, US2014079439, US2013170866, US2013170864, EP3182210, EP3130965,

Abstract:
Source: US2013170861A A toner cartridge for use in an image forming device according to one example embodiment includes a housing having a reservoir for containing toner therein. The housing has an exit port in fluid communication with the reservoir. A cover is mounted on an exterior portion of the housing that is pivotable between a closed position blocking the exit port and an open position unblocking the exit port. The cover is biased toward the closed position. An actuation mechanism is operatively connected to the cover to open the cover upon being actuated by an engagement feature in the image forming device.

16) Family number: 49888312 (US2013039678A) © PatBase

Title: POWDER CONTAINER, POWDER CONVEYING APPARATUS, AND IMAGE FORMING APPARATUS

Priority: JP20100102628 20100427 JP20100102630 20100427 JP20100102634 20100427 JP20100212293 20100922 JP20110020866 20110202 JP20110024848 20110208 JP20110043866 20110301 JP20110055537 20110314 WO2011JP59871 20110421

Family:

Publication number	Publication date	Application number	Application date
CN102947762 A	20130227	CN201180030242	20110421
CN102947762 B	20160608	CN201180030242	20110421
JP2011232540 A2	20111117	JP20100102628	20100427
JP2011232541 A2	20111117	JP20100102634	20100427
JP2012068388 A2	20120405	JP20100212293	20100922
JP2012163808 A2	20120830	JP20110024848	20110208
JP2012177878 A2	20120913	JP20110055537	20110314
JP2012181331 A2	20120920	JP20110043866	20110301
JP5605611 B2	20141015	JP20100102628	20100427
JP5605612 B2	20141015	JP20100102634	20100427
JP5659657 B2	20150128	JP20100212293	20100922
JP5741907 B2	20150701	JP20110043866	20110301
TW201207581 A	20120216	TW20110114464	20110426
TWI428715 B	20140301	TW20110114464	20110426
US2013039678 AA	20130214	US20110643718	20110421
US8953986 BB	20150210	US20110643718	20110421
WO11136129 A1	20111103	WO2011JP59871	20110421

Probable Assignee: RICOH CO LTD

Assignee(s):(std)**:** IKEGUCHI HIROSHI ; KATOH SHUNJI ; RICOH CO LTD ; YOSHIDA KEIICHI ; RICOH KK

Assignee(s): RICOH COMPANY LTD ; RICOH COMPANY LIMITED ; RICOH CO

Inventor(s):(std)**:** IKEGUCHI HIROSHI ; KATO SHUNJI ; KATOH SHUNJI ; YOSHIDA KEIICHI

Agent(s): OBLON SPIVAK MCCLELLAND MAIER AND NEUSTADT LLP; SAKAI HIROAKI

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9): B65D30/20 B65D83/06 G03G15/00 G03G15/06 G03G15/08 G03G21/18 (Advanced/Invention)

CPC: G03G15/0868 G03G2215/0682 G03G2221/1645 G03G15/0874 G03G2215/0132

European class: G03G15/08H3B S03G215/06C3 S03G221/16H

US class: 222/214 399/262

Classification Explorer

Cited documents: US7826786 BB, US6678492 BA, US6549744 BB, US2012219318 AA, US2012099902 AA, US2011058858 AA, US2009190960 AA, US2009136257 AA, US2009116864 AA, US2007212116 AA, US2007104516 AA, US2007081832 AA, US2006067727 AA, US2005249533 AA, US2005152722 AA, US2005089347 AA, US2004253023 AA, US2004091289 AA, US2003235435 AA, US2003012586 AA, US2002025196 AA, US2002025195 AA, US2001041083 AA, JP6069961 U1, JP6069961 U, JP6069961 U, JP60115255 U1, JP60115255 U, JP60115255 U, JP60115255 U, JP60115255 A2,

JP4356078 A2, JP4201860 A2, JP3554162 T2, JP2009116046 A2, JP2009116046, JP2009020233 A2, JP2007241147 A2, JP2007241147, JP2007148277 A2, JP2007121471 A2, JP2007121471, JP2005173543 A2, JP2005173543, JP2005107524 A2, JP2005107524, JP2005091879 A2, JP2005024603 A2, JP2005017789 A2, JP2005017789, JP2004333705 A2, JP2004185038 A2, JP2004101718 A2, JP2004101718, JP2004078252 A2, JP2003195617 A2, JP2002278237 A2, JP2002278237, JP2002072645 A2, JP2002053113 A2, JP2002053113, JP2002046843 A2, JP2001194907 A2, JP2001100506 A2, JP2000356898 A2, JP2000356898, JP2000356898, JP11143195 A2, JP11143195, JP11143195, JP10316111 A2, JP10063072 A2, CN1259690 A,

Forward Citations: WO13088996, WO13081174, WO13081173, WO13081173, US9599930, US9302801, US9285707, US9195170, US9091963, US9063464, US9057984, US8849163, US2016170330, US2015234319, US2014376969, US2013336679, US2013164039, JP6112971, JP5936032, JP5808233, JP2014149511, JP2013130681, JP2013114041, CN103513542,

Abstract:
Source: US2013039678A A powder container (61) includes a powder containing unit (66) which has an opening portion formed at one end portion thereof, is configured to contain a powder (T) therein and, is formed of a flexible material so as to be deformable. When a delivery member (81) is pressed inward from the outside of the powder containing unit (66) so as to move toward the opening portion, the powder (T) is delivered out from the opening portion. The end portion provided with the opening portion is provided with a discharging unit (67) which is fixed to a powder conveying apparatus, and discharges the powder (T) delivered from the opening portion out to the powder conveying apparatus. In addition, an end portion opposite to the opening portion is provided with a portion to be locked which is locked to a locking portion of the powder conveying apparatus while being biased in a direction opposite toward the movement direction of the delivery member (81).

0) US2006013620A – TONER CARTRIDGE AND MECHANISM OF INSTALLING AND...

17) Family number: 32565779 (US2006013620A) © PatBase

Title: TONER CARTRIDGE AND MECHANISM OF INSTALLING AND REMOVING THE SAME

Priority: JP20040209007 20040715 US20050179500 20050713 US20080169246 20080708

Family:

Publication number	Publication date	Application number	Application date
CN100445889 C	20081224	CN200510084172	20050714
CN1722020 A	20060118	CN200510084172	20050714
JP2006030574 A2	20060202	JP20040209007	20040715
US2006013620 AA	20060119	US20050179500	20050713
US2009022522 AA	20090122	US20080169246	20080708
US7400848 BB	20080715	US20050179500	20050713
US7676186 BB	20100309	US20080169246	20080708

Probable Assignee: TOSHIBA KK

Assignee(s):(std)**:** TOKYO SHIBAURA ELECTRIC CO ; TOSHIBA CORP ; TOSHIBA KK ; TOSHIBA TEC KK

Assignee(s): TOSHIBA TEC KABUSHIKI KAISHA ; JWL IP HOLDINGS LLC ; KABUSHIKI KAISHA TOSHIBA ; TOSHIBA TEC CORP

Inventor(s):(std)**:** HISASHI KIMURA ; KIMURA HISASHI ; KIMURA TAKASHI

Agent(s): FOLEY AND LARDNER LLP, SUITE 500; FOLEY AND LARDNER LLP SUITE 500; FOLEY AND LARDNER LLP

International class (IPC 8–9): G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)

CPC: G03G21/1647 G03G2215/0692 G03G2221/1815 G03G15/0868 G03G15/0886 G03G21/1676

European class: G03G15/08H3B G03G21/16 S03G215/06C7 S03G221/18C

US class: 399/258 399/262

Classification Explorer

Cited documents: US7400848 BB, US7302213 BB, US7062205 BB, US6292644 BA, US6262644 BA, US6259877 BA, US5812914 A, US2002164179 AA, JP9179363 A2, JP9114219 A2, JP8297403 A2, JP7199620 A2, JP6149047 A2, JP4350871 A2, JP2001235935 A2, JP10213959 A2, EP0843233 A2,

Forward Citations: US9684264, US9465319, US9280090, US8983344, US8755722, US8285179, US8103198, US7853185, US7676186, US7583917, US7302213, US2011052269, US2009290911, US2009022522, US2008025764, US2006013621, JP2008134570,

Abstract:
Source: US2006013620A In accordance with a replacing mechanism of the present invention, a toner cartridge is replaced from a main body of an image forming apparatus by performing, in a substantially same timing, an operation of closing a toner pouring opening with a cover by a levering action; and an operation of displacing the toner cartridge from the main body of the image forming apparatus to an operater side, the toner cartridge being provided with a flange portion. The toner cartridge cannot be pulled out unless the toner pouring opening is fully closed by the shutter member.

18) Family number: 8924578 (US5884124A) © PatBase

Title: Dip sheet adhering method, cleaning device, process and image forming apparatus

Priority: JP19910186387 19910725 JP19910304709 19911120 JP19920217422 19920724 JP19920194665 19920630

Family:

Publication number	Publication date	Application number	Application date
CN1049983 C	20000301	CN19921010576	19920928
CN1072513 A	19930526	CN19921010576	19920928
DE69223383 D1	19980115	DE19926023383	19920918
DE69223383 T2	19980416	DE19926023383T	19920918
EP0543485 A2	19930526	EP19920308517	19920918
EP0543485 A3	19940504	EP19920308517	19920918
EP0543485 B1	19971203	EP19920308517	19920918
JP3231848 B2	20011126	JP19920217422	19920724
JP6195006 A2	19940715	JP19920217422	19920724
KR970001392 B1	19970206	KR19920017619	19920926
MX9205520 A1	19930630	MX19920005520	19920928
US5884124 A	19990316	US19920952913	19920928

Probable Assignee: CANON KK

Assignee(s):(std): CANON KK

Assignee(s): CANON INC ; CANON K K ; CANON K K TOKIO TOKYO JP ; CANON KABUSHIKI KAISHA

Inventor(s):(std): KARAKAMA TOSHIYUKI ; SHOJI TOSHIYUKI KARAKAMA KAZUS ; WATANABE KAZUFUMI ; WATANABE KAZUSHI ; SHOJI TAKEO ; WATANABE KAZUSI

Inventor(s): SHOJI TAKEO C O CANON KABUSHIKI KAISHA OHTA KU TOK ; SHOJI TAKEO C O CANON KABUSHIKI KAISHA OHTA KU... ; WATANABE KAZUSHI C O CANON KABUSHIKI KAISHA OHTA K ; WATANABE KAZUSHI C O CANON KABUSHIKI KAISHA... ; TAKEO SHOJI ; TOSHIYUKI KARAKAMA ; TOSHIYUKI KARAKAMA KAZUSHI WATANABE TAKEO SHOJI ; KARAKAMA TOSHIYUKI C O CANON KABUSHIKI KAISHA OHTA ; KARAKAMA TOSHIYUKI C O CANON KABUSHIKI KAISHA... ; KAZUSHI WATANABE

Designated states: DE ES FR GB IT

International class (IPC 8–9): G03G15/00 G03G21/00 G03G21/10 G03G21/12 G03G21/18 (Advanced/Invention); G03G15/00 G03G21/00 G03G21/10 G03G21/12 G03G21/18 (Core/Invention)

International class (IPC 1–7): B41F15/40 G03G15/00 G03G15/20 G03G21/00 G03G21/10 G03G21/16 G03G21/18

CPC: G03G21/007 G03G21/12

European class: G03G21/00B8 G03G21/12

US class: 399/111 399/123 399/350

Classification Explorer

Cited documents: US5155527 A, US5138394 A, US5107305 A, US5099280 A, US5038181 A, US5028966 A, US5021830 A, US4972227 A, US4947216 A, US4888620 A, US4870449 A, US4839690 A, US4730205 A, US4708455 A, US4660960 A, US4627701 A, US4609276 A, US4591258 A, US4561766 A, US4540268 A, US4530594 A, US4500195 A, US4451139 A, US4400081 A, US4334766 A, US4211484 A, US4127083 A, US3985436 A, US3820889 A, JP6392376 U, JP63177191, JP63155171, JP63149669 A2, JP60244987 A2, JP58123443 U, JP5714867, JP57046274 A2, JP56122071 A2, JP55036851 A2, JP2012183 A2, EP0314175 A2, DE3522296 A1,

Forward Citations: WO13069808, WO13069805, USRE36920, US9377716, US9367023, US9128417, US9063508, US8918011, US8670689, US8417152, US8103185, US7747042, US7215904, US7095967, US6987938, US6970661, US6928252, US6868243,

US6859627, US6836639, US6832056, US6804483, US6782213, US6738589, US6704525, US6701106, US6697578, US6658224, US6594454, US6591070, US6571070, US6408143, US6397018, US6397017, US6377759, US6330402, US6266502, US6266500, US6253044, US6169867, US6144398, US6118960, US6101354, US2016062309, US2014356041, US2011229190, US2010098470, US2010054807, US2005175366, US2005025508, US2004190933, US2004136740, US2004132856, US2003185588, US2003113131, JP8110743, JP6112845, JP3693693, JP2013210601, JP2012103588, CN104216264, CN104216264, CN102467051, CN102467051, CN101893842,

Abstract:
Source: US5884124A A method is disclosed for attaching a sheet for receiving toner removed from an image bearing member to a frame. The method includes the steps of adhering the sheet to the frame, using an adhesive, while bending the frame and releasing the frame after the sheet is adhered to the frame. A toner−guiding sheet for guiding toner removed from an image bearing member to a toner−receiving unit is also disclosed. The sheet is widened near a central portion in a longitudinal direction so that the sheet edge will conform to the bent shape of an attachment surface. A cleaning device is also disclosed. The cleaning device may include a frame and a sheet attached to the frame by an adhesive in a condition that a tension force is applied to the sheet. Further, the cleaning device may include a cleaning container having a wall that is thinner at a position near an attachment surface for a sheet than at a position away from the attachment surface, to facilitate bending of the attachment surface during application of a sheet to the attachment surface.

19) Family number: 30938157 (US2004190945A) © PatBase

Title: DEVELOPER SUPPLY CONTAINER, AND COUPLING–DRIVING MEMBER FOR DEVELOPER SUPPLY CONTAINER

Priority: EP20040001351 20040122 JP20030014010 20030122 US20040761316 20040122 US20050247287 20051012

Family:

Publication number	Publication date	Application number	Application date
CN100401205 C	20080709	CN200410039071	20040129
CN1517813 A	20040804	CN200410039071	20040129
DE602004046808 D1	20150430	DE200460046808T	20040122
EP1460487 A2	20040922	EP20040001351	20040122
EP1460487 A3	20041006	EP20040001351	20040122
EP1460487 B1	20150318	EP20040001351	20040122
JP2004226659 A2	20040812	JP20030014010	20030122
JP4323818 B2	20090902	JP20030014010	20030122
KR100742028 B1	20070723	KR20040004186	20040120
KR20040068002 A	20040730	KR20040004186	20040120
US2004190945 AA	20040930	US20040761316	20040122
US2006029434 AA	20060209	US20050247287	20051012
US6993273 BB	20060131	US20040761316	20040122
US7209686 BB	20070424	US20050247287	20051012

Probable Assignee: CANON KK

Assignee(s):(std): CANON KK

Assignee(s): CANON INC ; CANON K K ; CANON KABUSHIKI KAISHA

Inventor(s):(std): YAMADA YUSUKE ; YUSUKE YAMADA

Inventor(s): YAMADA YUSUKE OHTA KU

Agent(s): TBK; FITZPATRICK CELLA HARPER AND SCINTO

Designated states: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PT RO SE SI SK TR

International class (IPC 8–9): B65D83/06 G03G15/00 G03G15/06 G03G15/08 G03G21/00 (Advanced/Invention); G03G15/06 (Advanced/Non–invention); B65D83/06 G03G15/00 G03G15/06 G03G15/08 G03G21/00 (Core/Invention)

International class (IPC 1–7): B65D83/06 G03G15/06 G03G15/08 G03G21/00

CPC: Y10S222/01 B65D83/06 B65D2231/005 G03G15/0868 G03G15/0872 G03G15/0886 G03G15/06

European class: B65D83/06 G03G15/08H3B L65D231/00B

US class: 222/DIG.1 399/167 399/258 399/258P 399/262

Classification Explorer

Cited documents: US6947690 BB, US6892042 BB, US6768890 BB, US6256469 BA, US6032016 A, US6032013 A, US5828935 A, US2004009006 AA, US2002127029 AA, US2002106215 AA, US2002031638 AA, JP9160362 A2, JP200313987, JP2002327770 A2, JP2002318490 A2, JP11327273 A2, JP1048936, JP10063084 A2, JP10063076 A2, JP10048935 A2,

Forward Citations: USD616491, USD615584, USD615124, USD614232, USD611528, US9442421, US9239565, US9046820, US8929780, US8909094, US8290394, US8290378, US8160471, US8099028, US8045901, US7970321, US7965963, US7925184, US7890027, US7881645, US7835666, US7822369, US7796924, US7792470, US7729644, US7647012, US7599648, US7561821, US7499666, US7474866,

US7391999, US7386251, US7155138, US2014153972, US2012301188, US2011097107, US2010119265, US2010111573, US2010111561, US2010111560, US2010046982, US2009232546, US2009154956, US2009142104, US2009003872, US2008170889, US2008044205, US2007264055, US2007134021, US2007092302, US2007081834, US2007081833, US2006133855, US2006104660, US2005147428, JP5004157, JP2009186621, JP2009168856, JP2007303506, JP2006171537, JP2006139141, EP1548517, AU2007242927,

Abstract:
Source: US2004190945A A developer supply container detachably mountable to an image forming apparatus, the container includes a container body for accommodating the developer; drive connection member, provided substantially at a rotation center of the developer supply container, for driving engagement with a driving member provided in the image forming apparatus, wherein the drive connection member has a drive transmitting portion for transmitting a rotational force received from the driving member to the container body, wherein the drive transmitting portion is disposed so as to be idly rotatable for a sufficient time after start of rotation of the drive transmitting portion and before engagement with the container body.

0) US2009080909A – IMAGE FORMING APPARATUS

20) Family number: 43058511 (US2009080909A) © PatBase

Title: IMAGE FORMING APPARATUS

Priority: JP20070246019 20070921

Family:

Publication number	Publication date	Application number	Application date
CN101393405 A	20090325	CN200810211693	20080918
CN101393405 B	20110119	CN200810211693	20080918
JP2009075467 A2	20090409	JP20070246019	20070921
JP4418832 B2	20100224	JP20070246019	20070921
US2009080909 AA	20090326	US20080202585	20080902
US8064783 BB	20111122	US20080202585	20080902

Probable Assignee: SHARP KK

Assignee(s):(std)**:** AKEDO SHUICHI ; KIMURA TAKAHIKO ; SHARP KK ; USUI TOMOYA

Assignee(s): SHARP CORP ; SHARP K K ; SHARP KABUSHIKI KAISHA

Inventor(s):(std)**:** AKEDO SHUICHI ; AKETO SHUICHI ; KIMURA TAKAHIKO ; SHUICHI AKEDO ; TAKAHIKO KIMURA ; TOMOYA USUI ; USUI TOMOYA

Agent(s): HARAKENZO WORLD PATENT AND TRADEMARK; NIXON AND VANDERHYE PC

International class (IPC 8–9): G03G15/00 G03G15/08 G03G21/00 G03G21/18 (Advanced/Invention); G03G15/00 G03G15/08 G03G21/00 G03G21/18 (Core/Invention)

CPC: G03G15/0872 G03G15/0855 G03G15/0863 G03G15/0865 G03G2215/067 G03G2215/0697

European class: G03G15/08H3 S03G215/06C1A2 S03G215/06C8E

US class: 399/13 399/13P 399/83

Classification Explorer

Cited documents: US5636032 A, US4961088 A, US2003228171 AA, JP200508366, JP200461529, JP2004306541, JP2004155145, JP2004069943 A2, JP2002229414, JP2002169428, JP2000231322, JP11338329, JP08101619,

Forward Citations: US9411303, US9317004, US9291992, US9285758, US9280087, US9261851, US9229367, US9164425, US9152083, US9134697, US8928482, US8401434, US8325053, US2015139698, US2010231402, US2010172673, TWI574126, JP2012118493, EP2911007, CN104849974,

Abstract:
Source: US2009080909A An image forming apparatus includes: a toner cartridge supporting member which is movable between (i) an insertion position indicating that the toner cartridge is in the predetermined position and (ii) a draw−out position indicating that the toner cartridge is drawn out from the predetermined position; a detection device which detects a movement of the toner cartridge supporting member in a direction pointing from the insertion position toward the draw−out position; an information storage device which is provided in the toner cartridge; a connector which is provided so as to be detached from or fitted to the information storage device so as to be movable in a moving direction of the toner cartridge supporting member; and an information processing device which is capable of communicating with the information storage device via the connector and which carries out a communication stop process for causing a communication between the information processing device and the information storage device to be stopped when the detection device detects the movement of the toner cartridge supporting member. This prevents a communication error from occurring in the communication between the information storage device on the toner cartridge side and the information processing device on the image forming apparatus side when the toner cartridge is suddenly drawn out from the image forming apparatus.

0) US4870463A – LATENT ELECTROSTATIC IMAGE DEVELOPING DEVICE AN...

21) Family number: 30134157 (US4870463A) © PatBase

Title: LATENT ELECTROSTATIC IMAGE DEVELOPING DEVICE AND TONER CARTRIDGE

Priority: EP19880301555 19880224 JP19870030158U 19870302 JP19870098219U 19870626 KR19880002199 19880302

Family:

Publication number	Publication date	Application number	Application date
DE3852403 D1	19950119	DE19883852403	19880224
DE3852403 T2	19950420	DE19883852403T	19880224
DE3877398 D1	19930225	DE19883877398	19880224
DE3877398 T2	19930513	DE19883877398T	19880224
EP0285249 A1	19881005	EP19880301555	19880224
EP0285249 B1	19930113	EP19880301555	19880224
EP0470675 A2	19920212	EP19910202782	19880224
EP0470675 A3	19920219	EP19910202782	19880224
EP0470675 B1	19941207	EP19910202782	19880224
HK103593 A	19931008	HK19930001035	19930930
JP1077076 A2	19890323	JP19880038652	19880223
JP2838275 B2	19981216	JP19880038652	19880223
JP64077076 A2	19890323	JP19880038652	19880223
KR930006608 B1	19930721	KR19880002199	19880302
KR930010871 B1	19931115	KR19930009133	19930526
US4870463 A	19890926	US19880156877	19880218

Probable Assignee: MITA INDUSTRIAL CO LTD A CORP OF JAPAN

Assignee(s):(std): MITA INDUSTRIAL CO LTD

Assignee(s): MITA INDUSTRIAL CO LTD A CORP OF JAPAN ; MITA INDUSTRIAL CO LTD OSAKA JP ; MITA KOGYO K K ; MITA IND CO LTD ; MITA INDUSTRIAL CO

Inventor(s):(std): MIYOSHI AKITAKE ; MIYOSHI YOSHITAKE ; SHIBATA KIYOTAKA ; SIBATA KIYOTAKA

Inventor(s): SHIBATA KIYOTAKA TAKATSUKI SHI OSAKA FU JP ; MIYOSHI YOSHITAKE SOURAKU GUN KYOTO FU JP

Designated states: DE FR GB IT NL

International class (IPC 8–9): G03G15/06 G03G15/08 (Advanced/Invention); G03G15/06 (Core/Invention)

International class (IPC 1–7): G03G15/06 G03G15/08

CPC: Y10S222/01 G03G2215/0687 G03G15/0882 G03G15/0855 G03G15/0865 G03G15/0875

European class: G03G15/08H3 G03G15/08H3P S03G215/06C5

US class: 118/653 118/658 222/DIG.1 355/260 399/105 399/106

Classification Explorer

Cited documents: US4650070 A, US4491161 A, US4456154 A, US4062385 A, US3999654 A, US3618826 A, US3339807 A, US2904000 A, JPS6173159 U, JPS61170760, JPS60104850 U, JPS58109284 U, JPS57181077 U, JP61170760 A2, JP61170760, JP61073159 U1, JP61073159 U, JP60104850 U1, JP60104850 U, JP58109284 U1, JP58109284 U, JP57181077 U1, JP57181077 U, EP0102002 A2, EP0101303 A2,

Forward Citations: US6418284, US6115571, US5697022, US5510884, US5426493, US5426484, US5175588, US5122837, US5111976, US5075728, US4982771, JP5798625, JP2013005421, JP2008203830, GB2352055, GB2352055, EP0738936, EP0738936, EP0418824,

Abstract:
Source: US4870463A A latent electrostatic image developing device, including a cartridge loading section having an open top and a toner cartridge adapted to be removably loaded into the cartridge loading section. The cartridge loading section includes a pair of upwardly facing supporting shoulder surfaces extending longitudinally in laterally spaced−apart relationhsip, guiding side surfaces rising respectively from the outside edges of the shoulder surfaces, and a guiding rear surface extending between the rear ends of the guiding side surfaces. The guiding side surfaces respectively having holding protrusions provided at their front end portions. Engaging protrusions are provided behind of the holding protrusions at a predetermined distance therefrom. The toner cartridge includes a loading flange having side flange portions disposed in correspondence to the pair of shoulder surfaces and a closing member extending above the loading flange while surrounding both sides and the rear end thereof. The closing member is formed of a flexible material such as sponge rubber and extends beyond the outside edge of the loading flange.

0) US2005220476A – PROCESS CARTRIDGE, METHOD OF ASSEMBLING PROCESS...

22) Family number: 32285719 (US2005220476A) © PatBase

Title: PROCESS CARTRIDGE, METHOD OF ASSEMBLING PROCESS CARTRIDGE, AND CONNECTING MEMBER

Priority: JP20040099503 20040330 JP20040099504 20040330 JP20040144839 20040514 JP20040273534 20040921 US20040960117 20041008 US20050233067 20050923 JP20040253011 20040831

Family:

Publication number	Publication date	Application number	Application date
CN1677261 A	20051005	CN200410090388	20041112
CN1677261 B	20120328	CN200410090388	20041112
DE602004017581 D1	20081218	DE200460017581T	20041012
EP1600826 A2	20051130	EP20040024310	20041012
EP1600826 A3	20051207	EP20040024310	20041012
EP1600826 B1	20081105	EP20040024310	20041012
JP2005284073 A2	20051013	JP20040099503	20040330
JP2005316357 A2	20051110	JP20040273534	20040921
JP2005326647 A2	20051124	JP20040144839	20040514
JP2006071807 A2	20060316	JP20040253011	20040831
JP3885062 B2	20070221	JP20040099503	20040330
JP3997222 B2	20071024	JP20040253011	20040831
JP4314150 B2	20090812	JP20040144839	20040514
JP4630615 B2	20110209	JP20040273534	20040921
KR100723557 B1	20070531	KR20040092284	20041112
KR20050096821 A	20051006	KR20040092284	20041112
US2005220476 AA	20051006	US20040957616	20041005
US2005220480 AA	20051006	US20040951604	20040929
US2005220490 AA	20051006	US20040960117	20041008
US2005254862 AA	20051117	US20040957610	20041005
US2006051133 AA	20060309	US20050233067	20050923
US7003247 BB	20060221	US20040960117	20041008
US7072601 BB	20060704	US20040957616	20041005
US7164875 BB	20070116	US20040951604	20040929
US7218882 BB	20070515	US20040957610	20041005
US7457566 BB	20081125	US20050233067	20050923

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK

Assignee(s): CANON CO ; CANON CO LTD ; CANON INC ; CANON K K ; CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** ATSU NUUE ; KAKITANI MASAKI ; KAKIYA MASAKI ; KOISHI ISAO ; SATO MASAAKI ; TAKAHITO UENO ; TOBA SHINJIRO ; UENO TAKAHITO ; YOU KONISHI ; MIYABE SHIGEO ; NUMAGAMI ATSUSHI

Inventor(s): NUUE ATSU ; KONISHI YOU

Agent(s): TBK–PATENT; FITZPATRICK CELLA HARPER AND SCINTO

Designated states: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PL PT RO SE SI SK TR

International class (IPC 8–9)**:** F16D1/104 G03G15/00 G03G15/02 G03G15/08 G03G21/00 G03G21/16 G03G21/18 G03G5/00 (Advanced/Invention); G03G15/00 G03G15/02 (Advanced/Non–invention); F16D1/00 G03G15/00 G03G15/02 G03G15/08 G03G21/00 G03G21/16 G03G21/18

G03G5/00 (Core/Invention)

International class (IPC 1–7): F16D1/104 G03G15/00 G03G15/02 G03G15/08 G03G21/18 G03G5/00

CPC: F16D1/104 G03G15/757 G03G21/1853 G03G21/186 G03G2221/1657 G03G15/80 G03G21/181 G03G21/1871 G03G2221/166 G03G2221/1861 G03G15/0812 G03G2215/0634 G03G21/1839 G03G2221/1884

European class: F16D1/104 G03G15/08F3 G03G15/75F G03G15/80 G03G21/18C2 G03G21/18H G03G21/18H1V G03G21/18H2C G03G21/18H3P S03G215/06B S03G221/16K2 S03G221/16K3 S03G221/18P3A S03G221/18P4

US class: 399/111 399/111S 399/113 399/116 399/117 399/167 399/167P 399/284 399/284P 399/88 399/90 399/90P

Classification Explorer

Cited documents: US7020410 BB, US6937835 BB, US6934485 BB, US6901229 BB, US6901229 BA, US6901229 B1, US6895199 BB, US6895199 BA, US6895199 B1, US6829455 BB, US6829455 BA, US6829455 B1, US6795672 BB, US6714752 BB, US6714752 BA, US6714752 B1, US6714749 BB, US6608980 BB, US6608980 BA, US6608980 B1, US6603939 BA, US6577831 BA, US6571070 BB, US6571070 BA, US6571070 B1, US6549736 BB, US6542706 BB, US6522845 BB, US6522845 BA, US6522845 B1, US6519431 BA, US6463233 BB, US6463233 BA, US6463233 B1, US6442359 BA, US6381420 BA, US6334038 BA, US6330409 BA, US6298203 BA, US6289189 BA, US6272299 BA, US6246849 BA, US6188856 BA, US6169866 BA, US6169866 B1, US6167219 A, US6131007 A, US6118960 A, US6104894 A, US6097909 A, US6097908 A, US6070037 A, US6029032 A, US6016413 A, US6006058 A, US5966568 A, US5966566 A, US5940658 A, US5937242 A, US5920753 A, US5870654 A, US5768658 A, US5585889 A, US5500714 A, US4639121 A, US4378753 A, US2005047804 AA, US2004126131 AA, US2004101327 AA, US2004096239 AA, US2004057745 AA, US2004033092 AA, US2003228171 AA, US2003185589 AA, US2002085854 AA, US2002044794 AA, US2002018666 AA, US2002012547 AA, US2001055499 AA, JP9171303 A2, JP8190245 A2, JP2004126030 A2, JP2000186711 A2, JP2000112318 A2, JP2000112200 A2, JP2000098805 A2, JP11015354 A2, EP1195651 A2,

Forward Citations: US9678471, US9671751, US9658593, US9658592, US9632451, US9594343, US9529298, US9501031, US9477201, US9448509, US9429906, US9429877, US9423767, US9423761, US9423760, US9411261, US9400483, US9395679, US9389535, US9377755, US9348303, US9329522, US9304488, US9213266, US9188941, US9182733, US9176468, US9134696, US9091959, US9081323, US8995891, US8942595, US8862015, US8837981, US8712284, US8688008, US8688004, US8687994, US8682215, US8676090, US8670688, US8630564, US8606145, US8588640, US8583006, US8532533, US8526841, US8521060, US8498555, US8494411, US8494399, US8483589, US8452210, US8437669, US8433219, US8422914, US8417152, US8417144, US8401442, US8401441, US8391750, US8391748, US8369748, US8369744, US8340549, US8301054, US8295734, US8290403, US8280278, US8275287, US8275286, US8275283, US8270879, US8254801, US8233821, US8229320, US8213831, US8213828, US8155554, US8150293, US8139979, US7983589, US7953340, US7945200, US7945185, US7894733, US7890012, US7860433, US7853169, US7844198, US7813671, US7778570, US7778567, US7715746, US7711287, US7702251, US7693451, US7689146, US7630665, US7623815, US7603060, US7522862, US7499663, US7483649, US7483646, US7450877, US7440715, US7424253, US7283766, US7257350, US7209682, US7155140, US2015086249, US2014119772, US2014086642, US2013322920, US2011206412, US2011116832, US2011103832, US2011103827, US2011103823, US2011091239, US2011020031, US2010272469, US2010158563, US2010158556, US2010150614, US2010142996, US2010081112, US2010067946, US2010054807, US2010054806, US2010054805, US2010054804, US2010054796, US2009317134, US2009282991, US2009214255, US2009190955, US2009180801, US2009092411, US2009087217, US2009074454, US2009047037, US2009041498, US2009003875, US2008301819, US2008260428, US2008253803, US2008240773, US2008213008, US2008181678, US2008159774, US2008159772, US2008152388, US2008101824, US2008050153, US2008044201, US2007258728, US2007231007, US2007110478, US2007041751, US2007036579, US2007018384, US2006285878, US2006251445, US2006228127, US2006067734, US2006008289, US2005254858, US2005169664, JP6131800, JP5013174, JP3941116, JP2015060165, JP2008185780, JP2006163014, CN104049484, CN103454883, AU2007200524,

Abstract:
Source: US2005220476A A process cartridge detachably mountable on a main body of an electrophotographic image forming apparatus, and including a first unit for supporting an electrophotographic photosensitive member and a charging member for acting on the photosensitive member, a second unit provided with a force imparting portion, an electrically conductive connecting member for pivotally connecting the first unit and the second unit

together, and an electrically conductive member provided in the first unit, wherein the electrically conductive connecting member receives a bias to be supplied from the main body to the charging member when the process cartridge is mounted on the main body, the electrically conductive member is provided in contact with the connecting member to supply the charging member with the bias received by the connecting member when the process cartridge is mounted on the main body, and the force imparting portion imparts to the electrically conductive member an urging force for the electrically conductive member to urge the connecting member by the first unit and the second unit being moved relative to each other in the lengthwise direction thereof.

0) US2006291909A – PROCESS CARTRIDGE FOR IMAGE FORMING APPARATUS

23) Family number: 34036580 (US2006291909A) © PatBase

Title: PROCESS CARTRIDGE FOR IMAGE FORMING APPARATUS

Priority: KR20050055059 20050624

Family:

Publication number	Publication date	Application number	Application date
KR100683184 B1	20070215	KR20050055059	20050624
KR20070000033 A	20070102	KR20050055059	20050624
US2006291909 AA	20061228	US20060371075	20060309
US7505716 BB	20090317	US20060371075	20060309

Probable Assignee: S PRINTING SOLUTION CO LTD

Assignee(s):(std)**:** SAMSUNG ELECTRONICS CO LTD

Assignee(s): S PRINTING SOLUTION CO LTD ; SAMSUNG ELECTRONICS CO

Inventor(s):(std)**:** PARK JONG HYUN

Agent(s): STEIN MCEWEN AND BUI LLP

International class(IPC 8–9)**:** G03G15/06 G03G15/08 (Advanced/Invention); G03G15/06 (Advanced/Non–invention); G03G15/06 G03G15/08 (Core/Invention)

CPC: G03G15/0886 G03G15/0855 G03G15/0865 G03G15/0875 G03G2215/0692 G03G15/06

European class: G03G15/08H3 S03G215/06C7

US class: 399/106 399/113 399/119 399/258

Classification Explorer

Cited documents: US6968147 BB, US5708925 A, US2002085857 AA, JP8234552 A2, JP5333694 A2, JP2004126018 A2, JP2003122099 A2, JP2002268356 A2, JP10161410 A2,

Forward Citations: US8897677, US7962072, US2013121731, US2008131170, JP2011242528,

Abstract:
Source: US2006291909A A process cartridge of an image forming apparatus including a development cartridge including, a development cartridge housing with a toner inlet port therein, and a toner inlet port cover movably formed at the development cartridge housing, to open and close the toner inlet port, having a rib at a leading end thereof and a locking recess at a lateral surface thereof; and a toner cartridge including, a toner cartridge housing, detachably engaged with the development cartridge, having toner provided therein, a toner supply part provided with a toner supply port and a locking protrusion to contact the rib of the toner inlet port cover, and a locker to lock in the locking recess of the toner inlet port cover. As the toner cartridge is engaged with the development cartridge, the locking protrusion of the toner supply part contacts the rib of the toner inlet port and the locker is locked in the locking recess of the toner inlet port so that the toner inlet port cover moves in engagement and disengagement directions with respect to the toner cartridge to open and close the toner inlet port of the development cartridge.

24) Family number: 41039150 (US2008124105A) © PatBase

Title: DEVELOPER CARTRIDGE, IMAGE FORMING APPARATUS, AND SHUTTER DEVICE

Priority: JP20060184708 20060704 JP20060184709 20060704 WO2007JP63337 20070704 JP20060184710 20060704

Family:

Publication number	Publication date	Application number	Application date
CN101356480 A	20090128	CN200780001420	20070704
CN101356480 B	20110713	CN200780001420	20070704
CN101916061 A	20101215	CN201010250993	20070704
CN101916061 B	20131009	CN201010250993	20070704
EP2037330 A1	20090318	EP20070768107	20070704
JP2008015106 A2	20080124	JP20060184708	20060704
JP2008015107 A2	20080124	JP20060184709	20060704
JP2008015108 A2	20080124	JP20060184710	20060704
JP4386052 B2	20091216	JP20060184708	20060704
JP4386053 B2	20091216	JP20060184709	20060704
JP4419991 B2	20100224	JP20060184710	20060704
US2008124105 AA	20080529	US20070772715	20070702
US7783234 BB	20100824	US20070772715	20070702
WO08004566 A1	20080110	WO2007JP63337	20070704

Probable Assignee: SEIKO EPSON CORP

Assignee(s):(std)**:** FUKUMOTO TAKATOMO ; ICHIKAWA KAZUHIRO ; OKAMOTO KATSUMI ; OSHIMA TOSHIAKI ; SEIKO EPSON CORP

Inventor(s):(std)**:** TOSHIAKI OSHIMA ; TAKATOMO FUKUMOTO ; OSHIMA TOSHIAKI ; OKAMOTO KATSUMI ; KAZUHIRO ICHIKAWA ; KATSUMI OKAMOTO ; ICHIKAWA KAZUHIRO ; FUKUMOTO TAKATOMO

Agent(s): HOFFMANN EITLE; ISSHIKI AND CO; HOGAN AND HARTSON LLP; ISSHIKI CO

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9): B65D83/06 G03G15/00 G03G15/043 G03G15/08 G03G21/16 (Advanced/Invention); B65D83/06 G03G15/043 G03G15/08 G03G21/16 (Core/Invention)

CPC: G03G15/0886 G03G15/0855 G03G15/0865 G03G15/0872 G03G2215/0692

European class: G03G15/08H3 S03G215/06C7

US class: 399/106 399/111 399/260 399/262 399/51

Classification Explorer

Cited documents: WO06052005 A2, US7450890 BB, US7426363 BB, US7266330 BB, US7111654 BB, US6438345 BA, US6185401 BA, US5771427 A, US5761585 A, US5697014 A, US5678147 A, US5630198 A, US2008260422 AA, US2008013988 AA, US2006104671 AA, US2005135841 AA, JP8305148 A2, JP8146734 A2, JP6386652 U, JP63086652 U1, JP63086652 U, JP63086652 U, JP6208299 A2, JP2006163374 A2, JP2006163374, JP2006084844 A2, JP2005326869 A2, JP2005326869, JP2005221866 A2, JP2005173568 A2, JP2003107892 A2, JP2002091144 A2, JP2001201925 A2, JP2001201925, JP2001083788 A2, JP2001083788, JP2000098724 A2, JP11282233 A2, JP11194600 A2, JP1055103, JP10055103 A2, JP10055103, EP1659455 A2, EP1533664 A1, EP1528439 A1, EP1437632 A1, EP0905577 A2, EP0805379 A1, EP0793149 A1,

Forward Citations: US9207578, US9176426, US8958725, US8754326, US8712295, US8244162, US8229330, US8190066, US7983590, US2017003646, US2013216272, US2009116877,

US2009087224, US2009087215, US2008298835, JP5595642, JP2012058412, JP2010237259, JP2009258480, EP2660659, CN102591178,

Abstract:
Source: US2008124105A A developer cartridge, including: a container for containing developer; a shutter that is supported so that the shutter can linearly move relative to the container, and that opens and closes by moving linearly; a handle member that is supported so that the handle member can rotationally move relative to the container, and that includes a handle; and a conversion mechanism by which rotational−movement force that rotationally moves the handle member is converted into linear−movement force that linearly moves the shutter.

0) US5812914A – TONER REPLENISHING DEVICE, SHUTTER MEMBER, AND ...

25) Family number: 11152746 (US5812914A) © PatBase

Title: TONER REPLENISHING DEVICE, SHUTTER MEMBER, AND TONER CARTRIDGE FOR USE THEREIN

Priority: JP19960306839 19961118

Family:

Publication number	Publication date	Application number	Application date
AU199743682 A1	19980521	AU19970043682	19971103
CN1182897 A	19980527	CN19971020180	19971118
DE69709837 D1	20020228	DE19976009837	19971029
DE69709837 T2	20020919	DE19976009837T	19971029
EP0844537 A2	19980527	EP19970308647	19971029
EP0844537 A3	19981202	EP19970308647	19971029
EP0844537 B1	20020102	EP19970308647	19971029
ID18924 A	19980520	ID19970003701	19971118
JP10149021 A2	19980602	JP19960306839	19961118
JP3284334 B2	20020520	JP19960306839	19961118
KR19980042400 A	19980817	KR19970059865	19971113
TW370634 B	19990921	TW19970117078	19971115
US5812914 A	19980922	US19970957708	19971024

Probable Assignee: MITA INDUSTRIAL CO LTD

Assignee(s):(std)**:** KYOCERA DOCUMENT SOLUTIONS INC ; KYOCERA MITA CORP ; MITA INDUSTRIAL CO LTD ; MITAJIRI IND CO LTD

Assignee(s): MITA INDUSTRIAL CO LTDJP ; MITAJIRI IND CO ; KYOCERA MITA CORP OSAKA ; MITA IND CO LTD ; MITA INDUSTRIAL CO

Inventor(s):(std)**:** ICHIO JOROKU ; JIYOUROKU KAZUO ; JOHROKU KAZUO

Inventor(s): KAZUO JOHROKU ; JOROKU ICHIO

Agent(s): DAVIES COLLISON CAVE; DAVIES COLLISON CAVE PTY LTD

Designated states: AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

International class (IPC 8–9)**:** G03G15/08 (Advanced/Invention); G03G15/10 (Advanced/Non–invention); G03G15/08 (Core/Invention); G03G15/08 (Core/Non–invention)

International class (IPC 1–7)**:** G03G15/08 G03G21/16 G03G9/00

CPC: G03G15/0886 G03G15/0855 G03G15/0865 G03G15/0875 G03G2215/068 G03G2215/0692

European class: G03G15/08H3 S03G215/06C2 S03G215/06C7

US class: 399/252 399/262

Classification Explorer

Cited documents: US5351728 A, US5337125 A, US5294963 A, US5089854 A, JP63179377, JP3158872, EP0448214 A2,

Forward Citations: US9459556, US9146497, US8027621, US7953351, US7676186, US7483656, US7400848, US6591077, US6510306, US6438328, US2017097586, US2013243491, US2011164898, US2009022522, US2006013620, KR100756044, EP1154333, EP1154333,

Abstract:
Source: US5812914A A toner replenishing device including a container having an acceptance opening for a toner, and a toner cartridge removably mounted on the container so as to traverse the acceptance opening along an

upper surface portion extending at the upper end of the acceptance opening, and using a shutter member when the toner cartridge is removed from the container. An engaged hole is formed in one side part of the container. In one side part of the shutter member opposed to the one side part of the container, a hook portion is formed for being engaged with the engaged hole to allow the turn of the shutter member in the direction of insertion between the lower surface of the toner cartridge and the upper surface portion of the container, as well as in the reverse direction, and to regulate the position of the shutter member in the width direction relative to the container.

26) Family number: 33535953 (EP0485271A2) © PatBase

Title: Process cartridge and image forming apparatus usable therewith.

Priority: EP19910402953 19911105 JP19900301779 19901106 JP19910054446 19910319

Family:

Publication number	Publication date	Application number	Application date
EP0485271 A2	19920513	EP19910402953	19911105
EP0485271 A3	19920909	EP19910402953	19911105
EP0485271 B1	19970723	EP19910402953	19911105
EP0692745 A2	19960117	EP19950202631	19911105
EP0692745 A3	19961120	EP19950202631	19911105
EP0692745 B1	20000510	EP19950202631	19911105
EP0692746 A2	19960117	EP19950202635	19911105
EP0692746 A3	19961120	EP19950202635	19911105
EP0692746 B1	20000906	EP19950202635	19911105

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK

Assignee(s): CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** IKEMOTO ISAO ; KARAKAMA TOSHIYUKI ; NOMURA YOSHIYA ; SASAKI SHINICHI ; SHIRAI HIROYUKI ; TSUDA TADAYUKI ; WATANABE KAZUSHI

Designated states: DE FR GB IT

International class (IPC 8–9): G03G21/18 (Advanced/Invention)

International class (IPC 1–7): G03G15/00 G03G21/18

CPC: G03G21/181 G03G21/1817 G03G2215/00987 G03G2221/1633 G03G2221/1648 G03G2221/1651 G03G2221/1654 G03G2221/1669 G03G2221/1853 G03G2221/1876

European class: G03G21/18C2 G03G21/18C4 S03G215/00R S03G221/16D1 S03G221/16J S03G221/16K S03G221/16K1 S03G221/16M S03G221/18P3 S03G221/18P3C

Classification Explorer

Cited documents: US4866482 A, US4851960 A, US4757344 A, US4605299 A, JP2257146 A2, JP2168277, JP2163769, JP2123376, GB2074095 A1, FR2611930 A1, EP0368346 A2, EP0330225 A2, EP0276910 A1, EP0276192 A1, DE8907136 U, DE8716525 U, DE4003695 A1,

Forward Citations: US8254804, US6983113, US6473577, US6308028, US6273300, US6272300, US6118958, US5870654, US5828928, US5689774, US5669042, US5652647, US5623328, US5619309, US5617579, US5543898, US5500714, EP2156936, EP1096338, EP0917022, EP0917022, EP0917019, EP0917019, EP0683439, EP0683439, EP0634707, EP0634707, EP0632342, EP0586044, EP0586044, EP0586041, EP0584417, EP0576758, AU675615,

Abstract:
Source: EP0485271A2 A process cartridge detachably mountable to an image forming apparatus includes an image bearing member; process device actable on the image bearing member; a first frame containing the image bearing member and the process device; and a second frame engageable with and disengageable from the first frame and containing a developer container.

27) Family number: 28249257 (US2002085857A) © PatBase

Title: DEVELOPING UNIT–TONER CARTRIDGE ASSEMBLY OF IMAGE FORMING APPARATUS

Priority: KR20000086390 20001229

Family:

Publication number	Publication date	Application number	Application date
JP2002214898 A2	20020731	JP20010335107	20011031
JP3418618 B2	20030623	JP20010335107	20011031
KR100362390 B1	20021123	KR20000086390	20001229
KR20020058323 A	20020712	KR20000086390	20001229
US2002085857 AA	20020704	US20010964376	20010928
US6526243 BB	20030225	US20010964376	20010928

Probable Assignee: S PRINTING SOLUTION CO LTD

Assignee(s):(std)**:** KIM KYUNG HWAN ; PAK KI JU ; SAMSUNG ELECTRONICS CO LTD

Assignee(s): S PRINTING SOLUTION CO LTD ; SAMSUNG ELECTRONICS CO

Inventor(s):(std)**:** BOKU KICHU ; KIM GYEONG HWAN ; KIM KYEONG HWAN ; PARK GI JU ; PAK KI JU ; KIM KYUNG HWAN

International class (IPC 8–9): G03G15/00 G03G15/08 G03G21/18 (Advanced/Invention); G03G15/00 (Advanced/Non–invention); G03G15/00 G03G15/08 G03G21/18 (Core/Invention)

International class (IPC 1–7): G03G15/00 G03G15/08 G03G21/00 G03G21/18

CPC: G03G15/0855 G03G15/0865 G03G15/0886 G03G21/1832 G03G21/185 G03G15/00

European class: G03G15/08H3 G03G21/18C5S G03G21/18H1P

US class: 399/113 399/119 399/258 399/26 399/260 399/262 399/359

Classification Explorer

Cited documents: US6289194 BA, US6041212 A, US5614996 A, US5506665 A, JP6035321 A2,

Forward Citations: WO07105375, WO07093625, US9436156, US9377717, US9335728, US9188949, US9181188, US9141079, US9052685, US8918030, US8841330, US8796250, US8637553, US8618141, US8611788, US8422915, US8290421, US8244163, US8242147, US8213838, US8208846, US8195070, US8180262, US8160461, US8155558, US8139986, US8126375, US8124630, US8110587, US8076488, US8073355, US8071616, US8064805, US8050597, US8045899, US8005406, US7991334, US7897623, US7894753, US7890022, US7881624, US7853184, US7853183, US7848684, US7838541, US7835675, US7835673, US7826777, US7822371, US7778577, US7747198, US7720417, US7706699, US7702262, US7697869, US7678811, US7676178, US7657211, US7574163, US7555249, US7548710, US7505716, US7486910, US7457569, US7406272, US7330681, US7305205, US7257363, US6728500, US2011211868, US2011103856, US2011008075, US2011002713, US2010189470, US2010129118, US2009290910, US2009245862, US2009214269, US2009214268, US2009214257, US2009214249, US2009214230, US2009214227, US2009016770, US2008286013, US2008205953, US2008187331, US2008101821, US2008038019, US2007269237, US2007248384, US2007237544, US2007223970, US2007196136, US2007177886, US2007160394, US2007160393, US2007154244, US2007154243, US2007147902, US2007147900, US2007122205, US2007065196, US2007065182, US2006291909, US2006104663, US2006062601, US2006045569, US2006013598, TWI464545, KR100878403, JP5531579, JP4694100, JP4659231, JP4645116, JP4315933, JP2011076050, JP2007025511, JP2006091284, JP2004264475, JP2002311696, JP2002244533, EP2369425, EP2093626, EP2093626, EP2093625, EP2093623, EP1956440, EP1857887, EP1659456, EP1632819, EP1632819, EP1632819,

Abstract:
Source: US2002085857A In a developing unit–toner cartridge assembly of an image forming apparatus, the developing unit includes an inlet cover for opening and closing a toner inlet formed in an outer casing of the

developing unit, and an outlet cover for opening and closing the toner outlet. The toner cartridge includes a toner feeding roller for selectively opening and closing a toner feeding port formed in an outer casing of the toner cartridge, a recovery cover for opening and closing a toner recovery port formed in an outer casing of the toner cartridge in relative movement with the outlet cover during a mounting and a removal with respect to the developing unit, and a supporting projection for restricting and opening and closing one end of the inlet cover during mounting and removal of the toner cartridge with respect to the developing unit. Since the toner feeding path and toner recovery path are opened and closed in relation to mounting and removal of the toner cartridge with respect to the developing unit, a user does not have to perform additional steps to open and close the toner feeding path and the toner recovery path, and accordingly can use the image forming apparatus with more convenience.

28) Family number: 49556014 (US2012301188A) © PatBase

Title: TONER CONTAINER, IMAGE FORMING APPARATUS, TONER CONTAINER PRODUCING METHOD AND TONER CONTAINER RECYCLING METHOD

Priority: JP20100044052 20100301 WO2011JP54665 20110223

Family:

Publication number	Publication date	Application number	Application date
CN102859448 A	20130102	CN201180007914	20110223
CN102859448 B	20151014	CN201180007914	20110223
EP2542944 A1	20130109	EP20110750664	20110223
EP2542944 A4	20160817	EP20110750664	20110223
JP2011180348 A2	20110915	JP20100044052	20100301
JP5582385 B2	20140903	JP20100044052	20100301
MX2012008850 A1	20120912	MX20120008850	20110223
TW201144952 A	20111216	TW20110106712	20110301
TWI430056 B	20140311	TW20110106712	20110301
US2012301188 AA	20121129	US20110576275	20110223
US8929780 BB	20150106	US20110576275	20110223
WO11108554 A1	20110909	WO2011JP54665	20110223

Probable Assignee: RICOH CO LTD

Assignee(s):(std): RICOH CO LTD ; YAMABE JUNJI ; SUZUKI MASATO ; RICOH KK

Assignee(s): RICOH COMPANY LTD ; RICOH CO

Inventor(s):(std): SUZUKI MASAHITO ; SUZUKI MASATO ; YAMABE JUNJI

Inventor(s): JUNJI YAMABE ; MASATO SUZUKI

Agent(s): LAMB MARTIN JOHN CARSTAIRS; OBLON SPIVAK MCCLELLAND MAIER AND NEUSTADT LLP; HIROTA KOICHI

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9): B65D83/06 G03G13/08 G03G15/00 G03G15/08 (Advanced/Invention)

CPC: G03G15/0855 G03G15/0865 G03G15/0881 G03G15/0832 G03G15/0872 G03G2215/0668

European class: G03G15/08H3 S03G215/06C1A1

US class: 399/262

Classification Explorer

Cited documents: WO09116655 A1, US7184691 BB, US6298208 BA, US6097903 A, US4237943 A, US2011038647 AA, US2009279916 AA, US2007077100 AA, US2006251448 AA, US2005196198 AA, US2005157109 AA, US2004190945 AA, TW556058 B, TW556058, TW200941164 A, TW200941164, JP3628539 A2, JP2009271279 A2, JP2009271279, JP2009223047 A2, JP2000214669 A2, JP2000010389 A2, EP1022620 A1, CN1264855 A,

Forward Citations: US9581937, US9557685, US9547258, US9513576, US9482988, US9482987, US9465317, US9454099, US8781375, CN102236292, CN102236292,

Abstract:
Source: US2012301188A A toner container detachably mountable to an image forming apparatus, the toner container including: a cylindrical container which accommodates a toner; a cap portion which holds the cylindrical container such that the cylindrical container can rotate in a circular direction, with an end of the cylindrical

container inserted in the cap portion; and a sealing member lying between the end and an inner surface of the cap portion, wherein the toner in the cylindrical container is discharged to an inside of the cap portion through an opening provided in the end and the toner in the cap portion is discharged to an outside through a toner discharge port provided in the cap portion, as the cylindrical container rotates, and wherein the cylindrical container is provided with a seal receiving surface for fixing the sealing member, and the sealing member is fixed to the seal receiving surface.

29) Family number: 16014430 (US5970280A) © PatBase

Title: Image forming apparatus having a developing bias control unit

Priority: JP19970253891 19970918 JP19970287976 19971003 JP19980237544 19980824 US19980164282 19981001 JP19980267486 19980904 JP19980044701 19980209 US20000576440 20000522

Family:

Publication number	Publication date	Application number	Application date
DE19845852 A1	19990506	DE19981045852	19981005
DE19845852 B4	20050609	DE19981045852	19981005
JP11153900 A2	19990608	JP19980237544	19980824
JP11288157 A2	19991019	JP19980267486	19980904
JP3541691 B2	20040714	JP19980267486	19980904
US5970280 A	19991019	US19980154499	19980917
US6104900 A	20000815	US19980164282	19981001
US6336020 BA	20020101	US20000576440	20000522

Probable Assignee: RICOH KK

Assignee(s):(std): RICOH KK

Assignee(s): MINEBEA CO LTD ; RICOH CO ; RICOH CO LTD ; RICOH CO LTD TOKIO TOKYO JP ; RICOH COMPANY LTD ; ROCOH COMPANY LTD

Inventor(s):(std): ISHIKAWA TOMOJI ; KAWAMURA YOSHIHIDE ; KIMURA YOSHIYUKI ; OGATA FUMIO ; SHOJI HISAFUMI ; SHOJI HISASHI ; SUGIHARA KAZUYUKI ; MAEDA KENJI ; SUZUKI HIROKATSU

Inventor(s): MAEDA KENJI ISEHARA KANAGAEA JP ; SUGIHARA KAZUYUKI YOKOHAMA KANAGAWA JP ; KIMURA YOSHIYUKI TOKIO TOKYO JP ; ISHIKAWA TOMOJI YOKOHAMA KANAGAWA JP

International class (IPC 8–9): G03G15/01 G03G15/06 G03G15/08 (Advanced/Invention)

International class (IPC 1–7): G03G15/01 G03G15/06 G03G15/08

CPC: G03G15/0126 G03G15/065 G03G15/0896 G03G2215/0177

European class: G03G15/01D8 G03G15/06C G03G15/08S S03G215/01S2A

US class: 399/227 399/235 399/262 399/263 399/270 399/285 399/55

Classification Explorer

Cited documents: US6141520 A, US6122469 A, US6104900 A, US6072967 A, US5991569 A, US5956549 A, US5940664 A, US5918092 A, US5915151 A, US5903806 A, US5862442 A, US5850586 A, US5787328 A, US5778279 A, US5771423 A, US5768664 A, US5765059 A, US5761576 A, US5758235 A, US5752141 A, US5722020 A, US5646721 A, US5617198 A, US5600415 A, US5565973 A, US5552877 A, US5500719 A, US5416568 A, US5384628 A, US5296900 A, US5109254 A, US5105226 A, US4975748 A, JP9258534 A2, JP9197783 A2, JP9146363 A2, JP8171269 A2, JP8160724 A2, JP8044177 A2, JP7152239 A2, JP63136063 A2, JP59214054 A2, JP56014266 A2, JP5333673 A2, JP4199073 A2, JP3293379 A2, JP3024569 A2, JP2058069 A2, JP1170969 A2, EP0616268 A1, DE4437070 A1, DE19520340 A1,

Forward Citations: US9223261, US9176424, US8958718, US8879972, US8626037, US8600262, US8532522, US8498546, US8396398, US8369738, US8295742, US8290378, US8195070, US8121525, US8095045, US8027596, US8005406, US7983592, US7894753, US7853183, US7842443, US7840167, US7835673, US7835671, US7826756, US7822371, US7796922, US7796920, US7747202, US7734230, US7724394, US7720417, US7720416, US7697870, US7627260, US7593671, US7574155, US7554574, US7519317, US7505718, US7486916, US7480476, US7466945, US7457570, US7421239, US7398038, US7376370, US7313349, US7298991, US7280779, US7212773, US7162189, US7149462, US7139513, US7139513, US7136610, US7127197, US7127197, US7127195, US7110917,

US7110705, US7110705, US7106991, US7095969, US7079798, US7062207, US7050728, US7043182, US6999700, US6996354, US6987940, US6925277, US6917778, US6898384, US6889024, US6885836, US6885830, US6785497, US6763214, US6751433, US6724998, US6615014, US6597881, US6542710, US6415127, US6385423, US6336020, US6324354, US6134396, US2011038647, US2010329699, US2010254732, US2010119264, US2009279916, US2009175660, US2009175634, US2009123192, US2009074471, US2009028608, US2008286013, US2008260432, US2008124106, US2008085137, US2008038019, US2008003021, US2007274741, US2007177905, US2007160393, US2007147902, US2007134015, US2007127951, US2007122205, US2007122202, US2007122185, US2007081835, US2007077100, US2007036584, US2006251448, US2006182463, US2006140655, US2006078342, US2006072943, US2006029435, US2006013619, US2005281590, US2005281584, US2005196199, US2005196198, US2005180781, US2005175373, US2005111882, US2005088697, US2005078991, US2005031380, US2005019047, US2005013633, US2005002054, US2004265012, US2004265011, US2004247331, US2004223782, US2004170447, US2004114971, US2004101328, US2004037573, US2004028428, US2004018030, US2003202823, US2003185585, JP3695520, JP2014142445, JP2005189407, JP2001318523, EP1471380, EP1471380, EP1396764,

Abstract:
Source: US5970280A An image forming apparatus includes an image support which supports an electrostatic latent image on a surface of the image support. A developing unit has a developing agent support which retains a developing agent, including a toner and carriers, contained in the developing unit. The developing unit converts the latent image on the image support into a toner image by causing the toner to adhere to the surface of the image support. A developing bias supplying unit supplies a developing bias voltage to the developing agent support of the developing unit, the developing bias voltage being one of a DC bias voltage and an AC bias voltage. A timer measures a non−driven period of the developing agent in the developing unit. A control unit selects one of the DC bias voltage and the AC bias voltage from the developing bias supplying unit based on the non−driven period measured by the timer, and controls the developing bias voltage at an output of the developing bias supplying unit such that the selected one of the DC bias voltage and the AC bias voltage is supplied to the developing agent support.

0) US6272300B – REMANUFACTURING METHOD FOR PROCESS CARTRIDGE, P...

30) Family number: 30918168 (US6272300B) © PatBase

Title: Remanufacturing method for process cartridge, process cartridge and image forming apparatus

Priority: JP19930161354 19930630 JP19940140075 19940622 JP19940140076 19940622 US19970948585 19971010 US19960628445 19960405 US19940267290 19940628

Family:

Publication number	Publication date	Application number	Application date
AT302963 E	20050915	AT19940304752T	19940629
CN1074144 C	20011031	CN19941007267	19940630
CN1101435 A	19950412	CN19941007267	19940630
DE69434466 D1	20050929	DE19946034466	19940629
DE69434466 T2	20060119	DE19946034466T	19940629
EP0632342 A2	19950104	EP19940304752	19940629
EP0632342 A3	19951213	EP19940304752	19940629
EP0632342 B1	20050824	EP19940304752	19940629
JP3210526 B2	20010917	JP19940140075	19940622
JP3347476 B2	20021120	JP19940140076	19940622
JP7098537 A2	19950411	JP19940140076	19940622
JP8002416 A2	19960109	JP19940140075	19940622
KR0136218 B1	19980515	KR19940015393	19940630
KR19950001430 A	19950103	KR19940015393	19940630
SG72677 A1	20000523	SG19960008811	19940629
US6272300 BA	20010807	US19970948585	19971010

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK ; TOSHIBA CORP

Assignee(s): TOSHIBA KK ; KABUSHIKI KAISHA TOSHIBA ; CANON INC ; CANON K K ; CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** YOSHIYA NOMURA ; YASUO FUJIWARA ; SAITO HIROO ; MORIYA OSAMU ; KENJI MATSUDA ; KAWAGUCHI HIDEJI ; HIROAKI MIYAKE ; HIDESHI KAWAGUCHI ; NOMURA YOSHIYA ; MIYAKE HIROAKI ; MATSUDA KENJI ; KAWAGUCHI HIDESHI ; FUJIWARA YASUO ; MATSUDA GENJI ; KAWAKUCHI HIDESHI

Agent(s): MIYOSHI HIDEKAZU

Designated states: AT CH DE ES FR GB IT LI LU NL

International class (IPC 8–9)**:** B60L15/40 B61L23/14 G03G15/00 G03G15/08 G03G21/18 (Advanced/Invention); G03G15/00 G03G15/08 (Advanced/Non–invention); B60L15/00 B61L23/00 G03G15/00 (Core/Invention)

International class (IPC 1–7)**:** B60L15/40 B61L23/14 G03G15/00 G03G15/06 G03G15/08 G03G21/18

CPC: G03G15/0894 G03G21/181 G03G2215/00987 G03G2221/1853 B60L3/0015 B60L15/40 B60L2200/26 B60L2240/12 B60L2240/62 B60L2250/10 Y02T90/16 Y02T90/162 Y02T10/7291

European class: G03G15/08R G03G21/18C2 S03G215/00R S03G221/18P3 Y02T90/16

US class: 399/111 399/113 399/120

Classification Explorer

Cited documents: WO9210404 A1, US5345294, US5331373, US5296902, US5294960, US5267003, US5223068, US5208634, US5184182, US5177540, US5110646 A, US5080745, US5051778, US4996566, US4930684, US4862210, US4816877, US4627701, US4540268, US4500195, US3985436, JP63149669, JP2214944, JP2109770, FR2620973 A1, EP0485271 A2, EP0330225 A2,

Forward Citations: WO16171954, WO14126730, WO13047497, US9342047, US9110431, US9102338, US9091963, US8977414, US8971758, US8755713, US8565642, US8521041, US8494399, US8260171, US8221882, US8155554, US8147783, US8000630, US7945185, US7817946, US7813670, US7702251, US7680434, US7542712, US7519311, US7450877, US7386241, US7291200, US7266338, US7228086, US7200350, US7174113, US7085518, US7085518, US7085509, US6884278, US6754460, US6721520, US6697594, US6654577, US6499924, US6481081, US6029031, US5943528, US5899602, US5825472, US5787323, US5585902, US2017160692, US2014064811, US2013064568, US2013051846, US2011200340, US2010322664, US2010232832, US2010158556, US2010080624, US2009299882, US2009047037, US2008063957, US2007248378, US2006228127, US2006177231, US2005214024, US2005152716, US2005135832, US2005135831, RU2471219, KR101064280, KR101035962, KR100870530, KR100807878, KR100751056, KR100729310, JP5839826, JP5759331, JP5150688, JP3920765, JP2014111431, JP2013078210, JP2012226277, JP2012035813, JP2009096405, JP2008239054, JP2008042981, JP2004203177, JP2003081092, JP2003040111, JP2002027617, FR2809830, FR2809663, EP2026144, EP1217468, EP1168108, EP0997785, EP0740230, EP0740228, EP0740228, EP0740227, EP0671670, EP0671670, EP0622699, EP0622699, EP0622698, EP0622698, EP0622697, CN103826910, CN102749826, CN102749826, CN102372012,

Abstract:
Source: US6272300B A remanufacturing method of a process cartridge detachably mountable to an image forming apparatus includes disassembling the process cartridge into a first frame having a developer accommodating portion for accommodating a developer and a second frame having a developer carrying member for carrying the developer supplied from the developer accommodating portion toward an image bearing member, thus exposing an opening of the first frame for permitting movement of the developer from the first frame to the second frame; removing residual which is resulted from a covering member having been used for sealing the opening and which remains around the opening, wherein the covering member has a sealing portion for sealing the opening and an extension for permitting the sealing portion to be torn with a part thereof remaining around the opening to open the opening, by pulling the extension, wherein the residual is a part of the sealing portion; mounting a fresh covering member to seal the opening; then supplying the developer accommodating portion with a fresh developer; and then engaging the first and second frames together.

0) US2008181661A – DEVELOPING DEVICE AND TONER CARTRIDGE

31) Family number: 42068537 (US2008181661A) © PatBase

Title: DEVELOPING DEVICE AND TONER CARTRIDGE

Priority: JP20070019864 20070130

Family:

Publication number	Publication date	Application number	Application date
JP2008185827 A2	20080814	JP20070019864	20070130
JP5056032 B2	20121024	JP20070019864	20070130
US2008181661 AA	20080731	US20080022447	20080130
US7805097 BB	20100928	US20080022447	20080130

Probable Assignee: BROTHER KOGYO KK

Assignee(s):(std)**:** BROTHER IND LTD

Assignee(s): BROTHER KOGYO KABUSHIKI KAISHA ; BROTHER KOGYO KK

Inventor(s):(std)**:** MASE SOICHIRO ; TAKAGI TAKEYUKI

Agent(s): BANNER AND WITCOFF LTD ATTORNEYS FOR CLIENT NOS 0166889 006760; BANNER AND WITCOFF LTD

International class (IPC 8–9)**:** G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)

CPC: G03G15/0872 G03G15/0886 G03G15/0896 G03G2215/0692 G03G2221/163 G03G2221/1654 G03G2221/1815

European class: G03G15/08S S03G215/06C7 S03G221/16D S03G221/16K1 S03G221/18C

US class: 399/120 399/120P 399/258

Classification Explorer

Cited documents: US7574161 BB, US7437095 BB, US6738591 BB, US5608501 A, US5587777 A, US5568237 A, US5028966 A, US4641945 A, US2006171744 AA, JP7225514 A2, JP7181793 A2, JP7049610 A2, JP6059576 A2, JP5241443 A2, JP3175471 A2, JP2006235306 A2, JP2006030725 A2, JP2006030488 A2, JP2005037673 A2,

Forward Citations: WO14010116, WO13115014, US9690231, US9317007, US9268301, US9207571, US2015030355, JP5920070, JP5783924, JP5632558, JP5632557, JP5589010, JP2014206758, JP2014206757, JP2014016484, JP2013160874, JP2013156587, EP3004987,

Abstract:
Source: US2008181661A A developing device includes a developing roller that supplies developer, a developing case that supports the developing roller, a toner cartridge that houses the developer and is attachable to and detachable from the developing case in a direction perpendicular to a longitudinal direction of the developing roller, an abutting member that is swingably provided on the developing case and is abuttable against the toner cartridge from a downstream side in a direction along which the toner cartridge is detached from the developing case, an operating member that is swingably provided on the toner cartridge, and an interlocking member that swings the abutting member between an abutting position and a canceling position, the interlocking member swinging in conjunction with a swinging operation of the operating member, and the toner cartridge being detachable from the developing case when the interlocking member is in the second position.

0) US5659847A – PROCESS CARTRIDGE HAVING POSITIONING MEMBER FOR...

32) Family number: 33533462 (US5659847A) © PatBase

Title: PROCESS CARTRIDGE HAVING POSITIONING MEMBER FOR POSITIONING OPTICAL DEVICE

Priority: JP19920194653 19920630 JP19920194664 19920630

Family:

Publication number	Publication date	Application number	Application date
CN1049985 C	20000301	CN19921010835	19920928
CN1080734 A	19940112	CN19921010835	19920928
DE69219119 D1	19970522	DE19926019119	19920918
DE69219119 T2	19971002	DE19926019119T	19920918
EP0577893 A1	19940112	EP19920308515	19920918
EP0577893 B1	19970416	EP19920308515	19920918
KR970001389 B1	19970206	KR19920017620	19920926
MX9205523 A1	19940131	MX19920005523	19920928
US5659847 A	19970819	US19920952692	19920928

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON INC ; CANON KK

Assignee(s): CANON K K ; CANON K K TOKIO TOKYO JP ; CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** AL ISAO IKEMOTO ET ; IKEMOTO ISAO ; IKEMOTO ISAO C O CANON KABUSHI ; ISAO IKEMOTO ; NADA SINYA ; NODA SHINYA ; NODA SHINYA C O CANON KABUSHIK ; KOBAYASHI KAZUNORI ; KOBAYASHI KAZUNORI C O CANON K ; SASAGO YOSHIKAZU ; SASAGO YOSHIKAZU C O CANON KAB ; WATANABE KAZUSI ; SEKINE KAZUMI ; SEKINE KAZUMI C O CANON KABUSH ; WATANABE KAZUSHI ; WATANABE KAZUSHI C O CANON KAB ; TSUDA TADAYUKI ; TSUDA TADAYUKI C O CANON KABUS

Inventor(s): TSUDA TADAYUKI C O CANON KABUSHIKI KAISA OHTA KU TOKYO JP ; WATANABE KAZUSHI C O CANON KABUSHIKI KAISA ; WATANABE KAZUSHI C O CANON KABUSHIKI KAISA OHTA KU ; WATANABE KAZUSHI C O CANON KABUSHIKI KAISA OHTA KU TOKYO JP ; SEKINE KAZUMI C O CANON KABUSHIKI KAISA OHTA KU TOKYO JP ; SHINYA NODA ; TADAYUKI TSUDA ; YOSHIKAZU SASAGO ; TSUDA TADAYUKI C O CANON KABUSHIKI KAISA OHTA KU T ; SEKINE KAZUMI C O CANON KABUSHIKI KAISA OHTA KU TO ; SEKINE KAZUMI C O CANON KABUSHIKI KAISA OHTA ; SASAGO YOSHIKAZU C O CANON KABUSHIKI KAIS OHTA ; NODA SHINYA C O CANON KABUSHIKI KAISA OHTA KU TOKY ; NODA SHINYA C O CANON KABUSHIKI KAISA OHTA KU ; KOBAYASHI KAZUNORI C O CANON KABUSHIKI KAISA OHTA ; KOBAYASHI KAZUNORI C O CANON KABUSHIKI KAISA ; IKEMOTO ISAO C O CANON KABUSHIKI KAISA OHTA KU TOK ; IKEMOTO ISAO C O CANON KABUSHIKI KAISA OHTA KU ; TSUDA TADAYUKI C O CANON KABUSHIKI KAISA OHTA ; SASAGO YOSHIKAZU C O CANON KABUSHIKI KAIS OHTA KU ; SASAGO YOSHIKAZU C O CANON KABUSHIKI KAIS OHTA KU TOKYO JP ; KOBAYASHI KAZUNORI C O CANON KABUSHIKI KAISA OHTA KU TOKYO JP ; NODA SHINYA C O CANON KABUSHIKI KAISA OHTA KU TOKYO JP ; ISAO IKEMOTO ET AL ; KAZUMI SEKINE ; KAZUNORI KOBAYASHI ; KAZUSHI WATANABE ; IKEMOTO ISAO C O CANON KABUSHIKI KAISA OHTA KU TOKYO JP

Designated states: DE ES FR GB IT

International class (IPC 8–9): G03G15/00 G03G21/18 (Advanced/Invention); G03G15/00 G03G21/18 (Core/Invention)

International class (IPC 1–7): B41F15/40 G03G15/00 G03G15/04 G03G21/18

CPC: G03G21/1633 G03G21/1647 G03G21/1666 G03G21/1814 G03G15/605 G03G21/1821 G03G2221/1636 G03G2221/1654

European class: G03G15/60D G03G21/18C3 G03G21/18C4C S03G221/16E S03G221/16K1

US class: 399/113 399/118

Classification Explorer

Cited documents: US5404198 A, US5294960 A, US5160963 A, US5111244 A, US5095335 A, US5089846 A, US5028966 A, US4972227 A, US4963928 A, US4888620 A, US4873548 A, US4839690 A, US4708455 A, US4627701 A, US4609276 A, US4591258 A, US4540268 A, US4500195 A, US3985436 A, JPS6466055, JPS6318367, JPS63149669, JPS61231574, JPS61156070, JPS59147377, JP64066055 A2, JP63149669 A2, JP63018367 A2, JP61231574 A2, JP61156070 A2, JP59147377 A2, JP3002786 A2, EP0453963 A2, EP0322219 A2,

Forward Citations: US9519254, US9046860, US8725042, US8095051, US7920806, US7835661, US7660545, US7630661, US7565092, US7555244, US7532840, US7489885, US7403733, US7274896, US7248814, US7231161, US7162182, US7156797, US7136609, US7092655, US6999696, US6895199, US6885838, US6876826, US6868243, US6856775, US6832056, US6804483, US6788908, US6782213, US6738589, US6735406, US6714750, US6714746, US6704525, US6701106, US6697578, US6684040, US6658224, US6603939, US6594454, US6571070, US6542706, US6535699, US6519431, US6501927, US6501926, US6424811, US6415121, US6408143, US6408142, US6400914, US6397018, US6397017, US6377759, US6334035, US6330402, US6272299, US6240266, US6236821, US6229974, US6226478, US6208818, US6185390, US6173145, US6169866, US6151459, US6144398, US6137970, US6118960, US6104894, US6101354, US6097909, US6097906, US6075957, US6070028, US6041196, US6016413, US6011941, US5966568, US2009074453, US2009074452, US2009074449, US2008253796, US2008063429, US2008056754, US2007104511, US2007104510, US2006198654, US2006029423, US2006024086, US2006008287, US2005207781, US2005207780, US2004134070, US2004086300, US2003113131,

Abstract:
Source: US5659847A A process cartridge includes a first upper and second lower frame, separably engageable to each other, an image bearing member, a process means acting on the image bearing member, and a positioning device for positioning an optical unit of an image forming apparatus when the process cartridge is mounted within the image forming apparatus. With this arrangement, the present invention can provide a process cartridge and an image forming apparatus capable of mounting the process cartridge, which can form an image with higher quality than that of the conventional techniques, without distorting the image. The positioning member is located on the second lower frame and passes through openings formed on the first upper frame in order to position the optical unit.

0) US5515143A – TONER CARTRIDGE WITH SEAL BODY CAPPED UNIT

33) Family number: 10061413 (US5515143A) © PatBase

Title: TONER CARTRIDGE WITH SEAL BODY CAPPED UNIT

Priority: JP19940136108 19940617

Family:

Publication number	Publication date	Application number	Application date
CN1064762 C	20010418	CN19951005628	19950606
CN1113575 A	19951220	CN19951005628	19950606
DE69506483 D1	19990121	DE19956006483	19950529
DE69506483 T2	19990624	DE19956006483T	19950529
EP0689104 A1	19951227	EP19950108231	19950529
EP0689104 B1	19981209	EP19950108231	19950529
JP2986679 B2	19991206	JP19940136108	19940617
JP8006369 A2	19960112	JP19940136108	19940617
US5515143 A	19960507	US19950442541	19950516

Probable Assignee: SHARP KK

Assignee(s):(std)**:** SHARP KK

Assignee(s): SHAAPU KK ; SHARP CORP ; SHARP K K ; SHARP K K OSAKA 545 JP ; SHARP K K OSAKA JP ; SHARP KABUSHIKI KAISHA

Inventor(s):(std)**:** SHIOTANI TAKASHI

Inventor(s): SHIOTANI TAKASHI TOYONAKA SHI OSAKA 565 JP ; TAKASHI SHIOTANI

Agent(s): HARA KENZO

Designated states: DE FR GB

International class (IPC 8–9)**:** G03G15/08 G03G21/16 (Advanced/Invention); G03G15/08 G03G21/16 (Core/Invention)

International class (IPC 1–7)**:** G03G15/08 G03G21/16

CPC: G03G15/0886 G03G15/0868 G03G15/0882 G03G2215/0665 G03G2215/0675 G03G2215/0685

European class: G03G15/08H3B S03G215/06C1A S03G215/06C1C S03G215/06C4

US class: 141/364 355/260 399/106

Classification Explorer

Cited documents: US5441177 A, US5307129 A, US4937628 A, US4060105 A, JP7199618, JP643755, JP60147768 A2, JP60145448 U, JP59102260, JP5150644 A2,

Forward Citations: US9639028, US9207574, US9046820, US8909094, US8396398, US8290394, US8244163, US8195070, US8160461, US8126375, US8121525, US8068770, US8050597, US8045901, US8005406, US7991334, US7970321, US7965963, US7962069, US7917055, US7894753, US7890027, US7881645, US7853184, US7853183, US7840167, US7835675, US7835673, US7826777, US7822371, US7778577, US7747202, US7734230, US7729645, US7706699, US7702262, US7697870, US7680444, US7647012, US7647003, US7577379, US7460819, US7391999, US7376369, US7184691, US7073546, US6732772, US6543496, US6341210, US6305444, US6263928, US6091920, US6088561, US6085809, US6050309, US5947171, US5923931, US5867757, US5774773, US5740506, US5630198, US5629759, US5564607, US2011097107, US2011008075, US2011002713, US2010296847, US2010254732, US2010189470, US2010111573, US2010111561, US2010111560, US2010046982, US2009324298, US2009180817, US2009175660, US2009123192, US2009080945, US2009074471, US2009003872, US2008286013, US2008181674, US2008038019, US2007212119, US2007160394, US2007154244, US2007154243, US2007147902, US2007147900, US2007140746, US2007122205, US2007092304, US2007053716, US2006133855, TWI479282, JP5861930, JP5353524, JP4051058, JP2013160974, JP2011027936, JP2007298711, JP2005092240,

EP1655640, EP0856780, EP0801337, EP0801337, DE29806387, CN101900970, AU741402, AU2015218457, AU2008202679,

Abstract:
Source: US5515143A A toner cartridge including an engaging protrusion and an engaging concavity on a capped unit formed at one end surface of a container, and on a seal cap capped rotatably on the capped unit, a rotating range limiting opening into which the engaging protrusion fits and a stopping claw disallowing the seal cap to rotate by fitting into the engaging concavity to keep a toner replenishing opening closed. The user can not rotate the seal cap unless he presses down the stopping claw, and thus erroneous toner leakage or scattering can be prevented.

0) US2003068174A – TONER CARTRIDGE AND ELECTROPHOTOGRAPHIC APPARAT...

34) Family number: 28510853 (US2003068174A) © PatBase

Title: TONER CARTRIDGE AND ELECTROPHOTOGRAPHIC APPARATUS ADOPTING THE SAME

Priority: JP20010282431 20010917

Family:

Publication number	Publication date	Application number	Application date
JP2003107872 A2	20030409	JP20010282431	20010917
JP4386324 B2	20091216	JP20010282431	20010917
KR100477667 B1	20050318	KR20020056486	20020917
KR20030024627 A	20030326	KR20020056486	20020917
US2003068174 AA	20030410	US20020244590	20020917
US6804484 BB	20041012	US20020244590	20020917

Probable Assignee: S PRINTING SOLUTION CO LTD

Assignee(s):(std)**:** SAMSUNG ELECTRONICS CO LTD

Assignee(s): S PRINTING SOLUTION CO LTD ; SAMSUNG ELECTRONICS CO

Inventor(s):(std)**:** ANDO TAKASHI ; HASHIMOTO TOSHIBUMI ; HASHIMOTO TOSHIFUMI

International class(IPC 8–9)**:** G03G15/08 G03G21/10 (Advanced/Invention); G03G15/08 G03G21/10 (Core/Invention)

International class(IPC 1–7)**:** G03G15/08 G03G21/10

CPC: Y10S222/01 G03G2215/0827 G03G2215/1647 G03G2215/1657 G03G15/0844 G03G15/0855 G03G15/0865 G03G15/0875 G03G15/0877 G03G21/10

European class: G03G15/08H3 G03G15/08H3D S03G215/08A3C S03G215/16C S03G215/16C2

US class: 222/DIG.1 399/120 399/262

Classification Explorer

Cited documents: US5479247 A, JP3217879 A2,

Forward Citations: USD744586, US9383717, US9207572, US8913921, US8626036, US8521062, US8369745, US7962063, US7711288, US7389067, US2012114387, US2011076056, US2009232548, US2008152379, US2007154237, JP4600546, JP2010054570, JP2008040222,

Abstract:
Source: US2003068174A A toner cartridge which is detachably loaded in a predetermined loading portion and has a new toner containing space where new toner is contained and a waste toner containing space where waste toner is contained, the toner cartridge including a supply hole for supplying new toner and a receiving hole for receiving waste toner, which are installed at a predetermined position of a main body of the toner cartridge, and an open and shut mechanism for opening and shutting the supply hole and the receiving hole by a single shutter. An electrophotographic apparatus for forming an image on a recording medium by adhering toner to a photoreceptive body where an electrostatic latent image is formed and transferring the toner to the recording medium from the photoreceptive body, in which the electrophotographic apparatus includes a loading portion where the toner cartridge is detachably installed the toner cartridge. The toner cartridge comprises a new toner containing space where new toner is contained and a waste toner containing space where waste toner is contained, a supply hole for supplying new toner and a receiving hole for receiving waste toner, which are installed at a predetermined position of a main body of the toner cartridge, and an open and shut mechanism for opening and shutting the supply hole and the receiving hole by a single shutter.

0) US2013034370A – CARBON POWDER SUPPLY CARTRIDGE

35) Family number: 47787573 (US2013034370A) © PatBase

Title: CARBON POWDER SUPPLY CARTRIDGE

Priority: CN201020163105U 20100419 WO2011CN72944 20110418

Family:

Publication number	Publication date	Application number	Application date
CN201662687 U	20101201	CN201020163105U	20100419
EP2562602 A1	20130227	EP20110771565	20110418
EP2562602 A4	20131023	EP20110771565	20110418
US2013034370 AA	20130207	US20110641193	20110418
US8867954 BB	20141021	US20110641193	20110418
WO11131112 A1	20111027	WO2011CN72944	20110418

Probable Assignee: ZHUHAI PRINT RITE CO LTD

Assignee(s):(std)**:** LIU QUAN ; PRINT RITE UNICORN IMAGE PROD ; PRINT RITE UNICORN IMAGE PRODUCTS CO LTD OF ZHUHAI ; ZHUHAI PRINT RITE CO LTD ; PRINT RITE UNICORN IMAGE PRODUCTS CO LTD ; PRINT RITE UNICORN IMAGE PRODUCTS CO LTD ZHUHAI

Assignee(s): PRINT−RITE UNICORN IMAGE PRODUCTS CO., LTD. OF ZHUHAI ; ZHUHAI PRINT RITE CO ; PRINT RITE UNICORN IMAGE PRODUCTS CO ; PRINT RITE DEGREES UNICORN IMAGE PRODUCTS CO ; PRINT RITE DEGREES UNICORN IMAGE PRODUCTS CO LTD OF ZHUHAI

Inventor(s):(std)**:** LIU QUAN ; QUAN LIU

Agent(s): Morris Jonathan Paul; LERNER DAVID LITTENBERG KRUMHOLZ AND MENTLIK LLP; INNOPAT INTELLECTUAL PROPERTY CO LTD

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9): G03G15/08 (Advanced/Invention)

CPC: G03G2215/0692 G03G15/0855 G03G15/0865 G03G15/0886 G03G15/0832

European class: G03G15/08H3

US class: 399/106 399/110 399/262

Classification Explorer

Cited documents: US8335455 BB, US7817943 BB, US7574163 BB, US6839534 BB, US5933691 A, US5881345 A, US2009245862 AA, US2007269237 AA, US2007248384 AA, EP1857887 A1, EP0843233 A2, EP0757301 A2, CN201662687 U, CN1182898 A, CN101075116 A, CN101063861 A,

Forward Citations: WO11131112, US8867954,

Abstract:
Source: US2013034370A Disclosed is a toner cartridge, which comprises a case, a toner outlet and a gate that can slide to close the toner outlet. The inside of the gate has a bump which can be resisted by the opening mechanism to open the toner outlet. The outside of the gate has an elastic buckle which can be resisted by the closing mechanism to close the toner outlet. The outside of the toner feeding compartment has a notch; the bottom surface of the notch is connected with the outside of the toner feeding compartment through the guiding slope. When the gate is in the closing position, the elastic buckle and the notch coordinate; when the gate is in the opening position the elastic buckle separates from the notch and puts over the outside of the toner feeding compartment.

0) US2011268470A – RETAINING CLIP FOR PRINTER CARTRIDGE

36) Family number: 49887643 (US2011268470A) © PatBase

Title: RETAINING CLIP FOR PRINTER CARTRIDGE

Priority: US20100343470P 20100429 US20110066934 20110428

Family:

Publication number	Publication date	Application number	Application date
US2011268470 AA	20111103	US20110066934	20110428
US8422911 BB	20130416	US20110066934	20110428

Probable Assignee: MITSUBISHI KAGAKU IMAGING CORP

Assignee(s):(std)**:** HOLMES DENNY ; MITSUBISHI KAGAKU IMAGING CORP ; RUMMLER CRAIG S

Inventor(s):(std)**:** HOLMES DENNY ; RUMMLER CRAIG S

International class (IPC 8–9)**:** G03G15/00 G03G21/00 G03G21/16 (Advanced/Invention)

CPC: G03G21/1676 G03G15/0894 G03G2221/163 G03G2221/1654

European class: G03G15/08R S03G221/16D S03G221/16K1

US class: 399/109 399/109P 399/110 399/110S 399/113 399/126 399/126S

Classification Explorer

Cited documents: US7831171 BB, US6754460 BB, US6240605 BA, US6079084 A, US5887229 A, US2011044720 AA, US2008003013 AA, JP2002268516 A2, DE19936459 A1,

Forward Citations: US9069290, US2014314442,

Abstract:
Source: US2011268470A In one embodiment there is provided a toner cartridge retaining clip. The retaining clip has a first end configured to engage a portion of a contact end cap of a toner cartridge, a second end configured to engage a portion of a toner hopper of the toner cartridge, and a body portion connecting the first end to the second end. The body portion has an abutting surface configured to abut a toner sensor contact on the toner cartridge. When the first end is securely engaged to the portion of the contact end cap, and the second end is securely engaged to the portion of the toner hopper, the first end and the second end exert opposing pressures on the toner cartridge to secure the contact end cap to the toner hopper.

0) US2007092301A – TIMING WHEEL FOR TONER CARTRIDGE WITH DUAL SPRI...

37) Family number: 34395503 (US2007092301A) © PatBase

Title: TIMING WHEEL FOR TONER CARTRIDGE WITH DUAL SPRINGS

Priority: EP20060816376 20061005 US20050246926 20051007 WO2006US39064 20061005

Family:

Publication number	Publication date	Application number	Application date
DE602006033516 D1	20130124	DE200660033516T	20061005
EP1934563 A1	20080625	EP20060816376	20061005
EP1934563 B1	20121205	EP20060816376	20061005
US2007092301 AA	20070426	US20050246926	20051007
US7433612 BB	20081007	US20050246926	20051007
WO07044494 A1	20070419	WO2006US39064	20061005

Probable Assignee: TURBON AMERICA INC

Assignee(s):(std)**:** BESSETTE LIONEL C ; CLARITY IMAGING TECHNOLOGIES I ; CLARITY IMAGING TECHNOLOGIES INC

Assignee(s): CLARITY IMAGING TECHNOLOGIES INC WALTHAM ; KELTIC FINANCIAL PARTNERS LP ; TURBON AMERICA INC ; BERKSHIRE BANK

Inventor(s):(std)**:** BESSETTE LIONEL C

Inventor(s): BESSETTE LIONEL C MILLBURY ; BESSETTE LIONEL

Agent(s): EISENFUEHR SPEISER PATENTANWAELTE RECHTSANWAELTE PARTGMBB; EISENFUEHR SPEISER AND PARTNER; HINCKLEY ALLEN AND SNYDER LLP; LOGINOV AND ASSOCIATES PLLC; LOGINOV WILLIAM A; WILLIAM A

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD MG MK ML MN MR MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9): G01F23/22 G03G15/08 (Advanced/Invention); G01F23/22 G03G15/08 (Core/Invention)

CPC: G03G15/0856 G03G15/0875 G01F23/226 G03G2215/0802 G03G2215/0888

European class: G01F23/22C G03G15/08H2 S03G215/08A S03G215/08D

US class: 399/254 399/263 399/27

Classification Explorer

Cited documents: US7218871 BB, US6718147 BA, US6603933 BA, US6510303 BB, US6295422 BA, US6169860 BA, US6169860 B1, US6009285 A, US5995772 A, US5942067 A, US5634169 A, US4668074 A, US4065031 A, US2006188273 AA, JP4323678 A2, JP3017679 A2, JP11084850 A2,

Forward Citations: US9459555, US8995889, US2015117879, US2014072348,

Abstract:
Source: US2007092301A This invention provides a timing wheel assembly for controlling the timing of toner cartridge operation that is fixedly attached to a shaft of a toner tank agitator and that is operatively connected to a drive gear of a toner cartridge mounted coaxially on the shaft with the timing wheel movable between a first stop and a second stop relative to the drive gear to define rotational "dwell" range having a predetermined arcuate distance with a pair of springs of differing strengths. The first spring, of a first strength (first spring constant) biases the timing wheel against the first stop and the second spring of a second strength (second spring constant) is engaged by the timing wheel at higher resistance levels. In this manner, the first spring ensures that an appropriate dwell and snapback motion occurs at lower toner levels and the second spring (in combination with the first) provides heavier resistance and stronger rotational resistance/earlier snapback at higher toner levels.

0) US5737668A – TONER CARTRIDGE/COLLECTING TANK ASSEMBLY

38) Family number: 23330790 (US5737668A) © PatBase

Title: TONER CARTRIDGE/COLLECTING TANK ASSEMBLY

Priority: JP19950123478 19950523 JP19950292553 19951110

Family:

Publication number	Publication date	Application number	Application date
AU199652495 A1	19961205	AU19960052495	19960523
CN1159616 A	19970917	CN19961005166	19960523
EP0744671 A2	19961127	EP19960108185	19960522
EP0744671 A3	19990331	EP19960108185	19960522
JP3273723 B2	20020415	JP19950292553	19951110
JP9043960 A2	19970214	JP19950292553	19951110
KR19960042264 A	19961221	KR19960014956	19960508
TH23983 A	19970305	TH19961001620	19960521
TW416533 Y	20001221	TW20000204718U	19960522
US5737668 A	19980407	US19960650226	19960520

Probable Assignee: MITA INDUSTRIAL CO LTD

Assignee(s):(std): MITA INDUSTRIAL CO LTD ; MITAJIRI INDUSTRY CO LTD

Assignee(s): MITAJIRI IND CO LTD ; MITA IND CO LTD ; MITA INDUSTRIAL CO

Inventor(s):(std): ICHIO JOROKU ; JOHROKU KAZUO ; JYOROKU KAZUO ; TAKEMUTSU KAZUO

Inventor(s): KAZUO JYOROKU ; JOROKU ICHIO

Agent(s): PAUL R TAYLOR AND ASSOCIATES

Designated states: CH DE ES FR GB IT LI

International class (IPC 8–9): G03G15/08 G03G21/12 G03G21/18 (Advanced/Invention); G03G15/08 H04N1/00 (Advanced/Non–invention); G03G15/08 G03G21/12 G03G21/18 (Core/Invention)

International class (IPC 1–7): G03G15/08 G03G21/12 G03G21/18

CPC: G03G15/0868 G03G15/0872 G03G21/12

European class: G03G15/08H3C1 G03G21/12

US class: 399/120

Classification Explorer

Cited documents: US5574549 A, US5555081 A, US5398098 A, US5381217 A, US5349425 A, US5126799 A, US5078303 A, US4899690 A, JP6161173, JP5216342 A2, JP3028862 A2, EP0773483 A2, EP0608812 A2, EP0435596 A2, EP0348231 A2,

Forward Citations: USRE45513, USRE42312, USRE41779, USRE40058, USRE40021, US9383716, US9079433, US7486915, US7386254, US6640664, US6418284, US6308036, US6195521, US6151472, US6134410, US6088556, US6021292, US5809376, US5722019, US2013029820, US2007020017, EP0917022, EP0917022, EP0913740, EP0913740, EP0786706,

Abstract:
Source: US5737668A An image forming apparatus which facilitates replacement of a toner cartridge and collecting tank as a unit. The toner cartridge's exterior surface has an integrally formed collecting tank support portion having two opposing claws angled at an obtuse angle. The collecting tank has a support member for engaging the support portion of the toner cartridge for freely attaching/detaching the collecting tank to the toner cartridge.

0) US9471004B – TONER SUPPLY CONTAINER AND APPLICATIONS OF SAME...

39) Family number: 63366710 (US9471004B) © PatBase

Title: TONER SUPPLY CONTAINER AND APPLICATIONS OF SAME

Priority: US20150877625 20151007 US20160070185 20160315

Family:

Publication number	Publication date	Application number	Application date
CN205910499 U	20170125	CN201620696956U	20160704
DE202016102220 U1	20160901	DE201620102220U	20160427
TWM529865 Y	20161001	TW20160210129U	20160705
US9471004 BA	20161018	US20150877625	20151007
US9500985 BA	20161122	US20160070185	20160315

Probable Assignee: GENERAL PLASTIC INDUSTRIAL CO LTD

Assignee(s):(std)**:** GEN PLASTIC IND CO LTD ; GENERAL PLASTIC IND CO LTD

Assignee(s): GENERAL PLASTIC INDUSTRIAL CO ; GENERAL PLASTIC INDUSTRIAL CO LTD

Inventor(s):(std)**:** LEE YUEH CHUN ; LI GUAN TONG ; LI GUANTONG ; LI KUAN TUNG ; LI YUE JUN ; LI YUEJUN

Agent(s): LOCKE LORD LLP; TIM TINGKANG

International class (IPC 8–9)**:** G03G15/08 G03G21/18 (Advanced/Invention)

CPC: G03G15/0834 G03G15/0865 G03G2215/066 G03G15/087 G03G15/0867 G03G15/0886

US class: 1/1

Classification Explorer

Cited documents: US7729644 BB, US7647012 BB, US7455334 BB, US5273328 A, US5217262 A, US4660871 A, US2014169837 AA, US2011115146 AA,

Abstract:
Source: US9471004B A releasing mechanism usable for a toner supply container includes a groove fixable to the toner supply container, a releasing portion slidably fixable to the toner supply container, and a hook member. The releasing portion has an opening for releasing toner, and a fixing structure disposed over the groove. The hook member is disposed between the groove and the fixing structure, and has a first hook received in the groove, and a fixing portion fixable to the fixing structure. By operations of first and second forces pushing the releasing portion toward or away from the toner supply container, the first hook is slidable along the groove and is stoppable at first and second positions of the groove that are close to or away from the toner supply container, such that the releasing portion is movable relative to the toner supply container to provide or stop providing the toner.

0) US5650841A – PROCESS CARTRIDGE, IMAGE FORMING APPARATUS USAB...

40) Family number: 13157759 (US5650841A) © PatBase

Title: PROCESS CARTRIDGE, IMAGE FORMING APPARATUS USABLE THEREWITH AND TONER SEAL MOUNTING METHOD FOR PROCESS CARTRIDGE

Priority: JP19930123227 19930428 US19940234563 19940428 US19960670231 19960620

Family:

Publication number	Publication date	Application number	Application date
JP3236124 B2	20011210	JP19930123227	19930428
JP6314026 A2	19941108	JP19930123227	19930428
US5650841 A	19970722	US19960670231	19960620

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK

Assignee(s): CANON INC ; CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** KAWAGUCHI HIDEJI ; KAWAGUCHI HIDESHI ; MATSUDA KENJI ; MIYAKE HIROAKI ; NOMURA YOSHIYA ; SUGIURA YOSHINORI

International class (IPC 8–9)**:** G03G15/00 G03G15/08 G03G21/18 (Advanced/Invention)

International class (IPC 1–7)**:** G03G15/00 G03G15/08

CPC: Y10S222/01 G03G15/0882 G03G21/1814 G03G2215/00987 G03G2221/1633 G03G2221/1648 G03G2221/1853

European class: G03G15/08H3P G03G21/18C3 S03G215/00R S03G221/16D1 S03G221/16J S03G221/18P3

US class: 222/DIG.1 399/105 399/111 399/262

Classification Explorer

Cited documents: US5294960 A, US5206619 A, US5136333 A, US5091750 A, US5027156 A, US4732277 A, US4062385 A, JP51117042, JP431158 U, JP1303479,

Forward Citations: USD637226, US9091963, US8855527, US8843021, US8708199, US8660460, US8565642, US8521041, US8260171, US8032052, US8000630, US7813670, US7386241, US7239823, US7228086, US7209676, US7200350, US7200347, US7190921, US7174113, US7085509, US7062192, US6980755, US6968147, US6873815, US6865357, US6842595, US6826373, US6564029, US6324370, US6311026, US6236822, US6208816, US6188855, US6151459, US6101352, US6047153, US6016408, US5890036, US5867751, US5809377, US2015355580, US2014119771, US2014029971, US2012199244, US2011200340, US2010322664, US2010232832, US2010080624, US2008240772, US2008080888, US2006193653, US2006188285, US2006177231, US2005191080, US2005191079, US2005152716, US2005135832, US2005135831, US2005053394, US2004126131, US2004062573, US2003133723,

Abstract:
Source: US5650841A A process cartridge detachably mountable to a main assembly of an image forming apparatus includes a frame; an image bearing member; a developing device; a toner accommodating device for accommodating toner to be supplied to said developing device; opening for supplying to said developing device the toner in said toner accommodating device; a toner seal removably mounted at said opening to close it; a gap in said frame to permit pulling of said toner seal; an elastic sealing member in contact with said toner seal to prevent leakage of the toner through the gap; wherein said toner seal is constructed such that said toner seal is out of contact with an end of said elastic sealing member upon pulling of said toner seal.

0) US5337125A – TONER FEEDING DEVICE

41) Family number: 29126142 (US5337125A) © PatBase

Title: TONER FEEDING DEVICE

Priority: JP19910126040 19910529 JP19910126041 19910529 JP19910168918 19910612

Family:

Publication number	Publication date	Application number	Application date
DE69212901 D1	19960926	DE19926012901	19920527
DE69212901 T2	19970306	DE19926012901T	19920527
EP0516090 A2	19921202	EP19920108962	19920527
EP0516090 A3	19930602	EP19920108962	19920527
EP0516090 B1	19960821	EP19920108962	19920527
JP2934051 B2	19990816	JP19910126041	19910529
JP3014484 B2	20000228	JP19910126040	19910529
JP4350871 A2	19921204	JP19910126040	19910529
JP4350872 A2	19921204	JP19910126041	19910529
JP4365074 A2	19921217	JP19910168918	19910612
US5337125 A	19940809	US19920890622	19920528

Probable Assignee: MITA KOGYO KK

Assignee(s):(std)**:** KYOCERA DOCUMENT SOLUTIONS INC ; MITA INDUSTRIAL CO LTD

Assignee(s): MITA INDUSTRIAL CO LTD OSAKA JP ; MITA KOGYO KK ; MITA IND CO LTD ; MITA INDUSTRIAL CO

Inventor(s):(std)**:** HIGASHITANI MASAHIRO ; HIGASHIYA KATSUHIRO ; HIRAI YASUYUKI ; KISHIGAMI MINORU ; KURANDO SHIGEO ; KURATO SHIGEO ; MATSUO YASUHIRO ; MORI SHINGO ; NAKAI KUNIO ; NAKANISHI TSUGIO ; NAKANO KUNIAKI ; NISHIMURA TOSHINORI ; SAKO MASAHIRO

Inventor(s): SAKO MASAHIRO HIRAKATA SHI OSAKA JP ; NISHIMURA TOSHINORI HIRAKATA SHI OSAKA JP ; NAKANO KUNIAKI KITAKATSURAGI GUN NARA JP ; NAKANISHI TSUGIO SENNAN GUN OSAKA JP ; NAKAI KUNIO OSAKA SHI OSAKA JP ; MORI SHINGO SANGOU SHO IKOMA GUN NARA JP ; MATSUO YASUHIRO OSAKA SHI OSAKA JP ; KURANDO SHIGEO TAKATSUKI SHI OSAKA JP ; KISHIGAMI MINORU OSAKA SHI OSAKA JP ; HIRAI YASUYUKI YAO SHI OSAKA JP ; HIGASHITANI MASAHIRO MINAMIKAWACHI GUN OSAKA JP

Designated states: DE FR GB IT

International class (IPC 8–9): G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)

International class (IPC 1–7): G03G15/06 G03G15/08

CPC: G03G15/0886 G03G15/0855 G03G15/0865 G03G15/0877

European class: G03G15/08H3 G03G15/08H3D

US class: 220/353 355/260 399/263

Classification Explorer

Cited documents: US5235390 A, US5207353 A, US5175588 A, US5091750 A, US5074344 A, US5040025 A, US5040024 A, US5018560 A, US4997016 A, US4972887 A, US4587929 A, JP63179377, JP63065058 U1, JP61034270 A2, JP60198567, JP59036268 A2, JP59034564 A2, JP50151643 U1, EP0102002 A2,

Forward Citations: US7676186, US7400848, US6229973, US5918094, US5426493, GB2312760, GB2312760, EP0844537, EP0844537, EP0827041,

Abstract:
Source: US5337125A It is a major object of the present invention to break down and level a heap−up of toner built in the hopper through dropping from the cartridge when feeding toner into the hopper and to prevent toner from leakage from the cartridge due to erroneous operation with a remarkably simple and cheap construction. Namely,

the leveling member moves a plurality of number of times in line with engaging and disengaging operation of the cartridge for the hopper and opening and closing operation of the cartridge in the same direction of the shutter, thereby causing a heap−up of toner built in the hopper housing of the hopper to be effectively broken down and leveled. Furthermore, only when the shutter is in its closed status for the cartridge, the cartridge can be removed from the opening of the hopper.

0) US2005249522A – PROCESS CARTRIDGE FOR IMAGE FORMING APPARATUS

42) Family number: 32393967 (US2005249522A) © PatBase

Title: PROCESS CARTRIDGE FOR IMAGE FORMING APPARATUS

Priority: KR20040031262 20040504

Family:

Publication number	Publication date	Application number	Application date
KR100582998 B1	20060525	KR20040031262	20040504
KR20050106178 A	20051109	KR20040031262	20040504
US2005249522 AA	20051110	US20040023111	20041228

Probable Assignee: SAMSUNG ELECTRONICS CO LTD

Assignee(s):(std)**:** SAMSUNG ELECTRONICS CO LTD

Assignee(s): SAMSUNG ELECTRONICS CO

Inventor(s):(std)**:** PARK JONG HYUN

Agent(s): ROYLANCE ABRAMS BERDO AND GOODMAN LLP

International class (IPC 8–9)**:** G03G15/08 G03G21/10 G03G21/18 (Advanced/Invention); G03G21/18 (Advanced/Non–invention); G03G15/08 G03G21/10 G03G21/18 (Core/Invention)

International class (IPC 1–7)**:** G03G15/08 G03G21/18

CPC: G03G21/12 G03G21/1821 G03G21/185 G03G2221/1853 G03G21/18

European class: G03G21/10 G03G21/18C4C G03G21/18H1P S03G221/18P3

US class: 399/120

Classification Explorer

Cited documents: US7127193 BB, US7010250 BA, US6834175 BB, US6032002 A, US5923924 A, US5729796 A, US5398098 A,

Forward Citations: WO12059033, US8787796, US7941073, US2012189345, US2011262174, US2008260441, EP2437123, EP2254039, EP2012189,

Abstract:
Source: US2005249522A A process cartridge for an image forming apparatus has a developer cartridge having a toner inlet and a waste toner outlet. A toner cartridge is detachably mountable to the developer cartridge. An opening and closing unit substantially simultaneously opens and closes a toner supply route and a waste toner collection route through a lever operation. The opening and closing unit includes a rotary lever installed on the toner cartridge. One end of the rotary level protrudes outside of the toner cartridge and rotates in the forward and backward direction. A rotary opening and closing unit rotates along with the rotary lever to open and close the toner supply route. A slide opening and closing unit slides along in response to the rotation of the rotary lever to open and close the waste toner collection route.

0) EP0576757A2 – PROCESS CARTRIDGE AND IMAGE FORMING SYSTEM ON W...

43) Family number: 33535524 (EP0576757A2) © PatBase

Title: PROCESS CARTRIDGE AND IMAGE FORMING SYSTEM ON WHICH PROCESS CARTRIDGE IS MOUNTABLE.

Priority: JP19920194662 19920630

Family:

Publication number	Publication date	Application number	Application date
CN1049986 C	20000301	CN19921011666	19920928
CN1081261 A	19940126	CN19921011666	19920928
DE69218423 D1	19970424	DE19926018423	19920918
DE69218423 T2	19970814	DE19926018423T	19920918
EP0576757 A2	19940105	EP19920308511	19920918
EP0576757 A3	19940309	EP19920308511	19920918
EP0576757 B1	19970319	EP19920308511	19920918
JP3270122 B2	20020402	JP19920194662	19920630
JP6019241 A2	19940128	JP19920194662	19920630
KR0123924 B1	19971126	KR19920017623	19920926
MX9205522 A1	19940131	MX19920005522	19920928

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK

Assignee(s): CANON INC ; CANON K K ; CANON K K TOKIO TOKYO JP ; CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** IKEMOTO ISAO ; IKEMOTO ISAO C O CANON KABUSHI ; KAZUMI ; KOBAYASHI KAZUNORI ; KOBAYASHI KAZUNORI C O CANON K ; NADA SHINYA ; NODA SHINYA ; NODA SHINYA C O CANON KABUSHIK ; SASAKO ETSUICHI ; SEKINE ; SEKINE KAZUMI ; SEKINE KAZUMI C O CANON KABUSH ; SASAGO YOSHIKAZU ; SASAGO YOSHIKAZU C O CANON KAB ; TSUDA TADAYUKI ; TSUDA TADAYUKI C O CANON KABUS ; WATANABE KAZUFUMI ; WATANABE KAZUSHI ; WATANABE KAZUSHI C O CANON KAB

Inventor(s): WATANABE KAZUSHI C O CANON KABUSHIKI KAISHA OHTA K ; WATANABE KAZUSHI C O CANON KABUSHIKI KAISHA OHTA KU TOKYO JP ; WATANABE KAZUSHI C O CANON KABUSHIKI KAISHA... ; WATANABE KAZUSHI C O CANON KK ; WATANABE KAZUSHI C O CANON OHTA KU TOKYO JP KK ; YOSHIKAZU SASAGO ; TSUDA TADAYUKI C O CANON KABUSHIKI KAISH OHTA ; TSUDA TADAYUKI C O CANON KABUSHIKI KAISH OHTA KU T ; TSUDA TADAYUKI C O CANON KABUSHIKI KAISH OHTA KU TOKYO JP ; SASAGO YOSHIKAZU C O CANON KABUSHIKI KAISHA OHTA K ; SASAGO YOSHIKAZU C O CANON KABUSHIKI KAISHA OHTA KU TOKYO JP ; SASAGO YOSHIKAZU C O CANON KABUSHIKI KAISHA... ; SASAGO YOSHIKAZU C O CANON KK ; SASAGO YOSHIKAZU C O CANON OHTA KU TOKYO JP KK ; SEKINE KAZUMI C O CANON KABUSHIKI KAISHA OHTA KU T ; SEKINE KAZUMI C O CANON KABUSHIKI KAISHA OHTA KU TOKYO JP ; SEKINE KAZUMI C O CANON KABUSHIKI KAISHA OHTA... ; SEKINE KAZUMI C O CANON OHTA KK ; SEKINE KAZUMI C O CANON OHTA KU TOKYO JP KK ; SHINYA NODA ; TADAYUKI TSUDA ; NODA SHINYA C O CANON KABUSHIKI KAISHA OHTA KU TOK ; NODA SHINYA C O CANON KABUSHIKI KAISHA OHTA KU TOKYO JP ; NODA SHINYA C O CANON KABUSHIKI KAISHA OHTA KU... ; NODA SHINYA C O CANON OHTA KU KK ; NODA SHINYA C O CANON OHTA KU TOKYO JP KK ; KOBAYASHI KAZUNORI C O CANON KABUSHIKI KAISH ; KOBAYASHI KAZUNORI C O CANON KABUSHIKI KAISH OHTA ; KOBAYASHI KAZUNORI C O CANON KABUSHIKI KAISH OHTA KU TOKYO JP ; KAZUMI SEKINE ; KAZUNORI KOBAYASHI ; KAZUSHI WATANABE ; IKEMOTO ISAO C O CANON KABUSHIKI KAISHA OHTA KU TO ; IKEMOTO ISAO C O CANON KABUSHIKI KAISHA OHTA KU TOKYO JP ; IKEMOTO ISAO C O CANON KABUSHIKI KAISHA OHTA... ; IKEMOTO ISAO C O CANON OHTA KK ; IKEMOTO ISAO C O CANON OHTA KU TOKYO JP KK ; ISAO IKEMOTO

Designated states: DE ES FR GB IT

International class (IPC 8–9): B41J2/44 G03G15/00 G03G15/02 G03G21/18 (Advanced/Invention); B41J2/44 G03G15/00 G03G15/02 G03G21/18 (Core/Invention)

International class (IPC 1–7): B41F15/40 B41J2/44 G03G13/00 G03G15/00 G03G15/02 G03G21/18

CPC: G03G21/1633 G03G21/1647 G03G21/181 G03G21/1817 G03G2215/00987 G03G2221/1612 G03G2221/1853 G03G2221/1876

European class: G03G21/18C2 G03G21/18C4 S03G215/00R S03G221/16B1A S03G221/18P3 S03G221/18P3C

Classification Explorer

Cited documents: US5028966 A, US5005053 A, US4816877 A, US4806977 A, JP62165670, JP4362961, JP4157485, JP3256058, JP2289874, JP2257146, EP0453963 A2, EP0437097 A2, EP0193170 A1, DE3941506 A1,

Forward Citations: US6721520, CN102566370,

Abstract:
Source: EP0576757A2 A process cartridge comprises a first frame in which toner containing means for containing toner used for a developing operation and charger means are mounted, and a second frame which can be engaged by and disengaged from the first frame, and in which an image bearing member, developing means and cleaning means are mounted. With this arrangement, the assembling ability and disassembling ability are improved remarkably, and the process cartridge is suitable for the re−cycling to contribute to the protection of the earth−environment.

0) US2014169837A – TONER CARTRIDGE

44) Family number: 50555527 (US2014169837A) © PatBase

Title: TONER CARTRIDGE

Priority: CN201110206041 20110722 WO2012CN078397 20120710

Family:

Publication number	Publication date	Application number	Application date
CN102331697 A	20120125	CN201110206041	20110722
CN102331697 B	20130109	CN201110206041	20110722
EP2735917 A1	20140528	EP20120817819	20120710
EP2735917 A4	20150408	EP20120817819	20120710
US2014169837 AA	20140619	US20120233806	20120710
US9063465 BB	20150623	US20120233806	20120710
WO13013572 A1	20130131	WO2012CN78397	20120710

Probable Assignee: ZHUHAI PRINT RITE CO LTD

Assignee(s):(std): PRINT RITE UNICOM IMAGE PRODUCTS CO LTD ; PRINT RITE UNICORN IMAGE PROD ; ZHUHAI PRINT RITE CO LTD ; ZHOU HONGHUI ; PRINT RITE UNICORN IMAGE PRODUCTS CO LTD OF ZHUHAI ; PRINT RITE UNICORN IMAGE PRODUCTS CO LTD ; HUANG ZONGQIAN ; PRINT RITE UNICORN IMAGE PRODUCTS CO LTD ZHUHAI

Assignee(s): PRINT RITE UNICOM IMAGE PRODUCTS CO ; PRINT RITE UNICORN IMAGE PRODUCTS CO ; ZHUHAI PRINT RITE CO

Inventor(s):(std): HONGHUI ZHOU ; ZONGQIAN HUANG ; ZHOU HONGHUI ; HUANG ZONGQIAN

Agent(s): RAYNOR SIMON MARK; LERNER DAVID LITTENBERG KRUMHOLZ AND MENTLIK LLP; INNOPAT INTELLECTUAL PROPERTY CO LTD

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9): G03G15/08 G03G21/18 (Advanced/Invention)

CPC: G03G15/0886 G03G15/087 G03G15/0872

US class: 1/1 399/262

Classification Explorer

Cited documents: US8295742 BB, US8170452 BB, US2009169247 AA, US2008145091 AA, US2007264055 AA, JP2011017783 A2, JP2010134330 A2, JP2008129287 A2, CN2630903 Y, CN201607617 U, CN102331697 A, CN101916059 A,

Forward Citations: WO13013572, USD735804, USD735803, US9500985, US9442421, US9063465,

Abstract:
Source: US2014169837A Disclosed is a toner cartridge. The toner cartridge comprises a rotary container body, a toner discharge port, a sealing component, a connection component and a transmission component. The toner discharge port is placed on the rotary container body. The sealing component is placed inside the toner discharge port. The connection component is slide−connected with the toner discharge port. The transmission component is slide−connected with the connection component. When the transmission component is driven to rotate, it drives the connection component, the toner discharge port, and the rotary container body to rotate together.

0) EP0584417A1 – PROCESS CARTRIDGE, IMAGE FORMING SYSTEM MOUNTAB...

45) Family number: 33535523 (EP0584417A1) © PatBase

Title: Process cartridge, image forming system mountable same therein and method for assembling cleaning device.

Priority: JP19920194660 19920630 JP19920217423 19920724

Family:

Publication number	Publication date	Application number	Application date
CN1049984 C	20000301	CN19921010575	19920928
CN1080733 A	19940112	CN19921010575	19920928
DE69223241 D1	19980102	DE19926023241	19920918
DE69223241 T2	19980416	DE19926023241T	19920918
EP0584417 A1	19940302	EP19920308514	19920918
EP0584417 B1	19971119	EP19920308514	19920918
MX9205524 A1	19940131	MX19920005524	19920928

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON INC ; CANON KK

Assignee(s): CANON K K ; CANON K K TOKIO TOKYO JP ; CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** AL TADAYUKI TSUDA ET ; IKEMOTO ISAO ; IKEMOTO ISAO C O CANON KABUSHI ; ISAO IKEMOTO ; KAZUMI SEKINE ; KAZUNORY KOBAYASHI ; KAZUSHI WATANABE ; KOBAYASHI KAZUNORI ; KOBAYASHI KAZUNORI C O CANON K ; KOBAYASHI KAZUNORY ; NODA SHINYA ; NODA SHINYA C O CANON KABUSHIK ; SASAGO YOSHIKAZU ; SASAGO YOSHIKAZU C O CANON KAB ; SEKINE KAZUMI ; SEKINE KAZUMI C O CANON KABUSH ; SHINYA NODA ; SHOJI TAKEO ; SHOJI TAKEO C O CANON KABUSHIK ; TADAYUKI TSUDA ; TADAYUKI TSUDA ET AL ; TAKEO SHOJI ; TSUDA TADAYUKI ; TSUDA TADAYUKI C O CANON KABUS ; YOSHIKAZU SASAGO ; WATANABE KAZUSHI ; WATANABE KAZUSHI C O CANON KAB

Inventor(s): WATANABE KAZUSHI C O CANON KABUSHIKI KAISHA ; WATANABE KAZUSHI C O CANON KK ; WATANABE KAZUSHI C O CANON KABUSHIKI KAISHA OHTA K ; TSUDA TADAYUKI C O CANON KABUSHIKI KAISHA OHTA KU ; SHOJI TAKEO C O CANON KABUSHIKI KAISHA OHTA KU TOK ; SEKINE KAZUMI C O CANON KABUSHIKI KAISHA OHTA KU T ; SASAGO YOSHIKAZU C O CANON KABUSHIKI KAISHA OHTA K ; NODA SHINYA C O CANON KABUSHIKI KAISHA OHTA KU TOK ; KOBAYASHI KAZUNORI C O CANON KABUSHIKI KAISHA OHTA ; IKEMOTO ISAO C O CANON KABUSHIKI KAISHA OHTA KU TO ; TSUDA TADAYUKI C O CANON KABUSHIKI KAISHA ; TSUDA TADAYUKI C O CANON KABUSHIKI KAISHA OHTA... ; TSUDA TADAYUKI C O CANON KK ; TSUDA TADAYUKI C O CANON OHTA KK ; SHOJI TAKEO C O CANON KABUSHIKI KAISHA ; SHOJI TAKEO C O CANON KABUSHIKI KAISHA OHTA KU... ; SHOJI TAKEO C O CANON KK ; SHOJI TAKEO C O CANON OHTA KU KK ; SEKINE KAZUMI C O CANON KABUSHIKI KAISHA OHTA... ; SEKINE KAZUMI C O CANON OHTA KK ; SASAGO YOSHIKAZU C O CANON KABUSHIKI KAISHA... ; SASAGO YOSHIKAZU C O CANON KK ; NODA SHINYA C O CANON KABUSHIKI KAISHA ; NODA SHINYA C O CANON KABUSHIKI KAISHA OHTA KU... ; NODA SHINYA C O CANON KK ; NODA SHINYA C O CANON OHTA KU KK ; KOBAYASHI KAZUNORI C O CANON KABUSHIKI KAISHA ; KOBAYASHI KAZUNORI C O CANON KK ; IKEMOTO ISAO C O CANON KABUSHIKI KAISHA ; IKEMOTO ISAO C O CANON KABUSHIKI KAISHA OHTA... ; IKEMOTO ISAO C O CANON KK ; IKEMOTO ISAO C O CANON OHTA KK

Designated states: DE ES FR GB IT

International class (IPC 8–9): G03G21/00 G03G21/18 (Advanced/Invention); G03G21/00 G03G21/18 (Core/Invention)

International class (IPC 1–7): B41F15/40 G03G15/00 G03G21/00 G03G21/18

CPC: G03G21/0011 G03G21/181 G03G2215/00987

European class: G03G21/00B1 G03G21/18C2 S03G215/00R

Classification Explorer

Cited documents: US5036358 A, EP0485271 A2, EP0473180 A2, EP0453963 A2, EP0314140 A2, EP0153824 A2,

Forward Citations: GB2282108, GB2282108, EP1403742, EP1403742,

Abstract:
Source: EP0584417A1 The present invention is characterized by an image bearing member (9), process means acting on the image bearing member (9), a first frame (15), a second frame (14) lockable and separable with respect to the first frame, a locking body (15a;15b) and a locking member (14a) lockable to the locking body (15a;15b) which are provided to separably interlock the first and second frames (14;15), and a recessed portion (15n) and a projection (14h) fittable into the recessed portion which are provided to separably interlock the first and second frames (14;15). With above construction it is possible to provide a process cartridge, an image forming system (A), and a method for assembling a cleaning device (13), which can be easily assembled and can sufficiently cope with a high number of re−cycles. There are additionally disclosed a method of attaching auxilliary parts to a processing cartridge and a method of assembling a cleaning unit. There are as well disclosed means for attaching additional parts into a processing cartridge.

0) US2016062313A – IMAGE FORMING APPARATUS AND DETACHABLE UNIT

46) Family number: 61777749 (US2016062313A) © PatBase

Title: IMAGE FORMING APPARATUS AND DETACHABLE UNIT

Priority: JP20140173860 20140828

Family:

Publication number	Publication date	Application number	Application date
CN106200308 A	20161207	CN201510425757	20150720
EP2990877 A1	20160302	EP20150176801	20150715
JP2016048348 A2	20160407	JP20140173860	20140828
US2016062313 AA	20160303	US20150803929	20150720
US9459586 BB	20161004	US20150803929	20150720

Probable Assignee: OKI DATA KK

Assignee(s):(std)**:** OKI DATA KK

Assignee(s): OKI DATA CORP

Inventor(s):(std)**:** KEIGO MATSUMOTO ; MATSUMOTO KEIGO

Agent(s): BETTEN AND RESCH; RABIN AND BERDO PC

Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL NO PL PT RO RS SE SI SK SM TR

International class (IPC 8–9): G03G15/00 G03G15/08 G03G21/16 G03G21/18 (Advanced/Invention)

CPC: G03G21/1867 G03G15/0863 G03G21/1885

US class: 1/1 399/111 399/119 399/121 399/90

Classification Explorer

Cited documents: US2016067977 AA, US2015153706 AA, US2014168324 AA, US2013083499 AA, US2012258637 AA, US2012256991 AA, US2006228127 AA, US2003215261 AA, US2003215257 AA, US2003123896 AA, JP2011118160 A2, JP2007140266 A2, EP2762982 A1, EP1363168 A2,

Abstract:
Source: US2016062313A An image forming apparatus includes an apparatus main body and a contact terminal, and a detachable unit including a holder for holding a circuit board having an electrode terminal which comes into contact with the contact terminal. A state of the detachable unit is changed to an attached state by inserting it in an insertion direction, and is changed to a detached state by withdrawing the detachable unit in a withdrawal direction. The holder includes a first positioning member for positioning a tip end of the circuit board in the insertion direction when the detachable unit holding the circuit board in the holder is slid in the insertion direction. The first positioning member includes a notch configured so that the contact terminal passes through the notch when the detachable unit not holding the circuit board in the holder in the attached state is slid in the withdrawal direction.

0) US4868599A – DEVICE AND METHOD FOR STORING TONER WASTE

47) Family number: 4623516 (US4868599A) © PatBase

Title: DEVICE AND METHOD FOR STORING TONER WASTE

Priority: JP19860127806 19860602 JP19860209316 19860905 US19870057882 19870602

Family:

Publication number	Publication date	Application number	Application date
JP62284380 A2	19871210	JP19860127806	19860602
JP63064072 A2	19880322	JP19860209316	19860905
US4868599 A	19890919	US19870057882	19870602
US5021825 A	19910604	US19890403513	19890906
US5038180 A	19910806	US19890400434	19890830

Probable Assignee: SEIKO EPSON CORP

Assignee(s):(std)**:** SEIKO EPSON CORP

Inventor(s):(std)**:** NIKI HIROSHI ; NIKI YUJI

International class (IPC 8–9)**:** G01N5/00 G03G21/00 G03G21/10 G03G21/12 (Advanced/Invention); G01N5/00 G03G21/00 G03G21/10 G03G21/12 (Core/Invention)

International class (IPC 1–7)**:** G01N5/00 G03G15/00 G03G21/00

CPC: Y10S222/01 G03G21/12

European class: G03G21/12

US class: 222/DIG.1 355/200 355/210 355/260 355/298 399/111 399/35 399/360

Classification Explorer

Cited documents: US4757344 A, US4754293 A, US4690544 A, US4685798 A, US4530594 A, US4491161 A, US4436414 A, US4436412 A, US4325628 A, US4251155 A, US4218132 A, US4174902 A, US4173405 A, US4140389 A, US3985436 A, US3947107 A, JPS6298376, JPS62294276, JPS6225776, JPS6210684, JPS62105176, JPS6151160, JPS60254072, JPS60107763, JPS60107663, JPS59155878, JPS58203479, JPS58147758, JPS5814177, JPS5726881, JPS55142364, JP62294276 A2, JP62105176 A2, JP62098376 A2, JP62025776 A2, JP62010684 A2, JP6156371 A2, JP6151160 A2, JP61051160 A2, JP60254072 A2, JP60107763 A2, JP60107663 A2, JP59155878 A2, JP58203479 A2, JP58147758 A2, JP58014177 A2, JP57026881 A2, JP5535504 T2, JP55142364 A2, EP0078019 A2, AU20744 A1,

Forward Citations: US9671743, US9523947, US9469130, US8836747, US8805216, US8369720, US7949275, US7426365, US7280776, US7257363, US7205738, US6961528, US6834173, US6731885, US6697589, US6580881, US6505009, US6151472, US6134410, US5809376, US5722019, US5594541, US5530521, US5465619, US5400127, US5268727, US5257076, US5204713, US5160964, US5138394, US5109254, US5084734, US2017010563, US2016078331, US2011243585, US2010196021, US2008260410, US2007065196, US2006120779, US2005260018, US2005212472, US2005163545, US2005008395, US2003086723,

Abstract:
Source: US4868599A In storing toner waste collected from the surface of an image carrier within an image forming apparatus, the toner waste is compressed within a container by a resilient cantilever member. A diaphragm located within the container expands through an opening of the container based on the pressure exerted on the diaphragm by the compressed toner waste. Upon traveling a predetermined distance, the diaphragm forces a switch to close which triggers an alarm indicating that the container is full of toner waste.

0) US5697022A – PROCESS CARTRIDGE, IMAGE FORMING APPARATUS USAB...

48) Family number: 13349759 (US5697022A) © PatBase

Title: PROCESS CARTRIDGE, IMAGE FORMING APPARATUS USABLE THEREWITH AND PROCESS CARTRIDGE ASSEMBLING METHOD

Priority: JP19930123180 19930428 US19940234995 19940428 US19960639996 19960430

Family:

Publication number	Publication date	Application number	Application date
JP6313996 A2	19941108	JP19930123180	19930428
US5697022 A	19971209	US19960639996	19960430

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK

Assignee(s): CANON INC ; CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** KAWAGUCHI HIDEJI ; KAWAGUCHI HIDESHI ; MATSUDA KENJI ; MIYAKE HIROAKI ; NOMURA YOSHIYA ; SUGIURA YOSHINORI

International class (IPC 8–9)**:** G03G15/00 G03G21/18 (Advanced/Invention)

International class (IPC 1–7)**:** G03G15/00 G03G21/00

CPC: G03G21/1647 G03G21/1832 G03G2221/1648 G03G2221/1853

European class: G03G21/18C5S S03G221/16J S03G221/18P3

US class: 399/102 399/113

Classification Explorer

Cited documents: US5331372 A, US5294960 A, US5244092 A, US5175588 A, US4993106 A, US4937628 A, US4870463 A, US4759783 A,

Forward Citations: WO11074109, US9091963, US9063459, US8644725, US8565642, US8526850, US8521041, US8466403, US8417152, US8295731, US8260171, US8116657, US8099012, US8000630, US7813670, US7623807, US7386241, US7346291, US7228086, US7209676, US7200350, US7200347, US7174113, US7085509, US6968147, US6953246, US6873815, US6865357, US6826373, US6564029, US6553195, US6487383, US6324370, US6311026, US6236822, US6215969, US6208816, US6151459, US6101352, US6016408, US5974287, US5809377, US2014037342, US2011200340, US2011188882, US2011155893, US2011150526, US2010322664, US2010232832, US2010080624, US2010054807, US2009154951, US2009154950, US2008181659, US2007140729, US2006188285, US2006177231, US2005191079, US2005152716, US2005135832, US2005135831, US2004062573, US2004017462, US2003133723, JP5274673, JP2006350008, EP1265112,

Abstract:
Source: US5697022A A process cartridge detachably mountable to a main assembly of an image forming apparatus includes a first frame; a second frame engageable with the first frame; an image bearing member; a process device actable on the image bearing member; an elastic sealing member interposed between the first and second frames engaged with each other, with the elastic sealing member locally compressed by a projection.

0) US2010232815A – TONER CARTRIDGE CAPABLE OF DETECTING RESIDUAL A...

49) Family number: 46844170 (US2010232815A) © PatBase

Title: TONER CARTRIDGE CAPABLE OF DETECTING RESIDUAL AMOUNT OF TONER STORED THEREIN

Priority: US20090402774 20090312

Family:

Publication number	Publication date	Application number	Application date
US2010232815 AA	20100916	US20090402774	20090312

Probable Assignee: ZHENG CHUNHUA

Assignee(s):(std)**:** ZHENG CHUNHUA

Inventor(s):(std)**:** ZHENG CHUNHUA

Agent(s): RABIN AND BERDO PC

International class (IPC 8–9)**:** G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)

CPC: G03G15/553 G03G2215/066 G03G15/556 G03G15/0856 G03G15/0858 G03G15/0865

European class: G03G15/08H2 G03G15/55B S03G215/06C

US class: 399/254 399/254S 399/27 399/27P

Classification Explorer

Cited documents: US7509081 BB, US7177567 BB, US6510303 BB, US5884130 A,

Forward Citations: US9575460, US9557684, US9529319, US9494914, US9454098, US9395684, US9207632, US9195207, US9188904, US8971772, US8831445, US8213839, US2015185691, US2013322928, US2011286754, US2010098461, JP2013222137,

Abstract:
Source: US2010232815A The present invention provides a toner cartridge which comprises: a hopper for storing toner therein; a stirring means comprising a first paddle connected to a driving source and adapted to rotate in the hopper, and a second paddle connected to the first paddle by means of an elastic member, the stirring means being adapted to stir the toner in the hopper by the first paddle and the second paddle; and a detection means comprising an encoder having a first slit and a second slit formed thereon for transmitting light therethrough, the second slit having a width different from that of the first slit, an encoder gear connected to the second paddle for driving the encoder, and a sensor 590 mounted at a sensor reference position for outputting a first signal corresponding to the first slit and a second signal corresponding to the second slit, whereby the sensor detects a time delay of the second signal with respect to the first signal to measure the residual amount of the toner. The present invention also provides an electrophotographic image forming apparatus including the toner cartridge.

0) US4778086A – TONER REPLENISHING DEVICE

50) Family number: 6645786 (US4778086A) © PatBase

Title: TONER REPLENISHING DEVICE

Priority: JP19860043446 19860227 JP19860043447 19860227

Family:

Publication number	Publication date	Application number	Application date
DE3766981 D1	19910207	DE19873766981	19870225
EP0235732 A1	19870909	EP19870102633	19870225
EP0235732 B1	19901227	EP19870102633	19870225
JP1912485 C3	19950309	JP19860043446	19860227
JP1912486 C3	19950309	JP19860043447	19860227
JP6042104 B4	19940601	JP19860043446	19860227
JP6042105 B4	19940601	JP19860043447	19860227
JP62200377 A2	19870904	JP19860043446	19860227
JP62200378 A2	19870904	JP19860043447	19860227
US4778086 A	19881018	US19870218573	19870225

Probable Assignee: MITA INDUSTRIAL CO LTD

Assignee(s):(std)**:** MITA INDUSTRIAL CO LTD

Assignee(s): MITA INDUSTRIAL CO LTD OSAKA JP ; MITA INDUSTRIAL CO LTD REPRESENTATIVE MITA YOSHIHIRO TAMATSUKURI 1 2 28 HIGASHI KU OSAKA SHI OSAKA JAPAN ; MITA IND CO LTD ; MITA INDUSTRIAL CO

Inventor(s):(std)**:** ODA KENJI ; SHIBATA KIYOSHI

Inventor(s): SHIBATA KIYOSHI OSAKA SHI OSAKA JP ; SHIBATA KYOSHI ; ODA KENJI TOYONAKA SHI OSAKA JP

Designated states: DE FR GB

International class(IPC 8–9)**:** G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)

International class(IPC 1–7)**:** B67D3/00 G03G15/08

CPC: Y10S222/01 G03G15/0882

European class: G03G15/08H3P

US class: 141/364 222/325 222/541 222/541.1 222/DIG.1

Classification Explorer

Cited documents: US4650070 A, US4614286 A, US4573614 A, US4491161 A, US4062385 A, US3385500 A, US2673007 A, JPS5941364 U, JP60177372 A2, JP60107056, JP59041365 U1, JP59041364 U1, JP59041364 U, EP0102002 A2, DE3011938 A1, DE2610661 A1,

Forward Citations: USRE36920, USRE35529, US6356724, US5878306, US5676794, US5525183, US5404212, US5282003, US5261568, US5260749, US5223068, US5184182, US5177540, US5122837, US5018560, US4997016, US4976465, US4931838, US4895104, JP2148073, JP2006321251, GB2230872, GB2230872, GB2208209, FR2748331, EP0583803, EP0583803, EP0400623, EP0356233, EP0330225, DE4134997, BE1003979,

Abstract:
Source: US4778086A A toner replenishing device is improved to prevent unexpected dropping of toner when attaching a toner storage cartridge to a toner receptacle of a developer and detaching it therefrom. The cartridge is easily attached to the developer and is hooked in place thereto when a sheet sealing an open end of the cartridge is removed. The cartridge easily is detached from the developer by the operation of a cam portion engaging with a hooking member as a result of displacement of the cartridge by a distance equal to the thickness of the sheet and a sheet tearing member which previously are removed from the cartridge.

0) US2006280526A – TONER CARTRIDGE AND MECHANISM FOR OPENING AND C...

51) Family number: 33994401 (US2006280526A) © PatBase

Title: TONER CARTRIDGE AND MECHANISM FOR OPENING AND CLOSING A TONER DISCHARGING OPENING

Priority: JP20050016942 20050609 JP20050169421 20050609

Family:

Publication number	Publication date	Application number	Application date
JP2006343560 A2	20061221	JP20050169421	20050609
JP4629508 B2	20110209	JP20050169421	20050609
US2006280526 AA	20061214	US20060423031	20060608
US7801468 BB	20100921	US20060423031	20060608

Probable Assignee: OKI DATA CORP

Assignee(s):(std)**:** OKI DATA KK

Assignee(s): OKI DATA CORP

Inventor(s):(std)**:** SHIMOMURA TATSUHIKO

Agent(s): AKIN GUMP STRAUSS HAUER AND FELD LLP; PANITCH SCHWARZE BELISARIO AND NADEL LLP

International class (IPC 8–9): G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)

CPC: G03G15/0886 G03G15/0855 G03G15/0865 G03G2215/067

European class: G03G15/08H3 S03G215/06C1A2

US class: 399/258 399/260

Classification Explorer

Cited documents: US6324371 BA, US5956546 A, US5608501 A, US2007212118 AA, US2006104671 AA, US2004091288 AA, JP7181793 A2, JP6214461 A2, JP6102763 A2, JP3271783 A2, JP2004170790 A2, JP11084838 A2,

Forward Citations: US9696657, US9459556, US9188950, US9146497, US8811861, US8655236, US8467708, US8385772, US8358953, US8260169, US8208836, US8200127, US8165505, US7949287, US7548710, US2016139540, US2013243491, US2012114385, US2011280619, US2011103845, US2011052266, US2009263165, US2009190963, US2009185833, US2009052949, US2009016767, US2008101821, JP5879928, JP2013092660, JP2009175403, EP2290461, EP2290461,

Abstract:
Source: US2006280526A A toner cartridge and a developing unit are used in an image forming apparatus. The toner cartridge includes a toner chamber, an inner shutter, and an outer shutter. The toner chamber holds toner therein and has an opening through which the toner is discharged into the developing unit. The inner shutter is disposed in the toner chamber and is rotatable relative to the toner chamber to close and open the opening. The outer shutter has an engagement portion, is mounted to an outer surface of the toner chamber, and is movable either to a closing position where said outer shutter closes the opening or to an opening position where the outer shutter opens the opening. When the toner cartridge is moved into the developing unit, the engagement portion is guided in a guide groove formed in the developing unit to move relative to the toner chamber from the closing position to the opening position.

0) US5091750A – CARTRIDGE UNIT

52) Family number: 3779738 (US5091750A) © PatBase

Title: CARTRIDGE UNIT

Priority: JP19890320234 19891208 JP19920202084 19920729

Family:

Publication number	Publication date	Application number	Application date
CA2031791 AA	19910609	CA19902031791	19901207
CA2031791 C	19941101	CA19902031791	19901207
DE69018388 D1	19950511	DE19906018388	19901206
DE69018388 T2	19951116	DE19906018388T	19901206
EP0431615 A2	19910612	EP19900123435	19901206
EP0431615 A3	19921223	EP19900123435	19901206
EP0431615 B1	19950405	EP19900123435	19901206
ES2074110 T3	19950901	ES19900123435T	19901206
JP2565575 B2	19961218	JP19890320234	19891208
JP2810915 B2	19981015	JP19920202084	19920729
JP3180874 A2	19910806	JP19890320234	19891208
JP6067534 A2	19940311	JP19920202084	19920729
US5091750 A	19920225	US19900622526	19901205

Probable Assignee: MITA INDUSTRIAL CO LTD

Assignee(s):(std): MITA INDUSTRIAL CO LTD

Assignee(s): MITA INDUSTRIAL CO LTD OSAKA JP ; MITA IND CO LTD ; MITA INDUSTRIAL CO

Inventor(s):(std): YOSHIDA SEITARO ; ASHIDA KENICHI ; YOSHIDA SEITARO NANKONAK

Inventor(s): ASHIDA KENICHI HYOGO KEN JP ; YOSHIDA SEITARO 5 3 45 1212 NANKONAKA ; YOSHIDA SEITARO 5 3 45 1212 NANKONAKA OSAKA SHI OS ; YOSHIDA SEITARO 5 3 45 1212 NANKONAKA OSAKA SHI OSAKA FU JP ; YOSHIDA SEITARO 5 3 45 1212 NANKONAKA OSAKA...

Designated states: DE ES FR GB IT NL

International class (IPC 8–9): G03G15/00 G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)

International class (IPC 1–7): G03G15/00 G03G15/06 G03G15/08

CPC: G03G15/0886 G03G15/0855 G03G15/0865

European class: G03G15/08H3

US class: 141/364 141/366 355/260 399/106 D18/40 D18/43

Classification Explorer

Cited documents: US4752807 A, JP63178274 A2, JP63065058 U1, JP59034566 A2, JP1209464, GB371520 A, EP0225745 A1, EP0101303 A2,

Forward Citations: USD711965, USD559902, USD538850, USD455778, USD455455, US9459556, US9188950, US9146497, US8139986, US7447470, US6796107, US6650847, US6463243, US6269234, US6266506, US6249654, US6236826, US6137972, US5978624, US5970292, US5970291, US5907747, US5836358, US5737675, US5650841, US5630198, US5627631, US5608501, US5520229, US5513679, US5479247, US5475479, US5402216, US5383502, US5351728, US5337125, US5331382, US5207353, US5184184, US2009016770, US2006285885, US2005115932, US2003101690, JP6116373, JP5435116, JP5333694, JP5289516, JP3498017, JP3498016, JP3498013, JP2849280, JP2802854, JP2014228830, JP2013218276, JP2001051486, JP2001051484, JP2001034052, GB2312760, GB2312760, EP2290461, EP2290461, EP1901133, EP1225487, EP1225487, EP0940732, EP0892321, EP0757301, EP0757301, EP0708384, EP0708384, EP0670530, EP0670530, EP0604999, DE102006007304, CN103309206, CN103309206,

Abstract:
Source: US5091750A A toner cartridge unit for a copying machine having a double shutter at the mouth of the toner cartridge. The double shutter is locked when the cartridge is not attached to a toner hopper of the copying machine and prevents toner from coming out. Owing to the double shutter structure, the outside of the cartridge is always clean. When the cartridge unit is attached to the hopper, many locking and releasing mechanisms for the double shutter and a third shutter provided at the hopper entrance work sequentially and automatically as the cartridge is moved from a preparation site to a supplying site of the toner hopper.

0) US5623328A – PROCESS CARTRIDGE AND IMAGE FORMING SYSTEM ON W...

53) Family number: 33533433 (US5623328A) © PatBase

Title: PROCESS CARTRIDGE AND IMAGE FORMING SYSTEM ON WHICH PROCESS CARTRIDGE IS MOUNTABLE

Priority: JP19900110613 19900427 JP19900301779 19901106 JP19910054446 19910319 JP19920194662 19920630 US19910689517 19910423 US19940356779 19941212 US19920952650 19920928 US19910785401 19911030

Family:

Publication number	Publication date	Application number	Application date
US5623328 A	19970422	US19940356779	19941212

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK

Assignee(s): CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** IKEMOTO ISAO ; ISHIWATA KAZUHIKO ; KARAKAMA TOSHIYUKI ; KOBAYASHI KAZUNORI ; NODA SHINYA ; NOMURA YOSHIYA ; SASAGO YOSHIKAZU ; SASAKI SHINICHI ; SEKINE KAZUMI ; SHIRAI HIROYUKI ; SHISHIDO KAZUO ; TANAKA MAKOTO ; TSUDA TADAYUKI ; WATANABE KAZUSHI ; YANO KANJI

International class (IPC 8–9): G03G15/08 G03G21/18 (Advanced/Invention); G03G15/08 G03G21/18 (Core/Invention)

International class (IPC 1–7): G03G15/00

CPC: G03G21/1633 G03G21/1666 G03G21/1821 G03G15/0898 G03G2215/00987 G03G2221/1648 G03G2221/1651 G03G2221/1654 G03G2221/1669 G03G2221/1876

European class: G03G15/08S1 G03G21/18C4C S03G215/00R S03G221/16J S03G221/16K S03G221/16K1 S03G221/16M S03G221/18P3C

US class: 399/111

Classification Explorer

Cited documents: US5160963 A, US5151734 A, US5134960 A, US5134441 A, US5115272 A, US5095335 A, US5060014 A, US5051778 A, US5036358 A, US5028966 A, US5021830 A, US5005053 A, US4996566 A, US4987446 A, US4974023 A, US4974020 A, US4972227 A, US4938381 A, US4924267 A, US4888620 A, US4862212 A, US4851960 A, US4839690 A, US4816877 A, US4806977 A, US4785319 A, US4708455 A, US4627701 A, US4609276 A, US4591258 A, US4540268 A, US4500195 A, US4386838 A, US3985436 A, JPS63149669, JPS61192768, JPS59155877, JPS5863961, JP63149669 A2, JP61192768 A2, JP59155877 A2, JP58063961 A2, JP4009869 A2, JP2301779 A2, JP2168277 A2, JP2163769 A2, JP2123376 A2, GB2074095 A1, FR2611930 A1, EP0485271 A2, EP0453963 A2, EP0437097 A2, EP0276910 A1, EP0193170 A1, DE8907136 U, DE4003695 A1, DE3941506 A1,

Forward Citations: US9046860, US8865382, US8725042, US8546052, US8260172, US8095051, US7957669, US7920806, US7912404, US7873296, US7844197, US7796915, US7660545, US7630661, US7565092, US7532840, US7489885, US7403733, US7296341, US7274896, US7248814, US7231161, US7156797, US7095967, US7092655, US7073251, US7071962, US7024131, US6999696, US6987938, US6917774, US6895199, US6885838, US6876826, US6868243, US6859627, US6856775, US6836639, US6832056, US6826373, US6804483, US6788908, US6782213, US6738589, US6735406, US6714750, US6714746, US6704525, US6697578, US6690902, US6684040, US6658224, US6603939, US6594454, US6571070, US6542706, US6535699, US6519431, US6465143, US6463223, US6424811, US6415121, US6408143, US6408142, US6400914, US6397018, US6397017, US6377759, US6375314, US6334035, US6330402, US6308028, US6272299, US6266500, US6246853, US6236821, US6229974, US6215969, US6208818, US6208816, US6201935, US6185390, US6173145, US6144398, US6137970, US6118960, US6104894, US6101354, US6101348, US6097909, US6097906, US6075962, US6075957, US6070028, US6041196, US6016413, US6011941, US6009289, US5966568, US5953560, US5937237, US5907749, US5867751, US5864731, US5809374, US2015023694, US2011211863, US2010074647, US2009169248, US2009074453, US2009074452, US2009074449, US2008279583, US2008170882, US2008063429, US2008056754, US2007104511, US2007104510,

US2006198654, US2006029423, US2006024086, US2006008287, US2005283973, US2005025508, US2004207716, US2004190933, US2004136746, US2004134070, US2004086300, US2004045156, US2003113131,

Abstract:
Source: US5623328A A process cartridge includes a first frame in which a toner containing unit for containing toner used for a developing operation and a charger unit are mounted, and a second frame which can be engaged by and disengaged from the first frame, and in which an image bearing member, a developing unit and cleaning unit are mounted. With this arrangement, the assembling ability and disassembling ability are improved remarkably, and the process cartridge is suitable for the re−cycling to contribute to the protection of the earth−environment.

0) US2008240772A – TONER CARTRIDGE, TONER REFILLING METHOD AND IMA...

54) Family number: 42232215 (US2008240772A) © PatBase

Title: TONER CARTRIDGE, TONER REFILLING METHOD AND IMAGE FORMING APPARATUS USING THE TONER CARTRIDGE

Priority: JP20070085604 20070328

Family:

Publication number	Publication date	Application number	Application date
CN101276186 A	20081001	CN200810089119	20080328
JP2008242296 A2	20081009	JP20070085604	20070328
US2008240772 AA	20081002	US20080056329	20080327

Probable Assignee: KYOCERA MITA CORP

Assignee(s):(std)**:** KYOCERA MITA CORP

Inventor(s):(std)**:** NISHIKAWA YOSHIYUKI

Inventor(s): YOSHIYUKI NISHIKAWA

Agent(s): CASELLA AND HESPOS

International class (IPC 8–9): B65D83/06 G03G15/00 G03G15/08 (Advanced/Invention); B65D83/06 G03G15/00 G03G15/08 (Core/Invention)

CPC: G03G15/0894 G03G15/0882 G03G2215/0687

European class: G03G15/08H3P S03G215/06C5

US class: 399/106

Classification Explorer

Cited documents: US5943538 A, US5822653 A, US5650841 A, US2005123323 AA, US2004062573 AA,

Forward Citations: US9541863, US9052640, US8693927, US8521070, US2013308971, US2011222917, JP5975823, JP2014071275, EP2511773, CN103425019, CN103425019, CN102736479, CN102736479,

Abstract:
Source: US2008240772A A toner cartridge (20) includes a main cartridge body (30) having a housing formed with an opening (350) and also having a rotary shaft (41) supported by the housing for rotation about an axis thereof, a detachable member (60) mounted to the opening (350) and having a toner outlet (610) through which the toner (T) is discharged and a sealing film (70) having a first end so attached to the detachable member (60) as to close the toner outlet (610) and a second end attached to a part of the main cartridge body (30), the first end of the sealing film (70) being peeled off from the detachable member (60) by the rotation of the rotary shaft (41).

0) US2008199227A – TONER CARTRIDGE

55) Family number: 42112527 (US2008199227A) © PatBase

Title: TONER CARTRIDGE

Priority: JP20070041465 20070221

Family:

Publication number	Publication date	Application number	Application date
CN101251736 A	20080827	CN200810009303	20080218
CN101251736 B	20111228	CN200810009303	20080218
EP1962148 A1	20080827	EP20080151582	20080218
HK1120622 A3	20090403	HK20090101273	20090211
JP2008203678 A2	20080904	JP20070041465	20070221
JP4905689 B2	20120328	JP20070041465	20070221
KR20080077912 A	20080826	KR20080014389	20080218
US2008199227 AA	20080821	US20080033962	20080220
US7734232 BB	20100608	US20080033962	20080220

Probable Assignee: MURATA MACHINERY LTD

Assignee(s):(std)**:** MURATA MACHINERY LTD ; MURATA MACHINERYLTD

Assignee(s): MURATA MACH LTD

Inventor(s):(std)**:** KAWAI HIDEAKI ; HIDEAKI KAWAI

Agent(s): ACKROYD ROBERT; MURATA MACHINERY LTD MURATEC C O KEATING AND BENNETT LLP; KEATING AND BENNETT LLP

Designated states: AL BA DE GB MK RS

International class (IPC 8–9)**:** B65D50/00 G03G15/00 G03G15/08 (Advanced/Invention); G03G15/08 (Advanced/Non–invention); G03G15/00 G03G15/08 (Core/Invention)

CPC: G03G15/0855 G03G15/0865 G03G15/0875 G03G15/0894 G03G2215/00987

European class: G03G15/08H3 G03G15/08R S03G215/00R

US class: 399/109 399/120 399/262

Classification Explorer

Cited documents: US7486905 BB, US6778786 BB, US6694782 BB, US6496671 BB, US6350026 BA, US5974286 A, US5909610 A, US2008175629 AA, US2006171737 AA, US2002181967 AA, JP9211956 A2, JP8297785 A2, JP2006235046 A2, JP2006202797 A2, JP2006184515 A2, JP2006018197 A2, JP2004151521 A2, JP2002258595 A2, JP2002139903 A2, EP1674944 A2, EP1615084 A2, EP1416333 A1, EP1220050 A2,

Forward Citations: US9156056, US8953977, US2013089357, US2010031882,

Abstract:
Source: US2008199227A In a toner cartridge, a cover member is attached to an outer surface of a case main body so as to cover a filling hole through which a toner is filled in a toner chamber. The cover member is detachably attached to the case main body by a lock mechanism disposed between the case main body and the cover member. The lock mechanism includes two or more lock structures which lock the cover member to the case main body and a release tool which carries out a release operation of the lock structures. Each of the lock structures includes an elastic engagement claw and an engagement recess which are provided on opposite surfaces of the case main body and the cover member, respectively. The release tool is configured to allow all of the elastic engagement claws to be simultaneously displaced in a lock release direction.

0) US5419468A – DEVELOPING TONER SUPPLY DEVICE WITH DETACHABLE ...

56) Family number: 10898840 (US5419468A) © PatBase

Title: DEVELOPING TONER SUPPLY DEVICE WITH DETACHABLE TONER CARTRIDGE AND TONER SUPPLY SHIELDING MEMBER

Priority: JP19920213667 19920717

Family:

Publication number	Publication date	Application number	Application date
JP3116583 B2	20001211	JP19920213667	19920717
JP6035322 A2	19940210	JP19920213667	19920717
US5419468 A	19950530	US19930086898	19930707

Probable Assignee: BROTHER KOGYO KK

Assignee(s):(std)**:** BROTHER IND LTD

Assignee(s): BROTHER KOGYO KABUSHIKI KAISHA ; BROTHER KOGYO KK

Inventor(s):(std)**:** TAKI EIJI

International class (IPC 8–9)**:** G03G15/00 G03G15/08 (Advanced/Invention); G03G15/00 G03G15/08 (Core/Invention)

International class (IPC 1–7)**:** B65D47/00 B67D3/00 G03G15/00 G03G15/06 G03G15/08

CPC: Y10S222/01 G03G15/0875 G03G15/0855 G03G15/0865

European class: G03G15/08H3

US class: 222/554 222/DIG.1 355/260 399/119 399/262

Classification Explorer

Cited documents: US659977 A, US5270785 A, US5266998 A, US4607938 A, US4606990 A, US4588280 A, US3512944 A, US3116857 A, US2126815 A, US1967797 A,

Forward Citations: WO9900711, WO13115014, US9500986, US9207571, US9014595, US8989622, US8977168, US8909099, US8639163, US8639156, US8577250, US8554118, US8554107, US8538288, US8532544, US8185023, US7860437, US7062205, US6018638, US5966568, US5878317, US5839027, US5781831, US5734953, US5655181, US5640229, US5630198, US5608501, US2015030355, US2013259525, US2011129261, US2010202803, US2008247784, US2004131391, JP5783924, JP2014206758, JP2014206757, JP2013160874, JP2013156587, JP2011141573, JP2011113036, JP2011085961, JP2010181766, JP2010181765, JP2008185831, JP2008129561, EP1205819, EP1205819, CN102081327, CN102081327,

Abstract:
Source: US5419468A In this developing toner supply device, the main body of a toner cartridge having an unused toner storing room is designed in a longitudinal vessel shape. A projecting portion is projected from the front wall of the cartridge at the casing side to engage with the recess portion of a toner storing portion. A semi−circular support wall is formed at the projecting portion to project toward the unused toner storing room side. A longitudinally−extending cartridge side opening is formed on the support wall. A semi−cylindrical cartridge side rotating member engages with the cartridge side and opens rotatably between the closing position where the cartridge side opening is closed and the opening position where the cartridge side opening is opened. When the toner cartridge is detached from the casing, the cartridge side opening is closed. The flat side surface of the cartridge side rotating member serves as the outer surface of the toner cartridge. Accordingly, toner attachment to the outer surface of the toner cartridge can be avoided as much as possible.

0) US5642187A – PROCESS CARTRIDGE, IMAGE FORMING APPARATUS USAB...

57) Family number: 13120825 (US5642187A) © PatBase

Title: PROCESS CARTRIDGE, IMAGE FORMING APPARATUS USABLE THEREWITH AND IMAGE FORMING SYSTEM

Priority: JP19930123179 19930428 US19940234552 19940428 US19950574987 19951219

Family:

Publication number	Publication date	Application number	Application date
JP3320144 B2	20020903	JP19930123179	19930428
JP6313997 A2	19941108	JP19930123179	19930428
US5642187 A	19970624	US19950574987	19951219

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK

Assignee(s): CANON INC ; CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** KAWAGUCHI HIDEJI ; KAWAGUCHI HIDESHI ; MATSUDA KENJI ; MIYAKE HIROAKI ; NOMURA YOSHIYA ; SUGIURA YOSHINORI

International class (IPC 8–9)**:** G03G15/00 G03G21/00 G03G21/10 G03G21/16 G03G21/18 (Advanced/Invention)

International class (IPC 1–7)**:** G03G15/00 G03G21/00 G03G21/18

CPC: G03G21/1633 G03G21/1828 G03G21/1853 G03G2221/1609 G03G2221/1642 G03G2221/1657 G03G2221/169 G03G2221/1853

European class: G03G21/16 G03G21/18C5 G03G21/18H1V S03G221/16B1 S03G221/16G S03G221/16K2 S03G221/16S4 S03G221/18P3

US class: 399/111

Classification Explorer

Cited documents: US5561496 A, US5414492 A, US5333036 A, US5225870 A, US5208626 A, US5028966 A, US4965640 A, US4939541 A, US4896191 A, JP61226758, JP519552, JP470767, JP466959, JP3252667 A2, JP3123380 A2, JP3123380, JP1229270, JP1155365 A2, EP0496400 A2,

Forward Citations: USD723616, US9575460, US9557684, US9529319, US9494914, US9395684, US9091963, US8565642, US8521041, US8260171, US8000630, US7813670, US7512363, US7386241, US7298989, US7228086, US7209676, US7200350, US7200347, US7174113, US7085509, US6980755, US6968147, US6873815, US6865357, US6826373, US6697594, US6654583, US6564029, US6324370, US6311026, US6236822, US6208818, US6208816, US6151459, US6101352, US6075957, US6016408, US5890036, US5867751, US5809377, US2011200340, US2010322664, US2010232832, US2010080624, US2007071483, US2006188285, US2006177231, US2005276630, US2005191079, US2005152716, US2005135832, US2005135831, US2005128273, US2004126131, US2004062573, US2003133723, JP2014178353, JP2010217813,

Abstract:
Source: US5642187A A process cartridge detachably mountable to a main assembly of an image forming apparatus includes a frame; an image bearing member; a process device actable on the image bearing member; a projection formed on the frame and extended downwardly beyond a bottom surface of the frame.

58) Family number: 43058597 (US2009080935A) © PatBase

Title: PROTECTION COVER, AND PROCESS CARTRIDGE AND IMAGE FORMING APPARATUS USING THE SAME

Priority: JP20070243152 20070919 JP20070243152 20070920 JP20070243153 20070920 JP20070243154 20070920 JP20070243153 20070919

Family:

Publication number	Publication date	Application number	Application date
AU2008201357 AA	20090409	AU20080201357	20080325
AU2008201357 BB	20100624	AU20080201357	20080325
CN101393416 A	20090325	CN200810087778	20080326
CN101393416 B	20120613	CN200810087778	20080326
JP2009075274 A2	20090409	JP20070243152	20070920
JP2009075275 A2	20090409	JP20070243153	20070920
JP2009075276 A2	20090409	JP20070243154	20070920
JP4524694 B2	20100818	JP20070243152	20070920
JP4524695 B2	20100818	JP20070243153	20070920
JP4524696 B2	20100818	JP20070243154	20070920
US2009080935 AA	20090326	US20080076506	20080319
US8055154 BB	20111108	US20080076506	20080319

Probable Assignee: FUJI XEROX CO LTD

Assignee(s):(std)**:** FUJI XEROX CO LTD

Assignee(s): FUJI XEROX CO

Inventor(s):(std)**:** IIKURA KAZUAKI ; KAZUAKI IIKURA ; MATSUI TOSHIYUKI ; TOSHIYUKI MATSUI

Agent(s): SHELSTON IP PTY LTD; SHELSTON IP; NAKAMURA TOMOHIRO; KOIZUMI MASAHIRO; NARUSE KATSUO; OLIFF AND BERRIDGE PLC

International class (IPC 8–9): G03G15/00 G03G21/18 (Advanced/Invention); G03G15/00 G03G21/18 (Core/Invention)

CPC: G03G21/1832

European class: G03G21/18C5S

US class: 399/111 399/114 399/114P

Classification Explorer

Cited documents: US7532841 BB, US4655578 A, US2007206972 AA, JPD1291461, JPD1291022, JP9269625 A2, JP9269625, JP84534, JP8292706 A2, JP66961, JP4066961 A2, JP4066961, JP2006202797 A2, JP2006202797, JP2003084648 A2, JP2003084648, JP2003084534 A2, JP2003084534, JP2002338068 A2, JP2002338068, JP2002132120 A2, JP2002132120, JP2002132011 A2, JP2002132011, JP2000321837 A2, JP2000321837, JP132120, JP132011, JP1291461 A2, JP1291022 A2, JP11072984 A2, JP11072984, JP09269625, JP04066961,

Forward Citations: US9429904, US8467707, US8457521, US8452207, US8270872, US2016209803, US2015063867, US2012033992, US2012033991, US2010209137, JP2009075442, EP3045980, AU2010202616,

Abstract:
Source: US2009080935A A protection cover includes a cover base that covers and protects an external exposure portion of a photosensitive member and that comes into contact with an image forming apparatus housing body to movably guide a process cartridge; an extrusion member that is disposed in the cover base on a side opposite to an insertion direction of the process cartridge to the image forming apparatus housing body and that moves in the insertion direction of the process cartridge to extrude the process cartridge from the cover base; and a restriction portion that is disposed in the extrusion member to restrict the process cartridge in the cover base in a state where the process cartridge is located in the cover base and to release the process cartridge from the cover base in a state where the process cartridge is inserted and mounted to the image forming apparatus housing body.

59) Family number: 8840213 (US5371575A) © PatBase

Title: ELECTROPHOTOGRAPHIC IMAGE FORMING APPARATUS WITH DETACHABLE IMAGING CARTRIDGE

Priority: JP19910194333 19910802 JP19910205843 19910816 JP19910205844 19910816 JP19910259736 19910911

Family:

Publication number	Publication date	Application number	Application date
DE69219539 D1	19970612	DE19926019539	19920727
DE69219539 T2	19971218	DE19926019539T	19920727
EP0530491 A2	19930310	EP19920112798	19920727
EP0530491 A3	19931013	EP19920112798	19920727
EP0530491 B1	19970507	EP19920112798	19920727
JP5035005 A2	19930212	JP19910194333	19910802
JP5045951 A2	19930226	JP19910205843	19910816
JP5045952 A2	19930226	JP19910205844	19910816
JP5072833 A2	19930326	JP19910259736	19910911
US5371575 A	19941206	US19920922755	19920730

Probable Assignee: MINOLTA CO

Assignee(s):(std)**:** KONICA MINOLTA HOLDINGS INC ; MINOLTA CAMERA KK ; MINOLTA CO LTD

Assignee(s): MINOLTA CO LTD OSAKA JP ; MINOLTA CO ; MINOLTA CAMERA CO LTD ; MINOLTA CAMERA KABUSHIKI KAISHA

Inventor(s):(std)**:** AKAZAWA TAKASHI ; YOSHIDA NARUTAKA ; YOSHIDA SATOSHI ; SEKINO HITOSHI ; YOSHIDA SHIGETAKA

Inventor(s): SEKINO HITOSHI C O MINOLTA CAMERA K K ; SEKINO HITOSHI C O MINOLTA CAMERA KK ; YOSHIDA SATOSHI C O MINOLTA CAMERA K K ; YOSHIDA SATOSHI C O MINOLTA CAMERA KK ; YOSHIDA NARUTAKA C O MINOLTACAMERA K K ; YOSHIDA NARUTAKA C O MINOLTACAMERA KK ; AKAZAWA TAKASHI C O MINOLTA CAMERA K K ; AKAZAWA TAKASHI C O MINOLTA CAMERA KK

Designated states: DE FR GB

International class (IPC 8–9)**:** G03G15/00 G03G15/16 G03G21/18 (Advanced/Invention); G03G15/00 G03G15/16 G03G21/18 (Core/Invention)

International class (IPC 1–7)**:** G03G13/00 G03G15/00 G03G15/16

CPC: G03G21/1628 G03G21/1817 G03G2215/1652 G03G2221/1618 G03G2221/1642 G03G2221/1654 G03G2221/1693 G03G2221/1853

European class: G03G21/18C4 S03G215/16C1 S03G221/16C S03G221/16G S03G221/16K1 S03G221/16T S03G221/18P3

US class: 355/210 355/271 355/277 399/113 399/121 399/25 399/297 399/313

Classification Explorer

Cited documents: US5138372 A, US5130752 A, US5122839 A, US5103261 A, US5083170 A, US5070370 A, US5029316 A, US5012293 A, US5008711 A, US4994861 A, US4924267 A, US4835568 A, US4831407 A, US4827308 A, US4806967 A, US4786938 A, US4766455 A, US4641948 A, US4413049 A, US3985436 A, JPS634562 U, JPS60140264, JP63004562 U1, JP60140264 A2, JP58634562 A2, JP2166487 A2, GB2199537 A1, EP0437097 A2, EP0240337 A2,

Forward Citations: WO16045597, WO14010125, USD431046, US9298157, US8121520, US7986911, US7949283, US7937020, US7742720, US7715752, US7675536, US7639965, US7567770, US7546063, US7532839, US7457563, US7418222, US7382999, US7356282, US7298991, US7269378, US7245850, US7231167, US7224923, US7218878, US7197262, US7162182, US7136609, US7127195, US7054578, US6996354, US6873810, US6690903, US6594459, US6549737, US6546217, US6411789, US6330410, US5983062, US5787323, US5689774, US5608499,

US5606406, US5537187, US5532795, US5499078, US2010296836, US2010209139, US2007264045, US2007248377, US2007247511, US2007160384, US2007036584, US2006285881, US2006140671, US2006072929, US2006056878, US2006056877, US2006056876, US2006024087, US2005281584, US2005220482, US2005214025, US2005207781, US2005207780, US2005135837, US2005084290, US2005002687, US2004126132, US2004101328, JP8006335, JP7261562, JP3520019, JP3330721, JP3023402, JP2014016494, JP2014016490, JP2013210541, JP2006251270, JP2005345565, JP2001255777, EP1031894, EP0778135, EP0622697,

Abstract:
Source: US5371575A The present invention provides an image forming apparatus comprising a main assembly and an imaging cartridge detachable from the main assembly. The imaging cartridge includes a first unit and a second unit, both of which are separable from each other, a toner image carrier provided in the first unit, and a charging device provided in the second unit for transferring a toner image on the toner image carrier onto a copy sheet, wherein the charging device includes a charging roller. The present invention also provides an imaging cartridge detachable from the main assembly of an image forming apparatus. The imaging cartridge comprises a first unit and a second unit wherein the second unit is separable from the first unit, a toner image carrier provided in the first unit, and a charging device provided in the second unit for transferring a toner image on the toner image carrier onto a copy sheet.

0) US6118961A – DETACHABLE TWO–FRAME PROCESS CARTRIDGE FOR AN I...

60) Family number: 33533759 (US6118961A) © PatBase

Title: DETACHABLE TWO–FRAME PROCESS CARTRIDGE FOR AN IMAGE FORMING APPARATUS

Priority: JP19900301779 19901106 JP19910054446 19910319 US19930170908 19931221 US19930068287 19930528 US19910785401 19911030 US19910689517 19910423 US19970891979 19970711 US19970789604 19970124

Family:

Publication number	Publication date	Application number	Application date
US6118961 A	20000912	US19970891979	19970711

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK

Assignee(s): CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** IKEMOTO ISAO ; KARAKAMA TOSHIYUKI ; NOMURA YOSHIYA ; SASAKI SHINICHI ; SHIRAI HIROYUKI ; TSUDA TADAYUKI ; WATANABE KAZUSHI

International class (IPC 8–9)**:** G03G15/08 G03G21/18 (Advanced/Invention)

International class (IPC 1–7)**:** G03G21/18

CPC: G03G21/1647 G03G21/1652 G03G21/1821 G03G15/0898 G03G21/181 G03G21/1817 G03G2215/00987 G03G2221/1648 G03G2221/1651 G03G2221/1654 G03G2221/1669 G03G2221/1876 Y10T29/49904

European class: G03G15/08S1 G03G21/18C2 G03G21/18C4 G03G21/18C4C S03G215/00R S03G221/16J S03G221/16K S03G221/16K1 S03G221/16M S03G221/18P3C

US class: 29/469 359/109 399/113

Classification Explorer

Cited documents: US5294960 A, US5272505 A, US5160963 A, US5115272 A, US5051778 A, US5036358 A, US4996566 A, US4987446 A, US4974023 A, US4974020 A, US4924267 A, US4866482 A, US4862212 A, US4851960 A, US4816877 A, US4757344 A, US4708455 A, US4605299 A, US4500195 A, US4386838 A, JPS60168159, JPS5821262, JP60168159 A2, JP58021262 A2, JP2257146 A2, JP2168277 A2, JP2163769 A2, JP2123376 A2, GB2074095 A1, FR2611930 A1, EP0368346 A2, EP0330225 A2, EP0276910 A1, EP0276192 A1, DE8907136 U, DE8716525 U, DE4003695 A1,

Forward Citations: US8095051, US7986911, US7912404, US7675536, US7639965, US7565092, US7532840, US7519311, US7162182, US7136609, US6963706, US6879792, US6678489, US2015023694, US2013084098, US2009074449, US2007248378, US2007248377, US2007247511, US2006029423, US2006024086, US2005207781, US2005207780, US2004126133, US2004013446, CN102023506,

Abstract:
Source: US6118961A A process cartridge detachably mountable to an image forming apparatus includes an image bearing member; process device actable on the image bearing member; a first frame containing the image bearing member and the process device; and a second frame engageable with and disengageable from the first frame and containing a developer container.

0) US2016179051A – DEVELOPING CARTRIDGE AND IMAGE FORMING APPARATU...

61) Family number: 62729383 (US2016179051A) © PatBase

Title: DEVELOPING CARTRIDGE AND IMAGE FORMING APPARATUS EMPLOYING THE SAME

Priority: KR20140183300 20141218 WO2015KR10615 20151007

Family:

Publication number	Publication date	Application number	Application date
CN105717765 A	20160629	CN201510954933	20151217
EP3177967 A1	20170614	EP20150870186	20151007
KR20160074232 A	20160628	KR20140183300	20141218
US2016179051 AA	20160623	US20150874952	20151005
US9429902 BB	20160830	US20150874952	20151005
WO16099018 A1	20160623	WO2015KR10615	20151007

Probable Assignee: S PRINTING SOLUTION CO LTD

Assignee(s):(std)**:** S PRINTING SOLUTION CO LTD ; SAMSUNG ELECTRONICS CO LTD

Assignee(s): S PRINTING SOLUTION CO ; SAMSUNG ELECTRONICS CO

Inventor(s):(std)**:** HONG JIN HWA ; KIM JOON HEE ; SIM YUN KYU ; YANG SEONG WOONG

Agent(s): APPLEYARD LEES IP LLP; STAAS AND HALSEY LLP; YPLEE MOCK AND PARTNERS

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9): G03G15/06 G03G15/08 G03G21/16 G03G21/18 (Advanced/Invention)

CPC: G03G21/1676 G03G15/06 G03G15/065 Y10S430/102 G03G21/1821 G03G21/1825

US class: 1/1 399/113

Classification Explorer

Cited documents: US7660550 BB, US7643774 BB, US7542701 BB, US5471286 A, US2015370220 AA, US2013164028 AA, US2013107282 AA, US2012269543 AA, US2007098438 AA, US2005053394 AA, KR20070037888 A, KR100729626 B1, JP6167874 A2, JP2012230136 A2,

Abstract:
Source: US2016179051A Provided is a developing cartridge including a photosensitive unit and a developing unit connected to each other to rotate to a developing location and a non–developing location. An elastic member applies an elastic force to the developing unit and the photosensitive unit in a direction of rotating to the developing location. The developing cartridge includes a nip separating portion switched to a nip forming location where the developing unit is located at the developing location and to a nip separating location where the developing unit is located at the non–developing location, a manipulation portion for switching the nip separating portion to the nip forming location and to the nip separating location by a manual manipulation, and a nip forming unit for switching the nip separating portion from the nip separating location to the nip forming location as the photosensitive unit and the developing unit start to operate.

0) US4456154A – TONER LOADING CARTRIDGE

62) Family number: 4402699 (US4456154A) © PatBase

Title: TONER LOADING CARTRIDGE

Priority: US19820408407 19820816

Family:

Publication number	Publication date	Application number	Application date
BR8304345 A	19840320	BR19830004345	19830812
DE3375237 D1	19880211	DE19833375237	19830811
EP0101303 A2	19840222	EP19830304647	19830811
EP0101303 A3	19840926	EP19830304647	19830811
EP0101303 B1	19880107	EP19830304647	19830811
JP59086073 A2	19840518	JP19830145616	19830809
MX158040 A	19881229	MX19830198233	19830729
US4456154 A	19840626	US19820408407	19820816

Probable Assignee: XEROX CORP

Assignee(s):(std)**:** XEROX CORP

Assignee(s): XEROX A CORP OF NY CORP

Inventor(s):(std)**:** HERRIMAN LELAND ; RIIRANDO HERIIMAN

Inventor(s): LELAND HERRIMAN

Designated states: DE GB IT

International class (IPC 8–9)**:** G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)

International class (IPC 1–7)**:** B23Q35/00 B41L27/04 B65B1/06 G03G15/08

CPC: Y10S222/01 G03G15/0877 G03G15/0855 G03G15/0865 G03G15/0875

European class: G03G15/08H3

US class: 141/363 222/325 222/484 222/559 222/DIG.1

Classification Explorer

Cited documents: US4237943 A, US4089601 A, US4062385 A, US4060105 A, US3915208 A, US3501065 A, JP53090937, GB2056320 A1, FR2452733 A1,

Forward Citations: USRE34344, US9494909, US9174392, US6721525, US6687474, US6665506, US6658226, US6628914, US6606473, US6584293, US6356724, US6272298, US6085056, US6067432, US6058283, US5878306, US5593068, US5449095, US4987446, US4965639, US4924920, US4917272, US4870463, US4862210, US4830068, US4752807, US4625895, US2012097258, SG166659, SG116405, JP61170760, JP1965352, EP1041451, EP0854395, EP0631206, EP0578340, EP0470675, EP0431615, EP0404024, EP0285249, EP0269402, DE4017458, AU607360,

Abstract:
Source: US4456154A A toner cartridge for replenishing toner in a reproducing machine which may be readily inserted in an opening in a toner dispenser, includes a base plate and a toner hopper slidably engaged with the top of the base plate, both the base plate and the toner hopper having a plurality of apertures therein for toner to pass therethrough into the toner dispenser when in the open position. The base plate of the toner cartridge has a hook at one end adapted to lock under the lip of the toner dispenser opening when the cartridge is inserted in it, and the toner hopper has a hole at the opposite end adapted to lock under the lip of the toner dispenser opening when the toner hopper is slidably moved from the closed position to the open position. In the closed position portions of the base plate provide a seal under the apertures in the toner hopper and when the toner hopper is slidably moved to the open position, the apertures in the base plate and toner hopper are open permitting toner to fall into the toner dispenser. A preferred toner hopper comprises a plurality of bins each with a plurality of inclined sides defining a chute which terminates in the plurality of apertures in the bottom of the toner hopper. With this structure the toner cartridge dispenses toner only when in the locked position and is removable from the dispenser only when in the closed position.

0) US5583613A – IMAGE FORMING SYSTEM

63) Family number: 12885585 (US5583613A) © PatBase

Title: IMAGE FORMING SYSTEM

Priority: JP19920194656 19920630 US19920952666 19920928 US19940307035 19940916

Family:

Publication number	Publication date	Application number	Application date
JP3270120 B2	20020402	JP19920194656	19920630
JP6258875 A2	19940916	JP19920194656	19920630
US5583613 A	19961210	US19940307035	19940916

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK

Assignee(s): CANON INC ; CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** IKEMOTO ISAO ; KOBAYASHI KAZUNORI ; NODA SHINYA ; SASAGO YOSHIKAZU ; SASAKO ETSUICHI ; SEKINE KAZUMI ; TSUDA TADAYUKI ; WATANABE KAZUFUMI ; WATANABE KAZUSHI

International class (IPC 8–9): G03G15/00 G03G15/08 G03G21/00 G03G21/18 (Advanced/Invention)

International class (IPC 1–7): G03G15/00 G03G15/08 G03G21/00 G03G21/18

CPC: G03G21/1633 G03G21/1814 G03G2221/1606 G03G2221/1618 G03G2221/163

European class: G03G21/18C3 S03G221/16B S03G221/16C S03G221/16D

US class: 355/200 355/210 399/111 399/130

Classification Explorer

Cited documents: US5404198 A, US5160964 A, US5095335 A, US5028966 A, US4972227 A, US4888620 A, US4839690 A, US4708455 A, US4627701 A, US4609276 A, US4591258 A, US4575221 A, US4540268 A, US4500195 A, US3985436 A, JPS63149669, JP63149669 A2, JP62153964, JP324562, JP312312 B2, JP2289874,

Forward Citations: US9046860, US8971758, US8725042, US8081900, US7920806, US7660545, US7630661, US7489885, US7403733, US7274896, US7248814, US7231161, US7156797, US7092655, US6999696, US6987938, US6917774, US6895199, US6885838, US6876826, US6856775, US6832056, US6804483, US6788908, US6782213, US6738589, US6735406, US6714750, US6714746, US6704525, US6701106, US6697578, US6690902, US6658224, US6603939, US6594454, US6571070, US6542706, US6535699, US6519431, US6424811, US6415121, US6408143, US6408142, US6400914, US6397018, US6397017, US6377759, US6334035, US6330402, US6272299, US6246849, US6229974, US6208818, US6201935, US6185390, US6173145, US6144398, US6118960, US6104894, US6101354, US6097909, US6097908, US6097906, US6075957, US6070028, US6041196, US6011941, US5966568, US5953562, US5953560, US5867181, US5864731, US2009074453, US2009074452, US2008080891, US2008063429, US2008056754, US2007104511, US2007104510, US2006198654, US2006008287, US2004190933, US2004134070, US2004086300, JP2015108693, JP2014063072, JP2013054061, CN102968020,

Abstract:
Source: US5583613A The present invention includes an image bearing member, a first attachment surface to which a cleaning device for removing toner from the image bearing member is attached. The present invention also includes a second attachment surface which is in parallel with or substantially in parallel with the first attachment surface and to which a developing device for developing an image formed on the image bearing member is attached. With the above construction, it is possible to provide a process cartridge, a method for assembling a process cartridge, and an image forming system mountable and in the process cartridge, which can remarkably improve the assembling ability.

64) Family number: 33533620 (US5907749A) © PatBase

Title: PROCESS CARTRIDGE AND IMAGE FORMING APPARATUS USABLE THEREWITH

Priority: JP19900301779 19901106 JP19910054446 19910319 US19930170908 19931221 US19930068287 19930528 US19910785401 19911030 US19910689517 19910423 US19970845289 19970421 US19950478657 19950607

Family:

Publication number	Publication date	Application number	Application date
US5907749 A	19990525	US19970845289	19970421

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK

Assignee(s): CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** IKEMOTO ISAO ; KARAKAMA TOSHIYUKI ; NOMURA YOSHIYA ; SASAKI SHINICHI ; SHIRAI HIROYUKI ; TSUDA TADAYUKI ; WATANABE KAZUSHI

International class (IPC 8–9)**:** G03G15/08 G03G21/18 (Advanced/Invention)

International class (IPC 1–7)**:** G03G15/08 G03G21/18

CPC: G03G21/1647 G03G21/1652 G03G21/1821 G03G15/0898 G03G21/181 G03G21/1817 G03G2215/00987 G03G2221/1648 G03G2221/1651 G03G2221/1654 G03G2221/1669 G03G2221/1876 Y10T29/49904

European class: G03G15/08S1 G03G21/18C2 G03G21/18C4 G03G21/18C4C S03G215/00R S03G221/16J S03G221/16K S03G221/16K1 S03G221/16M S03G221/18P3C

US class: 399/113 399/262

Classification Explorer

Cited documents: US5623328 A, US5294960 A, US5272505 A, US5160963 A, US5115272 A, US5051778 A, US5036358 A, US4996566 A, US4987446 A, US4974023 A, US4974020 A, US4924267 A, US4866482 A, US4862212 A, US4851960 A, US4816877 A, US4757344 A, US4708455 A, US4605299 A, US4500195 A, US4386838 A, JPS60168159, JPS5821262, JP60168159 A2, JP58021262 A2, JP2257146 A2, JP2168277 A2, JP2163769 A2, JP2123376 A2, GB2074095 A1, FR2611930 A1, EP0368346 A2, EP0330225 A2, EP0276910 A1, EP0276192 A1, DE8907136 U, DE8716525 U, DE4003695 A1,

Forward Citations: US8200121, US8095051, US7991321, US7986911, US7957669, US7912404, US7873296, US7844197, US7801462, US7796915, US7675536, US7639965, US7565092, US7532840, US7457562, US7286786, US7162182, US7139509, US7136609, US7050739, US6980757, US6917775, US6768886, US6760557, US6697588, US6580887, US6466754, US6400917, US6236820, US6101352, US2015023694, US2013084098, US2010329733, US2009169248, US2009074449, US2009060569, US2008279583, US2008170882, US2007248377, US2007247511, US2007036583, US2006140667, US2006029423, US2006024086, US2005249521, US2005207781, US2005207780, US2004223783, US2004076449, US2004076448, US2003206748,

Abstract:
Source: US5907749A A process cartridge detachably mountable to a main assembly of an image forming apparatus, the cartridge comprising a photosensitive member, a developing means for developing a latent image formed on the photosensitive member, a first frame containing the developing means; and a second frame coupled with the first frame, the second frame including a developer containing portion for containing a developer to be supplied to the developing means to develop the latent image, wherein the second frame is a selected one of plural secondary frames engageable with the first frame and having different developer containing capacities.

0) US2003228175A – AN EJECTION MECHANISM FOR A TONER CONTAINER

65) Family number: 32278013 (US2003228175A) © PatBase

Title: AN EJECTION MECHANISM FOR A TONER CONTAINER

Priority: TW19910208785 20020611 TW20020208785U 20020611

Family:

Publication number	Publication date	Application number	Application date
TW551513 Y	20030901	TW20020208785U	20020611
US2003228175 AA	20031211	US20020199390	20020718
US6665509 BA	20031216	US20020199390	20020718

Probable Assignee: GENERAL PLASTIC INDUSTRIAL CO LTD

Assignee(s):(std)**:** GENERAL PLASTIC INDUSTRIAL CO LTD ; HSU ROBIN ; HUANG YA LI ; WANG JUI CHI ; LIU REN HAO ; WANG XIAO HUI ; GEN PLASTIC IND CO LTD

Assignee(s): GENERAL PLASTIC INDUSTRIAL CO

Inventor(s):(std)**:** HSU ROBIN ; HUANG YA LI ; LIOU REN HAU ; LIU REN HAO ; SHIU YUNG NAN ; WANG JUI CHI ; WANG RUEI CHI ; WANG SHIAU HUEI ; WANG XIAO HUI

International class (IPC 8–9): G03G15/08 (Advanced/Invention) ; G03G15/08 (Core/Invention)

International class (IPC 1–7): G03G15/08

CPC: G03G15/0875 G03G15/0882 G03G15/0894 G03G2215/066

European class: G03G15/08R S03G215/06C

US class: 399/258 399/262

Classification Explorer

Cited documents: US6493527 BA, US6267263 BA, US6014536 A, US5520229 A, US2001051062 AA,

Forward Citations: US7693464, US2008260433,

Abstract:
Source: US2003228175A A toner container is constructed to include a toner storing portion for accommodating toner, a supply opening adapted for guiding toner from the toner storing portion to a toner receiving portion connected to the toner storing portion, a removable sealing member sealing the supply opening, and two elastic members provided at tow sides of the toner storing portion and adapted for pushing the toner storing portion away from the toner receiving portion upon disengagement of the toner storing portion from the toner receiving portion.

0) US2005265757A – PROCESS CARTRIDGE AND IMAGE FORMING APPARATUS

66) Family number: 32451220 (US2005265757A) © PatBase

Title: PROCESS CARTRIDGE AND IMAGE FORMING APPARATUS

Priority: EP20050011217 20050524 JP20040156546 20040526

Family:

Publication number	Publication date	Application number	Application date
CN100458600 C	20090204	CN200510074633	20050524
CN1702574 A	20051130	CN200510074633	20050524
CN2842497 Y	20061129	CN200520019740U	20050525
DE602005043916 D1	20140731	DE200560043916T	20050524
EP1605319 A1	20051214	EP20050011217	20050524
EP1605319 B1	20140618	EP20050011217	20050524
JP2005338399 A2	20051208	JP20040156546	20040526
JP4247678 B2	20090402	JP20040156546	20040526
US2005265757 AA	20051201	US20050137507	20050526
US7292814 BB	20071106	US20050137507	20050526

Probable Assignee: BROTHER KOGYO KK

Assignee(s):(std)**:** BROTHER IND LTD

Assignee(s): BROTHER KOGYO K K ; BROTHER KOGYO KABSHIKI KAISHA ; BROTHER KOGYO KABUSHIKI KAISHA ; BROTHER KOGYO KK ; BROTHER KOGYO NAGOYA KK

Inventor(s):(std)**:** DEGUCHI HIDEAKI ; HIDEAKI DEGUCHI

Agent(s): KUHNEN AND WACKER PATENT U RECHTSANWALTSBUERO; KUHNEN AND WACKER; BANNER AND WITCOFF LTD ATTORNEYS FOR RESERVE CLIENT NO 7; BANNER AND WITCOFF LTD

Designated states: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU MC NL PL PT RO SE SI SK TR

International class (IPC 8–9): B29C45/44 B65H29/54 B65H29/56 G03G15/06 G03G15/16 G03G21/18 (Advanced/Invention); B29C45/44 B65H29/54 G03G15/06 G03G15/16 G03G21/18 (Core/Invention)

International class (IPC 1–7): B29C45/44 B65H29/54 G03G15/06 G03G15/16 G03G21/18

CPC: G03G15/161 B65H29/56 G03G15/70

European class: B65H29/56 G03G15/16A

US class: 399/316

Classification Explorer

Cited documents: US6512904 BB, US2001016134 AA, JP9281810 A2, JP9114304 A2, JP2001222182 A2, JP2001075391 A2, JP11212369 A2, EP1293848 A2, EP0672966 A2,

Forward Citations: US7346304, US2006238788, JP5719568, JP2012103359, EP3121657, CN102968014,

Abstract:
Source: US2005265757A There is disclosed a process cartridge removably installed in an image forming apparatus, and comprising an image carrier, a transfer roller, and a winding preventer. The image carrier carries a developer image, the transfer roller is formed of an elastic material and disposed adjacent to the image carrier to form a pressure nip therebetween so that the developer image on the image carrier is transferred onto a recording medium as being passed through the nip, and the winding preventer is spaced from an outer circumferential surface of the transfer roller and prevents the recording medium from winding around the transfer roller.

0) US2007071494A – IMAGE–FORMING DEVICE AND PROCESS CARTRIDGE

67) Family number: 34350115 (US2007071494A) © PatBase

Title: IMAGE–FORMING DEVICE AND PROCESS CARTRIDGE

Priority: JP20050280199 20050927 JP20050374659 20051227 JP20110005514 20110114 US20110239788 20110922 US20110020603 20110203 US20060523628 20060920 US20120729762 20121228 US20140319875 20140630

Family:

Publication number	Publication date	Application number	Application date
CN1940743 A	20070404	CN200610142151	20060927
CN1940743 B	20100728	CN200610142151	20060927
JP2007121983 A2	20070517	JP20050374659	20051227
JP2011070233 A2	20110407	JP20110005514	20110114
JP4730087 B2	20110720	JP20050374659	20051227
JP5218574 B2	20130626	JP20110005514	20110114
US2007071494 AA	20070329	US20060523628	20060920
US2011123221 AA	20110526	US20110020603	20110203
US2012008977 AA	20120112	US20110239788	20110922
US2013129383 AA	20130523	US20120729762	20121228
US2014314441 AA	20141023	US20140319875	20140630
US7907868 BB	20110315	US20060523628	20060920
US8050592 BB	20111101	US20110020603	20110203
US8346124 BB	20130101	US20110239788	20110922
US8768207 BB	20140701	US20120729762	20121228
US9442456 BB	20160913	US20140319875	20140630

Probable Assignee: BROTHER IND LTD

Assignee(s):(std)**:** BROTHER IND LTD ; IGARASHI HIROSHI ; OKABE YASUSHI

Assignee(s): BROTHER INDUSTRIES LTD ; BROTHER KOGYO KABUSHIKI KAISHA ; BROTHER KOGYO KK

Inventor(s):(std)**:** HIROSHI IGARASHI ; IGARASHI HIROSHI ; OKABE YASUSHI ; YASUSHI IGARASHI HIROSHI OKABE ; YASUSHI OKABE

Inventor(s): IGARASHI HIROSHI OKABE YASUSHI

Agent(s): BANNER AND WITCOFF LTD ATTORNEYS FOR CLIENT NOS 0166889 006760; BANNER AND WITCOFF LTD

International class (IPC 8–9)**:** G03G15/00 G03G15/08 G03G21/16 G03G21/18 (Advanced/Invention); G03G15/00 G03G15/08 G03G21/18 (Core/Invention)

CPC: G03G21/1661 G03G2221/1684 G03G2221/1869 G03G21/1623 G03G21/1647

European class: G03G21/16 S03G221/16S2 S03G221/18P3B

US class: 1/1 399/107 399/110 399/110P 399/111

Classification Explorer

Cited documents: US8768207 BB, US7177575 BB, US6721521 BB, US6708011 BB, US5785400 A, US5752133 A, US5663787 A, US5493366 A, US5410387 A, US2007140710 AA, US2006251446 AA, US2006228131 AA, US2006140669 AA, US2006067734 AA, US2005127803 AA, US2005069347 AA, US2004165910 AA, US2004022556 AA, US2003053819 AA, JP9304994 A2, JP9160471 A2, JP7248715 A2, JP7092884 A2, JP6250512 A2, JP2005107189 A2, JP2004258138 A2, JP2004109886 A2, JP2003107838 A2, JP2003107837 A2, JP2003076106 A2, JP2003015378 A2, JP2002304030 A2, JP2002268320 A2, JP2000321956 A2, JP2000082881 A2, JP11219044 A2, JP11174940 A2, JP10161421 A2,

Forward Citations: US9442456, US9383709, US9104170, US9086675, US8878483, US8862023, US8792805, US8731434, US8731418, US8706004, US8682212, US8543023, US8457523, US8417134, US8358954, US8326176, US8311448, US8229319,

US8160472, US8086137, US8055152, US8010013, US7894747, US7890021, US7890019, US7873301, US7715753, US7636531, US7567769, US2014314441, US2013251396, US2011217068, US2011085822, US2011052254, US2010272468, US2010247138, US2010239314, US2010183352, US2010124432, US2010119254, US2010104326, US2010067947, US2010054811, US2009317125, US2008304860, US2008159781, US2008052401, US2007230998, JP2012198444, JP2011002622, JP2010277111, JP2010277073, JP2010078687, JP2010038947, JP2010002827, JP2009265128, EP3062168, EP2136269, EP2136268, CN103293901, CN103293901, CN103279017, CN103279017, CN102193407,

Abstract:
Source: US2007071494A The drawer is equipped with an extending portion at the rear of the housing and a projecting portion behind and above the extending portion. The first support and the second support can be positioned on the extending portion and the projecting portion. Inside a main unit casing is a pair of vertical guiding walls. When the support portions come into contact with the two guiding walls, the vertically inclined movement of the drawer can be restricted.

0) US2003198486A – TONER CARTRIDGE OPENING CONTROL ARRANGEMENT

68) Family number: 30430557 (US2003198486A) © PatBase

Title: TONER CARTRIDGE OPENING CONTROL ARRANGEMENT

Priority: TW19910203001 20020308 TW20020203001U 20020308 US20020128467 20020422

Family:

Publication number	Publication date	Application number	Application date
TW555026 Y	20030921	TW20020203001U	20020308
US2003198486 AA	20031023	US20020128467	20020422
US6668145 BB	20031223	US20020128467	20020422

Probable Assignee: GENERAL PLASTIC INDUSTRIAL CO LTD

Assignee(s):(std)**:** GEN PLASTIC IND CO LTD ; HSU ROBIN ; LIU REN HAO ; WANG JUI CHI

Assignee(s): GENERAL PLASTIC INDUSTRIAL CO ; GENERAL PLASTIC INDUSTRIAL CO LTD

Inventor(s):(std)**:** HSU ROBIN ; LIOU REN HAU ; LIU REN HAO ; SHIU YUNG NAN ; WANG JUI CHI ; WANG RUEI CHI

International class (IPC 8–9)**:** G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)

International class (IPC 1–7)**:** G03G15/08

CPC: G03G15/0882 G03G15/0875

European class: G03G15/08H3P

US class: 399/258 399/26 399/260 399/262

Classification Explorer

Cited documents: US6289193 BA, US6269234 BA, US5520229 A, US5329340 A, US5294963 A, US5018560 A, US2002025192 AA, US2002001485 AA, JP6035318 A2,

Forward Citations: WO04040173, WO04040173, US8346121, US7734231, US7085515, US6968147, US6907208, US2010232828, US2008175629, US2005196191, US2004081481, US2004062573,

Abstract:
Source: US2003198486A A toner cartridge opening control arrangement is constructed to include a toner cartridge for accommodating toner, the toner cartridge having an opening for output of the toner into a toner receiving container, a removable sealing member adapted to close/open the opening of the toner cartridge, a force applying member for receiving an external pulling force to move the removable sealing member, a magnetism device for imparting an outward pressure to the force applying member, and a releasable locking device adapted to lock the force applying member.

0) US6154623A – PROCESS CARTRIDGE AND IMAGE FORMING APPARATUS

69) Family number: 12706117 (US6154623A) © PatBase

Title: Process cartridge and image forming apparatus

Priority: JP19960271561 19960920 JP19970242210 19970822

Family:

Publication number	Publication date	Application number	Application date
JP10149080 A2	19980602	JP19970242210	19970822
JP3342362 B2	20021105	JP19970242210	19970822
US6154623 A	20001128	US19970934133	19970919

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK

Assignee(s): CANON INC ; CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** MIYABE SHIGEO ; SUZUKI AKIRA ; TSUDA TADAYUKI

International class (IPC 8–9)**:** G03G15/08 G03G21/18 (Advanced/Invention); G03G15/08 G03G21/18 (Core/Invention)

International class (IPC 1–7)**:** G03G15/00 G03G15/08 G03G21/00 G03G21/18

CPC: G03G21/1846

European class: G03G21/18H1H

US class: 399/111

Classification Explorer

Cited documents: US5878309 A, US5794103 A, US5774766 A, US5749027 A, US5585889 A, US5543891 A, US5500714 A, US5452056 A, US5450166 A, US5331373 A,

Forward Citations: US9688008, US9678471, US9671751, US9658593, US9658592, US9594343, US9500995, US9477201, US9417556, US9377755, US9367025, US9367023, US9348303, US9274489, US9213267, US9176468, US9052675, US9046823, US8918011, US8879944, US8688008, US8688004, US8682215, US8682211, US8676090, US8630564, US8532533, US8521060, US8494411, US8483589, US8452210, US8437669, US8433219, US8417152, US8401442, US8391748, US8369748, US8369744, US8346121, US8295734, US8280278, US8275286, US8275285, US8270879, US8233821, US7933534, US7711287, US7499670, US7412193, US7366439, US7349657, US7315710, US7248810, US7224925, US7212768, US7184690, US7158736, US7120374, US7099607, US6934485, US6931226, US6836629, US6801733, US6795666, US6678488, US6549736, US6535699, US6415127, US6384940, US2016320745, US2011170903, US2011103827, US2010232828, US2010081112, US2010054807, US2010054806, US2010054805, US2009317134, US2009245851, US2008240796, US2008205930, US2008152388, US2008025757, US2007110474, US2007092291, US2007041761, US2006120754, US2006072938, US2006072936, US2006067725, US2006051135, US2005276628, US2005238387, US2005013628, US2004234293, US2004141768, JP5998797, JP5928879, JP2014066840, JP2013210539, JP2009265291, JP2008191305,

Abstract:
Source: US6154623A A process cartridge detachably mountable to a main body of an electrophotographic image forming apparatus includes an electrophotographic photosensitive member, a developing unit for developing a latent image formed on the electrophotographic photosensitive member with a toner, a toner containing portion for containing the toner used by the developing unit, and a recess formed in an outer surface of the toner containing portion over an entire area thereof substantially in parallel with an axis of the electrophotographic photosensitive member for gripping the process cartridge.

0) US4657372A – PRINTER

70) Family number: 34574779 (US4657372A) © PatBase

Title: PRINTER

Priority: DE19823238505 19821018 JP19810165128 19811016 US19880244584 19880913 US19910806874 19911212 US19870037633 19870413 US19820434701 19821015 US19960595524 19960201 US19930111828 19930825

Family:

Publication number	Publication date	Application number	Application date
DE3238505 A1	19830505	DE19823238505	19821018
DE3238505 C2	19861218	DE19823238505	19821018
DE3249821 A1	19860327	DE19823249821	19821018
DE3249822 A1	19860320	DE19823249822	19821018
DE3249822 C2	19881020	DE19823249822	19821018
JP1798483 C3	19931112	JP19810165128	19811016
JP3050711 B4	19910802	JP19810165128	19811016
JP58065674 A2	19830419	JP19810165128	19811016
US4657372 A	19870414	US19820434701	19821015
US4887133 A	19891212	US19880244584	19880913
USRE37157 E	20010501	US19960595524	19960201

Probable Assignee: RICOH KK

Assignee(s):(std): IKEDA KUNIHIKO ; KODAMA YUTAKA ; NIRO MASAICHI ; SUZUKI SHIGERU ; YOKOTA TAKASHI ; SHIMURA AKIRA ; YAMAZAKI SHIGERU ; TOMITA SATORU ; RICOH KK

Assignee(s): RICOH CO LTD TOKIO TOKYO JP ; RICOH CO LTD TOKYO JP ; RICOH COMPANY LTD ; RICOH CO ; RICOH CO LTD ; RICOH CO LTD A CORP OF JAPAN

Inventor(s):(std): IKEDA KUNIHIKO ; KODAMA YUTAKA ; NIRO MASAICHI ; NIRO MASAKAZU ; SHIMURA AKIRA ; SUZUKI SHIGERU ; TANJI MASAKAZU ; TOMITA SATORU ; YAMAZAKI SHIGERU ; YOKOTA TAKASHI

Inventor(s): YOKOTA TAKASHI TOKIO TOKYO JP ; YOKOTA TAKASHI TOKYO JP ; YAMAZAKI SHIGERU TANASHI TOKIO TOKYO JP ; YAMAZAKI SHIGERU TANASHI TOKYO JP ; TOMITA SATORU KAWASAKI KANAGAWA JP ; SUZUKI SHIGERU YOKOHAMA KANAGAWA JP ; SHIMURA AKIRA KAWASAKI KANAGAWA JP ; NIRO MASAICHI TOKIO TOKYO JP ; NIRO MASAICHI TOKYO JP ; KODAMA YUTAKA TOKIO TOKYO JP ; KODAMA YUTAKA TOKYO JP ; IKEDA KUNIHIKO KODAIRA TOKIO TOKYO JP ; IKEDA KUNIHIKO KODAIRA TOKYO JP

International class (IPC 8–9): B41J13/00 B41J2/46 B65H29/52 B65H29/60 B65H31/00 G03G15/22 G03G15/28 G06K15/12 (Advanced/Invention)

International class (IPC 1–7): B41J13/00 B41J3/18 B65H29/00 B65H29/52 B65H29/60 B65H31/00 G03G15/00 G03G15/04 G03G15/09 G03G15/16 G03G15/20 G03G15/22 G03G21/00 G06K15/12

CPC: Y10S271/902 G03G15/22 G03G15/283

European class: G03G15/22 G03G15/28B

US class: 271/184 271/902 355/16 355/321 355/3BE 355/3R 399/113 399/116 399/119 399/124 399/13 399/405

Classification Explorer

Cited documents: USRE29323 E, US4538896 A, US4499849 A, US4462676 A, US4432632 A, US4429985 A, US4402593 A, US4386838 A, US4382674 A, US4379631 A, US4364656 A, US4335951 A, US4332467 A, US4325626 A, US4320952 A, US4304485 A, US4230406 A, US4212530 A, US4197002 A, US4169674 A, US4149797 A, US4144539 A, US4141648 A, US4110033 A, US4095886 A, US4061222 A, US4048957 A, US4045135 A, US4025186 A, US3985436 A, US3966316 A, US3809475 A, US3772497 A, US3738743 A, US3655282 A, US3606532 A, US3435693 A, US3411932 A, US3181418 A, US3062110 A, JPS5854392, JPS569758, JPS5691248, JPS5647535, JPS5616426, JPS5615507, JPS56128958, JPS56122761, JPS56113152, JPS56111859, JPS5598762, JPS5593185, JPS5586034, JPS5584742, JPS5573073, JPS5538593, JPS5538527,

JPS5527236, JPS55157753, JPS55157723, JPS55153949, JPS55144264, JPS55141132, JPS55133076, JPS55115544, JPS55105451, JPS5452543, JPS54157051, JPS54153240, JPS54153035, JPS5341228, JPS5319834, JPS53108430, JPS5280127, JPS5249631, JPS512433, JPS5053051, JPS5017861, JPS4942930, JP58054392 A2, JP56128958 A2, JP56122761 A2, JP56113152 A2, JP56111859 A2, JP56091248 A2, JP56047535 A2, JP56016426 A2, JP56015507 A2, JP56009758 A2, JP55167954 A2, JP55157753 A2, JP55157723 A2, JP55153949 A2, JP55144264 A2, JP55141132 A2, JP55133076 A2, JP55115544 A2, JP55105451 A2, JP55098762 A2, JP55093185 A2, JP55086034 A2, JP55084742 A2, JP55073073 A2, JP55038593 A2, JP55038527 A2, JP55027236 A2, JP54166336 A2, JP54157051 A2, JP54153240 A2, JP54153035 A2, JP54052543 A2, JP53108430 A2, JP53041228 A2, JP53019834 A2, JP52080127 A2, JP52049631 A2, JP51002433 A2, JP50053051 A2, JP50017861 A2, JP49042930 A2, DE3236854 A1, DE3230907 A1, DE3212881 A1, DE3206237 A1, DE3134188 A1, DE2950961 A1, DE2916555 A1, DE2360885 A1,

Forward Citations: US9575452, US9268274, US9250575, US9239550, US9140725, US9052648, US8971743, US8477392, US8340565, US8190055, US8157424, US8139996, US8121520, US8075089, US7986911, US7957672, US7949283, US7914217, US7909488, US7802787, US7751729, US7742720, US7675536, US7639965, US7632032, US7627268, US7559551, US7457563, US7370860, US7270494, US7245850, US7236710, US7231167, US7224923, US7218878, US7212221, US7162182, US7136609, US6984007, US6873810, US6728510, US6725003, US6522848, US6286124, US6017161, US5611526, US5225877, US5223938, US5213322, US4806970, US2016231687, US2015125189, US2014212189, US2013322934, US2013314112, US2013266332, US2010328739, US2010296836, US2010277545, US2010215420, US2010164168, US2010073942, US2010071190, US2010025514, US2009324258, US2009190978, US2009001651, US2008166145, US2008069591, US2007274759, US2007264045, US2007248377, US2007247511, US2007153012, US2007127972, US2007127971, US2007127955, US2007025762, US2007012209, US2006103717, US2006066705, US2006056878, US2006056877, US2006056876, US2005242495, US2005207781, US2005207780, US2005180765, US2005135837, TWI325845, JP61140450, JP1167136, EP0342715, DE4003966, DE3741950, DE3446999, DE3332143, DE3326166,

Abstract:
Source: US4657372A A printer has a record unit including a record in the form of an endless belt which moves in one direction, a charger for charging the record, an exposure unit for forming an electrostatic latent image on the charged record, a developing unit for converting the latent image into a visual image, a sheet feeder for feeding a record sheet from a stack, as separated one by one, and feeding it into close contact with the record which carries the visual image, a transfer unit for transferring the visual image from the record onto the record sheet, a fixing unit for fixing the transferred visual image on the record sheet, and a delivery unit of delivering the fixed record sheet out of the printer. As a characteristic of the invention, the record unit and the developer unit are detachably mounted together and capable of being slid out of the printer for servicing. The other elements of the printer are disposed around the record unit in a generally U−shaped configuration, so that the record/developer unit can be slid into or out of the hollow portion defined by the U−shaped configuration.

0) US2011318052A – PROCESS CARTRIDGE

71) Family number: 50260294 (US2011318052A) © PatBase

Title: PROCESS CARTRIDGE

Priority: JP20100146198 20100628 JP20140203860 20100628 JP20140203860 20141002 JP20150246398 20151217

Family:

Publication number	Publication date	Application number	Application date
JP2012008456 A2	20120112	JP20100146198	20100628
JP2014240995 A2	20141225	JP20140203860	20141002
JP2016057641 A2	20160421	JP20150246398	20151217
JP5627315 B2	20141119	JP20100146198	20100628
JP5863921 B2	20160217	JP20140203860	20141002
JP5976192 B2	20160823	JP20150246398	20151217
US2011318052 AA	20111229	US20110167151	20110623
US9581959 BB	20170228	US20110167151	20110623

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK ; SHIRAYANAGI JUN

Assignee(s): CANON INC ; CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** SHIRAYANAGI JUN

Agent(s): CHIKASHIMA KAZUO; FITZPATRICK CELLA HARPER AND SCINTO

International class (IPC 8–9): G03G15/00 G03G15/08 G03G15/09 G03G21/00 G03G21/16 G03G21/18 (Advanced/Invention)

CPC: G03G21/1842 G03G21/1857 G03G2221/1648 G03G15/0881

European class: G03G21/18H1 G03G21/18H2

US class: 399/111 399/111P

Classification Explorer

Cited documents: US7783227 BB, US7630661 BB, US6343192 BA, US2007041747 AA, JP7199570 A2, JP6175426 A2, JP6051576 A2, JP6033154 U1, JP6033154 U, JP6033154 U, JP6033154 A2, JP2166470 A2, JP2166470, JP2009288286 A2, JP2008129204 A2, JP2008129204, JP2008129090 A2, JP2008129090, JP200808922, JP2008008922 A2, JP2007011417 A2, JP2004109192 A2, JP2004109192, JP2003057998 A2, JP2002268519 A2, JP2002207409 A2, JP2002207409, JP2002072596 A2, JP2002062735 A2, JP2002062735, JP2000238326 A2, JP2000131950 A2, JP10171331 A2, JP06033154 U, JP02166470,

Forward Citations: US9002234, US8577245, US2016216637, US2012076526, JP2014137465,

Abstract:
Source: US2011318052A A process cartridge detachably mountable to a main assembly of an image forming apparatus includes an image bearing member; a developer carrying member for developing an electrostatic image on the image bearing member; a first gear provided on the developer carrying member and a second gear driving−connected to the first gear; and a supporting portion for rotatably supporting the second gear. The supporting member is mounted on a frame of the process cartridge through a vibration damping member having a vibration transmission performance lower than that of at least the supporting portion.

0) US2007092305A – ROTARY MOUNTING STRUCTURE FOR TONER CARTRIDGE

72) Family number: 34401314 (US2007092305A) © PatBase

Title: ROTARY MOUNTING STRUCTURE FOR TONER CARTRIDGE

Priority: US20050258107 20051026 US20090403379 20090313

Family:

Publication number	Publication date	Application number	Application date
US2007092305 AA	20070426	US20050258107	20051026
US2009169268 AA	20090702	US20090403379	20090313
US7526237 BB	20090428	US20050258107	20051026
US7756451 BB	20100713	US20090403379	20090313

Probable Assignee: KYOCERA MITA CORP

Assignee(s):(std)**:** DAIGO HIRONORI ; KYOCERA MITA CORP ; MURATA KOJI

Inventor(s):(std)**:** DAIGO HIRONORI ; MURATA KOJI

Agent(s): GLOBAL IP COUNSELORS LLP; SHINJYU GLOBAL IP

International class (IPC 8–9)**:** G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)

CPC: G03G15/0875 G03G15/0877 G03G2215/083

European class: G03G15/08H3D S03G215/08A3C1

US class: 399/263

Classification Explorer

Cited documents: US6246854 BA, US6137972 A, US6049685 A, US5715502 A, US5489976 A, JP4199077 A2, JP2002040785 A2,

Forward Citations: US8116642, US2009190938, US2008170890,

Abstract:
Source: US2007092305A A toner cartridge comprising a rotary 2 provided with an agitator 3 that agitates a toner, and a bearing that rotatably supports a shaft tip 6 of the rotary 2, comprises a retainer 10 at the shaft tip 6 of the rotary 2 and at the bearing 7 that inhibits the slipping out, in the axial direction, of the shaft tip 6 of the rotary 2 from the bearing 7.

0) US2009245856A – DEVICE AND METHOD FOR REMANUFACTURING PRINTER C...

73) Family number: 43784641 (US2009245856A) © PatBase

Title: DEVICE AND METHOD FOR REMANUFACTURING PRINTER CARTRIDGES

Priority: US20080079842 20080327

Family:

Publication number	Publication date	Application number	Application date
US2009245856 AA	20091001	US20080079842	20080327
US7831171 BB	20101109	US20080079842	20080327

Probable Assignee: MITSUBISHI KAGAKU IMAGING CORP

Assignee(s):(std)**:** FUTURE GRAPHICS LLC ; MITSUBISHI KAGAKU IMAGING CORP

Assignee(s): FUTURE GRAPHICS IMAGING CORP

Inventor(s):(std)**:** HOLMES DENNY ; RUMMLER CRAIG

Agent(s): ROLAND TONG

International class (IPC 8–9)**:** G03G15/00 (Advanced/Invention); G03G15/00 (Core/Invention)

CPC: G03G21/1642 G03G15/0896 G03G2215/0872 G03G2221/163

European class: G03G15/08S G03G21/16 S03G215/08B4 S03G221/16D

US class: 399/109 399/109P 399/113

Classification Explorer

Cited documents: US6952544 BB, US6754460 BB, US6240605 BA, US5937238 A, JP9319198 A2, JP2002268516 A2, JP2002268514 A2, DE19936459 A1,

Forward Citations: US9651896, US8422911, US2011268470, EP2966513,

Abstract:
Source: US2009245856A A printer cartridge fastener comprising a curved portion adapted to grasp a printer cartridge overhang; a main body connected to the curved portion, the main body comprising a first side connected to the curved section; and a second side positioned opposite the first side; and an elongate portion connected to the second side of the main body, the elongate portion configured to abut to a printer cartridge portion positioned substantially perpendicular to the overhang.

0) US5124747A – COLOR COPY MACHINE WITH DETACHABLE PROCESS CART...

74) Family number: 5062199 (US5124747A) © PatBase

Title: COLOR COPY MACHINE WITH DETACHABLE PROCESS CARTRIDGE

Priority: CA19892003398 19891120 JP19880295665 19881121 US19890438530 19891117 JP19880321521 19881219

Family:

Publication number	Publication date	Application number	Application date
CA2003398 AA	19900521	CA19892003398	19891120
DE68920831 D1	19950309	DE19896020831	19891121
DE68920831 T2	19950524	DE19896020831T	19891121
EP0370455 A2	19900530	EP19890121503	19891121
EP0370455 A3	19901107	EP19890121503	19891121
EP0370455 B1	19950125	EP19890121503	19891121
JP2140768 A2	19900530	JP19880295665	19881121
JP2165165 A2	19900626	JP19880321521	19881219
JP2614755 B2	19970528	JP19880295665	19881121
US5124747 A	19920623	US19910758445	19910905

Probable Assignee: KONISHIROKU PHOTO IND

Assignee(s):(std)**:** KONISHIROKU PHOTO IND

Assignee(s): MORITA SHIZUO ; MATSUO SHUNJI ; SHOJI HISASHI ; FUKUCHI MASAKAZU ; HANEDA SATOSHI ; KONICA CORP ; KONICA CORP TOKIO TOKYO JP

Inventor(s):(std)**:** FUKUCHI MASAKAZU ; HANEDA SATORU ; HANEDA SATOSHI ; MATSUO SHUNJI ; MORITA SHIZUO ; SHOJI HISAFUMI ; SHOJI HISASHI

Inventor(s): SHOJI HISASHI HACHIOJI SHI TOKYO JP ; MORITA SHIZUO HACHIOJI SHI TOKYO JP ; MATSUO SHUNJI HACHIOJI SHI TOKYO JP ; HANEDA SATOSHI HACHIOJI SHI TOKYO JP ; FUKUCHI MASAKAZU HACHIOJI SHI TOKYO JP

Agent(s): SWABEY OGILVY RENAULT

Designated states: DE FR GB

International class (IPC 8–9): G03B27/00 G03G15/00 G03G15/01 G03G21/18 (Advanced/Invention); G03G15/00 G03G15/01 G03G21/18 (Core/Invention)

International class (IPC 1–7): G03B27/00 G03G15/00 G03G15/01 G03G21/18

CPC: G03G21/1628 G03G21/1647 G03G21/1807 G03G15/01 G03G21/1853 G03G2221/1603 G03G2221/1654 G03G2221/1657 G03G2221/1687 G03G2221/183 G03G2221/1861

European class: G03G15/01 G03G21/18C1 G03G21/18H1V S03G221/16A S03G221/16K1 S03G221/16K2 S03G221/16S3 S03G221/18P S03G221/18P3A

US class: 355/200 355/210 355/326 399/112

Classification Explorer

Cited documents: US4878091 A, US4803510 A, US4702587 A, US4682880 A, US4609276 A, US4575221 A, US4542976 A, US4376577 A, JPS63210951, JPS62134654, JP63125864 U1, JP62134654 A2, JP60191053 U1, EP0287122 A2, EP0278122 A1, DE3404438 A1,

Forward Citations: WO9216879, WO9216879, US9360828, US9141068, US9046860, US8818233, US8725042, US8606142, US8457520, US8265522, US8064793, US7769319, US7720413, US7463847, US7447467, US7444100, US6167222, US5689774, US5579086, US5548379, US5528343, US5471284, US5452064, US5414493, US5353100, US5323210, US5235383, US5168308, US5065195, US2011211863, US2011094986, US2010209140, US2009028602, US2006140674, US2006140673, EP1674948, EP0712058, EP0547348, EP0533484, EP0503430, EP0503430, EP0473182, EP0468752, EP0468749, EP0411825, EP0411825, EP0397465, AU657023,

Abstract:
Source: US5124747A The invention provides a color image forming apparatus provided with an image carrying

unit including a rotatable photoreceptor, a developing unit including a plurality of developing devices, and a cleaning unit. The apparatus is formed with a lower casing and an upper casing. In the upper casing, the image carrying unit, the developing unit and the cleaning unit are accommodated, in which at least two kinds of the units are incorporated in a cartridge capable of being detachably installed in the upper casing. The upper casing is adapted pivotal between an open position and an operation position around an axis which is disposed parallel to the rotation axis of the photoreceptor. When the upper casing is pivotted to the open position, the developing unit is so disposed that a side of the developing unit facing the photoreceptor becomes higher than other side of the developing unit.

0) US5131539A – PACKAGE FOR INK JET CARTRIDGE

75) Family number: 30340842 (US5131539A) © PatBase

Title: PACKAGE FOR INK JET CARTRIDGE

Priority: AU19900067747 19901204 AU19940071450 19940824 CA19902031567 19901205 KR19940019181U 19940729 KR19900020030 19901206 US19900621989 19901204 JP19890318080 19891206 JP19890318081 19891206 JP19890318082 19891206 US19920872317 19920423

Family:

Publication number	Publication date	Application number	Application date
AT136279 E	19960415	AT19900123337T	19901205
AU199067747 A1	19910613	AU19900067747	19901204
AU199471450 A1	19941103	AU19940071450	19940824
AU199740966 A1	19980108	AU19970040966	19971013
AU696275 B2	19980903	AU19970040966	19971013
CA2031567 AA	19910607	CA19902031567	19901205
CA2031567 C	19951024	CA19902031567	19901205
CN1022304 C	19931006	CN19901010443	19901206
CN1053211 A	19910724	CN19901010443	19901206
DE69026368 D1	19960509	DE19906026368	19901205
DE69026368 T2	19961114	DE19906026368T	19901205
EP0439728 A2	19910807	EP19900123337	19901205
EP0439728 A3	19911002	EP19900123337	19901205
EP0439728 B1	19960403	EP19900123337	19901205
JP3176157 A2	19910731	JP19890318080	19891206
JP3176158 A2	19910731	JP19890318081	19891206
JP3176159 A2	19910731	JP19890318082	19891206
KR200090526 Y1	19950330	KR19940019181U	19940729
KR950002275 Y1	19950330	KR19940019181U	19940729
US5131539 A	19920721	US19900621989	19901204
US5244092 A	19930914	US19920872317	19920423

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK ; CANON K K

Assignee(s): CANON K K TOKIO TOKYO JP ; CANON KABUSHIKI KAISHA ; CANON INC ; KARITA SEIICHIRO ; SAITO AKIO

Inventor(s):(std)**:** AKIO HITOSHIFUJI ; AKIO SAITO ; HITOSHIFUJI AKIO ; KARITA SEIICHIRO ; KARITA SEIICHIRO C O CANON KAB ; KATTA SEIICHIRO ; SAITO AKIO ; SAITO AKIO C O CANON KABUSHIKI ; SEIICHIRO KARITA ; SEIICHIRO KATTA

Inventor(s): SAITO AKIO C O CANON KABUSHIKI KAISH ; SAITO AKIO C O CANON KABUSHIKI KAISHA ; SAITO AKIO C O CANON KABUSHIKI KAISHA TOKYO JP ; KARITA SEIICHIRO C O CANON KABUSHIKI ; KARITA SEIICHIRO C O CANON KABUSHIKI KAISHA ; KARITA SEIICHIRO C O CANON KABUSHIKI KAISHA TOKYO

Agent(s): SPRUSON AND FERGUSON; ASPEN PHARMA PTY LTD; RIDOUT AND MAYBEE LLP

Designated states: AT BE CH DE DK ES FR GB GR IT LI LU NL SE

International class (IPC 8–9): B41J2/01 B41J2/165 B41J2/175 B65D73/00 B65D73/02 B65D75/36 B65D75/56 B65D75/62 B65D85/30 (Advanced/Invention); B65D73/00 (Advanced/Non–invention); B41J2/01 B41J2/165 B41J2/175 B65D73/00 B65D75/28 B65D75/52 B65D85/30 (Core/Invention)

International class (IPC 1–7): B41J2/01 B41J2/175 B65D73/00 B65D73/02 B65D75/36 B65D75/56 B65D75/62 B65D85/30

CPC: B41J2/17536 Y10S206/806 B41J2/1753 B41J2/16505 B41J2/17533 B65D73/0092

European class: B41J2/165B B41J2/175C B41J2/175C4A B41J2/175C5 B41J2/175C6 B65D73/00F1B

US class: 206/462 206/701 206/806 347/87 D18/56

Classification Explorer

Cited documents: WO9013494 A1, US4740796 A, US4734717 A, US4723129 A, US4558333 A, US4463359 A, US4459600 A, US4345262 A, US4313124 A, US4125190 A, US3399763 A, US3303930 A, US3289830 A, US3246747 A, US3129817 A, US2884127 A, JPS6159557, JPS6071260, JPS59138461, JPS59123670, JPS5456847, JP61059557 A2, JP60071260 A2, JP59138461 A2, JP59123670 A2, JP54056847 A2, JP2013494 A2, GB2196320 A1, GB1507828 A, CA804980 A,

Forward Citations: WO06099201, USD625181, USD577991, USD520356, USD516419, USD458125, USD448284, USD444059, USD440871, US9675674, US9662461, US9655850, US9630930, US9610351, US9511198, US9446133, US9446001, US9415960, US9364619, US9364436, US9346766, US9339615, US9283193, US9241903, US9233159, US9220687, US9192675, US9108420, US8925726, US8205747, US8205746, US8152287, US7963395, US7891791, US7864212, US7736710, US7726480, US7669978, US7634217, US7631757, US7517070, US7475779, US7393089, US7219979, US7201476, US7159324, US7086723, US6951389, US6929359, US6871944, US6854834, US6764170, US6666551, US6648140, US6502701, US6501496, US6499595, US6478416, US6422691, US6413599, US6312115, US6247598, US6113230, US6062390, US6045207, US5950403, US5934475, US5844578, US5790158, US5701995, US5697022, US5667063, US5657058, US5648802, US5590510, US5576749, US5477963, US5373936, US5279410, US2012248005, US2010236963, US2010236962, US2010236723, US2010155271, US2010105534, US2009073309, US2009058977, US2007274743, US2007120890, US2007062836, US2007062050, US2007023929, US2007023884, US2007023382, US2007023313, US2006201843, US2006125892, US2006125889, US2005183971, US2005174386, US2005122350, US2004263591, US2004239737, US2002166785, JP9301465, JP5057906, JP3774675, JP2003034362, GB2438809, GB2438809, EP2845736, EP2311751, EP2277796, EP2039522, EP1846305, EP1457342, EP1221379, EP0782927, EP0560266, DE4124462, DE112006000580, CN104417077, AU660527,

Abstract:
Source: US5131539A A package for an ink jet cartridge includes an accommodating container having a main body for accommodating the ink jet cartridge and a flange for sealed connection between the main body and a cover; and a holding member having an opening defining member for defining an opening for insertion of the main body therethrough and a flat member cooperable with the opening defining member to sandwich the flange therebetween, the opening defining member having an edge portion contactable to an outer edge of the flange and a peripheral portion around the outer edge.

0) US2005025521A – IMAGE–FORMING DEVICE

76) Family number: 31496478 (US2005025521A) © PatBase

Title: IMAGE–FORMING DEVICE

Priority: JP20030280299 20030725 JP20030280305 20030725

Family:

Publication number	Publication date	Application number	Application date
CN100511030 C	20090708	CN200410070800	20040726
CN101241346 A	20080813	CN200810082389	20040726
CN101241346 B	20100721	CN200810082389	20040726
CN1577143 A	20050209	CN200410070800	20040726
CN2781422 Y	20060517	CN200420084280U	20040726
CN2872425 Y	20070221	CN200620007662U	20040726
HK1073892 A3	20051021	HK20050106321	20050725
JP2005043822 A2	20050217	JP20030280299	20030725
JP2005043825 A2	20050217	JP20030280305	20030725
JP4325308 B2	20090902	JP20030280299	20030725
US2005025521 AA	20050203	US20040895912	20040722
US7266327 BB	20070904	US20040895912	20040722

Probable Assignee: BROTHER KOGYO KK

Assignee(s):(std)**:** BROTHER KOGKO K K ; BROTHER IND LTD

Assignee(s): BROTHER INDUSTRIES LTD ; BROTHER KOGKO KK ; BROTHER KOGYO KABUSHIKI KAISHA ; BROTHER KOGYO KK

Inventor(s):(std)**:** ATSUO HIROSE ; ATSUO MORI KEITAKA HIROSE ; HIROSE ATSUO ; HIROSE TOKUO ; HIROTAKA MORI ; MORI HIROTAKA ; MORI NORITAKA ; TAKAKAZU MORIKEI

Inventor(s): MORIKEI TAKAKAZU ; MORI KEITAKA HIROSE ATSUO

Agent(s): OLIFF AND BERRIDGE PLC

International class (IPC 8–9): G03G15/00 G03G15/08 G03G21/00 G03G21/18 (Advanced/Invention); G03G15/08 G03G21/18 (Core/Invention)

International class (IPC 1–7): G03G15/00 G03G21/00 G03G21/18

CPC: G03G21/1842 G03G21/1853 G03G2221/1884

European class: G03G21/18H1 G03G21/18H1V S03G221/18P4

US class: 399/111 399/167

Classification Explorer

Cited documents: US6405004 BB, US2002159790 AA, JP7325535 A2, JP325535, JP10254328 A2,

Forward Citations: US9639054, US9052687, US8653362, US8577258, US8483596, US8238789, US8160472, US8145098, US8010013, US7620347, US7184686, US2013177333, US2011267657, US2011217075, US2011091234, US2009317125, US2007237549, US2006045566, JP2011186142, JP2010156750, EP2365401, CN102193374, CN102193374,

Abstract:
Source: US2005025521A A laser printer includes: a main casing with two side walls; lower guiding grooves formed in the side walls; a process cartridge that is guided by the guiding grooves to be mounted in or removed from the main casing; and a lever rotatably supported by a shaft mounted on the main casing at a position near the lower guiding groove in one side wall. When the lever is rotated, a protruding part provided on one end of the lever protrudes into the lower guiding groove and engages with a fixing boss provided on the process cartridge, thereby preventing the process cartridge from moving in a direction opposite the direction in which the cartridge is mounted in the main casing.

0) US2005260019A – IMAGE FORMING APPARATUS AND METHOD OF MOUNTING ...

77) Family number: 32437175 (US2005260019A) © PatBase

Title: IMAGE FORMING APPARATUS AND METHOD OF MOUNTING AND DISMOUNTING A WASTE TONER BOTTLE

Priority: JP20040152660 20040524 JP20040338913 20041124 JP20040338913 20100420 JP20100096647 20100420

Family:

Publication number	Publication date	Application number	Application date
JP2006011360 A2	20060112	JP20040338913	20041124
JP2010186196 A2	20100826	JP20100096647	20100420
JP4884549 B2	20120229	JP20100096647	20100420
US2005260019 AA	20051124	US20050128253	20050513
US7245868 BB	20070717	US20050128253	20050513

Probable Assignee: RICOH CO LTD

Assignee(s):(std)**:** ARAI YUJI ; RICOH CO LTD ; RICOH KK

Assignee(s): RICOH COMPANY LTD

Inventor(s):(std)**:** ARAI YUJI ; ISHII HIROSHI

Agent(s): OBLON SPIVAK MCCLELLAND MAIER AND NEUSTADT PC

International class (IPC 8–9): G03G15/00 G03G21/10 G03G21/12 (Advanced/Invention); G03G15/00 G03G21/10 G03G21/12 (Core/Invention)

International class (IPC 1–7): G03G21/12

CPC: G03G21/12

European class: G03G21/12

US class: 399/360

Classification Explorer

Cited documents: US5398098 A, US4602864 A, JP8292702 A2, JP7130867 A2, JP5232789 A2, JP3192054 A2, JP3073986 A2, JP2006011360 A2, JP2006011360, JP2004145290 A2, JP2004145290, JP2003252480 A2, JP2003036011 A2, JP2002169441 A2, JP2002169441, JP2000019914 A2, JP2000019914, JP03073986,

Forward Citations: US8886091, US8805267, US8787795, US8761634, US8655205, US8639132, US8577257, US8543033, US8270852, US7391990, US2016349667, US2013077994, US2011103824, US2010303499, US2006110195, KR20130032235, KR101588360, KR101409631, KR101292968, JP5825009, JP5354068, JP5302266, JP5103636, JP4884549, JP2013068824, JP2013029869, JP2012226370, JP2012141373, JP2011257567, JP2011107595, JP2010186196, JP2010122502, JP2009294407, CN102566388, CN102073258,

Abstract:
Source: US2005260019A An image forming apparatus of the present invention is operable with a waste toner bottle removably mounted thereto for collecting residual toner left on an image carrier after image formation. The image forming apparatus includes a handle to be held by an operator for holding the waste toner bottle, and a locking mechanism included in the handle for preventing the waste toner bottle from coming off the apparatus.

0) US4984023A – TONER CARTRIDGE

78) Family number: 30126928 (US4984023A) © PatBase

Title: TONER CARTRIDGE

Priority: JP19890042672U 19890412

Family:

Publication number	Publication date	Application number	Application date
DE4011592 A1	19901018	DE19904011592	19900410
GB2230872 A1	19901031	GB19900008284	19900411
GB2230872 B2	19930414	GB19900008284	19900411
GB9008284 A0	19900613	GB19900008284	19900411
JP2134554 U1	19901108	JP19890042672U	19890412
US4984023 A	19910108	US19900506828	19900410

Probable Assignee: ASAHI OPTICAL CO LTD

Assignee(s):(std): ASAHI OPTICAL CO LTD

Assignee(s): ASAHI KOGAKU KOGYO 2 36 9 MAENO CHO ITABASHI KU TOKYO JAPAN A CORP OF JAPAN KK ; ASAHI KOGAKU KOGYO K K ; ASAHI KOGAKU KOGYO K K TOKIO TOKYO JP ; ASAHI KOGAKU KOGYO KABUSHIKI KAISHA ; ASAHI KOGAKU KOGYO KK

Inventor(s):(std): YOSHIDA TATSUYA

Inventor(s): TATSUYA YOSHIDA ; YOSHIDA TATSUYA SAITAMA JP

International class (IPC 8–9): G03G15/08 (Advanced/Invention) ; G03G15/08 (Core/Invention)

International class (IPC 1–7): B41J2/455 G03G15/06 G03G15/08

CPC: G03G15/0874 G03G15/0855 G03G15/0865 G03G2215/0682

European class: G03G15/08H3 S03G215/06C3

US class: 118/43 355/260 399/106 399/262

Classification Explorer

Cited documents: US4912512 A, US4862226 A, US4862210 A, US4766457 A, US4491161 A, US4062385 A, US3599682 A, JP64054066 B4, JP63244077 A2, JP63155154 B4, JP63132963 U1, JP63132963 U, JP625287, JP62186284 A2, JP62005287 A2, JP61131630 B4, JP59015056 B4, JP59015056 B2, JP2009464 A2, FR2357932 A1, EP0235732 A1, DE3219481 A1, DE3020610 C2,

Forward Citations: WO9501588, US9285707, US7542697, US7412191, US7356290, US7289748, US7277665, US7218880, US7209689, US7209687, US7162188, US7158742, US7130567, US7065313, US7039346, US6898405, US6771921, US6678492, US6647236, US6608983, US6201941, US6178305, US5832343, US5802431, US5761584, US5291242, US5249020, US5206619, US5080745, US2013164039, US2008152380, US2007242982, US2007110480, US2006034643, US2005180782, US2005058472, US2005041999, US2004253023, US2004247343, US2004197120, US2004146320, US2004091289, US2004091287, US2004071481, US2003153860, EP1030227, EP1030227, EP0717326, EP0717326, DE9309693, DE19549724,

Abstract:
Source: US4984023A In a toner cartridge for containing toner utilized in a developing unit of an imaging device of the electrophotographic type, a containing part comprises a foldable material such as vinyl. Thus, the container is folded after toner is supplied to the developing unit. Accordingly, the space for the container filled with toner is prevented from becoming dead space. Further, if the material of the container is transparent, it is possible to detect whether or not toner remains inside of the container.

0) US4949123A – TONER SUPPLY DEVICE FOR A DEVELOPING APPARATUS ...

79) Family number: 17017240 (US4949123A) © PatBase

Title: TONER SUPPLY DEVICE FOR A DEVELOPING APPARATUS

Priority: JP19880025915U 19880301

Family:

Publication number	Publication date	Application number	Application date
JP1130159 U1	19890905	JP19880025915U	19880301
JP2096689 Y	19961218	JP19880025915U	19880301
JP7020679 Y2	19950515	JP19880025915U	19880301
KR920007720 B1	19920915	KR19890002572	19890301
US4949123 A	19900814	US19890317564	19890301

Probable Assignee: RICOH KK

Assignee(s):(std)**:** RICOH KK

Assignee(s): RICOH CO ; RICOH CO LTD ; RICOH COMPANY LTD

Inventor(s):(std)**:** MASAYUKI TAKASHIMA ; TAKASHIMA MASAYUKI

International class (IPC 8–9)**:** G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)

International class (IPC 1–7)**:** G03G15/08

CPC: Y10S222/01 G03G15/0872 G03G2215/0665 G03G2215/0675

European class: G03G15/08H3C1 S03G215/06C1A S03G215/06C1C

US class: 222/DIG.1 355/260 399/12 399/262

Classification Explorer

Cited documents: US4855783 A, US4814821 A, US4740808 A, JPS5961845, JP59061845 A2, JP1067658 U1,

Forward Citations: US9581937, US9547258, US9541862, US9513576, US9482988, US9482987, US9465317, US9329529, US9128415, US8929779, US8687984, US8559830, US8091723, US7734197, US6885840, US6871588, US6290346, US6285836, US6131008, US6115571, US5918090, US5870652, US5794108, US5771418, US5678121, US5627631, US5559589, US5541631, US5500719, US5489962, US5455662, US5450167, US5175588, US2014086627, US2012288287, US2012093523, US2008008493, US2007269224, US2004265013, US2002035940, JP2012088395, FR2864262, EP2662733, EP1548519, EP0738936, EP0738936, EP0631186,

Abstract:
Source: US4949123A A toner supply device for supplying a toner to a developing apparatus of an electrophotographic copier or similar image recorder is implemented by a cylindrical toner tank mounted on the apparatus and a toner cartridge filled with a toner and removably loaded in the toner tank. A hook–like yieldable stop is fitted on the toner tank, while lugs having contiguous inclined surface are provided on the toner cartridge for urging the stop when the cartridge is inserted into the tank. The stop and lugs allow only a toner cartridge of exclusive kind associated with the image recorder to be inserted into the toner tank.

0) US2006269313A – PROCESS CARTRIDGE FOR IMAGE–FORMING DEVICE

80) Family number: 33895260 (US2006269313A) © PatBase

Title: PROCESS CARTRIDGE FOR IMAGE–FORMING DEVICE

Priority: JP20050157780 20050530 JP20050173958 20050614

Family:

Publication number	Publication date	Application number	Application date
JP2006330620 A2	20061207	JP20050157780	20050530
JP2006349841 A2	20061228	JP20050173958	20050614
US2006269313 AA	20061130	US20060442291	20060530
US7945184 BB	20110517	US20060442291	20060530

Probable Assignee: BROTHER KOGYO KK

Assignee(s):(std)**:** BROTHER IND LTD

Assignee(s): BROTHER KOGYO KABUSHIKI KAISHA ; BROTHER KOGYO KK

Inventor(s):(std)**:** TAKAGI TAKEYUKI

Agent(s): MCDERMOTT WILL AND EMERY LLP

International class(IPC 8–9)**:** G03G15/00 G03G15/16 G03G21/18 (Advanced/Invention); G03G15/00 G03G15/16 G03G21/18 (Core/Invention)

CPC: G03G21/1867 G03G2221/166

European class: G03G21/18H3 S03G221/16K3

US class: 399/111 399/90 399/90P

Classification Explorer

Cited documents: US6571070 BB, US6519430 BB, US6366749 BA, US6275668 BA, US6097908 A, US5768658 A, US2008159775 AA, US2006110181 AA, US2006062589 AA, US2006024080 AA, US2005069338 AA, US2005025522 AA, US2005019056 AA, US2004131379 AA, US2003123896 AA, US2003118383 AA, US2003095808 AA, JP9325628 A2, JP9319239 A2, JP7219352 A2, JP7219308 A2, JP7146600 A2, JP6289736 A2, JP6118768 A2, JP6059559 A2, JP2004309861 A2, JP2004205964 A2, JP2004102141 A2, JP2003195700 A2, JP2001265196 A2, JP2001201996 A2, JP2000112318 A2, JP11316503 A2, JP10123797 A2, EP1239346 A2,

Forward Citations: USD758482, USD757161, USD743400, US9632456, US9599927, US9568856, US9268295, US9256158, US9213305, US9207631, US9201389, US9195208, US9188945, US9164431, US9110402, US9081327, US9069287, US9042764, US8909071, US8897665, US8867948, US8660441, US8577228, US8538291, US8380103, US8073355, US2015160604, US2015071675, US2014205304, US2013223877, US2013058675, US2013051834, US2011158686, US2010329757, US2009214249, JP5895401, JP5768506, JP2013054057, JP2012247766, JP2011133764, JP2011013268,

Abstract:
Source: US2006269313A A cartridge is detachably mountable in an image–forming device, the image–forming device having a power supply supplying a bias. The cartridge includes; a bias–receiving member; a casing; and a terminal member. The bias–receiving member is configured to receive a bias supplied from a power supply provided in the image–forming device. The casing is configured to accommodate the bias–receiving member. The casing has an opening formed therein. The terminal member is detachably mounted in the opening formed in the casing and exposed outside the casing via the opening to electrically connect the power supply to the bias–receiving member. The terminal member includes: a return–restricting part restricting the terminal member from returning into the casing; a projection–restricting part that restricts the terminal member from further protruding out of the casing; and a contact part that is positioned outside the casing and that is electrically connected to the power supply.

0) US6246854B – TONER CARTRIDGE AND METHOD USING THE TONER CART...

81) Family number: 13807787 (US6246854B) © PatBase

Title: Toner cartridge and method using the toner cartridge for feeding a predetermined amount of toner

Priority: JP19990098566 19990406

Family:

Publication number	Publication date	Application number	Application date
JP2000293024 A2	20001020	JP19990098566	19990406
US6246854 BA	20010612	US20000497182	20000203

Probable Assignee: PANASONIC COMMUNICATIONS CO LTD

Assignee(s):(std): MATSUSHITA GRAPHIC COMM SYSTEM ; MATSUSHITA GRAPHIC COMMUNIC

Assignee(s): MATSUSHITA GRAPHIC COMMUNICATION SYSTEMS INC ; PANASONIC COMMUNICATIONS CO LTD

Inventor(s):(std): HACHIMAN KATSUMI ; KUROSAWA EIJI ; NAITO TAKASHI ; YAWATA KATSUMI

International class (IPC 8–9): G03G15/08 (Advanced/Invention) ; G03G15/08 (Core/Invention)

International class (IPC 1–7): G03G15/08

CPC: G03G15/0894 G03G2215/0847 G03G2215/085 G03G2221/183

European class: G03G15/08R S03G215/08A4B2 S03G215/08A5 S03G221/18P

US class: 399/263

Classification Explorer

Cited documents: US6115567 A, US6088561 A, US5581334 A, US5345297 A, US4952976 A, US4733267 A,

Forward Citations: US9195166, US9052638, US8676073, US8396398, US8385783, US8219008, US8195070, US8160461, US8121525, US8103195, US8005406, US7970336, US7853183, US7840167, US7835675, US7835673, US7822371, US7756451, US7747202, US7747200, US7630679, US7532843, US7526237, US7444087, US7383000, US6728500, US6654569, US6615007, US6418290, US2014093272, US2014023402, US2012243913, US2011008075, US2010254732, US2010124443, US2009196660, US2009169268, US2009162101, US2009123192, US2008286013, US2008187365, US2008091798, US2008038023, US2007280739, US2007154243, US2007147902, US2007122205, US2007092305, US2007041749, US2006216064, US2006177230, JP2006126486,

Abstract:
Source: US6246854B A toner cartridge is provided that includes an agitator provided in a toner hopper. An agitator gear is coupled with the agitator in such a way that the agitator always has the same positional relationship with the agitator gear. The agitator gear is provided with a mark indicating the orientation of the agitator and an agitation blade fixed thereto. A method of feeding toner using the toner cartridge is also provided, in which the agitator and the agitation blade are withdrawn from the vicinity of a toner feeding hole by turning the agitator gear by hand while watching this mark, and toner is refilled through the toner feeding hole. Feeding toner in this manner enables feeding a predetermined amount of toner.

0) US2007048024A – DEVELOPING CARTRIDGE AND ELECTROPHOTOGRAPHIC IM...

82) Family number: 34252897 (US2007048024A) © PatBase

Title: DEVELOPING CARTRIDGE AND ELECTROPHOTOGRAPHIC IMAGE FORMING APPARATUS INCLUDING THE SAME

Priority: KR20050077537 20050823

Family:

Publication number	Publication date	Application number	Application date
CN100444040 C	20081217	CN200610110801	20060623
CN1920686 A	20070228	CN200610110801	20060623
KR100708174 B1	20070417	KR20050077537	20050823
KR20070023221 A	20070228	KR20050077537	20050823
US2007048024 AA	20070301	US20060450369	20060612
US7529508 BB	20090505	US20060450369	20060612

Probable Assignee: SAMSUNG ELECTRONICS CO LTD

Assignee(s):(std)**:** SAMSUNG ELECTRONICS CO LTD

Assignee(s): SAMSUNG ELECTRONICS CO

Inventor(s):(std)**:** CHOI DEUG HYUN ; KIM SUNG GI ; SUNG GI CHOI DEUG HYUN KIM

Inventor(s): CHOI DEUG HYUN KIM SUNG GI

Agent(s): STANZIONE AND KIM LLP

International class (IPC 8–9)**:** G03G15/00 G03G15/06 G03G15/08 (Advanced/Invention); G03G15/06 (Advanced/Non–invention); G03G15/00 G03G15/06 G03G15/08 (Core/Invention)

CPC: G03G15/0889 G03G15/0822 G03G2215/0685 G03G2215/085 G03G15/06

European class: G03G15/08H S03G215/06C4 S03G215/08A5

US class: 399/254 399/256

Classification Explorer

Cited documents: US7224925 BB, US6421517 BA, US4026241 A, KR980003928 A, KR200537727, KR20050037727 A, KR19983928, KR199820116, KR19980020116 A, JP2000155457 A2, JP10301377 A2, JP10010854 A2,

Forward Citations: US9529300, US9158234, US9037050, US8620197, US8290398, US8260176, US7829840, US2013259530, US2010189469, US2010080630, US2008199222, EP2211237, CN104020654, CN102262373, CN102262373,

Abstract:
Source: US2007048024A A developing cartridge includes an agitator including a pair of ribs to effectively force a toner to a center of a flexible agitator film. In the developing cartridge of an electrophotographic image forming apparatus including a housing containing the toner, a developing roller disposed such that a portion thereof is exposed to the housing, and the agitator which is provided in the housing and feeds the toner to the developing roller, the agitator includes a body, the flexible agitating film including a coupling groove and attached to the body, a hook provided on the body and inserted into the coupling groove, and the pair of ribs provided on the body.

0) US5682579A – DETACHABLE TWO–FRAME PROCESS CARTRIDGE FOR AN I...

83) Family number: 33533477 (US5682579A) © PatBase

Title: DETACHABLE TWO–FRAME PROCESS CARTRIDGE FOR AN IMAGE FORMING APPARATUS

Priority: JP19900301779 19901106 JP19910054446 19910319 US19930170908 19931221 US19930068287 19930528 US19910785401 19911030 US19910689517 19910423 US19960734090 19961031 US19940295077 19940826

Family:

Publication number	Publication date	Application number	Application date
US5682579 A	19971028	US19960734090	19961031

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK

Assignee(s): CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** IKEMOTO ISAO ; KARAKAMA TOSHIYUKI ; NOMURA YOSHIYA ; SASAKI SHINICHI ; SHIRAI HIROYUKI ; TSUDA TADAYUKI ; WATANABE KAZUSHI

International class (IPC 8–9): G03G15/08 G03G21/18 (Advanced/Invention)

International class (IPC 1–7): G03G15/08 G03G21/18

CPC: G03G21/1647 G03G21/1652 G03G21/1821 G03G15/0898 G03G21/181 G03G21/1817 G03G2215/00987 G03G2221/1648 G03G2221/1651 G03G2221/1654 G03G2221/1669 G03G2221/1876 Y10T29/49904

European class: G03G15/08S1 G03G21/18C2 G03G21/18C4 G03G21/18C4C S03G215/00R S03G221/16J S03G221/16K S03G221/16K1 S03G221/16M S03G221/18P3C

US class: 399/113 399/11B 399/258

Classification Explorer

Cited documents: US5294960 A, US5272505 A, US5223068 A, US5160963 A, US5115272 A, US5051778 A, US5036358 A, US4996566 A, US4987446 A, US4974023 A, US4974020 A, US4924267 A, US4866482 A, US4862212 A, US4851960 A, US4816877 A, US4757344 A, US4708455 A, US4605299 A, US4500195 A, US4386838 A, JPS60168159, JP60168159 A2, JP2257146 A2, JP2168277 A2, JP2163769 A2, JP2123376 A2, GB2074095 A1, FR2611930 A1, EP0368346 A2, EP0330225 A2, EP0276910 A1, EP0276192 A1, DE907136 A, DE8716525 U, DE4003695 A1,

Forward Citations: US8095051, US7986911, US7957669, US7912404, US7873296, US7844197, US7796915, US7675536, US7639965, US7565092, US7532840, US7499670, US7162182, US7136609, US7123864, US6510291, US6289193, US2013084098, US2009169248, US2008279583, US2008170882, US2007248377, US2007247511, US2007041761, US2006029423, US2006024086, US2005207781, US2005207780, US2004240907,

Abstract:
Source: US5682579A A process cartridge detachably mountable to a main assembly of an image forming apparatus, the cartridge comprising a photosensitive member, a developing means for developing a latent image formed on the photosensitive member, a first frame containing the developing means; and a second frame coupled with the first frame, the second frame including a developer containing portion for containing a developer to be supplied to the developing means to develop the latent image, wherein the second frame is a selected one of plural secondary frames engageable with the first frame and having different developer containing capacities.

0) US9429871B – TONER SUPPLY CONTAINER AND APPLICATIONS OF SAME...

84) Family number: 62434924 (US9429871B) © PatBase

Title: TONER SUPPLY CONTAINER AND APPLICATIONS OF SAME

Priority: US20150946878 20151120

Family:

Publication number	Publication date	Application number	Application date
CN105607443 A	20160525	CN201610072517	20160202
DE102016101332 B3	20170511	DE201610101332	20160126
TW201719302 A	20170601	TW20160103110	20160201
TWI567511 B	20170121	TW20160103110	20160201
US9429871 BA	20160830	US20150946878	20151120

Probable Assignee: GENERAL PLASTIC INDUSTRIAL CO LTD

Assignee(s):(std): GENERAL PLASTIC IND CO LTD ; GENERAL PLASTIC INDUSTRIAL CO LTD

Assignee(s): GENERAL PLASTIC INDUSTRIAL CO

Inventor(s):(std): XIAO ZHENG YI ; ZHUANG JIN XI ; ZHUANG JINXI ; XIAO ZHENGYI ; YI XIAO ZHENG ; HIS CHUANG CHIN ; CHUANG CHIN HIS

Agent(s): LOCKE LORD LLP; TIM TINGKANG

International class (IPC 8–9): G03G15/00 G03G15/08 G03G21/18 (Advanced/Invention)

CPC: G03G15/0867 G03G15/087 G03G15/0877 G03G15/0886

US class: 1/1

Classification Explorer

Cited documents: US8565649 BB, US5446478 A, US2013209140 AA, US2012014713 AA, TW201502726,

Abstract:
Source: US9429871B A releasing mechanism usable for a toner supply container includes a rotatable structure, a stationary structure engaged with the rotatable structure, and a pump movably connected to the stationary structure. The rotatable structure has a first magnetic member. The stationary structure has an opening for releasing toner and a second magnetic member. The pump has a pumping portion that is expandable. A first force drives the rotatable structure to rotate relative to the stationary structure, such that the first magnetic member is alternatively aligned and misaligned with the second magnetic member. When the first and second magnetic members are aligned, the pump is pushed away from the stationary structure by a repelling force generated between the first magnetic member and the second magnetic member. When the first and second magnetic members are misaligned, the pump is pushed by a second force toward the stationary structure.

0) EP0483440A1 – ELECTROPHOTOGRAPHIC TONER CARTRIDGE. TONERBEHAE...

85) Family number: 3332574 (EP0483440A1) © PatBase

Title: ELECTROPHOTOGRAPHIC TONER CARTRIDGE.

Priority: EP19900830487 19901030

Family:

Publication number	Publication date	Application number	Application date
DE69009480 D1	19940707	DE19906009480	19901030
DE69009480 T2	19940929	DE19906009480T	19901030
EP0483440 A1	19920506	EP19900830487	19901030
EP0483440 B1	19940601	EP19900830487	19901030

Probable Assignee: BULL HN INFORMATION SYST

Assignee(s):(std)**:** BULL HN INFORMATION SYST

Assignee(s): BULL HN INFORMATION SYSTEMS ITALIA S P A ; BULL HN INFORMATION SYSTEMS ITALIA S P A CALUSO TURIN TORINO ; BULL HN INFORMATION SYSTEMS ITALIA S P A CALUSO TURIN TORINO IT ; BULL HN INFORMATION SYSTEMS ITALIA SPA

Inventor(s):(std)**:** CASSIANO COSIMO ; LADU ANGELO

Inventor(s): LADU ANGELO I 21047 SARONNO ; LADU ANGELO I 21047 SARONNO VA ; LADU ANGELO I 21047 SARONNO VA IT ; CASSIANO COSIMO I 20020 VITTUONE ; CASSIANO COSIMO I 20020 VITTUONE MI ; CASSIANO COSIMO I 20020 VITTUONE MI IT

Designated states: BE CH DE FR GB IT LI NL

International class (IPC 8–9)**:** G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)

International class (IPC 1–7)**:** G03G15/08

CPC: G03G15/0865 G03G15/0872 G03G15/0881 G03G2215/0665 G03G2215/0675 G03G2215/0692

European class: G03G15/08H3C1 S03G215/06C1A S03G215/06C1C S03G215/06C7

Classification Explorer

Cited documents: US4060105 A, EP0269402 A2, EP0225745 A1,

Forward Citations: WO13170708, WO07147362, US6115571, US5630198, US5608501, US5548384, FR2864263, EP1548520,

Abstract:
Source: EP0483440A1 Electrophotographic toner cartridge for use in an electrophotographic apparatus having a housing for inserting such cartridge therein, comprising an elongated hollow body (1) containing the toner and a rotatable tile (10) which in a first position seals a discharging opening (3) of the cartridge and in a second position clears such opening (3), the tile (10) being coupled to a key which can be inserted in a keyhole of the apparatus only if the tiled (10) is in the first position and hooks in the keyhole preventing cartridge removal from the housing for any other position of the tile (10).

0) US5987278A – PROCESS CARTRIDGE AND IMAGE FORMING APPARATUS U...

86) Family number: 33533663 (US5987278A) © PatBase

Title: PROCESS CARTRIDGE AND IMAGE FORMING APPARATUS USABLE THEREWITH

Priority: JP19900301779 19901106 JP19910054446 19910319 US19910689517 19910423 US19910785401 19911030 US19930068287 19930528 US19970943692 19971003 US19960770687 19961217 US19950478660 19950607 US19930170908 19931221

Family:

Publication number	Publication date	Application number	Application date
US5987278 A	19991116	US19970943692	19971003

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK

Assignee(s): CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** IKEMOTO ISAO ; KARAKAMA TOSHIYUKI ; NOMURA YOSHIYA ; SASAKI SHINICHI ; SHIRAI HIROYUKI ; TSUDA TADAYUKI ; WATANABE KAZUSHI

International class (IPC 8–9)**:** G03G15/08 G03G21/18 (Advanced/Invention)

International class (IPC 1–7)**:** G03G15/00 G03G21/18

CPC: G03G21/1647 G03G21/1652 G03G21/1821 G03G15/0898 G03G21/181 G03G21/1817 G03G2215/00987 G03G2221/1648 G03G2221/1651 G03G2221/1654 G03G2221/1669 G03G2221/1876 Y10T29/49904

European class: G03G15/08S1 G03G21/18C2 G03G21/18C4 G03G21/18C4C S03G215/00R S03G221/16J S03G221/16K S03G221/16K1 S03G221/16M S03G221/18P3C

US class: 399/109 399/113

Classification Explorer

Cited documents: US5296902 A, US5294960 A, US5272505 A, US5267003 A, US5223068 A, US5184182 A, US5160963 A, US5115272 A, US5110646 A, US5080745 A, US5051778 A, US5036358 A, US4996566 A, US4987446 A, US4974023 A, US4974020 A, US4930684 A, US4924267 A, US4866482 A, US4862212 A, US4862210 A, US4851960 A, US4816877 A, US4757344 A, US4708455 A, US4605299 A, US4500195 A, US4386838 A, JPS60168159, JPS5821262, JP60168159 A2, JP58021262 A2, JP2257146 A2, JP2168277 A2, JP2163769 A2, JP2123376 A2, GB2074095 A1, FR2611930 A1, EP0368346 A2, EP0330225 A2, EP0276910 A1, EP0276192 A1, DE8907136 U, DE8716525 U, DE4003695 A1,

Forward Citations: US9304435, US9229363, US9104174, US9063462, US8905511, US8891982, US8837984, US8095051, US7957669, US7912404, US7873296, US7844197, US7796915, US7565092, US7532840, US7346297, US6983113, US6788908, US6721520, US2015023694, US2014003836, US2013051821, US2009169248, US2009074449, US2008279583, US2008170882, US2006204284, US2006029423, US2006024086, US2005249520, US2003170046, US2003059229,

Abstract:
Source: US5987278A A process cartridge detachably mountable to a main assembly of an image forming apparatus, the cartridge comprising a photosensitive member, a developing means for developing a latent image formed on the photosensitive member, a first frame containing the developing means; and a second frame coupled with the first frame, the second frame including a developer containing portion for containing a developer to be supplied to the developing means to develop the latent image, wherein the second frame is a selected one of plural secondary frames engageable with the first frame and having different developer containing capacities.

0) US2006062601A – DEVELOPER CARTRIDGE AND LIQUID–TYPE IMAGE FORMI...

87) Family number: 33639057 (US2006062601A) © PatBase

Title: DEVELOPER CARTRIDGE AND LIQUID–TYPE IMAGE FORMING APPARATUS

Priority: KR20040076240 20040923

Family:

Publication number	Publication date	Application number	Application date
CN100465811 C	20090304	CN200510091043	20050804
CN1752862 A	20060329	CN200510091043	20050804
EP1640816 A2	20060329	EP20050255869	20050922
KR100621404 B1	20060919	KR20040076240	20040923
KR20060027478 A	20060328	KR20040076240	20040923
US2006062601 AA	20060323	US20050155625	20050620
US7305205 BB	20071204	US20050155625	20050620

Probable Assignee: S PRINTING SOLUTION CO LTD

Assignee(s):(std)**:** SAMSUNG ELECTRONICS CO LTD

Assignee(s): S PRINTING SOLUTION CO LTD ; SAMSUNG ELECTRONICS CO

Inventor(s):(std)**:** JEONG YOO HUNG ; YOO HUNG JEONG

Agent(s): ROYLANCE ABRAMS BERDO AND GOODMAN LLP

Designated states: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC NL PL PT RO SE SI SK TR

International class (IPC 8–9): G03G15/04 G03G15/08 G03G15/10 G03G21/10 (Advanced/Invention); G03G15/10 (Advanced/Non–invention); G03G15/04 G03G15/08 G03G15/10 G03G21/10 (Core/Invention)

CPC: G03G15/0875 G03G15/0886 G03G15/104 G03G2215/0119 G03G2215/0685 G03G2215/0692 G03G15/10

European class: G03G15/10D S03G215/01P3 S03G215/06C4 S03G215/06C7

US class: 399/119 399/120 399/238 399/238P

Classification Explorer

Cited documents: US6526243 BB, US6438345 BA, US5828935 A, KR740020020 B1, KR20020018574 A, JP7049611 A2, JP2004050470 A2, JP2002311696 A2,

Forward Citations: US8855534, US8676095, US8078087, US7248815, US2012087694, US2009129824, US2006018685, EP2595004,

Abstract:
Source: US2006062601A A developer cartridge having a developer cartridge body with a fitting part is coupled to a developer supply path connected to a developing unit. A fitting part shutter unit is detachably mounted to the developer cartridge body and moved by an external force to move between a first position covering the fitting part and a second position expositing the fitting part.

0) US5854955A – PROCESS CARTRIDGE

88) Family number: 10975382 (US5854955A) © PatBase

Title: PROCESS CARTRIDGE

Priority: JP19970005184 19970116 JP20020030539 20020207

Family:

Publication number	Publication date	Application number	Application date
JP10207322 A2	19980807	JP19970005184	19970116
JP2002278426 A2	20020927	JP20020030539	20020207
JP3350384 B2	20021125	JP19970005184	19970116
US5854955 A	19981229	US19970882072	19970625

Probable Assignee: PANASONIC COMMUNICATIONS CO LTD

Assignee(s):(std)**:** MATSUSHITA GRAPHIC COMMUNIC ; MATSUSHITA GRAPHIC COMM SYSTEM

Assignee(s): MATSUSHITA GRAPHIC COMMUN SYST INC ; MATSUSHITA GRAPHIC COMMUNICATION SYSTEMS INC ; MATSUSHITA GRAPHIC COMMUNICATIONS SYSTEMS INC ; MATSUSHITA GRAPHIC COMMUNICATON SYSTEMS INC ; PANASONIC COMMUNICATIONS CO LTD

Inventor(s):(std)**:** GOI SHUICHI ; HACHIMAN KATSUMI ; KUROSAWA EIJI ; YAWATA KATUMI

International class (IPC 8–9)**:** G03G15/02 G03G15/08 G03G21/16 G03G21/18 (Advanced/Invention); G03G15/02 G03G15/08 G03G21/16 G03G21/18 (Core/Invention)

International class (IPC 1–7)**:** G03G15/02 G03G15/08 G03G21/16 G03G21/18

CPC: G03G21/1676 G03G21/1821 G03G2221/1648 G03G2221/1853

European class: G03G21/18C4C S03G221/16J S03G221/18P3

US class: 399/111 399/113 399/114

Classification Explorer

Cited documents: US5583618 A, US5294960 A, US4987446 A,

Forward Citations: US9079433, US8219000, US7899361, US7587156, US7532839, US7295791, US7209677, US2013029820, US2008240777, US2008145096, US2008008497, US2007147873, US2007127947, US2006285870, US2005220482, JP2008242436, JP2006242971,

Abstract:
Source: US5854955A A process cartridge case including a toner hopper, and a discharged toner box disposed at both sides of a drum housing accommodating a photoconductive drum. The process cartridge case is separable into first and second parts at a border in a region of the drum housing. Legs are provided on an outer surface of the toner hopper so that the process cartridge can be placed in an upright position during a refilling operation. An agitator extends beyond a side wall in a cantilever fashion to allow a box with a bearing member to rotatably support the agitator shaft. An elastic member is included in the box to hermetically seal the agitator shaft and prevent toner leakage.

0) US5294960A – DETACHABLE TWO–FRAME PROCESS CARTRIDGE FOR AN I...

89) Family number: 33533226 (US5294960A) © PatBase

Title: Detachable two–frame process cartridge for an image forming apparatus

Priority: JP19900301779 19901106 JP19910054446 19910319 US19910689517 19910423 US19910785401 19911030 US19930068287 19930528

Family:

Publication number	Publication date	Application number	Application date
US5294960 A	19940315	US19930068287	19930528

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK

Assignee(s): CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** IKEMOTO ISAO ; KARAKAMA TOSHIYUKI ; KARKAMA TOSHIYUKI ; NOMURA YOSHIYA ; SASAKI SHINICHI ; SHIRAI HIROYUKI ; TSUDA TADAYUKI ; WATANABE KAZUSHI

International class (IPC 8–9): G03G15/08 G03G21/18 (Advanced/Invention)

International class (IPC 1–7): G03G15/00

CPC: G03G15/0898 G03G21/181 G03G2215/00987 G03G2221/1648 G03G2221/1651 G03G2221/1654 G03G2221/1669 G03G2221/1876

European class: G03G15/08S1 G03G21/18C2 S03G215/00R S03G221/16J S03G221/16K S03G221/16K1 S03G221/16M S03G221/18P3C

US class: 156/94 355/210 399/113 399/120

Classification Explorer

Cited documents: US5223068 A, US5160963 A, US5115272 A, US5051778 A, US5036358 A, US4996566 A, US4987446 A, US4974023 A, US4974020 A, US4862212 A, US4851960 A, US4816877 A, US4708455 A, US4500195 A, JP60168159 A2, JP2257146 A2, JP2168277 A2, JP2163769 A2, JP2123376 A2, GB2074095 A1, FR2611930 A1, EP0276910 A1, DE8907136 U, DE4003695 A1,

Forward Citations: US9354552, US8095051, US7986911, US7957669, US7912404, US7873296, US7844197, US7796915, US7675536, US7639965, US7565092, US7532840, US7362988, US7296341, US7162182, US7136609, US7095967, US7073251, US7024131, US6987938, US6868243, US6859627, US6836639, US6832056, US6826373, US6804483, US6782213, US6738589, US6704525, US6701106, US6697578, US6684040, US6658224, US6654575, US6603939, US6571070, US6542706, US6535699, US6519431, US6463223, US6424811, US6408143, US6397018, US6397017, US6377759, US6334035, US6330402, US6273300, US6272300, US6253036, US6246853, US6236821, US6226476, US6208816, US6201935, US6173145, US6144398, US6141513, US6118961, US6118960, US6118958, US6101354, US6097910, US6058280, US6041196, US5987278, US5966568, US5966567, US5966566, US5907749, US5899602, US5878310, US5870654, US5867751, US5854955, US5832343, US5826132, US5815644, US5812902, US5809384, US5802433, US5802431, US5790923, US5781831, US5761584, US5708925, US5708913, US5701562, US5697022, US5697021, US5682587, US5682579, US5659847, US5655181, US5652944, US5650841, US5585902, US5502547, US5485249, US5475467, US5446525, US2014376955, US2013084098, US2010247141, US2010061761, US2009169248, US2009074449, US2008279583, US2008170882, US2007247511, US2006029423, US2006024086, US2005283973, US2005207781, US2005207780, US2005025508, US2004190933, US2004136746, US2004120728, US2004045156, US2003113131, EP2071416, EP1730601, EP1217468, EP0683439, EP0679959, EP0679959,

Abstract:
Source: US5294960A A process cartridge detachably mountable to a main assembly of an image forming apparatus includes first and second frames. The first frame has an image bearing member and developing means for developing with a developer an electrostatic latent image formed on the image bearing member. The second frame is separable from the first frame and arranged for covering an upper part of the image bearing member, the second frame having developer accommodating means for accommodating developer to be supplied to the

developer means.

90) Family number: 28468461 (US2003049045A) © PatBase

Title: PROCESS UNIT DIVIDED INTO A PLURALITY OF SEPARABLE UNITS AND IMAGE FORMING APPARATUS USING SUCH PROCESS UNIT

Priority: US20010951880 20010913

Family:

Publication number	Publication date	Application number	Application date
US2003049045 AA	20030313	US20010951880	20010913
US6549737 BB	20030415	US20010951880	20010913

Probable Assignee: TOSHIBA KK

Assignee(s):(std)**:** TOSHIBA TEC KK

Assignee(s): TOSHIBA KK ; TOSHIBA TEC K USHIKI KAISHA AB ; TOSHIBA TEC KABUSHIKI KAISHA

Inventor(s):(std)**:** SUGIYAMA HIDEAKI ; SANO ISAO

International class (IPC 8–9): G03G21/18 (Advanced/Invention); G03G21/18 (Core/Invention)

International class (IPC 1–7): G03G21/16 G03G21/18

CPC: G03G21/1821

European class: G03G21/18C4C

US class: 399/111 399/113

Classification Explorer

Cited documents: US6366749 BA, US6298202 BA, US6070030 A, US5371575 A, US5266998 A, US4757344 A, US4692018 A, JP9120251 A2, JP6317954 A2,

Forward Citations: US9389535, US8185033, US7539439, US7400845, US7305204, US7257350, US7228089, US7162182, US7155148, US7136609, US7123858, US6832061, US6792230, US2009257785, US2009214254, US2007154235, US2007036579, US2007019986, US2006216063, US2005244187, US2005207781, US2005207780, US2005100354, US2005036802, US2005002683, US2004258433, JP2016057430, EP2093632,

Abstract:
Source: US2003049045A A process unit of the invention comprises a unit housing including a downwardly opened upper housing and an upwardly opened lower housing, the upper housing and the lower housing being detachably coupled to define a space section, a photosensitive member unit detachably attached in the upper housing, and a developing device detachably attached in the lower housing.

0) US2007206972A – PROTECTIVE COVER, PROCESS CARTRIDGE EMPLOYING S...

91) Family number: 36001161 (US2007206972A) © PatBase

Title: PROTECTIVE COVER, PROCESS CARTRIDGE EMPLOYING SAME, IMAGE FORMING APPARATUS, AND METHOD OF INSTALLING PROCESS CARTRIDGE

Priority: JP20060060210 20060306

Family:

Publication number	Publication date	Application number	Application date
CN100520641 C	20090729	CN200610126987	20060918
CN101034277 A	20070912	CN200610126987	20060918
JP2007240661 A2	20070920	JP20060060210	20060306
JP4983050 B2	20120725	JP20060060210	20060306
US2007206972 AA	20070906	US20060486048	20060714
US7532841 BB	20090512	US20060486048	20060714

Probable Assignee: FUJI XEROX CO LTD

Assignee(s):(std)**:** FUJI XEROX CO LTD ; FUJITSU XEROX CORP

Assignee(s): FUJI XEROX CO

Inventor(s):(std)**:** SHIGERU TANAKA ; TANAKA SHIGERU

Agent(s): NAKAMURA TOMOHIRO; KOIZUMI MASAHIRO; NARUSE KATSUO; MORGAN LEWIS AND BOCKIUS LLP

International class (IPC 8–9)**:** G03G15/00 G03G21/16 G03G21/18 (Advanced/Invention); G03G21/18 (Advanced/Non–invention); G03G15/00 G03G21/16 G03G21/18 (Core/Invention); G03G21/18 (Core/Non–invention)

CPC: G03G21/1832 G03G21/185 G03G2215/0177 G03G2221/1654

European class: G03G21/18C5S G03G21/18H1P S03G215/01S2A S03G221/16K1

US class: 399/108 399/110 399/111 399/114 399/116

Classification Explorer

Cited documents: US7295794 BB, US6389252 BB, US6308030 BA, US6052548 A, US5708924 A, US5666586 A, US5400121 A, US5196884 A, US4811839 A, US4766455 A, US4655578 A, US4655578, US4551000 A, US04655578, JPS60131556, JPS57200051, JP8292706 A2, JP8292706, JP60131556 A2, JP60131556, JP57200051 A2, JP57200051, JP2000131909 A2, JP2000131909, JP10123911 A2, JP10123911, JP08292706,

Forward Citations: US9671750, US9471027, US9429904, US9411303, US9348305, US9317004, US8457521, US8452207, US8270872, US8055154, US7937022, US2015063867, US2012141163, US2012033992, US2012033991, US2010209137, US2010061762, US2009080935, JP5393642, JP5348016, JP5348015, JP5029554, JP5029552, JP2012118258, JP2011175139, JP2011175138, JP2011013272, JP2010078703, JP2010072348, EP3045980, AU2008201357,

Abstract:
Source: US2007206972A A protective cover that includes: a cover body detachably mounted on a process cartridge to protect at least an outwardly exposed part of an electro–photographic photoreceptor; a guide part that is provided on the cover body to guide the process cartridge in a longitudinal direction of the electro–photographic photoreceptor; and a position locking part that is provided at a forward end of the cover body in a direction that the process cartridge is inserted into an image forming apparatus wherein the cover body is positioned and locked to the image forming apparatus to be irremovable and forming a locked state during an installation of the process cartridge into the image forming apparatus, and the locked state is released after the installation is complete.

0) US2014161484A – CARTRIDGE AND METHOD OF MANUFACTURING CARTRIDGE...

92) Family number: 56667307 (US2014161484A) © PatBase

Title: CARTRIDGE AND METHOD OF MANUFACTURING CARTRIDGE

Priority: JP20120269557 20121210 JP20150193490 20150930

Family:

Publication number	Publication date	Application number	Application date
JP2014115472 A2	20140626	JP20120269557	20121210
JP2016027425 A2	20160218	JP20150193490	20150930
US2014161484 AA	20140612	US20130100407	20131209
US9201392 BB	20151201	US20130100407	20131209

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK

Assignee(s): CANON INC

Inventor(s):(std)**:** UNEME TETSUJI ; UNEME TETSUSHI

Agent(s): CANON USA INC IP DIVISION

International class(IPC 8–9)**:** B21D39/03 G03G15/08 G03G21/16 G03G21/18 (Advanced/Invention)

CPC: Y10T29/49826 G03G21/181 G03G15/0865 G03G15/0875 G03G21/1821

US class: 1/1 29/428 399/111 399/119

Classification Explorer

Cited documents: US5940657 A, US2011229196 AA, US2004091282 AA, JP9044056 A2, JP2010224363 A2, JP2010026500 A2, JP2009063661 A2, JP2006001065 A2, JP2003241619 A2, JP2003236877 A2, JP2002328584 A2,

Abstract:
Source: US2014161484A A method of manufacturing a cartridge including a first member having a flexible engaging portion and a second member having an engaged portion to be engaged with the engaging portion, configured to manufacture a cartridge by a process of engaging the engaging portion of the first member and the engaged portion of the second member; and a process of forming a third member configured to restrict a movement of the flexible engaging portion by letting a fluent material flow in between the first member and the second member and solidifying the fluent material.

0) US2015037050A – REMOVABLE DEVICE AND IMAGE FORMING APPARATUS

93) Family number: 58447819 (US2015037050A) © PatBase

Title: REMOVABLE DEVICE AND IMAGE FORMING APPARATUS

Priority: JP20120232253 20121019 JP20130092759 20130425 JP20130159366 20130731 JP20130217734 20131018

Family:

Publication number	Publication date	Application number	Application date
JP2015045832 A2	20150312	JP20130217734	20131018
US2015037050 AA	20150205	US20140338472	20140723
US9513575 BB	20161206	US20140338472	20140723

Probable Assignee: RICOH CO LTD

Assignee(s):(std)**:** HAYASHI TOSHIKI ; KIMURA HIDEKI ; RICOH CO LTD ; RICOH KK ; YAMANE MASAYUKI ; TAKAHASHI MASAKI

Inventor(s):(std)**:** YAMANE MASAYUKI ; TAKAHASHI MASAKI ; KIMURA HIDEKI ; HAYASHI TOSHIKI

Agent(s): OBLON MCCLELLAND MAIER AND NEUSTADT LLP

International class (IPC 8–9)**:** B41J2/175 G03G15/00 G03G15/08 G03G21/18 (Advanced/Invention)

CPC: G03G21/1885 G03G15/0863

US class: 399/12 399/90

Classification Explorer

Cited documents: US6253035 BA, US6148354 A, US2014314443 AA, US2013307906 AA, US2013251971 AA, US2012200871 AA, US2010226690 AA, US2007177177 AA, US2007147902 AA, US2006083555 AA, US2005226655 AA, US2005019061 AA, US2004163843 AA, US2003170042 AA, US2002114646 AA, US2001014225 AA, JP4843112 B1, JP2012226288 A2,

Forward Citations: US9606498, US9507313,

Abstract:
Source: US2015037050A A removable device is removably attachable to an image forming apparatus main body. The removable device includes an information storage device, a holder, and a low frictional structure. The information storage device includes: an information storage unit that stores information to be communicated between the apparatus main body and the removable device; a terminal to be contacted with an apparatus main–body terminal, for communicating information with the apparatus main body; and a substrate that holds the information storage unit and the terminal and that includes a guide to be fitted to a protrusion provided on the apparatus main body. The holder holds the substrate such that the substrate can move, when the removable device approaches the apparatus main–body terminal, on a virtual plane intersecting with a moving direction of the removable device. The low frictional structure is arranged on a contact area between the substrate and the holder.

0) US2004156650A – BLADE CLEANER CARTRIDGE WITH DUST AND LINT SEAL...

94) Family number: 30780826 (US2004156650A) © PatBase

Title: BLADE CLEANER CARTRIDGE WITH DUST AND LINT SEAL BLADE

Priority: US20030445580P 20030207 US20030703885 20031107

Family:

Publication number	Publication date	Application number	Application date
US2004156650 AA	20040812	US20030703885	20031107
US7031634 BB	20060418	US20030703885	20031107

Probable Assignee: EASTMAN KODAK CO

Assignee(s):(std)**:** EASTMAN KODAK CO ; NEXPRESS SOLUTIONS LLC

Assignee(s): PAKON INC ; WILMINGTON TRUST NATIONAL ASSOCIATION AGENT AS ; EASTMAN KODAK COMPANY ; CITICORP NORTH AMERICA INC AGENT AS

Inventor(s):(std)**:** ANDERSON DOUGLAS C ; BROWN KENNETH J ; CARRONE MARIA B ; DUNN CAROL K ; ZIEGELMULLER FRANCISCO L

Agent(s): LAWRENCE P

International class (IPC 8–9)**:** G03G21/00 (Advanced/Invention) ; G03G21/00 (Core/Invention)

International class (IPC 1–7)**:** G03G21/00

CPC: G03G21/0011

European class: G03G21/00B1

US class: 399/102 399/350 399/351

Classification Explorer

Cited documents: US6453134 BA, US6075965 A, US6044245 A, US5991568 A, US5442422 A, US5426485 A, US4866483 A, US4527887 A, US4516850 A,

Forward Citations: WO10056273, WO10056268, US9128414, US8985359, US8774697, US8611804, US8139981, US8086133, US7945201, US7796913, US7693448, US7450879, US2011188882, US2011091247, US2010111559, US2010111558, US2009185825, US2008187376, US2007189814, US2007048000,

Abstract:
Source: US2004156650A In an apparatus for cleaning particulates from a moving web, a dust seal blade assembly which is easily mounted to a cleaning blade to reduce internal dusting in the cleaner apparatus and for trapping of lint, paper dust, or fibrous material and which might also reduce the effects of oil contamination. The arrangement provides a low–cost, operator–replaceable cartridge having one or more wiper blades with at least one of them having the dust seal blade assembly and enclosed within a particle sump assembly that is easily removed from association with the web being cleaned.

0) US4012138A – ELECTROSTATIC PHOTOGRAPHIC COPYING APPARATUS

95) Family number: 1376341 (US4012138A) © PatBase

Title: Electrostatic photographic copying apparatus

Priority: JP19720120246 19721130

Family:

Publication number	Publication date	Application number	Application date
DE2359792 A1	19740620	DE19732359792	19731130
DE2359792 B2	19770331	DE19732359792	19731130
FR2209135 A1	19740628	FR19730042540	19731129
FR2209135 B1	19770930	FR19730042540	19731129
GB1450080 A	19760922	GB19730055238	19731128
IT1002078 A	19760520	IT19730031871	19731129
JP1067680 C3	19811023	JP19720120246	19721130
JP49078557 A2	19740729	JP19720120246	19721130
JP56007237 B4	19810217	JP19720120246	19721130
NL162758 B	19800115	NL19730016452	19731130
NL162758 C	19800616	NL19730016452	19731130
NL7316452 A	19740604	NL19730016452	19731130
US4012138 A	19770315	US19730419047	19731126

Probable Assignee: MITA INDUSTRIAL CO LTD

Assignee(s):(std): MITA INDUSTRIAL CO LTD

Assignee(s): MITA INDUSTRIAL CO LTD OSAKA JAPAN ; MITA INDUSTRIAL COMPANY LTD ; MITA INDUSTRIAL CY LTD ; MITA INDUSTRIAL CY LTD JA ; MITA INDUSTRIAL CO

Inventor(s):(std): AIZAWA TATSUO ; WASHIO TAKAJI

Inventor(s): WASHIO TAKAJI TOYONAKA OSAKA ; AIZAWA TATSUO OSAKA

International class (IPC 8–9): G03G15/22 G03G15/30 G03G21/00 (Advanced/Invention); G03G15/00 G03G21/00 (Core/Invention)

International class (IPC 1–7): G03B27/52 G03G15/00 G03G15/22 G03G15/28 G03G15/30 G03G21/00

CPC: G03G15/307

European class: G03G15/30C

US class: 355/51 355/8 399/361 399/76

Classification Explorer

Cited documents: US3819261 A, US3751158 A, US3697169 A, US3647293 A, US3554640 A, US3399610 A, JP51007057 A2, FR2113584 A5, DE2318839 A1, DE2157699 A1, DE2154605 A1, DE2144946 A1,

Forward Citations: US5233389, US4452530, US4303332, US4297023, US4159173, US4124289, US4108544, JP58024158, JP57210366, JP54138450, JP54039134, JP53003829, JP52099828, FR2388310, EP0071145, DE2818965, DE2760140, DE2723081, DE2626037,

Abstract:
Source: US4012138A An electrostatic photographic copying apparatus wherein the image–forming device, the optical device, the transfer device and the transfer paper transferring device are controlled according to the rotation of the rotary drum so that one cycle of the copying operation is completed while the rotating drum, equipped with a photosensitive element on which to form an image, is rotated through two turns. Substantially the entire surface of the rotary drum can be utilized as an image–forming area by rotating the rotary drum through two turns in one cycle of the copying operation.

0) US5079593A – TONER RECYCLING MECHANISM DETACHABLY CONNECTED ...

96) Family number: 4897215 (US5079593A) © PatBase

Title: TONER RECYCLING MECHANISM DETACHABLY CONNECTED TO A CARTRIDGE

Priority: JP19880155204 19880622 JP19890158756 19890620 US19890366169 19890614

Family:

Publication number	Publication date	Application number	Application date
JP2084666 A2	19900326	JP19890158756	19890620
JP2826664 B2	19981118	JP19890158756	19890620
US5079593 A	19920107	US19900463778	19900108

Probable Assignee: KONISHIROKU PHOTO IND

Assignee(s):(std)**:** KONISHIROKU PHOTO IND

Assignee(s): KONICA CORP ; KONIKA KK

Inventor(s):(std)**:** ENDO KOICHI ; SATO HISAO ; SATOH HISAO

International class (IPC 8–9)**:** G03G15/00 G03G15/08 G03G21/00 G03G21/10 G03G21/16 G03G21/18 (Advanced/Invention); G03G15/00 G03G15/08 G03G21/00 G03G21/10 G03G21/16 G03G21/18 (Core/Invention)

International class (IPC 1–7)**:** G03G15/00 G03G15/08 G03G21/00 G03G21/10 G03G21/16

CPC: G03G21/105 G03G21/1647 G03G21/1814 G03G15/0822 G03G21/1817 G03G2221/1621 G03G2221/163 G03G2221/1648 G03G2221/1651 G03G2221/183

European class: G03G15/08H G03G21/10 G03G21/18C3 G03G21/18C4 S03G221/16C1 S03G221/16D S03G221/16J S03G221/16K S03G221/18B S03G221/18P

US class: 355/210 355/298 399/111 399/359

Classification Explorer

Cited documents: US5017962 A, US4963940 A, US4941022 A, US4894688 A, US4849791 A, US4752805 A, US4724459 A, US4500196 A, JPS638682, JPS60134273, JPS5961859, JP63008682 A2, JP62200384 A2, JP61140373 U1, JP61140373 U, JP60134273 A2, JP59061859 A2,

Forward Citations: US9383716, US7983601, US6377765, US6085052, US5307128, US5249026, US5160964, US2010092216, JP5865862, JP5045733, JP3802152, JP2014202903, JP10049020, EP0756216,

Abstract:
Source: US5079593A An image forming apparatus having a photosensitive member unit, a development unit, and a toner recycling mechanism including a toner feed device. The photosensitive member unit includes a photosensitive member, and an electrostatic latent image forming device and a cleaning device disposed around the photosensitive member. The photosensitive member unit and the development unit are separately mounted in a main body of the apparatus to form an image forming section. The toner feed device is detachably connected between the front sides of the photosensitive member unit and the development unit, the toner collected by the cleaning means is transported to the development unit to perform recycling when the toner feed device is connected, and the photosensitive member unit and the development unit can be independently dismounted from the apparatus body when the toner feed device is detached. The toner feed device is automatically detached when the development unit is dismounted from the apparatus body.

0) US2015253723A – CARTRIDGE AND IMAGE FORMING APPARATUS

97) Family number: 60279287 (US2015253723A) © PatBase

Title: CARTRIDGE AND IMAGE FORMING APPARATUS

Priority: JP20140046204 20140310

Family:

Publication number	Publication date	Application number	Application date
JP2015169876 A2	20150928	JP20140046204	20140310
US2015253723 AA	20150910	US20150634956	20150302
US9213306 BB	20151215	US20150634956	20150302

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK

Assignee(s): CANON INC

Inventor(s):(std)**:** KASHIIDE YOSUKE ; MORIOKA MASANARI ; MORIOKA MASAYA ; MUNETSUGI HIROYUKI ; MUNETSUGU HIROYUKI

Agent(s): SERA KAZUNOBU; KAWAGUCHI YOSHIYUKI; WAKUTA JUN ICHI; FITZPATRICK CELLA HARPER AND SCINTO

International class (IPC 8–9): G03G15/00 G03G15/04 G03G15/08 G03G21/16 G03G21/18 (Advanced/Invention)

CPC: G03G21/1676 G03G21/1825

US class: 1/1 399/111 399/119

Classification Explorer

Cited documents: US9025998 BB, US8688008 BB, US8682215 BA, US8676090 BA, US8630564 BB, US8583001 BB, US8559849 BB, US8532533 BB, US8472840 BB, US8452210 BB, US8437669 BB, US8295734 BB, US8280278 BB, US8275286 BB, US8270876 BB, US8165493 BB, US8160478 BB, US8135304 BB, US7509071 BB, US7418225 BB, US7200349 BB, US7127192 BB, US7079787 BB, US6963706 BB, US6937832 BB, US6898399 BB, US6714746 BB, US6704522 BB, US5258811 A, US2014147168 AA, US2014072339 AA, US2014072327 AA, US2014064784 AA, US2014064783 AA, US2014056613 AA, US2013308971 AA, US2013287437 AA, US2013209137 AA, JP2007213025 A2,

Forward Citations: US9436129, US2016320745,

Abstract:
Source: US2015253723A A cartridge removably mountable to an image forming apparatus, including: a developing unit having a developing roller; two support mechanisms each configured to rotatably support the developing unit by a rotary shaft at an each end of the cartridge; and a biasing member provided on one support mechanism and configured to apply a biasing force to bring the roller into contact with a photosensitive drum, wherein a force against the biasing force is applied to the developing unit to rotate the developing unit to separate the roller from the drum, and in a projection plane orthogonal to the rotary shaft, an action point on which the biasing force acts is arranged between a first line connecting rotation centers of the roller and the drum and a second line passing through the support shaft in parallel with a slide direction of the support shaft slidably supported by the one support mechanism.

0) US2015277348A – DRUM CARTRIDGE WITH MOVABLE CLEANING ROLLER

98) Family number: 60453795 (US2015277348A) © PatBase

Title: DRUM CARTRIDGE WITH MOVABLE CLEANING ROLLER

Priority: JP20140071829 20140331

Family:

Publication number	Publication date	Application number	Application date
JP2015194568 A2	20151105	JP20140071829	20140331
JP6149780 B2	20170621	JP20140071829	20140331
US2015277348 AA	20151001	US20150666061	20150323
US9213307 BB	20151215	US20150666061	20150323

Probable Assignee: BROTHER IND LTD

Assignee(s):(std)**:** BROTHER IND LTD

Assignee(s): BROTHER KOGYO KK

Inventor(s):(std)**:** ABE KOJI ; DEGUCHI HIDEAKI

Agent(s): MERCHANT AND GOULD PC

International class (IPC 8–9)**:** G03G21/00 G03G21/16 G03G21/18 (Advanced/Invention)

CPC: G03G21/0058 G03G21/1821 G03G21/169 G03G21/1825

US class: 1/1 399/123

Classification Explorer

Cited documents: US5572293 A, US4702591 A, US4702591, US2013108322 AA, US2011236060 AA, US2010278571 AA, US2009297208 AA, US2007071495 AA, US2004052557 AA, US2004037590 AA, JP7248713 A2, JP7248713, JP61114284 A2, JP61114284, JP57142670 A2, JP57142670, JP55124173 A2, JP55124173, JP5084967 U, JP5084967 U, JP2073672 U1, JP2073672 U, JP2073672 U, JP2013097151 A2, JP2011095711 A2, JP2011007826 A2, JP2010262097 A2, JP2009069699 A2, JP2009069699, JP2008032955 A2, JP2004118095 A2, JP2003307993 A2, JP2003107971 A2, JP2003107971, JP2001767 U1, JP2001767 U, JP2001767 U, JP1085864 U1, JP1085864 U, JP1085864 U,

Abstract:
Source: US2015277348A A drum cartridge and a method are disclosed. An example drum cartridge includes a photosensitive drum, a first cleaning roller positioned to a side of the photosensitive drum. The drum cartridge includes a lever positioned at an outer surface of the drum cartridge. The outer surface of the drum cartridge is positioned toward the side of the photosensitive drum. The lever is extendable in a second direction different from the first direction, and the lever is pivotable with respect to the outer surface of the drum cartridge about a second axis extending in the first direction. The lever is pivotable between an extended position and a retracted position. The drum cartridge includes an engagement portion movable with pivoting of the lever between an engaged position when the lever is in the extended position and a disengaged position when the lever is in the retracted position.

0) US2006291893A – IMAGE FORMING APPARATUS

99) Family number: 34036567 (US2006291893A) © PatBase

Title: IMAGE FORMING APPARATUS

Priority: JP20050185440 20050624

Family:

Publication number	Publication date	Application number	Application date
CN100462868 C	20090218	CN200610095917	20060623
CN1936734 A	20070328	CN200610095917	20060623
JP2007003925 A2	20070111	JP20050185440	20050624
JP4277220 B2	20090610	JP20050185440	20050624
US2006291893 AA	20061228	US20060473009	20060623
US7450878 BB	20081111	US20060473009	20060623

Probable Assignee: BROTHER KOGYO KK

Assignee(s):(std)**:** BROTHER IND LTD

Assignee(s): BROTHER KOGYO KABUSHIKI KAISHA ; BROTHER KOGYO KK

Inventor(s):(std)**:** HIDETOSHI YANO ; YANO HIDETOSHI

Agent(s): BANNER AND WITCOFF LTD ATTORNEYS FOR CLIENT NOS 0166889 006760; BANNER AND WITCOFF LTD

International class (IPC 8–9)**:** G03G15/00 G03G21/18 (Advanced/Invention); G03G15/00 G03G21/18 (Core/Invention)

International class (IPC 1–7)**:** G03G21/18

CPC: G03G15/80

European class: G03G15/80

US class: 399/111 399/111S 399/88 399/90 399/90P

Classification Explorer

Cited documents: US6993264 BB, US5768660 A, US5283619 A, JP9312112 A2, JP9043939 A2, JP5303263 A2, JP5257378 A2, JP5064867 A2, JP2001154289 A2, JP10207183 A2,

Forward Citations: US9581960, US9360793, US8768201, US8750745, US8401418, US8358951, US8000625, US7787797, US2014363189, US2012308258, US2010290803, US2010239306, US2009214245, US2007003311, JP2016133786, JP2012018394, JP2010217531, JP2009204708, JP2009109781, JP2008242070, CN102809906,

Abstract:
Source: US2006291893A An image forming apparatus that includes: a process cartridge that includes a power supplied member; a casing that includes an accommodating section for detachably accommodating the process cartridge; and a power supplying member that is provided in the accommodating section and is abutted on the power supplied member of the mounted process cartridge, the power supplying member comprises a conductive wire including a winding section and two arms having the conductive wire extending from the winding section in a different direction, wherein the accommodating section is provided with supporting sections that respectively support the two arms such that the power supplied member of the mounted process cartridge is abutted on the winding section.

0) US2006120748A – IMAGE FORMING APPARATUS

100) Family number: 33001339 (US2006120748A) © PatBase

Title: IMAGE FORMING APPARATUS

Priority: JP20040331143 20041115 JP20040331144 20041115 JP20040331270 20041115

Family:

Publication number	Publication date	Application number	Application date
DE602005004236 D1	20080221	DE200560004236T	20051114
DE602005004236 T2	20090108	DE200560004236T	20051114
EP1657599 A1	20060517	EP20050024825	20051114
EP1657599 B1	20080109	EP20050024825	20051114
JP2006139219 A2	20060601	JP20040331143	20041115
JP2006139220 A2	20060601	JP20040331144	20041115
JP2006139228 A2	20060601	JP20040331270	20041115
JP4384013 B2	20091216	JP20040331270	20041115
JP4538300 B2	20100908	JP20040331144	20041115
US2006120748 AA	20060608	US20050271808	20051114
US7400842 BB	20080715	US20050271808	20051114

Probable Assignee: RICOH CO LTD

Assignee(s):(std)**:** RICOH KK ; SUGA TOMOAKI ; TAKEHARA KENICHI ; TAKIGAWA JUNYA ; IIJIMA YASUAKI

Assignee(s): RICOH CO LTD ; RICOH COMPANY LTD

Inventor(s):(std)**:** IIJIMA YASUAKI ; SUGA TOMOAKI ; TAKEHARA KENICHI ; TAKIGAWA JUNYA

Agent(s): SCHWABE – SANDMAIR – MARX; OBLON SPIVAK MCCLELLAND MAIER AND NEUSTADT PC

Designated states: DE ES FR GB IT NL

International class (IPC 8–9): G03G15/00 G03G15/01 G03G21/00 G03G21/20 (Advanced/Invention); G03G15/00 G03G15/01 G03G21/00 G03G21/20 (Core/Invention)

CPC: G03G2221/1678 G03G2221/18 G03G15/0194 G03G21/206

European class: G03G15/01S2 G03G21/20 S03G221/16S S03G221/18

US class: 399/92 399/94

Classification Explorer

Cited documents: US6308024 BA, US6275670 BA, US5146279 A, US2004101328 AA, US2004052545 AA, JPS59192159, JP9106162 A2, JP9026731 A2, JP8286577 A2, JP8171317 A2, JP8160839 A2, JP7020753 A2, JP6027846 A2, JP6019302 A2, JP59192159 A2, JP5158292 A2, JP3121220 B2, JP3121220, JP2004258159 A2, JP2004205999 A2, JP2003208066 A2, JP2003208065 A2, JP2002297003 A2, JP2002229400 A2, JP2002116670 A2, JP2002006588 A2, JP2000029373 A2, JP1169466 A2, JP10153897 A2, JP10149067 A2, EP1271259 A1,

Forward Citations: US9310763, US9170561, US9158277, US9075331, US9031448, US8798493, US8792800, US8687998, US8538286, US8509647, US8406665, US8385777, US8210489, US8068759, US8036564, US8014696, US7937014, US7877037, US7835661, US7809303, US7526223, US2017017200, US2014212164, US2014003833, US2013084099, US2012070181, US2011188879, US2011110691, US2011110688, US2011097101, US2010244645, US2008253796, US2007268321, US2007146739, US2007071484, US2006257161, JP2011186501, JP2011048253, EP2546700, CN102880036, CN102880036,

Abstract:
Source: US2006120748A Heat exhaust holes are provided in a unit frame at positions just above respective imaging units. An exhaust fan causes air heated at developing elements to be exhausted outside an apparatus via heat exhaust ducts and a common duct. The heat exhaust holes are formed in different sizes depending on a position of the imaging unit. The closer the position of the imaging unit is, the larger the heat exhaust hole provided above the imaging unit is.

0) US2010178080A – SWITCHING MECHANISM FOR TONER CARTRIDGE

101) Family number: 45962040 (US2010178080A) © PatBase

Title: SWITCHING MECHANISM FOR TONER CARTRIDGE

Priority: TW20090100881 20090110 US20090390762 20090223

Family:

Publication number	Publication date	Application number	Application date
TW201027285 A	20100716	TW20090100881	20090110
TWI366078 B	20120611	TW20090100881	20090110
US2010178080 AA	20100715	US20090390762	20090223
US8145092 BB	20120327	US20090390762	20090223

Probable Assignee: GENERAL PLASTIC INDUSTRIAL CO LTD

Assignee(s):(std): GEN PLASTIC AND IND CO LTD ; GEN PLASTIC IND CO LTD ; HUANG CHING HO

Assignee(s): GENERAL PLASTIC AND INDUSTRIAL CO ; GENERAL PLASTIC AND INDUSTRIAL CO LTD ; GENERAL PLASTIC INDUSTRIAL CO LTD ; GENERAL PLASTIC INDUSTRIAL CO

Inventor(s):(std): HUANG CHING HO ; HUANG QING HE

Agent(s): BROWDY AND NEIMARK PLLC 624 NINTH STREET NW; BROWDY AND NEIMARK PLLC

International class (IPC 8–9): B65D83/06 G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention); B65D83/06 G03G15/08 (Core/Non–invention)

CPC: Y10S222/01 G03G15/0886 G03G15/0855 G03G15/0865 G03G2215/0692

European class: G03G15/08H3 S03G215/06C7

US class: 222/DIG.1 399/106 399/262 399/262P

Classification Explorer

Cited documents: US7822369 BB, US7561821 BB, US6222614 B1, US2010166460 AA, US2008298835 AA, US2003155821 A1, JP2005107141 A2,

Forward Citations: US8831484, US8811862, US8306463, US2012125944, US2012039635, EP2597528, EP2597528,

Abstract:
Source: US2010178080A A switching mechanism for a toner cartridge includes a base and a sliding member. The base is mounted to a housing. A chamber is defined between the housing and the base for receiving the sliding member. The base has a guiding slot. The sliding member has a body received in the chamber, a suspension arm extending from the body, a hook disposed on the suspension arm, and a post extending from the suspension arm and received in the guiding slot. When the sliding member is moved to different positions, an outlet of the toner cartridge can be closed or opened. The post moves along the guiding slot to cause an elastic deformation of the suspension arm for changing the position of the hook such that an erroneous operation of the switching mechanism can be avoided, and a mold for the switching mechanism is easy to manufacture to reduce the manufacturing costs.

0) US2008008497A – REPLACEABLE PROCESS CARTRIDGE AND IMAGE FORMING...

102) Family number: 41038523 (US2008008497A) © PatBase

Title: REPLACEABLE PROCESS CARTRIDGE AND IMAGE FORMING APPARATUS USING THE SAME

Priority: JP20060167660 20060616

Family:

Publication number	Publication date	Application number	Application date
JP2007334138 A2	20071227	JP20060167660	20060616
JP4927451 B2	20120509	JP20060167660	20060616
US2008008497 AA	20080110	US20070763503	20070615
US7587156 BB	20090908	US20070763503	20070615

Probable Assignee: RICOH CO LTD

Assignee(s):(std)**:** KATO SHINICHI ; KUBA YASUHIRO ; RICOH KK

Assignee(s): RICOH CO LTD ; RICOH COMPANY LTD

Inventor(s):(std)**:** HISAYOSHI YASUHIRO ; KATO SHINICHI ; KUBA YASUHIRO

Agent(s): OBLON SPIVAK MCCLELLAND MAIER AND NEUSTADT PC

International class (IPC 8–9): G03G15/08 G03G21/16 G03G21/18 (Advanced/Invention); G03G15/08 G03G21/16 G03G21/18 (Core/Invention)

CPC: G03G21/1825 G03G2221/163 G03G2221/1853 G03G2221/1861 G03G2221/1869

European class: G03G21/16 G03G21/18C4S S03G221/16D S03G221/18P3 S03G221/18P3A S03G221/18P3B

US class: 399/113

Classification Explorer

Cited documents: US7463844 BB, US7221888 BB, US6980759 BB, US6289194 BA, US5854955 A, US5153640 A, US2006245785 AA, US2006216061 AA, US2006159487 AA, JPS63109960, JP9120251 A2, JP8328368 A2, JP8314352 A2, JP8314352, JP8286508 A2, JP7295457 A2, JP7295457, JP7162568 A2, JP63109960 U, JP63109960 A2, JP6148969 A2, JP6148969, JP6130799 A2, JP6130799, JP5066662 A2, JP5066662, JP3087844 A2, JP3087844, JP200599749, JP2005215629 A2, JP2005188993 A2, JP2005099749 A2, JP2005099749, JP2004109723 A2, JP2004109723, JP200291265, JP200231856, JP2002214900 A2, JP2002108174 A2, JP2002091265 A2, JP2002091265, JP2002031856 A2, JP2002031856, JP2001255791 A2, JP2001255791, JP2001066970 A2, JP2000267547 A2, JP2000267547, JP2000172151 A2, JP08314352, JP07295457, JP06148969, JP06130799, JP0566662, JP0387844,

Forward Citations: US8351820, US8126357, US7826765, US2009297213, US2009154955, JP5195259, JP2010091994, JP2009265291,

Abstract:
Source: US2008008497A A process cartridge for use in an image forming apparatus includes a first unit, a second unit, and a coupling shaft. The first unit includes an image carrier, while the second unit includes a developer carrier. The coupling shaft is configured to couple the first unit and the second unit so as to be pivotable relative to each other. A distance between the image carrier and the developer carrier is adjustable by pivoting at least one of the first unit and the second unit without releasing the coupling of the first unit and the second unit via the coupling shaft.

0) US2012321346A – DEVELOPING CARTRIDGE

103) Family number: 52583814 (US2012321346A) © PatBase

Title: DEVELOPING CARTRIDGE

Priority: CN201210090786 20120330 JP20110012977 20110610 JP20110129977 20110610 US20120431741 20120327 US20150593263 20150109

Family:

Publication number	Publication date	Application number	Application date
CN102819206 A	20121212	CN201210090786	20120330
CN102819206 B	20151125	CN201210090786	20120330
CN105404118 A	20160316	CN201510683876	20120330
JP2012255969 A2	20121227	JP20110129977	20110610
JP5392302 B2	20140122	JP20110129977	20110610
US2012321346 AA	20121220	US20120431741	20120327
US2015117908 AA	20150430	US20150593263	20150109
US8942594 BB	20150127	US20120431741	20120327
US9366991 BB	20160614	US20150593263	20150109

Probable Assignee: BROTHER IND LTD

Assignee(s):(std)**:** BROTHER IND LTD ; FUKAMACHI YASUO ; NISHIYAMA HIDESHI

Assignee(s): BROTHER KOGYO KABUSHIKI KAISHA ; BROTHER KOGYO KK

Inventor(s):(std)**:** FUKAMACHI YASUO ; NISHIYAMA EIJI ; NISHIYAMA HIDESHI

Agent(s): BANNER AND WITCOFF LTD

International class(IPC 8–9)**:** G03G15/00 G03G15/06 G03G15/08 G03G21/16 G03G21/18 (Advanced/Invention); G03G21/18 (Advanced/Non–invention)

CPC: G03G21/1647 G03G21/1857 G03G15/0865 G03G15/0896

US class: 1/1 399/119 399/262

Classification Explorer

Cited documents: US7627262 BB, US7330681 BB, US7076190 BB, US7027756 BB, US6823160 BB, US6816692 BA, US6349189 BA, US6097909 A, US5832345 A, US2011236051 AA, US2010142993 AA, US2009317134 AA, US2009269085 AA, US2008223173 AA, US2006160381 AA, US2005063733 AA, US2003185594 AA, JP5019550 A2, JP5019550, JP2010134330 A2, JP2007057886 A2, JP2007057886, JP2006154257 A2, JP2006154257, JP2005092223 A2, JP2005092223, JP2003295614 A2, JP2002328499 A2, JP2002328499, JP11219090 A2, JP11219090, JP10252864 A2, JP10252864, JP10020742 A2, JP10020742, CN1598709 A,

Forward Citations: US9341986, US2015023700,

Abstract:
Source: US2012321346A A developing cartridge is provided for use with an image forming apparatus and may include a housing, a developing roller rotatably provided in the housing, and a developing roller gear configured to rotate integrally with the developing roller. Further, the developing cartridge can include a driving input gear configured to receive an external driving force and apply the received driving force to the developing roller gear. The driving input gear can be meshed with the developing roller gear or an intermediate gear can be provided to mesh with the developing roller gear and the driving input gear. Such an intermediate gear can be configured to apply the received driving force to the developing roller gear. Also, the developing cartridge can include a receiving member which is disposed between the housing and the developing roller gear and between the housing and the driving input gear.

0) US2007280725A – IMAGE FORMING APPARATUS

104) Family number: 40889364 (US2007280725A) © PatBase

Title: IMAGE FORMING APPARATUS

Priority: JP20060127671 20060501

Family:

Publication number	Publication date	Application number	Application date
JP2007298828 A2	20071115	JP20060127671	20060501
JP4764766 B2	20110907	JP20060127671	20060501
US2007280725 AA	20071206	US20070736881	20070418
US7603053 BB	20091013	US20070736881	20070418

Probable Assignee: RICOH CO LTD

Assignee(s):(std)**:** HATTA HIROTAKA ; HOSOKAWA HIROSHI ; KUWABARA NOBUO ; NAGASHIMA HIROYUKI ; RICOH KK

Assignee(s): RICOH CO LTD ; RICOH COMPANY LTD

Inventor(s):(std)**:** HATTA HIROTAKA ; HOSOKAWA HIROSHI ; KUWABARA NOBUO ; NAGASHIMA HIROYASU ; NAGASHIMA HIROYUKI

Agent(s): OBLON SPIVAK MCCLELLAND MAIER AND NEUSTADT PC; OBLON SPIVAK MCCLELLAND MAIER AND NEUSTADT LLP

International class (IPC 8–9): G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)

CPC: G03G15/0882 G03G2215/0687

European class: G03G15/08H3P S03G215/06C5

US class: 399/103 399/105

Classification Explorer

Cited documents: US7106991 BB, US6118958 A, US6097907 A, US2006275053 AA, US2006115302 AA, US2006062612 AA, US2006062594 AA, US2006018680 AA, US2006008296 AA, US2005271420 AA, US2005238384 AA, US2005226656 AA, US2005191081 AA, US2005158071 AA, US2005025520 AA, US2004096239 AA, JP3402872 B2, JP3402872, JP2006023619 A2,

Forward Citations: US9507291, US9507290, US9170233, US8369736, US8099015, US2011123229, US2010034554, KR101364600, JP6075681, JP5742232, JP5724399, JP2014071241, JP2012150169, JP2012150168, JP2010282232, JP2010039348, CN103660542, CN103660542, CN102073245, CN102073245, AU2009201092,

Abstract:
Source: US2007280725A A development device that has communication port sealing means for sealing a communication port communicating a developer supporter container with a developer container. The development device is advantageous in cost reduction, easy manufacturing, and formation of high−quality images. In the development device which has a developing roller container for containing a developing roller, a developer container for containing a developer, a base member for forming a communication port communicating the developer roller container with the developer container, and a seal member that is adhered to the base member so as to cover the communication port, and which cancels sealing of the communication port by peeling off the seal member from the base member by pulling out the seal member in a direction parallel to an opened surface of the communication port, the base member is composed of a polypropylene resin having a bent section, and the seal member is adhered to the base member by thermal compression bonding.

0) US2013084100A – PROCESS CARTRIDGE AND IMAGE FORMING APPARATUS

105) Family number: 53424786 (US2013084100A) © PatBase

Title: PROCESS CARTRIDGE AND IMAGE FORMING APPARATUS

Priority: JP20110213753 20110929

Family:

Publication number	Publication date	Application number	Application date
JP2013073138 A2	20130422	JP20110213753	20110929
JP5443460 B2	20140319	JP20110213753	20110929
US2013084100 AA	20130404	US20120630396	20120928
US8837983 BB	20140916	US20120630396	20120928

Probable Assignee: OKI DATA KK

Assignee(s):(std)**:** OKI DATA KK

Assignee(s): OKI DATA CORP

Inventor(s):(std)**:** NAKASONE YASUSHI

Agent(s): MUNCY GEISSLER OLDS AND LOWE PC

International class (IPC 8–9)**:** G03G21/18 (Advanced/Invention)

CPC: G03G21/1814 G03G21/1821 G03G21/1867 G03G2215/0141

US class: 399/111 399/117 399/90

Classification Explorer

Cited documents: US7050736 BB, JP8328330 A2, JP6180544 A2, JP2000293049 A2, JP2000293049, JP10222040 A2, JP10222040, JP08328330,

Forward Citations: JP2015018125,

Abstract:
Source: US2013084100A A process cartridge attachable to and detachable from an image forming device includes a photosensitive drum that is configured to form an electrostatic latent image, a flange that is arranged to the photosensitive drum, including a cylindrical attachment part, a frame that rotatably holds the flange, and a load member that is slidably press–fitted to the attachment part of the flange. The frame includes an engagement part that is configured to engage with a part of the load member, and a rotation of an end part of the load member is regulated by a regulation surface of the engagement part.

106) Family number: 15703604 (US5854962A) © PatBase

Title: Electrophotographic component cleaning apparatus

Priority: GB19980018904 19980828 GB20010020308 19980828 US19970936096 19970923 GB20010020308 20010821 KR19980039184 19980922

Family:

Publication number	Publication date	Application number	Application date
CN1212386 A	19990331	CN19981015292	19980623
GB200120308 A0	20011017	GB20010020308	19980828
GB2329867 A1	19990407	GB19980018904	19980828
GB2329867 B2	20011128	GB19980018904	19980828
GB2362606 A1	20011128	GB20010020308	19980828
GB2362606 B2	20020424	GB20010020308	19980828
GB9818904 A0	19981021	GB19980018904	19980828
IN00927CA1998 A	20060113	IN1998CA00927	19980522
IN213433 B	20080104	IN1998CA00927	19980522
KR19990030017 A	19990426	KR19980039184	19980922
US5854962 A	19981229	US19970936096	19970923

Probable Assignee: HEWLETT PACKARD DEVELOPMENT CO LP

Assignee(s):(std)**:** HEWLETT PACKARD CO

Assignee(s): HEWLETT PACKARD COMPANY ; HEWLETT PACKARD DEVELOPMENT CO LP

Inventor(s):(std)**:** BOOCKHOLDT DARIUS ; DARIUS BOOCKHOLDT ; HOOPER HOWARD G ; HOWARD G HOOPER ; III ; PHILIPS QUINTIN T ; PHILLIPS QUINTIN T ; QUINTIN T PHILIPS

Inventor(s): QUINTIN T PHILLIPS

International class (IPC 8–9): G03G21/00 (Advanced/Invention); G03G21/00 (Advanced/Non–invention); G03G21/00 (Core/Invention)

International class (IPC 1–7): G03G21/00 G03G21/12 G03G9/08

CPC: G03G21/00 G03G2221/0042 G03G2221/0063 G03G2221/0089 G03G2215/00531 G03G2221/0026 G03G2221/0084

European class: G03G21/00 S03G215/00G2G S03G221/00C S03G221/00C1P S03G221/00C2B S03G221/00C3L S03G221/00C3M

US class: 399/343

Classification Explorer

Cited documents: US5740498 A, US5705447 A, US5560980 A, US5323213 A, US5179416 A, US5148227 A, US4739370 A, US4613229 A, US4392642 A, US4344362 A, US4247196 A, US3980424 A, US3947108 A, GB2292340 A1, GB2282781 A1, GB2282105 A1, GB2276847 A1, GB2116911 A1, EP0671672 A2, EP0563560 A1,

Forward Citations: WO07050064, WO05026847, US8695502, US8608857, US8317930, US7981221, US7532846, US7010259, US6647580, US2011262710, US2010251916, US2009211595, US2007041743, US2005201785, FR2817506, EP1211100, DE10340706,

Abstract:
Source: US5854962A The first embodiment of an electrophotographic component cleaning apparatus includes a sheet of cleaning media, formed from a material such as felt, cloth or abrasive impregnated plastic fibers. Attached to the cleaning media is a retaining device. Preferably, the retaining device includes a plastic tab bonded to the sheet of cleaning media. Attached to the plastic tab is a plastic strap with an adhesive located on the free end. For use, the cleaning media is inserted into the print media path of the printer with the plastic strap looped around any conveniently protruding feature inside the printer. The rotation of the drum against the cleaning media results in the removal of contaminants. A second embodiment of an electrophotographic component cleaning apparatus includes an oversized cleaning roller which is installed into the printer in place of the transfer roller. A reservoir pivotally attached to the shaft of the cleaning roller contains cleaning fluid which is absorbed into the

cleaning roller. Movement of the cleaning roller over the surface of the photoconductor drum results in the removal of contaminants. In a third embodiment of the electrophotographic component cleaning apparatus for use with an electrophotographic print cartridge, the electrophotographic print cartridge is mounted into a stand with the drum in contact with the cleaning roller. Movement of the cleaning roller over the surface of the photoconductor drum results in the removal of contaminants. A fourth embodiment of the electrophotographic component cleaning apparatus uses a cleaning pad disposed in the channel of a cleaning pad holder. The cleaning pad holder is inserted into the laser beam access slot in the electrophotographic print cartridge so that the pad contacts the photoconductor drum through the slot. Movement of the cleaning pad over the surface of the photoconductor drum resulting from rotation provides the cleaning action.

0) US6374068B – PART–REPLACEMENT AID TOOL AND IMAGE FORMING APP...

107) Family number: 14081216 (US6374068B) © PatBase

Title: PART–REPLACEMENT AID TOOL AND IMAGE FORMING APPARATUS TO WHICH THE SAME IS ATTACHABLE

Priority: JP19990209488 19990723

Family:

Publication number	Publication date	Application number	Application date
JP2001034023 A2	20010209	JP19990209488	19990723
JP3476387 B2	20031210	JP19990209488	19990723
US6374068 BA	20020416	US20000620911	20000720

Probable Assignee: KYOCERA MITA CORP

Assignee(s):(std)**:** KYOCERA DOCUMENT SOLUTIONS INC ; KYOCERA MITA CORP

Inventor(s):(std)**:** ASHIKARI TSUTOMU ; JIYOUROKU KAZUO ; JOROKU KAZUO ; KAWAMORI YOSHIZO ; KAWAMORI ZENZO ; KAYAMA KIYOMI ; MINAMI TAKEHIRO ; NAKAUE TAKAHISA

International class (IPC 8–9): B41J29/16 G03G15/00 G03G21/16 (Advanced/Invention); B41J29/16 G03G15/00 G03G21/16 (Core/Invention)

International class (IPC 1–7): B41J29/16 G03G15/00

CPC: G03G21/1628 G03G2221/1606 G03G2221/163

European class: G03G21/16 S03G221/16B S03G221/16D

US class: 399/110 399/111 399/262

Classification Explorer

Cited documents: US6185395 BA, US6175704 BA, US5999771 A, US4766455 A, US3888577 A, US3604797 A, JPS63106236, JP63138549 U, JP63106236 A2, JP6242677 A2, JP358651 U, JP354965 U, JP3108276 U, JP3058651 U, JP3054965 U,

Forward Citations: JP2014104464, JP2012018267,

Abstract:
Source: US6374068B An aid tool used for aiding in replacement operation of a part to be replaced in an image forming apparatus. This aid tool includes: a part holding unit for holding a part to be replaced; and a mounting portion for removably mounting the part holding unit on an image forming apparatus. The part holding unit is for example a part housing container for housing a part, and may also serve as a packaging container which houses a new replacing part. The part housing container may include, for example, a main body for receiving the part to be replaced, and a lid for openably closing the main body.

0) EP2365397A1 – CARTRIDGE WITH A TONER AGITATOR AND A PRINTER W...

108) Family number: 49467375 (EP2365397A1) © PatBase

Title: CARTRIDGE WITH A TONER AGITATOR AND A PRINTER WITH SUCH CARTRIDGE

Priority: FR20100051023 20100215

Family:

Publication number	Publication date	Application number	Application date
EP2365397 A1	20110914	EP20110153253	20110203
FR2956490 A1	20110819	FR20100051023	20100215

Probable Assignee: SAGEM COMM

Assignee(s):(std)**:** SAGEM COMM ; SAGEMCOM DOCUMENTS SAS

Assignee(s): SAGEM COMMUNICATIONS SAS

Inventor(s):(std)**:** SVENSSON HENRIC

Inventor(s): HENRIC SVENSSON

Agent(s): CALLON DE LAMARCK JEAN ROBERT; CABINET REGIMBEAU

Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL NO PL PT RO RS SE SI SK SM TR

International class(IPC 8–9)**:** B41J2/455 G03G15/08 G03G15/18 G03G21/18 (Advanced/Invention)

CPC: G03G15/0875 G03G15/0868 G03G2215/085

European class: G03G15/08H3B S03G215/08A5

Classification Explorer

Cited documents: US4566776 A, US2005163536 AA,

Abstract:
The cartridge has a toner mixer (2) movable in a toner reservoir (1). A development roller includes a rotor that rotates with respect to the reservoir, and an actuator of the mixer is movable with respect to the reservoir. The actuator mechanically cooperates with a cam of the rotor and an operating handle (21) of the mixer, such that the rotation of the rotor causes oscillatory movement of the actuator and the mixer.

0) US2007237545A – PHOTOSENSITIVE DRUM FOR PRINTER CARTRIDGE AND M...

109) Family number: 39065081 (US2007237545A) © PatBase

Title: PHOTOSENSITIVE DRUM FOR PRINTER CARTRIDGE AND METHOD FOR MOUNTING THE SAME

Priority: KR20060030790 20060405

Family:

Publication number	Publication date	Application number	Application date
AT446531 E	20091115	AT20070001725T	20070126
CN100507736 C	20090701	CN200710000037	20070105
CN101051196 A	20071010	CN200710000037	20070105
DE602007002834 D1	20091203	DE200760002834T	20070126
EP1843216 A1	20071010	EP20070001725	20070126
EP1843216 B1	20091021	EP20070001725	20070126
KR100788037 B1	20071224	KR20060030790	20060405
KR20070099715 A	20071010	KR20060030790	20060405
US2007237545 AA	20071011	US20060520941	20060913
US7676175 BB	20100309	US20060520941	20060913

Probable Assignee: PARK AND OPC CO LTD

Assignee(s):(std)**:** PARK AND OPC CO LTD

Assignee(s): PARK AND 38 OPC CO LTD ; PARK AND OPC CO

Inventor(s):(std)**:** CHO MYUNG LAE ; CHO SEONG JIN ; HAN MICHAEL ; JEON JUN HO ; KIM HAN SHIK ; MICHAEL HAN

Inventor(s): CHO SEONG JIN SINLA APT GA 1203 1292 27 5 ; CHO MYUNG LAE HAN MICHAEL KIM HAN SHIK CHO ; CHO

Agent(s): WAGNER BERNHARD PETER; BLAKELY SOKOLOFF TAYLOR AND ZAFMAN

Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK NL PL PT RO SE SI SK TR YU

International class (IPC 8–9): G03G15/00 G03G15/02 G03G15/04 G03G21/00 (Advanced/Invention); G03G15/00 G03G15/04 (Advanced/Non–invention); G03G15/00 G03G15/04 (Core/Invention)

CPC: F16D1/10 G03G15/751

European class: F16D1/10 G03G15/75B

US class: 399/116 399/117 399/117P 399/159

Classification Explorer

Cited documents: US6381429 BA, US2008279584 AA, US2005238387, JP4024656 A2, JP2304459 A2, JP2006084622 A2, JP10104905 A2, EP0940729 A2, EP0833228 A1, EP0797125 A1,

Forward Citations: US9678471, US9671751, US9658593, US9658592, US9594343, US9477201, US9471025, US9377755, US9348303, US9176468, US8676090, US8676085, US8121521, US7630667, US2014041476, US2012183331, US2010296838, US2008279584, TWI434152, EP3173875, EP2291715, EP2291715,

Abstract:
Source: US2007237545A A photosensitive drum for a printer cartridge, which can be easily mounted on a printer cartridge of which the positions of drum connectors are fixed, is disclosed. The photosensitive drum for a printer cartridge comprises a cylindrical drum having a photosensitive layer on a cylindrical surface thereof; and a pair of rotation shafts which is respectively mounted on the sides of the cylindrical drum for rotating and supporting the cylindrical drum, wherein at least one of the rotation shafts is insert–fitted to the side of the cylindrical drum.

0) US2008253805A – GRID ELECTRODE, IMAGE FORMING APPARATUS INCLUDI...

110) Family number: 42280347 (US2008253805A) © PatBase

Title: GRID ELECTRODE, IMAGE FORMING APPARATUS INCLUDING SAME, AND PROCESS CARTRIDGE INCLUDING SAME

Priority: EP20080154298 20080410 JP20070106153 20070413

Family:

Publication number	Publication date	Application number	Application date
DE602008028086 D1	20131212	DE200860028086T	20080410
EP1980917 A1	20081015	EP20080154298	20080410
EP1980917 B1	20131016	EP20080154298	20080410
JP2008262114 A2	20081030	JP20070106153	20070413
JP5181518 B2	20130410	JP20070106153	20070413
US2008253805 AA	20081016	US20080081161	20080411
US7885578 BB	20110208	US20080081161	20080411

Probable Assignee: RICOH CO LTD

Assignee(s):(std)**:** RICOH CO LTD ; RICOH KK ; YOSHINO KAORU

Assignee(s): RICOH COMPANY LIMITED ; RICOH COMPANY LTD

Inventor(s):(std)**:** YOSHINO KAORU

Inventor(s): YOSHINO KAORU TOKYO

Agent(s): SCHWABE SANDMAIR MARX; SCHWABE – SANDMAIR – MARX; OBLON SPIVAK MCCLELLAND MAIER AND NEUSTADT PC; OBLON SPIVAK MCCLELLAND MAIER AND NEUSTADT LLP

Designated states: AL BA DE FR GB MK RS

International class (IPC 8–9): G03G15/02 (Advanced/Invention); G03G15/02 (Core/Invention)

CPC: G03G15/0291 G03G15/0266 G03G2215/027

European class: G03G15/02C S03G215/02C1

US class: 399/171 399/171P

Classification Explorer

Cited documents: US6963708 BB, US6553198 BA, US6421514 BB, US6091917 A, US5844768 A, US5666604 A, US5526222 A, US5216465 A, US5206784 A, US5079668 A, US5025155 A, US2001046394 AA, JPS63118050, JPS6188282, JP8171257 A2, JP8171257, JP8082978 A2, JP8082978, JP7036259 A2, JP7036259, JP63118050 A2, JP61088282 A2, JP5094076 A2, JP5094076, JP4011551 U, JP4011551 U, JP2289869 A2, JP2289869, JP2267571 A2, JP2007106153 A2, JP2005338797 A2, JP2003122092 A2, JP2003122092, JP2000330361 A2, JP1232369 A2, JP1232369, JP1166356 A2, JP0882978, JP08171257, JP0736259, JP0594076, JP0411551 U, JP02289869, JP01232369,

Forward Citations: US9188899, US9110431, US9042787, US8903272, US8805238, US8761641, US8755717, US8750761, US8693921, US8676091, US8666287, US8649701, US7907869, US2014064811, US2013279939, US2013129387, US2013121729, US2011222901, US2008304866, JP6015091, JP5915965, JP5831146, JP5760582, JP2013225060, JP2013109199, JP2013105045, JP2013101283, JP2013057903, JP2012203364, CN103105760, CN103105759, CN103105759, CN102707600, CN102707600,

Abstract:
Source: US2008253805A A grid electrode, which can be included in a scorotron charger for an image forming apparatus or a process cartridge, includes a thin plate member containing multiple apertures and linear patterns, and fitting members. The multiple apertures are disposed facing a charge wire, and the linear patterns are formed in the longitudinal direction of the grid electrode and disposed at equally−shaped intervals in a lateral direction thereof to cause the fitting member to apply tension in the longitudinal axis of the thin plate member at end portions in the lateral direction of the fitting member. The fitting members engage hooks mounted on the scorotron charger at both ends of the grid electrode in a longitudinal direction of the thin plate member containing the

multiple apertures and linear patterns.

0) US2010080630A – AGITATING MEMBER AND DEVELOPING CARTRIDGE

111) Family number: 44816896 (US2010080630A) © PatBase

Title: AGITATING MEMBER AND DEVELOPING CARTRIDGE

Priority: JP20080250539 20080929

Family:

Publication number	Publication date	Application number	Application date
CN101713947 A	20100526	CN200910179559	20090929
CN101713947 B	20130501	CN200910179559	20090929
JP2010079203 A2	20100408	JP20080250539	20080929
JP4586916 B2	20101124	JP20080250539	20080929
US2010080630 AA	20100401	US20090555282	20090908
US8290398 BB	20121016	US20090555282	20090908

Probable Assignee: BROTHER KOGYO KK

Assignee(s):(std)**:** BROTHER IND LTD ; NISHIYAMA HIDESHI

Assignee(s): BROTHER KOGYO KABUSHIKI KAISHA ; BROTHER KOGYO KK

Inventor(s):(std)**:** HIDESHI NISHIYAMA ; NISHIYAMA EIJI ; NISHIYAMA HIDESHI

Agent(s): SCULLY SCOTT MURPHY AND PRESSER PC

International class (IPC 8–9)**:** G03G15/06 G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)

CPC: G03G15/0875 G03G15/0855 G03G15/0865 G03G2215/0852

European class: G03G15/08H3 S03G215/08A5A

US class: 399/107 399/119 399/254 399/254P

Classification Explorer

Cited documents: US7924299 BB, US7529508 BB, US7224925 BB, US6337956 BA, US2006238599 AA, JP2006308688 A2, JP2000258985 A2,

Forward Citations: US8634446,

Abstract:
Source: US2010080630A In order to provide an agitator having a wiper made of a resiliency deformable material, an agitator according to an embodiment of the present invention includes a main body and a resiliently deformable plate–like member. The main body has a placing surface, a first protrusion, and a second protrusion protruding from the placing surface. The resiliently deformable plate–like member has a free end portion including a free end and a supported portion supported to the main body, the supported portion being placed on the placing surface and having a first engaging section engaging the first protrusion and a second engaging section engaging the second protrusion, the supported portion being curved upon resilient deformation thereof as a result of engagement of the first engaging section and the second engaging section with the first protrusion and the second protrusion respectively, a length between the first engaging section and the second engaging section being greater than a linear distance between the first protrusion and the second protrusion.

0) US2008138109A – PROCESS CARTRIDGE

112) Family number: 41910578 (US2008138109A) © PatBase

Title: PROCESS CARTRIDGE

Priority: JP20060332739 20061211 JP20070307230 20071128

Family:

Publication number	Publication date	Application number	Application date
JP2008170965 A2	20080724	JP20070307230	20071128
JP5147371 B2	20130220	JP20070307230	20071128
US2008138109 AA	20080612	US20070951669	20071206
US7720412 BB	20100518	US20070951669	20071206

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK

Assignee(s): CANON INC ; CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** ANAMI OSAMU ; ANAN OSAMU ; HIRAYAMA AKINOBU

Agent(s): FITZPATRICK CELLA HARPER AND SCINTO

International class(IPC 8–9)**:** G03G15/02 G03G21/18 (Advanced/Invention); G03G21/18 (Core/Invention)

CPC: G03G21/1825 G03G21/1821

European class: G03G21/18C4C G03G21/18C4S

US class: 399/111 399/113 399/115 399/176

Classification Explorer

Cited documents: US7099607 BB, US6980759 BB, US5465136 A, US2007092291 AA, US2005276628 AA, JP6273987 A2, JP5188667 A2, JP4043378 A2, JP2900530 B2, JP2900530, JP2006276190 A2, JP2006276190, JP2006259448 A2, JP2006259448, JP200599517, JP2005099517 A2, JP2004341118 A2, JP2004341118, JP2001337511 A2, JP2000181328 A2,

Forward Citations: US9285765, US9188945, US9122235, US9052686, US9014596, US8909092, US8577252, US8559849, US8494409, US8391747, US8160477, US8126357, US8095036, US7903994, US2017139340, US2014072335, US2012213550, US2011229196, US2011142487, US2011026967, US2009297219, US2009297213, US2009297212, US2008286001, JP2014067005,

Abstract:
Source: US2008138109A A process cartridge in which before use, the separation of a predetermined distance between a charging roller and a photosensitive drum can be maintained, and in use, the separation state of the charging roller can be released without increasing the burden of a user. The process cartridge includes a charging roller separation member moveable between the first position to hold the separation of the charging roller from the photosensitive drum and the second position to abut the charging roller on the photosensitive drum. One of a photosensitive member unit and a developing unit includes a hook portion holding the separation member in the first position, and the other includes a hook portion that releases the separation member from the hook portion to move the separation member to the second position when the developing unit is pivoted.

0) US2010080613A – METHOD FOR ATTACHING CHARGING WIRE, METHOD FOR ...

113) Family number: 44670028 (US2010080613A) © PatBase

Title: METHOD FOR ATTACHING CHARGING WIRE, METHOD FOR MANUFACTURING PROCESS CARTRIDGE, AND PROCESS CARTRIDGE

Priority: JP20080249575 20080929

Family:

Publication number	Publication date	Application number	Application date
EP2169473 A2	20100331	EP20090170500	20090917
EP2169473 A3	20140730	EP20090170500	20090917
JP2010079135 A2	20100408	JP20080249575	20080929
JP4596062 B2	20101208	JP20080249575	20080929
US2010080613 AA	20100401	US20090565393	20090923
US8346118 BB	20130101	US20090565393	20090923

Probable Assignee: BROTHER KOGYO KK

Assignee(s):(std)**:** BROTHER IND LTD ; ITABASHI NAO

Assignee(s): BROTHER KOGYO KABUSHIKI KAISHA ; BROTHER KOGYO KK

Inventor(s):(std)**:** ITABASHI NAO

Agent(s): PRUEFER AND PARTNER GBR EUROPEAN PATENT ATTORNEYS; PRUEFER AND PARTNER GBR EUROPEAN PATENT ATTORNEYS; BANNER AND WITCOFF LTD ATTORNEYS FOR CLIENT NO 016689; BANNER AND WITCOFF LTD

Designated states: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO SE SI SK SM TR

International class (IPC 8–9): G03G15/02 G03G21/16 G03G21/18 H05K13/00 (Advanced/Invention); G03G15/02 G03G21/16 H05K13/00 (Core/Invention)

CPC: G03G15/0291 G03G21/1814 G03G2215/027 Y10T29/49002

European class: G03G15/02 G03G21/18C3 S03G215/02C1

US class: 29/592.1 29/592.100S 361/225 399/100 399/111 399/111P 399/170

Classification Explorer

Cited documents: US8036570 BB, US7813677 BB, US7809306 BB, US7463850 BB, US2006018683 AA, JP9311524 A2, JP4044649 U1, JP4044649 A2, JP2008249575 A2, JP2006039139 A2, EP1505457 A2,

Forward Citations: US9581960, US9367019, US2014363189, JP2016133786,

Abstract:
Source: US2010080613A The disclosed is a method for attaching a charging wire. At first, a first end of a charging wire is locked to a wire locking portion of a process frame, and portion of a torsion spring shaped wire electrode is engaged with a second end of the charging wire. Thereafter, a coil portion of the wire electrode is attached to a coil support portion of the process frame in a state in which a tension less than a set value is applied to the charging wire. Thereafter, a second spring leg portion of the wire electrode is moved to a fixed position fixed to an electrode support portion of the process frame in a direction in which a deformation amount of the wire electrode increases, without exceeding the fixed position in the first direction.

0) US5930561A – PROCESS CARTRIDGE AND IMAGE–FORMATION DEVICE SU...

114) Family number: 11654617 (US5930561A) © PatBase

Title: PROCESS CARTRIDGE AND IMAGE–FORMATION DEVICE SUITABLE FOR MINIATURIZATION

Priority: DE19981014173 19980330 JP19970080906 19970331 JP19970089190 19970408 JP19980079359 19980326 JP19970080907 19970331 JP19980079360 19980326

Family:

Publication number	Publication date	Application number	Application date
CN1143184 C	20040324	CN19981009745	19980331
CN1197940 A	19981104	CN19981009745	19980331
CN1249540 C	20060405	CN20031057970	19980331
CN1311311 C	20070418	CN20031057971	19980331
CN1493943 A	20040505	CN20031057970	19980331
CN1495581 A	20040512	CN20031057971	19980331
DE19814173 A1	19981008	DE19981014173	19980330
DE19814173 B4	20060518	DE19981014173	19980330
DE19860959 B4	20060105	DE19981060959	19980330
DE19860959 B9	20060914	DE19981060959	19980330
HK1016280 A1	20040917	HK19990101063	19990315
JP10282863 A2	19981023	JP19970089190	19970408
JP10333530 A2	19981218	JP19980079359	19980326
JP10333531 A2	19981218	JP19980079360	19980326
JP3420681 B2	20030630	JP19970089190	19970408
JP3599263 B2	20041208	JP19980079360	19980326
JP3628869 B2	20050316	JP19980079359	19980326
US5930561 A	19990727	US19980048896	19980327

Probable Assignee: RICOH CO LTD

Assignee(s):(std)**:** RICOH KK

Assignee(s): ROCOH COMPANY LTD ; RICOH CO ; RICOH CO LTD ; RICOH CO LTD TOKIO TOKYO JP ; RICOH COMPANY LTD

Inventor(s):(std)**:** HIROSHI HOSOKAWA ; MASAHIRO KOMEKAWA ; TETSUO YAMANAKA ; YAMANAKA TETSUO ; YONEKAWA MASAHIRO ; HOSOKAWA HIROSHI ; AIZAWA NAOKO ; AIZAWA NAHOKO ; MASAHIRO HOSOKAWA HIROSHI YAMA

Inventor(s): HOSOKAWA HIROSHI YAMANAKA TETSUO KOMEKAWA MASAHIRO ; AIZAWA NAOKO TOKIO TOKYO JP ; YAMANAKA TETSUO TOKIO TOKYO JP ; NAHOKO AIZAWA ; MASAHIRO YONEKAWA ; HOSOKAWA HIROSHI YOKOHAMA KANAGAWA JP ; YONEKAWA MASAHIRO TOKIO TOKYO JP ; KOMEKAWA MASAHIRO

International class (IPC 8–9): G03G15/00 G03G15/08 G03G21/16 G03G21/18 (Advanced/Invention); G03G15/00 G03G15/08 G03G21/16 G03G21/18 (Core/Invention)

International class (IPC 1–7): G03G15/00 G03G15/08 G03G15/22 G03G21/16 G03G21/18

CPC: G03G21/1647 G03G21/1821 G03G2221/1654 G03G2221/1876

European class: G03G21/16 G03G21/18C4C S03G221/16K1 S03G221/18P3C

US class: 399/111 399/114

Classification Explorer

Cited documents: US5845176 A, US5752132 A, US5749027 A, US5708922 A, US5581328 A, US5537187 A, US5258811 A, US5115272 A, US5083158 A, US5028966 A, US4598993 A, US4128079 A, JP9258635, JP8339149, JP8297453, JP7295460, JP7146634 A2, JP7121087, JP6264920 A2, JP6242642 A2, JP6083126, JP4119458 U, JP3101754, JP3016155 U, JP1191861, EP0757304 A2, EP0740226 A1, EP0538479 A1,

Forward Citations: WO14010116, US9523940, US9317007, US9268301, US9134694, US8737870, US8634743, US8287122, US8190039, US7917058, US7787787, US7761030, US7758182, US7731352, US7551867, US7386259, US7340198, US7330679, US7292804, US7292803, US7286787, US7136600, US7106991, US7024133, US6934498, US6920303, US6829465, US6714224, US6708017, US6163666, US2013051843, US2010247137, US2010013901, US2009154947, US2009041481, US2008187364, US2007140731, US2007140708, US2007139506, US2007036589, US2006291899, US2006159486, US2004223782, US2004170446, US2004109708, US2004033090, US2003223784, KR100618344, JP5920070, JP5397837, JP4878499, JP4775472, JP4011882, JP2014016484, JP2012208362, JP2011123361, JP2010231114, JP2007310149, JP2003122120, CN104412168, CN104298090, CN101373369,

Abstract:
Source: US5930561A A method of assembling a process cartridge which includes a photosensitive−body case having a photosensitive drum stored therein and a development−body case having a development roller stored therein is proposed. The method includes the steps of positioning a rotation center of the photosensitive drum relative to a rotation center of the development roller by use of a fixture, and fixing relative positions of the photosensitive−body case and the development−body case while the fixture is in place.

0) US2003170042A – CONNECTOR, DEVELOPMENT CARTRIDGE, AND IMAGE FOR...

115) Family number: 28899929 (US2003170042A) © PatBase

Title: CONNECTOR, DEVELOPMENT CARTRIDGE, AND IMAGE FORMING APPARATUS

Priority: EP20030003182 20030219 JP20020041139 20020219 JP20020041140 20020219 JP20020042877 20020220 JP20020057178 20020304

Family:

Publication number	Publication date	Application number	Application date
AT391944 E	20080415	AT20030003182T	20030219
CN1249537 C	20060405	CN20031004650	20030219
CN1444113 A	20030924	CN20031004650	20030219
CN1758151 A	20060412	CN200510090839	20030219
CN2673642 Y	20050126	CN20032004366U	20030219
DE60320163 D1	20080521	DE20036020163	20030219
DE60320163 T2	20090520	DE20036020163T	20030219
EP1338931 A1	20030827	EP20030003182	20030219
EP1338931 B1	20080409	EP20030003182	20030219
EP1691455 A1	20060816	EP20060007194	20030219
EP1701224 A1	20060913	EP20060007191	20030219
JP2003241462 A2	20030827	JP20020041139	20020219
JP2003241463 A2	20030827	JP20020041140	20020219
JP2003243104 A2	20030829	JP20020042877	20020220
JP2003257530 A2	20030912	JP20020057178	20020304
US2003170042 AA	20030911	US20030367968	20030219
US6892039 BB	20050510	US20030367968	20030219

Probable Assignee: SEIKO EPSON CORP

Assignee(s):(std)**:** SEIKO EPSON CORP

Inventor(s):(std)**:** AOKI KI ; AOKI KOWASHI ; AOKI TAKESHI ; JUNJI SHIROKOSHI ; KATSUMI OKAMOTO ; KI AOKI ; KOWASHI AOKI ; OKAMOTO KATSUMI ; SHIROKOSHI JUNJI ; TAKESHI OKAMOTO KATSUMI SHIROK ; KOWASHI OKAMOTO KATSUMI SHIROK

Inventor(s): OKAMOTO KATSUMI SHIROKOSHI JUNJI AOKI TAKESHI ; OKAMOTO KATSUMI SHIROKOSHI JUNJI AOKI KOWASHI

Agent(s): HOFFMANN EITLE; SUGHRUE MION PLLC

Designated states: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PT SE SI SK TR

International class (IPC 8–9)**:** G03G15/00 G03G15/01 G03G15/06 G03G15/08 G03G21/00 G03G21/16 G03G21/18 G06K17/00 G06K19/00 G06K19/077 H01R12/16 H01R12/22 H01R13/33 H01R13/631 H01R13/64 H01R13/658 H01R13/66 (Advanced/Invention); H01R13/66 (Advanced/Non–invention); G03G15/00 G03G15/08 G03G21/00 G03G21/16 G06K17/00 G06K19/00 G06K19/077 H01R12/00 H01R13/02 H01R13/64 H01R13/658 H01R13/66 (Core/Invention)

International class (IPC 1–7)**:** B41J2/175 G03G15/00 G03G15/01 G03G15/06 G03G15/08 G03G21/00 G03G21/16 G03G21/18 G06K17/00 G06K19/00 G06K19/077 H01R12/16 H01R12/22 H01R13/33 H01R13/62 H01R13/64 H01R13/658 H01R13/66 H01R24/00

CPC: G03G21/1652 H01R12/83 B41J2/17526 G03G15/0126 G03G21/1885 G03G2215/0177 G03G2221/166 G03G2221/1815 G03G2221/1823 H01R12/714 H01R13/631 H01R13/665 H01R13/6658

European class: B41J2/175C4 G03G15/01D8 G03G21/18L1C1 H01R13/631 H01R23/72B S03G215/01S2A S03G221/16K3 S03G221/18C S03G221/18E T01R13/66D T01R13/66D2 T01R23/68B2

US class: 399/119 399/90 399/90P 439/326 439/630

Classification Explorer

Cited documents: US6349182 BB, US6238248 BA, US6056573 A, US6014533 A, US5980294 A, US5963759 A, US5907748 A, US5697802 A, US4903167 A, US4222622 A, EP0913745 A2, EP0822469 A1, EP0821445 A1, EP0813356 A1, DE4111912 A1,

Forward Citations: WO15165322, WO15137589, WO06062026, USD758482, USD757161, USD743400, US9606498, US9599927, US9513575, US9360835, US9323213, US9256158, US9110402, US9081327, US9069287, US8909071, US8855520, US8744300, US8577228, US8126353, US7885554, US7742717, US7711295, US7570903, US7395016, US7218869, US7076179, US2017087859, US2015037050, US2012301173, US2010221033, US2010189460, US2009196650, US2009067872, US2008267671, US2006291910, US2006210285, US2004223772, JP4110144, JP2008242084, JP2006113521, EP2829923, EP2752716, EP2752716, EP2494413, EP2494413, EP2325701, EP2256559, CN104943389, CN104943389, CN104076672, CN102667640, CN102667640, CN102193475,

Abstract:
Source: US2003170042A The first invention comprises an impact receiving member (41); a first electric contact (43a, 44a) which is disposed on the front side of the impact receiving member; a memory IC substrate (46) which is disposed on and apart from the rear side of the impact receiving member; and a second electric contact (43b, 44b) which is configured by bringing a conductive member extending from the first electric contact into contact with a terminal of the memory IC substrate. The second invention comprises a plurality of contact members; a guide member(s) (42) which is formed with the contact members; an impact receiving member (41) being provided on one surface thereof with said guide member; and a contact protecting member (45) which is disposed on the other surface of the impact receiving member and encompasses a memory IC substrate. The third invention comprises conductive members (43, 44) having connecting terminals relative to an apparatus body−side connector and connecting terminals (43b, 44b) relative to a memory IC substrate, wherein the connecting terminals of the conductive members relative to the memory IC substrate have elasticity. The fourth invention is a connector having contacts in a plurality of lines, wherein among the contacts, a contact at the center side of a substrate is set to have a spring load higher than the other contacts.

0) US2005265746A – ELECTROPHOTOGRAPHIC IMAGE FORMING APPARATUS

116) Family number: 32451213 (US2005265746A) © PatBase

Title: ELECTROPHOTOGRAPHIC IMAGE FORMING APPARATUS

Priority: KR20040038745 20040529

Family:

Publication number	Publication date	Application number	Application date
KR100601681 B1	20060714	KR20040038745	20040529
KR20050113522 A	20051202	KR20040038745	20040529
US2005265746 AA	20051201	US20050138291	20050527
US7336916 BB	20080226	US20050138291	20050527

Probable Assignee: S PRINTING SOLUTION CO LTD

Assignee(s):(std)**:** SAMSUNG ELECTRONICS CO LTD

Assignee(s): S PRINTING SOLUTION CO LTD ; SAMSUNG ELECTRONICS CO

Inventor(s):(std)**:** JEONG HEUNG SUP ; JUNG WOO CHUL ; LYU SE HYUN

Agent(s): ROYLANCE ABRAMS BERDO AND GOODMAN LLP

International class(IPC 8–9)**:** G03G15/06 G03G21/16 G03G21/18 (Advanced/Invention); G03G15/06 (Advanced/Non–invention); G03G15/06 G03G21/16 G03G21/18 (Core/Invention)

International class(IPC 1–7)**:** G03G15/06 G03G21/18

CPC: G03G21/1633 G03G21/1853 G03G2221/1654 G03G15/06

European class: G03G21/18H1V S03G221/16K1

US class: 399/110 399/111 399/116 399/117

Classification Explorer

Cited documents: US7092657 BB, US7076187 BB, US2006127129 AA, US2005047821 AA, US2003161654 AA, KRU20000004726, KRU19960038344, KRP1998051632, KR960038344 A, KR20000004726 A, KR1998051632, KR19980051632 A, KR19960038344, JP11223974 A2,

Forward Citations: US9507318, US9423768, US9201390, US9182735, US9182734, US9134691, US9122237, US9052684, US9042770, US8886084, US8699913, US8688003, US8559846, US8401434, US8369743, US8290396, US8135305, US8130247, US8087575, US8045883, US8032058, US7769320, US7522858, US7272341, US2014016964, US2014016962, US2011211884, US2011158678, US2011076055, US2010260518, US2010172673, US2009202271, US2009116869, US2009003876, US2008286003, US2007147885, US2006127129, CN102809916, CN102809916, CN101807036,

Abstract:
Source: US2005265746A An electrophotographic image forming apparatus includes a print unit that prints an image by an electrophotographic process and has a developer cartridge having a photoreceptor drum. A door opens and closes one side of the print unit to install and remove the developer cartridge. A fixing member is selectively shifted between a first position where the developer cartridge is installed and removed and a second position where the developer cartridge is fixed to the print unit by opening and closing the door.

0) DE8803211U1 – MODUL FUER EIN FOTO–ELEKTROSTATISCHES ABBILDGER...

117) Family number: 17573805 (DE8803211U1) © PatBase

Title: Modul fuer ein foto–elektrostatisches Abbildgeraet

Priority: DE19880003211U 19880310 DE19888803211 19880310

Family:

Publication number	Publication date	Application number	Application date
AU198818967 A1	19890210	AU19880018967	19880712
AU582092 B3	19890210	AU19880018967	19880712
DE8803211 U1	19880421	DE19880003211U	19880310
FR2628541 A3	19890915	FR19880006577	19880517
FR2628541 B3	19900209	FR19880006577	19880517
IT214783 U	19900618	IT19880063254U	19880511
IT8863254 U0	19880511	IT19880063254U	19880511

Probable Assignee: FRANZ BUETTNER EGG CH AG

Assignee(s):(std)**:** BUETTNER AG FRANZ ; BUETTNER FRANZ AG

Assignee(s): BUTTNER AG FRANZ ; BUTTNER FRANZ AG ; FRANZ BUETTNER AG EGG CH ; FRANZ BUETTNER EGG CH AG ; FRANZ BUTTNER A G ; FRANZ BUTTNER AG

Inventor(s):(std)**:** ALBERT H VAN D MEER ; MEER ALBERT H VAN D ; MEER ALBERT H VAN DER

Inventor(s): ALBERT H VAN DER MEER

Agent(s): DAVIES COLLISON CAVE; DAVIES COLLISON CAVE PTY LTD

International class(IPC 8–9)**:** G03G15/08 G03G21/18 (Advanced/Invention); G03G15/08 G03G21/18 (Core/Invention)

International class(IPC 1–7)**:** B41J3/21 G03G15/08 G03G15/22

CPC: G03G15/0855 G03G15/0865 G03G15/0886 G03G21/1832 G03G2215/00987 G03G2215/0687 G03G2221/163 G03G2221/1648 G03G2221/1654 G03G2221/183

European class: G03G15/08H3 G03G21/18C5S S03G215/00R S03G215/06C5 S03G221/16D S03G221/16J S03G221/16K1 S03G221/18P

Classification Explorer

Forward Citations: GB2389671, GB2389671, GB2389670, GB2389670, DE8914686, BE1003979,

Abstract:
Source: DE8803211U1 The toner reservoir (2) has in one of its walls a slot (4) which can be covered by a slide cover (10). A toner cartridge may be placed and held on the module (1) which has a discharge opening sealed by a removable film (25). The module (1) is aligned in the introduction position with the opening (4) of the reservoir. Above the opening is a cover (8) having a rectangular slot (9) similar in outline to the opening. Slide slots (13) are formed in each of the two long sides. Two hooks (33) in the two sides of the discharge opening (22) of the cartridge latch into the slots and hold the cartridge in position (21).

0) US2007230997A – IMAGE CARRIER UNIT AND IMAGE FORMING APPARATUS ...

118) Family number: 38526930 (US2007230997A) © PatBase

Title: IMAGE CARRIER UNIT AND IMAGE FORMING APPARATUS

Priority: JP20060095124 20060330

Family:

Publication number	Publication date	Application number	Application date
CN100517126 C	20090722	CN200610143520	20061110
CN101046671 A	20071003	CN200610143520	20061110
JP2007271759 A2	20071018	JP20060095124	20060330
JP4788439 B2	20111005	JP20060095124	20060330
KR100847039 B1	20080717	KR20060110768	20061110
KR20070098438 A	20071005	KR20060110768	20061110
US2007230997 AA	20071004	US20060521451	20060915
US7577378 BB	20090818	US20060521451	20060915

Probable Assignee: FUJI XEROX CO LTD

Assignee(s):(std): FUJI XEROX CO LTD ; FUJITSU XEROX CORP

Assignee(s): FUJI XEROX CO

Inventor(s):(std): MATSUI TOSHIYUKI ; TOSHIYUKI MATSUI

Agent(s): MORGAN LEWIS AND BOCKIUS LLP

International class (IPC 8–9): G03G15/00 G03G15/02 G03G21/16 G03G21/18 (Advanced/Invention); G03G21/18 (Advanced/Non–invention); G03G15/00 G03G15/02 G03G21/16 G03G21/18 (Core/Invention)

CPC: G03G21/1671 G03G15/0216 G03G21/1828 G03G2221/1609 G03G2221/1807

European class: G03G15/02A1 G03G21/18C5 S03G221/16B1 S03G221/18A

US class: 399/111 399/115

Classification Explorer

Cited documents: US6810221 BA, US6681089 BB, US6665507 BA, US6385420 BA, US5752135 A, US5697020 A, US5666608 A, US5465136 A, US2006165434 AA, US2005238385 AA, KR20060009208 A, KR20050104028 A, KR1020060009208, JP9222776 A2, JP85695, JP736257, JP7036257 A2, JP7036257, JP67726, JP6202404 A2, JP6003977 A2, JP36257, JP307715, JP292488, JP234439, JP214661, JP21264, JP201915, JP201914, JP2007009503 A2, JP2005234439 A2, JP2005091708 A2, JP200485695, JP200467726, JP2004307715 A2, JP2004292488 A2, JP200421264, JP2004085695 A2, JP2004067726 A2, JP2004021264 A2, JP2001201915 A2, JP2001201914 A2, JP2001194977 A2, JP2000214661 A2, JP2000181328 A2, JP194977, AU2004202645 BA, AU2004202645 B1,

Forward Citations: US8761635, US8538298, US8326178, US8301058, US8090287, US8086136, US8070187, US7715737, US2012177407, US2012045250, US2011069989, US2010142992, US2010054799, US2009162092, US2008042436, US2007242964, JP5919766, JP5623603, JP5398335, JP2015121683, JP2013214106, JP2013114108, JP2011191427, JP2011095536, JP2010256610, JP2010237715, JP2010079267, JP2009300741, JP2009156970, CN103383533, CN102193471, CN102193471, CN101876806,

Abstract:
Source: US2007230997A An image carrier unit that is removably loaded into a main body of an image forming apparatus includes: an image carrier on which an image is formed; a charge roll that charges the image carrier; a biasing member that causes the charge roll to be pressed against the image carrier; and a separation cover provided with a cover portion that covers the charge roll by a latching portion thereof being caused to latch into a body frame of the image carrier unit and the cover portion being rotated toward the charge roll, and a hook portion disposed on the cover portion, that is inserted between the charge roll and the image carrier and is hooked onto the charge roll when the cover portion is rotated toward the charge roll so as to cause the charge roll to separate from the image carrier.

119) Family number: 29265682 (US5885737A) © PatBase

Title: Hydroxygallium phthalocyanine compound, production process therefor and electrophotographic photosensitive member using the compound

Priority: EP19970106946 19970425 JP19960108251 19960426 JP19960112847 19960507 JP19960112848 19960507 JP19960112849 19960507 JP19960129288 19960426 US19990228295 19990108 US19970837212 19970422 JP19970106078 19970423

Family:

Publication number	Publication date	Application number	Application date
CN100380236 C	20080409	CN20011021638	19970425
CN1075831 C	20011205	CN19971011270	19970425
CN1176274 A	19980318	CN19971011270	19970425
CN1356597 A	20020703	CN20011021638	19970425
DE69727168 D1	20040219	DE19976027168	19970425
DE69727168 T2	20041118	DE19976027168T	19970425
DE69737774 D1	20070712	DE19976037774	19970425
DE69737774 T2	20080131	DE19976037774T	19970425
EP0803546 A1	19971029	EP19970106946	19970425
EP0803546 B1	20040114	EP19970106946	19970425
EP1081555 A2	20010307	EP20000123659	19970425
EP1081555 A3	20010627	EP20000123659	19970425
EP1081555 B1	20070530	EP20000123659	19970425
HK1003058 A1	20040702	HK19980102269	19980318
JP10067946 A2	19980310	JP19970106078	19970423
JP3026939 B2	20000327	JP19960112849	19960507
JP3061567 B2	20000710	JP19960112848	19960507
JP3112415 B2	20001127	JP19960108251	19960426
JP3119814 B2	20001225	JP19960112847	19960507
JP3639691 B2	20050420	JP19970106078	19970423
JP9290955 A2	19971111	JP19960108251	19960426
JP9295755 A2	19971118	JP19960112848	19960507
JP9295756 A2	19971118	JP19960112849	19960507
JP9297501 A2	19971118	JP19960112847	19960507
KR100233633 B1	19991201	KR19970015749	19970426
KR19970070130 A	19971107	KR19970015749	19970426
US5885737 A	19990323	US19970837212	19970422
US5897250 A	19990427	US19970847470	19970425
US5932722 A	19990803	US19990228295	19990108

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK

Assignee(s): CANON INC ; CANON K K ; CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** HAYASHI KENICHI ; HIRAI KATSUAKI ; KATO KATSUHITO ; KATO KATSUTO ; MASATO TANAKA ; MASAUDO TANAKA ; SAITO NAHO ; SAITOH NAHO ; SAITOU NAHO ; SATO MASAAKI ; TAKEHARA YOSHIFUMI ; TANAKA MASATO ; TANAKA MASAUDO ; UEDA NORIYOSHI ; UEDA NORYOSHI

Designated states: DE FR GB IT

International class (IPC 8–9)**:** B41J11/48 B41J11/70 B41J29/393 B65H3/44 B65H33/04 B65H35/00 B65H37/04 C07D487/22 C07F5/00 C09B67/06 C09B67/50 G03G15/00 G03G21/00 G03G5/05 G03G5/06 G03G5/09 H04N1/00 (Advanced/Invention); C09B47/18 (Advanced/Non–invention);

	B41J11/48 B41J11/70 B65H33/00 B65H37/04 C07D487/00 C09B67/00 G03G15/00 G03G21/00 G03G5/05 G03G5/06 H04N1/00 (Core/Invention)
International class (IPC 1–7):	B41J11/48 B41J11/70 B65H33/04 B65H37/04 C07D487/22 C07F5/00 C09B47/04 C09B47/18 C09B67/06 C09B67/50 G03G15/00 G03G21/00 G03G5/047 G03G5/05 G03G5/06 G03G5/09 H04N1/00
CPC:	C07F5/003 C09B67/0003 C09B67/0026 G03G5/0696 B65H2301/42612 B41J11/48 B41J29/393 B65H3/446 B65H33/04 B65H35/0013 B65H37/04 G03G15/655 G03G2215/00822 G03G2215/00839 G03G2215/00869 G03G2215/00898 G03G2215/00902
European class:	B41J11/48 B41J29/393 B65H3/44C B65H33/04 B65H35/00B1 B65H37/04 C07F5/00B C09B67/00B3 C09B67/00C2 G03G15/65K6 G03G5/06H6 L65H301/42612 L65H342/612 S03G215/00G4G S03G215/00G4G4 S03G215/00G4H S03G215/00G5D S03G215/00G5E
US class:	156/277 399/111 399/116 399/159 399/404 399/407 430/56 430/58.35 430/59 430/78 540/122 540/139 540/140 540/141
Classification Explorer	
Cited documents:	US5756247 A, US5663327 A, US5621501 A, US5567558 A, US5482811 A, US5465949 A, US5463043 A, US5459004 A, US5407766 A, US5390016 A, US5384625 A, US5316279 A, US5302479 A, US5203552 A, US5181705 A, US5096176 A, US5084736 A, US5021837 A, US4586975 A, JP6093203 A2, JP53037423 A2, JP5263007 A2, JP51108847 A2, JP50038543 A2, EP0655655 A1, EP0617091 A2,
Forward Citations:	WO10053477, USRE45207, US9695006, US9459544, US9195154, US9146519, US9141006, US8919768, US8749816, US8617777, US8518615, US8323861, US8113499, US7981581, US7780164, US7762540, US7706015, US7703757, US7673868, US7578497, US7575231, US7552917, US7537209, US7530560, US7489898, US7431273, US7429037, US7426367, US7410156, US7381512, US7380779, US7354036, US7288059, US7264237, US7192020, US7120383, US7120383, US7107006, US7097369, US7050752, US7050752, US6994339, US6986809, US6962453, US6877921, US6860478, US6833227, US6828076, US6773856, US6768006, US6749676, US6671491, US6663704, US6656652, US6647243, US6616135, US6599353, US6474633, US6471429, US6465143, US6447967, US6398214, US6393232, US6335132, US6290220, US6283470, US6270936, US6264194, US6227531, US6219076, US6190811, US5985505, US2016252832, US2015362850, US2015362849, US2015111136, US2014141362, US2014133894, US2012077116, US2010252980, US2010091323, US2009267288, US2009140483, US2009066997, US2009008858, US2008277857, US2008179810, US2008136083, US2008024811, US2007210510, US2007161489, US2007010645, US2006076726, US2006051147, US2006018695, US2006018694, US2006017218, US2006017209, US2005206068, US2005179190, US2005100806, US2005084308, US2005082734, US2005041993, US2004181308, US2004101345, US2004096254, US2004063015, US2003143475, US2003054273, US2003004048, JP2014016609, JP2007334340, JP2006008612, EP1255167, EP1255167, EP1130475, EP1061030, EP1061030, EP0982632, EP0977086, DE102015109397, CN103803322, CN102841399, CN102841399,

Abstract:
Source: US5885737A An electrophotographic photosensitive member having a high sensitivity to long−wavelength light as emitted by a semiconductor laser and causing little change in potential change during repetitive use is formed by using as a charge−generating material a hydroxygallium phthalocyanine having a crystal form characterized by a strongest peak at a Bragg angle (2 theta +/−0.2 deg.) of 28.1 deg. in a CuK alpha characteristic X−ray diffraction pattern. The hydroxygallium phthalocyanine may preferably be produced through a process including treating a halogenated gallium phthalocyanine for conversion into a hydrous hydroxygallium phthalocyanine, freeze−drying the hydrous hydroxygallium phthalocyanine into a low−crystallinity hydroxygallium phthalocyanine, and milling the low−crystallinity hydroxygallium phthalocyanine.

0) US2007019985A – IMAGE FORMING PROCESS MODULE AND IMAGE FORMING ...

120) Family number: 34117952 (US2007019985A) © PatBase

Title: IMAGE FORMING PROCESS MODULE AND IMAGE FORMING APPARATUS HAVING THE SAME

Priority: JP20050066647 20050722 KR20050066647 20050722

Family:

Publication number	Publication date	Application number	Application date
CN102768490 A	20121107	CN201210224483	20060721
CN1900839 A	20070124	CN200610105989	20060721
EP1746468 A1	20070124	EP20060117662	20060721
KR100633097 B1	20061011	KR20050066647	20050722
US2007019985 AA	20070125	US20060434226	20060516
US7542700 BB	20090602	US20060434226	20060516

Probable Assignee: S PRINTING SOLUTION CO LTD

Assignee(s):(std)**:** SAMSUNG ELECTRONICS CO LTD

Assignee(s): S PRINTING SOLUTION CO LTD ; SAMSUNG ELECTRONICS CO

Inventor(s):(std)**:** HAE SEOG KIM HO DONG JO ; JO HAE SEOG ; KIM HO DONG ; HO DONG KIM ; HAE SEOG JO

Inventor(s): KIM HO DONG JO HAE SEOG

Agent(s): ROYLANCE ABRAMS BERDO AND GOODMAN LLP

Designated states: AL BA DE GB HR MK NL YU

International class (IPC 8–9)**:** G03G15/00 G03G15/01 G03G15/02 G03G15/04 G03G15/08 G03G21/00 G03G21/10 G03G21/12 G03G21/16 G03G21/18 (Advanced/Invention); G03G15/02 G03G15/04 (Advanced/Non–invention); G03G15/00 G03G15/02 G03G15/04 G03G15/08 G03G21/00 G03G21/10 G03G21/16 G03G21/18 (Core/Invention)

CPC: G03G21/105 G03G21/1619 G03G21/12 G03G21/1821 G03G2215/0167 G03G2221/1603 G03G2221/1606 G03G2221/1624 G03G2221/163 G03G2221/1684 G03G2221/1853 G03G15/0168 G03G15/02 G03G15/04

European class: G03G15/01S1 G03G21/12 G03G21/18C4C S03G215/01S S03G221/16A S03G221/16B S03G221/16C2 S03G221/16D S03G221/16S2 S03G221/18P3

US class: 399/111 399/113 399/119 399/120 399/123 399/359 399/360

Classification Explorer

Cited documents: US6647227 BB, US5956556 A, US5579086 A, US5327208 A, US5146270 A, US5030988 A, US2003059230 AA, KR2001102849, KR20010102849 A, KR20010066798 A, KR1020010066798, JP7333946 A2, JP2001166666 A2, EP0376617 A2,

Forward Citations: US9411269, US8989624, US8805236, US8649705, US8626025, US8571441, US8467701, US8326177, US8139978, US8045890, US7877039, US7865123, US7657206, US2013045026, US2011081164, US2010239308, US2010111563, US2009010694, US2008025758, US2007048028, EP2363751, EP2028556, CN102540814, CN102540814,

Abstract:
Source: US2007019985A An image forming process module is provided having an integrated photoreceptor unit and development unit, and an image forming apparatus having the same. The image forming process module includes a photoreceptor unit having at least one photoreceptor on which an electrostatic latent image is formed. A development unit is installed around the outer surface of the photoreceptor and having a plurality of development assemblies for developing the latent image, thereby forming a visual image. A fixing frame is detachably installed to a main body of an image forming apparatus for fixing the photoreceptor unit and the development unit to be integrated into a single module. The image forming process module has the enhanced assembly and replacement efficiencies because the photoreceptor unit and the development unit are simultaneously installed to and uninstalled from a main body of an image forming apparatus as a single module.

0) US2009016768A – ARTICLE OF CONSUMPTION AND IMAGE FORMING APPARA...

121) Family number: 42781689 (US2009016768A) © PatBase

Title: ARTICLE OF CONSUMPTION AND IMAGE FORMING APPARATUS HAVING THE SAME

Priority: EP20080158937 20080625 KR20070070230 20070712 US20080137994 20080612 US20120558488 20120726

Family:

Publication number	Publication date	Application number	Application date
CN101344751 A	20090114	CN200810131809	20080624
CN101344751 B	20101215	CN200810131809	20080624
DE602008019398 D1	20121213	DE200860019398T	20080625
EP2015144 A1	20090114	EP20080158937	20080625
EP2015144 B1	20121017	EP20080158937	20080625
JP2009020515 A2	20090129	JP20080174682	20080703
JP5124370 B2	20130123	JP20080174682	20080703
KR20090006660 A	20090115	KR20070070230	20070712
US2009016768 AA	20090115	US20080137994	20080612
US2012301183 AA	20121129	US20120558488	20120726
US8238789 BB	20120807	US20080137994	20080612
US8483596 BB	20130709	US20120558488	20120726

Probable Assignee: S PRINTING SOLUTION CO LTD

Assignee(s):(std)**:** SAMSUNG ELECTRONICS CO LTD ; SEORL KWOANG JOE ; JANG MYOUNG SUB

Assignee(s): S PRINTING SOLUTION CO LTD ; SAMSUNG ELECTRONICS CO ; SAMSUNG ELECTRONICS CO LTD SUWON SI

Inventor(s):(std)**:** JANG MYOUNG SUB ; JOE SEORL KWOANG ; SEORL KWOANG JOE ; SUB JANG MYOUNG

Inventor(s): JANG MYOUNG SUB YEONGTONG GU

Agent(s): PFENNING MEINIG AND PARTNER GBR; WADDINGTON RICHARD; DLA PIPER LLP US; STANZIONE AND KIM LLP

Designated states: AL BA DE FR GB MK NL RS

International class(IPC 8–9)**:** G03G15/00 G03G15/01 G03G15/02 G03G21/16 G03G21/18 (Advanced/Invention); G03G15/00 (Advanced/Non–invention); G03G15/00 G03G15/01 G03G21/16 G03G21/18 (Core/Invention)

CPC: G03G21/1647 G03G21/1633 G03G2221/1609 G03G2221/1654 G03G2221/169 G03G2221/1815

European class: G03G21/16 S03G221/16B1 S03G221/16K1 S03G221/16S4 S03G221/18C

US class: 399/107 399/107P 399/114 399/116

Classification Explorer

Cited documents: US6952545 BB, US6941093 BB, US2006177237 AA, US2005094217 AA, KR2005110224, KR20050110224 A, KR1020050110224, JP4116668 A2, JP3282484 A2, JP3140971 A2, JP2006267668 A2, JP2006215225 A2, JP2006064888 A2, JP2005258307 A2, JP2004038054 A2, JP2000263839 A2, CN1577143 A,

Forward Citations: US9222894, US9170560, US9134695, US9104170, US8879951, US8285176, US2014147152, US2013251396, US2013195505, US2010247145, JP2010230855, CN103226302, CN103226302,

Abstract:
Source: US2009016768A An image forming apparatus having a consumable detachably installed in the main body is disclosed. The image forming apparatus includes a main body having a first opening, a consumable which is detachably installed in the main body, a door mounted on the main body to open and close the first opening, and locking members operable in association with the movement of the door to secure the consumable in place as the door is closed. Possible damages due to the movement of the consumable such as a photosensitive

cartridge during shipping and/or transporting of the image forming apparatus can be prevented by the locking members.

0) US6317573B – APPARATUS AND METHODS FOR PRINT CARTRIDGE PROTE...

122) Family number: 15733282 (US6317573B) © PatBase

Title: Apparatus and methods for print cartridge protection

Priority: US20000570930 20000515

Family:

Publication number	Publication date	Application number	Application date
US6317573 BA	20011113	US20000570930	20000515

Probable Assignee: XEROX CORP

Assignee(s):(std)**:** XEROX CORP

Assignee(s): BANK ONE NA ADMINISTRATIVE AGENT AS ; JPMORGAN CHASE BANK COLLATERAL AGENT AS

Inventor(s):(std)**:** BAKER DOUGLAS M ; ORICO RICHARD J

International class (IPC 8–9): G03G21/18 (Advanced/Invention); G03G21/18 (Core/Invention)

International class (IPC 1–7): G03G21/16 G03G21/18

CPC: G03G21/1832 G03G2221/1609

European class: G03G21/18C5S S03G221/16B1

US class: 399/111 399/114

Classification Explorer

Cited documents: US6097912 A, US6014535 A, US5974287 A, US5918091 A, US5708924 A, US5307117 A, US4655578 A,

Forward Citations: US8478159, US8447207, US8311446, US8195064, US7983595, US7616907, US6993267, US6859632, US6681089, US2010329735, US2010215403, US2010019113, US2006165434, US2004190936, US2004052546, JP5884261, JP2011138109, DE10303754,

Abstract:
Source: US6317573B Apparatus and method for protecting a print cartridge that eliminates an adhesive strip. The print cartridge protector uses a hook shaped end inserted into a slot defined by the print cartridge to keep the print cartridge protector in engagement with the print cartridge. The opposite end may be held in place by another hook shaped end or a loop inserted in another end of the print cartridge.

0) US5594532A – CARTRIDGE, CARTRIDGE CLEANING APPARATUS AND MET...

123) Family number: 12919818 (US5594532A) © PatBase

Title: CARTRIDGE, CARTRIDGE CLEANING APPARATUS AND METHOD FOR CLEANING A CORONA WIRE

Priority: US19950404558 19950315

Family:

Publication number	Publication date	Application number	Application date
US5594532 A	19970114	US19950404558	19950315

Probable Assignee: DATAPRODUCTS CORP

Assignee(s):(std)**:** DATAPRODUCTS CORP

Inventor(s):(std)**:** LIPETSKY EFREM ; TUVESSON ERIC

International class (IPC 8–9)**:** G03G15/02 (Advanced/Invention); G03G15/02 (Core/Invention)

International class (IPC 1–7)**:** G03G15/02 G03G21/00

CPC: G03G15/0291 G03G15/0258

European class: G03G15/02B

US class: 250/324 399/100

Classification Explorer

Cited documents: US5392099 A, US5250991 A, US5185630 A, US5182694 A, US5089850 A, US5023748 A, US4956671 A, US4885466 A, US4864363 A, US4788573 A, US4734580 A, US4603964 A, US4566777 A, US4038546 A, US3978379 A, US3965400 A, US3891846 A, US3875407 A, US3842273 A,

Forward Citations: USD590439, US8634741, US7822355, US7043176, US6868242, US6580885, US5940656, US5687054, US2008199208,

Abstract:
Source: US5594532A An apparatus and method for cleaning a corona wire in a toner supply and a toner cartridge employing the apparatus and method for cleaning a corona wire. The apparatus and method allow a user to free the corona wire from debris or excess toner without interrupting the use of a printer for long periods of time. The apparatus includes toner cartridge, a housing for the corona wire, and a compact cleaning cartridge tool. The cartridge cleaning tool further includes a cleaning support element, a cleaning element, a handle and a hook element.

0) US5794103A – DEVELOPER UNIT MOUNTING/DETACHING DEVICE IN A L...

124) Family number: 11082661 (US5794103A) © PatBase

Title: DEVELOPER UNIT MOUNTING/DETACHING DEVICE IN A LASER BEAM PRINTER FOR REPLACEMENT OF DEVELOPER UNIT WITHOUT OPENING AND CLOSING A COVER

Priority: KR19960003964 19960217

Family:

Publication number	Publication date	Application number	Application date
KR100190166 B1	19990601	KR19970002474	19970128
KR19970061527 A	19970912	KR19970002474	19970128
KR19970062827 A	19970912	KR19960003964	19960217
US5794103 A	19980811	US19970802206	19970218

Probable Assignee: S PRINTING SOLUTION CO LTD

Assignee(s):(std)**:** SAMSUNG ELECTRONICS CO LTD

Assignee(s): SAMSUNG ELECTRONICS CO LTD A CORP OF KOREA ; S PRINTING SOLUTION CO LTD ; SAMSUNG ELECTRONICS CO

Inventor(s):(std)**:** OH KWON JONG ; OH GAUN JONG

International class (IPC 8–9)**:** B41J2/435 G03G21/18 (Advanced/Invention); B41J2/435 G03G15/08 (Advanced/Non–invention); B41J2/435 G03G21/18 (Core/Invention)

International class (IPC 1–7)**:** B41J2/435 G03G15/04

CPC: G03G21/1647 G03G21/1676 G03G21/1846 G03G2215/021 G03G2221/1609 G03G2221/1651

European class: G03G21/18H1H S03G215/02A S03G221/16B1 S03G221/16K

US class: 399/110 399/119

Classification Explorer

Cited documents: US5583612 A, US5565961 A, US5550617 A, US5528342 A, US5379092 A, US5285240 A, US5266998 A, US5066976 A, US4931837 A,

Forward Citations: WO05092005, WO05092005, US8840784, US8672429, US8565645, US8306457, US8032058, US7957669, US7844197, US7522859, US7113724, US7082275, US7082275, US6961528, US6947687, US6834173, US6154623, US2012074821, US2009169248, US2008286003, US2008277345, US2008219700, US2006029420, US2005207782, US2005008395, US2004037587, US2003086723, GB2428024, EP1970777, EP1970777, EP1369750, EP1308794, EP1308794,

Abstract:
Source: US5794103A A developing unit mounting/detaching device for a laser beam printer includes a handle used to lift or draw a developing unit into or out of a space in the printer's main body; a locking mechanism for preventing dislocation of the developing unit from the space; a release button assembly for releasing the locking member; and a contact pressure maintenance device for properly maintaining the contact pressure between a photo conductive drum in the developing unit and the transfer roller of the main body.

0) US5300979A – CLAMSHELL TYPE IMAGE FORMING APPARATUS

125) Family number: 11520396 (US5300979A) © PatBase

Title: CLAMSHELL TYPE IMAGE FORMING APPARATUS

Priority: JP19900280513 19901017 JP19900280739 19901018 US19910772697 19911007 US19930022779 19930223

Family:

Publication number	Publication date	Application number	Application date
JP2957677 B2	19991006	JP19900280739	19901018
JP4153664 A2	19920527	JP19900280513	19901017
JP4155353 A2	19920528	JP19900280739	19901018
US5300979 A	19940405	US19930022779	19930223

Probable Assignee: SANYO ELECTRIC CO

Assignee(s):(std): SANYO ELECTRIC CO

Assignee(s): SANYO ELECTRIC CO LTD ; SANYO DENKI KK

Inventor(s):(std): HIROSE SATOSHI ; HIROSE SOJI ; HORIUCHI TATSUHITO ; HORIUCHI TATSUTO ; KUMIDA MINORU ; KUMITA MINORU ; MIYAI KIYOSHI ; TSUKAGOSHI YUKIO ; TSUKAKOSHI YUKIO

Inventor(s): MYAI KYOSHI

International class (IPC 8–9): G03G15/00 G03G15/08 G03G21/16 (Advanced/Invention); G03G15/00 G03G15/08 G03G21/16 (Core/Invention)

International class (IPC 1–7): G03G15/00 G03G15/06 G03G15/08 G03G21/16

CPC: G03G21/1628 G03G21/1817 G03G21/1828 G03G2221/1687 G03G2221/183

European class: G03G21/16 G03G21/18C4 G03G21/18C5 S03G221/16S3 S03G221/18P

US class: 355/200 355/210 355/245 399/111 399/125

Classification Explorer

Cited documents: US5089849 A, US4989037 A, US4896193 A, US4862212 A, US4862209 A, US4702587 A, US4598993 A, US4588280 A, US4339196 A, US4114998 A, JPS61198171, JPS6076771, JP61198171 A2, JP60076771 A2,

Forward Citations: US9229365, US9141075, US8792807, US8396393, US8200117, US8086139, US7869742, US7561827, US7330679, US7133626, US7133626, US6167222, US5787323, US5774768, US5485244, US5412490, US2013038667, US2011097109, US2008253798, US2007217818, US2007147888, US2006159486, US2005031371, EP1837713, EP1804136, EP1505458,

Abstract:
Source: US5300979A A clamshell type image forming apparatus, in which a process cartridge included in an upper structure is supported pivotably to a fixed position and a dismounting position against the upper structure, a developing unit included in a lower structure is supported thereon pivotably to a position just opposing to an image holding medium and a position spaced therefrom, and a plate spring which urges the developing unit toward a position spaced from the image holding medium is disposed on the lower structure side, and a plate spring which urges the developing unit toward a position just opposing to the image holding medium is disposed on the upper structure side, thereby inconveniences produced by providing the process cartridge on the upper structure are solved, and by reducing a collision between the developing unit and the image holding medium due to the open–and–close operation of the upper structure, it is possible to prevent a damage of the process cartridge including the image holding medium.

0) US2012312909A – FILM CARTRIDGE AND HEATING APPARATUS USING THE ...

126) Family number: 52545154 (US2012312909A) © PatBase

Title: FILM CARTRIDGE AND HEATING APPARATUS USING THE SAME

Priority: JP20110127091 20110607

Family:

Publication number	Publication date	Application number	Application date
JP2012252298 A2	20121220	JP20110127091	20110607
JP5804782 B2	20151104	JP20110127091	20110607
US2012312909 AA	20121213	US20120489758	20120606
US8942614 BB	20150127	US20120489758	20120606

Probable Assignee: CANON KK

Assignee(s):(std): CANON KK ; NISHIHIRO SHINGO

Assignee(s): CANON INC ; CANON KABUSHIKI KAISHA

Inventor(s):(std): NISHIHIRO SHINGO

Agent(s): CHIKASHIMA KAZUO; FITZPATRICK CELLA HARPER AND SCINTO

International class (IPC 8–9): B41J29/00 G03G15/00 G03G15/20 G11B23/087 (Advanced/Invention)

CPC: G03G15/6585 G03G2215/00805

US class: 242/347.2 399/341

Classification Explorer

Cited documents: US7783242 BB, US5262834 A, US4469292 A, US3701495 A, US3482681 A, US2012003346 AA, US2007147917 AA, JP63270175, JP61164872 A2, JP61164872, JP2106347 U, JP2106347 U, JP2007086747 A2, JP2004264437 A2, JP2004264437, JP2000272185 A2, JP2000272185, JP02106347 U,

Forward Citations: US8649721, US2012269542,

Abstract:
Source: US2012312909A A cartridge detachably mountable to a heating apparatus includes: a film; a supporting member for unwindably supporting the film; a winding–up member for winding up the film; a first container accommodating the supporting member and having a first opening; and a second container accommodating the winding–up member and having a second opening. The film is unwindable from the supporting member to the winding–up member through the first opening and the second opening. The first container and the second container are connected with each other so that the first container and the second container cover at least one side of the film, and the first container and the second container are disconnectable from each other to expose the film between the first opening and the second opening.

0) US2015125181A – IMAGE FORMING APPARATUS

127) Family number: 59140086 (US2015125181A) © PatBase

Title: IMAGE FORMING APPARATUS

Priority: JP20130229749 20131105 US20140532434 20141104 US20160145188 20160503

Family:

Publication number	Publication date	Application number	Application date
CN104614958 A	20150513	CN201410616065	20141105
JP2015090402 A2	20150511	JP20130229749	20131105
US2015125181 AA	20150507	US20140532434	20141104
US2016246217 AA	20160825	US20160145188	20160503
US9354556 BB	20160531	US20140532434	20141104
US9588466 BB	20170307	US20160145188	20160503

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON INC ; CANON KK

Inventor(s):(std)**:** KOKUNI ATSUSHI ; OGUNI ATSUSHI

Agent(s): CANON USA INC IP DIVISION

International class (IPC 8–9)**:** G03G15/00 G03G15/01 G03G15/16 G03G21/16 G03G21/18 (Advanced/Invention); G03G21/16 G03G21/18 (Advanced/Non–invention)

CPC: G03G21/1671 G03G21/181 G03G21/1821 G03G15/0136 G03G15/161 G03G15/1605 G03G15/16

US class: 1/1 399/121 399/318

Classification Explorer

Cited documents: US9354556 BB, US2013223879 AA, US2012195627 AA, JP4847200 B2, JP2011180215 A2, JP2010262215 A2, JP2001117467 A2, JP2000320537 A2, CN1469208 A, CN102193472 A,

Forward Citations: US9588466, US9459563, US2016252878,

Abstract:
Source: US2015125181A An image forming apparatus includes an image carrying member; a transfer unit that includes a transfer member, first and second separating portions configured to separate ends of the transfer member that are on one side and on another side, respectively, from the image carrying member; an engaging unit that includes first and second engaging portions configured to engage with the first and second separating portions, respectively, the engaging unit being configured to separate the transfer member from the image carrying member when the first engaging portion engages with the first separating portion and the second engaging portion engages with the second separating portion; and a regulating member configured to regulate a movement of the engaging unit. The engaging unit is moved by the regulating member from the one side toward the other side or from the other side toward the one side.

0) US5333036A – MOUNTING MECHANISM OF PROCESS CARTRIDGE FOR IMA...

128) Family number: 17130898 (US5333036A) © PatBase

Title: MOUNTING MECHANISM OF PROCESS CARTRIDGE FOR IMAGE FORMING APPARATUS

Priority: JP19920058640U 19920728

Family:

Publication number	Publication date	Application number	Application date
JP2576538 Y2	19980716	JP19920058640U	19920728
JP6015061 U1	19940225	JP19920058640U	19920728
US5333036 A	19940726	US19930063978	19930520

Probable Assignee: BROTHER KOGYO KK

Assignee(s):(std)**:** BROTHER IND LTD

Assignee(s): BROTHER KOGYO KABUSHIKI KAISHA ; BROTHER KOGYO KK

Inventor(s):(std)**:** KOGA YUJI

Agent(s): ITAYA YASUO

International class(IPC 8–9)**:** G03G15/00 G03G21/16 G03G21/18 (Advanced/Invention); G03G15/00 G03G21/16 G03G21/18 (Core/Invention)

International class(IPC 1–7)**:** G03G15/00 G03G21/16

CPC: G03G21/1628 G03G21/1853 G03G2221/1654 G03G2221/1687 G03G2221/183

European class: G03G21/18H1V S03G221/16K1 S03G221/16S3 S03G221/18P

US class: 355/200 355/210 399/111 399/125

Classification Explorer

Cited documents: US5095335 A, US4873548 A, US4634264 A, JP3061957 A2, JP3061957, JP3033872 A2, JP3033872, JP3006642 U,

Forward Citations: US7937020, US7894747, US7715753, US7715752, US6219508, US6167222, US6081676, US6038417, US5978626, US5787323, US5678139, US5642187, US2010232092, US2010209139, US2010183352, US2008304860, US2007160384, KR101445469, EP1816527, CN101844458,

Abstract:
Source: US5333036A An electrophotographic apparatus comprises a cartridge holder for holding a process cartridge, an member for outwardly biasing the process cartridge, and a guide member for guiding the process cartridge into a specified position during the process of closing the upper unit. The operation of removing the process cartridge is made easier by biasing of the process cartridge by means of the urging member toward the position of the opening of the process cartridge. Mounting the process cartridge is also made securely by guiding the process cartridge into a specified position by means of the guide member.

0) DE202009002214U1 – SCHALTMECHANISMUS FUER TONERPATRONE CONTROL ME...

129) Family number: 43549464 (DE202009002214U1) © PatBase

Title: SCHALTMECHANISMUS FUER TONERPATRONE CONTROL MECHANISM FOR TONER CARTRIDGE (Machine translation)

Priority: DE200920002214U 20090217

Family:

Publication number	Publication date	Application number	Application date
DE202009002214 U1	20090716	DE200920002214U	20090217

Probable Assignee: GEN PLASTIC IND CO LTD

Assignee(s):(std)**:** GEN PLASTIC IND CO LTD

Assignee(s): GENERAL PLASTIC INDUSTRIAL CO LTD

International class (IPC 8–9)**:** G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)

CPC: G03G15/0886 G03G15/0855 G03G15/0865 G03G15/0875 G03G2215/0692

European class: G03G15/08H3 S03G215/06C7

Classification Explorer

Cited documents: JP2005107141 A2,

Abstract:
Source: DE202009002214U1 (Claim 1) 1. Schaltmechanismus fuer eine Tonerpatrone, wobei die Tonerpatrone ein Gehaeuse und einen Ausgang aufweist, wobei der Schaltmechanismus umfasst: eine an dem Gehaeuse angebrachte Basis, so dass zwischen der Basis und dem Gehaeuse eine Kammer definiert wird, worin die Basis einen Fuehrungsschlitz aufweist; und ein Gleitelement mit einem Koerper, der in der Kammer aufgenommen ist, mit einem Querlenker, der sich von dem Koerper erstreckt, mit einem Hake, der an dem Querlenker angeordnet ist, und mit einem Stab, der sich von dem Querlenker erstreckt und in dem Fuehrungsschlitz aufgenommen wird; wobei wenn das Gleitelement bewegt wird, der Stab entlang des Fuehrungsschlitzes bewegt wird, um eine elastische Deformierung des Querlenkers zur aenderung der Position des Hakens zu bewirken. (Claim 1) 1. Switch mechanism for a toner cartridge, whereby the toner cartridge exhibits a housing and an whereby the switch mechanism covers: a basis appropriate at the housing, so that between the basis and the housing a chamber is defined, where the basis exhibits a Fuehrungsschlitz; and a sliding element with a body, which is taken up in the chamber, with a wishbone, which extends from the body, with one hooks, which is arranged at the wishbone, and with a staff, that extends by the wishbone and is taken up in the Fuehrungsschlitz; whereby if the sliding element is moved, the staff along the Fuehrungsschlitzes is moved, in order to cause a flexible deformation of the wishbone for the change of the position of the hook.

130) Family number: 3496998 (US4937628A) © PatBase

Title: APPARATUS FOR STORING AND DISPENSING PARTICULATE MATERIAL

Priority: US19890334646 19890407

Family:

Publication number	Publication date	Application number	Application date
JP2287476 A2	19901127	JP19900087344	19900331
JP3247689 B2	20020121	JP19900087344	19900331
US4937628 A	19900626	US19890334646	19890407

Probable Assignee: XEROX CORP

Assignee(s):(std): XEROX CORP

Assignee(s): XEROX STAMFORD CT A CORP OF NY CORP ; BANK ONE NA ADMINISTRATIVE AGENT AS ; BANK ONE NA AS ADMINISTRATIVE AGENT ; JPMORGAN CHASE BANK AS COLLATERAL AGENT ; JPMORGAN CHASE BANK COLLATERAL AGENT AS

Inventor(s):(std): DONARUDO AARU FUESU ; KARAI PII PUREMUNAA ; RICHIYAADO SHII DOREI JIYUNIA ; SUTEIIBUN DEI SHIPARA ; PREMNATH KARAI P ; FESS DONALD R ; DRAY JR RICHARD C ; CIPOLLA STEPHEN D

International class (IPC 8–9): G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)

International class (IPC 1–7): A61K31/4545 A61P25/28 G03G15/08

CPC: Y10S222/01 G03G2215/0665 G03G2215/067 G03G2215/0675 G03G2215/0685 G03G15/0886 G03G15/0868 G03G15/0872

European class: G03G15/08H3B S03G215/06C1A S03G215/06C1A2 S03G215/06C1C S03G215/06C4

US class: 141/364 222/DIG.1 355/260 399/106 399/262 D18/43

Classification Explorer

Cited documents: US4650070 A, US4491161 A, US4478512 A, US4065335 A, US4062385 A, US3999654 A, US3618826 A, US3539077 A, US3501065 A, US3385500 A, US3339807 A, JPS5818658, JP58018658 A2,

Forward Citations: WO15039508, USRE36920, USD763350, US9690232, US9429874, US9333777, US9333776, US9046820, US9014595, US8989636, US8909094, US8879948, US8639163, US8639156, US8577250, US8554107, US8538288, US8376172, US7925191, US7920811, US7881633, US7780040, US7711294, US7634218, US7257363, US6807391, US6553202, US6438345, US6438328, US6292644, US6185401, US6088556, US5895143, US5884136, US5881782, US5848338, US5846371, US5836358, US5835822, US5809983, US5799712, US5797073, US5771427, US5761585, US5742877, US5734953, US5722020, US5697022, US5697014, US5678725, US5678147, US5659860, US5630198, US5629759, US5608501, US5592980, US5574549, US5568237, US5564607, US5515143, US5506665, US5426492, US5345297, US5331382, US5313993, US5303008, US5296900, US5268722, US5266998, US5261568, US5150807, US5079590, US5077584, US5057872, US2013011159, US2012321341, US2011280611, US2010054819, US2009238608, US2009224709, US2009212054, US2009087216, US2008260421, US2007065196, US2007065184, US2006201971, US2004151517, JP2014021285, JP2002082519, EP2418546, EP2388656, EP0821286, EP0821286, EP0736814, EP0689104, EP0682297, EP0682297, CN103472698, CN103472698, CN102346406, CN102253621, AU2008216961,

Abstract:
Source: US4937628A Apparatus for storing and dispensing particulate material comprising a container defining a chamber for storing particulate material having an opening in the surface for dispensing particulate material which may be closed and sealed. The opening has a frame member attached to the container enclosing the opening which has two spaced parallel rails one each on a side of the opening and a movable door member larger than the opening with two parallel tracks spaced to enable them to slide in the rails to move said door between a closed position to cover the opening and an open position to open the door and between the door frame member and the door a compressible micro−cellular open celled foam seal having a low compression set, a low surface energy surface and a thickness in the uncompressed state greater than the distance between the door frame and

the door when the door is in the closd position the foam being compressed on sealing the space between the door frame and the door when the door is in the closed position to prevent particulate material from escaping from the container.

0) US2013177333A – IMAGE FORMING DEVICE, PROCESS CARTRIDGE ENGAGED...

131) Family number: 47884519 (US2013177333A) © PatBase

Title: IMAGE FORMING DEVICE, PROCESS CARTRIDGE ENGAGED WITH THE SAME AND METHOD FOR FIRMLY POSITIONING PROCESS CARTRIDGE IN IMAGE FORMING DEVICE

Priority: CN201010234519 20100722 WO2011CN77304 20110719

Family:

Publication number	Publication date	Application number	Application date
CN101916056 A	20101215	CN201010234519	20100722
CN101916056 B	20141105	CN201010234519	20100722
US2013177333 AA	20130711	US20110641025	20110719
US9052687 BB	20150609	US20110641025	20110719
WO12010076 A1	20120126	WO2011CN77304	20110719

Probable Assignee: ZHUHAI SAINA TECHNOLOGY CO LTD

Assignee(s):(std)**:** WU LIANJUN ; ZHUHAI SAINA TECHNOLOGY CO LTD ; ZHUHAI SEINE TECHNOLOGY LTD

Assignee(s): ZHUHAI SEINE TECHNOLOGY LIMITED ; ZHUHAI SAINA TECHNOLOGY CO

Inventor(s):(std)**:** LIANJUN WU ; WU LIANJUN

Agent(s): DEMIAN K; JACKSON IPG PLLC; SHENZHEN BAIRUI PATENT AND TRADEMARK OFFICE

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9): G03G15/00 G03G15/08 G03G21/16 G03G21/18 (Advanced/Invention)

CPC: G03G21/1842 G03G21/1853 G03G21/1864 G03G21/185

European class: G03G21/18H1V G03G21/18H2P

US class: 1/1 399/111

Classification Explorer

Cited documents: US7395008 BB, US7266327 BB, US7242889 BB, US6876826 BB, US6366749 BA, US5500714 A, US5369474 A, US5128715 A, US5066976 A, US2011211866 AA, US2010054798 AA, US2006285880 AA, US2006159486 AA, US2006140674 AA, US2006078352 AA, US2005276629 AA, US2004165910 AA, US2004009008 AA, JP2003337520 A2, JP2000056656 A2, CN201820073 U, CN201527543 U, CN1740920 A, CN1707368 A, CN101916056 A, CN101694567 A,

Forward Citations: WO12010076, CN102566357, CN102566357,

Abstract:
Source: US2013177333A The invention provides an image forming device, a process cartridge engaged with the same and a method for firmly positioning the process cartridge in the image forming device. The image forming device, comprising a main frame and a main frame driving gear, wherein a guide rail is respectively arranged on the left and right sides of the inside of said main frame; an installation section is arranged at the tail end of each guide rail; and said installation section and said guide rail approximately form a barb. Lugs formed at both ends of a housing of the process cartridge are driven by a radial component of driving force of the image forming device to the process cartridge to always closely lean against the walls of the installation sections at the tail ends of the guide rails when the process cartridge is in the operating state in the image forming device.

0) US2011222905A – IMAGE FORMING CARTRIDGE AND IMAGE FORMING DEVIC...

132) Family number: 49578539 (US2011222905A) © PatBase

Title: IMAGE FORMING CARTRIDGE AND IMAGE FORMING DEVICE

Priority: JP20100056395 20100312

Family:

Publication number	Publication date	Application number	Application date
CN102193471 A	20110921	CN201010519139	20101018
CN102193471 B	20150715	CN201010519139	20101018
JP2011191427 A2	20110929	JP20100056395	20100312
US2011222905 AA	20110915	US20100876362	20100907
US8422912 BB	20130416	US20100876362	20100907

Probable Assignee: FUJI XEROX CO LTD

Assignee(s):(std)**:** FUJI XEROX CO LTD ; IIKURA KAZUAKI ; WATANABE KAORU

Assignee(s): FUJI XEROX CO

Inventor(s):(std)**:** IIKURA KAZUAKI ; KAORU WATANABE ; KAZUAKI IIKURA ; WATANABE KAORU ; WATANABE KUNYA

Agent(s): SUENARI MIKIO; SUGHRUE MION PLLC

International class (IPC 8–9)**:** G03G15/00 G03G15/02 G03G21/18 (Advanced/Invention)

CPC: G03G21/181

European class: G03G21/18C2

US class: 399/102 399/106 399/114 399/114P 399/172

Classification Explorer

Cited documents: US5666608 A, US5243384 A, US2011103830 AA, US2010054799 AA, US2004126135 AA, JP3103871 A2, JP2011095536 A2, JP2010256610 A2, JP2010079267 A2, JP2008170960 A2, JP2007271759 A2, JP2005037462 A2, JP2004280012 A2, JP2002311688 A2, JP2002258719 A2, JP2001282079 A2, JP2000181328 A2, CN1073534 A, CN101667004 A, CN101236389 A, CN101046671 A,

Forward Citations: JP5623603, JP2013214106, EP2597526,

Abstract:
Source: US2011222905A An image forming cartridge includes a photoconductor; a charger with a charging member contactable with the photoconductor; a case that accommodates the photoconductor and the charger; a cover which is detachably attached to the case and covers at least a part of the photoconductor; and a separating member which is located, on the cover, between a region other than the region of the photoconductor where an image is formed and the charger and separated them from each other.

0) US2008252946A – IMAGE FORMING APPARATUS

133) Family number: 42379502 (US2008252946A) © PatBase

Title: IMAGE FORMING APPARATUS

Priority: CN200810005690 20080215 KR20070037144 20070416 US20130048900 20131008 US20080970013 20080107 US20150799118 20150714

Family:

Publication number	Publication date	Application number	Application date
CN101291382 A	20081022	CN200810005690	20080215
CN103561191 A	20140205	CN201310418569	20080215
CN103561191 B	20170412	CN201310418569	20080215
EP1983735 A1	20081022	EP20080101355	20080207
KR101398932 B1	20140526	KR20070037144	20070416
KR20080093329 A	20081021	KR20070037144	20070416
US2008252946 AA	20081016	US20080970013	20080107
US2015319321 AA	20151105	US20150799118	20150714
US8036569 BB	20111011	US20080970013	20080107

Probable Assignee: S PRINTING SOLUTION CO LTD

Assignee(s):(std)**:** SAMSUNG ELECTRONICS CO LTD

Assignee(s): S PRINTING SOLUTION CO LTD ; SAMSUNG ELECTRONICS CO

Inventor(s):(std)**:** KANG KWAN HO ; KWAN HO KANG

Agent(s): WADDINGTON RICHARD; STEIN MCEWEN AND BUI LLP; STAAS AND HALSEY LLP

Designated states: AL BA DE FR GB MK NL RS

International class(IPC 8–9)**:** G03G15/00 H04N1/00 H04N1/04 H04N1/10 (Advanced/Invention); G03G15/00 (Advanced/Non–invention); G03G15/00 H04N1/04 (Core/Invention)

CPC: H04N1/00535 H04N1/00543 H04N1/00557 H04N2201/0081 H04N2201/0082 H04N2201/0091 H04N1/00551 H04N1/00559

European class: H04N1/00E2D H04N1/00E4 H04N1/00E8 T04N201/00J2 T04N201/00J3 T04N201/00J8

US class: 358/474 358/494 358/494P 399/107 399/125 399/379 399/380

Classification Explorer

Cited documents: US8876079 BB, US8036569 BB, US7894738 BB, US7798407 BB, US7773903 BB, US7728824 BB, US7551332 BB, US7405847 BB, US7057756 BB, US6177739 BA, US6177739 B1, US5907413 A, US5532826 A, US5382998 A, US5006934 A, US4994988 A, US4873579 A, US4831457 A, US4616269 A, US2008199201 AA, US2008044197 AA, US2007285741 AA, US2007228644 AA, US2006291896 AA, US2006268027 AA, US2006246866 AA, US2006108210 AA, US2006093210 AA, US2006085946 AA, US2006083542 AA, US2005185228 AA, US2005134726 AA, US2003039481 AA, JP2006199458 A2, JP2005070816 A2, JP2001320550 A2, JP11215278 A2, EP1748637 A1, CN1921541 A,

Forward Citations: USD767570, US2015319321, CN104125369, CN103217433, CN103217432,

Abstract:
Source: US2008252946A An image forming apparatus has a substantially planar top surface includes a first body including a scanner and an operation panel disposed on one side of the scanner, and in which a top surface of the scanner and a top surface of the operation panel are in a same plane; and a second body disposed below the first body, to support the first body so that the first body rotates between open and closed positions.

0) US5210579A – IMAGE FIXING APPARATUS HAVING A PARTING RESIN L...

134) Family number: 3393142 (US5210579A) © PatBase

Title: IMAGE FIXING APPARATUS HAVING A PARTING RESIN LAYER FOR REDUCING FRICTIONAL RESISTANCE OF THE FILM THROUGH WHICH THE IMAGE IS HEATED

Priority: JP19900339896 19901130 JP19900339899 19901130 JP19910170073 19910710

Family:

Publication number	Publication date	Application number	Application date
DE69124671 D1	19970327	DE19916024671	19911129
DE69124671 T2	19970731	DE19916024671T	19911129
EP0488357 A2	19920603	EP19910120497	19911129
EP0488357 A3	19930414	EP19910120497	19911129
EP0488357 B1	19970212	EP19910120497	19911129
JP2900604 B2	19990602	JP19900339896	19901130
JP4204980 A2	19920727	JP19900339896	19901130
JP4204983 A2	19920727	JP19900339899	19901130
JP5019647 A2	19930129	JP19910170073	19910710
KR960005479 B1	19960425	KR19910021861	19911130
US5210579 A	19930511	US19910798546	19911126

Probable Assignee: KYANON KK

Assignee(s):(std)**:** CANON KK

Assignee(s): KYANON KK ; CANON INC ; CANON K K ; CANON K K TOKIO TOKYO JP ; CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** AKIRA KURODA ; KURODA AKIRA ; SETORIYAMA TAKESHI ; TAKESHI SETORIYAMA

Inventor(s): SETORIYAMA TAKESHI C O CANON KABUSHIKI KAISHA OHTA ; SETORIYAMA TAKESHI C O CANON KABUSHIKI KAISHA... ; SETORYAMA TAKESHI ; KURODA AKIRA C O CANON KABUSHIKI KAISHA OHTA KU TO ; KURODA AKIRA C O CANON KABUSHIKI KAISHA OHTA...

Designated states: DE FR GB IT

International class (IPC 8–9)**:** G03G15/20 (Advanced/Invention); G03G15/20 (Core/Invention)

International class (IPC 1–7)**:** G03G15/20

CPC: G03G15/2064

European class: G03G15/20H2P

US class: 219/216 355/285 355/290 399/338

Classification Explorer

Cited documents: US5083168 A, US5043763 A, US5027160 A, US5026276 A, US4998121 A, US4954845 A, US3811828 A, JP61093476 A2, JP61090180 A2, JP54018747 A2, JP2085378 A2, GB2027640 A1, EP0411588 A2, EP0372479 A1, EP0363686 A2, EP0362791 A2,

Forward Citations: USRE45252, USRE45015, US9541870, US9367008, US9335688, US9244409, US9213276, US9146510, US9102472, US9002249, US8971763, US8958735, US8913937, US8626048, US8532554, US8509645, US8471178, US8369765, US8265507, US8254802, US8213832, US8139963, US8112024, US8068778, US8068757, US8026030, US8005414, US7974553, US7949280, US7881650, US7831163, US7796932, US7778584, US7778582, US7769331, US7764895, US7715759, US7684724, US7619185, US7609991, US7561818, US7542692, US7536145, US7518089, US7471919, US7440707, US7437086, US7433625, US7427727, US7424260, US7421219, US7389079, US7386174, US7359654, US7347420, US7321746, US7310486, US7283780, US7266314, US7257342, US7251447, US7242895, US7218873, US7203438, US7199335, US7190917, US7187882, US7187878, US7162194, US7147980, US7147980, US7139500, US7139500, US7130572, US7107000, US7081604, US7076183, US7076183,

US7031624, US7027764, US7015431, US7002105, US6998589, US6993279, US6963718, US6961532, US6954608, US6952553, US6952538, US6947699, US6944420, US6937837, US6929894, US6920293, US6915099, US6895207, US6885832, US6862424, US6862416, US6794611, US6787737, US6763205, US6748192, US6734397, US6713725, US6701102, US6674978, US6671488, US6670044, US6654498, US6628906, US6597888, US6594456, US6580883, US6544708, US6519426, US6518546, US6516166, US6505027, US6469279, US6459878, US6456819, US6455811, US6440347, US6423941, US6377777, US6373232, US6359269, US6347201, US6346800, US6337928, US6336009, US6298213, US6266510, US6246491, US6185383, US6175699, US6115563, US6075228, US6023047, US6002106, US5920757, US5862435, US5860051, US5819149, US5801359, US5778293, US5753889, US5752149, US5742878, US5722026, US5656187, US5621512, US5580045, US5568240, US5543905, US5535012, US5532806, US5493379, US5300997, US5280155, US2016363894, US2014341628, US2013164014, US2011236090, US2011222928, US2010202810, US2010180785, US2010028044, US2009257794, US2009252521, US2009245845, US2009230114, US2009202269, US2009092423, US2008187371, US2008187370, US2008181686, US2008056755, US2008031648, US2008025746, US2007258742, US2007183805, US2007105033, US2007059022, US2007059021, US2007059012, US2007059010, US2007059002, US2007059001, US2006233575, US2006188280, US2006024071, US2005258158, US2005244200, US2005226662, US2005220509, US2005214044, US2005194379, US2005191070, US2005180788, US2005006370, US2004218949, US2004202497, US2004169329, US2004120740, US2004091279, US2004081478, US2004042827, US2004037579, US2004028423, US2004009420, US2003230564, US2003206756, US2003170054, US2003077092, US2002110394, TWI405054, JP4847173, JP4649197, JP3893903, JP3818015, JP2011133691, JP2010151961, JP2008191634, JP2007264927, JP2006293225, JP2006171630, JP2005215390, JP2002357964, JP2001312176, EP2793085, EP1174775, EP0984339, EP0772095, EP0692750, EP0649072, EP0585857, DE102016110690, CN103176385,

Abstract:
Source: US5210579A An image heating apparatus includes a heater; a film slidably contactable to the heater; a back−up rotatable member cooperative with the heater to form a nip therebetween with the film therebetween; a driver for driving the back−up rotatable member; wherein the film is driven only by a driving force of the back−up rotatable member; and a resin layer having a parting property, on a portion of the heater which is slidably contactable to the film.

0) US2011044721A – UNIVERSAL MAGNET ROLLER PRESS APPARATUS, ASSEMB...

135) Family number: 48343408 (US2011044721A) © PatBase

Title: UNIVERSAL MAGNET ROLLER PRESS APPARATUS, ASSEMBLY, AND METHOD

Priority: US20090274617P 20090818 US20090283254P 20091130 US20100806717 20100818

Family:

Publication number	Publication date	Application number	Application date
US2011044721 AA	20110224	US20100806717	20100818
US8528210 BB	20130910	US20100806717	20100818

Probable Assignee: MITSUBISHI KAGAKU IMAGING CORP

Assignee(s):(std)**:** HOLMES DENNY ; MITSUBISHI KAGAKU IMAGING CORP ; OHANYAN TIGRAN

Inventor(s):(std)**:** HOLMES DENNY ; OHANYAN TIGRAN

Agent(s): MITSUBISHI KAGAKU IMAGING CORP

International class (IPC 8–9)**:** B21D53/00 B30B1/18 B30B13/00 B41F1/34 G03G15/08 (Advanced/Invention)

CPC: G03G15/0894 G03G15/0921 G03G2215/00987 G03G2215/0863

European class: G03G15/08R G03G15/09E S03G215/00R S03G215/08B1B

US class: 100/289 100/289S 100/35 100/35S 101/480 29/450 29/895.1 399/109 399/109P

Classification Explorer

Cited documents: US7331288 BB, US6876827 BA, US6463648 BB, US6321048 BA, US6131261 A, US5638754 A, US4763394 A, US3541665 A, US3061914 A,

Forward Citations: US2017090350,

Abstract:
Source: US2011044721A There is provided a universal magnet roller press apparatus, assembly, and method for removing and installing a magnet and a hub of a magnet roller of a toner printer cartridge. The apparatus has a mounting base, a screw drive assembly, an alignment cradle, a front support assembly, a back support assembly, and a first rod stop and a second rod stop. The assembly has the universal magnet roller press apparatus and a plurality of magnet roller adaptors for attached to the magnet roller during removal and installation of the magnet and the hub.

0) JP6149047A – TONER FEEDING DEVICE FOR TONER CARTRIDGE

136) Family number: 11251346 (JP6149047A) © PatBase

Title: TONER FEEDING DEVICE FOR TONER CARTRIDGE

Priority: JP19920299625 19921110

Family:

Publication number	Publication date	Application number	Application date
JP6149047 A2	19940527	JP19920299625	19921110

Probable Assignee: FUJI XEROX CO LTD

Assignee(s):(std)**:** FUJI XEROX CO LTD

Inventor(s):(std)**:** CHIBA SATOSHI ; KAWAGUCHI MASATAKE ; KOMIYA SATORU

International class (IPC 8–9)**:** G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)

International class (IPC 1–7)**:** G03G15/08

Classification Explorer

Forward Citations: USRE45513, USRE42312, USRE41779, USRE40058, USRE40021, US8396398, US8244163, US8160461, US8126375, US8121525, US8068770, US8050597, US7991334, US7962069, US7917055, US7894753, US7853184, US7853183, US7840167, US7835675, US7826777, US7822371, US7796914, US7747202, US7720417, US7706699, US7702262, US7676186, US7400848, TWI332606, JP9106159, JP4672889, JP3907300, JP3339272, JP3285573, JP2010020343, JP2002268357, JP2001228693, JP11223990, EP1408378,

Abstract:
Source: JP6149047A PURPOSE: To prevent toner from dripping down from the vicinity of a toner feeding opening when the toner cartridge 3 is detached by having a shutter provided on the toner feeding opening of the toner cartridge open and close linked with the attachment to and detachment from a holder of a toner box of the toner cartridge. CONSTITUTION: This is the toner feeding device for the toner cartridge where the toner cartridge 3 provided with the toner feeding opening 6 on its periphery in the edge part in the longitudinal direction and the shutter 7 which is provided on this toner feeding opening 6 and can be opened or closed by being slid in the longitudinal direction is loaded in the longitudinal direction to be attachable to the holder part 4 of the toner box 1 which can be rotated through a hinge where a supporting axis is made vertical in a copying machine main body 2. Furthermore, it is constituted by having a hook 8 and a stopper 9 opening and closing the shutter 7 by being abutted to the shutter 7 by the attachment action of the toner cartridge 3 to the holder 4 of the toner box 1.

137) Family number: 62183348 (US2016116864A) © PatBase

Title: REMANUFACTURING METHOD OF DEVELOPER ACCOMMODATING UNIT

Priority: JP20140218517 20141027 KR20150148459 20151026 US20150919963 20151022 US20160240842 20160818

Family:

Publication number	Publication date	Application number	Application date
CN105549358 A	20160504	CN201510703830	20151027
EP3026497 A1	20160601	EP20150191481	20151026
JP2016085370 A2	20160519	JP20140218517	20141027
KR20160049487 A	20160509	KR20150148459	20151026
PH2015000355 A	20170503	PH20150000355	20151022
US2016116864 AA	20160428	US20150919963	20151022
US2016357128 AA	20161208	US20160240842	20160818
US9465321 BB	20161011	US20150919963	20151022
US9678458 BB	20170613	US20160240842	20160818

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON INC ; CANON KK

Assignee(s): CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** IKEDA KIYOHIRO ; IKEDA TAKAHIRO ; ISOBE YUTA ; KASE TAKASHI ; KOUKI YANO ; TAKAHIRO IKEDA ; TAKASHI KASE ; USUI YUSUKE ; YANO KOKI ; YANO KOUKI ; YUSUKE USUI ; YUTA ISOBE

Agent(s): WALKER PHILIP MARTIN; SALUDO FERNANDEZ AQUINO AND TALEON LAW OFFICES; CANON USA INC IP DIVISION

Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL NO PL PT RO RS SE SI SK SM TR

International class (IPC 8–9): G03G15/08 G03G21/18 (Advanced/Invention)

CPC: G03G15/0875 G03G15/0882 G03G21/181 G03G2215/00987 G03G15/0894 G03G15/0874

US class: 1/1 399/109

Classification Explorer

Cited documents: US6009289 A, US5960238 A, US5761584 A, US5412364 A, US3599682 A, US2015234319 AA, US2015139684 AA, US2014072346 AA, US2010021325 AA, US2009016777 AA, US2008193168 AA, US2008175628 AA, US2007116494 AA, US2005226655 AA, US2003235436 AA, US2003123900 AA, US2001052526 AA, US2001021325 AA, JP8171281 A2, JP3320403 B2, JP2009282259 A2, JP2008122825 A2, JP2006267679 A2, JP2003208003 A2, EP2600206 A2, EP1542088 A1, EP1403736 A1,

Forward Citations: US2016252844,

Abstract:
Source: US2016116864A Provided is a remanufacturing method of a developer accommodating unit including a frame member configured to accommodate a flexible container for accommodating developer. The remanufacturing method includes taking out the flexible container from the inside of the frame member, and refilling the developer into the flexible container.

0) JP2009122213A – TONER CARTRIDGE, RECORDING APPARATUS, PROCESS C...

138) Family number: 43443971 (JP2009122213A) © PatBase

Title: TONER CARTRIDGE, RECORDING APPARATUS, PROCESS CARTRIDGE AND SHUTTER OPENING AND CLOSING DEVICE

Priority: JP20070293939 20071113

Family:

Publication number	Publication date	Application number	Application date
CN201348721 Y	20091118	CN200820210135U	20081113
JP2009122213 A2	20090604	JP20070293939	20071113
JP5018413 B2	20120905	JP20070293939	20071113
RU85692 U1	20090810	RU20080144770U	20081112

Probable Assignee: PANASONIC CORP

Assignee(s):(std)**:** MATSUSHITA ELECTRIC IND CO LTD ; MATSUSHITA ELECTRIC INDUSTRIAL CO LTD ; PANASONIC CORP

Assignee(s): MATSUSHITA ELECTRIC INDUSTRIAL CO

Inventor(s):(std)**:** NAOKI YAMAGUCHI ; YAMAGUCHI NAOKI

International class (IPC 8–9): G03G15/00 G03G15/01 G03G15/08 G03G21/18 (Advanced/Invention); G03G15/00 G03G15/01 G03G15/08 G03G21/18 (Core/Invention)

Classification Explorer

Cited documents: JP4061368 U, JP2008298879 A2, JP2008298879, JP2005134452 A2, JP2005134452, JP2002328513 A2, JP2002328513, JP2000056550 A2, JP2000056550,

Abstract:
Source: JP2009122213A PROBLEM TO BE SOLVED: To provide an inexpensive toner cartridge, surely preventing toner from being spilt, having simple configuration and operation, and simply fully closed and opened when half–opened, and to provide a recording apparatus including it, and a process cartridge. SOLUTION: The process cartridge provided in the recording apparatus includes: a shutter 15 for opening and closing a toner discharge opening 15a, an opening and closing hook 14 for pressing one end in the longitudinal direction of the shutter 15, two elastic arms 16 provided in parallel at the end of the shutter 15 pressed by the opening and closing hook 14, a pressed part 17 formed between the two elastic arms 16 and pressed by the opening and closing hook 14, and a guide part 18 regulating the outer peripheral sides of two elastic arms 16 to guide the arms.

0) KR20070030494A – APPARATUS FOR SUPPLYING TONER

139) Family number: 44258993 (KR20070030494A) © PatBase

Title: APPARATUS FOR SUPPLYING TONER

Priority: KR20050085204 20050913

Family:

Publication number	Publication date	Application number	Application date
KR20070030494 A	20070316	KR20050085204	20050913

Probable Assignee: SAMSUNG ELECTRONICS CO LTD

Assignee(s):(std)**:** SAMSUNG ELECTRONICS CO LTD

International class (IPC 8–9)**:** G03G15/06 (Advanced/Invention)

CPC: G03G15/06

Classification Explorer

Forward Citations: KR101320438,

Abstract:
Source: KR20070030494A

Machine translation: The present invention mounted on the electro photographic image forming device to provide a toner supply device, electro photographic image forming device coupled to stripping, and supplies the toner to the photoconductor and toner saving, including through the shutter member equipped with a toner cartridge, toner supply device, wherein the toner cartridge is mounted in the first toner cartridge toner discharge hole is formed is equipped with mounting member, the absence of mounting the toner cartridge, toner cartridge shutter of the locking bar has hook to open the shutter opening and closing the shutter member is installed, when installing the toner cartridge, the tip of the shutter member locking bar hanging above the shutter opening and closing the shutter hooks and the distal end of the shutter member in the area bounded by the first toner substantially the same or similar outlet and having a second shape and size, wherein the toner discharge hole to form a toner supply device is provided.

140) Family number: 14609561 (JP4338990A) © PatBase

Title: ERRONEOUS MOUNTING PREVENTING MECHANISM FOR TONER CARTRIDGE

Priority: JP19910014452 19910205

Family:

Publication number	Publication date	Application number	Application date
JP4338990 A2	19921126	JP19910014452	19910205

Probable Assignee: KONISHIROKU PHOTO IND

Assignee(s):(std)**:** KONISHIROKU PHOTO IND

Assignee(s): KONICA CORP

Inventor(s):(std)**:** YOSHINO KIMIHIRO

International class (IPC 8–9)**:** G03G15/01 G03G15/08 (Advanced/Invention); G03G15/01 G03G15/08 (Core/Invention)

International class (IPC 1–7)**:** G03G15/01 G03G15/08

Classification Explorer

Forward Citations: US6778786, US5666586, KR20140146189, JP3389483, JP2013174652, JP2008292596, JP2008020617, JP11160977, EP1118042,

Abstract:
Source: JP4338990A PURPOSE: To prevent the erroneous setting of a toner cartridge to a toner replenishing hopper by identifying the toner cartridge at every toner colors and destinations without changing the shape of the toner cartridge. CONSTITUTION: All toner cartridges 10 are composed of common members, and a bar code 15 capable of identifying the toner cartridge at every toner colors and destinations, is attached to a flange 12. When the specified toner cartridge 10 is set to the toner replenishing hopper 3, a sensor 16 provided on the side of the hopper 3 reads the bar codes, and the match of the bar code 15 is detected, energizing of a solenoid 25 is attained and a hook 23 engaged with a hopper sliding cover 20 for clogging the replenishing port 3b of the side of the hopper 3 is removed. Then, the hopper sliding cover 20 and a sliding cover 13 are moved and the replenishing part 3b and the opening part 12c of the toner cartridge 10 are opened, to supply toner. When the different cartridge 10 is set, the erroneous setting is detected by the sensor 16, and the solenoid 25 is not energized, so that the hopper sliding cover 20 can not be moved and the erroneous setting is recognized.

0) US5018560A – DEVELOPER SUPPLYING STRUCTURE FOR A DEVELOPING ...

141) Family number: 17031923 (US5018560A) © PatBase

Title: DEVELOPER SUPPLYING STRUCTURE FOR A DEVELOPING DEVICE

Priority: JP19890013789U 19890207

Family:

Publication number	Publication date	Application number	Application date
JP2102733 Y	19970224	JP19890013789U	19890207
JP2104366 U1	19900820	JP19890013789U	19890207
JP7020681 Y2	19950515	JP19890013789U	19890207
US5018560 A	19910528	US19900473839	19900201

Probable Assignee: SHARP KK

Assignee(s):(std)**:** SHARP KK

Assignee(s): SHARP KABUSHIKI KAISHA

Inventor(s):(std)**:** TSUKAMOTO KIMIHIDE

International class (IPC 8–9)**:** G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)

International class (IPC 1–7)**:** B65B1/04 G03G15/06 G03G15/08

CPC: G03G15/0882 G03G15/0875

European class: G03G15/08H3P

US class: 141/320 141/364 355/260 399/258

Classification Explorer

Cited documents: US4895104 A, US4799608 A, US4778086 A, US4650070 A, US4062385 A, JP63243978 A2, JP63125869 U1, JP63125869 U,

Forward Citations: US7409180, US6721525, US6668145, US6272298, US6144828, US5974286, US5729794, US5689773, US5520229, US5513679, US5475479, US5434656, US5425481, US5404212, US5351728, US5337125, US5249020, US5221945, US5207353, US5206619, US5177540, US5144992, US5142335, US5121845, US2006257172,

Abstract:
Source: US5018560A A developer supplying structure of a developing device includes a device body formed with an opening through which a developer is dispersed; a lid for the opening; a developer cartridge formed with an outlet corresponding to the opening of the device body, and detachably mounted on the device body; and a seal member folded in two portions in which one portion seals the opening of the developer cartridge and the other portion is left free as a flap; the seal member being torn off from the opening of the developer cartridge by pulling the flap; a sliding member provided between the two portions and sliding the lid interlocking with pulling the flap; and a pair of projections laterally formed in the lid and a pair of claws coming in contact with the projections and moving the lid in the direction to expose the opening of the device body.

0) DE19936459A1 – DEVELOPER UNIT FOR TONER CARTRIDGE FOR LASER PR...

142) Family number: 12499861 (DE19936459A1) © PatBase

Title: Developer unit for toner cartridge for laser printer with flanges held together by clips having U–shaped hook and claw

Priority: DE19991036459 19990803

Family:

Publication number	Publication date	Application number	Application date
DE19936459 A1	20010315	DE19991036459	19990803

Probable Assignee: BEROLINA SCHRIFTBILD GMBH AND CO

Assignee(s):(std)**:** BEROLINA SCHRIFTBILD GMBH AND CO

Assignee(s): BEROLINA SCHRIFTBILD GMBH AND CO KG

International class (IPC 8–9)**:** G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)

International class (IPC 1–7)**:** G03G15/08

CPC: G03G15/0803 G03G2215/00991

European class: G03G15/08D S03G215/00R1

Classification Explorer

Cited documents: JP5252952,

Forward Citations: US8422911, US7831171, US2011268470,

Abstract:
Source: DE19936459A1 Clips (11) for pair of longitudinal flanges (6,7) have U–shaped hook (12) at one end and at other end a claw (13). Hooks overlap one of the wall sections (19), which are vertical to flanges, and claws abut one of the wall sections running parallel to the longitudinal flange pair. The clips (11) for the pair of longitudinal flanges (6,7) have U–shaped hooks (12) at one end, with different lengths and claw (13) at other end. Wall sections (19) vertical to the flanges form part of the stabilization ribbing of the developer station (1).

0) JP7044006A – TONER CARTRIDGE

143) Family number: 11947415 (JP7044006A) © PatBase

Title: TONER CARTRIDGE

Priority: JP19930208819 19930731

Family:

Publication number	Publication date	Application number	Application date
JP7044006 A2	19950214	JP19930208819	19930731

Probable Assignee: KAO CORP

Assignee(s):(std)**:** KAO CORP

Inventor(s):(std)**:** NISHIKAWA HIDEYO ; YASUDA SHINICHIRO

International class (IPC 8–9)**:** G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)

International class (IPC 1–7)**:** G03G15/08

Classification Explorer

Forward Citations: WO14038495, WO13012086, WO13008953, US9665040, US9599930, US9529304, US9494890, US9405224, US9304439, US9201393, US2014072347, JP6116162, JP6066841, JP5420026, JP2014067002, JP2014052570, JP2014032427, JP2014032426, JP2014032425, JP2013114027, JP2013114026, JP2013037347, JP2013037345, JP2009282259, CN103688224, CN103676556, CN103649847,

Abstract:
Source: JP7044006A PURPOSE:To unseal a toner cartridge without necessitating complicated constitution nor troublesome unsealing action and without scattering toner, to simplify and miniaturize structure by opening a toner discharge port by separating the opposed inner surfaces of a toner container itself. CONSTITUTION:The toner discharge port where the inner surfaces 2a and 2b of the toner container 2 are mutually bonded is arranged above toner supply port 20. The hook 3b of an unsealing member 3 is hooked on a hook 23 attached to a side wall being the fixed side of a housing chamber 21, and the hook 4b of the other unsealing member 4 is hooked on a hook 25 attached to the opening/closing door 24 of the housing chamber 21. Next, the opening/closing door 24 of the housing chamber 21 is rotated with a hinge shaft 24a as center and closed. Since a space between both hooks 23 and 25 attached to the housing chamber 21 is extended, both unsealing members 3 and 4 are drawn apart from each other and the inner surfaces 2a and 2b of the container 2 are mutually separated, the toner discharge port is opened and the toner 5 in the container 2 is supplied to a developing device from the toner supply port 20.

144) Family number: 29243170 (US6175704B) © PatBase

Title: Electrophotographic printer using replaceable photosensitive belt cartridge

Priority: JP19980161498 19980527 JP19980172111 19980605

Family:

Publication number	Publication date	Application number	Application date
JP11352837 A2	19991224	JP19980172111	19980605
JP3022841 B2	20000321	JP19980172111	19980605
US6175704 BA	20010116	US19990318414	19990525

Probable Assignee: FUJI XEROX CO LTD

Assignee(s):(std)**:** NEC CORP ; NEC NIIGATA LTD

Assignee(s): FUJI XEROX CO LTD ; NEC A CORP OF JAPAN CORP

Inventor(s):(std)**:** YAMAMOTO KAZUOKI

International class (IPC 8–9)**:** G03G15/00 G03G21/00 G03G21/16 (Advanced/Invention); G03G21/00 G03G21/16 (Core/Invention)

International class (IPC 1–7)**:** G03G15/02 G03G21/00 G03G21/16

CPC: G03G15/754

European class: G03G15/75D

US class: 399/116 399/162

Classification Explorer

Cited documents: US6014535 A, US5978625 A, US5708924 A, US5417322 A, US5400121 A, US5243384 A, US5173733 A, US5034779 A, US4811839 A, US4766455 A, US4655578 A, US3888577 A, JP9281850 A2, JP9281848 A2, JP9281847 A2, JP8241014 A2, JP8231026 A2, JP8123294 A2, JP63148966 A2, JP61145567 A2, JP57064255 A2, JP55060979 A2, JP5257340 A2, JP5069769 A2, JP2234171 A2, JP2104372 A2, JP2066589 A2, JP1503338 T2, JP11237809 A2, JP11052815 A2, JP1038608 A2, JP1038607 A2, JP10143045 A2,

Forward Citations: US9651898, US8457521, US8452207, US7450883, US7336917, US7295794, US6640068, US6393236, US6374068, US2012033992, US2012033991, US2008118269, US2006204278, US2003231898, JP2005157356,

Abstract:
Source: US6175704B An electrophotographic printer performs printing using a photosensitive belt wound around a belt support member. A belt cartridge is used for installation and replacement (or removal) of the photosensitive belt. Herein, the belt cartridge is constructed by an inner case and an outer case, between which the photosensitive belt being installed is held. The inner case is used to support the photosensitive belt, while the outer case is used for dust protection and light shield for the photosensitive belt and is normally stored in a storage which is provided inside or outside of a main body of the printer. At a removal mode, the outer case is inserted into the main body to be fitted to the belt support member, wherein tension applied to the photosensitive belt wound around the belt support member is released. Then, the outer case is pulled out from the main body together with the photosensitive belt. At an installation mode, the belt cartridge is inserted into the main body, wherein the outer case is fitted to the belt support member together with the photosensitive belt while the inner case remains substantially outside of the main body by being interfered by the belt support member. Then, tension is applied to the photosensitive belt wound around the belt support member. Thereafter, only the outer case is pulled out from the main body while the photosensitive belt remains inside of the main body by being installed into the belt support member.

145) Family number: 12899601 (JP7261525A) © PatBase

Title: TONER CARTRIDGE, PROCESS CARTRIDGE, AND DEVELOPING DEVICE

Priority: JP19940048507 19940318

Family:

Publication number	Publication date	Application number	Application date
JP3347455 B2	20021120	JP19940048507	19940318
JP7261525 A2	19951013	JP19940048507	19940318

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK

Assignee(s): CANON INC ; CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** BAN YUTAKA ; KANAMORI AKITO ; KOMATA KAZUHIKO ; MIYANO KAZUYUKI

International class (IPC 8–9)**:** B65D83/06 G03G15/08 G03G21/16 (Advanced/Invention); B65D83/06 G03G15/08 G03G21/16 (Core/Invention)

International class (IPC 1–7)**:** B65D83/06 G03G15/08 G03G21/16

Classification Explorer

Cited documents: JP56151960, JP5165321, JP472250 U, JP338671, JP296194, JP2111980, JP185752 U, JP185751 U,

Forward Citations: US9116468, US8059989, US7890019, US7853180, JP5853404, JP2012230184, JP2003076145,

Abstract:
Source: JP7261525A PURPOSE: To provide a toner cartridge having a toner stirring member capable of being rotated at low torque without generating coarse grains at the seal section of the stirring member and provide a process cartridge and a developing device using the cartridge. CONSTITUTION: This toner cartridge or process cartridge is provided with a toner supplying container 12 having an opening at the prescribed position and storing a developer, a stirring member 15 having a stir section stirring the developer in the toner supplying container 12 and a drive transmission section exposed from the end section of the toner supplying container 12 and transmitting the driving force to the stir section, and a seal member sealing the portion of the stirring member 15 exposed from the toner supplying container 12. A hook section rotatably hooking the drive transmission section of the stirring member 15 on the toner supplying container 12 is provided outside the toner supplying container 12 than the seal member.

0) JP2000098720A – TONER CARTRIDGE

146) Family number: 13815754 (JP2000098720A) © PatBase

Title: TONER CARTRIDGE

Priority: JP19980263660 19980917

Family:

Publication number	Publication date	Application number	Application date
JP2000098720 A2	20000407	JP19980263660	19980917

Probable Assignee: FUJITSU LTD

Assignee(s):(std)**:** FUJITSU LTD

Assignee(s): FUJI XEROX CO LTD

Inventor(s):(std)**:** NAGAOKA MASAKI

International class (IPC 8–9)**:** G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)

International class (IPC 1–7)**:** G03G15/08

Classification Explorer

Forward Citations: US6771921, US6647236, JP4636448, JP2008191696,

Abstract:
Source: JP2000098720A PROBLEM TO BE SOLVED: To enable toner to be delivered and received in a hermetically sealed state, to prevent it form being splashed and leaked and to easily discard a used toner container by providing a toner cartridge with an opening and closing lever unsealing a zipper part, a shutter opening and closing an aperture part for charging toner by interlocking with the opening and closing lever and a coupling member opening and closing a shutter for a toner supply port arranged at a toner hopper side. SOLUTION: This toner cartridge 11 is provided with the zipper part at one end of a package bag made of a flexible material and constituted so that the toner container 1 having an unsealing coupling hook pulling and unsealing the zipper part is housed. Besides, it is provided with a pair of opening and closing levers 13 engaged with the unsealing coupling hook of the container 1 housed by making the zipper side thereof face downward so as to unseal the zipper part left and right, the shutter 15 opening and closing the aperture part for charging toner formed at the lower part of the cartridge 11 by interlocking with the levers 13 and the coupling member 16 opening and closing the shutter for a toner supply port 23 arranged at the toner hopper side which should be loaded by interlocking with the levers 13.

0) US5358230A – SHEET SUPPLYING APPARATUS

147) Family number: 29347641 (US5358230A) © PatBase

Title: Sheet supplying apparatus

Priority: JP19920131888 19920424 JP19920222224 19920730

Family:

Publication number	Publication date	Application number	Application date
DE69319650 D1	19980820	DE19936019650	19930422
DE69319650 T2	19990121	DE19936019650T	19930422
EP0567112 A1	19931027	EP19930106541	19930422
EP0567112 B1	19980715	EP19930106541	19930422
JP3081069 B2	20000828	JP19920222224	19920730
JP5301644 A2	19931116	JP19920131888	19920424
JP6048588 A2	19940222	JP19920222224	19920730
US5358230 A	19941025	US19930049360	19930421

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK

Assignee(s): CANON INC ; CANON K K TOKIO TOKYO JP ; CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** ANDO MASAO C O CANON KABUSHIKI ; IKEMORI IKUO C O CANON KABUSHI ; INOUE HIROYUKI C O CANON KABUS ; INOUE RYUKICHI C O CANON KABUS ; YOKOI KATSUYUKI C O CANON KABU ; YOKOI KATSUYUKI ; ISHII HIROYUKI ; INOUE RYUKICHI ; INOUE HIROYUKI ; IKEMORI IKUO ; ANDO MASAO ; ISHII HIROYUKI C O CANON KABUS

Inventor(s): ISHII HIROYUKI C O CANON KABUSHIKI KAISH TOKYO 146 ; YOKOI KATSUYUKI C O CANON KABUSHIKI KAISHA TOKYO 1 ; YOKOI KATSUYUKI C O CANON KABUSHIKI KAISHA... ; ISHII HIROYUKI C O CANON KABUSHIKI KAISH TOKYO... ; INOUE RYUKICHI C O CANON KABUSHIKI KAISH TOKYO... ; INOUE HIROYUKI C O CANON KABUSHIKI KAISH TOKYO... ; IKEMORI IKUO C O CANON KABUSHIKI KAISHA TOKYO... ; INOUE RYUKICHI C O CANON KABUSHIKI KAISH TOKYO 146 ; INOUE HIROYUKI C O CANON KABUSHIKI KAISH TOKYO 146 ; IKEMORI IKUO C O CANON KABUSHIKI KAISHA TOKYO 146 ; ANDO MASAO C O CANON KABUSHIKI KAISHA TOKYO 146 JP

Designated states: DE FR GB IT

International class (IPC 8–9): B65H1/12 B65H1/14 B65H1/24 B65H3/06 G03G15/00 (Advanced/Invention); B65H1/08 B65H1/12 B65H1/14 B65H3/06 G03G15/00 (Core/Invention)

International class (IPC 1–7): B65H1/12 B65H1/14 B65H1/24 B65H3/06 G03G15/00

CPC: B65H1/12 B65H3/0638 B65H3/0669

European class: B65H1/12 B65H3/06G B65H3/06M

US class: 271/114 271/118 271/119 271/121 271/127 347/104

Classification Explorer

Cited documents: US5253854 A, US5223858 A, US5219155 A, US5201873 A, US5055756 A, US4717139 A, JP62191337 A2, JP61238626 A2, JP5895931 U, JP58183535 A2, JP57189945 A2, JP466425, JP4159928, JP2193830 A2, EP0464815 A1, EP0464785 A2,

Forward Citations: WO11044693, WO08006138, WO02087891, US9206002, US9156639, US9139387, US8882101, US8867980, US8833754, US8752823, US8727335, US8588673, US8276474, US8132807, US7815381, US7712736, US7631862, US7594652, US7594649, US7481423, US7481422, US7472905, US7448623, US7305208, US7195238, US7128317, US7128317, US7001017, US6985266, US6896253, US6830398, US6793425, US6769680, US6658229, US6654133, US6626595, US6540221, US6502816, US6493534, US6485015, US6382621, US6375183, US6357740, US6354584, US6349931, US6296245, US6293537, US6260840, US6224052, US6131899, US6105954, US6095515, US6089562, US6073925, US6070867, US6056285, US6055407, US6045220, US6042103, US6032949, US6000689, US5984297, US5934664, US5927702, US5909872, US5895038,

US5887987, US5863036, US5847719, US5818487, US5725208, US5711519, US5550652, US2015042033, US2011089630, US2011070008, US2010225053, US2010189486, US2009047053, US2008257100, US2008190242, US2008179817, US2007108696, US2007001376, US2006070536, US2006067750, US2006017214, US2006012108, US2005280206, US2005052832, US2005035536, US2003143011, US2003122913, US2002167124, US2002158399, JP7168957, JP5873786, JP4289240, JP3972201, JP3591214, JP2597471, JP2014088251, JP2008189445, JP2006021920, JP2004307105, JP10297774, EP2489017, EP2043933, EP2043933, EP1053961, EP1053961, EP0994052, EP0994052, EP0994051, EP0994051, EP0832833, EP0832833, EP0761581, EP0761581,

Abstract:
Source: US5358230A The present invention provides a sheet supplying apparatus with a sheet support for supporting a sheet and shiftable between a supply position and a waiting position, a supply roller for feeding out the sheet from the sheet support means at the supply position, a biasing device for biasing the sheet support means from the waiting position toward the supply position, a shifting device for shifting the sheet supporting means from the supply position to the waiting position in adherence with a biasing force of the biasing device means, and a regulating apparatus for regulating the shifting of the sheet support means with a force weaker than the biasing device force of the biasing device, when the sheet support means shifted to the waiting position by the shifting device is shifted from the waiting position to the supply position by the biasing device.

0) US2006221168A – IMAGE FORMING APPARATUS

148) Family number: 33433304 (US2006221168A) © PatBase

Title: IMAGE FORMING APPARATUS

Priority: JP20050088418 20050325 JP20060024572 20060201

Family:

Publication number	Publication date	Application number	Application date
JP2006301590 A2	20061102	JP20060024572	20060201
JP4865342 B2	20120201	JP20060024572	20060201
US2006221168 AA	20061005	US20060376298	20060316
US7454156 BB	20081118	US20060376298	20060316

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK

Assignee(s): CANON INC ; CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** WAKIYAMA EIJI

Agent(s): FITZPATRICK CELLA HARPER AND SCINTO

International class(IPC 8–9)**:** B41J29/13 G03G15/00 G03G21/16 H04N1/00 (Advanced/Invention); B41J29/12 G03G15/00 G03G21/16 H04N1/00 (Core/Invention)

CPC: B41J13/106

European class: B41J13/10C

US class: 347/108 399/111 399/114

Classification Explorer

Cited documents: US7341387 BB, US7203448 BB, US7006776 BB, US6973279 BB, US6125251 A, JP8016062 A2, JP2000112195 A2, JP2000039827 A2, JP11296048 A2,

Forward Citations: US9579033, US9457595, US9250608, US9113003, US8585201, US2016183820, US2015050042, US2014376014, US2012001993,

Abstract:
Source: US2006221168A An image forming apparatus includes a first opening and closing device provided in an apparatus body and openable and closable with respect to the apparatus body, an operating member operable by a user to open the first opening and closing device, a first recess for receiving the hand of the user and to permit the hand to contact and operate the operating member to open the first opening and closing device, and a second recess for receiving the hand of the user and to permit the hand to contact and operate the operating member to open the first opening and closing device when the hand of the user is inserted thereinto. The second recess is located at a position different from the first recess.

0) CN204116814U – TONER CARTRIDGE

149) Family number: 58333656 (CN204116814U) © PatBase

Title: TONER CARTRIDGE

Priority: CN201420557502U 20140925

Family:

Publication number	Publication date	Application number	Application date
CN204116814 U	20150121	CN201420557502U	20140925

Probable Assignee: PRINT RITE UNICORN IMAGE PRODUCTS CO LTD ZHUHAI

Assignee(s):(std)**:** PRINT RITE UNICORN IMAGE PRODUCTS CO LTD ; PRINT RITE UNICORN IMAGE PRODUCTS CO LTD ZHUHAI

Assignee(s): PRINT RITE UNICORN IMAGE PRODUCTS CO

Inventor(s):(std)**:** HUANG ZONGQIAN ; YAN YUWEN

International class (IPC 8–9): G03G15/08 (Advanced/Invention)

Classification Explorer

Abstract:
Source: CN204116814U The utility model provides a toner cartridge. The toner cartridge comprises a rotating container main body, a toner discharge part, a sealing part and a driving rod for the sealing part, wherein the toner cartridge further comprises a transmission part, the transmission part comprises a base part and an elastic arm, and one axial end of the elastic arm is connected at the base part; a second through hole is formed in the base part, and the driving rod for the sealing part passes through the second through hole; and the elastic arm comprises a column body and a hook–like bulge, the hook–like bulge comprises a bottom surface which is opposite to the base part, and the angle between the bottom surface and the column body is an obtuse angle. The toner cartridge provided by the utility model is simpler in structure, and a connecting part is omitted, so that disassembly and assembly of the toner cartridge are facilitated, and the transmission part can be directly connected with a rotating driving part in a developer.

0) US2004164147A – CURRENCY CASSETTE ACCESS BASED ON FACIAL RECOGN...

150) Family number: 30737755 (US2004164147A) © PatBase

Title: CURRENCY CASSETTE ACCESS BASED ON FACIAL RECOGNITION

Priority:

CA20032508943	20031230	CA20032689839	20031230	CA20032689840	20031230
CA20042517436	20040309	CA20042642599	20040309	CA20042642596	20040309
CA20042642597	20040309	CA20032750021	20031230	CA20042642600	20040309
US20030450993P	20030228	US20030450983P	20030228	US20030450583P	20030228
US20030450984P	20030228	US20030450992P	20030228	EP20040718814	20040309
EP20030808633	20031230	US20020437636P	20021231	US20020437637P	20021231
CA20082517436	20081202	CA20112508943	20110906	EP20080014821	20040309
US20030750571	20031230	US20040788917	20040227	US20040788916	20040227
US20030451140P	20030228	US20040789280	20040227	US20040788610	20040227
US20040788611	20040227	US20040789746	20040227	US20040797403	20040309
US20040797441	20040309	US20040797332	20040309	US20040797405	20040309
US20030451084P	20030228	US20040788634	20040227	US20030451086P	20030228
US20040790633	20040227	US20030451001P	20030228	US20040788612	20040227
US20030451085P	20030228	US20040788605	20040227	US20060522747	20060918
US20040797331	20040309	US20060819697P	20060710	US20030453609P	20030310
WO2004US07035	20040309	US20070805747	20070524	US20070881013	20070725
US20080288579	20081020	US20100803607	20100630	WO2003US41760	20031230

Family:

Publication number	Publication date	Application number	Application date
AR043910 AA	20050817	AR2004P100767	20040310
AR064818 AB	20090429	AR2008P100075	20080109
AR064819 AB	20090429	AR2008P100076	20080109
AR064820 AB	20090429	AR2008P100077	20080109
AR064821 AB	20090429	AR2008P100078	20080109
AU2003303505 AA	20040729	AU20030303505	20031230
AU2003303505 AH	20040729	AU20030303505	20031230
BRPI0317860 A	20051206	BR2003PI17860	20031230
BRPI0408280 A	20060307	BR2004PI08280	20040309
BRPI0408280 B1	20160614	BR2004PI08280	20040309
CA2508943 AA	20050606	CA20032508943	20031230
CA2508943 C	20130611	CA20032508943	20031230
CA2517436 AA	20050829	CA20042517436	20040309
CA2517436 C	20090127	CA20042517436	20040309
CA2642596 AA	20040923	CA20042642596	20040309
CA2642596 C	20120313	CA20042642596	20040309
CA2642597 AA	20040923	CA20042642597	20040309
CA2642597 C	20120103	CA20042642597	20040309
CA2642599 AA	20040923	CA20042642599	20040309
CA2642599 C	20120424	CA20042642599	20040309
CA2642600 AA	20040923	CA20042642600	20040309
CA2642600 C	20130702	CA20042642600	20040309
CA2689839 AA	20040722	CA20032689839	20031230
CA2689839 C	20120327	CA20032689839	20031230
CA2689840 AA	20040722	CA20032689840	20031230
CA2689840 C	20120313	CA20032689840	20031230
CA2750021 AA	20040722	CA20032750021	20031230
CA2750021 C	20141209	CA20032750021	20031230
CN100398424 C	20080702	CN200480006491	20040309
CN100458684 C	20090204	CN200380107892	20031230
CN101165725 A	20080423	CN200710194804	20040309

CN101165725 B	20100915	CN200710194804	20040309	
CN101188030 A	20080528	CN200710194807	20040309	
CN101188030 B	20100915	CN200710194807	20040309	
CN101256691 A	20080903	CN200710194808	20040309	
CN101256691 B	20100804	CN200710194808	20040309	
CN101369357 A	20090218	CN200810210100	20031230	
CN101369357 B	20110824	CN200810210100	20031230	
CN101436324 A	20090520	CN200710194812	20040309	
CN101436324 B	20100818	CN200710194812	20040309	
CN101866510 A	20101020	CN201010201252	20031230	
CN101866510 B	20110907	CN201010201252	20031230	
CN101866511 A	20101020	CN201010201293	20031230	
CN101866511 B	20110914	CN201010201293	20031230	
CN101866512 A	20101020	CN201010201321	20031230	
CN101866512 B	20110914	CN201010201321	20031230	
CN101866513 A	20101020	CN201010201353	20031230	
CN101866513 B	20110914	CN201010201353	20031230	
CN1732431 A	20060208	CN200380107892	20031230	
CN1759055 A	20060412	CN200480006491	20040309	
DE602004017147 D1	20081127	DE200460017147T	20040309	
DE602004040587 D1	20130228	DE200460040587T	20040309	
DE60339859 D1	20120322	DE20036039859	20031230	
EP1606684 A2	20051221	EP20040718814	20040309	
EP1606684 A4	20060628	EP20040718814	20040309	
EP1606684 B1	20081015	EP20040718814	20040309	
EP1609054 A2	20051228	EP20030808633	20031230	
EP1609054 A4	20071010	EP20030808633	20031230	
EP1609054 B1	20120125	EP20030808633	20031230	
EP1843303 A1	20071010	EP20070013062	20031230	
EP1843303 B1	20160810	EP20070013062	20031230	
EP2015260 A2	20090114	EP20080014821	20040309	
EP2015260 A3	20111130	EP20080014821	20040309	
EP2015260 B1	20121226	EP20080014821	20040309	
ES2314386 T3	20090316	ES20040718814T	20040309	
ES2379780 T3	20120503	ES20030808633T	20031230	
ES2400447 T3	20130409	ES20080014821T	20040309	
ES2599578 T3	20170202	ES20070013062T	20031230	
IN01789DN2007 A	20070831	IN2007DN01789	20070307	
IN01790DN2007 A	20070831	IN2007DN01790	20070307	
IN01791DN2007 A	20070831	IN2007DN01791	20070307	
IN01792DN2007 A	20070831	IN2007DN01792	20070307	
IN01793DN2007 A	20070831	IN2007DN01793	20070307	
IN01794DN2007 A	20070831	IN2007DN01794	20070307	
IN02365DN2005 A	20090327	IN2005DN02365	20050603	
IN03701DN2005 A	20090320	IN2005DN03701	20050822	
IN09635DN2007 A	20080328	IN2007DN09635	20071213	
IN09636DN2007 A	20080328	IN2007DN09636	20071213	
IN10067DN2007 A	20080404	IN2007DN10067	20071226	
IN10068DN2007 A	20080404	IN2007DN10068	20071226	
IN243255 B	20101008	IN2005DN03701	20050822	

IN243789 B	20101112	IN2005DN02365	20050603	
IN258766 B	20140207	IN2007DN01789	20070307	
IN260185 B	20140411	IN2007DN01791	20070307	
IN268337 B	20150828	IN2007DN01793	20070307	
IN276178 B	20161007	IN2007DN10067	20071226	
IN276179 B	20161007	IN2007DN10068	20071226	
IN279668 B	20170203	IN2007DN09635	20071213	
IN279674 B	20170203	IN2007DN09636	20071213	
MXPA05007111 A1	20050826	MX2005PA07111	20031230	
MXPA05009127 A1	20051020	MX2005PA09127	20040309	
PL212097 B1	20120831	PL20040378443	20040309	
PL376078 A1	20051212	PL20030376078	20031230	
PL378443 A1	20060403	PL20040378443	20040309	
RU2005124279 A	20060120	RU20050124279	20031230	
RU2005131182 A	20060320	RU20050131182	20040309	
RU2299466 C2	20070520	RU20050124279	20031230	
RU2309107 C2	20071027	RU20050131182	20040309	
US2004164147 AA	20040826	US20040788917	20040227	
US2004164167 AA	20040826	US20040788916	20040227	
US2004164168 AA	20040826	US20040789280	20040227	
US2004169074 AA	20040902	US20040788610	20040227	
US2004169075 AA	20040902	US20040788611	20040227	
US2004172730 AA	20040902	US20040789746	20040227	
US2004173672 AA	20040909	US20030750571	20031230	
US2004178263 AA	20040916	US20040797403	20040309	
US2004178559 AA	20040916	US20040797441	20040309	
US2004178564 AA	20040916	US20040797332	20040309	
US2004178568 AA	20040916	US20040797331	20040309	
US2004178569 AA	20040916	US20040797405	20040309	
US2004188920 AA	20040930	US20040788634	20040227	
US2004188921 AA	20040930	US20040790633	20040227	
US2004195302 AA	20041007	US20040788612	20040227	
US2004205024 AA	20041014	US20040788605	20040227	
US2007013124 AA	20070118	US20060522747	20060918	
US2007228152 AA	20071004	US20070805747	20070524	
US2007267806 AA	20071122	US20070881013	20070725	
US2009084841 AA	20090402	US20080288579	20081020	
US2010288831 AA	20101118	US20100803607	20100630	
US6913192 BB	20050705	US20040789746	20040227	
US6918483 BB	20050719	US20040788634	20040227	
US6935558 BB	20050830	US20030750571	20031230	
US6948655 BB	20050927	US20040788610	20040227	
US6976634 BB	20051220	US20040788611	20040227	
US6997377 BB	20060214	US20040788612	20040227	
US7000832 BB	20060221	US20040788916	20040227	
US7004383 BB	20060228	US20040797332	20040309	
US7004384 BB	20060228	US20040797403	20040309	
US7070111 BB	20060704	US20040789280	20040227	
US7121461 BB	20061017	US20040790633	20040227	
US7249761 BB	20070731	US20040797331	20040309	

US7293699 BB	20071113	US20040788917	20040227	
US7309005 BB	20071218	US20040788605	20040227	
US7413189 BB	20080819	US20040797405	20040309	
US7438221 BB	20081021	US20070805747	20070524	
US7780073 BB	20100824	US20060522747	20060918	
US8033455 BB	20111011	US20100803607	20100630	
US8052044 BB	20111108	US20080288579	20081020	
WO04061787 A2	20040722	WO2003US41760	20031230	
WO04061787 A3	20041125	WO2003US41760	20031230	
WO04081735 A2	20040923	WO2004US07035	20040309	
WO04081735 A3	20050707	WO2004US07035	20040309	
ZA200505250 A	20060426	ZA20050005250	20050629	
ZA200507597 A	20060628	ZA20050007597	20050920	

Probable Assignee: DIEBOLD SELF SERVICE SYS

Assignee(s):(std)**:** DIEBOLD SELF SERVICE SYSTEMS D ; GRAEF H THOMAS ; HARTY MICHAEL ; JOHNSON MICHAEL S ; KONTOR KENNETH ; JONES BRIAN ; BLACKFORD DAMON J ; DIEBOLD INC ; DIEBOLD SELF SERVICE SYSTEM ; DIEBOLD SELF SERVICE SYSTEMS ; DIEBOLD SELF SERVICE SYS ; DIEBOLD SELF SERVICE SYSTEMS A ; WASHINGTON JON E ; VANKIRK THOMAS A

Assignee(s): WASHINGTON JON ; DAJBOLD INKORPOREJTED ; CHRISTIE JOHN ; DIEBOLD SELF SERVICE SYSTEMS A DIVISION OF DIEBOLD INC ; DIEBOLD INC5995 MAYFAIR ROADNORTH CANTONOH44720US ; DIEBOLD INC NORTH CANTON ; DIEBOLD SELF SERVICE SYSTEMS A DIVISION OF ; DIEBOLD SELF SERVICE SYSTEMS A DIVISION OF DIEBOLD ; BLACKSON DALE ; BLACKSON DALE H ; BARKER DAVID ; BARKER DAVID A ; GRAEF H ; DIEBOLD SELF SERVICE SYSTEMS DIVISION OF DIEBOLD I ; DIEBOLD SELF SERVICE SYSTEMS DIVISION OF ; TUROCY KENNETH ; MA SONGTAO ; MAGEE PAUL D ; SPICER GREGORY ; GEITHER JEFF ; DOMINICK DOUGLAS ; JENKINS RANDALL ; EASTMAN JEFFREY ; VANKEULEN ERIC ; DIEBOLD SELF SERVICE SYSTEMS DIVISION OF DIEBOLD INC ; JPMORGAN CHASE BANK NA ADMINISTRATIVE AGENT AS

Inventor(s):(std)**:** BARKER DAVID ; BARKER DAVID A ; BARKER DEHVID ; BLAC WASHINGTON JON VANKEULEN ; BLACKFORD DAMON J ; BLACKSON DALE ; BLACKSON DALE H ; BLEHKFORD DEHJMON DZH ; BLEHKSON DEJL KH ; CHRISTIE JOHN ; DALE H BLACKSON ; DAVID BARKER ; DOMINICK DOUGLAS ; DOMINIK DUGLAS ; DOUGLAS DOMINICK ; DZHEJTER DZHEFF ; DZHENKINS REHNDALL ; EASTMAN JEFFREY ; GRAEF H THOMAS ; GRAEF THOMAS H ; GRAF KH TOMAS ; GREGORY SPICER ; H THOMAS GRAEF ; HARTY MICHAEL ; ISTMAN DZHEFFRI ; JEFF GEITHER ; JEFFREY EASTMAN ; JENKINS RANDALL ; JO GRAEF H THOMAS BLACKFORD DA ; JOHN CHRISTIE ; JOHNSON MICHAEL J ; JON E WASHINGTON ; JON WASHINGTON ; ERIC VANKEULEN ; GEITHER JEFF ; JONES BRIAN ; KENNETH TUROCY ; KONTOR KENENTH ; KRISTI DZHON ; MA SONGTAO ; MEHDZHI POL D ; PAUL D MAGEE ; RANDALL JENKINS ; SONGTAO MA ; SPAJSER GREGORI ; SPICER GREGORY ; MAGEE PAUL D ; T JUROSI KENNET ; THOMAS A VANKIRK ; TUROCY KENNETH ; VANKEULEN ERIC ; VANKIRK TOMAS A ; VANKULEN EHRIK ; VASHINGTON DZHON ; WASHINGTON JON ; VANKIRK THOMAS A ; WASHINGTON JON E ; WASHINGTON JON VANKEULEN ERIC GEITHER JEFF BARKERD ; VANKEULEN ERIC S ; GRAEF H T ; KONTOR KENNETH C ; JOHNSON MICHAEL S ; HARTY MICHAEL J ; BESKITT WILLIAM D ; WASHINGTON J E ; VANKIRK THOMAS ; KONTOR KEN ; JONES B ; HARTY M ; BLACKFORD D ; VASHINGTON DZHON EH ; THOMASA VANKIRK ; MAGEE PAUL ; KONTOR KENNETH ; KONTOR KENNET ; KHARTI MAJKL ; KENNETH KONTOR ; GRAEF H ; DZHOUNZ BRAJAN ; DZHONSON MAJKL S ; BRIAN JONES ; BLEHKFORD DEJMON DZH ; BLACKFORD DAMON ; THOMAS GRAEF H ; MICHAEL HARTY

Inventor(s): A ; BESKITT WILLIAM ; JOHNSON MICHAEL ; VANKIRK THOMASA ; THOMAS H GRAEF ; GRAEF H THOMASUS ; JENKINS RANDALLUS ; GEITHER JEFFUS ; EASTMAN JEFFREYUS ; DOMINICK DOUGLASUS ; CHRISTIE JOHNUS ; BLACKSON DALE HUS ; BLACKFORD DAMON JUS ; TUROCY KENNETHUS ; SPICER GREGORYUS ; MAGEE PAUL DUS ; MA SONGTAOUS ; WASHINGTON JON VANKEULEN ERIC GEITHER JEFF BARKERDAVID MAGEE PAUL D ; WASHINGTON JONUS ; VANKIRK THOMAS AUS ; VANKEULEN ERICUS ; WASHINGTON JON VANKEULEN ERIC GEITHER JEFF ; VANKIRK THOMAS A WOOSTER ; WASHINGTON JON CLINTON ; VANKEULEN ERIC NORTH CANTON ; TUROCY KENNETH WADSWORTH ; T'JUROSI KENNET ; MAGEE PAUL D NORTH CANTON ; SPICER

GREGORY CUYAHOGA FALLS ; MICHAEL J JOHNSON ; MICHAEL S JOHNSON ; MA SONGTAO WADSWORTH ; KENENTH KONTOR ; GEITHER JEFF NORTH RIDGEVILLE ; JON WASHINOGTON ; JENKINS RANDALL ORVILLE ; H ; GRAEF H THOMAS BLACKFORD DAMON J ; GRAEF H THOMAS BLACKFORD DAMON J JOHNSON MICHAEL S ; GRAEF H THOMAS BOLIVAR ; GRAEF HTHOMAS ; EASTMAN JEFFREY NORTH CANTON ; DOMINICK DOUGLAS NORTH CANTON ; DAMON J BLACKFORD ; CHRISTIE JOHN BATESVILLE IN ; BLACKSON DALE H CANTON ; BLACKFORD DAMON J AKRON ; BARKER DAVID AUS ; BARKER DAVID NORTH CANTON

Agent(s): DIMOCK STRATTON LLP; EISEN MARK B; D YOUNG AND CO LLP; WSL PATENTANWAELTE PARTNERSCHAFT MBB; MELDRUM DAVID JAMES ET AL; MELDRUM DAVID JAMES; PERAL DAVID; ISERN JORGE; RALPH E JOCKE WALKER AND JOCKE LPA; RALPH E JOCKE WALKER AND JOCKE; WALKER AND JOCKE; WASIL DANIEL D; JOCKE RALPH E; RALPH E; DANIEL D; JOCKE RALPH

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NA NE NI NL NO NZ OM PG PH PL PT RO RU SC SD SE SG SI SK SL SN SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

International class (IPC 8–9): B65D83/08 B65G23/44 B65G59/00 B65H1/00 B65H31/30 B65H5/02 B65H5/06 G06F17/60 G06F19/00 G06F7/08 G06K5/00 G06K7/10 G06Q20/00 G06Q20/10 G06Q40/00 G06Q40/02 G07D11/00 G07D13/00 G07F19/00 (Advanced/Invention); B65G59/00 B65H1/00 G06K5/00 G06K7/10 G07F19/00 (Core/Invention); B65H G06F (Subclass/Non–invention)

International class (IPC 1–7): B65H1/00 B65H3/32 B65H5/00 B65H5/02 B65H5/02 G06F0/00 G06F1/00 G06F17/60 G06F7/08 G06K5/00 G06K7/00 G07B15/00 G07C9/00 G07D G07D11/00 G07D13/00 G07F11/00 G07F7/00 G07F9/10 G11B15/00 G11B17/00 G11B5/008 H04N7/18

CPC: G07D11/0012 G07F19/20 G07F19/201 G07F19/205 B65H5/025 B65H5/026 B65H5/06 B65H31/3081 B65H2301/42266 B65H2404/1114 B65H2404/1316 B65H2404/255 B65H2404/264 B65H2701/1912 G07D11/0003 G07D11/0021 G07D11/0024 G07D11/0081 G07F19/203 G06Q20/1085 G07D11/0006 G06Q20/40 B65H1/26 B65H2401/113 B65H2405/1142

European class: B65H1/26 B65H31/30F B65H5/02B4 B65H5/02B8 B65H5/06 G06Q20/1085 G06Q20/40 G07D11/00D G07D11/00D2 G07D11/00D2D G07D11/00D6 G07D11/00D6B G07D11/00H G07F19/00F G07F19/20 G07F19/201 G07F19/203 G07F19/205 L65H301/42266 L65H342/266 L65H401/113 L65H404/1114 L65H404/1316 L65H404/255 L65H404/264 L65H405/1142 L65H701/1912

US class: 194/350 206/459.1 221/1 221/198 221/1S 221/259 232/15 232/15P 235/379 235/379P 235/380 235/381 235/381P 235/382 235/382P 235/383 235/385 235/435 235/486 235/486P 235/492 271/113 271/113P 271/145 271/145P 271/147 271/162 271/162P 271/162S 271/171 271/188 271/198 271/209 271/264 271/264P 271/272 271/275 705/43 705/43P 705/44 726/6 726/6P 901/13 901/14 902/13 902/13S 902/6 902/6S 902/8 902/9

Classification Explorer

Cited documents: WO9953452 A1, WO9919847 A1, WO9905624 A1, WO0152196 A1, US99174801, US7494049 BB, US7322528 BB, US7249761 BB, US7165717 BB, US7144007 BB, US7143933 BB, US7070111 BB, US7059596 BB, US6976634 BB, US6896116 BB, US6845905 BB, US6826383 BB, US6786354 BB, US6786354 BA, US6786354 B1, US6758470 BA, US6724303 BB, US6724303 BA, US6724303 B1, US6705470 BB, US6685183 BB, US6685183 BA, US6685183 B1, US6639647 BA, US6637647 BB, US6637647 BA, US6637647 B1, US6592118 BB, US6592118 BA, US6592118 B1, US6591001 BA, US6557757 BA, US6540136 BA, US6516998 BB, US6516998 BA, US6510985 BA, US6505177 BA, US6494342 BA, US6488276 BB, US6484938 BA, US6454163 BB, US6454163 BA, US6443442 BA, US6427998 BA, US6402025 BA, US6398168 BA, US6398108 BA, US6378770 BA, US6371473 BA, US6296245 BA, US6293540 BA, US6276678 BA, US6276603 BA, US6273413 BA, US6257154 BA, US6196464 BA, US6196457 BA, US6160678 A, US6109522 A, US6073837 A, US6065672 A, US6059090 A, US60437637, US6032948 A, US6029800 A, US6025936 A, US6023688 A, US5945602 A, US5908189 A, US5901950 A, US5900607 A, US5863036 A, US5850075 A, US5797599 A, US5775145 A, US5719383 A, US5709381 A, US5695038 A, US5577720 A, US5563393 A, US5541795 A, US5507481, US5497334 A, US5467334 A, US5451757 A, US5435542, US5422773 A, US5342165 A, US5280902 A, US5251426 A, US5240368 A, US5234209 A, US5213202 A, US5177730 A, US5172903 A, US5172643 A, US5141127 A, US5099423 A, US5071032 A, US5065955 A, US5040779 A, US5039086 A, US5021639 A, US5006940 A, US4992648 A, US4928944 A, US4927130 A, US4917792 A, US4874160 A, US4871085 A, US4854570 A, US4822990 A, US4816652 A, US4795889 A, US4787617 A, US4764821 A, US4747493

A, US4697803 A, US4659008 A, US4655391 A, US4638746 A, US4603847 A, US4570548 A, US4530081 A, US4529119 A, US4474365 A, US4462509 A, US43763602 P, US4350332 A, US4337393 A, US4275667 A, US4235433 A, US4113140, US3667825 A, US3140621 A, US2998731 A, US2009084841 AA, US2007109130 AA, US2005258236 AA, US2005184444 AA, US2005140084 AA, US2004207151 AA, US2004206811 AA, US2004080095 AA, US2004016034 AA, US2003230464 AA, US2003227127 AA, US2003168508 AA, US2003080495 AA, US2003006546 AA, US2002104785 AA, US2002071244 AA, US2002071200 AA, US2002063035 AA, US2002062898 AA, US2002060400 AA, US2002050679 AA, US2002046171 AA, US2001041986 AA, JPS6144441 U, JP61044441 U1, JP61044441 U, JP11015972 A2, GB2308712 A1, GB2202066 A1, EP1258842 A2, EP1126120 A1, EP1082514 B1, EP0827117 A2, EP0392731 A2, DE29600787 U1, DE10135005 A1,

Forward Citations: WO16196167, WO16061088, WO16061086, WO16061084, WO15179854, WO15082346, WO14186472, WO14172696, WO12076592, WO09120391, WO09120391, WO09103980, WO09047742, WO08100861, WO08092754, WO08024043, WO07067106, WO07016091, US9666010, US9633500, US9613502, US9613487, US9603467, US9569908, US9536055, US9517904, US9514610, US9511001, US9508208, US9505582, US9505570, US9501885, US9483911, US9483896, US9466172, US9443399, US9443377, US9430893, US9384637, US9368003, US9368002, US9355532, US9345644, US9330515, US9321602, US9302867, US9299229, US9299206, US9296573, US9291341, US9280881, US9275512, US9251672, US9245405, US9242812, US9189820, US9163978, US9145257, US9127495, US9121197, US9120007, US9119488, US9111408, US9111078, US9082258, US9064366, US9052994, US9038892, US9038805, US9014845, US8985298, US8973817, US8959029, US8920236, US8920233, US8915427, US8910827, US8910771, US8870647, US8851988, US8851373, US8826022, US8819124, US8789787, US8784212, US8746908, US8744621, US8708288, US8701985, US8667457, US8646650, US8635159, US8631501, US8622295, US8621215, US8608056, US8600842, US8588966, US8579278, US8577042, US8573405, US8567664, US8496167, US8495582, US8485432, US8485391, US8479979, US8448939, US8430303, US8423790, US8419011, US8412768, US8396798, US8386075, US8382584, US8371501, US8366542, US8366035, US8353425, US8317188, US8317089, US8317088, US8274364, US8243346, US8225988, US8215520, US8196826, US8196820, US8190289, US8186670, US8177132, US8157162, US8136723, US8123219, US8121944, US8109434, US8109379, US8103379, US8087581, US8052044, US8047428, US8033455, US8033454, US8011581, US8006502, US8001796, US7900829, US7896148, US7878318, US7850164, US7844520, US7832629, US7789299, US7789298, US7780073, US7757940, US7694877, US7641072, US7559459, US7542627, US7533800, US7533784, US7513432, US7510181, US7494059, US7464832, US7450012, US7448535, US7438221, US7431205, US7428983, US7419090, US7341179, US7322518, US7249707, US7230223, US7140608, US7140608, US7103958, US6968997, US6957767, US2017147806, US2017022018, US2016275518, US2015348352, US2015284212, US2015248803, US2015178692, US2015066564, US2014263619, US2014261110, US2014229002, US2014174995, US2014124334, US2014069769, US2014067668, US2013205723, US2013161385, US2013153371, US2013119126, US2013093442, US2013081561, US2012175217, US2012153094, US2012132654, US2012080530, US2011315708, US2011196538, US2011156560, US2011140831, US2011133613, US2011049020, US2011048890, US2011042178, US2011031308, US2010288831, US2010247000, US2010228805, US2010207316, US2010200447, US2010176699, US2010148418, US2010134624, US2010117844, US2010100230, US2010093441, US2010063605, US2010016068, US2009289104, US2009195992, US2009188973, US2009184129, US2009166957, US2009121011, US2009108059, US2009103145, US2009084841, US2009051103, US2009008857, US2008283450, US2008237335, US2008223930, US2008195540, US2008142538, US2008107274, US2008093437, US2008061127, US2008011840, US2008011832, US2007296137, US2007267806, US2007267488, US2007251798, US2007228152, US2007228151, US2007205259, US2007194106, US2007187486, US2007025746, US2007023255, US2007013124, US2006237381, US2006218474, US2006212391, US2006203299, US2006169770, US2006163797, US2006157916, US2006104497, US2006071404, US2006032913, US2005269407, US2005263582, US2005212203, US2005211720, US2005173515, US2005140084, US2005116032, US2005006452, US2004207151, US2004164141, US2004164085, US2004155105, TWI394100, TWI389056, TWI383338, TWI380239, TWI378407, TWI354951, TWI354949, TWI354244, TWI352941, RU2616558, RU2540821, RU2494462, RU2475856, KR100607561, EP2977967, EP2975205, EP2879102, EP2568447, EP2541516, EP2515279, EP2227792, EP2096606, EP1934952, EP1544807, DE102011053443, DE102010061069, DE102007059846, CN106132707, CN105473466, CN105336026, CN105243758, CN105225361, CN105205949, CN104989184, CN104876049, CN104484940, CN104335256, CN104335256, CN104091299, CN104077854, CN103959351, CN103632434, CN103280032, CN103247104, CN103030037, CN102479404, CN102479403, CN102479403, CN102398785, CN102360477, CN102324152, CN101551925,

AU2008309213,

Abstract:
Source: US2004164147A An ATM currency cassette (208) includes a plurality of movable cassette information indicator buttons (214). Each button can be rotated about an axis for repositioning. The buttons can be axially moved outward and inward relative to the cassette housing (210) by rotation thereof. Different axial arrangements of the buttons represent respective different characteristics of cassette content. The cassette can be inserted into an ATM where the button positions can be read by the ATM. The cassette enables unused buttons to remain therewith and also permits a button arrangement to be changed without requiring opening of the cassette.

0) US5155537A – SHEET FEEDING APPARATUS WITH A PLURALITY OF EAS...

151) Family number: 4836895 (US5155537A) © PatBase

Title: SHEET FEEDING APPARATUS WITH A PLURALITY OF EASILY LOADED CASSETTES

Priority: JP19880296736 19881122 JP19880317701 19881216 JP19890013543 19890123

Family:

Publication number	Publication date	Application number	Application date
DE68917091 D1	19940901	DE19896017091	19891121
DE68917091 T2	19941124	DE19896017091T	19891121
EP0370484 A2	19900530	EP19890121553	19891121
EP0370484 A3	19901010	EP19890121553	19891121
EP0370484 B1	19940727	EP19890121553	19891121
JP2144337 A2	19900604	JP19880296736	19881122
JP2163235 A2	19900622	JP19880317701	19881216
JP2193827 A2	19900731	JP19890013543	19890123
JP2542064 B2	19961009	JP19880296736	19881122
JP2584852 B2	19970226	JP19880317701	19881216
JP2666995 B2	19971022	JP19890013543	19890123
US5155537 A	19921013	US19890439579	19891121

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK

Assignee(s): CANON INC ; CANON K K ; CANON K K TOKIO TOKYO JP ; CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** HAYAKAWA YASUYOSHI ; ISOBE HIRONOBU ; ISOBE HIROYUKI ; KOMATSU TERUO ; KUBOTA ATSUSHI

Inventor(s): KUBOTA ATSUSHI MACHIDA SHI TOKYO JP ; KOMATSU TERUO YOKOHAMA SHI KANAGAWA KEN JP ; ISOBE HIRONOBU YOKOHAMA SHI KANAGAWA KEN JP ; HAYAKAWA YASUYOSHI YOKOHAMA SHI KANAGAWA KEN JP

Designated states: DE FR GB IT

International class (IPC 8–9)**:** B65H1/00 B65H1/04 B65H1/26 B65H3/00 B65H3/44 B65H3/68 B65H5/26 B65H5/36 B65H7/00 B65H7/02 G03G15/00 G03G21/00 (Advanced/Invention); B65H1/00 B65H1/26 B65H3/00 B65H3/44 B65H3/66 B65H5/26 B65H5/36 B65H7/02 G03G15/00 G03G21/00 (Core/Invention)

International class (IPC 1–7)**:** B41J13/00 B65H1/00 B65H1/04 B65H1/26 B65H3/00 B65H3/44 B65H3/68 B65H5/26 B65H5/36 B65H7/02 G03G15/00

CPC: B65H1/04 B65H1/266 B65H7/00 B65H2511/51 B65H2513/40 B65H2513/512 B65H2513/514 B65H2551/20 G03G15/6508 G03G2215/00383 G03G2215/0054 G03G2215/00544 G03G2215/00556 G03G2215/00713 G03G2215/00784

European class: B65H1/04 B65H1/26D B65H7/00 G03G15/65B4 L65H511/510 L65H513/400 L65H513/512 L65H513/514 L65H551/200 S03G215/00G1C1 S03G215/00G3A S03G215/00G3B S03G215/00G3D S03G215/00G3R6 S03G215/00G3S16

US class: 271/9.02 271/9.13 355/309 399/391

Classification Explorer

Cited documents: US4966356 A, US4958822 A, US4941002 A, US4605215 A, JP61086335 A2, JP61086335, JP59004534 A2, JP1098529 A2, GB2216501 A1, GB2086359 A1, EP0256859 A2,

Forward Citations: US9126789, US9033331, US8424863, US8235376, US8020848, US7613420, US7391989, US7226050, US7216863, US6973285, US6819173, US6733007, US6581922, US6382616, US6325371, US6318718, US6302606, US6293541, US6206369, US6089560, US5991556, US5787323, US5785308, US5758249, US5641154, US5579098, US5501444, US5348284, US5313257, US5294106, US5240238, US2015021847, US2015001793, US2012002223, US2011298171, US2009148211, US2008174065, US2008159778, US2006188305, US2005248085,

US2005105932, US2003185612, US2002155821, JP8020447, JP5861816, JP5278898, JP4333201, JP3667981, JP3338731, JP3197522, JP2872852, JP2013050602, JP2006256771, JP2004317998, JP11286344, JP11100150, GB2299804, GB2299804, GB2260760, EP0899227, EP0860747, EP0860747, EP0776844, EP0566299, EP0566299, EP0532281, DE4201919, DE19614419, DE19614419, CN102862834,

Abstract:
Source: US5155537A The present invention provides a sheet feeding apparatus comprising: a first sheet accommodating means shiftable in a predetermined position from a sheet supply position for supplying a sheet, a first sheet supply means for feeding out the sheet from the first sheet accommodating means positioned in the sheet supply position, a feeding means for feeding the sheet fed out by the first sheet supply means, a second sheet accommodating means for accommodating sheets, a second sheet supply means for feeding out the sheet from the second sheet accommodating means, a guide means movable between a first position intersecting a moving path of the first sheet accommodating means and where guiding the sheet fed out by the second sheet supply means to the feeding means and a second position where not guiding the sheet, a detecting means for detecting the passage of the sheet through the guide means and for emitting a detection signal, and an inhibiting means for inhibiting the movement of the first sheet accommodating means in response to the detection signal from the detecting means.

152) Family number: 4851344 (US5066976A) © PatBase

Title: IMAGE FORMING APPARATUS HAVING A PRINT CARTRIDGE

Priority: JP19900069203 19900319

Family:

Publication number	Publication date	Application number	Application date
JP2555753 B2	19961120	JP19900069203	19900319
JP3269440 A2	19911202	JP19900069203	19900319
US5066976 A	19911119	US19910672977	19910314

Probable Assignee: FUJI XEROX CO LTD

Assignee(s):(std): FUJI XEROX CO LTD

Assignee(s): FUJI XEROX CO LTD 3 5 AKASAKA 3 CHOME MINATO KU TOKYO JAPAN A CORP OF JAPAN ; FUJI XEROX CO

Inventor(s):(std): FURUYAMA TETSUYA ; KANAGAWA TAKASHI ; SHIINO YUTAKA

International class (IPC 8–9): E05B65/44 G03G15/00 G03G21/18 (Advanced/Invention); E05B65/44 G03G15/00 G03G21/18 (Core/Invention)

International class (IPC 1–7): E05B65/44 G03G15/00

CPC: G03G21/1647 G03G21/1661 G03G21/185 G03G2221/1654 G03G2221/1846

European class: G03G21/18H1P S03G221/16K1 S03G221/18P2

US class: 355/200 355/211 399/111

Classification Explorer

Cited documents: US4969010 A, US4952989 A, US4708455 A, US4668072 A, US4616920 A, JPS6336343 U, JPS63213855, JPS6265049, JPS62178281, JPS608855, JPS6063550, JPS603851 U, JPS6021745 U, JPS5961859, JPS5961847, JPS5951965 U, JPS58111763 U, JPS57160150 U, JPS57150174 U, JPS5687056, JPS5657355 U, JP63213855 A2, JP63036343 U1, JP62178281 A2, JP62065049 A2, JP60063550 A2, JP60021745 U1, JP60008855 A2, JP60003851 U1, JP59061859 A2, JP59061847 A2, JP59051965 U1, JP58111763 U1, JP57160150 U1, JP57150174 U1, JP56087056 A2, JP56057355 U1, JP1237671 A2,

Forward Citations: US9411303, US9317004, US9291992, US9285758, US9280087, US9261851, US9229367, US9164425, US9152083, US9052687, US6961528, US6947687, US6834173, US6535705, US6078763, US5911096, US5794103, US5583612, US5341200, US2015139698, US2013177333, US2005008395, US2004037587, EP1369750, EP1308794, EP1308794,

Abstract:
Source: US5066976A An image forming apparatus comprises an apparatus body having a guide rail and a print cartridge movable along the guide rail, in which the guide rail has an engaging portion, the print cartridge includes a holder member and a cover for covering the holder member, the cover having a notched portion and the holder member having an engagement portion which is adapted to be pushed so as to be engaged with the engaging portion of the guide rail, the holder member having an operating portion which is responsive to the engagement of the engagement portion with the engaging portion so as to be moved into and out of the cover through said notched portion of the cover. Since the print cartridge slides along the guide rail provided on the apparatus body, and therefore the print cartridge can be easily attached to and detached from the apparatus body. And besides, when the print cartridge is pushed into the predetermined position in the apparatus body, the engagement portion of the holder member is engaged with the engaging portion of the guide rail so that the print cartridge is prevented from withdrawing from the apparatus body due to vibration or the like during the operation.

0) US2016187839A – IMAGE FORMING APPARATUS

153) Family number: 62792260 (US2016187839A) © PatBase

Title: IMAGE FORMING APPARATUS

Priority: JP20140264079 20141226 JP20140264082 20141226

Family:

Publication number	Publication date	Application number	Application date
CN105739274 A	20160706	CN201510626736	20150928
JP2016124114 A2	20160711	JP20140264082	20141226
JP2016126027 A2	20160711	JP20140264079	20141226
US2016187839 AA	20160630	US20150814624	20150731
US9557707 BB	20170131	US20150814624	20150731

Probable Assignee: BROTHER IND LTD

Assignee(s):(std)**:** BROTHER IND LTD

Assignee(s): BROTHER KOGYO KK

Inventor(s):(std)**:** MASUDA TAKEHIRO ; UEYAMA JUNKI

Agent(s): BANNER AND WITCOFF LTD

International class(IPC 8–9)**:** B41J29/13 G03G15/00 G03G21/16 H04N1/00 H05K5/03 (Advanced/Invention); H01H13/18 H01H3/16 (Advanced/Non–invention)

CPC: G03G21/1633 G03G15/55 G03G21/1619 H01H3/161 H01H13/186

US class: 399/110

Classification Explorer

Cited documents: US2013287434 AA, US2011285075 AA, US2011182614 AA, US2007098437 AA, JP2013242535 A2, JP2007168405 A2, JP2007121746 A2, JP2002067437 A2, JP10254328 A2,

Abstract:
Source: US2016187839A An image forming apparatus including a housing, a cover, an interlock switch, a locking assembly, and a biasing assembly. The housing may comprise a pair of frames spaced apart from each other, and may form an opening between the pair of frames. The cover may move between a covered position wherein the opening is covered and an opened position wherein the opening is uncovered. The interlock switch may be pressed by the cover when the cover is in the covered position. The locking assembly may move between a locking state wherein the locking assembly locks the cover in the covered position and a released state wherein the locking assembly allows the cover to move. Further, the biasing assembly may be positioned in or on at least one of the frames, and may bias the cover toward the opened position when the cover is in the covered position.

0) EP2662218B1 – TINTENKARTUSCHE FUER KOMPAKTE TINTENSTRAHLDRUCK...

154) Family number: 55129404 (EP2662218B1) © PatBase

Title: TINTENKARTUSCHE FUER KOMPAKTE TINTENSTRAHLDRUCKER INK CARTRIDGE FOR COMPACT INK JET PRINTERS

Priority: EP20120003570 20120508

Family:

Publication number	Publication date	Application number	Application date
DE502012000867 D1	20140807	DE201250000867T	20120508
EP2662218 A1	20131113	EP20120003570	20120508
EP2662218 B1	20140618	EP20120003570	20120508

Probable Assignee: WEBER HANS JOACHIM

Assignee(s):(std)**:** WEBER HANS JOACHIM

Inventor(s):(std)**:** WEBER HANS JOACHIM

Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL NO PL PT RO RS SE SI SK SM TR

International class (IPC 8–9): B41J2/175 (Advanced/Invention)

CPC: B41J2/1752 B41J2/17553 B41J2002/17516

Classification Explorer

Cited documents: WO03068514 A1, US2011096127 AA, US2010245468 AA, US2003067522 AA, EP1541357 A1, EP1510346 A2, EP1348558 A1,

Abstract:
Source: EP2662218A1 Ein Tintenstrahldrucksystem und hierzu passende Tintenkartuschen (10, 20) sind derart gestaltet, dass die Tintenkartuschen (10, 20) in platzsparender Weise in dem Gehaeuse peripher (310), insbesondere in einer Gehaeusewand oder einem Gehaeusedeckel angeordnet werden koennen. The ink cartridge (10) has housing (310) provided with a normalized form factor of 0.52 in particularly 0.44. A volume and surface of the housing of the cartridge are described. The housing includes two flat housing walls that run parallel to each other. A constant or varying distance between outer surfaces of the housing walls is ranged about 2.34 to 25 mm, where the outermost surfaces of the housing walls include size from 150 to 1200 square cm. A mechanical holding element is releasably supported in the housing. An independent claim is also included for a set of housings for an inkjet printing system or a portable computer.

0) US4814823A – IMAGE FORMING APPARATUS

155) Family number: 28851850 (US4814823A) © PatBase

Title: Image forming apparatus

Priority: JP19840085650 19840427 US19850727859 19850426 US19860915524 19861006 US19880168574 19880307 US19860916103 19861007 US19870029354 19870323 US19900498906 19900326 US19880243481 19880912

Family:

Publication number	Publication date	Application number	Application date
DE3564874 D1	19881013	DE19853564874	19850426
EP0159721 A1	19851030	EP19850105143	19850426
EP0159721 B1	19880907	EP19850105143	19850426
JP60230168 A2	19851115	JP19840085650	19840427
KR900005648 B1	19900801	KR19850002842	19850426
US4814823 A	19890321	US19870029354	19870323
US4857954 A	19890815	US19880168573	19880307
US4931837 A	19900605	US19890309912	19890214
US4956673 A	19900911	US19880243481	19880912
US5153646 A	19921006	US19900498906	19900326

Probable Assignee: TOSHIBA KK

Assignee(s):(std)**:** TOSHIBA CORP ; TOSHIBA KK

Assignee(s): KABUSHIKI KAISHA TOSHIBA

Inventor(s):(std)**:** IDE FUMITO ; IDE FUMITO C O PATENT DIVISION ; ISHI AKIHIKO ; MITSUHAYASHI TAKESHI ; NAKAZIMA MUNJO ; SANBAYASHI TAKESHI ; SANBAYASHI TAKESHI C O PATENT ; AKIYAMA YASUHISA ; AMAYA MIKIKO ; HAMANAKA OSAMU ; HAMANAKA OSAMU C O PATENT DIVI ; ABUYAMA YASUO ; ABUYAMA YASUO C O PATENT DIVIS ; SATO GUNIHIKO

Inventor(s): ABUYAMA YASUO C O PATENT DIVISION ; HAMANAKA OSAMU C O PATENT DIVISION ; SANBAYASHI TAKESHI C O PATENT DIVISION

Designated states: DE FR GB NL

International class (IPC 8–9): G03G15/01 G03G15/09 G03G21/00 (Advanced/Invention); G03G15/01 G03G15/09 G03G21/00 (Core/Invention)

International class (IPC 1–7): G03G15/00 G03G15/01 G03G15/06 G03G15/09 G03G21/00

CPC: G03G15/0126 G03G15/09

European class: G03G15/01D8 G03G15/09

US class: 118/645 118/657 355/14D 355/245 355/251 355/260 355/326 355/4 399/119 399/13 399/223 399/226 399/229 399/28 399/284

Classification Explorer

Cited documents: US4956673 A, US4814823 A, US4619514 A, US4591261 A, US4579443 A, US4511239 A, US4465356 A, US4460267 A, US4422405 A, US4408862 A, US4385829 A, US4373468 A, US4351604 A, US4264185 A, US4232961 A, US4165165 A, US4155638 A, US4097139 A, US4090787 A, US4077358 A, US3998537 A, US3987756 A, US3981576 A, US3976371 A, US3970042 A, US3960445 A, US3924944 A, US3841751 A,

Forward Citations: US9291989, US9280084, US7587150, US7272329, US7242872, US7236729, US7236710, US7013104, US6384940, US6088554, US6029018, US5794103, US5508792, US5426492, US5331381, US5321475, US5300991, US5257083, US5204713, US5172168, US5161084, US5153646, US5049930, US4958192, US4949124, US4897697, US4896193, US4891671, US4884096, US2015248074, US2006216050, US2006013600, US2005201764, US2005180765, JP61081662, EP0672962, EP0672962, EP0295187, DE3936236, DE3810211, DE3806559, DE3803489, DE3744328, DE3733665, DE3704993, DE3644355, DE3638869,

Abstract:
Source: US4814823A An image−forming apparatus is provided with a photosensitive drum rotatably located in a housing, and a developing device for developing the latent image formed on the surface of the photosensitive drum. A first developing unit of the developing device develops the latent image by a first red developing agent. A second developing unit develops the latent image by a second black developing agent. The first and second developing units are alernatively driven by a switch provided on a control panel which is located on the housing. A copy mode for black is automatically established when the power is turned on or if no operation is performed for a prescribed time after a foregoing copying operation, in a mode for any other color than black, is ended.

0) JP2000349942A – COMMUNICATION TERMINAL DEVICE

156) Family number: 12076202 (JP2000349942A) © PatBase

Title: COMMUNICATION TERMINAL DEVICE

Priority: JP19990154626 19990602

Family:

Publication number	Publication date	Application number	Application date
CN1276673 A	20001213	CN20001008703	20000530
CN1293741 C	20070103	CN20001008703	20000530
DE10027366 A1	20010118	DE20001027366	20000602
DE10027366 B4	20060706	DE20001027366	20000602
JP2000349942 A2	20001215	JP19990154626	19990602

Probable Assignee: RICOH KK

Assignee(s):(std)**:** RICOH KK

Assignee(s): ROCOH COMPANY LTD ; RICOH CO ; RICOH CO LTD

Inventor(s):(std)**:** KAZUYA TAKAHASHI ; TAKAHASHI KAZUYA

International class (IPC 8–9)**:** H04N1/00 (Advanced/Invention); H04M1/2745 (Advanced/Non–invention); H04N1/00 (Core/Invention); H04M1/274 (Core/Non–invention)

International class (IPC 1–7)**:** H04N1/00

CPC: H04M1/2745 H04N1/00352 H04N1/00384 H04N1/00397 H04N1/00405 H04N1/00408 H04N1/00466 H04N1/00488

European class: H04N1/00D2 H04N1/00D2K H04N1/00D2S H04N1/00D3 H04N1/00D3D H04N1/00D3D6 H04N1/00D3S

Classification Explorer

Cited documents: US5513253 A, JP8167949 A2, EP0864933 A1,

Abstract:
Source: JP2000349942A PROBLEM TO BE SOLVED: To improve operability by setting volume of a voice generated in response to a selected processing operation and adjusting the volume generation, when the processing operation corresponding to the volume is performed. SOLUTION: A display D01 is shown on an indicator, and volume adjustment is selected by a (?) key or a (–) key as to the volume of an item to be performed among an 'on–hook mode', a 'FAX transmission mode' and a 'FAX reception mode'. In display D02, the selection item 'on–hook mode' is selected, and the volume adjustment of the 'on–hook mode' is performed. A volume set position, corresponding to a volume setting position when a (Yes) key is pressed down, is made to correspond to the selected volume adjustment item and stored. Thus, a line signal to be outputted from a loudspeaker is outputted with stored new set volume in a subsequent 'on–hook mode'.

0) JP55096966A – TONER CARTRIDGE

157) Family number: 6785387 (JP55096966A) © PatBase

Title: TONER CARTRIDGE

Priority: JP19790003664 19790117

Family:

Publication number	Publication date	Application number	Application date
JP1025060 B4	19890516	JP19790003664	19790117
JP1541078 C3	19900131	JP19790003664	19790117
JP55096966 A2	19800723	JP19790003664	19790117

Probable Assignee: HITACHI METALS LTD

Assignee(s):(std)**:** HITACHI METALS LTD

Inventor(s):(std)**:** YAMASHITA KEITAROU

Inventor(s): YAMASHITA KEITARO

International class (IPC 8–9)**:** G03G15/08 (Advanced/Invention)

International class (IPC 1–7)**:** G03G15/08

Classification Explorer

Cited documents: JP52099832 A2, JP49117052 A2,

Forward Citations: US5669044, US4601259, JP57136953,

Abstract:
Source: JP55096966A PURPOSE: To perform toner replenishment rapidly and evenly by segmenting the inside of a cylindrical body to the plural toner containing chambers each having a toner effluent port closed by a sealing member. CONSTITUTION: The toner cartridge is constituted by the cylindrical vessel 11 which is composed of non−mangetic material, is provided with a knob 12 at one end and whose inside is divided to the plural toner containing chambers extending in its lengthwise direction. The toner effluent ports 11a, 11a' sealde by sealing members having protrusions 10a, 10a' are provided to the toner containing chambers in their lengthwise direction. Then, when the cartridge is rotated by the knob 12 after it has been loaded into the specified part of a developing box 1, the straight part of the semicylindrical body 10 tilts and the protrusion 10c at the end of the protrusion 10a is hooked by the end of the developing box 1, by which the protrusion 10a is detached from the end protrusion 10c to open the toner effluent port 11a, through which the toner 2 is replenised evenly into the development box 1 by the fingertip operation.

0) DE29913523U1 – DEVELOPER UNIT ENTWICKLEREINHEIT

158) Family number: 16999222 (DE29913523U1) © PatBase

Title:	Developer unit
Priority:	DE19992013523U 19990803

Family:

Publication number	Publication date	Application number	Application date
DE29913523 U1	19990930	DE19992013523U	19990803

Probable Assignee:	BEROLINA SCHRIFTBILD GMBH AND CO
Assignee(s):(std):	BEROLINA SCHRIFTBILD GMBH AND CO
Assignee(s):	BEROLINA SCHRIFTBILD GMBH AND CO KG
International class (IPC 8–9):	G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)
International class (IPC 1–7):	G03G15/08
CPC:	G03G15/0855 G03G15/0865 G03G15/0882 G03G15/0896 G03G2215/0687
European class:	G03G15/08H3 G03G15/08S S03G215/06C5

Classification Explorer

Forward Citations: WO06034626,

Abstract:
Source: DE29913523U1 (Claim 1) 1. Entwicklereinheit fuer eine Tonerkartusche mit einem Tonerbehaelter und einer Entwicklerstation, bei der zwischen dem Tonerbehaelter und der Entwicklerstation eine Dichtung angeordnet ist, deren Laengsraender zwischen jeweils einem Laengsflansch des Tonerbehaelters und einem Laengsflansch der Entwicklerstation gehalten werden, bei der sich an einem der Laengsflansche mindestens eines Laengsflanschpaars mindestens zwei im wesentlichen senkrecht zu diesem Laengsflansch orientierte, hintergreifbare Wandabschnitte anschliessen, waehrend unterhalb des anderen Laengsflansches des Laengsflanschpaars mindestens zwei zu diesem im wesentlichen parallele, aber nach innen versetzte Wandabschnitte vorgesehen sind, und bei der der Tonerbehaelter und die Entwicklerstation loesbar durch Klammern miteinander verbunden sind, dadurch gekennzeichnet, dass mindestens die einem Laengsflanschpaar (6, 7) zugeordneten Klammern (11; 22) an ihrem einen Ende einen im wesentlichen U–foermigen Haken (12; 23) und an ihrem anderen Ende eine Kralle (13; 24) aufweisen, dass die Haken (12; 23) den im Abstand vom jeweiligen Laengsflanschpaar gelegenen oberen Rand jeweils eines der senkrecht zu dem Laengsflanschpaar (6, 7) orientierten Wandabschnitte (19) uebergreifen und dass die Krallen (13; 24) gegen jeweils einen der parallel zu dem Laengsflanschpaar verlaufenden Wandabschnitte (21) anliegen.

Machine translation: (Claim 1) 1. Developer unit for a toner cartouche with a toner container and a developer station, with which between the toner container and the developer station a seal is arranged, their longitudinal edges between in each case a longitudinal flange of the toner container and a longitudinal flange of the developer station to be held, with at one of the longitudinal flanges at least one pair of longitudinal flanges of at least two essentially vertical, behind–seizable wall sections oriented to this longitudinal flange follow, while underneath the other longitudinal flange of the pair of longitudinal flanges at least two are intended to this essentially parallel, but inward transferred wall sections, and with which the toner container and the developer station are connected solvable by clips, is characterized by that at least a pair of longitudinal flanges (6, 7) the assigned clips (11; 22) at their end an essentially u–shaped one hook (12; 23) and at its other end a claw (13; 24) exhibit that the hooks (12; 23) the top margin one lain in the distance from the respective pair of longitudinal flanges that vertical wall sections (19), oriented to the pair of longitudinal flanges (6, 7), spread in each case and that the claws (13; that parallel to the pair of longitudinal flanges of running wall sections (21) fit to 24) against in each case one.

0) CN206292539U – THE TONER CARTRIDGE OF THE CHARGING ROLLER AND ...

159) Family number: 66241798 (CN206292539U) © PatBase

Title: The toner cartridge of the charging roller and the photosensitive drum separation off prevention member thereof using a toner cartridge (Machine translation)

Priority: CN201621439044U 20161226

Family:

Publication number	Publication date	Application number	Application date
CN206292539 U	20170630	CN201621439044U	20161226

Probable Assignee: ZHUHAI POLYCOM SUPPLIES LTD

Assignee(s): ZHUHAI POLYCOM SUPPLIES LTD

International class (IPC 8–9): G03G15/02 G03G15/08 (Advanced/Invention)

Classification Explorer

Abstract:
Source: CN206292539U The utility model relates to a cartridge with the photosensitive drum charging roller separating member and the use of its anti–off, anti–off separation member comprises a toner cartridge integrally formed straight shank, separation, the separated crank crank provided on the toner charging roller and the photosensitive drum separation of anti–off member, and the other end of the separation The crank includes a charging roll concave drag and anti–decoupling, the charging roller concave drag and the straight shank fixed connection, said retaining hook is provided on the charging roller concave drag away from the straight shank of the outermost end, the charging roller drag and the anti–off hook recess constituting the toner charging roller and the photosensitive drum separation off prevention member anti–off support groove. The utility model toner charging roller and the photosensitive drum separation, separated off by anti–off prevention member hooked crank charging roller, a charging roller and the photosensitive drum, can effectively prevent anti–separation member structure is simple, good anti–off effect, replacement, and low cost.

0) JP63032574A – TONER REPLENISHING DEVICE FOR ELECTROPHOTOGRAPH...

160) Family number: 9048711 (JP63032574A) © PatBase

Title: TONER REPLENISHING DEVICE FOR ELECTROPHOTOGRAPHIC SYSTEM PRINTER

Priority: JP19860175086 19860725

Family:

Publication number	Publication date	Application number	Application date
JP63032574 A2	19880212	JP19860175086	19860725

Probable Assignee: NEC CORP

Assignee(s):(std)**:** NEC CORP

Inventor(s):(std)**:** ASADA HIDEKAZU

International class (IPC 8–9)**:** G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)

International class (IPC 1–7)**:** G03G15/08

CPC: G03G15/0886 G03G15/0855 G03G15/0865 G03G2215/0692

European class: G03G15/08H3 S03G215/06C7

Classification Explorer

Forward Citations: US5933691, US5309208, US5235390, US5089854, JP3062069, JP2010113333, EP0843233,

Abstract:
Source: JP63032574A PURPOSE:To supply a toner to the inside of a device by one touch, by providing the toner shutter mechanism of a one–touch system, on a toner cartridge, and providing a lock releasing pin and a positioning guide, on the receiving part of the device. CONSTITUTION:A stopper 9 is detained to the side hook 6 of a guide 5 and holds a shutter 4 in a closed position, therefore, the shutter 4 holds a toner in a hermetic state. At the time of mounting a toner cartridge 11 to a device, it is mounted by inserting obliquely the rear part of the toner cartridge 11 into the positioning guide 12 of the device side and guiding the guiding hole 15 of a case body to the guide pin 14 of the front part of the device. In such time point, the stopper 9 is pushed up by a pin 13 and released, the shutter 4 slides on the slide guide 5 by the energizing force of a spring 8, the toner is supplied to the device from the toner supply port 16 of the device side, and the reliability is improved with a low cost.

161) Family number: 29801686 (US5041872A) © PatBase

Title: IMAGE FORMING APPARATUS USING A PHOTOSENSITIVE DRUM SELECTIVELY PIVOTING WITH AN UPPER PART OF THE HOUSING

Priority: JP19880119480U 19880912 JP19880285888 19881114 JP19880285888U 19881114 JP19890069284 19890323 JP19890069284U 19890323 JP19890122863U 19890518 JP19890122863 19890518

Family:

Publication number	Publication date	Application number	Application date
JP2788285 B2	19980820	JP19890122863	19890518
JP3007960 A2	19910116	JP19890122863	19890518
US5041872 A	19910820	US19890403709	19890906

Probable Assignee: RICOH KK

Assignee(s):(std)**:** RICOH KK

Assignee(s): RIKOO KK ; RICOH CO LTD ; RICOH COMPANY LTD

Inventor(s):(std)**:** AOKI HIDEO ; NUKAYA YASUYUKI

International class (IPC 8–9): G03G15/00 G03G15/16 G03G21/00 G03G21/16 (Advanced/Invention); G03G15/00 G03G15/16 G03G21/00 G03G21/16 (Core/Invention)

International class (IPC 1–7): G01D15/06 G03G15/00 G03G21/00 G03G21/16 H04N1/23

CPC: G03G21/1647 G03G21/1628 G03G2221/1606 G03G2221/1651 G03G2221/1654 G03G2221/1684 G03G2221/1687

European class: G03G21/16 S03G221/16B S03G221/16K S03G221/16K1 S03G221/16S2 S03G221/16S3 S03G221/18B

US class: 346/160.1 347/138 355/200 355/210 358/300 399/107 399/110

Classification Explorer

Cited documents: US4873548 A, US4862212 A, US4796037 A, US4760424 A, US4702587 A, US4642661 A, US4634264 A, US4588280 A, US4575221 A, US4386841 A, JPS62238582, JPS6095552, JPS6048067, JPS60217371, JPS60140264, JPS60104958, JPS59127073, JP62238582 A2, JP60217371 A2, JP60140264 A2, JP60104958 A2, JP60095552 A2, JP60048067 A2, JP59127073 A2,

Forward Citations: WO0103939, US9285760, US9213302, US8953978, US8608394, US8521064, US8095039, US7704001, US7643772, US7424249, US7382999, US7349648, US7162182, US7136609, US7065311, US7006776, US6571073, US6547288, US6456365, US6084622, US5930564, US5845110, US5828928, US5802427, US5787326, US5678139, US5587769, US5548379, US5528342, US5452098, US5418601, US5406807, US5323210, US5262824, US5155506, US5126789, US2014376959, US2013164025, US2012263498, US2011123246, US2008240780, US2008199211, US2007147882, US2007065174, US2006104665, US2006072929, US2005207781, US2005207780, US2004190934, US2002181969, US2002150404, JP8006335, JP3023402, JP2007065125, FR2796001, EP1218200, EP0877305, EP0877305, EP0689106, EP0689106, EP0622699, EP0622699, EP0533484, DE4434535, DE4220732,

Abstract:
Source: US5041872A The photosensitive drum unit of an image forming apparatus is selectively coupled to the upper cover. The user can elect to have the drum unit pivot up with the upper cover or stay in the main housing independently of movement of the upper cover. The same operation that controls whether the drum unit moves with the upper cover can control whether a kit holder stays in place in the main housing or pivots up to make it easier to change kit components such as a toner container.

0) JP6035321A – ELECTROPHOTOGRAPHIC RECORDER

162) Family number: 10898838 (JP6035321A) © PatBase

Title: ELECTROPHOTOGRAPHIC RECORDER

Priority: JP19920213296 19920717

Family:

Publication number	Publication date	Application number	Application date
JP6035321 A2	19940210	JP19920213296	19920717

Probable Assignee: RICOH KK

Assignee(s):(std)**:** RICOH KK

Assignee(s): ROCOH COMPANY LTD ; RICOH CO LTD

Inventor(s):(std)**:** MATSUMAE IWAO ; MIYAMOTO MASAYOSHI ; MOTOHASHI TAKESHI ; TAMIYA TAKAHIRO ; TANAKA YOSHIAKI ; TANZAWA ATSUSHI

International class (IPC 8–9): G03G15/00 G03G15/08 (Advanced/Invention); G03G15/00 G03G15/08 (Core/Invention)

International class (IPC 1–7): G03G15/00 G03G15/08

CPC: G03G15/0886 G03G15/0872 G03G2215/067

European class: S03G215/06C1A2

Classification Explorer

Forward Citations: WO06093362, WO06052028, WO06046466, US9690231, US9658568, US9612571, US9494891, US9483017, US9366993, US9348306, US9239565, US9201340, US9146532, US9122232, US8862035, US8862034, US8792804, US8737876, US8693926, US8606140, US8554116, US8509658, US8478163, US8472848, US8463164, US8369753, US8320801, US8295743, US8254807, US8190068, US7991333, US7925182, US7848685, US7742724, US6526243, US6456810, US6438345, US6185401, US2016313674, US2016109827, US2013302067, RU2472200, JP5144939, JP2011175303, JP2008191578, JP2008076887, EP2816422, EP1927897, EP1437632, EP0905577, AU2010246543,

Abstract:
Source: JP6035321A PURPOSE:To improve operability when the toner replenishing is carried out by opening a shutter of a toner cartridge after the toner cartridge is attached to a developing device. CONSTITUTION:The shutter is provided to freely rotate and seal an opening 46 in the toner cartridge 31, while an inputting gear 63 is provided on one edge of the shutter, an idler gear 61 engaged with the inputting gear 63 and a rotating member 60 which is engaged with the idler gear 61 are provided. The rotating member 60 is provided to freely rotate on one edge of an agitator shaft 50 of the toner cartridge 31 and one end of an energizing member 64 energizing in the direction to close the shutter is hooked onto the rotational member 60. On the other hand, an actuating protrusion 68 is provided in a top construction body 10b to be engaged with the rotational member 60 when being closed and to rotate the rotational member 60 against the energizing member 64. Then, after the toner cartridge 31 is attached to the developing device 13, the shutter is opened or closed in a motion linked with the opening/closing action of the top construction body 10b of the device main body.

0) US6052548A – BELT AND CARTRIDGE ARRANGEMENT FOR STORING AND ...

163) Family number: 29170375 (US6052548A) © PatBase

Title: Belt and cartridge arrangement for storing and replacing a photosensitive belt

Priority: JP19980054126 19980220

Family:

Publication number	Publication date	Application number	Application date
JP11237809 A2	19990831	JP19980054126	19980220
JP3001495 B2	20000124	JP19980054126	19980220
US6052548 A	20000418	US19990251659	19990217

Probable Assignee: FUJI XEROX CO LTD

Assignee(s):(std)**:** NEC CORP ; NEC NIIGATA LTD

Assignee(s): FUJI XEROX CO LTD

Inventor(s):(std)**:** YAMAMOTO KAZUOKI

International class (IPC 8–9)**:** G03G15/00 G03G21/00 G03G21/16 (Advanced/Invention); G03G15/00 G03G21/00 G03G21/16 (Core/Invention)

International class (IPC 1–7)**:** G03G15/00 G03G15/02 G03G21/00 G03G21/16

CPC: G03G15/754 G03G2221/1615

European class: G03G15/75D S03G221/16B2

US class: 399/107 399/110 399/116 399/162

Classification Explorer

Cited documents: US5708924 A, US5417322 A, US4198155 A,

Forward Citations: US8453309, US7532841, US7310488, US6393236, US6363600, US6295427, US6175704, US2010095503, US2007206972, US2005095029,

Abstract:
Source: US6052548A A flexible, endless photosensitive belt is supported in a printer to form a predetermined traveling trace. This photosensitive belt includes a plurality of belt holes formed in an end portion in a widthwise direction of the photosensitive belt.

164) Family number: 6572453 (JP59038768A) © PatBase

Title: TONER SUPPLY DEVICE IN DRY TYPE DEVELOPING DEVICE

Priority: JP19820148829 19820827

Family:

Publication number	Publication date	Application number	Application date
JP59038768 A2	19840302	JP19820148829	19820827

Probable Assignee: FUJI XEROX CO LTD

Assignee(s):(std)**:** FUJI XEROX CO LTD

Assignee(s): FUJI XEROX KK

Inventor(s):(std)**:** TSUKIJI TOSHIKAZU

International class (IPC 8–9)**:** G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)

International class (IPC 1–7)**:** G03G15/08

CPC: G03G15/0822

European class: G03G15/08H

Classification Explorer

Forward Citations: JP62043672, JP6095250, JP5042630, JP3052754, JP1965554,

Abstract:
Source: JP59038768A PURPOSE:To eliminate the deposition of a toner on both sides of the slit of a toner cartridge, by vibrating the toner cartridge by a mechanism consisting of a cam, a lever which rocks according to the rotation of the cam and a tension spring which keeps the lever in contact with the cam at all times. CONSTITUTION:A cam 8 is mounted to the revolving shaft of a toner supply brush 4. A lever 9 is mounted freely turnably around a pivotal shaft 10 so as to contact with the cam 8. The lever 9 is constituted of two arm parts 9a, 9b, and a tension spring 11 is hooked to the tip of the arm 9a, by which the arm 9a is brought into contact with the cam 8 at all times. On the other hand, the tip of the arm 9b is adjacent to the outside surface of a toner cartridge 1. When the cam 8 rotates, the arm 9a pivots around the shaft 10 as shown by an arrow, then the tip of the arm 9b taps periodically the outside surface of the cartridge 1 thereby vibrating the cartridge 1.

0) JP55089871A – DEVELOPER CARTRIDGE

165) Family number: 6778370 (JP55089871A) © PatBase

Title: DEVELOPER CARTRIDGE

Priority: JP19780165864 19781227

Family:

Publication number	Publication date	Application number	Application date
JP55089871 A2	19800707	JP19780165864	19781227

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK

Inventor(s):(std)**:** MORIKAWA TERUO ; MURATA SHINJI ; TORIKAI AKIYOSHI

International class (IPC 8–9)**:** G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)

International class (IPC 1–7)**:** G03G15/08

Classification Explorer

Abstract:
Source: JP55089871A PURPOSE:To realize easy attaching and detaching and prevent scattering of developer, by providing developer bag, inserting means, blocking means, hooking means, and sealing means. CONSTITUTION:A developer cartridge 1 consists of a developer bag 3 having a replenishing toner 2 and to one end of this bag, a socket 4 which is fitted to one end of this bag and inserted to a hopper 8 of a developing device when replacing the cartridge, a blocking means 6 to block the toner 2 within the bag by joining the developer bag 3 along the opening part 4a of the socket 4, and a hooking part 7 provided on the other end of the developer bag 3. When replacing the cartridge 1, the hooking part 7 of the developer bag 3 is detached from a hanging piece 10, and blocking members 6a, 6b are engaged with each other to close the opening of the bag. Then, by detaching the socket 4 from the hopper 8, a new cartridge is fitted. Thus, the cartridge can be replaced easily, and scattering of the toner when replacing may be prevented by the blocking members.

0) JP8254888A – IMAGE FORMING DEVICE, PROCESS CARTRIDGE, DEVELO...

166) Family number: 13838730 (JP8254888A) © PatBase

Title: IMAGE FORMING DEVICE, PROCESS CARTRIDGE, DEVELOPING DEVICE AND DEVELOPER REPLENISHMENT CONTAINER

Priority: JP19950086535 19950316

Family:

Publication number	Publication date	Application number	Application date
JP8254888 A2	19961001	JP19950086535	19950316

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK

Assignee(s): CANON INC ; CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** KOBAYASHI KAZUNORI ; MATSUZAKI SUKEOMI

International class (IPC 8–9)**:** G03G15/08 G03G21/16 G03G21/18 (Advanced/Invention); G03G15/08 G03G21/16 G03G21/18 (Core/Invention)

International class (IPC 1–7)**:** G03G15/08 G03G21/16 G03G21/18

Classification Explorer

Abstract:
Source: JP8254888A PURPOSE: To improve operability of a toner seal of a developer replenishment container, at the time of attaching the developer replenishment container to a process cartridge. CONSTITUTION: The toner seal 9 for sealing an opening part 8b of the developer replenishment container 8 is provided with a hooking part 9a. When the toner seal take–up device 10 is set to the process cartridge and the developer replenishment container 8 is attached to the process cartridge, the hooking part 9a is engaged to a gear 10a of the toner seal take–up device 10, and the toner seal 9 is automatically stripped off by driving the take–up device 10.

167) Family number: 13958749 (JP8286485A) © PatBase

Title: IMAGE FORMING DEVICE, PROCESS CARTRIDGE DEVELOPING DEVICE AND DEVELOPER REPLENISHING CONTAINER

Priority: JP19950109047 19950410

Family:

Publication number	Publication date	Application number	Application date
JP8286485 A2	19961101	JP19950109047	19950410

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK

Assignee(s): CANON INC ; CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** ISHII YASUYUKI ; KISU HIROKI ; OGATA HIROAKI ; SANO TETSUYA ; YAMAUCHI KAZUMI ; YAMAZAKI MICHIHITO

International class (IPC 8–9): G03G15/08 G03G21/00 G03G21/18 (Advanced/Invention); G03G15/08 G03G21/00 G03G21/18 (Core/Invention)

International class (IPC 1–7): G03G15/08 G03G21/00 G03G21/18

Classification Explorer

Forward Citations: US7184685,

Abstract:
Source: JP8286485A PURPOSE: To enable surely replenishing toner with a simple operation, without scattering the toner, at the time of replenishing the toner, preventing the defec tive replenishment of toner due to such as aggregation of the toner, and control ling the replenishment frequency so as to match the frequency with a life of an electrophotographic photoreceptor or the like. CONSTITUTION: This process cartridge is provided with rotary blades 34 and 35 for holding a developer replenishment container 500 on opposing walls of a loading part 3c, and a tearing member 33 for tearing seals 52 and 53 of the developer replenishment container 500 on center part. The rotary blade 34 is rotated while linked with opening of the developer container cap 36, an open/ closing control member 37 is engaged with a hook 36a of the developer container cap 36 based on rotation frequency of the rotary blade 35, and the toner replenishment exceeding a specified rotation frequency is inhibited. The smooth falling of the toner is allowed at the time of replenishment of the toner, by making a gap between a case 50 and a tearing member 33 to a specified width.

0) CN201368965Y – OPENING AND CLOSING DEVICE OF TONER CARTRIDGE

168) Family number: 44190023 (CN201368965Y) © PatBase

Title: Opening and closing device of toner cartridge

Priority: CN200920003326U 20090119

Family:

Publication number	Publication date	Application number	Application date
CN201368965 Y	20091223	CN200920003326U	20090119

Probable Assignee: GEN PLASTIC IND CO LTD

Assignee(s):(std)**:** GEN PLASTIC IND CO LTD ; GENERAL PLASTIC INDUSTRIAL CO LTD

Assignee(s): GENERAL PLASTIC INDUSTRIAL CO

Inventor(s):(std)**:** QINGHE HUANG

Inventor(s): HUANG QINGHE

International class (IPC 8–9): G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)

Classification Explorer

Forward Citations: WO13044756,

Abstract:
Source: CN201368965Y The utility model relates to an opening and closing device of a toner cartridge, which comprises a base and a sliding piece. The toner cartridge is provided with a case and a toner outlet. The base is arranged on the bottom side of the case. A space for holding the sliding piece is arranged between the base and the case. The base is provided with a guide slot. The sliding piece is provided with a body, a cantilever, a hook and a guide post, wherein the body is arranged in the holding space, the cantilever extends out of the body, the hook is arranged on the cantilever and the guide post extends out of the cantilever and extends into the guide slot of the base. When the sliding piece moves to different positions, the toner outlet can be opened or closed. Moreover, the guide post can move along the guide slot to elastically deform the cantilever, so as to change the position of the hook. The utility model has the advantages that the opening and closing device is not apt to be deformed, the false action is avoided and the manufacturing cost is reduced.

0) JP2011107617A – TONER CARTRIDGE

169) Family number: 49313592 (JP2011107617A) © PatBase

Title: TONER CARTRIDGE

Priority: JP20090265241 20091120

Family:

Publication number	Publication date	Application number	Application date
JP2011107617 A2	20110602	JP20090265241	20091120

Probable Assignee: FUJI XEROX CO LTD

Assignee(s):(std)**:** FUJI XEROX CO LTD

Inventor(s):(std)**:** KUGE HIDEKI ; MURATA SHIGEMI ; SUZUKI HIDEO

International class (IPC 8–9)**:** G03G15/08 (Advanced/Invention)

Classification Explorer

Abstract:
Source: JP2011107617A PROBLEM TO BE SOLVED: To provide a toner cartridge that decreases the amount of toner remaining along a rear end of a container between a conveying member and the rear end of the container around a supporting member for supporting the end of the conveying member. SOLUTION: The toner cartridge includes: a cylindrical container body 35a storing toner; a conveying member 35e in the container body 35a to stir and convey the toner; and a supporting member 35d which protrudes at the rear end of the container body 35a and supports the conveying member 35e by hooking one end of the conveying member 35e. A part of the conveying member 35e has a shape to scrape off the toner remaining along the rear end.

0) CN203433268U – CONDUCTIVE EDGE COVER OF TONER CARTRIDGE AND MO...

170) Family number: 55787962 (CN203433268U) © PatBase

Title: CONDUCTIVE EDGE COVER OF TONER CARTRIDGE AND MOUNTING STRUCTURE OF TONER CARTRIDGE CHIP

Priority: CN201320524677U 20130826

Family:

Publication number	Publication date	Application number	Application date
CN203433268 U	20140212	CN201320524677U	20130826

Probable Assignee: ZHONGSHAN DIMAI MOLD PLASTIC CO LTD

Assignee(s):(std)**:** ZHONGSHAN DIMAI MOLD PLASTIC CO LTD

Assignee(s): ZHONGSHAN DIMAI MOLD PLASTIC CO

Inventor(s):(std)**:** GU YAOHUA

International class (IPC 8–9): G03G15/00 (Advanced/Invention)

Classification Explorer

Abstract:
Source: CN203433268U The utility model discloses a conductive edge cover of a toner cartridge. The conductive edge cover comprises a cover body, wherein the cover body is provided with an accommodation body, and the accommodation body is provided with an accommodation cavity with an upward opening; the accommodation body comprises a bottom surface, and a first wall, a second wall, a third wall and a fourth wall, which are connected to the edge of the bottom surface; an elastic buckling part is arranged at the middle of the first wall, a clamping hook is arranged on the elastic buckling part, and the clamping hook extends out from the middle of the accommodation cavity for a certain length; a stop dog is arranged on the upper end of the third wall, a supporting platform is arranged on the lower end of the third wall, and the stop dog and the supporting platform extend out from the middle of the accommodation cavity for a certain length, respectively; and the clamping hook is transformed between a locking position and an opening position by means of the elasticity of the elastic buckling part. The utility model also discloses a mounting structure of a toner cartridge chip. The mounting structure comprises a chip and the conductive edge cover, wherein the chip is detachably assembled on the conductive edge cover.

0) CN104199264A – TONER CARTRIDGE

171) Family number: 57977177 (CN104199264A) © PatBase

Title:	TONER CARTRIDGE
Priority:	CN201410497893 20140925

Family:

Publication number	Publication date	Application number	Application date
CN104199264 A	20141210	CN201410497893	20140925

Probable Assignee:	PRINT RITE UNICORN IMAGE PRODUCTS CO LTD ZHUHAI
Assignee(s):(std)**:**	PRINT RITE UNICORN IMAGE PRODUCTS CO LTD ; PRINT RITE UNICORN IMAGE PRODUCTS CO LTD ZHUHAI
Assignee(s):	PRINT RITE UNICORN IMAGE PRODUCTS CO
Inventor(s):(std)**:**	HUANG ZONGQIAN ; YAN YUWEN
International class (IPC 8–9):	G03G15/08 (Advanced/Invention)

Classification Explorer

Abstract:
Source: CN104199264A The invention provides a toner cartridge which comprises a rotary container main body, a toner discharge component, a sealing component, a sealing component driving rod as well as a transmission component, wherein the transmission component comprises a base part and an elastic arm; one end of the elastic arm in the axial direction is connected with the base part; a second through hole is formed in the base part; the sealing component driving rod penetrates through the second through hole; the elastic arm comprises a column body and a hook–shaped convex; the hook–shaped convex comprises a bottom side opposite to the base part; an obtuse angle is formed between the bottom side and the column. The toner cartridge provided by the invention is relatively simple in structure and can be conveniently assembled and disassembled as a connecting component is eliminated, and the transmission component can be directly connected with a rotary driving component in a developer.

0) JP6019301A – TONER CARTRIDGE FOR DEVELOPING DEVICE

172) Family number: 10851107 (JP6019301A) © PatBase

Title: TONER CARTRIDGE FOR DEVELOPING DEVICE

Priority: JP19920200590 19920703

Family:

Publication number	Publication date	Application number	Application date
JP6019301 A2	19940128	JP19920200590	19920703

Probable Assignee: RICOH KK

Assignee(s):(std)**:** RICOH KK

Assignee(s): ROCOH COMPANY LTD ; RICOH CO LTD

Inventor(s):(std)**:** AOKI HIDEO

International class (IPC 8–9): G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)

International class (IPC 1–7): G03G15/08

Classification Explorer

Forward Citations: JP2861975, JP10135706,

Abstract:
Source: JP6019301A PURPOSE: To shorten a distance for pulling a film sheet which closes an aperture for supplying toner in the case of peeling the film sheet and to make space required for pulling it small. CONSTITUTION: The sticking side sheet part 40a of the endless film sheet 40 is stuck to a toner cartridge 31 so as to close the aperture 31b for supplying the toner. In the case of supplying the toner, the cartridge 31 is attached to a developing device main body, and then the film sheet 40 is pulled by the length L of the sheet part 40a by hooking a finger at finger hook part 40b. While a non−sticking side sheet part 40c is fed to the sheet part 40a, the film sheet 40 is peeled to open the aperture 31b.

0) JP8305148A – TONER CARTRIDGE AND DEVELOPING DEVICE

173) Family number: 14032803 (JP8305148A) © PatBase

Title: TONER CARTRIDGE AND DEVELOPING DEVICE

Priority: JP19950114950 19950512

Family:

Publication number	Publication date	Application number	Application date
JP8305148 A2	19961122	JP19950114950	19950512

Probable Assignee: MITA INDUSTRIAL CO LTD

Assignee(s):(std)**:** MITA INDUSTRIAL CO LTD

Assignee(s): MITA IND CO LTD

Inventor(s):(std)**:** JIYOUROKU KAZUO

International class (IPC 8–9)**:** G03G15/08 G03G21/16 (Advanced/Invention); G03G15/08 G03G21/16 (Core/Invention)

International class (IPC 1–7)**:** G03G15/08 G03G21/16

Classification Explorer

Forward Citations: WO08004566, US8787803, US8750753, US8121518, US7783234, US7711294, JP3913349, JP2012098501, JP2012037837, JP2011022616, JP2008083549, JP2006343359, JP2005345874, JP11198511,

Abstract:
Source: JP8305148A PURPOSE: To reduce the scattering of toner from a cartridge as for as possible. CONSTITUTION: The toner cartridge 35 is of a cylindrical one detachably attached to a developing unit 12 for developing an electrostatic latent image with the toner and provided with an inner cylinder member 41, an outer cylinder member 42, a locking pawl 55 and an attaching groove 52. The inner cylinder member 41 houses the toner inside and an opening 43 is formed in the periphery of the member 41. The outer cylinder member 42 is arranged to enable a relative rotation on the outer peripheral side of the inner cylinder member 41 and a periphery 44 capable of facing the opening 43 is formed in the periphery of the member 42. The locking pawl 55 is of a hook–like member and projected outward on the periphery of the inner cylinder member 41, the top end is locked to the inner periphery of the outer cylinder member 42 and the locking is released at the time of attaching. The attaching groove 52 is formed like a U– shape and arranged in the end surface of the inner cylinder member 41 and guides it, to attach it to the developing unit 12 in a radial direction.

0) JP2005031229A – TONER CARTRIDGE

174) Family number: 31753082 (JP2005031229A) © PatBase

Title: TONER CARTRIDGE

Priority: JP20030194194 20030709

Family:

Publication number	Publication date	Application number	Application date
JP2005031229 A2	20050203	JP20030194194	20030709

Probable Assignee: FUJI XEROX CO LTD

Assignee(s):(std)**:** FUJI XEROX CO LTD

Inventor(s):(std)**:** ARAI KUNINORI ; KITAGAWA HIROAKI ; KONO HIROMI ; ONO YUJI ; SUGIMOTO RYOJI

International class (IPC 8–9)**:** B65D83/06 G03G15/08 (Advanced/Invention); B65D83/06 G03G15/08 (Core/Invention)

International class (IPC 1–7)**:** B65D83/06 G03G15/08

Classification Explorer

Forward Citations: US8655235, US8224205, US8023864, US7881633, US7792469, US7792468, JP5879928, JP5664266, JP5660378, JP5516206, JP5504814, JP2013092660, JP2012150319, JP2012058411, JP2012037673, JP2012018376, JP2011085633, JP2009186554, EP2045667, EP2045667,

Abstract:
Source: JP2005031229A PROBLEM TO BE SOLVED: To prevent the leakage of toner through a shutter part of a toner outlet due to deterioration with time of the toner after storing. SOLUTION: A guide rail part 20 is arranged in the side part facing the outlet edge part 14 formed around the toner outlet 12. The inside surface of the flat plate part 21 of the shutter member 22 on the leading end side in a closing operation direction is formed to a guide–in part 23 as an inclined face separated from the top face of the outlet edge part toward the open end. An elastic shielding member 24 is arranged over a range corresponding to the toner outlet from the guide–in part 23 to the toner outlet 12 in the flat plate part 21 of the shutter member 22. Each guide projection piece 26 bent in a hook shape from each side part of the flat plate part 21 of the shutter member 22 comes into contact with the corresponding guide rail part 20, and the contact pressure when the elastic shielding member 24 is brought into contact with the outlet edge part 14 is set so that the toner leakage can be prevented.

0) JP5053384A – PROCESS CARTRIDGE

175) Family number: 9349732 (JP5053384A) © PatBase

Title: PROCESS CARTRIDGE

Priority: JP19910240372 19910827

Family:

Publication number	Publication date	Application number	Application date
JP5053384 A2	19930305	JP19910240372	19910827

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK

Assignee(s): CANON INC ; CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** KARAKAMA TOSHIYUKI ; TSUDA TADAYUKI

International class (IPC 8–9)**:** G03G15/00 G03G21/00 G03G21/10 (Advanced/Invention); G03G15/00 G03G21/00 G03G21/10 (Core/Invention)

International class (IPC 1–7)**:** G03G15/00 G03G21/00

Classification Explorer

Forward Citations: US8417152, US7529502, US7362986, US7352989, US7218887, US7139493, US7062182, US7043169, US7027755, US7020418, US6266502, JP2013045116, JP2010079263, JP2006154744, EP1653299,

Abstract:
Source: JP5053384A PURPOSE: To prevent the leakage of toner from occurring when the temperature of a cartridge rises by sticking a machine sheet for guiding residual toner on an image carrier to a discharged toner container part to a frame and integrally molding a reinforcing rib with the frame from the vicinity of a sticking part. CONSTITUTION: The residual toner on a photosensitive drum 2 on which an image has been transferred is removed by a cleaning blade 30 and accumulated in the discharged toner container part 32 through the machine sheet 31 which rubs the photosensitive drum 2. The reinforcing ribs 35 integrally molded with a lower frame 1_{a-2} from the vicinity of the sticking part 34 of the sheet 31 are provided at several spots in the longitudinal direction of the photosensitive drum 2, and each of the ribs is engaged with a cleaning blade sheet material 30a by the hook 36 of the rib 35. The sheet material 30a is less affected by heat than the material of the container of the process cartridge 1, and the thermal deformation of the sticking part 34 of the sheet 31, which occurs when the temperature of the cartridge 1 rises, is prevented by engaging several ribs 35 with the cleaning blade sheet material 30a which is difficult to be deformed.

0) JP5100519A – IMAGE FORMING DEVICE

176) Family number: 10020743 (JP5100519A) © PatBase

Title: IMAGE FORMING DEVICE

Priority: JP19910264027 19911011

Family:

Publication number	Publication date	Application number	Application date
JP5100519 A2	19930423	JP19910264027	19911011

Probable Assignee: MITA INDUSTRIAL CO LTD

Assignee(s):(std)**:** MITA INDUSTRIAL CO LTD

Assignee(s): MITA IND CO LTD

Inventor(s):(std)**:** KOBAYASHI MASAHIKO

International class (IPC 8–9)**:** G03G15/00 G03G15/08 G03G21/00 (Advanced/Invention); G03G15/00 G03G15/08 G03G21/00 (Core/Invention)

International class (IPC 1–7)**:** G03G15/00 G03G15/08

Classification Explorer

Forward Citations: JP2012118248,

Abstract:
Source: JP5100519A PURPOSE:To provide the image forming device capable of informing it has reached the limit of life of the device when toner is filled up in a toner recovering container. CONSTITUTION:An engaging claw 8 is provided in the vicinity of an attachment part of a toner cartridge 6. This engaging claw 8 is energized rotatably in the direction D by an extention spring 11. When the service life of the copying machine expires while the total copied number of pieces reaches a specified number, a rod 27 is pushed in the direction B. Then, the release wheel 28 is rotated in the direction C by a horizontal part 27b of a rod 27. When a release wheel turns and a projection 28b is taken off from a hooked part 8a of an engaging claw 8 by a release wheel 28, the engaging claw 8 is rotated in the direction D by the extension spring 11, and the claw is fitted into an engaging groove 7 of the toner cartridge. The detachment of the toner cartridge 6 is prevented by the engaging of the engaging claw 8 and the engaging groove 7.

177) Family number: 11282390 (JP6161173A) © PatBase

Title: PROCESS CARTRIDGE, IMAGE FORMING DEVICE AND CLEANING DEVICE

Priority: JP19920334940 19921124

Family:

Publication number	Publication date	Application number	Application date
JP6161173 A2	19940607	JP19920334940	19921124

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK

Assignee(s): CANON INC ; CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** MIYABE SHIGEO ; SATO MINORU

International class (IPC 8–9)**:** G03G15/00 G03G15/08 G03G21/00 G03G21/10 (Advanced/Invention); G03G15/00 G03G15/08 G03G21/00 G03G21/10 (Core/Invention)

International class (IPC 1–7)**:** G03G15/00 G03G15/08 G03G21/00

Classification Explorer

Forward Citations: JP8040347, JP3781102, JP2006031000, JP2002296991, EP0744671,

Abstract:
Source: JP6161173A PURPOSE:To facilitate the assembling/disassembling of a developing container and a cleaning container so as to improve recycling efficiency by providing a lid member for covering the opening part of a developer container for storing a developer, and making this lid member removable. CONSTITUTION:The opening edge part of a toner container 10a is provided with a connecting hole part 10a3, and a lid body 10f is provided with a hook part 10f1 lockable to the hole part 10a3. An opening part 10a2 can be closed by the lid member 10f by fitting–locking the hook part 10f1 into the connecting hole part 10a3. With the lid member 10f fitted in this way, the lid member 10f can be removed easily at the recycling time by releasing the lock of the hook part 10f1. In the same way, the opening edge part of a waste toner container is provided with a connecting hole part, and a lid body is provided with a hook part lockable to the hole part. With the lid members thus fitted respectively to the toner container 10a and the waste toner container, assembling/ disassembling is facilitated without using an ultrasonic welder or the like.

0) JP6202470A – DEVELOPING DEVICE

178) Family number: 11410046 (JP6202470A) © PatBase

Title: DEVELOPING DEVICE

Priority: JP19920348496 19921228

Family:

Publication number	Publication date	Application number	Application date
JP6202470 A2	19940722	JP19920348496	19921228

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK

Assignee(s): CANON INC ; CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** NUMAGAMI ATSUSHI ; OSHIMA MASAKI ; YASHIRO MASAHIKO

International class (IPC 8–9)**:** G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)

International class (IPC 1–7)**:** G03G15/08

Classification Explorer

Abstract:
Source: JP6202470A PURPOSE: To horizontally pull out a film and to prevent the soiling of the hand and clothes of a user caused by the leakage of toner and a paper after being printed out caused by the dropping of the toner inside a main body by providing an annular part for pulling out the film on the knob part of a shield film. CONSTITUTION: An annular hole 28a is provided on the side part of the pulling out side of the film 28. Thereby, an operator intends to hook the annular hole 28a on a moderate hook 100, hold and pull a process cartridge in the direction of the arrow and pull out a toner seal. At this time, the annular hole 28a is formed into a circular shape, so that even if the process cartridge is held by the hand with vertical and horizontal angles, the film is pulled horizontally in a pulling out direction, that is, in parallel with the longitudinal direction of a developing unit, so as not to tear off a toner leakage preventing seal. When the hook 100 is attached to the side of an image forming device, the developing device is very easily used by a user.

0) JP8146738A – POWDER REPLENISHING CARTRIDGE

179) Family number: 13508426 (JP8146738A) © PatBase

Title: POWDER REPLENISHING CARTRIDGE

Priority: JP19940286376 19941121

Family:

Publication number	Publication date	Application number	Application date
JP8146738 A2	19960607	JP19940286376	19941121

Probable Assignee: CASIO ELECTRONICS MFG CO

Assignee(s):(std): CASIO COMPUTER CO LTD ; CASIO ELECTRONICS MFG CO

Assignee(s): CASIO COMPUT CO LTD ; CASIO ELECTRON MFG CO LTD

Inventor(s):(std): TAKASHIKA MORIMICHI

International class (IPC 8–9): G03G15/08 G03G21/16 (Advanced/Invention); G03G15/08 G03G21/16 (Core/Invention)

International class (IPC 1–7): G03G15/08 G03G21/16

Classification Explorer

Abstract:
Source: JP8146738A PURPOSE: To provide a powder replenishing cartridge preventing the scattering or the transfer to other places of the residual powder of a used cartridge to be unloaded when the opening completion of a new powder replenishing cartridge is confirmed and also after the opening completion. CONSTITUTION: The toner replenishing cartridge 10 houses toner 17 at the inside of a container main body 11 and is positioned and fixed by fitting a fitting part 11b in the slide groove of a developing part. The sealing part 12a of sealing tape 12 seals a lower aperture 11a, and the end part of an extended part 12b folded back is locked at an opening operation lever 15. One end of an engaging member 13 is engaged to the inside of a folded back part to slide freely and the other end is locked at a tension spring 14 and is pressed upward. The opening operation lever 15 raises with a hook body 15a by a pulling–up operation against the energying force of the tension spring 14 and pulls out a sealing member 12 and opens the sealing of the aperture 11a made by the sealing part 12a. When the hook body 15a ascends to a hole 16b, the tip stretches so as to release bending, and the descent of the opening operation lever 15 is allowed.

180) Family number: 15149256 (US4926219A) © PatBase

Title: IMPROVED PAPER HANDLING MECHANISM IN CONJUNCTION WITH IMAGE FORMING APPARATUS SUCH AS LASER PRINTERS

Priority: JP19870243899 19870930 JP19870311059 19871210 JP19880240675 19880928 JP19880116812 19880516 JP19880240676 19880928

Family:

Publication number	Publication date	Application number	Application date
JP1250966 A2	19891005	JP19880240676	19880928
JP2050168 A2	19900220	JP19880240675	19880928
JP2724598 B2	19980309	JP19880240676	19880928
US4926219 A	19900515	US19880251394	19880930

Probable Assignee: RICOH KK

Assignee(s):(std): RICOH KK

Assignee(s): RIKOO KK ; RICOH CO LTD ; RICOH COMPANY LTD

Inventor(s):(std): HIRASAWA JUNICHI ; IIDA TORU ; KODAMA YUTAKA ; SATO YUICHI

International class (IPC 8–9): G03G15/00 G03G15/16 G03G21/00 G03G21/06 G03G21/16 G03G21/18 (Advanced/Invention); G03G15/00 G03G15/16 G03G21/00 G03G21/06 G03G21/16 G03G21/18 (Core/Invention)

International class (IPC 1–7): G03G15/00 G03G15/16 G03G21/00 G03G21/18

CPC: G03G21/1623 G03G21/1647 G03G21/168 G03G21/1814 G03G15/165 G03G21/1821 G03G2221/1642 G03G2221/1654 G03G2221/1657 G03G2221/166 G03G2221/1684 G03G2221/1693 G03G2221/1869

European class: G03G15/16E1G G03G21/18C3 G03G21/18C4C S03G221/16G S03G221/16K1 S03G221/16K2 S03G221/16K3 S03G221/16S2 S03G221/16T S03G221/18P3B

US class: 355/200 355/309 399/113 399/121 399/316 399/90

Classification Explorer

Cited documents: US4809033 A, US4685792 A, US4478506 A, US4464042 A, US4386838 A, JP58181074 A2, JP57007043 B4,

Forward Citations: US9400483, US9188941, US8837981, US8606145, US8570352, US8340549, US8087575, US7986911, US7675536, US7664445, US7639965, US7298991, US7162182, US7136609, US7127195, US6198903, US5227841, US5221943, US5138396, US5041871, US5005053, US2012250057, US2011158678, US2009190955, US2008056780, US2007248377, US2007247511, US2007036584, US2005281584, US2005207781, US2005207780, JP9190094, JP3623489, JP3515262, JP2006078575, JP2004004864, JP2003323016, EP1367460, EP0871091, EP0871091,

Abstract:
Source: US4926219A An image forming apparatus having an image forming case which is removably mounted on a body of the apparatus and loaded with a photoconductive drum, developing unit and a cleaning unit integrally therewith. A transfer charger unit and a register roller unit are each removably mounted on the image forming case by a holder. The holders of the transfer charger unit and register roller unit are individually accurately positioned relative to the case by a positioning mechanism when mounted on the case. The transfer charger unit is surely grounded when mounted on the case. An upper and a lower guide plate are interposed between the register roller unit and the photoconductive element for guiding a paper sheet. Opposite edges of each guide plate are individually disposed at predetermined positions.

0) DE29509884U1 – KANUELENKUPPLUNG KANUELENKUPPLUNG

181) Family number: 17737058 (DE29509884U1) © PatBase

Title: Kanuelenkupplung

Priority: DE19952009884U 19950619

Family:

Publication number	Publication date	Application number	Application date
DE29509884 U1	19961017	DE19952009884U	19950619

Probable Assignee: TIP TONER UND TINTENPRODUKTION

Assignee(s):(std): TIP TONER U TINTENPRODUKTION ; TIP TONER UND TINTENPRODUKTION

Assignee(s): TIP TONER UND TINTENPRODUKTIONS GMBH 47053 DUISBUR ; TIP TONER UND TINTENPRODUKTIONS GMBH 47053 DUISBURG DE ; TIP TONER U TINTENPRODUKTIONS GMBH

International class (IPC 8–9): B41J2/175 (Advanced/Invention); B41J2/175 (Core/Invention)

International class (IPC 1–7): B41J2/175

CPC: B41J2/17506

European class: B41J2/175C B41J2/175C1

Classification Explorer

Cited documents: WO9318920 A1, EP0567308 A2, EP0364777 A1, CH585560,

Abstract:
Source: DE29509884U1 (Claim 1) AMSPROCHE 1. Kanuelenkupplung am Zylinderteil einer Nachfuellspritze fuer T o nerkartuschen, einer Injektionsspritze oder dergleichen, mit einer auf der Zylinderstirnseite angeordneten Au f s tecktuelle (9) fuer den Flanschabschnitt (15)einer Kanuele (1), welche einen radia l ausragenden Kragen(4) zur formschluessigen Halterung mittels axial auswaerts ragender Halteglieder des Zylinderteils aufweist, dadurchgekennzeichnet , dass die Halteglieder von zwei elastisch rueckstellbaren Haken (5) ausgebildet werdenmit radial einwaerts ragenden Hakenenden (6), welche beim Aufstecken des Flanschabschnittes (15) auf die Tuelle (9)ueber den Kragen (4) Schnaeppern.

Machine translation: (Claim 1) td AMSPROCHE 1 Kanuelenkupplung on the cylinder part of a Nachfuellspritze for T o toner cartridges, a hypodermic syringe or the like, with a fs on the cylinder end face arranged Au tecktuelle (9) for the flange (15) a cannula (1), which has a radial l projecting collar (4) for positive locking bracket means axially outwardly projecting retaining members of the cylindrical part has characterized in that the retaining elements of two elastically recoverable hook (5) is formed werdenmit radially inwardly projecting hook ends (6), which, when attaching the flange (15) on the Tueller (9) over the collar (4) snaps.

0) DE10114000A1 – DEVICE FOR CLEANING CLAMPED COROTRON WIRE FOR E...

182) Family number: 23927843 (DE10114000A1) © PatBase

Title: DEVICE FOR CLEANING CLAMPED COROTRON WIRE FOR ELECTROGRAPHIC PRINTER OR COPIER HAS SPRING ELEMENT WITH CLEANING ARRANGEMENT THAT CONTACTS WIRE WHILE MOVING BETWEEN TWO STOPS

Priority: DE20011014000 20010322

Family:

Publication number	Publication date	Application number	Application date
DE10114000 A1	20021010	DE20011014000	20010322
DE10114000 B4	20061005	DE20011014000	20010322

Probable Assignee: OCE PRINTING SYSTEMS GMBH

Assignee(s):(std)**:** OCE PRINTING SYSTEMS GMBH

Inventor(s):(std)**:** JENAK KARL HEINZ ; THIEMANN PETER ; WIRTZ ANDREAS

International class (IPC 8–9)**:** G03G15/02 G03G21/00 (Advanced/Invention); G03G15/02 G03G21/00 (Core/Invention)

International class (IPC 1–7)**:** G03G21/00

CPC: G03G15/0291 G03G15/0258

European class: G03G15/02B

Classification Explorer

Cited documents: US4956671 A, JPS5816964, JP58016964 A2,

Abstract:
The device has a sliding cleaning element movable along the corotron wire (1) from between stops (3,4) with at least one spring element with at least one cleaning arrangement (5) next to the wire. When the sliding element reaches a first stop the spring element spreads into a first end position and maintains it until reaching the second stop, where it comes into contact with the wire and maintains this position until reaching the first stop. AN Independent claim is also included for the following: a method of cleaning a clamped corotron wire for electrographic printer or copier.

0) US6560425B – SHUTTER DEVICE FOR A PHOTOSENSITIVE ROTARY DRUM...

183) Family number: 28527342 (US6560425B) © PatBase

Title: Shutter device for a photosensitive rotary drum on the process cartridge

Priority: US20020166011 20020611

Family:

Publication number	Publication date	Application number	Application date
US6560425 BA	20030506	US20020166011	20020611

Probable Assignee: MONITEK ELECTRONICS LTD

Assignee(s):(std)**:** MONITEK ELECTRONICS LTD

Assignee(s): MONITEK ELECTRONICS LIMITED

Inventor(s):(std)**:** LAW YIU CHEONG ; LUI PUI KUONG

International class (IPC 8–9)**:** G03G21/18 (Advanced/Invention); G03G21/18 (Core/Invention)

International class (IPC 1–7)**:** G03G21/18

CPC: G03G21/1832 G03G2221/1609

European class: G03G21/18C5S S03G221/16B1

US class: 399/111 399/114

Classification Explorer

Cited documents: US5825472 A, US5729796 A,

Forward Citations: US8254806, US7512362, US7286787, US6983114, US2010061760, US2007003320, US2006093400, US2004081483,

Abstract:
Source: US6560425B A shutter device for protecting a photosensitive rotary drum includes a drum cover, at least one torsion spring, a press button, and a compression spring. The drum cover has a fixed end pivotally connected to a predetermined location of a process cartridge, a free end shielded on an exposed portion of said drum and an inside surface formed with a hook, and the torsion spring is arranged on said fixed end of the drum cover. The press button is received in a room of a side of the process cartridge, and the compression spring is positioned between a protruded rod formed inside said press button and a sleeve disposed on said room. Furthermore, the present invention has a better protection for the photosensitive rotary drum, and in the meanwhile, can be as a switch of an exposure window of the process cartridge.

0) KR200329346Y – ELECTRIFICATION PRESSURE MAINTENANCE DEVICE OF ...

184) Family number: 47049692 (KR200329346Y) © PatBase

Title:	Electrification pressure maintenance device of the image forming apparatus (Machine translation)
Priority:	KR20030011439U 20030414

Family:

Publication number	Publication date	Application number	Application date
KR200329346 Y1	20031010	KR20030011439U	20030414

Probable Assignee:	KOREA FUJI XEROX CO LTD
Assignee(s):	KOREA FUJI XEROX CO LTD
International class (IPC 8–9):	G03G15/02 (Advanced/Invention); G03G15/02 (Advanced/Non–invention)
International class (IPC 1–7):	G03G15/02

Classification Explorer

Abstract:
Source: KR200329346Y The present design is to prevent made to relates to a charging zone pressure maintenance device of the image forming apparatus, By pressing by charging additional spring force the feed rolls and in contact to convey the developer non–uniform charging amount by the strain and wear will be. configuration of the subject innovation is carried toward the photosensitive member (6) to develop the toner (3) is stored by a large amount of the toner (3) and the toner storage section (2) for storing the toner storage section (2) in the developing sleeve 5 and the developing sleeve 5, a developing cartridge of an image forming apparatus consisting of a toner charging unit 10 to restrict a thickness such that the amount is kept constant in the (3) attached to which, the charging portion 10 is the toner storage section (20) to receive directly transmitted to the charging shots strength of the spring 11, the spring 11 Tangier in the accommodating portion 22 formed with a certain space in the plate 12 and, on the charging plate (12) and while contact with the developing sleeve 5 and the yirueojyeoseo by directly charging the rubber member 13 to the contact surface, the hook member 24 formed with the toner storage section (20) integral with as the charged plate 12 is supported by a structure such that the pressure on the developing sleeve 5. The present design is configured as is it is possible to maintain the surface contact state is always pressed with a constant force a charge to surface contact with the developing sleeve to give it a uniform charge amount to the usable life of the device to obtain the concentration and quality of certain images one will be so. Quality, developing, War, plates, toners, springs, constant pressure, surface contact

0) CN202102250U – LASER TONER CARTRIDGE AND SEALING DEVICE THEREO...

185) Family number: 50461082 (CN202102250U) © PatBase

Title: Laser toner cartridge and sealing device thereof

Priority: CN201120209854U 20110621

Family:

Publication number	Publication date	Application number	Application date
CN202102250 U	20120104	CN201120209854U	20110621

Probable Assignee: ZHUHAI PRINT RITE CO LTD

Assignee(s):(std)**:** PRINT RITE UNICORN IMAGE PRODUCTS CO LTD ; ZHUHAI PRINT RITE CO LTD

Assignee(s): ZHUHAI PRINT RITE CO

Inventor(s):(std)**:** DAOMING PI

Inventor(s): PI DAOMING

International class (IPC 8–9): G03G15/08 (Advanced/Invention)

Classification Explorer

Abstract:
Source: CN202102250U The utility model relates to a laser toner cartridge and a sealing device thereof. The laser toner cartridge comprises a wallboard with an orifice, as well as the sealing device for sealing the orifice, wherein the sealing device comprises an inverted buckle piece and a sealing piece, and the inverted buckle piece comprises a main body, as well as a plurality of clasps downwardly extending from the bottom of the main body; the sealing piece is sleeved on the clasps; and the inverted buckle piece extrudes the sealing piece and is hooked on the wallboard at the periphery of the orifice through the clasps. The sealing device of the laser toner cartridge, which is provided by the utility model, has the advantages of simple structure, strong universality and rapidness in installation, and can not be influenced by skills of operators and environments.

0) JP2014174438A – DEVELOPING DEVICE, PROCESS CARTRIDGE, AND IMAGE...

186) Family number: 57646093 (JP2014174438A) © PatBase

Title: DEVELOPING DEVICE, PROCESS CARTRIDGE, AND IMAGE FORMING APPARATUS

Priority: JP20130048949 20130312

Family:

Publication number	Publication date	Application number	Application date
JP2014174438 A2	20140922	JP20130048949	20130312

Probable Assignee: RICOH CO LTD

Assignee(s):(std)**:** RICOH CO LTD ; RICOH KK

Inventor(s):(std)**:** ABE SOICHI ; FUJIWARA KOUKO ; KIMURA NORIYUKI ; OSHIKAWA TAKEKI ; YOSHIZAWA HIDEO

International class (IPC 8–9): G03G15/08 (Advanced/Invention)

Classification Explorer

Abstract:
Source: JP2014174438A PROBLEM TO BE SOLVED: To achieve a developing device that has improved performance to take a toner into a developer with a simple configuration at a low cost.SOLUTION: A developing device 5 includes a developing roller 51, and two conveying screws 55−1 and 55−2 conveying a developer in directions opposite to each other. The second conveying screw 55−2 has a groove 55c provided on a developer conveying surface of each blade over a predetermined range on the upstream side where a toner is supplied. When the conveying screw is rotated, the toner is hooked on the grooves 55c, and the toner is taken into the developer in small amounts. The supply toner is taken into the developer in small amounts, and thereby dispersibility of the supply toner is improved.

0) JP4190267A – TONER CARTRIDGE

187) Family number: 7943471 (JP4190267A) © PatBase

Title: TONER CARTRIDGE

Priority: JP19900319997 19901124

Family:

Publication number	Publication date	Application number	Application date
JP4190267 A2	19920708	JP19900319997	19901124

Probable Assignee: MITA INDUSTRIAL CO LTD

Assignee(s):(std)**:** MITA INDUSTRIAL CO LTD

Assignee(s): MITA IND CO LTD

Inventor(s):(std)**:** MITSUYA TOSHIYUKI

International class (IPC 8–9)**:** G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)

International class (IPC 1–7)**:** G03G15/08

Classification Explorer

Abstract:
Source: JP4190267A PURPOSE: To reduce insertion mistakes and remove use inconvenience by making the plural surfaces of an engagement means possessing insertion portion into a hopper, of the same shape so that engagement may be attained no matter which surface insertion is made from. CONSTITUTION: A toner cartridge 4 insertion portion 10 is of a square shape, and engagement holes 13–16 are provided at its four corners. In the case of the insertion portion shape being such as above, a pair of holes are engaged with hooks 7a, 7b no matter which surface of the portion 10 insertion into a hopper 3 insertion passage 6 is made from. For example, when insertion is made from an A surface, holes 13, 14 are engaged with hooks 7a, 7b, and when made from a B surface, holes 15, 16 are engaged with hooks 7a, 7b. When made from a C surface, holes 14, 15, and holes 16, 17 in the case of a D surface, are respectively engaged with hooks 7a, 7b. Or, a deformation example such as holes or cutouts are provided one by one on the center inside of respective sides of the insertion portion 10, is possible. In addition, the insertion portion 10 is not limited to a square, and a polygon such as a hexagon or a circle is acceptable.

0) US2013287433A – IMAGE FORMING APPARATUS

188) Family number: 55060270 (US2013287433A) © PatBase

Title: IMAGE FORMING APPARATUS

Priority: JP20120102503 20120427

Family:

Publication number	Publication date	Application number	Application date
JP2013231773 A2	20131114	JP20120102503	20120427
JP6031814 B2	20161124	JP20120102503	20120427
US2013287433 AA	20131031	US20130851146	20130327
US9116500 BB	20150825	US20130851146	20130327

Probable Assignee: BROTHER KOGYO KK

Assignee(s):(std)**:** BROTHER IND LTD ; ITO SAKAE

Assignee(s): BROTHER KOGYO KK

Inventor(s):(std)**:** ITO SAKAE

Agent(s): BANNER AND WITCOFF LTD

International class(IPC 8–9)**:** G03G15/00 G03G21/16 (Advanced/Invention)

CPC: G03G21/1619 G03G2221/1687 G03G21/1628 G03G21/1647 Y10T29/49002

US class: 1/1 29/592.1 399/107

Classification Explorer

Cited documents: US8699919 BB, US8611784 BB, US7957675 BB, US7873303 BB, US7822362 BB, US7804628 BB, US7778572 BB, US7689050 BB, US7680431 BB, US7369794 BB, US2009252527 AA, US2009018899 AA, US2007071334 AA, JP2011253038 A2, JP2011253038, JP2010250285 A2, JP2010250285, JP2009251230 A2, JP2009251230, JP2009020672 A2, JP2008304748 A2, JP2007228569 A2, JP2007228569, JP2006295625 A2, JP2006184530 A2, JP2006119474 A2, JP2006119474, JP2003241466 A2, JP2003241466,

Forward Citations: US9696683, US2016291534, US2016098007,

Abstract:
Source: US2013287433A An image forming apparatus includes a first housing, a second housing pivotable relative to the first housing in such a manner as to be located to an open position and a close position, a slider provided in one of the first and second housings configured to be slidable relative to the one in a slide moving direction, a connecting portion provided in the other of the housings; an arm member configured to connected each of the slider and the connecting portion to be pivotable relative to each of them, and an elastic member comprising a first engaging portion engaging with the slider and a second engaging portion engaging with the one of the housings. The elastic member applies, to the slider, a force in a direction in which the slider moves closer to the connecting portion, when the second housing is in the close position.

0) JP6214455A – DEVELOPING DEVICE

189) Family number: 11442438 (JP6214455A) © PatBase

Title: DEVELOPING DEVICE

Priority: JP19930004697 19930114

Family:

Publication number	Publication date	Application number	Application date
JP2981808 B2	19991122	JP19930004697	19930114
JP6214455 A2	19940805	JP19930004697	19930114

Probable Assignee: SHARP KK

Assignee(s):(std)**:** SHARP KK

Assignee(s): SHAAPU KK ; SHARP CORP ; SHARP KABUSHIKI KAISHA

Inventor(s):(std)**:** TAMEHIRA MASATO

Agent(s): FUJIMOTO EISUKE

International class (IPC 8–9): G03G15/00 G03G15/06 G03G15/08 G03G21/00 (Advanced/Invention); G03G15/00 G03G15/06 G03G15/08 G03G21/00 (Core/Invention)

International class (IPC 1–7): G03G15/00 G03G15/06 G03G15/08 G03G21/00

Classification Explorer

Cited documents: JP6445845 U, JP6339236 U, JP332376 U,

Forward Citations: US9372470, JP7230051, JP3365869, JP2015121609, JP2011064810, JP2008152283, JP2005301075,

Abstract:
Source: JP6214455A PURPOSE:To miniaturize the device by means of eliminating positioning space both at a developer tank cartridge and on a main body side by using the terminal part of the developer tank cartridge also for positioning at the time of installing a developer tank concerning the developing device of an image forming device developing an electrostatic latent image by toner and transferring on printing paper. CONSTITUTION:The rib 2 of insulating type material is provided on the periphery of the terminal 3 of the developer tank cartridge 1, and a hole receiving the rib 2 is provided on a main body base plate side ground plate 5, so that the rib 2 performs the positioning of the developer tank cartridge 1 and prevents the short circuit of the terminal 3 of the developer tank cartridge 1 and the main body side ground plate 5. Louvered shape is provided at the ground plate 5 and the installation of the ground plate 5 on the image forming device is performed by a hooking system using spring elasticity.

0) JP9080861A – ROTARY TYPE DEVELOPING DEVICE

190) Family number: 14388146 (JP9080861A) © PatBase

Title: ROTARY TYPE DEVELOPING DEVICE

Priority: JP19950263524 19950918

Family:

Publication number	Publication date	Application number	Application date
JP9080861 A2	19970328	JP19950263524	19950918

Probable Assignee: RICOH KK

Assignee(s):(std)**:** RICOH KK

Assignee(s): ROCOH COMPANY LTD ; RICOH CO LTD

Inventor(s):(std)**:** AKAFUJI MASAHIKO ; AOKI KATSUHIRO ; FUJISHIRO TAKATSUGU ; KANEKO TOSHIO ; KIMURA NORIYUKI ; KUROTAKA SHIGEO ; MOTOHASHI TAKESHI

International class (IPC 8–9): G03G15/01 G03G15/08 (Advanced/Invention); G03G15/01 G03G15/08 (Core/Invention)

International class (IPC 1–7): G03G15/01 G03G15/08

Classification Explorer

Abstract:
Source: JP9080861A PROBLEM TO BE SOLVED: To control the number of times of replenishing a toner cartridge and to prevent the deterioration of an image caused by using a developing device which has been used to the life limit, by rotating a rotary type developing device in a direction opposite to the rotating direction of the developing device at the time of normally forming an image, in the case of replacing a developer container after it has been used prescribed times. SOLUTION: In a developing unit 21K, a stopper 70K is installed on one end face of a hopper 30K so as to swing around a shaft 70K–1. The developing device is normally rotated clockwise so as to form the image, but, when the toner cartridge 40K is replaced after it has been used prescribed times, the developing device is rotated counterclockwise at a prescribed angle. At this time, the stopper 70K is caught by a leaf spring 71 installed at the appropriate position of a printer 1, then, the stopper 70K is energized. A control lever 31K is provided with an engaging part 31Ka equipped with a hole with which the hook part 70K–2 formed at the leading end of the stopper 70K engages, and when the hook part of the stopper 70K engages with the engaging part 31Ks, it is made impossible to operate the control lever 31K, then, detaching of the cartridge 40K is controlled, so that the user can recognize that the device has been used to the life limit.

0) EP2058136B1 – METHOD OF PACKING A DEVICE COMPRISING A HOUSING...

191) Family number: 43225077 (EP2058136B1) © PatBase

Title: Method of packing a device comprising a housing in which a removable element is set and device packed according to this method

Priority: FR20070007839 20071108

Family:

Publication number	Publication date	Application number	Application date
AT468229 E	20100615	AT20080291027T	20081105
DE602008001301 D1	20100701	DE200860001301T	20081105
EP2058136 A1	20090513	EP20080291027	20081105
EP2058136 B1	20100519	EP20080291027	20081105
ES2342234 T3	20100702	ES20080291027T	20081105
FR2923463 A1	20090515	FR20070007839	20071108
FR2923463 B1	20091204	FR20070007839	20071108

Probable Assignee: SAGEM COMMUNICATIONS SAS

Assignee(s):(std)**:** SAGEM COMM

Assignee(s): SAGEM COMMUNICATIONS ; SAGEM COMMUNICATIONS SAS ; SAGEM COMMUNICATIONS SOCIETE ANONYME

Inventor(s):(std)**:** PASCUAL BERTRAND

Inventor(s): BERTRAND PASCUAL

Agent(s): BEAUDOUIN LAFON EMMANUEL; CABINET BOETTCHER

Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK TR

International class(IPC 8–9)**:** B41J29/00 B65B25/00 (Advanced/Invention); B41J29/00 B65B25/00 (Core/Invention)

CPC: B41J29/00 B65D85/68 B65D2585/689

European class: B41J29/00 B65D85/68 L65D585/68Y7

Classification Explorer

Cited documents: US5669496 A, US4811840 A, US2960217 A, US1852832 A, JP1192626 A2, EP0488094 A1,

Abstract:
The method involves fixing ends of adhesive tapes (18, 19) to cleats (14, 16), respectively. A front pilot door (9) is closed by passing ends (21, 22) of the tapes outside a device (1) via an interstice located between a main body (2) of the device and an upper edge (23) of the pilot door, where the edge is moved away from the body when opening the pilot door. The ends (21, 22) of the tapes are hooked to an external face of the door such that the tapes are drawn from the cleats towards an exterior of an internal housing when the door is opened without unhooking the ends (21, 22). An independent claim is also included for a packed device comprising a main body.

0) US3553851A – TALKING BOOK

192) Family number: 937396 (US3553851A) © PatBase

Title: TALKING BOOK

Priority: US19690811148 19690327

Family:

Publication number	Publication date	Application number	Application date
US3553851 A	19710112	US19690811148	19690327

Probable Assignee: RICHARD E PAIGE

Assignee(s):(std)**:** RICHARD E PAIGE

Inventor(s):(std)**:** PAIGE RICHARD E

Inventor(s): RICHARD E PAIGE

International class(IPC 8–9)**:** G09B17/00 G09B5/06 (Advanced/Invention); G09B17/00 G09B5/00 (Core/Invention)

International class(IPC 1–7)**:** G09B5/04 G11B5/78

CPC: G09B5/062 G09B17/006

European class: G09B17/00B2 G09B5/06B

US class: 206/232 360/1 434/317

Classification Explorer

Forward Citations: WO03037461, USD424434, US8594557, US8297800, US7402042, US7203455, US6435559, US6222809, US6041215, US6021306, US5894923, US5803748, US5772208, US5609488, US5551905, US5525088, US5484292, US5453013, US5209665, US4990092, US4820233, US4643301, US4290524, US4189852, US4079431, US3823814, US3741565, US3641684, US2011236869, US2008254428, US2007154876, US2004213140, US2004076935, US2004070192, US2004043371, US2004043365, FR2452149,

Abstract:
Source: US3553851A ABSTRACT OF THE DISCLOSURE A teaching device for simultaneously teaching the reading and pronouncing of words is described which includes the combination of a housing having the appearance of a hook, a tape player within the housing, a prerecorded tape cartridge and a printed book detachably mounted on the housing, the material printed in the book corre–sponding to the material recorded on the tape.

0) JP2009274864A – PACKING BAG SEALING METHOD OF CONSUMABLES UNIT ...

193) Family number: 44159484 (JP2009274864A) © PatBase

Title: PACKING BAG SEALING METHOD OF CONSUMABLES UNIT AND CONSUMABLES UNIT HAVING PACKING BAG LOCKING TOOL

Priority: JP20080130339 20080519

Family:

Publication number	Publication date	Application number	Application date
JP2009274864 A2	20091126	JP20080130339	20080519
JP4983722 B2	20120725	JP20080130339	20080519

Probable Assignee: CASIO ELECTRONICS CO LTD

Assignee(s):(std)**:** CASIO COMPUTER CO LTD ; CASIO ELECTRONICS CO LTD

Assignee(s): CASIO COMPUT CO LTD

Inventor(s):(std)**:** SUZUKI MASAKAZU

International class(IPC 8–9)**:** B65F1/00 (Advanced/Invention); B65F1/00 (Core/Invention)

CPC: Y02W30/10

Classification Explorer

Cited documents: JPS6056059 U, JPS5940205 U, JP7072781 A2, JP7056426 A2, JP6179458 A2, JP60056059 U1, JP60056059 U, JP59040205 U1, JP59040205 U, JP3122572 U1, JP3034285 U1, JP1168466 U1,

Abstract:
Source: JP2009274864A PROBLEM TO BE SOLVED: To provide a method for sealing a packing bag of a consumables unit by a simple and inexpensive method when disposing of the consumables unit, and the consumables unit suitable for its method. SOLUTION: A toner cartridge 1 has integrally a locking tool 1b in a covering casing 1a. The locking tool 1b is formed as a U–shaped hook of elastically fixing a free end part 1d to a covering part by a base part 1c. By providing such a locking tool 1b, a used toner cartridge 1' can be disposed of without pollution in transport, by surely sealing the packing bag by a simple method such as being fixed to the locking tool 1b together with an outside packing bag 3 of the locking tool 1b by folding back its twisted–bundled part 3b (3c), by twisting and bundling the vicinity of an opening part 3a of the packing bag 3, after being contained in the packing bag 3. There is no fear of a cost increase and the part loss without requiring to separately provide a sealing member, and this invention contributes to proper disposal of the used consumables unit.

0) JP9006213A – PROCESS CARTRIDGE AND IMAGE FORMING DEVICE

194) Family number: 14212302 (JP9006213A) © PatBase

Title: PROCESS CARTRIDGE AND IMAGE FORMING DEVICE

Priority: JP19950151343 19950619

Family:

Publication number	Publication date	Application number	Application date
JP9006213 A2	19970110	JP19950151343	19950619

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK

Assignee(s): CANON INC ; CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** IKEMOTO ISAO ; KARAKAMA TOSHIYUKI ; WATANABE KAZUFUMI

International class (IPC 8–9)**:** B41J2/44 G03G15/08 G03G21/16 G03G21/18 (Advanced/Invention); B41J2/44 G03G15/08 G03G21/16 G03G21/18 (Core/Invention)

International class (IPC 1–7)**:** B41J2/44 G03G15/08 G03G21/16 G03G21/18

Classification Explorer

Forward Citations: JP4380132, JP2004109486, JP2002196650,

Abstract:
Source: JP9006213A PURPOSE: To make a process cartridge small–sized and lightweight by providing a warp correcting means for correcting the warp of at least one of an electrophotographic photoreceptor and a developer carrier. CONSTITUTION: A fixed magnet 10c is stored in a developing roller 10d, and butt rollers 17 kept in contact with a photoreceptor drum 7 for holding a fine gap K between the developing roller 10d and the photoreceptor 7 are provided near both end sections in the longitudinal direction. A tension spring 19 is hooked between a toner developing frame body 12 and a cleaning frame body 13. Since the force of the tension spring 19 is applied to the developing roller 10d, the developing roller 10d is warped in the direction that the center section in the longitudinal direction is separated from the photoreceptor drum 7 (in the direction that the gap K is widened) having the butt roller 17 as fulcrum. The warp quantity of the developing roller 10d is corrected. The developing roller 10d can be made small in diameter and thin in thickness.

0) US4806982A – IMAGING DEVICE

195) Family number: 17731978 (US4806982A) © PatBase

Title: Imaging device

Priority: JP19860192779U 19861215 JP19860192780U 19861215 JP19860199622U 19861226

Family:

Publication number	Publication date	Application number	Application date
GB2201252 A1	19880824	GB19870029185	19871215
GB2201252 B2	19901114	GB19870029185	19871215
GB2217033 A1	19891018	GB19890010185	19890504
GB2217033 B2	19901114	GB19890010185	19890504
GB8729185 A0	19880127	GB19870029185	19871215
GB8910185 A0	19890621	GB19890010185	19890504
JP63098541 U1	19880625	JP19860192779U	19861215
JP63098542 U1	19880625	JP19860192780U	19861215
JP63105137 U1	19880707	JP19860199622U	19861226
US4806982 A	19890221	US19870131893	19871211

Probable Assignee: BROTHER KOGYO 35 HORITA DORI 9 CHOME MIZUHO KU NAG

Assignee(s):(std): BROTHER IND LTD

Assignee(s): BROTHER KOGYO 35 HORITA DORI 9 CHOME MIZUHO KU NAG ; BROTHER KOGYO KABUSHIKI KAISHA ; BROTHER KOGYO KK

Inventor(s):(std): SAKAKIBARA KENJI ; UEDA MASASHI ; YAMAMOTO TAKEMI

Inventor(s): TAKEMI YAMAMOTO ; MASASHI UEDA ; KENJI SAKAKIBARA

International class (IPC 8–9): B65H29/54 G03B27/32 G03B27/58 G03F7/004 (Advanced/Invention); B65H29/54 G03B27/32 G03F7/004 (Core/Invention)

International class (IPC 1–7): A47J31/42 B65H29/54 G03B27/32 G03B27/52 G03B27/58 G03C1/00 G03D13/00 G12B17/04 H02K19/36

CPC: G03B27/32 G03B2227/325 G03F7/0022

European class: G03B27/32 G03F7/00M2 S03B227/32M

US class: 355/27 355/404 355/45

Classification Explorer

Cited documents: US4334762 A, US3765759 A, US3730622 A, JP61137749 A2, JP61061522 B4, JP56122024 A2, GB684114 A, GB2184854 A1, GB2119939 A1, GB2079962 A1, GB2041561 A1, GB1385367 A, GB1239774 A, EP0242866 A2,

Forward Citations: US5206754, US5107295, US5107294, US5064133, US5025281, US4918482, US4901103, US4885602, GB2244341, GB2244341, EP0240938,

Abstract:
Source: US4806982A In response to light reflected by a manuscript, a latent photo−image corresponding to the manuscript is formed on a photosensitive member comprising photocurable microcapsules containing therein dye precursor reactable to a color developing agent to develop a visible image. The photosensitive member is conveyed from a supply source, via a light exposure platform, to a developing section in an imaging device, while effectively protected from ambient light. When a transfer member is used to pass through the developing section, together with the photosensitive member, a separator lug is provided for separating the transfer member from the photosensitive member immediately after passing through the developing section. The exposure platform has a surface of an excellent light−absorptive material to prevent the recording sheet from being exposed again to light reflected from the platform surface.

0) CN202780985U – CHIP DISMANTLING TOOL

196) Family number: 53211627 (CN202780985U) © PatBase

Title: CHIP DISMANTLING TOOL

Priority: CN201220241955U 20120522

Family:

Publication number	Publication date	Application number	Application date
CN202780985 U	20130313	CN201220241955U	20120522

Probable Assignee: UNIV ZHEJIANG NORMAL

Assignee(s):(std)**:** UNIV ZHEJIANG NORMAL ; ZHEJIANG NORMAL UNIV

Inventor(s):(std)**:** GONG NINGNING

International class (IPC 8–9)**:** B25B27/00 (Advanced/Invention)

Classification Explorer

Abstract:
Source: CN202780985U The utility model relates to a toner chip dismantling tool, which includes fixtures, plate, feet, torsion, handle five parts. Hold the tool handles, so driven fixed feet feet head jig, jig up and down each edge shocked butt bite, the claws fixed chip card slot along the ends of the cut, while the hook jig to accurately insert chips hole on the card, then pull the tool as a whole, the hook can be easily disassembled from the chip on the cartridge. The utility model structure is simple, low cost, the dismantling process can not only ensure the drum shell is not broken, but also solve the problem of time–consuming manual removal, easy operation, can greatly improve the efficiency of the removal of chips.

0) JP11301741A – PRODUCT PACKAGING DEVICE

197) Family number: 13364845 (JP11301741A) © PatBase

Title: PRODUCT PACKAGING DEVICE

Priority: JP19980125212 19980420

Family:

Publication number	Publication date	Application number	Application date
JP11301741 A2	19991102	JP19980125212	19980420

Probable Assignee: RICOH ELEMEX CORP

Assignee(s):(std)**:** RICOH ELEMEX CORP

Inventor(s):(std)**:** HIBINO KIYOTAKA

International class (IPC 8–9): B65D5/50 B65D77/26 B65D81/113 (Advanced/Invention); B65D5/50 B65D77/24 B65D81/107 (Core/Invention)

International class (IPC 1–7): B65D5/50 B65D77/26 B65D81/113

Classification Explorer

Forward Citations: AU2010202476, AU2010202476,

Abstract:
Source: JP11301741A PROBLEM TO BE SOLVED: To improve workability in packaging operation in a product packaging device of which both ends are fitted into indentation sections of a shock absorbing material and put into a packaging box to perform packaging operation. SOLUTION: Both ends of a toner cartridge 10 of product are put into indentations 17 to cover them and then shock absorbing members 13, 14 are fitted to these both ends. After this operation, each of protrusions 13a and 14a of these shock absorbing members 13, 14 is fitted to each of holes 19, 20, a connecting member 15 is brought over between these shock absorbing members. Each of other protrusions 13b, 14b of the shock absorbing member is fitted to each of holes 21, 22 and another connecting member 16 is bridged over between these shock absorbing members. After this operation, a hand hook section 15 at the intermediate part of one connecting member 15 is held by a hand and its entire assembly is put into a packaging box 12. The connecting members 15, 16 are made of card–board, for example.

0) JP2003255780A – CONNECTOR, DEVELOPMENT CARTRIDGE AND IMAGE FORM...

198) Family number: 29163883 (JP2003255780A) © PatBase

Title: CONNECTOR, DEVELOPMENT CARTRIDGE AND IMAGE FORMING APPARATUS

Priority: JP20020057179 20020304

Family:

Publication number	Publication date	Application number	Application date
JP2003255780 A2	20030910	JP20020057179	20020304
JP3962983 B2	20070822	JP20020057179	20020304

Probable Assignee: SEIKO EPSON CORP

Assignee(s):(std)**:** SEIKO EPSON CORP

Inventor(s):(std)**:** AOKI TAKESHI ; OKAMOTO KATSUMI ; SHIROKOSHI JUNJI

International class (IPC 8–9)**:** G03G15/00 G03G15/08 G03G21/00 H01R13/66 (Advanced/Invention); G03G15/00 G03G15/08 G03G21/00 H01R13/66 (Core/Invention)

International class (IPC 1–7)**:** G03G15/00 G03G15/08 G03G21/00 H01R13/66

Classification Explorer

Cited documents: JP7008968 U, JP2002025716, JP2002009468, JP10312870, JP07008968 U,

Abstract:
Source: JP2003255780A PROBLEM TO BE SOLVED: To avoid the influence of stuck toner and static electricity at a mem ory IC and to stabilize inserting and fixing of a memory IC board. SOLUTION: This connector is provided with: a positioning fixing part (60) to be engaged with the distal end of the memory IC board (46); and a hook part (61) for engaging the rear end of the memory IC board. The memory IC board is mounted covered with a casing, and contacts (43b and 44b) to come into spring–contact with the terminals (63 and 64) of the memory IC boards (63 and 64) are constituted of a plurality of columns. Among the plurality of columns of the contacts, the spring load of a contact on a board center side is higher than the other contacts.

0) TWD138228S – COUPLING FOR TONER CARTRIDGE

199) Family number: 48915733 (TWD138228S) © PatBase

Title: COUPLING FOR TONER CARTRIDGE

Priority: JP2008–004784 20080229

Family:

Publication number	Publication date	Application number	Application date
TWD138228 S1	20101211	TW20080304932F	20080826

Inventor(s): WASAI, AKIHIRO

Locarno class: 16/03

Cited documents: JPD1292241,

Abstract:
Source: TWD138228S

Machine translation: [Goods use]; This creation goods are the carbon face powder case use the coupler, if the running condition reference diagram shows, it mainly is installs on the carbon face powder case, using of as the coordinate supplies powdered carbon. ; [Creation characteristic]; If various charts show, this coupler has a gear and the axle center; First, if the front view shows, in this gear front, has the diameter to be small also thin prominence, should break out peripheral forms two size different concave shape gap, moreover like the rear elevation shows, in this gear rear area, then also thickness narrow makes up the strong rib region for the diameter, in should make up between the strong rib region and has assumes the fan–shaped the scoop channel; Furthermore, like another angle block diagram and left side, the right side view shows, this axle center divides into three sections, the first section is a circular cylinder, the compartment slivers an even face, the final part then assumes a L shape hook department slightly.

0) VN653U – AUTOMATIC SEAL REFILL (MACHINE TRANSLATION)

200) Family number: 51753363 (VN653U) © PatBase

Title: AUTOMATIC SEAL refill (Machine translation)

Priority: VN20050000203U 20051107

Family:

Publication number	Publication date	Application number	Application date
VN653 U	20071025	VN20050000203U	20051107

International class (IPC 8–9): B41K1/42 (Advanced/Invention)

Classification Explorer

Abstract:
Source: VN653U

Machine translation: Utility solutions proposed automatic refill seals include seal substrate, ink tray, bearing assemblies, cover and seal the lid attached to the base without having to press the bearing assemblies. To top are bottom, mouth and bottom lip is created at the top and bottom sticks out. Ink tray sliding in imperial seal and bearing assemblies are mounted on the rotating tray and toner cartridge in contact with the tray as it moves into the sign substrate. Shell has a more elastic and mounted on slides easy. Lid latch has two hooks on each substrate to seal the lid to hold on to his head.

0) FR2328436A – DISPOSITIF DE BASSINE A FRITURE AVEC EPURATEUR ...

201) Family number: 3622742 (FR2328436A) © PatBase

Title: DISPOSITIF DE BASSINE A FRITURE AVEC EPURATEUR COMBINATION FRYING PAN AND COOKING OIL FILTER – HAS SHAPE WHICH IS SWEPT BY FILTER ATTACHED TO ROTARY FRYING BASKET OF SEMICYLINDRICAL FORM

Priority: FR19750032489 19751023

Family:

Publication number	Publication date	Application number	Application date
FR2328436 A1	19770520	FR19750032489	19751023
FR2328436 B3	19780728	FR19750032489	19751023

Probable Assignee: NALPAS NORBERT

Assignee(s):(std)**:** NALPAS NORBERT

International class (IPC 8–9): A47J37/12 (Advanced/Invention); A47J37/12 (Core/Invention)

International class (IPC 1–7): A47J37/12

CPC: A47J37/1223

European class: A47J37/12D

Classification Explorer

Forward Citations: US6976420,

Abstract:
Source: FR2328436A (Claim 1) REVENDICATIONS I– DISPOSITIF D'EPURATIOI–s DES GRAISSES DE FRITURE constitue par une bassine de cuisson dont la partie superieure presente un evasement d'expansion et dont la base contenante du liquide est formee selon un plan de rotation autour d'un axe horizontal permettant a des accessoires jointifs formes selon ce plan, de traverser par balayage tamisant la masse inerte du liquide, ou de lle– coper dans un sac pourvu de moyens filtrants, ou de le refouler par un panneau filtrant au niveau superieur d'expension de la bassine. The frying pan is designed to accommodate the regular filtering of cooking oils. An open–fire pedestal with temperature controls, and a condenser type vapour extractor are also incorporated. The pan may include a frying basket, and the geometry of the combination be such that the pan volume may be swept by rotation of the basket about a horizontal axis. The basket is fitted with a screen in order to carry out the filtering operation. A 180 deg. rotation of the basket then lifts the oil into a position above that occupied during cooking. The oil passes through the screen (20) to return below and be filtered in the process.

0) US2014028170A – IMAGE PROCESSING APPARATUS

202) Family number: 55704871 (US2014028170A) © PatBase

Title: IMAGE PROCESSING APPARATUS

Priority: JP20120163687 20120724

Family:

Publication number	Publication date	Application number	Application date
JP2014027340 A2	20140206	JP20120163687	20120724
JP5942665 B2	20160629	JP20120163687	20120724
US2014028170 AA	20140130	US20130949448	20130724

Probable Assignee: BROTHER KOGYO KK

Assignee(s):(std)**:** BROTHER IND LTD ; ITO SAKAE ; MINAMINAKA KAZUYOSHI

Assignee(s): BROTHER KOGYO KK

Inventor(s):(std)**:** ITO SAKAE ; MINAMINAKA KAZUYOSHI

International class (IPC 8–9): B41J29/13 G03G15/00 G03G21/16 H04N1/00 (Advanced/Invention)

CPC: G03G21/16 G03G21/1628

US class: 312/327

Classification Explorer

Cited documents: US6032004 A, US2011318050 AA, US2011149354 AA, US2010158560 AA, US2009122330 AA, US2008310879 AA, US2008157639 AA, US2007002396 AA, US2005031371 AA, US2004051769 AA, JP9190133 A2, JP200710949, JP2007010949 A2, JP11260181 A2, JP11260181,

Forward Citations: US2016098007,

Abstract:
Source: US2014028170A An image processing apparatus, comprising: a main body; a first movable part; a second movable part; a locking mechanism; and a detection unit to detect a state of the locking mechanism, and wherein the locking mechanism comprises: a stopper provided on one of the main body and the first movable part; and a catching part provided on the other of the main body and the first movable part, wherein a support arm is formed to support the second movable part at a second separated position; the stopper is provided on each of one side and the other side in a width direction; the catching part is provided on each of the one side and the other side; the support arm is provided on each of the one side and the other side; and the detection unit is provided on one of the one side and the other side.

- **search:** SS3 FT=toner and (secur* or attach* or fix*) and (hook* or latch* or lever* or clip) (Results 2768)
- **search:** SS4 FT=toner and (secur* or attach* or fix*) and (hook* or latch* or lever* or clip) and cartridge (Results 466)
- List: SS4 1–50 (FT=toner and (secur* or attach* or fix*) and (hook* or latch* or lever* or clip) and cartridge) (Results 466)

0) US2009129813A – DEVELOPER SUPPLY CONTAINER AND DEVELOPER SUPPLY...

1) Family number: 33339196 (US2009129813A) © PatBase

Title: DEVELOPER SUPPLY CONTAINER AND DEVELOPER SUPPLYING SYSTEM

Priority:

EP20060715570	20060306	EP20060715571	20060306	EP20110192828	20060306
EP20110192824	20060306	EP20110192821	20060306	EP20130172409	20060306
JP20090114182	20090511	JP20050060317	20050304	JP20050345485	20051130
JP20060058893	20060306	JP20060058894	20060306	HK20080105369	20080514
EP20140168782	20060306	EP20140168782	20140519	JP20090114183	20090511
WO2006JP04819	20060306	US20080719483	20081111	US20100787833	20100526
US20090719361	20090226	US20120366612	20120206	US20120353602	20120119
US20120353642	20120119	US20120353655	20120119	US20060719361	20060306
RU20070136799	20071003	WO2006JP04820	20060306	US20130748800	20130124
US20060719483	20060306	US20130906529	20130531	US20140188949	20140225
WO2006JP304820	20060306	WO2006JP304819	20060306		

Family:

Publication number	Publication date	Application number	Application date
BRPI0608720 A2	20101207	BR2006PI08720	20060306
BRPI0609034 A2	20101116	BR2006PI09034	20060306
CN100594443 C	20100317	CN200680001423	20060306
CN101080677 A	20071128	CN200680001423	20060306
CN101080678 A	20071128	CN200680001424	20060306
CN101080678 B	20100407	CN200680001424	20060306
CN101706644 A	20100512	CN200910205695	20060306
CN101706644 B	20120822	CN200910205695	20060306
CN101770198 A	20100707	CN201010121269	20060306
CN101770198 B	20120606	CN201010121269	20060306
CN101776857 A	20100714	CN201010121288	20060306
CN101776857 B	20130807	CN201010121288	20060306
CN101788778 A	20100728	CN200910205693	20060306
CN101788778 B	20131113	CN200910205693	20060306
CN101794099 A	20100804	CN200910205694	20060306
CN101794099 B	20130807	CN200910205694	20060306
DE602006038342 D1	20131107	DE200660038342T	20060306
DE602006038536 D1	20131114	DE200660038536T	20060306
DE602006038627 D1	20131121	DE200660038627T	20060306
DE602006041663 D1	20140703	DE200660041663T	20060306
DE602006043339 D1	20141120	DE200660043339T	20060306
DE602006047382 D1	20151231	DE200660047382T	20060306
DE602006049168 D1	20160630	DE200660049168T	20060306
DK1859323 T3	20140630	DK20060715571T	20060306
DK2796936 T3	20160822	DK20140168782T	20060306
EP1859322 A1	20071128	EP20060715570	20060306
EP1859322 B1	20130911	EP20060715570	20060306
EP1859323 A1	20071128	EP20060715571	20060306
EP1859323 B1	20140521	EP20060715571	20060306
EP2428849 A2	20120314	EP20110192821	20060306
EP2428849 A3	20120801	EP20110192821	20060306
EP2428849 B1	20130918	EP20110192821	20060306
EP2428850 A2	20120314	EP20110192824	20060306
EP2428850 A3	20120801	EP20110192824	20060306
EP2428850 B1	20130925	EP20110192824	20060306

EP2428851 A2	20120314	EP20110192828	20060306	
EP2428851 A3	20120801	EP20110192828	20060306	
EP2428851 B1	20141008	EP20110192828	20060306	
EP2645177 A1	20131002	EP20130172409	20060306	
EP2645177 B1	20151118	EP20130172409	20060306	
EP2796936 A1	20141029	EP20140168782	20060306	
EP2796936 B1	20160518	EP20140168782	20060306	
EP3081991 A1	20161019	EP20160166855	20060306	
ES2435670 T3	20131220	ES20110192821T	20060306	
ES2436097 T3	20131227	ES20060715570T	20060306	
ES2436352 T3	20131230	ES20110192824T	20060306	
ES2474197 T3	20140708	ES20060715571T	20060306	
ES2524710 T3	20141211	ES20110192828T	20060306	
ES2554461 T3	20151221	ES20130172409T	20060306	
ES2582152 T3	20160909	ES20140168782T	20060306	
HK1110952 A1	20140117	HK20080105369	20080514	
HK1110952 A3	20080725	HK20080105369	20080514	
HK1110953 A1	20140815	HK20080105370	20080514	
HK1110953 A3	20080725	HK20080105370	20080514	
HK1163263 A1	20140124	HK20120103954	20080514	
HK1163264 A1	20150213	HK20120103955	20080514	
HK1163265 A1	20140124	HK20120103956	20080514	
HK1184550 A1	20160610	HK20130111750	20080514	
HK1198453 A1	20150424	HK20140111939	20141126	
HK1198453 A1	20170217	HK20140111939	20141126	
HU030025 T2	20170428	HU20140168782T	20060306	
IN02112CN2012 A	20130621	IN2012CN02112	20120307	
IN02114CN2012 A	20130621	IN2012CN02114	20120307	
IN04368CN2007 A	20080125	IN2007CN04368	20071004	
IN04372CN2007 A	20080125	IN2007CN04372	20071004	
IN251708 B	20120406	IN2007CN04372	20071004	
IN251976 B	20120427	IN2007CN04368	20071004	
JP2007178971 A2	20070712	JP20060058893	20060306	
JP2007178972 A2	20070712	JP20060058894	20060306	
JP2009175759 A2	20090806	JP20090114182	20090511	
JP2009175760 A2	20090806	JP20090114183	20090511	
JP4324174 B2	20090902	JP20060058893	20060306	
JP4328773 B2	20090909	JP20060058894	20060306	
JP4388132 B2	20091224	JP20090114182	20090511	
JP4388133 B2	20091224	JP20090114183	20090511	
KR101281900 B1	20130703	KR20117005299	20060306	
KR101285431 B1	20130712	KR20117005362	20060306	
KR101340731 B1	20131212	KR20117005298	20060306	
KR101340816 B1	20131211	KR20077020115	20060306	
KR101340834 B1	20131211	KR20077020113	20060306	
KR101341724 B1	20131216	KR20117005382	20060306	
KR101349988 B1	20140113	KR20117005392	20060306	
KR101368151 B1	20140228	KR20127032174	20060306	
KR101472240 B1	20141211	KR20137019684	20060306	
KR101556871 B1	20151001	KR20147014126	20060306	

KR101582016 B1	20151231	KR20137022795	20060306	
KR101582433 B1	20160111	KR20147017397	20060306	
KR20070106749 A	20071105	KR20077020113	20060306	
KR20070108220 A	20071108	KR20077020115	20060306	
KR20110028667 A	20110321	KR20117005299	20060306	
KR20110028669 A	20110321	KR20117005362	20060306	
KR20110028670 A	20110321	KR20117005382	20060306	
KR20110031254 A	20110324	KR20117005298	20060306	
KR20110031255 A	20110324	KR20117005392	20060306	
KR20130001742 A	20130104	KR20127032174	20060306	
KR20130095847 A	20130828	KR20137019684	20060306	
KR20130106445 A	20130927	KR20137022795	20060306	
KR20140084288 A	20140704	KR20147014126	20060306	
KR20140097456 A	20140806	KR20147017397	20060306	
KR20150038616 A	20150408	KR20157005880	20060306	
KR20150052352 A	20150513	KR20157010600	20060306	
KR20160130865 A	20161114	KR20167030821	20060306	
PL2796936 T3	20161130	PL20140168782T	20060306	
PT1859323 T	20140716	PT20060715571T	20060306	
PT2796936 T	20160714	PT20140168782T	20060306	
RU2007136793 A	20090410	RU20070136793	20060306	
RU2007136799 A	20090410	RU20070136799	20060306	
RU2010147677 A	20120527	RU20100147677	20101122	
RU2012143627 A	20140420	RU20120143627	20121011	
RU2014112313 A	20151010	RU20140112313	20140331	
RU2398257 C2	20100827	RU20070136793	20060306	
RU2414734 C2	20110320	RU20070136799	20060306	
RU2472200 C2	20130110	RU20100147677	20101122	
RU2519783 C2	20140620	RU20120143627	20121011	
SI1859323 T1	20140930	SI20060031797T	20060306	
SI2796936 T1	20160930	SI20060032089	20060306	
TR201610864 T4	20160822	TR20160010864T	20060306	
TW200702184 A	20070116	TW20060107512	20060306	
TW200900249 A	20090101	TW20080123356	20060306	
TW200902325 A	20090116	TW20080123360	20060306	
TW200918321 A	20090501	TW20080123362	20060306	
TW201111177 A	20110401	TW20100141039	20060306	
TWI315263 B	20091001	TW20060107512	20060306	
TWI335867 B	20110111	TW20080123362	20060306	
TWI339619 B	20110401	TW20080123360	20060306	
TWI353305 B	20111201	TW20080123356	20060306	
TWI380907 B	20130101	TW20100141039	20060306	
US2009129813 AA	20090521	US20060719483	20060306	
US2009297226 AA	20091203	US20060719361	20060306	
US2010278564 AA	20101104	US20100787833	20100526	
US2012134717 AA	20120531	US20120353602	20120119	
US2012134718 AA	20120531	US20120353642	20120119	
US2012134719 AA	20120531	US20120353655	20120119	
US2012134720 AA	20120531	US20120366612	20120206	
US2013136505 AA	20130530	US20130748800	20130124	

US2013336680 AA	20131219	US20130906529	20130531	
US2014169838 AA	20140619	US20140188949	20140225	
US7848685 BB	20101207	US20060719483	20060306	
US8190068 BB	20120529	US20060719361	20060306	
US8320801 BB	20121127	US20120353642	20120119	
US8369753 BB	20130205	US20100787833	20100526	
US8463164 BB	20130611	US20120353655	20120119	
US8472848 BB	20130625	US20120353602	20120119	
US8509658 BB	20130813	US20120366612	20120206	
US8693926 BB	20140408	US20130748800	20130124	
WO06093361 A1	20060908	WO2006JP304819	20060306	
WO06093362 A1	20060908	WO2006JP304820	20060306	

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK ; NAGASHIMA TOSHIAKI ; MURAKAMI KATSUYA ; OKINO AYATOMO

Assignee(s): KEHNON KABUSIKI KAJSJA ; CANON INC ; CANON K K ; CANON KABUSHIKI KAISHA ; CANON KABUSHIKI KAISHAJP

Inventor(s):(std)**:** TOSHIAKI NAGASHIMA ; OKINO NORITOMO ; OKINO AJATOMO ; NAGASIMA TOSIAKI ; MURAKAMI TAKEYA ; MURAKAMI KATSUJA ; KATSUYA MURAKAMI ; AYATOMO OKINO ; TAKEYA MURAKAMI ; OKINO AJAMOTO ; NORITOMO OKINO ; MURAKAMI KATSUYA ; NAGASHIMA TOSHIAKI ; OKINO AYATOMO

Inventor(s): OKINO AYATOMO TOKYO ; NAGASHIMA TOSHIAKI TOKYO ; MURAKAMI KATSUYA TOKYO

Agent(s): TBK; DURAN CARLOS; ELISAVET YAKOVIDIS CINLEMEZ; FITZPATRICK CELLA HARPER AND SCINTO

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT KE KG KM KN KP KR KZ LC LI LK LR LS LT LU LV LY MA MC MD MG MK ML MN MR MW MX MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RU SC SD SE SG SI SK SL SM SN SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

International class (IPC 8–9): B41F31/20 B41J23/14 B41F31/02 B65D83/06 G03G15/00 G03G15/04 G03G15/08 G03G15/18 G03G21/18 (Advanced/Invention);
G03G15/08 (Advanced/Non–invention);
B65D83/06 G03G15/00 G03G15/04 G03G15/08 (Core/Invention);
B41F31/02 B41F31/20 B41J23/14 G03G15/08 (Core/Non–invention);
G03G (Subclass/Invention)

International class (IPC 1–7): G03G15/08

CPC: G03G21/1647 G03G2221/1657 G03G15/0865 G03G15/0887 G03G15/0877 G03G21/1676 G03G15/08 G03G15/0808 G03G21/1832 G03G15/0822 G03G15/0836 G03G15/0867 G03G15/087 G03G15/0872 G03G2215/0802

European class: G03G15/08H3C G03G15/08H3C1 S03G221/16K2

US class: 399/119 399/119P 399/258 399/258P 399/260 399/262 399/262P 399/262S 399/263

Classification Explorer

Cited documents: WO8905231 A1, US8190068 BB, US8131189 BB, US7957679 BB, US7848685 BB, US7796923 BB, US7773919 BB, US7764909 BB, US7412192 BB, US7266330 BB, US6985686 BB, US6879789 BB, US6839533 BB, US6788912 BB, US6785497 BA, US6766133 BA, US6704533 BB, US6603939 BA, US6493516 BB, US6438345 BA, US6418290 BA, US6298208 BA, US6256469 BA, US5966574 A, US5842093 A, US5832343 A, US5797073 A, US5659860 A, US5593068 A, US5235389 A, US5036341 A, US2012114393 AA, US2011194876 AA, US2010278565 AA, US2010278564 AA, US2010027856 AA, US2008304872 AA, US2008304871 AA, US2008304870 AA, US2007280743 AA, US2007104505 AA, US2007036565 AA, US2006193658 AA, US2006104671 AA, US2005271426 AA, US2005135842 AA, US2005008400 AA, US2004223790 AA, US2004208668 AA, US2003223782 AA, US2002141788 AA, US2002003974 AA, TW556058 B, TW556058, TW377664 Y, RU2057028 C1, JPS5346040, JP8185034 A2, JP7168435 A2, JP6035321 A2, JP53046040 A2,

JP3288875 A2, JP2004170747 A2, JP2004170747 A, JP2004170747, JP2003107892 A2, JP2003107892, JP2003107892, JP2001201925, JP200105272, JP11184242, JP0862980, JP07199620, JP0603392 Y2, EP2796936 A1, EP1859322 A1, EP1818729 A1, EP1533664 A1, EP1437632 A1, EP14168782, EP1022621 B1, EP0864945 A1, EP06715571, EP06715570, EP0670530 B1, EP0670530 A2,

Forward Citations: WO13044756, USD618721, USD618720, US9639028, US9639026, US9618879, US9612569, US9612553, US9612552, US9612551, US9612548, US9606504, US9606503, US9606473, US9605734, US9599954, US9599953, US9599929, US9594329, US9581937, US9563169, US9547258, US9513576, US9482988, US9482987, US9477178, US9465317, US9411268, US9389538, US9360797, US9280088, US9146499, US9052688, US9031451, US9008555, US8983341, US8909093, US8792809, US8792804, US8781372, US8712293, US8676096, US8649711, US8606140, US8548360, US8472848, US8463164, US8380111, US8369742, US8320801, US8213838, US8190068, US8180259, US8160471, US8131189, US7983590, US7957679, US2015227082, US2015063872, US2015010334, US2014241758, US2013195510, US2013129389, US2012263504, US2012219330, US2012134719, US2012099904, US2011217067, US2011194876, US2011150536, US2010278565, US2010119265, US2009297226, US2009214268, US2009185824, US2009087215, TWI432340, TWI407272, KR101365666, JP5110219, JP4908932, JP4886366, JP4370540, JP2010211025, JP2007322992, JP2007322991, EP3081991, EP2428851, EP2428850, EP2428849, EP2228689, EP2028559, CN103425020, CN103425020, CN102269958, CN102269958, CN102269957, CN101833270, CN101833270, AU2010200496,

Abstract:
Source: US2009129813A A developer supply container detachably mountable to a developer receiving apparatus and settable in a developer receiving apparatus by a setting operation including at least a rotation toward a setting position, includes a containing portion for containing the developer; a rotatable discharging member for discharging the developer out of said containing portion; drive transmitting means, engageable with a driving gear provided in said developer receiving apparatus and rotatable in a direction opposite the setting direction, for transmitting a rotating force from said driving gear to said discharging member.

0) US2005135838A – REMOVABLE TONER CARTRIDGE UNIVERSAL ADAPTER

2) Family number: 32021031 (US2005135838A) © PatBase

Title: REMOVABLE TONER CARTRIDGE UNIVERSAL ADAPTER

Priority:

CA20042548821	20040826	CA20042649082	20040826	CA20042686399	20040826
CA20042687354	20040826	CA20042706915	20040826	CA20042706645	20040826
CA20042686405	20040826	CA20042714018	20040826	CA20042714039	20040826
US20050160894	20050714	EP20040782220	20040826	CA20052561070	20050401
EP20050735117	20050401	US20050120685	20050503	US20050120684	20050503
US20050120493	20050503	US20040521326P	20040401	US20030742323	20031219
CA20052681904	20050401	CA20092561070	20091110	CA20102548821	20100927
US20060279814	20060414	US20050161192	20050726	US20060382577	20060510
US20060532646	20060918	US20060382593	20060510	US20060382593	20060510
US20070757161	20070601	US20050162930	20050928	US20060382589	20060510
US20080013387	20080111	US20080043892	20080306	US20080043900	20080306
US20080043902	20080306	US20080043886	20080306	US20080122098	20080516
US20080043896	20080306	US20090616624	20091111	US20050907471	20050401
US20060614279	20061221	US20050162878	20050927	US20060334980	20060119
US20060537080	20060929	US20050907470	20050401	US20060279819	20060414
WO2005US11160	20050401	US20090618312	20091113	US20100707355	20100217
US20100721795	20100311	WO2004US27687	20040826	US20100780553	20100514
US20100793471	20100603	US20100815211	20100614	US20100852207	20100806
US20110010673	20110120	US20110008777	20110118	US20110243879	20110923
US20120566762	20120803				

Family:

Publication number	Publication date	Application number	Application date
BRPI0417289 A	20070724	BR2004PI17289	20040826
BRPI0508061 A	20070717	BR2005PI08061	20050401
CA2548821 AA	20060607	CA20042548821	20040826
CA2548821 C	20101214	CA20042548821	20040826
CA2561070 AA	20060925	CA20052561070	20050401
CA2561070 C	20100316	CA20052561070	20050401
CA2649082 AA	20050728	CA20042649082	20040826
CA2649082 C	20100316	CA20042649082	20040826
CA2681904 AA	20051020	CA20052681904	20050401
CA2681904 C	20130625	CA20052681904	20050401
CA2686399 AA	20050728	CA20042686399	20040826
CA2686399 C	20121023	CA20042686399	20040826
CA2686405 AA	20050728	CA20042686405	20040826
CA2686405 C	20111101	CA20042686405	20040826
CA2686685 AA	20050728	CA20042686685	20040826
CA2687354 AA	20050728	CA20042687354	20040826
CA2687354 C	20120424	CA20042687354	20040826
CA2706645 AA	20050728	CA20042706645	20040826
CA2706645 C	20111101	CA20042706645	20040826
CA2706915 AA	20050728	CA20042706915	20040826
CA2706915 C	20121023	CA20042706915	20040826
CA2714018 AA	20050728	CA20042714018	20040826
CA2714018 C	20130730	CA20042714018	20040826
CA2714039 AA	20050728	CA20042714039	20040826
CA2714039 C	20130813	CA20042714039	20040826
CA2714098 AA	20050728	CA20042714098	20040826
CA2714124 AA	20050728	CA20042714124	20040826
EP1695153 A2	20060830	EP20040782220	20040826
EP1695153 A4	20080924	EP20040782220	20040826

EP1730601 A2	20061213	EP20050735117	20050401	
EP1730601 A4	20100217	EP20050735117	20050401	
EP2058707 A2	20090513	EP20090153638	20040826	
EP2058707 A3	20100901	EP20090153638	20040826	
EP2196865 A2	20100616	EP20100158326	20050401	
EP2196865 A3	20100901	EP20100158326	20050401	
EP2228688 A2	20100915	EP20100165930	20040826	
EP2228688 A3	20121219	EP20100165930	20040826	
EP2530530 A2	20121205	EP20120178254	20040826	
EP2530530 A3	20150513	EP20120178254	20040826	
US2005135838 AA	20050623	US20030742323	20031219	
US2005163530 AA	20050728	US20050907470	20050401	
US2005163536 AA	20050728	US20050907471	20050401	
US2006153598 AA	20060713	US20060279819	20060414	
US2006153599 AA	20060713	US20060279814	20060414	
US2007014592 AA	20070118	US20060532646	20060918	
US2007019987 AA	20070125	US20060537080	20060929	
US2007127936 AA	20070607	US20060614279	20061221	
US2007223942 AA	20070927	US20070757161	20070601	
US2008145111 AA	20080619	US20080013387	20080111	
US2008152377 AA	20080626	US20080043886	20080306	
US2008152381 AA	20080626	US20080043892	20080306	
US2008152382 AA	20080626	US20080043900	20080306	
US2008152383 AA	20080626	US20080043902	20080306	
US2008212994 AA	20080904	US20080122098	20080516	
US2008304859 AA	20081211	US20080043896	20080306	
US2010053683 AA	20100304	US20090616624	20091111	
US2010061761 AA	20100311	US20090618312	20091113	
US2010143012 AA	20100610	US20100707355	20100217	
US2010162842 AA	20100701	US20100721795	20100311	
US2010221035 AA	20100902	US20100780553	20100514	
US2010247141 AA	20100930	US20100793471	20100603	
US2010254727 AA	20101007	US20100815211	20100614	
US2010310273 AA	20101209	US20100852207	20100806	
US2011110681 AA	20110512	US20110008777	20110118	
US2011116811 AA	20110519	US20110010673	20110120	
US2012014712 AA	20120119	US20110243879	20110923	
US2012301184 AA	20121129	US20120566762	20120803	
US7039345 BB	20060502	US20050907471	20050401	
US7068954 BA	20060627	US20050160894	20050714	
US7106993 BA	20060912	US20050161192	20050726	
US7113710 BB	20060926	US20060279814	20060414	
US7113710 C1	20121226	US20060279814	20060414	
US7136607 BA	20061114	US20060382577	20060510	
US7136608 BB	20061114	US20030742323	20031219	
US7174123 BA	20070206	US20050120684	20050503	
US7177565 BA	20070213	US20050120493	20050503	
US7177567 BB	20070213	US20050907470	20050401	
US7187874 BA	20070306	US20060334980	20060119	
US7221886 BA	20070522	US20060382593	20060510	

US7257356 BB	20070814	US20060532646	20060918	
US7257356 C1	20121002	US20060532646	20060918	
US7286774 BA	20071023	US20050162878	20050927	
US7319833 BA	20080115	US20050162930	20050928	
US7356279 BB	20080408	US20070757161	20070601	
US7362988 BA	20080422	US20060382589	20060510	
US7373096 BA	20080513	US20050120685	20050503	
US7447464 BB	20081104	US20060279819	20060414	
US7512360 BB	20090331	US20080013387	20080111	
US7526234 BB	20090428	US20080043892	20080306	
US7551859 BB	20090623	US20060614279	20061221	
US7565097 BB	20090721	US20080043902	20080306	
US7639964 BB	20091229	US20080043886	20080306	
US7643773 BB	20100105	US20080122098	20080516	
US7643773 C1	20121015	US20080122098	20080516	
US7647007 BB	20100112	US20080043900	20080306	
US7664432 BB	20100216	US20080043896	20080306	
US8045884 BB	20111025	US20100815211	20100614	
WO05067440 A2	20050728	WO2004US27687	20040826	
WO05067440 A3	20060119	WO2004US27687	20040826	
WO05098549 A2	20051020	WO2005US11160	20050401	
WO05098549 A3	20081113	WO2005US11160	20050401	
WO05098550 A1	20051020	WO2005US11177	20050401	

Probable Assignee: ADVANCED CARTRIDGE TECHNOLOGIES LLC

Assignee(s):(std)**:** CARTRIDGE CORP OF AMERICA IN ; CARTRIDGE CORP OF AMERICA INC ; CARTRIDGE OF AMERI CORP ; MILLER STEVEN ; SCHNELL HERMAN ; SOFTWARE CORP OF AMERICA INC

Assignee(s): CARTRIDGE OF AMERICA IN CORP ; INNOVATIVE CARTRIDGE TECHNOLOGIES ; INNOVATIVE CARTRIDGE TECHNOLOGIES INC ; STATIC CONTROL COMPONENTS INC ; IMAGING TECHNOLOGIES HOLDING LLC ; GLOBAL INNOVATIONS LLC ; WHITNEY NATIONAL BANK ; UNIVERSAL IMAGING HOLDINGS LLC ; UNIVERSAL IMAGING PROPERTIES LLC ; CARTRIDGE OF AMERICA INC CORP ; STEVEN MILLER ; SOFTWARE OF AMERICA INC CORP ; CARTRIDGE CORPORATIONS OF AMERICA INC ; ADVANCED CARTRIDGE TECHNOLOGIES LLC ; AMERICAN IMAGING CARTRIDGE LLC

Inventor(s):(std)**:** CARTRIDGE CORPORATION OF AMERI ; CARTRIDGE OF AMERI CORP ; MILLER STEVEN ; SCHNELL HERMAN

Inventor(s): STEVEN MILLER ; CARTRIDGE OF AMERICA INC CORP ; CARTRIDGE CORPORATION OF AMERICA INC

Agent(s): FINLAYSON AND SINGLEHURST; MEISSNER BOLTE AND PARTNER; MEISSNER BOLTE AND PARTNER GBR; SMITH AND HOPEN PA; SMITH HOPEN PA; STEVEN MILLER; JESSE DELCAMP; THOMAS E; TONER THOMAS E; DELCAMP JESSE; JESSE; JESSE E

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LI LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NA NE NI NL NO NZ OM PG PH PL PT RO RU SC SD SE SG SI SK SL SM SN SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

International class (IPC 8–9): B23P11/00 B41J2/41 B41J29/393 F16H1/20 F16H55/02 F16H57/00 G01D15/28 G03G15/00 G03G15/04 G03G15/06 G03G15/08 G03G15/10 G03G21/00 G03G21/12 G03G21/16 G03G21/18 G03G9/00 G03G9/08 G06F3/12 (Advanced/Invention); B41J2/41 B41J29/393 G01D15/00 G03G15/00 G03G15/04 G03G15/08 G03G15/10 G03G21/00 G03G21/18 G03G9/08 (Core/Invention)

International class (IPC 1–7): G03G15/00 G03G15/08 G03G21/18

CPC: G03G15/0863 G03G21/1892 G03G15/0855 G03G15/0865 G03G15/0868 G03G15/0877 G03G15/0856 G03G15/0862 G03G15/0889 G03G15/0875 G03G2215/0695 G03G2215/0634 G03G2215/0802 G03G21/1857 G03G2221/1624 G03G15/0898 G03G15/0817 G03G2221/166 G03G15/0896 G03G21/1867 G03G21/181 G03G21/1821 G03G2215/085 G03G2215/0888 G03G21/12 G03G15/0894 G03G21/1652 G03G21/1878 G03G21/1896 G03G2215/0697 G03G2215/0852 G03G2221/1815 G03G2221/1823 Y10T29/49826 Y10T74/19642

European class: G03G15/08F6 G03G15/08H2 G03G15/08H3 G03G15/08H3B G03G15/08H3D G03G15/08R G03G15/08S G03G15/08S1 G03G15/50F G03G21/12 G03G21/16C2 G03G21/18C2 G03G21/18C4C G03G21/18H2 G03G21/18H3 G03G21/18L1 G03G21/18L2 S03G215/06B S03G215/06C8 S03G215/06C8E S03G215/08A S03G215/08A5 S03G215/08A5A S03G215/08D S03G221/16C2 S03G221/16K3 S03G221/18C S03G221/18E

US class: 29/428 29/428S 347/152 347/19 358/1.15 358/1.150P 399/103 399/105 399/107 399/107P 399/109 399/109P 399/110 399/110P 399/111 399/111P 399/113 399/113P 399/114 399/117 399/117P 399/119 399/12 399/120 399/120P 399/12P 399/13 399/167 399/222 399/24 399/25 399/254 399/254P 399/258 399/258P 399/260 399/262 399/262P 399/262S 399/263 399/27 399/360 399/360P 399/61 399/90 399/90P 74/412.00RP 74/412R

Classification Explorer

Cited documents: WO0002096 A1, US7643773 BB, US7565097 BB, US7526234 BB, US7356279 BB, US7286774 BA, US7257356 BB, US7254346 BB, US7232209 BB, US7221878 BB, US7187874 BA, US7136608 BB, US7113710 BB, US7106993 BA, US7099606 BB, US7088928 BB, US7068963 BB, US7054577 BB, US7047635 BB, US6980753 BB, US6947685 BB, US6941082 BB, US6940613 BA, US6934489 BB, US6931216 BB, US6912365 BB, US6912365 BA, US6904400 BA, US6904248 BB, US6904248 BA, US6904248 B1, US6882810 BB, US6882810 BA, US6876826 BB, US6876826 BA, US6856775 BB, US6832056 BB, US6826380 BB, US6826380 BA, US6801733 BB, US6782222 BB, US6782222 BA, US6771922 BB, US6771922 BA, US6771922 B1, US6751428 BB, US6735405 BB, US6721520 BB, US6714749 BB, US6701107 BB, US6701107 BA, US6701096 BB, US6684039 BA, US6678481 BB, US6678481 BA, US6678481 B1, US6671476 BA, US6654569 BB, US6654569 BA, US6654569 B1, US6654567 BB, US6654567 BA, US6646571 BA, US6643482 BB, US6641134 BA, US6636702 BB, US6603933 BA, US6556792 BB, US6556792 BA, US6556792 B1, US6546213 BB, US6546213 BA, US6546213 B1, US6539867 BB, US6529691 BB, US6519430 BB, US6459876 BA, US6406128 BB, US6397015 BB, US6389243 BB, US6385407 BA, US6343192 BA, US6330410 BA, US6321048 BA, US6289189 BA, US6263170 BA, US6246841 BA, US6226476 BA, US6181885 BA, US6181885 B1, US6175706 BA, US6175706 B1, US6173140 BA, US6173140 B1, US6137966 A, US6104888 A, US6070029 A, US6064846 A, US6064842 A, US6029019 A, US6018637 A, US6016409 A, US6009289 A, US5995774 A, US5966566 A, US5937239 A, US5909603 A, US5907753 A, US5907752 A, US5907748 A, US5899602 A, US5878317 A, US5878309 A, US5875378 A, US5870654 A, US5867751 A, US5845176 A, US5815644 A, US5807005 A, US5787323 A, US5784671 A, US5768661 A, US5754923 A, US5745824 A, US5652647 A, US5634169 A, US5614996 A, US5579088 A, US5485249 A, US5479467 A, US5446525 A, US5365315 A, US5331378 A, US5331377 A, US5298952 A, US5294960 A, US5268720 A, US5119137 A, US5089853 A, US4961088 A, US4949983 A, US4771313 A, US4739367 A, US2010061761 AA, US2008120216 AA, US2007106523 AA, US2005036800 AA, US2005025522 AA, US2004114959 AA, US2003215261 AA, US2003212565 AA, US2003185587 AA, US2003170045 AA, US2003161658 AA, US2003161654 AA, US2003123896 AA, US2003091361 AA, US2003063311 AA, US2003049046 AA, US2003035017 AA, US2002110379 AA, US2002064395 AA, US2002031359 AA, US2001041079 AA, US10742323, JP7098538 A2, JP2003084631 A2, JP2003057888 A2, JP2002108086 A2, JP2001305935 A2, JP2001175080 A2, JP11237821 A2, JP11084850 A2, GB2389196 A1, GB2354735 A1, EP1363168 A2, EP1146609 A2,

Forward Citations: WO17083223, WO17002355, WO15039432, WO15030812, WO15016875, WO14110384, WO14107369, WO14004189, WO14003828, WO13184102, WO13120441, WO12024355, WO12024355, WO11127820, WO11110044, WO11091025, WO11053426, WO11016895, WO10068612, WO09110693, WO09097258, WO06020217, USD627389, USD597129, USD590012, USD590011, USD580968, USD578155, USD560713, US9690230, US9658590, US9645546, US9619663, US9599945, US9581938, US9575460, US9563169, US9557684, US9551974, US9542222, US9535373, US9529319, US9519243, US9494914, US9494913, US9465351, US9429899, US9417603, US9395684, US9389582, US9360835, US9360834, US9357091, US9342047, US9335656, US9329525, US9298130, US9291989, US9280124, US9280084, US9250590, US9207632, US9203980, US9195207, US9170559, US9152080, US9141816, US9128444, US9128443, US9128414, US9104134, US9098216, US9098015, US9079410, US9069327, US9069286, US9063506, US9046868,

US9046822, US9046817, US9031424, US9030682, US9020399, US9020398, US9020397, US9020396, US8989611, US8977163, US8938179, US8926869, US8909095, US8879953, US8873999, US8867966, US8862027, US8855527, US8714849, US8712259, US8666263, US8606124, US8599424, US8554090, US8532506, US8472815, US8453260, US8394563, US8386781, US8346103, US8332934, US8330966, US8311420, US8311419, US8281983, US8275285, US8177340, US8176549, US8160476, US8160473, US8150275, US8116657, US8099012, US8069478, US8069477, US8045884, US7965957, US7894729, US7829840, US7792438, US7788490, US7693448, US7664432, US7647007, US7643773, US7627257, US7596340, US7515837, US7512360, US7509081, US7496314, US7373096, US7346297, US7319828, US7254346, US2017075295, US2016214391, US2016187813, US2016048704, US2015185662, US2015071434, US2015023694, US2015003877, US2015003858, US2013317668, US2013170875, US2013164032, US2013070301, US2013064570, US2013064568, US2012327455, US2012327451, US2012321338, US2012173051, US2012134687, US2012134686, US2011315758, US2011236064, US2011206387, US2011176850, US2011128567, US2011109938, US2011075189, US2011004768, US2011004746, US2011002002, US2010322641, US2010254727, US2010247141, US2010232815, US2010214597, US2010162842, US2010141715, US2010125844, US2010107909, US2010107908, US2010061761, US2010053684, US2010053683, US2010045762, US2009222886, US2009222664, US2009220077, US2009219559, US2009190962, US2009154951, US2009154950, US2009110815, US2008305422, US2008304859, US2008253799, US2008219698, US2008212994, US2008199222, US2008187358, US2008175624, US2008170866, US2008152382, US2008145112, US2008145111, US2008131163, US2008098218, US2008050129, US2007279464, US2007269225, US2007264040, US2007147853, US2007092269, US2006245767, US2006224889, US2006204284, US2006188273, RU2584826, GB2485889, GB2485889, GB2485888, GB2485888, FR2956490, EP3040780, EP2829923, EP2798408, EP2710649, EP2525980, EP2365397, EP2250605, EP2250605, EP2250605, EP2250600, EP2250600, EP1782131, EA024354, EA023481, CN105431837, CN103268060, CN102858551, CN102858551, CN102689530, CN102689530, CN102555552, CN102555552, CN102442073, CN102063034, CN102063031, AU2011207606,

Abstract:
Source: US2005135838A A universal adapter for a toner cartridge enables a single toner cartridge to be used with printers made by different manufacturers and differing printer models made by a common manufacturer. The toner cartridge includes a waste bin having a leading end that is sculpted to mate with the cartridge−receiving cavities of a large number of printers. Additional improvements include an improved planar having a common thickness along its extent, the elimination of a pivotal motion between the waste bin and the hopper, an enhanced interconnection between the waste bin and the hopper, improved ergonomics along a trailing edge of the waste bin to facilitate its handling, a structure that prevents mounting of a circuit board over a host circuit board, reduced friction media guide ribs, an improved circuit board mounting pad, and a microswitch actuating tab that functions even in a printer with worn hinges and latches.

0) US2013170864A – TONER CARTRIDGE HAVING A SHUTTER LOCK MECHANISM...

3) Family number: 54260433 (US2013170864A) © PatBase

Title: TONER CARTRIDGE HAVING A SHUTTER LOCK MECHANISM

Priority:

CA20122854191	20121115	CA20152854191	20151124	US20110340876	20111230
US20110340881	20111230	US20110340797	20111230	CN201280065546	20121115
US20110340935	20111230	US20130780042	20130228	US20140489551	20140918
US20110340911	20111230	US20110340884	20111230	US20140571396	20141216
US20150886198	20151019	US20160072582	20160317	WO2012US65149	20121115
WO2012US65148	20121115	WO2012US65152	20121115	US20160364379	20161130

Family:

Publication number	Publication date	Application number	Application date
AR089368 AA	20140820	AR2012P104868	20121220
AR089370 AA	20140820	AR2012P104870	20121220
AU2012362980 AA	20130704	AU20120362980	20121115
AU2012362980 BB	20151022	AU20120362980	20121115
AU2012363069 AA	20130704	AU20120363069	20121115
AU2012363069 BB	20141127	AU20120363069	20121115
CA2854191 AA	20140430	CA20122854191	20121115
CA2854191 C	20160112	CA20122854191	20121115
CA2854353 AA	20140501	CA20122854353	20121115
CA2910823 AA	20130704	CA20122910823	20121115
CL2014001369 A1	20141103	CL20140001369	20140523
CN104380212 A	20150225	CN201280065546	20121115
CN104380212 B	20160713	CN201280065546	20121115
CN104412169 A	20150311	CN201280065436	20121115
CN104508568 A	20150408	CN201280065035	20121115
CN106019896 A	20161012	CN201610453482	20121115
CO7030943 A2	20140821	CO20140111804	20140523
EP2798409 A2	20141105	EP20120862759	20121115
EP2798409 A4	20160713	EP20120862759	20121115
EP2798411 A2	20141105	EP20120863609	20121115
EP2798411 A4	20160113	EP20120863609	20121115
HK1204095 A1	20151106	HK20150104267	20150505
HK1204096 A1	20151106	HK20150104268	20150505
HK1204098 A1	20151106	HK20150104270	20150505
IL232579 A0	20140630	IL20140232579	20140513
IN05922DN2014 A	20150605	IN2014DN05922	20140715
IN05926DN2014 A	20150612	IN2014DN05926	20140715
KR101554462 B1	20150921	KR20147018258	20121115
KR20140119009 A	20141008	KR20147018258	20121115
MX2014007522 A1	20140904	MX20140007522	20121115
MX2014007765 A1	20140922	MX20140007765	20121115
MX2014007808 A1	20140925	MX20140007808	20121115
MX337200 B	20160217	MX20140007765	20121115
NZ624384 A	20150529	NZ20120624384	20121115
NZ624385 A	20160729	NZ20120624385	20121115
RU2014118413 A	20160220	RU20140118413	20121115
RU2014118417 A	20160220	RU20140118417	20121115
RU2589769 C2	20160710	RU20140118413	20121115
RU2606929 C2	20170110	RU20140118417	20121115

SG11201402377P A1	20140828	SG20141102377	20121115	
SG11201402378Q A1	20140828	SG20141102378	20121115	
TW201339001 A	20131001	TW20120141115	20121106	
TW201341209 A	20131016	TW20120141117	20121106	
TWI515121 B	20160101	TW20120141117	20121106	
TWI581980 B	20170511	TW20120141115	20121106	
US2013170864 AA	20130704	US20110340876	20111230	
US2013170868 AA	20130704	US20110340935	20111230	
US2014241758 AA	20140828	US20130780042	20130228	
US2015003877 AA	20150101	US20140489551	20140918	
US2015098733 AA	20150409	US20140571396	20141216	
US2016041499 AA	20160211	US20150886198	20151019	
US2016195833 AA	20160707	US20160072582	20160317	
US2017075295 AA	20170316	US20160364379	20161130	
US8867966 BB	20141021	US20110340935	20111230	
US8948650 BB	20150203	US20110340876	20111230	
US9031451 BB	20150512	US20130780042	20130228	
US9207577 BB	20151208	US20140571396	20141216	
US9298130 BB	20160329	US20140489551	20140918	
US9323178 BB	20160426	US20150886198	20151019	
US9541860 BB	20170110	US20160072582	20160317	
US9658590 BB	20170523	US20160364379	20161130	
WO13101350 A2	20130704	WO2012US65149	20121115	
WO13101350 A3	20150108	WO2012US65149	20121115	
WO13101351 A2	20130704	WO2012US65152	20121115	
WO13101351 A3	20150625	WO2012US65152	20121115	
WO14133816 A2	20140904	WO2014US16775	20140218	
WO14133816 A3	20151029	WO2014US16775	20140218	
ZA201403289 A	20150826	ZA20140003289	20121115	

Probable Assignee: LEXMARK INT INC

Assignee(s):(std)**:** ACOSTA BENJER ALBARAN ; AMANN MARK WILLIAM ; CARTER II JAMES ANTHANY ; LEXMARK INT INC ; HACKNEY GARY NEAL ; LACTUAN KATRINA ROSIT ; LEEMHUIS JAMES RICHARD ; NEWMAN BENJAMIN KEITH ; HALE JASON ; LEKSMARK INTERNESHNL INK ; SCHARF BRYAN CHRISTOPHER ; SEAMAN KEITH ; ROGERS MATTHEW LEE ; VOWELS CHRISTOPHER GENE ; PORTIG HARALD ; SPROUL RODNEY EVAN

Assignee(s): LEXMARK INT INC740 WEST NEW CIRCLE ROADBLDG. 082−1IP LAW DEPARTMENTLEXINGTONKY40550US ; CARTER JAMES ANTHANY

Inventor(s):(std)**:** ACOSTA BENJER ALBARAN ; AKOSTA BENDZHER ALBARAN ; BENJAMIN KEITH NEWMAN ; BENJER ALBARAN ACOSTA ; BRYAN CHRISTOPHER SCHARF ; BUCHANAN JOHN ANDREW ; CARTER II JAMES ANTHANY ; CARTER JAMES ANTHANY ; CAVILL GREGORY ALAN ; CHRISTOPHER GENE VOWELS ; FOSTER MARK DUANE ; GARY NEAL HACKNEY ; HACKNEY GARY NEAL ; AMANN MARK UILLYAM ; AMANN MARK WILLIAM ; HALE JASON ; JAMES RICHARD LEEMHUIS ; JASON HALE ; KARTER DZHEJMS ENTANI ; KATRINA ROSIT LACTUAN ; KEITH SEAMAN ; KHEJL DZHEJSON ; KHEKNI GARI NIL ; LACTUAN KATRINA ROSIT ; HARALD PORTIG ; JAMES ANTHANY CARTER ; LAKTUAN KATRINA ROZIT ; LEEMHIUS JAMES RICHARD ; LEEMHUIS JAMES RICHARD ; LEMKHEJS DZHEJMS RICHARD ; MARK WILLIAM AMANN ; MATTHEW LEE ROGERS ; NEWMAN BENJAMIN KEITH ; NYUMAN BENDZHAMIN KIT ; PORTIG HARALD ; PORTIG KHARALD ; RODNEY EVAN SPROUL ; RODZHERS METYU LI ; ROGERS MATTHEW LEE ; RULON DARRELL STEPHEN ; SCHARF BRYAN CHRISTOPHER ; SEAMAN KEITH ; SHARF BRAJAN KRISTOFER ; SIMEN KIT ; SPRAUL RODNI EVAN ; SPROUL RODNEY EVAN ; TROMP JUSTIN MICHAEL ; VAUELS KRISTOFER DZHIN ; VOWELS CHRISTOHPER GENE ; VOWELS CHRISTOPHER GENE ; WILLIAMS TYLER FREDERICK

Inventor(s): VOWELS CHRISTOPHER GENEUS ; SPROUL RODNEY EVANUS ; SEAMAN KEITHUS ; SCHARF BRYAN CHRISTOPHERUS ; ROGERS MATTHEW LEEUS ; PORTIG HARALDUS ; NEWMAN BENJAMIN KEITHUS ; NEWMAN BENJAMI KEITH ; LEEMHUIS JAMES RICHARDUS ; JAMES ANTHANY CARTER II ; JAMES RICHARD LEEMHIUS ; LACTUAN KATRINA ROSITPH ; HALE JASONUS ; AMANN MARK WILLIAMUS ; HACKNEY GARY NEALUS ; CARTER JAMES ANTHANYUS ; AMANN MARK ; ACOSTA BENJER ALBARANPH

Agent(s): WRAYS; GOWLING LAFLEUR HENDERSON LLP; ESTUDIO CAREY LTDA; JAIME EDUARDO DELGADO VILLEGAS; BOERNER ROBERT; JOHN VICTOR; JUSTIN M; TROMP JUSTIN MICHAEL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9): B41J2/175 B41L27/04 G03G G03G15/00 G03G15/06 G03G15/08 G03G21/00 G03G21/16 G03G21/18 G06T17/20 (Advanced/Invention);
G03G21/18 (Advanced/Non–invention);
G03G (Subclass/Invention)

CPC: G03G21/185 G03G21/1676 G03G15/08 G03G21/00 G03G2215/0692 G03G21/1842 G03G21/1647 G03G15/80 G03G21/1867 G03G2221/166 G03G2215/067 G03G2221/1654 G03G21/1642 G03G21/1821 G03G15/0886 G03G21/1633 G03G21/1814 G03G15/0867 G03G21/1652 G03G15/0865 G03G15/10 G03G15/11 G03G15/1605 G03G15/1625 G03G21/0088 G03G21/10

US class: 1/1 399/106 399/258 399/260 399/262 399/263

Classification Explorer

Cited documents: WO11155642 A1, US9152081 BB, US9104135 BB, US9063464 BB, US9031451 BB, US8948660 BB, US8879964 BA, US8867955 BB, US8798501 BB, US8693926 BB, US8682213 BB, US8644738 BB, US8588659 BB, US8577252 BB, US8435709 BB, US8165505 BB, US8160481 BB, US8160477 BB, US8095036 BB, US8090292 BB, US8078088 BB, US8078088, US8059988 BB, US8045886 BB, US7929881 BB, US7848684 BB, US7805093 BB, US7761023 BB, US7738817 BB, US7734197 BB, US7674057 BB, US7647005 BB, US7606520 BB, US7574163 BB, US7548710 BB, US7486910 BB, US7447464 BB, US7386250 BB, US7305204 BB, US7272336 BA, US7258558 BA, US7194225 BB, US7149457 BB, US7139510 BB, US7136604 BB, US7116925 BB, US7086872 BB, US7079783 BB, US7074084 BB, US6983115 BB, US6978101 BB, US6968139 BB, US6898392 BB, US6853828 BB, US6848925 BB, US6792228 BB, US6786750 BB, US6782222 BB, US6782219 BB, US6773283 BB, US6771922 BB, US6738589 BB, US6697578 BB, US6652309 BB, US6594458 BB, US6582039 BB, US6502917 BA, US6463233 BB, US6386899 BA, US6349182 BB, US6314262 BA, US6266505 BA, US6259874 BA, US6254408 BA, US6186809 BA, US6168262 BA, US6168262 B1, US6144821 A, US6128453 A, US6115571 A, US6097908 A, US6070029 A, US6014536 A, US6014533 A, US5997329 A, US5946531 A, US5875378 A, US5848342 A, US5842093 A, US5768661 A, US5758233 A, US5746617 A, US5689773 A, US5686985 A, US5608501 A, US5605150 A, US5587777 A, US5581328 A, US5490802 A, US5392371 A, US5259779 A, US5121165 A, US5083158 A, US5002497 A, US4891017 A, US4839691 A, US4824388 A, US2013170872 AA, US2013170868 AA, US2013170866 AA, US2013170861 AA, US2012219328 AA, US2011158684 AA, US2010322676 AA, US2010221039 AA, US2010054814 AA, US2009232547 AA, US2009142103 AA, US2009142103, US2009052949 AA, US2009016779 AA, US2009010679 AA, US2008317510 AA, US2008260421 AA, US2008145110 AA, US2008101821 AA, US2008101821, US2007286634 AA, US2007238634 AA, US2007230999 AA, US2007223965 AA, US2007212118 AA, US2007140725 AA, US2007086806 AA, US2007077101 AA, US2007003325 AA, US2006228127 AA, US2006182469 AA, US2006171744 AA, US2006140664 AA, US2006103701 AA, US2006083555 AA, US2006067725 AA, US2006062589 AA, US2006029423 AA, US2005271425 AA, US2005201777 AA, US2005201773 AA, US2005191091 AA, US2005169672 AA, US2005135838 AA, US2004105699 AA, US2003223775 AA, US2003223775, US2003091361 AA, US2003035016 AA, US2002057319 AA, US2002025725 AA, US2001001025 AA, JP5198550 A2, JP5119550 A2, JP4070779 A2, JP3134674 A2, JP2042454 A2, JP2011191618 A2, JP2009169117 A2, JP2008134570 A2, JP2008134570, JP2005195884 A2, JP2005134725 A2, JP2002268356 A2, JP2000356895 A2, JP11153904 A2, EP2290461 A2, EP1939695 A2, EP1840669 A1, EP1434110 A1, EP0331324 A2, CN1841231 A, CN1815390, CN102262387 A, CN101918900 A,

Forward Citations: WO15076870, US9690231, US9563169, US9551974, US9477178, US9477177, US9477176, US9411303, US9360834, US9360797, US9317004, US9291992, US9285758, US9280087, US9261851, US9229367, US9207577, US9164425, US9152083, US9104141, US9063460, US8948650, US8938179, US8923734, US8918032, US8918031, US8879953, US8873996, US8867968, US8774684, US8682213, US8649710, US2016109827, US2015098733, US2014079441, US2014079439, US2013343777, US2013170866, US2013170864, TWI584086, JP2016033533, EP3144732, EP3130965,

Abstract:
Source: US2013170864A A toner cartridge for use in an image forming device according to one example embodiment includes a housing having a reservoir for containing toner therein. The housing has an exit port in fluid communication with the reservoir. A shutter is positioned at the exit port that is movable between an open position and a closed position. The shutter is biased toward the closed position. A linkage is operatively connected to the shutter to open the shutter upon being actuated by a first engagement feature in the image forming device. An interlock is operatively engaged with the linkage and biased toward a locked position preventing the linkage from opening the shutter. The interlock is movable to an unlocked position that is disengaged with the linkage when the interlock is actuated by a second engagement feature in the image forming device permitting the linkage to open the shutter.

0) US2013182046A – CARTRIDGE AND PRINTING MATERIAL SUPPLY SYSTEM

4) Family number: 52213593 (US2013182046A) © PatBase

Title: CARTRIDGE AND PRINTING MATERIAL SUPPLY SYSTEM

Priority:

AU20120367018	20120301	AU20120370408	20120301	AU20140203079	20140605
AU20140216028	20140822	CA20122806705	20121226	AU20160201351	20160302
CA20142809615	20141003	CA20122809615	20120301	CA20142807789	20141212
CA20122807789	20120301	CN201280003032	20120301	CN201280003029	20120301
CA20152809615	20151030	CA20162806705	20160108	JP20120003652	20120112
JP20120003653	20120112	JP20120003694	20120112	JP20120003698	20120112
JP20120189836	20120830	JP20120003650	20120112	JP20120003701	20120112
JP20130003041	20130111	JP20130002628	20130110	JP20130002629	20130110
JP20130003042	20130111	EP20130150956	20130111	EP20120713384	20120301
EP20120713385	20120301	CN201280003040	20121226	EP20130174669	20130111
US20120410461	20120302	WO2012JP01395	20120301	US20120410528	20120302
US20120410478	20120302	WO20120001395	20120301	WO2012JP01410	20120301
WO2012JP01409	20120301	US20120670997	20121107	US20120670941	20121107
JP20130039204	20130228	WO2012JP08314	20121226	JP20130247318	20131129
US20140173294	20140205	US20140242518	20140401	JP20140077609	20140404
US20120410618	20120302	US20140459901	20140814	JP20140186455	20140912
JP20130247318	20130110	US20130739609	20130111	US20140539338	20141112
US20120310478	20120302	US20150969977	20151215	US20160259549	20160908

Family:

Publication number	Publication date	Application number	Application date
AR085900 AA	20131106	AR2012P100674	20120301
AR085901 AA	20131106	AR2012P100675	20120301
AR089713 AA	20140910	AR2013P100102	20130111
AR102390 AB	20170222	AR2015P103413	20151021
AU2012101587 AD	20121129	AU20120101587	20121022
AU2012101587 BD	20121206	AU20120101587	20121022
AU2012367018 AA	20130822	AU20120367018	20120301
AU2012367018 BB	20150219	AU20120367018	20120301
AU2012367439 AA	20130822	AU20120367439	20121226
AU2012367439 BB	20150205	AU20120367439	20121226
AU2012370408 AA	20130912	AU20120370408	20120301
AU2012370408 BB	20140724	AU20120370408	20120301
AU2014203079 AA	20140703	AU20140203079	20140605
AU2014216028 AA	20140911	AU20140216028	20140822
AU2014216028 BB	20160107	AU20140216028	20140822
AU2016201351 AA	20160324	AU20160201351	20160302
BR112013006402 A2	20160705	BR20131106402	20120301
BR112013006690 A2	20160607	BR20131106690	20121226
CA2806705 AA	20130222	CA20122806705	20121226
CA2806705 C	20160223	CA20122806705	20121226
CA2807789 AA	20130226	CA20122807789	20120301
CA2807789 C	20150721	CA20122807789	20120301
CA2809615 AA	20130226	CA20122809615	20120301
CA2809615 C	20160112	CA20122809615	20120301
CA2860539 AA	20130712	CA20122860539	20120301
CA2860539 C	20170328	CA20122860539	20120301
CA2873805 AA	20130712	CA20122873805	20120301
CA2873805 C	20170207	CA20122873805	20120301
CA2909682 AA	20130712	CA20122909682	20120301
CA2915590 AA	20130712	CA20122915590	20121226

CL2014000624 A1	20141205	CL20140000624	20140314	
CN103204005 A	20130717	CN201310011081	20130111	
CN103204005 B	20161228	CN201310011081	20130111	
CN103204006 A	20130717	CN201310011521	20130111	
CN103204006 B	20170426	CN201310011521	20130111	
CN103370203 A	20131023	CN201280003040	20121226	
CN103370203 B	20160831	CN201280003040	20121226	
CN103442895 A	20131211	CN201280003029	20120301	
CN103442895 B	20160217	CN201280003029	20120301	
CN103476591 A	20131225	CN201280003032	20120301	
CN103476591 B	20160817	CN201280003032	20120301	
CN103481666 A	20140101	CN201310331964	20121226	
CN103481666 B	20150617	CN201310331964	20121226	
CN103640338 A	20140319	CN201310566358	20120301	
CN103640338 B	20161123	CN201310566358	20120301	
CN104669798 A	20150603	CN201510060960	20120301	
CN104669798 B	20161012	CN201510060960	20120301	
CN104723691 A	20150624	CN201510102395	20121226	
CN104723691 B	20170503	CN201510102395	20121226	
CN104760419 A	20150708	CN201510102461	20120301	
CN104760419 B	20170704	CN201510102461	20120301	
CN106183431 A	20161207	CN201610575885	20120301	
CN106240160 A	20161221	CN201610630627	20121226	
DE202013000268 U1	20130620	DE201320000268U	20130111	
DE602012003267 D1	20141113	DE201260003267T	20120301	
DE602012004937 D1	20150226	DE201260004937T	20120301	
DE602013000540 D1	20150115	DE201360000540T	20130111	
DE602013001676 D1	20150618	DE201360001676T	20130111	
EP2614960 A1	20130717	EP20130150956	20130111	
EP2614960 B1	20141203	EP20130150956	20130111	
EP2629977 A1	20130828	EP20120713384	20120301	
EP2629977 B1	20141001	EP20120713384	20120301	
EP2635441 A1	20130911	EP20120713385	20120301	
EP2635441 B1	20150114	EP20120713385	20120301	
EP2653316 A1	20131023	EP20130174669	20130111	
EP2653316 B1	20150506	EP20130174669	20130111	
EP2786869 A1	20141008	EP20130192668	20120301	
EP2786869 A3	20150318	EP20130192668	20120301	
EP2802459 A1	20141119	EP20120823217	20121226	
EP2857206 A1	20150408	EP20140195157	20120301	
ES2526686 T3	20150114	ES20120713384T	20120301	
ES2531151 T3	20150311	ES20130150956T	20130111	
ES2534135 T3	20150417	ES20120713385T	20120301	
ES2543792 T3	20150821	ES20130174669T	20130111	
GB201300618 A0	20130227	GB20130000618	20120301	
GB2499105 A1	20130807	GB20130000618	20120301	
GB2499105 B2	20140917	GB20130000618	20120301	
HK1187307 A1	20150731	HK20140100270	20140110	
HK1187863 A1	20150313	HK20140100896	20140128	
HK1188187 A1	20150612	HK20140101179	20140210	

IL231002 A0	20140331	IL20120231002	20121226	
IN02087DN2013 A	20141031	IN2013DN02087	20130307	
IN02089DN2013 A	20141031	IN2013DN02089	20130307	
IN02585DN2013 A	20160408	IN2013DN02585	20130322	
ITTO20130019 A1	20130713	IT2013TO00019	20130111	
JP2013141802 A2	20130722	JP20120003650	20120112	
JP2013141805 A2	20130722	JP20120003701	20120112	
JP2013163364 A2	20130822	JP20120189836	20120830	
JP2013163371 A2	20130822	JP20130002628	20130110	
JP2013163372 A2	20130822	JP20130002629	20130110	
JP2013163373 A2	20130822	JP20130003041	20130111	
JP2013163374 A2	20130822	JP20130003042	20130111	
JP2013163378 A2	20130822	JP20130039204	20130228	
JP2014065309 A2	20140417	JP20130247318	20131129	
JP2014144647 A2	20140814	JP20140077609	20140404	
JP2015027805 A2	20150212	JP20140186455	20140912	
JP5218712 B1	20130626	JP20130003041	20130111	
JP5435149 B2	20140305	JP20130002629	20130110	
JP5532154 B2	20140625	JP20130002628	20130110	
JP5532155 B2	20140625	JP20130003042	20130111	
JP5682732 B2	20150311	JP20140186455	20140912	
JP5880054 B2	20160308	JP20120003701	20120112	
JP5888362 B2	20160322	JP20140077609	20140404	
JP5957891 B2	20160727	JP20120003650	20120112	
KR101493178 B1	20150223	KR20137007172	20120301	
KR101544287 B1	20150812	KR20137007171	20120301	
KR101560068 B1	20151013	KR20137007170	20121226	
KR101632527 B1	20160621	KR20147029984	20120301	
KR20130114099 A	20131016	KR20137007170	20121226	
KR20130120453 A	20131104	KR20137007171	20120301	
KR20130120454 A	20131104	KR20137007172	20120301	
KR20140102176 A	20140821	KR20147006397	20121226	
KR20140146141 A	20141224	KR20147029984	20120301	
KR20160075811 A	20160629	KR20167015688	20120301	
MX2013003348 A1	20130826	MX20130003348	20121226	
NZ620415 A	20160331	NZ20120620415	20121226	
PE18662014 A1	20141224	PE20140000319	20121226	
RU2013112599 A	20160310	RU20130112599	20120301	
RU2013112602 A	20160310	RU20130112602	20120301	
RU2013112679 A	20160310	RU20130112679	20121226	
RU2594874 C2	20160820	RU20130112599	20120301	
RU2600904 C2	20161027	RU20130112602	20120301	
RU2604791 C2	20161210	RU20130112679	20121226	
SG10201505419Y A1	20150828	SG20151005419	20121226	
SG2014008221 A1	20140328	SG20140008221	20121226	
TH148901 A	20160426	TH20141001354	20121226	
TW201328889 A	20130716	TW20120106819	20120301	
TW201328890 A	20130716	TW20120106802	20120301	
TW201328891 A	20130716	TW20120106803	20120301	
TW201328892 A	20130716	TW20120106812	20120301	

TW201345737 A	20131116	TW20130101228	20130111	
TW201714758 A	20170501	TW20160130480	20120301	
TW201720667 A	20170616	TW20160134322	20130111	
TWI558576 B	20161121	TW20120106812	20120301	
TWI560074 B	20161201	TW20120106802	20120301	
TWI566954 B	20170121	TW20130101228	20130111	
UA111500 C2	20160510	UA20140002539	20121226	
US2013182046 AA	20130718	US20120670997	20121107	
US2013182047 AA	20130718	US20120410569	20120302	
US2013182048 AA	20130718	US20120410618	20120302	
US2013182049 AA	20130718	US20120670941	20121107	
US2013182052 AA	20130718	US20130739451	20130111	
US2013182053 AA	20130718	US20130739609	20130111	
US2014152746 AA	20140605	US20140173294	20140205	
US2014210917 AA	20140731	US20140242518	20140401	
US2014368585 AA	20141218	US20140459901	20140814	
US2015077486 AA	20150319	US20140539338	20141112	
US2016129696 AA	20160512	US20150969977	20151215	
US2016375688 AA	20161229	US20160259549	20160908	
US8297738 BA	20121030	US20120410461	20120302	
US8297739 BA	20121030	US20120410478	20120302	
US8382249 BA	20130226	US20120410528	20120302	
US8439482 BA	20130514	US20120410528	20120302	
US8708469 BB	20140429	US20120670997	20121107	
US8721045 BB	20140513	US20120670941	20121107	
US8752944 BB	20140617	US20120410569	20120302	
US8807721 BB	20140819	US20120410618	20120302	
US8915582 BB	20141223	US20130739609	20130111	
US8974044 BB	20150310	US20140173294	20140205	
US9039153 BB	20150526	US20130739451	20130111	
US9039154 BB	20150526	US20140242518	20140401	
US9248656 BB	20160202	US20140459901	20140814	
WO13105142 A1	20130718	WO2012JP01395	20120301	
WO13105143 A1	20130718	WO2012JP01397	20120301	
WO13105144 A1	20130718	WO2012JP01409	20120301	
WO13105145 A1	20130718	WO2012JP01410	20120301	
WO13105195 A1	20130718	WO2012JP08314	20121226	

Probable Assignee: SEIKO EPSON CORP

Assignee(s):(std)**:** HARADA KAZUMASA ; KAWATA HIDETAKA ; KODAMA HIDETOSHI ; MATSUZAKI KAZUTOSHI ; MIZUTANI TADAHIRO ; SEIKO EPSON CORP ; NAKATA SATOSHI ; NOZAWA IZUMI ; SEJKO EPSON KORPOREJSHN

Assignee(s): SEIKO EPSON CORP4−1, NISHI−SHINJUKU 2−CHOMESHINJUKU−KU163−0811TOKYOJP

Inventor(s):(std)**:** HARADA KAZUMASA ; HIDETAKA KAWATA ; HIDETOSHI KODAMA ; IZUMI NOZAWA ; KAVATA KHIDETAKA ; KAWADA HIDEMINE ; KAWADA HIDETAKA ; KAWATA HIDETAK ; KAWATA HIDETAKA ; KAZUMASA HARADA ; KAZUTOSHI MATSUZAKI ; KHARADA KADZUMASA ; KODAMA HIDESTOSHI ; KODAMA HIDETOSHI ; KODAMA KHIDETOSI ; KODAWA HIDETOSHI ; MATSUDZAKI KADZUTOSI ; MATSUZAKI KAZUTOSH ; MATSUZAKI KAZUTOSHI ; MIDZUTANI TADAKHIRO ; MIZUTANI TADAHIRO ; NAKADA SATOSHI ; NAKATA SATOHSHI ; NAKATA SATOSHI ; NAKATA SATOSI ; NODZAVA IDZUMI ; NODZAVA IZUMI ; NOZAWA IZUM ; NOZAWA IZUMI ; SATOSHI NAKATA ; TADAHIRO MIZUTANI

Inventor(s): NOZAWA IZUMI NAGANO ; NOZAWA IZUMIJP ; NAKATA SATOSHI NAGANO ; NAKATA SATOSHIJP ; MIZUTANI TADAHIRO NAGANO ; MIZUTANI TADAHIROJP ; MATSUZAKI KAZUTOSHI NAGANO ; MATSUZAKI KAZUTOSHIJP ; KODAMA HIDETOSHI NAGANO ; KODAMA HIDETOSHIJP ; KAWATA HIDETAKA NAGANO ; KAWATA HIDETAKAJP ; HIDETOSHI KODAWA ; IZUM NOZAWA ; HARADA KAZUMASA NAGANO ; HARADA KAZUMASAJP ; HIDESTOSHI KODAMA

Agent(s): DAVIES COLLISON CAVE; DAVIES COLLISON CAVE PTY LTD; RICHES MCKENZIE AND HERBERT LLP; HOFFMANN EITLE PATENT U RECHTSANWAELTE PARTMBB; HOFFMANN EITLE; FUSTER GUSTAVO NICOLAS; TOKKYO GYOMUHOJIN MEISEI INT PATENT FIRM; BIRD AND BIRD ATMD LLP; STROOCK AND STROOCK AND LAVAN LLP

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9): B41J B41J11/00 B41J13/00 B41J13/10 B41J2/01 B41J2/045 B41J2/14 B41J2/17 B41J2/175 B41J29/54 G03G15/08 (Advanced/Invention);
B41J2/00 B41J2/175 (Core/Invention);
B41J G03G (Subclass/Invention)

CPC: B41J2/1753 G03G2221/1684 G03G15/0832 B41J2/17509 B41J2/17553 B41J2/17503 B41J2/045 B41J2/04501 B41J2/175 B41J2/17513 B41J29/54 B41J2/17526 B41J2/17546 B41J2/1752 B41J2/17523

European class: B41J2/175C3 B41J2/175C4 B41J2/175C4A B41J2/175C7E B41J2/175C8

US class: 1/1 347/49 347/50 347/85 347/86

Classification Explorer

Cited documents: WO12029327 A1, WO09143422 A2, US8721045 BB, US8708469 BB, US8651638 BB, US8646884 BB, US8439482 BA, US8297739 BA, US8297738 BA, US8177340 BB, US8172386 BB, US7926927 BB, US7802877 BB, US7712986 BB, US7562958 BB, US7401909 BB, US7354144 BB, US7278721 BB, US7244018 BB, US7237881 BB, US7213914 BB, US7018030 BB, US7008053 BB, US6979079 BB, US6955422 BB, US6644780 BB, US6502917 BA, US6488369 BA, US6361158 BA, US6336709 BA, US6276780 BA, US6276780, US6074042 A, US6070975 A, US6012862 A, US5646665 A, US4907018 A, US2012256991 AA, US2012127247 AA, US2012056956 AA, US2012056955 AA, US2011273520 AA, US2011063386 AA, US2011012962 AA, US2010321451 AA, US2010253754 AA, US2010103230 AA, US2009147062 AA, US2009135237 AA, US2009128609 AA, US2009096850 AA, US2009051745 AA, US2008284830 AA, US2008284830, US2008211892 AA, US2008211892, US2008211892, US2008068409 AA, US2008049081 AA, US2008049080 AA, US2007279464 AA, US2007273734 AA, US2007103522 AA, US2007052774 AA, US2006250426 AA, US2006139422 AA, US2005168546 AA, US2005151811 AA, US2003058296 AA, US2002135634 AA, JP8276601 A2, JP8276601, JP8230206 A2, JP8230206, JP8224883 A2, JP8224883, JP8058107 A2, JP8058107, JP59209171 A2, JP5435149 B4, JP5435149 B2, JP5318763 A2, JP5318763, JP2187357 A2, JP2187357, JP2012189836 A2, JP2012003698 A2, JP2012003694 A2, JP2012003653 A2, JP2012003652 A2, JP2012001395 A2, JP201120294, JP2011201109 A2, JP2011201109, JP2011020294 A2, JP2011020294, JP201023458, JP2010023458 A2, JP2010023458, JP2009132119 A2, JP2008127193 A2, JP2007230249 A2, JP2007230249, JP200656118, JP2006159715 A2, JP2006159715, JP2006142818 A2, JP2006142818, JP2006056118 A2, JP200522345, JP2005144723 A2, JP2005144723, JP2005022345 A2, JP2005022345, JP2004249652 A2, JP2004249652, JP2004209663 A2, JP2004209663 A1, JP2004209663, JP2004209662 A2, JP2004209662, JP200354003, JP2003054003, JP2003019817 A2, JP2003019817, JP2003011390 A2, JP2002254673, JP200219142, JP2002019142 A2, JP2002019142, JP2000127446, JP2000127428 A2, JP2000062212 A2, JP1125238 A2, JP10250103 A2, JP10250103, JP10100432 A2, JP08276601, JP08230206, JP08224883, JP08058107, EP2425978 A2, EP2000313 A2, EP2000313, EP1892104 A1, EP1862314 A2, EP1547783 A3, EP1547783 A2, EP1547782 A2, EP0698497 A3, EP0698497 A2, EP0622208 A2, EP0313205 A2,

DE102006036716 B3

CN2589199 Y, CN1927591 A, CN1899833 A, CN1840346 A, CN1636741 A, CN1623789 A, CN1596193 A, CN1396865 A, CN1347806 A, CN1336872 A, CN1310094 A, CN1196591 A, CN1132145 A, CN1114528 A, CN101712239 A, CN101712238 A, CN101468553 A, CN100581827 C,

Forward Citations: WO17032258, WO17031997, WO16014888, WO15093028, WO15093027, WO15093024, WO15007048, WO14121637, US9694588, US9682566, US9682565, US9597884, US9579900, US9566794, US9533510, US9527299, US9527298, US9511594, US9498993, US9487015, US9475321, US9475299, US9469116, US9452611, US9452610, US9409406, US9393797, US9346277, US9340375, US9321272, US9315035, US9296222, US9266340, US9248656, US9233546, US9039154, US9039153, US8974044, US8960869, US8915582, US8807721, US8752944, US8721045, US8708469, US8616687, US8616686, US8534816, US2017066248, US2017057238, US2016200108, US2016167388, US2016059568, US2015266304, US2015258801, US2015165777, US2015165773, US2014176650, US2014152746, US2013271535, US2013182049, US2012300003, JP2014065309, EP3173242, EP3144154, EP3064359, EP2942198, EP2930027, EP2886351, EP2886346, EP2783860, CN105829109, CN105612059, CN105383167, CN104924768, CN104723688, CN104723687, CN104723685, CN104723684, CN104070822,

Abstract:
Source: US2013182046A A cartridge comprises an ink supply structure, a terminal bearing structure, and a first restriction portion. The terminal bearing structure has terminals arranged in a terminal plane which is neither parallel nor perpendicular to a plane defined by a mounting direction leading edge of the ink supply structure, so that the contact portions of the terminals receive a force in a direction opposite (RD) from the mounting direction. An engagement portion of the first restriction portion is provided at a position adjacent to the terminal bearing structure.

0) US2007223963A – PROCESS CARTRIDGE AND IMAGE FORMING APPARATUS

5) Family number: 37231739 (US2007223963A) © PatBase

Title: PROCESS CARTRIDGE AND IMAGE FORMING APPARATUS

Priority: EP20070004607 20070306 EP20070006096 20070323 JP20060264689 20060928 JP20060085924 20060327 EP20070006186 20070326 EP20070006097 20070323 JP20070011597 20070122 JP20060264690 20060928 JP20070011596 20070122 JP20070011598 20070122

Family:

Publication number	Publication date	Application number	Application date
AT532109 E	20111115	AT20070004607T	20070306
CN100535799 C	20090902	CN200710093602	20070327
CN100543614 C	20090923	CN200710091677	20070327
CN100573365 C	20091223	CN200710089700	20070327
CN100585516 C	20100127	CN200710093601	20070327
CN101046672 A	20071003	CN200710091677	20070327
CN101046673 A	20071003	CN200710093602	20070327
CN101059682 A	20071024	CN200710089700	20070327
CN101071294 A	20071114	CN200710093601	20070327
DE602007018369 D1	20120202	DE200760018369T	20070306
DE602007031220 D1	20130822	DE200760031220T	20070326
DE602007031638 D1	20130912	DE200760031638T	20070323
DE602007038719 D1	20141113	DE200760038719T	20070323
EP1840666 A1	20071003	EP20070004607	20070306
EP1840666 B1	20111102	EP20070004607	20070306
EP1840667 A1	20071003	EP20070006096	20070323
EP1840667 B1	20141001	EP20070006096	20070323
EP1840668 A1	20071003	EP20070006097	20070323
EP1840668 B1	20130717	EP20070006097	20070323
EP1840669 A1	20071003	EP20070006186	20070326
EP1840669 B1	20130626	EP20070006186	20070326
JP2007293268 A2	20071108	JP20070011597	20070122
JP2008083517 A2	20080410	JP20060264690	20060928
JP2008107765 A2	20080508	JP20070011598	20070122
JP2008176215 A2	20080731	JP20070011596	20070122
JP4882759 B2	20120222	JP20070011597	20070122
JP4899754 B2	20120321	JP20060264690	20060928
JP4899886 B2	20120321	JP20070011596	20070122
JP4899887 B2	20120321	JP20070011598	20070122
US2007223963 AA	20070927	US20070689798	20070322
US2007223964 AA	20070927	US20070689903	20070322
US2007223965 AA	20070927	US20070690403	20070323
US2007223971 AA	20070927	US20070686434	20070315
US7561836 BB	20090714	US20070686434	20070315
US7587155 BB	20090908	US20070689798	20070322
US7639968 BB	20091229	US20070690403	20070323
US7647005 BB	20100112	US20070689903	20070322

Probable Assignee: BROTHER KOGYO KK

Assignee(s):(std)**:** BROTHER IND LTD

Assignee(s):	BROTHER KOGYO KABUSHIKI KAISHA ; BROTHER KOGYO KK ; BROTHER KOGYO NAGOYA KK ; BROTHER KOGYO NAGOYA SHI KK
Inventor(s):(std)	SUZUKI TSUTOMU ; TAKAGI TAKEYUKI ; TAKEYUKI TAKAGI ; TSUTOMU SUZUKI ; TAKEYUKI SUZUKI TSUTOMU TAKAGI
Inventor(s):	TAKAGI TAKEYUKI C O BROTHER KOGYO KABUSHIKI KAISHA ; SUZUKI TSUTOMU TAKAGI TAKEYUKI ; TAKAGI TAKEYUKI NAGOYA SHI AICHI KEN ; TAKAGI TAKEYUKIC O BROTHER KOGYO AICHI KEN KK
Agent(s):	KUHNEN AND WACKER PATENT U RECHTSANWALTSBUERO; KUHNEN AND WACKER; BANNER AND WITCOFF LTD ATTORNEYS FOR CLIENT NOS 0166889 006760; BANNER AND WITCOFF LTD
Designated states:	AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL PL PT RO SE SI SK TR YU
International class (IPC 8–9):	G03G15/00 G03G15/04 G03G15/08 G03G21/16 G03G21/18 (Advanced/Invention); G03G15/00 G03G15/04 G03G15/08 G03G21/16 G03G21/18 (Core/Invention)
CPC:	G03G15/0886 G03G15/0868 G03G2215/067 G03G2215/0692 G03G2215/0685
European class:	G03G15/08H3B S03G215/06C1A2 S03G215/06C4 S03G215/06C7
US class:	399/113 399/119 399/120 399/258 399/262 399/263
Classification Explorer	
Cited documents:	US7437095 BB, US7266330 BB, US7242893 BB, US6856779 BB, US6690903 BB, US6141508 A, US5943528 A, US5937240 A, US5809384 A, US5659837 A, US5614996 A, US5608501 A, US5587777 A, US5568237 A, US5506665 A, US4913087 A, US2007223971 AA, US2005271425 AA, US2005135842 AA, US2004047657 AA, US2002181969 AA, JP9006110 A2, JP7225514 A2, JP7049610 A2, JP64021469 A2, JP6308782 A2, JP61022367 A2, JP61022366 A2, JP6019229 A2, JP4350870 A2, JP4127167 A2, JP3075769 A2, JP2864951 B2, JP2864951, JP2289874 A2, JP2007011598, JP2007011597, JP2007011596, JP2006264690, JP2006264689, JP2006235518 A2, JP2006235306 A2, JP2006085924, JP2006030725 A2, JP2005250002 A2, JP2003162137 A2, JP2002268357 A2, JP2001242692 A2, JP1251037 A2, JP11288210 A2, JP1021469 A2, JP1021469, EP1722279 A1, EP1542091 A1, EP1241536 A3, EP1241536 A2, EP0668546 A2, EP0608812 A2, CN1627202 A, CN1222848 C,
Forward Citations:	WO14192975, WO13165830, US9690231, US9665041, US9658590, US9500997, US9298130, US9261851, US9110440, US9104135, US8989622, US8948660, US8948659, US8923729, US8879964, US8879962, US8867970, US8867966, US8843025, US8787803, US8761634, US8750753, US8718512, US8588648, US8548352, US8385787, US8364058, US8358953, US8190066, US8165492, US8131188, US8073357, US7983590, US7974558, US7742726, US7647005, US7639968, US7587155, US7561836, US2017075295, US2013209141, US2012076534, US2011103843, US2010303499, US2010226682, US2010202803, US2010054798, US2009245855, US2009245854, US2009116877, US2009087215, US2008239868, US2008205939, US2007223965, US2007223964, US2007223963, TWI536127, JP6075546, JP2014232270, JP2012098501, JP2012027235, JP2009271100, JP2009271099, JP2009237252, EP3088964, EP2798411, EP2375293, EP2244136, EP2058710, EP2058710, EP2009510, CN103425018, CN103425018, CN102262387, CN102262387, CN102253629, CN102053536, CN102023525,

Abstract:
Source: US2007223963A A process cartridge is described. The process cartridge may include a developing unit and a toner unit detachably mountable to the developing unit. The developing unit includes a developer casing provided with an accommodating section for accommodating the toner unit. The toner unit includes a toner casing and an agitating member in the toner casing. The developer casing includes a first fixing member and a second fixing member opposite side of the first fixing member in relation to the accommodating section. The toner casing includes a first fixed portion received by and fixed to the first fixing member; and a second fixed portion disposed at the opposite side of the first fixed portion in relation to a rotation shaft of the agitating member and fixed to the second fixing member when the toner unit is attached to the developing unit.

6) Family number: 32612005 (US2006029418A) © PatBase

Title: PHOTOSENSITIVE MEMBER CARTRIDGE, DEVELOPER CARTRIDGE AND PROCESS CARTRIDGE

Priority:

EP20050014218 20050630	EP20050014238 20050630	EP20100010068 20050630
JP20040231201 20040806	JP20040231202 20040806	JP20040305551 20041020
JP20040305552 20041020	JP20040375936 20041227	JP20040377284 20041227
WO2005IB02301 20050803	WO2005IB02301 20050803	US20050196463 20050804
US20080071258 20080219	US20050197545 20050805	US20080216686 20080709
JP20080214681 20080822	US20050196713 20050804	US20090379863 20090303
JP20100166555 20100723	US20100908505 20101020	JP20040377285 20041227

Family:

Publication number	Publication date	Application number	Application date
AT475911 E	20100815	AT20050014236T	20050630
AT527582 E	20111015	AT20050014238T	20050630
AT537486 E	20111215	AT20050014218T	20050630
AU2005270972 AA	20060216	AU20050270972	20050803
AU2005270972 BB	20101209	AU20050270972	20050803
CA2577617 AA	20070219	CA20052577617	20050803
CA2577617 C	20101207	CA20052577617	20050803
CN100419587 C	20080917	CN200510088580	20050802
CN100445890 C	20081224	CN200510091107	20050803
CN100480882 C	20090422	CN200510091105	20050804
CN100535781 C	20090902	CN200510091151	20050805
CN101329544 A	20081224	CN200810144056	20050802
CN101329544 B	20101103	CN200810144056	20050802
CN101354562 A	20090128	CN200810212877	20050804
CN101354562 B	20110810	CN200810212877	20050804
CN101943880 A	20110112	CN201010269229	20050802
CN101943880 B	20121205	CN201010269229	20050802
CN102117034 A	20110706	CN201010545124	20050804
CN102117034 B	20130619	CN201010545124	20050804
CN102236301 A	20111109	CN201110124832	20050804
CN102236301 B	20140903	CN201110124832	20050804
CN1731293 A	20060208	CN200510088580	20050802
CN1731296 A	20060208	CN200510091105	20050804
CN1731297 A	20060208	CN200510091151	20050805
CN1737696 A	20060222	CN200510091107	20050803
CN1755541 A	20060405	CN200510091106	20050804
CN1755541 B	20110706	CN200510091106	20050804
CN201004157 Y	20080109	CN200520113087U	20050805
CN2849777 Y	20061220	CN200520105209U	20050808
CN2849778 Y	20061220	CN200520113085U	20050804
CN2893755 Y	20070425	CN200520113086U	20050805
CN2919308 Y	20070704	CN200520113139U	20050803
DE602005022526 D1	20100909	DE200560022526T	20050630
DE602005030321 D1	20120105	DE200560030321T	20050630
DE602005031613 D1	20120308	DE200560031613T	20050630
DE602005037939 D1	20130314	DE200560037939T	20050630
EP1637933 A2	20060322	EP20050014236	20050630

EP1637933 A3	20060405	EP20050014236	20050630	
EP1637933 B1	20100728	EP20050014236	20050630	
EP1640814 A2	20060329	EP20050014238	20050630	
EP1640814 A3	20060405	EP20050014238	20050630	
EP1640814 B1	20111005	EP20050014238	20050630	
EP1640820 A2	20060329	EP20050014218	20050630	
EP1640820 A3	20060405	EP20050014218	20050630	
EP1640820 B1	20111214	EP20050014218	20050630	
EP2365396 A1	20110914	EP20100010068	20050630	
EP2365396 B1	20130116	EP20100010068	20050630	
ES2347793 T3	20101104	ES20050014236T	20050630	
HK1081670 A1	20090508	HK20060103790	20060327	
HK1081670 A3	20060519	HK20060103790	20060327	
HK1081672 A1	20091218	HK20060103895	20060328	
HK1081672 A3	20060519	HK20060103895	20060328	
HK1082299 A1	20090814	HK20060104392	20060411	
HK1082299 A3	20060602	HK20060104392	20060411	
HK1082550 A3	20060609	HK20060104051	20060403	
HK1083894 A1	20120518	HK20060106314	20060601	
HK1083894 A3	20060714	HK20060106314	20060601	
IN01652DN2007 A	20070824	IN2007DN01652	20070301	
IN268289 B	20150828	IN2007DN01652	20070301	
JP2006072284 A2	20060316	JP20040305551	20041020	
JP2006072285 A2	20060316	JP20040305552	20041020	
JP2006184401 A2	20060713	JP20040375936	20041227	
JP2006184501 A2	20060713	JP20040377284	20041227	
JP2006184502 A2	20060713	JP20040377285	20041227	
JP2008276273 A2	20081113	JP20080214681	20080822	
JP2010266893 A2	20101125	JP20100166555	20100723	
JP4221671 B2	20090212	JP20040305552	20041020	
JP4269241 B2	20090527	JP20080214681	20080822	
JP4348625 B2	20091021	JP20040305551	20041020	
JP4352335 B2	20091028	JP20040377284	20041227	
JP4463676 B2	20100519	JP20040375936	20041227	
JP4770171 B2	20110914	JP20040377285	20041227	
JP4798297 B2	20111019	JP20100166555	20100723	
KR100719003 B1	20070516	KR20050071652	20050805	
KR100752890 B1	20070828	KR20050071657	20050805	
KR101006012 B1	20110105	KR20070057657	20070613	
KR20060050245 A	20060519	KR20050071652	20050805	
KR20060050248 A	20060519	KR20050071657	20050805	
KR20070067059 A	20070627	KR20070057657	20070613	
MY144840 A	20111130	MY20050003658	20050805	
NZ553334 A	20100226	NZ20050553334	20050803	
RU2007108301 A	20080920	RU20070108301	20050803	
RU2402797 C2	20101027	RU20070108301	20050803	
TW200615717 A	20060516	TW20050126593	20050804	
TWI266157 B	20061111	TW20050126593	20050804	
US2006029418 AA	20060209	US20050196463	20050804	
US2006029419 AA	20060209	US20050196688	20050804	

US2006029420 AA	20060209	US20050196713	20050804	
US2006029421 AA	20060209	US20050197545	20050805	
US2006029422 AA	20060209	US20050197598	20050805	
US2006029423 AA	20060209	US20050197550	20050805	
US2008170882 AA	20080717	US20080071258	20080219	
US2008279583 AA	20081113	US20080216686	20080709	
US2009169248 AA	20090702	US20090379863	20090303	
US2011064461 AA	20110317	US20100908505	20101020	
US7369792 BB	20080506	US20050197598	20050805	
US7386253 BB	20080610	US20050196463	20050804	
US7412188 BB	20080812	US20050197545	20050805	
US7450882 BB	20081111	US20050196688	20050804	
US7522859 BB	20090421	US20050196713	20050804	
US7565092 BB	20090721	US20050197550	20050805	
US7796915 BB	20100914	US20080071258	20080219	
US7844197 BB	20101130	US20090379863	20090303	
US7873296 BB	20110118	US20080216686	20080709	
US7957669 BB	20110607	US20100908505	20101020	
VN15981 A1	20161025	VN20070000298	20050803	
WO06016242 A2	20060216	WO2005IB02301	20050803	
WO06016242 A3	20060427	WO2005IB02301	20050803	
WO06016244 A2	20060216	WO2005IB02305	20050803	
WO06016244 A3	20060427	WO2005IB02305	20050803	

Probable Assignee: BROTHER IND LTD

Assignee(s):(std)**:** BROTHER IND LTD ; ISHII MAKOTO ; KISHI ISAO ; SATO FUMIKAZU ; BORTHER KOGYO K K ; BRAZER KOGIO KK ; BROTHER IND CO LTD ; BROTHER KOGYO KABUSHIKI KAISAH ; SHIMIZU TAKASHI

Assignee(s): BROTHER INDUSTRY CO LTD ; BROTHER KOGYO NAGOYA SHI KK ; BROTHER KOGYO KK ; BROTHER IND CO ; BORTHER KOGYO KK ; BRAZER KOGIO KABUSIKI KAJSJA ; BROTHER KOGYO KABUSHIKI KAISHA ; BROTHER KOGYO K K ; BROTHER INDUSTRIES LTD ; BROTHER INDUSTRY CO

Inventor(s):(std)**:** FUMIKAZU ISHII MAKOTO SATO ; FUMIKAZU SATO ; ISAO KISHI ; ISHII AKIRA ; ISHII MAKOTO ; ISHII MAKOTO SATO FUMIKAZU ; KISHI ISAAKI ; KISHI ISAO ; MAKOTO ISHII ; MASATOSHI SHIRAKI ; SATO FUMIKAZU ; KIJI ISHII MAKOTO SATO FUMIKAZ ; SHIMIZU TAKASHI ; TAKASHI SHIMIZU ; TAKAJI ISHII AKIRA GAN KUSAO S ; SIMIZU TAKASI ; SHIMIZU KISHI ; RYO ISHII ; KISI ISAO ; KISHIISAO ; KISHI SHIMIZU ; KIJI KIYOMI ; ISIJ MAKOTO ; SHIRAKI MASATOSHI ; ISHII RYO ; FUMIKAZU ISHII SUKE SATO

Inventor(s): ISHII AKIRA GAN KUSAO SHIMIZU TAKAJI ; SHIRAKI MASATOSHI C O BROTHER INDUSTRIES LTD ; SHIRAKI MASATOSHIC O BROTHER IND LTD ; ISHII SUKE SATO FUMIKAZU ; KIYOMI KIJI ; SHIMIZU TAKASHI C O BROTHER INDUSTRIES LTD ; KISHI IASO ; SATO FUMIKAZU C O BROTHER INDUSTRIES LTD ; SATO FUMIKAZUC O BROTHER IND LTD ; KISHI ISAO C O BROTHER INDUSTRIES LTD ; ISHII MAKOTO SATO FUMIKAZU KIYOMI KIJI ; ISHII MAKOTOC O BROTHER IND LTD ; ISHII MAKOTO C O BROTHER INDUSTRIES LTD

Agent(s): GRIFFITH HACK; BERESKIN AND PARR LLP SENCRL SRL; KUHNEN AND WACKER PATENT U RECHTSANWALTSBUERO; KUHNEN AND WACKER; Kuhnen Wacker; OLIFF AND BERRIDGE PLC; OLIFF JAMES A; JAMES A

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT KE KG KM KP KR KZ LC LI LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RU SC SD SE SG SI SK SL SM SN SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

International class (IPC 8–9): B41J2/00 G03G15/00 G03G15/02 G03G15/04 G03G15/06 G03G15/08 G03G21/16 G03G21/18 (Advanced/Invention);

B41J2/00 G03G15/06 G03G15/08 G03G21/18 (Advanced/Non−invention);
B41J2/00 G03G15/00 G03G15/02 G03G15/04 G03G15/06 G03G15/08 G03G21/16 G03G21/18 (Core/Invention);
G03G (Subclass/Invention)

International class (IPC 1−7): G03G0/08 G03G15/00 G03G15/08 G03G21/18

CPC: G03G15/087 G03G15/0887 G03G21/1857 G03G21/1867 G03G15/06 B41J2/00

European class: G03G15/08H3C G03G21/18H2 G03G21/18H3

US class: 399/111 399/111P 399/112 399/113 399/113P 399/113S 399/114 399/116 399/116P 399/119 399/119P 399/119S 399/167 399/90

Classification Explorer

Cited documents: US89114204, US86300 A, US7873296 BB, US7280784 BB, US6842598 BB, US6823160 BB, US6763210 BB, US6751428 BB, US6690903 BB, US6678489 BA, US6643482 BB, US6546217 BB, US6501927 BA, US6501926 BA, US6411789 BA, US6400914 BA, US6349188 BA, US6343192 BA, US6330410 BA, US6266502 BA, US6240266 BA, US6226478 BA, US6226476 BA, US6215969 BA, US6185390 BA, US6175706 BA, US6175706 B1, US6169865 BA, US6169865 B1, US6163666 A, US6128454 A, US6118961 A, US6101350 A, US6041203 A, US5987278 A, US5950048 A, US5940658 A, US5923926 A, US5907749 A, US5903803 A, US5878309 A, US5839028 A, US5832342 A, US5828929 A, US5828928 A, US5825472 A, US5794103 A, US5784671 A, US5682579 A, US5669042 A, US5659847 A, US5623328 A, US5608509 A, US5470635 A, US5294960 A, US5208634 A, US5010365 A, US4583832 A, US2006029423 AA, US2006029422 AA, US2006029421 AA, US2006029419 AA, US2006029418 AA, US2005047814 AA, US2004126132 AA, US2004086300 AA, US2003185594 AA, US2003049046 AA, US2002018666 AA, US18666 A, US185594 A, US126132 A, JPU545716, JP943927, JP943925, JP926737, JP9062079 A2, JP9043927 A2, JP9043925 A2, JP9026737 A2, JP84647, JP8339152 A2, JP8305102 A2, JP8202136 A2, JP8114962 A2, JP78702, JP6460549, JP64060549 A2, JP62079, JP619229, JP60549, JP6019229 A2, JP545716, JP5045716 A2, JP43927, JP43925, JP4362961 A2, JP4156575 A2, JP362961, JP350307, JP3243, JP305102, JP295614, JP280519, JP280490, JP267547, JP26737, JP250378, JP250310, JP240103, JP2168278 A2, JP207408, JP202136, JP200384647, JP2003295614 A2, JP2003280490 A2, JP2003084647 A2, JP2002207408 A2, JP2001350307 A2, JP2000280519 A2, JP2000267547 A2, JP2000250378 A2, JP2000250310 A2, JP2000221779 A2, JP2000132059 A2, JP2000112200 A2, JP19229, JP168278, JP167335, JP161131, JP156575, JP153912, JP132059, JP112200, JP11167335 A2, JP11161131 A2, JP103243, JP10240103 A2, JP10153912 A2, JP10078702 A2, JP10003243 A2, EP0813119 A1, EP0679959 A2, EP0622698 A2, CN2893755, CN1746780 A, CN1448804, CN1335541, CN1132865, CN1066546 A,

Forward Citations: WO14010134, WO14010125, WO14010115, WO11106983, USD724139, USD723614, USD694816, USD694815, USD638053, USD601184, USD601183, USD595344, USD595343, USD588191, USD533215, USD531661, USD531660, USD528148, US9658590, US9658568, US9658567, US9645545, US9625875, US9612572, US9575460, US9557684, US9547253, US9529319, US9494914, US9494913, US9494891, US9483017, US9471035, US9465354, US9456103, US9440755, US9436415, US9429899, US9423769, US9423765, US9417603, US9395688, US9395684, US9395681, US9395680, US9383681, US9348299, US9342036, US9335731, US9335655, US9298130, US9291986, US9280082, US9274457, US9266337, US9261857, US9256198, US9250603, US9213256, US9207632, US9201388, US9201340, US9195207, US9182739, US9170529, US9128455, US9122236, US9122235, US9122232, US9104169, US9092003, US9086677, US9069327, US9069280, US9058018, US9058017, US9052686, US9042776, US9042773, US9026004, US9020399, US9020398, US9020397, US9020396, US9020395, US9014594, US9008556, US9008522, US9004676, US8995876, US8995866, US8977163, US8958720, US8938187, US8918046, US8918019, US8867949, US8862027, US8862013, US8831462, US8781377, US8737876, US8682216, US8644730, US8611787, US8594526, US8588664, US8582999, US8554116, US8538291, US8515309, US8515306, US8463153, US8457525, US8417131, US8358951, US8346123, US8315536, US8280273, US8233820, US8195069, US8190059, US8185014, US8155552, US8135300, US8036587, US7957671, US7957669, US7844197, US7826767, US7792465, US7787797, US7747198, US7680436, US7620347, US7613414, US7561827, US7555251, US7522859, US7512363, US7493071, US2017160692, US2017075295, US2017031299, US2017003618, US2015261174, US2015023692, US2015003877, US2014178105, US2014168722, US2014072335, US2014050503, US2013243499, US2013051852, US2013051833, US2012308270, US2011236099, US2011236064, US2011236063, US2011236060, US2011236051, US2011206407, US2011200359, US2011158710, US2011158704, US2011158688, US2011158686, US2011158682, US2010329746,

US2010329730, US2010290803, US2010135693, US2010119256, US2010104327, US2009290904, US2009226209, US2009219706, US2009175652, US2009169257, US2009169256, US2009169248, US2009169235, US2008298836, US2008199205, US2007237549, US2007217818, US2007196136, US2007147890, US2007140725, US2007071483, US2007003311, US2006140683, US2006029420, TWI528120, KR101610191, KR101474306, JP6098554, JP6098410, JP6056999, JP5953996, JP5953930, JP5895400, JP5403018, JP4636097, JP2016105207, JP2015169935, JP2015129817, JP2015034854, JP2015022181, JP2014016494, JP2013242366, JP2013054052, JP2013050493, JP2012140011, JP2011215629, JP2011201640, JP2011197197, JP2011150377, JP2011133765, JP2011133760, JP2011065181, JP2011065180, JP2011039565, JP2011008299, JP2010128336, JP2009216802, JP2009162912, JP2009162905, JP2007058057, EP2505371, EP2343607, EP1950625, DE202010018296, DE202010018295, CN103488071, CN102968019, CN102968019, CN102236301, CN102200751, CN102200751, CN102200728, CN102200728, CN102109798, CN102109798, CN101887224, CN101840192,

Abstract:
Source: US2006029418A A developer cartridge including a frame, a developer housing section, a developer supplying section, a developer electrode, and an input gear is provided. The frame includes a first side wall and a second side wall, and the first side wall and the second side wall extend substantially in a length direction. The developer housing section, for housing a developer, extends from the first side wall to the second side wall in a width direction substantially perpendicular to the length direction. The developer supplying section, for supplying the developer to a photosensitive member, extends from the first side wall to the second side wall in the width direction and houses a developer carrying member. The developer carrying member includes a developer carrying member shaft and a developer carrying member body that is supported on the developer carrying member shaft. The developer carrying member shaft extends in the width direction and is rotatably supported by the first side wall and the second side wall. The developer electrode electrically biases the developer carrying member, and at least a portion of the developer electrode is connected to the first side wall and the developer carrying member. The input gear supplies a driving force for rotating the developer carrying member.

0) US2008317510A – TONER CARTRIDGE LOCKING APPARATUS, IMAGE FORMIN...

7) Family number: 42756499 (US2008317510A) © PatBase

Title: TONER CARTRIDGE LOCKING APPARATUS, IMAGE FORMING APPARATUS HAVING THE SAME, TONER CARTRIDGE, AND MOUNTING AND DISMOUNTING METHOD FOR A TONER CARTRIDGE

Priority: KR20070062479 20070625 KR20070086290 20070827

Family:

Publication number	Publication date	Application number	Application date
AT485539 E	20101115	AT20080153194T	20080325
BRPI0801485 A2	20090225	BR2008PI01485	20080415
CN101334626 A	20081231	CN200810093042	20080415
CN101334626 B	20110720	CN200810093042	20080415
DE602008003062 D1	20101202	DE200860003062T	20080325
EP2009510 A1	20081231	EP20080153194	20080325
EP2009510 B1	20101020	EP20080153194	20080325
IN00466MU2008 A	20090626	IN2008MU00466	20080307
KR100873443 B1	20081211	KR20070086290	20070827
RU2008114663 A	20091020	RU20080114663	20080414
RU2380236 C2	20100127	RU20080114663	20080414
US2008317510 AA	20081225	US20080027336	20080207
US7974558 BB	20110705	US20080027336	20080207

Probable Assignee: S PRINTING SOLUTION CO LTD

Assignee(s):(std)**:** SAMSUNG ELECTRONICS CO LTD

Assignee(s): S PRINTING SOLUTION CO LTD ; SAMSUNG EHLEKTRONIKS KO ; SAMSUNG ELECTRONICS CO

Inventor(s):(std)**:** CHOI SAM SEOK ; LEE JIN HYUNG ; SAM SEOK CHOI ; LI DZIN KHIUNG ; JIN HYUNG LEE ; CHOJ SAM SEOK

Inventor(s): LI DZIN–KHIUNG ; CHOJ SAM–SEOK

Agent(s): SHERRARD SMITH HUGH; STANZIONE AND KIM LLP

Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK TR

International class (IPC 8–9)**:** B41J11/24 B41L29/00 G03G15/00 G03G15/06 G03G15/08 G03G21/18 (Advanced/Invention); B41J11/00 B41L29/00 G03G15/00 G03G15/06 G03G15/08 (Core/Invention)

International class (IPC 1–7)**:** G03G15/08

CPC: G03G15/0877 G03G15/0872 G03G2215/0675 G03G2215/0692 G03G2221/1654 G03G2221/1684 G03G2221/1815

European class: G03G15/08H3D S03G215/06C1C S03G215/06C7 S03G221/16K1 S03G221/16S2 S03G221/18C

US class: 399/258 399/262 399/262P

Classification Explorer

Cited documents: WO9905446 A1, US5568237 A, RU63289 U1, RU63289, RU2198121 C2, KR20030081092 A, KR199930324, KR19990030324 A, JP2006208574 A2, EP1840668 A1, EP1722279 A1, EP0668546 A2, CN1503072 A,

Forward Citations: WO12015930, US9533846, US9298130, US9068879, US8948660, US8948659, US8364061, US8238799, US7918308, US2010322676, US2009010680, KR101331459, GB2482310, GB2482310, EP3051363,

Abstract:
Source: US2008317510A The present general inventive concept relates to a toner cartridge locking apparatus,

which includes a rotation handle rotatably disposed at a first end of a toner tank, and having a locking blade formed at an outer circumferential surface thereof, and a hooking portion disposed at a developing unit to which the toner tank is mounted, wherein when the rotation handle is rotated in a predetermined angle, the locking blade of the rotation handle is inserted into the hooking portion.

0) US2007065184A – TONER CARTRIDGE FOR DEVELOPING DEVICE

8) Family number: 34328977 (US2007065184A) © PatBase

Title: TONER CARTRIDGE FOR DEVELOPING DEVICE

Priority: EP20060019608 20060919 EP20100010067 20060919 JP20050274096 20050921
JP20050274097 20050921 JP20050274098 20050921 EP20110164475 20060919
US20060523569 20060920 US20090612122 20091104 JP20100265147 20101129

Family:

Publication number	Publication date	Application number	Application date
AT550693 E	20120415	AT20060019608T	20060919
CN101976027 A	20110216	CN201010533948	20060921
CN101976027 B	20130619	CN201010533948	20060921
CN1936724 A	20070328	CN200610154082	20060921
CN1936724 B	20101222	CN200610154082	20060921
DE602006028269 D1	20120516	DE200660028269T	20060919
DE602006037453 D1	20130912	DE200660037453T	20060919
DE602006039204 D1	20140102	DE200660039204T	20060919
EP1767999 A2	20070328	EP20060019608	20060919
EP1767999 A3	20070620	EP20060019608	20060919
EP1767999 B1	20120321	EP20060019608	20060919
EP2273319 A1	20110112	EP20100010067	20060919
EP2273319 B1	20131106	EP20100010067	20060919
EP2367069 A1	20110921	EP20110164475	20060919
EP2367069 B1	20130717	EP20110164475	20060919
JP2007086322 A2	20070405	JP20050274096	20050921
JP2007086323 A2	20070405	JP20050274097	20050921
JP2007086324 A2	20070405	JP20050274098	20050921
JP2011053712 A2	20110317	JP20100265147	20101129
JP4618070 B2	20110126	JP20050274096	20050921
JP4618071 B2	20110126	JP20050274098	20050921
JP4665686 B2	20110406	JP20050274097	20050921
JP4761005 B2	20110831	JP20100265147	20101129
US2007065184 AA	20070322	US20060523569	20060920
US2010054819 AA	20100304	US20090612122	20091104
US7634218 BB	20091215	US20060523569	20060920
US7925191 BB	20110412	US20090612122	20091104

Probable Assignee: BROTHER IND LTD

Assignee(s):(std)**:** BROTHER IND LTD

Assignee(s): BROTHER INDUSTRIES LTD ; BROTHER KOGYO KABUSHIKI KAISHA ; BROTHER KOGYO KK ; BROTHER KOGYO NAGOYA KK ; BROTHER KOGYO NAGOYA SHI KK

Inventor(s):(std)**:** SATO SHOGO ; SATO SHOUGO ; SHOUGO SATO

Inventor(s): SATO SHOUGO C O BROTHER KOGYO KK ; SATO SHOUGO NAGOYA SHI

Agent(s): KUHNEN AND WACKER PATENT U RECHTSANWALTSBUERO; KUHNEN AND WACKER; BANNER AND WITCOFF LTD ATTORNEYS FOR CLIENT NOS 0166889 006760; BANNER AND WITCOFF LTD ATTORNEYS FOR CLIENT NO 016689; BANNER AND WITCOFF LTD

Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK NL PL PT RO SE SI SK TR YU

International class (IPC 8–9): G03G15/00 G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)

CPC: G03G15/0886 G03G15/0868 G03G15/0875 G03G2215/067

European class: G03G15/08H3B S03G215/06C1A2

US class: 399/262 399/262P 399/263

Classification Explorer

Cited documents: US7634218 BB, US7266330 BB, US7194230 BB, US7110708 BB, US6591079 BB, US6088556 A, US5895143 A, US5884136 A, US5835822 A, US5638159 A, US5608501 A, US5385181 A, US5385151 A, US4937628 A, US4583832 A, US2005135841 AA, US2005008400 AA, US2004134560 AA, US2004131391 AA, US2003210929 AA, US2001021327 AA, JP9288394 A2, JP9081016 A2, JP7225514 A2, JP6161244 A2, JP5150648 A2, JP4070779 A2, JP2005274098 A2, JP2005274097 A2, JP2005274096 A2, JP2005173568 A2, JP2005070702 A2, JP2004205587 A2, JP2004061757 A2, JP2002351133 A2, JP2002278427 A2, JP2002091144 A2, JP2002049209 A2, JP2001255727 A2, GB2268726 A1, FR2545235 A1, EP0793149 A1, EP0736814 A1, EP0668546 A2,

Forward Citations: US9658568, US9612571, US9494891, US9483017, US9389537, US9366993, US9348306, US9280091, US9201340, US9146532, US9122232, US8989622, US8862035, US8862034, US8811862, US8737876, US8600267, US8554116, US8532543, US8526862, US8320800, US8254807, US8200127, US7925191, US7742726, US2012070196, US2011182616, US2011158684, US2010329746, US2010329734, US2010272474, US2010202803, US2010054819, US2009190963, US2008205939, JP5619087, JP4868033, JP2014026172, JP2013137435, JP2013113928, JP2011013368, JP2009098547, EP2911006, EP2375293, EP2244136, CN101937181, CN101876801,

Abstract:
Source: US2007065184A A toner cartridge includes: a casing; a partitioning wall; and an operation member. The casing is configured to accommodate toner therein. The casing is formed with a first casing opening. The partitioning wall is configured to be rotatable relative to the casing around a predetermined rotational axis. The partitioning wall has a side surface that extends substantially parallel to the rotational axis and a pair of opposite ends that are arranged opposing each other along the rotational axis, a first partitioning–wall opening being formed through the side surface of the partitioning wall, the first partitioning–wall opening being selectively aligned with the first casing opening when the partitioning wall is rotated relative to the casing. The operation member rotates the partitioning wall relative to the casing, the operation member including a pair of lever members rotatably supported on the casing that when rotated apply a rotating operation to both of the pair of opposite ends of the partitioning wall.

0) US5940657A – DEVELOPING CARTRIDGE

9) Family number: 30432727 (US5940657A) © PatBase

Title: Developing cartridge

Priority: AU19970036116 19970829 AU19990048759 19990916 JP19960047375 19960305 JP19960047376 19960305 JP19960261576 19961002 JP19970047843 19970303 JP19970047826 19970303 JP19970047844 19970303

Family:

Publication number	Publication date	Application number	Application date
AU199736114 A1	19980903	AU19970036114	19970829
AU199736115 A1	19980903	AU19970036115	19970829
AU199736116 A1	19980903	AU19970036116	19970829
AU199948759 A1	19991111	AU19990048759	19990916
AU712210 B2	19991028	AU19970036115	19970829
AU712402 B2	19991104	AU19970036114	19970829
AU741369 B2	20011129	AU19990048759	19990916
CN1087846 C	20020717	CN19971010037	19970305
CN1087846 C	20020717	CN19971022554	19970930
CN1090768 C	20020911	CN19971010038	19970305
CN1122883 C	20031001	CN19971009608	19970305
CN1167282 A	19971210	CN19971009608	19970305
CN1168492 A	19971224	CN19971010037	19970305
CN1168493 A	19971224	CN19971010038	19970305
DE69714629 D1	20020919	DE19976014629	19970305
DE69714629 T2	20030403	DE19976014629T	19970305
DE69717181 D1	20030102	DE19976017181	19970305
DE69717181 T2	20030724	DE19976017181T	19970305
DE69722289 D1	20030703	DE19976022289	19970305
DE69722289 T2	20040318	DE19976022289T	19970305
EP0794470 A1	19970910	EP19970301457	19970305
EP0794470 B1	20030528	EP19970301457	19970305
EP0794471 A1	19970910	EP19970301460	19970305
EP0794471 B1	20021120	EP19970301460	19970305
EP0794472 A1	19970910	EP19970301461	19970305
EP0794472 B1	20020814	EP19970301461	19970305
HK1002565 A1	20030411	HK19980101644	19980303
HK1002566 A1	20031003	HK19980101645	19980303
HK1002567 A1	20030117	HK19980101648	19980303
JP3869901 B2	20070117	JP19970047826	19970303
JP3869902 B2	20070117	JP19970047843	19970303
JP3869903 B2	20070117	JP19970047844	19970303
JP9297442 A2	19971118	JP19970047826	19970303
JP9297443 A2	19971118	JP19970047843	19970303
JP9297444 A2	19971118	JP19970047844	19970303
US5940657 A	19990817	US19970810706	19970303
US5950049 A	19990907	US19970808000	19970303
US6072969 A	20000606	US19970813949	19970303

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON K K ; CANON KK

Assignee(s):	CANON KABUSHIKI KAISHA ; CANON INC
Inventor(s):(std)	HARUO KAZUHARA ; HISAYOSHI KOJIMA ; KANNO KASUHIKO ; KANJI YOKOMORI ; KANNO KAZUHIKO ; MIKITA YOKOMORI ; KUYOSHI OHATA ; KAZUHIKO KANNO ; SUGANO KAZUHIKO ; KOJIMA HISAYOSHI ; YOKOMORI KANJI
Inventor(s):	YOKOMORI MIKITA ; OHATA KUYOSHI ; KAZUHARA HARUO
Agent(s):	SPRUSON AND FERGUSON; ASPEN PHARMA PTY LTD
Designated states:	CH DE FR GB IT LI
International class (IPC 8–9):	G03G15/00 G03G15/01 G03G15/08 (Advanced/Invention); G03G15/00 G03G15/01 G03G15/08 (Core/Invention)
International class (IPC 1–7):	G03G G03G15/00 G03G15/01 G03G15/04 G03G15/06 G03G15/08 G03G21/16 G03G21/18
CPC:	G03G15/0126 G03G15/0896 G03G2215/0174 G03G2215/0177 G03G15/0894 G03G15/0882 G03G15/0884 G03G2215/00987 G03G2221/183
European class:	G03G15/01D8 G03G15/08H3P G03G15/08S S03G215/00R S03G215/01S2 S03G215/01S2A S03G221/18P
US class:	399/107 399/110 399/111 399/112 399/113 399/119 399/223 399/227 399/262
Classification Explorer	
Cited documents:	US5671470 A, US5671465 A, US5666613 A, US5617188 A, US5587783 A, US5585598 A, US5565973 A, US5521693 A, US5497220 A, US5471284 A, US5442421 A, US5291242 A, US5235383 A, US5198866 A, US4989037 A, US4975744 A, US4924267 A, US4922301 A, US4916490 A, US4896193 A, US4866482 A, US4851873 A, US4622916 A, US4583832 A, US4460267 A, US34344 A, JP62099764 A2, JP60026377 A2, JP60026377, JP58134663 A2, JP58134663, GB2185914 A1, EP0644465 A2, EP0613060 A2,
Forward Citations:	WO9830938, USD545883, USD531657, US9671751, US9429877, US9291994, US9274499, US9213267, US9207578, US9201392, US9176426, US9155174, US9025998, US8965246, US8963535, US8958725, US8682211, US8654483, US8577263, US8577252, US8576589, US8553430, US8536794, US8487546, US8482223, US8362838, US8362707, US8344707, US8320800, US8315543, US8299722, US8288954, US8279628, US8254806, US8248145, US8222872, US8212493, US8212491, US8198874, US8179110, US8174204, US8170445, US8125805, US8120341, US8102127, US8078088, US8076920, US8059988, US8040703, US8036543, US8022683, US8018171, US8014176, US8008902, US8008898, US7994863, US7969125, US7933534, US7929881, US7894216, US7888922, US7863828, US7852017, US7821237, US7804697, US7804256, US7787806, US7759881, US7755525, US7746043, US7719248, US7719246, US7715054, US7696913, US7667408, US7606520, US7554473, US7532839, US7463844, US7310489, US7272339, US7233752, US7215909, US7177574, US7162181, US7146124, US7146124, US7139513, US7139513, US7072603, US7058337, US7039339, US7027754, US7024137, US7016626, US6983115, US6980759, US6961528, US6947687, US6937834, US6934489, US6917772, US6834173, US6834171, US6782219, US6738588, US6735403, US6684041, US6681088, US6679594, US6608980, US6577831, US6564029, US6560422, US6516168, US6496667, US6480687, US6463233, US6463232, US6459869, US6442359, US6404996, US6381430, US6345164, US6314266, US6289189, US6266503, US6157792, US6131011, US6104897, US6002896, US2014161484, US2014147168, US2013251397, US2011170903, US2011142487, US2011103829, US2010327838, US2010278566, US2010277072, US2010244726, US2010171442, US2010166458, US2010164631, US2010156319, US2010079124, US2010061760, US2010060202, US2010020573, US2010020570, US2010020569, US2009322300, US2009297211, US2009245851, US2009191837, US2009190379, US2009147545, US2008315791, US2008292331, US2008273356, US2008272945, US2008272758, US2008272757, US2008272756, US2008272755, US2008272748, US2008272746, US2008272745, US2008272744, US2008224636, US2008224633, US2008224631, US2008224629, US2008174372, US2008138110, US2008107453, US2007195372, US2007152865, US2007071495, US2006245784, US2006216062, US2006147225, US2006115299, US2006098223, US2006013618, US2005220485, US2005220482, US2005191091, US2005175373, US2005123322, US2005115043, US2005069342, US2005047822, US2005025522, US2005008395, US2004126135, US2004037587, US2004005169, US2003228173, US2003161654, US2002091474, KR20160052490, KR101717464, KR101233387, JP3507979, JP2002040779, EP1403735, EP0889375, EP0889375, EP0793151, EP0793151, CN103309195, CN102467022,

Abstract:
Source: US5940657A A developing cartridge for developing a latent image formed on the photosensitive member, which is detachably mountable to a main assembly of an electrophotographic image forming apparatus, includes a cartridge frame; a developing device for developing, with toner, the latent image formed on the photosensitive member of the main assembly of the apparatus when mounted to the main assembly of the electrophotographic image forming apparatus; a driving force receptor for receiving, from the main assembly, a driving force for rotating the developing means when the cartridge is mounted to the main assembly, the driving force receptor being provided and exposed adjacent one end of the cartridge frame portion in a longitudinal direction of the developing means; a toner accommodating portion for accommodating the toner; a shutter movable between a closing position for covering a portion of the developing device exposed from the cartridge frame and an opening position for exposing the developing device; and a locking member for releasably locking the shutter at the closing position, the locking member being provided in the cartridge frame portion adjacent the one end.

0) US2004057747A – PRESSURE–SENSITIVE SEAL ASSEMBLIES AND STRIP AS...

10) Family number: 28489199 (US2004057747A) © PatBase

Title: PRESSURE–SENSITIVE SEAL ASSEMBLIES AND STRIP ASSEMBLIES USING KISS–CUTS, ADHESIVE–MASKING, MULTIPLE SEAL–ASSEMBLY PAGES AND MULTIPLE STRIP–ASSEMBLY PAGES

Priority:
US19950370968 19950110 US19970896491 19970718 US20030336070 20030103
US20020094833 20020310 US20000463171 20000119 US19970979735 19971126
US20030679533 20031005 US20030601211 20030620 US20030336071 20030103
US20030662100 20030911 US20030614654 20030707 WO1998US14862 19980717

Family:

Publication number	Publication date	Application number	Application date
AU199884112 A1	19990210	AU19980084112	19980717
US2004057747 AA	20040325	US20030662100	20030911
US5878306 A	19990302	US19970896491	19970718
US6356724 BA	20020312	US19970979735	19971126
US6552780 BA	20030422	US19950370968	19950110
US6591074 BA	20030708	US20000463171	20000119
US6925273 BA	20050802	US20030679533	20031005
US7054575 BA	20060530	US20030601211	20030620
US7054576 BB	20060530	US20030662100	20030911
US7076186 BA	20060711	US20030336071	20030103
WO05007201 A2	20050127	WO2004US21586	20040706
WO05007201 A3	20050609	WO2004US21586	20040706
WO9904320 A1	19990128	WO1998US14862	19980717

Probable Assignee: MICHLIN PATENT HOLDINGS LLC

Assignee(s):(std): MICHLIN STEVEN B ; MICHLIN STEVEN BRUCE ; ANDERSON JEFFREY BYRON ; KIM ANDREW C ; STEVEN B MICHLIN

Assignee(s): MICHLIN PATENT HOLDINGS LLC ; STEVEN BRUCE MICHLIN ; STEVEN B MICHLIN LLC

Inventor(s):(std): ANDERSON JEFFREY BYRON ; KIM ANDREW C ; MICHLIN STEVEN B ; MICHLIN STEVEN BRUCE ; STEVEN B MICHLIN

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NA NE NI NL NO NZ OM PG PH PL PT RO RU SC SD SE SG SI SK SL SN SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

International class (IPC 8–9):
A61B17/04 G03G15/00 G03G15/08 G03G21/00 (Advanced/Invention);
A61B17/00 A61B17/06 A61B17/28 (Advanced/Non–invention);
A61B17/04 G03G15/00 G03G15/08 G03G21/00 (Core/Invention);
A61B17/00 A61B17/06 A61B17/28 (Core/Non–invention);
A61L (Subclass/Invention)

International class (IPC 1–7): A61B17/04 A61B17/08 A61F13/00 A61F13/02 A61L15/00 A61L15/16 A61N1/30 B05D5/10 B32B31/01 B32B35/00 B32B4/00 G03G15/00 G03G15/08 G03G21/00

CPC: A61B17/0401 A61B17/0482 A61B17/0483 A61B17/0485 A61B17/06109 A61B17/0625 A61B17/29 A61B2017/00539 A61B2017/0414 A61B2017/044 A61B2017/06171 G03G15/0884 G03G2215/0883 G03G21/0017 G03G15/0812 G03G15/0894 G03G2215/00987 G03G21/0029 G03G15/0882

European class: A61B17/04G A61B17/04H A61B17/04J A61B17/062N A61B17/06N12 G03G15/08F3 G03G15/08H35D2 G03G15/08H3P G03G15/08R G03G21/00B1 S03G215/00R S03G215/08C1B

US class: 222/153.07 355/200 355/260 399/106 399/106P 399/107 399/111 399/120 399/272 399/273 399/274

Cited documents: WO9904320 A1, USRE36920 E, US6782220 BB, US6775493 BB, US6775493 BA, US6591074 BA, US6552780 BA, US6539187 BB, US6539187 BA, US6356724 BA, US6350503 BA, US6118958 A, US6044238 A, US6041202 A, US5930559 A, US5909606 A, US5906707 A, US5878306 A, US5826140 A, US5781831 A, US5765887 A, US5752131 A, US5724631 A, US5685833 A, US5672224 A, US5621508 A, US5562683 A, US5546162 A, US5525183 A, US5523828 A, US5501661 A, US5479250 A, US5446525 A, US5401346 A, US5389180 A, US5337126 A, US5306374 A, US5296902 A, US5282003 A, US5258814 A, US5229824 A, US5204110 A, US5184182 A, US5181755 A, US5177540 A, US5152538 A, US5150807 A, US5142335 A, US5110646 A, US4981218 A, US4958197 A, US4942432 A, US4931838 A, US4930684 A, US4915102 A, US4895104 A, US4862210 A, US4827307 A, US4816877 A, US4781294 A, US4778086 A, US4732277 A, US4688926 A, US4653789 A, US4650070 A, US4641945 A, US4641643 A, US4638043 A, US4615608 A, US4614286 A, US4573614 A, US4538651 A, US4523834 A, US4491161 A, US4478512 A, US4456154 A, US4441636 A, US4406535 A, US4325572 A, US4321101 A, US4226525 A, US4224947 A, US4089601 A, US4073530 A, US4062385 A, US3999654 A, US3923391 A, US3864993 A, US3854653 A, US3840017 A, US3717533 A, US3684869 A, US3618826 A, US3454210 A, US3385500 A, US3339807 A, US3076588 A, US2904000 A, US2805183 A, US2673007 A, US2001033909 AA, JPS6141167, JPS59197070, JP9034253 A2, JP8305163 A2, JP7168428 A2, JP7056428 A2, JP6308824 A2, JP61041167 A2, JP6035386 A2, JP59197070 A2, JP55090979 A2, JP5273897 A2, JP5216338 A2, JP4353435 A2, JP4179976 A2, JP2002351201 A2, JP1315779 A2, GB2321219 A1, GB2292469 A1, EP0429386 A1,

Forward Citations: WO16171954, WO16149200, WO10078362, WO08073880, WO05024523, WO0140879, USD722641, USD638018, USD637191, USD636776, USD636775, USD559893, US9213267, US9201376, US9096054, US8699934, US8676084, US8600268, US8526854, US8509649, US8444658, US8213850, US8038821, US8005416, US8005395, US7986900, US7699857, US7689141, US7519311, US7333747, US7321381, US7257363, US7212765, US7197260, US7123855, US7123855, US7076186, US7054576, US7054575, US6993265, US6925273, US6842595, US6782220, US6775498, US6775493, US6754460, US6654577, US6591074, US6587657, US6522851, US6044238, US6041202, US2017082949, US2015355580, US2014078413, US2012321364, US2012076529, US2012057896, US2012008988, US2011041278, US2011011526, US2010135690, US2010107293, US2010074664, US2010059154, US2010005748, US2009320707, US2009245853, US2009110431, US2008318751, US2007248378, US2007224856, US2007140730, US2007065196, US2006204274, US2006198656, US2006133848, US2005281580, US2005074258, US2005054371, US2005008390, US2004057747, US2004004656, US2003223770, US2003086725, CN102419538, CN102265224,

Abstract:
Source: US2004057747A Strips, gaskets and shipping seals may be installed for various industries. A toner cartridge of a laser printer, copier or facsimile machine has various strips in it for various functions. Among the strips are recovery blades, spreader blades, wiper blades, certain shipping seals, doctor blades and other miscellaneous strips. A device and method is shown that enables any strip or modular shipping seal to be ergonomically installed in a user−friendly way by leaving a handle protruding from the strip−assembly or seal−assembly for easy separation of the release liner when installing the strip−assembly or seal−assembly. Also, seal−assemblies may be manufactured and installed where there is a page consisting of the same material that the seal−insert is made of and the seal−inserts are die−cut into the page. Since the seal−insert perimeter is formed with a kiss−cut to the bottom release liner, the seal−assembly can be built−into a page. Then when it is time for the seal−assembly installer to install the seal−assembly, he simply pulls on the seal−assembly and the seal−assembly lifts right off of the page, ready to install, adhesive exposed because lifting it off the page separated the seal−assembly from the bottom release liner layer of the page. This invention has applications that can be used in many industries and is not limited to the imaging industry.

11) Family number: 16256887 (US5630198A) © PatBase

Title: TONER FILLABLE CARTRIDGE HAVING PROTRUSIONS ENGAGEABLE WITH A DEVELOPMENT CASE SHUTTER

Priority: JP19950039458U 19951228 JP19960953596U 19960403 US19960638780 19960429 US19960638776 19960429 US19960638779 19960429

Family:

Publication number	Publication date	Application number	Application date
DE29608446 U1	19960919	DE19962008446U	19960509
DE69600064 D1	19971113	DE19966000064	19960509
DE69600064 T2	19980205	DE19966000064T	19960509
DE69600491 D1	19980910	DE19966000491	19960509
DE69600491 T2	19990128	DE19966000491T	19960509
EP0793149 A1	19970903	EP19960107356	19960509
EP0793149 B1	19970910	EP19960107356	19960509
EP0805379 A1	19971105	EP19960107354	19960509
EP0805379 B1	19980805	EP19960107354	19960509
JP10048938 A2	19980220	JP19970103548	19970421
JP10055103 A2	19980224	JP19970103453	19970421
JP3931379 B2	20070613	JP19970103453	19970421
US5630198 A	19970513	US19960638776	19960429
US5678147 A	19971014	US19960638779	19960429
US5697014 A	19971209	US19960638578	19960429
US5761585 A	19980602	US19960638711	19960429
US5771427 A	19980623	US19960638780	19960429

Probable Assignee: BROTHER KOGYO KK

Assignee(s):(std): BROTHER IND LTD

Assignee(s): BROTHER KOGYO K K NAGOYA AICHI JP ; BROTHER KOGYO KABUSHIKI KAISHA ; BROTHER KOGYO KK

Inventor(s):(std): MAKINO KAZUMASA ; MAKINO KAZUNORI ; SUZUKI TSUTOMU

Inventor(s): MAKINO KAZUMASA NAGOYA SHI AICHI KEN JP

Agent(s): TOMIZAWA TAKASHI; YAMANAKA IKUO; OKADO AKIYOSHI

Designated states: CH DE FR GB LI

International class (IPC 8–9): G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)

International class (IPC 1–7): B29C49/00 G03G15/08 G03G15/10 G06K15/14

CPC: Y10S222/01 G03G15/0856 G03G15/0855 G03G15/0865 G03G15/0868 G03G15/0872 G03G15/0886 G03G15/0862 G03G15/0881 G03G2215/067 G03G2215/0675 G03G2215/0692 G03G2215/0894 G03G2215/0897

European class: G03G15/08H2 G03G15/08H3 G03G15/08H3B G03G15/08H3C1 S03G215/06C1A2 S03G215/06C1C S03G215/06C7 S03G215/08D1A S03G215/08D1A1

US class: 222/153.14 222/325 222/DIG.1 264/523 399/120 399/258 399/260 399/262 399/263 399/30 399/64 399/65

Classification Explorer

Cited documents: US5678147 A, US5630198 A, US5581334 A, US5574549 A, US5557368 A, US5548384 A, US5530528 A, US5528349 A, US5526101 A, US5515143 A, US5506665 A, US5499077 A, US5489976 A, US5428436 A, US5428427 A, US5424816 A, US5419468 A, US5398106 A, US5385181 A, US5384629 A, US5383007 A, US5331382 A,

US5319421 A, US5287151 A, US5235389 A, US5220382 A, US5216462 A, US5184177 A, US5172003 A, US5160963 A, US5121275 A, US5091750 A, US5089854 A, US5078303 A, US5036358 A, US4993661 A, US4989111 A, US4963929 A, US4937628 A, US4924920 A, US4665808 A, US4646679 A, US4620781 A, US4615364 A, US4460267 A, US4389972 A, US4292530 A, US4197813 A, US4026241 A, US3689035 A, US3274392 A, JPS632087, JPS6263880, JPS6244780, JPS6216964, JPS6153677, JPS61248066, JPS602660, JPS55163562, JP7306589, JP7281519 A2, JP7168435, JP64051962 U, JP63002087 A2, JP6222631 A2, JP62063880 A2, JP62044780 A2, JP62044780, JP62016964 A2, JP61248066 A2, JP61053677 A2, JP60002660 A2, JP55163562 A2, JP4048232 A2, JP3053232 A2, JP2198473 A2, JP2073262 A2, JP1316766 A2, JP1302282 A2, EP0682297 A2, EP0668546 A2, EP0661608 A2, EP0483440 A1, EP0435596 A2, EP0435259 A2, EP0385865 A2, EP0225745 A1, DE950258 A, DE3323086 A1,

Forward Citations: WO13101347, WO10029826, WO08004566, USD781376, USD571394, US9658568, US9207578, US9176426, US9176424, US8977160, US8958725, US8958718, US8849164, US8718509, US8693924, US8600262, US8369738, US8320800, US8121518, US8078088, US7949287, US7937018, US7925191, US7907875, US7787806, US7783234, US7747192, US7738818, US7634218, US7574161, US7522866, US7450890, US7433632, US7426363, US7266330, US7248806, US7019870, US6741820, US6650847, US6453129, US6269234, US6266506, US6249654, US6236826, US6185401, US6141519, US6088556, US6047152, US6006060, US5986241, US5970293, US5970292, US5970291, US5913097, US5890034, US5771427, US5729797, US2017045841, US2011129260, US2010278566, US2009263165, US2008212997, US2008124105, US2007077099, US2007071503, US2006257171, US2006233571, US2006133856, US2006104671, US2005135841, US2002118403, JP5656047, JP4719192, JP4434523, JP4419991, JP4386053, JP4386052, JP2011227168, JP2011186198, JP2010079118, JP2008015108, JP2008015107, JP2008015106, JP2008006823, JP2007155904, JP2005196138, JP2003029510, EP2367069, EP2273319, EP1768002, EP1767999, EP1722279, EP1721222, EP1533664, CN102221803, AU2013200139,

Abstract:
Source: US5630198A A toner fillable cartridge for use with a toner developing device includes a toner body having first and second ends, a toner exhaust port between the first and second ends, a toner box shielding member rotatably mounted on the toner body to open and close the toner exhaust port as the toner body is rotated with respect to the development device and the toner box shielding member, and a pair of protrusions formed on each side of the toner box shielding member. Each of the pair of protrusions are structured to engage a developing device shielding member movably positioned over a toner introduction port of the developing device. Rotation of the toner body with respect to the development device causes each of the pair of protrusions to engage and displace the developing device shielding member to open and close the toner introduction port as the toner exhaust port rotates to align with the toner introduction port.

0) US2003170045A – METHOD OF REMANUFACTURING A TONER CARTRIDGE

12) Family number: 29050710 (US2003170045A) © PatBase

Title: METHOD OF REMANUFACTURING A TONER CARTRIDGE

Priority: US20020091189 20020305 US20030706430 20031112 US20060445641 20060602 US20060355610 20060216 US20050145488 20050603 US20070804857 20070521 WO2006US21060 20060531 WO2003US05882 20030227

Family:

Publication number	Publication date	Application number	Application date
AU2003216439 AA	20030922	AU20030216439	20030227
AU2003216439 AH	20030922	AU20030216439	20030227
BRPI0303356 A	20080129	BR2003PI03356	20030227
BRPI0611008 A2	20100810	BR2006PI11008	20060531
CN100357834 C	20071226	CN20038000589	20030227
CN101238417 A	20080806	CN200680028460	20060531
CN1545646 A	20041110	CN20038000589	20030227
EP1481289 A2	20041201	EP20030744130	20030227
EP1481289 A4	20080514	EP20030744130	20030227
EP1886193 A2	20080213	EP20060771693	20060531
HK1117920 A3	20090123	HK20080108687	20080807
JP2005519350 T2	20050630	JP20030575192T	20030227
MXPA03009942 A1	20050419	MX2003PA09942	20030227
TW200307859 A	20031216	TW20030104666	20030305
TWI267710 B	20061201	TW20030104666	20030305
US2003170045 AA	20030911	US20020091189	20020305
US2004096238 AA	20040520	US20030706430	20031112
US2005281580 AA	20051222	US20050145488	20050603
US2006133848 AA	20060622	US20060355610	20060216
US2006275050 AA	20061207	US20060445641	20060602
US2007223959 AA	20070927	US20070804857	20070521
US6754460 BB	20040622	US20020091189	20020305
US6950617 BB	20050927	US20030706430	20031112
US7212765 BB	20070501	US20050145488	20050603
US7542698 BB	20090602	US20060445641	20060602
WO03077039 A2	20030918	WO2003US05882	20030227
WO03077039 A3	20040708	WO2003US05882	20030227
WO03077039 C2	20040521	WO2003US05882	20030227
WO06132877 A2	20061214	WO2006US21060	20060531
WO06132877 A3	20070308	WO2006US21060	20060531
WO07143469 A2	20071213	WO2007US69955	20070530
WO07143469 A3	20081211	WO2007US69955	20070530

Probable Assignee: STATIC CONTROL COMPONENTS INC

Assignee(s):(std)**:** BURCHETTE LYNTON R ; BURCHETTE LYNTON RUSSELL ; HARISSON GARY B ; HARRISON GARY B ; LEWIS LAWRENCE DALE ; WEILER ALLAN P ; STATIC CONTROL COMPONENTS INC ; LEWIS LAWRENCE D ; STATIC CONTROL COMPONENTS ; LUND STEPHEN R

Assignee(s): BANK OF AMERICA NA ; WACHOVIA BANK NATIONAL ASSOCIATION

Inventor(s):(std)**:** BURCHETTE LYNTON R ; BURCHETTE LYNTON RUSSELL ; GARY B HARRISON ; HARISSON GARY B ; HARRISON GARY B ; LAWRENCE D LEWIS ; LEWIS LAWRENCE D ; LEWIS LAWRENCE DALE ; LEWIS LAWRENCE DALE HARRISON GARY B ; LYNTON R BURCHETTE ; RUSSELL LEWIS LAWRENCE DALE HA ; WEILER

	ALLAN P ; RUSSELL BURCHETTE LYNTON ; DALE LEWIS LAWRENCE ; LUND STEPHEN R ; ALLAN P WEILER
Inventor(s):	LEWIS LAWRENCE DALE HARRISON GARY B WEILER ALLAN P ; BURCHETTE LYNTON ; LEWIS LAWRENCE ; HARRISON GARY ; WEILER ALLAN ; LYNTON RUSSELL BURCHETTE ; LUND STEPHEN ; LAWRENCE DALE LEWIS
Agent(s):	CHARLES GLYNDWR; WILLIAM L LONDON
Designated states:	AE AG AL AM AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW
International class (IPC 8–9):	G03G15/00 G03G15/02 G03G15/06 G03G15/08 G03G21/18 (Advanced/Invention); G03G15/00 G03G15/02 G03G15/08 G03G21/18 (Core/Invention)
International class (IPC 1–7):	G03G0/0 G03G0/00 G03G15/00 G03G15/08
CPC:	G03G15/0266 G03G21/1889 G03G15/0855 G03G15/0856 G03G15/086 G03G15/0865 G03G15/0875 G03G15/0896 G03G15/0894 G03G2215/00987 G03G2215/066
European class:	G03G15/02C G03G15/08H2 G03G15/08H3 G03G15/08R G03G21/18L1L S03G215/00R S03G215/06C
US class:	399/106 399/106P 399/109 399/109P 399/113
Classification Explorer	
Cited documents:	USRE36920 E, USRE35529 E, US6842595 BA, US6782220 BB, US6778793 BB, US6775493 BB, US6760556 BB, US6754460 BB, US6687475 BB, US6654576 BB, US6615008 BB, US6596110 BA, US6560422 BB, US6552780 BA, US6539187 BB, US6505013 BA, US6484000 BA, US6404995 BA, US6350503 BA, US6272300 BA, US6240605 BA, US6178302 BA, US6178302 B1, US6088552 A, US6044238 A, US6041202 A, US6029031 A, US6014534 A, US6009287 A, US5937238 A, US5930559 A, US5907747 A, US5878306 A, US5876541 A, US5870654 A, US5835817 A, US5826140 A, US5799712 A, US5754926 A, US5525183 A, US5523828 A, US5337126 A, US5296902 A, US5282003 A, US5223068 A, US5184182 A, US2004141768 AA, US2004067074 AA, US2003170045 AA, US2002127024 AA, US2002012546 AA, JP9274381 A2, JP7028323 A2, JP2002221876 A2, EP1054307 A2, EP0913737 A3, EP0913737 A2, EP0840182 A2,
Forward Citations:	WO16171954, WO09120683, WO09120683, WO07016162, WO06132877, WO06132877, USD569417, USD554696, USD551286, USD547368, USD529541, US9201376, US9128414, US8879949, US8869678, US8599424, US8509649, US8494407, US8422911, US8005396, US8005395, US7835664, US7831171, US7720410, US7693448, US7689141, US7676173, US7592567, US7590369, US7509070, US7505708, US7480472, US7437103, US7424244, US7346292, US7212765, US7197260, US7024131, US6950617, US6941092, US2015023685, US2014265159, US2011293321, US2011268470, US2011070386, US2011041700, US2010135690, US2010053684, US2009245856, US2009245853, US2009208244, US2009185820, US2009110431, US2009052937, US2009047035, US2008273894, US2008247775, US2008181657, US2007122200, US2007025760, US2007025759, US2007025758, US2006198656, US2006133848, US2005281580, US2005056624, US2004136746, US2004096238, US2004091282, EP2530530, EP2265997, EP2230559, EP2228688, EP2058707, EP1695153, EA012902,

Abstract:
Source: US2003170045A A method of remanufacturing a new style toner cartridge which has a toner cartridge/developer roller/waste bin sub assembly covered by a first and second end cap. The method includes removing the first and second end cap using a cutting tool and template, removing the existing seal from the toner hopper, replacing it with a new seal assembly that connects the toner hopper to the developer roller housing, reattaching the waste bin, and then reattaching the end caps with quick disconnect clips or clamps.

0) US6314262B – TONER SUPPLY SYSTEM AND TONER CARTRIDGE

13) Family number: 13110571 (US6314262B) © PatBase

Title: TONER SUPPLY SYSTEM AND TONER CARTRIDGE

Priority: EP20000305705 20000706 JP19990208726 19990723 JP19990225875 19990810 JP19990225876 19990810

Family:

Publication number	Publication date	Application number	Application date
DE60023801 D1	20051215	DE20006023801	20000706
DE60023801 T2	20060720	DE20006023801T	20000706
DE60038829 D1	20080619	DE20006038829	20000706
EP1070993 A2	20010124	EP20000305705	20000706
EP1070993 A3	20020123	EP20000305705	20000706
EP1070993 B1	20051109	EP20000305705	20000706
EP1503252 A1	20050202	EP20040077857	20000706
EP1503252 B1	20080507	EP20040077857	20000706
JP2001034052 A2	20010209	JP19990208726	19990723
JP2001051484 A2	20010223	JP19990225876	19990810
JP2001051486 A2	20010223	JP19990225875	19990810
JP3498013 B2	20040216	JP19990208726	19990723
JP3498016 B2	20040216	JP19990225875	19990810
JP3498017 B2	20040216	JP19990225876	19990810
US6314262 BA	20011106	US20000604533	20000627

Probable Assignee: SHARP KK

Assignee(s):(std)**:** SHARP KK

Assignee(s): SHARP CORP ; SHARP K K ; SHARP K K OSAKA ; SHARP KABUSHIKI KAISHA

Inventor(s):(std)**:** ICHIKAWA YOSHIKI ; KUNIHIRO HISASHI ; KUNIHIRO HISHASHI ; MIZOGUCHI FUMITO ; MIZOGUCHI FUSATO ; NAGATA KENICH ; NAGATA KENICHI ; NAKAKUMA AKIRA

Agent(s): BROWN KENNETH RICHARD ET AL

Designated states: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

International class (IPC 8–9)**:** B65D83/06 G03G15/08 (Advanced/Invention); B65D83/06 G03G15/08 (Core/Invention)

International class (IPC 1–7)**:** B65D83/06 G03G15/08

CPC: Y10S222/01 G03G2215/0673 G03G2215/0678 G03G2215/0687 G03G2215/0692 G03G15/0886 G03G15/0855 G03G15/0865 G03G15/0867

European class: G03G15/08H3 S03G215/06C1B S03G215/06C1D S03G215/06C5 S03G215/06C7

US class: 222/DIG.1 399/120 399/258 399/262

Classification Explorer

Cited documents: US5933691 A, US5737675 A, US5729794 A, US5475479 A, US5089854 A, US4491161 A, JP667534, JP5289516 A2, JP5281855, JP3245172, JP3180874, JP289516, JP2802854, EP0843233 A2,

Forward Citations: WO13165830, US9658590, US9298130, US7676178, US7043173, US6968147, US2017075295, US2005191085, US2004062573, RU2621460, KR20150012245, KR101654756, JP4694100, JP2004264475, EP2845058, AU2013256674,

Abstract:
Source: US6314262B A shutoff lid of a toner hopper is formed with locking elements for locking the lid and a fixing element for fixing the locking elements. In the front face of a bottle slider, a pair of projected abutments abutting the fixing element are arranged on the left and right sides and a pair of switching portions for moving the locking

elements are formed. The rear face of the fixing element is shaped with a stepped face which corresponds to the projected abutments. As the bottle slider moves forwards, each projected abutment abuts the stepped face of the fixing element and moves the fixing element, to thereby cancel restraint of the fixing element on the locking elements. A further advancement of the bottle slider causes the locking elements to move and release the locked state. If a projected abutment does not match the fixing element, the fixing element cannot be moved thus making release of the lock impossible. On the other hand, when the bottle slider has reached the toner supply position, contact portions of the releasing elements oppose a guide frame. When the releasing element is rotated about bridges by holding its handle, the contact portions abut the guide frame and function as the fulcrum so as to act a leverage force on the bridges, whereby it is possible to break off the bridges by a weak force. Thus, the releasing element is separated from the bottle slider and then a sealing element is peeled off.

0) US5425481A – TONER CARTRIDGE

14) Family number: 10947423 (US5425481A) © PatBase

Title: TONER CARTRIDGE

Priority: CA19932104752 19930824 EP19930113514 19930824 JP19930045093 19930305 JP19920226173 19920825 JP19920226174 19920825 JP19920226175 19920825 JP19930045093U 19930305 JP19930136242 19930607

Family:

Publication number	Publication date	Application number	Application date
AU199344826 A1	19940303	AU19930044826	19930824
AU670604 B2	19960725	AU19930044826	19930824
CA2104752 AA	19940226	CA19932104752	19930824
CN1090400 A	19940803	CN19931018237	19930824
CN1248007 A	20000322	CN19991010492	19990715
CN1280321 A	20010117	CN19991010493	19990715
DE69310286 D1	19970605	DE19936010286	19930824
DE69310286 T2	19971106	DE19936010286T	19930824
EP0584796 A2	19940302	EP19930113514	19930824
EP0584796 A3	19940323	EP19930113514	19930824
EP0584796 B1	19970502	EP19930113514	19930824
EP0713159 A2	19960522	EP19960100373	19930824
EP0713159 A3	19960529	EP19960100373	19930824
ES2103403 T3	19970916	ES19930113514T	19930824
JP2790942 B2	19980827	JP19920226173	19920825
JP2790962 B2	19980827	JP19930136242	19930607
JP2930481 B2	19990803	JP19920226174	19920825
JP6075473 A2	19940318	JP19920226173	19920825
JP6075474 A2	19940318	JP19920226174	19920825
JP6075475 A2	19940318	JP19920226175	19920825
JP6314023 A2	19941108	JP19930136242	19930607
SG45261 A1	19980116	SG19960002231	19930824
TH17559 A	19960123	TH19931001492	19930824
TW266269 B	19951221	TW19930106782	19930823
TW281736 B	19960721	TW19950105384	19930823
US5425481 A	19950620	US19930111375	19930824

Probable Assignee: MITA INDUSTRIAL CO LTD A JAPAN CORP

Assignee(s):(std): KYOCERA DOCUMENT SOLUTIONS INC ; MITSUTA IND CO LTD ; MITA INDUSTRIAL CO LTD ; MITAJIRI IND CO LTD ; MITAJIRI INDUSTRY CO LTD

Assignee(s): MITA INDUSTRIAL CO LTD OSAKA JP ; MITAJIRI INDUSTRY CO ; MITA INDUSTRIAL CO LTD A JAPAN CORP ; OKAMOTO EIJI ; MITAJIRI IND CO ; Mita Industries Inc. ; TANAKA YOSHIHISA ; MITSUTA INDUSTRIAL CO LTD ; MITA KOGYO KK ; MAKIE IKUO ; MITA IND CO LTD ; MITA INDUSTRIAL CO ; KAMIDAIRA KAZUYA ; KUSUDA TOSHIAKI

Inventor(s):(std): EIJI ; EIJI OKAMOTO ; IKUO MAKIE ; IKUO MEKIE ; KAMIDAIRA KAZUYA ; KAMIDAIRA KAZUYA C O MITA INDU ; KUSUDA TOSHIAKI ; KUSUDA TOSHIAKI C O MITA INDUS ; MAKIE IKUO ; MAKIE IKUO C O MITA INDUSTRIAL ; OKAMOTO EIJI ; OKAMOTO EIJI C O MITA INDUSTRI ; TANAKA YOSHIHISA ; TANAKA YOSHIHISA C O MITA INDU ; KAMIHIRA KAZUYA ; TOSHIAKI KUSUDA

Inventor(s): ToshiakiOkamoto ; YOSHIHISA TANAKA ; KAZUYA KAMIDAIRA ; TANAKA YOSHIHISA C O MITA INDUSTRIAL CO ; TANAKA YOSHIHISA C O MITA INDUSTRIAL CO LTD OSAKA ; OKAMOTO EIJI C O MITA INDUSTRIAL CO ; OKAMOTO EIJI C O MITA INDUSTRIAL CO LTD OSAKA SHI ; MAKIE IKUO C O MITA INDUSTRIAL CO ; MAKIE IKUO C O MITA INDUSTRIAL CO LTD OSAKA SHI OS ; MEKIE IKUO ; KUSUDA

	TOSHIAKI C O MITA INDUSTRIAL CO ; KUSUDA TOSHIAKI C O MITA INDUSTRIAL CO LTD OSAKA S ; Makie ; KAMIDAIRA KAZUYA C O MITA INDUSTRIAL CO ; KAMIDAIRA KAZUYA C O MITA INDUSTRIAL CO LTD OSAKA ; IkuoKusuda ; etc.
Agent(s):	DAVIES COLLISON CAVE; DAVIES COLLISON CAVE PTY LTD; KIRBY EADES GALE BAKER
Designated states:	CH DE ES FR GB IT LI
International class (IPC 8–9):	G02F1/133 G03G15/00 G03G15/08 G03G15/16 G09F9/30 G09G3/20 G09G3/28 G09G3/30 H01L23/28 H01L51/50 H05B33/00 H05B33/04 H05B33/14 (Advanced/Invention); G02F1/13 G03G15/00 G03G15/08 G09F9/30 G09G3/20 G09G3/28 G09G3/30 H01L23/28 H01L51/50 H05B33/00 H05B33/04 H05B33/14 (Core/Invention)
International class (IPC 1–7):	B65D25/38 G03G15/00 G03G15/08 G03G15/16
CPC:	Y10S222/01 G03G15/0882 G03G15/0855 G03G15/0865 G03G15/0875
European class:	G03G15/08H3 G03G15/08H3P
US class:	141/351 141/364 206/455 222/160 222/325 222/541 222/541.5 222/DIG.1
Classification Explorer	
Cited documents:	WO92001247, US5329340 A, US5261568 A, US5260749 A, US5194900 A, US5175587 A, US5142335 A, US5077584 A, US5030998 A, US5018560 A, US4969557 A, US4895104 A, US4834246 A, US4799608 A, JP6235383, JP62035383, JP5273853, JP4362671, JP4220668, JP4159579 A2, JP4159579, JP384853 U, JP3086371 A2, JP3084853 U, JP3084853 U, JP3056951 A2, DE4134997 A1,
Forward Citations:	USD647127, USD542334, US9063460, US8923734, US8918032, US8918031, US6495190, US6058278, US5737675, US2014079441, US2014079439, JP5862255, JP5482984, JP3527384, JP2013120315, JP2010197971, JP2003015414, JP10069160, EP0757301, DE19642003, DE19642003, DE19606097, DE19606097, AU697900,

Abstract:
Source: US5425481A A toner cartridge is extractably set in a storing recess of an image forming apparatus main body, and toner is supplemented to a specified part of the image forming apparatus main body. While the toner cartridge is brand–new, an inner seal member peelably adhered to the lower surface of the toner cartridge main body seals the toner dropping opening at the lower surface. After setting the toner cartridge in the storing recess, by peeling off and taking up the inner seal member by the take–up shaft, the toner dropping opening is unsealed. An outer seal member provided slidably along the lower surface of the toner cartridge main body opens or closes the toner dropping opening beneath the inner seal member. When the toner cartridge is drawn out from the storing recess, an outer seal member operating member becomes engaged with an engaging part of the image forming apparatus main body, thereby automatically closing the outer seal member.

0) US2015098721A – TONER CARTRIDGE HAVING LOADING AND LATCHING FEA...

15) Family number: 58902356 (US2015098721A) © PatBase

Title: TONER CARTRIDGE HAVING LOADING AND LATCHING FEATURES

Priority: US20110888698P 20111009 US20130058352 20131021 US20130888698P 20131009 US20130058370 20131021 US20130058382 20131021 WO2014US58007 20140929

Family:

Publication number	Publication date	Application number	Application date
AR097956 AA	20160420	AR2014P103740	20141007
AU2014332398 AA	20150416	AU20140332398	20140929
AU2014332398 BB	20170316	AU20140332398	20140929
CA2923632 AA	20160307	CA20142923632	20140929
CL2016000589 A1	20160708	CL20160000589	20160311
CN105612462 A	20160525	CN201480055174	20140929
CO16119692 A2	20161121	CO20160119692	20160509
EP3055738 A1	20160817	EP20140851604	20140929
EP3055738 A4	20170621	EP20140851604	20140929
IL244474 A0	20160421	IL20140244474	20140929
IN201617013301 A	20160831	IN201617013301	20160416
KR101722378 B1	20170405	KR20167012150	20140929
KR20160067223 A	20160613	KR20167012150	20140929
PH2016500485 A	20160516	PH20160500485	20160311
SG11201601700X A1	20160428	SG20161101700	20140929
TW201525622 A	20150701	TW20140132775	20140923
US2015098721 AA	20150409	US20130058352	20131021
US2015098730 AA	20150409	US20130058370	20131021
US2015098731 AA	20150409	US20130058382	20131021
US9152083 BB	20151006	US20130058370	20131021
US9164425 BB	20151020	US20130058352	20131021
US9229367 BB	20160105	US20130058382	20131021
WO15053973 A1	20150416	WO2014US58007	20140929
ZA201601532 A	20161130	ZA20160001532	20140929

Probable Assignee: LEXMARK INT INC

Assignee(s):(std)**:** BUCHANAN JOHN ANDREW ; CAVILL GREGORY ALAN ; LEEMHUIS JAMES RICHARD ; LEXMARK INT INC ; WILLIAMSON RANDAL SCOTT

Inventor(s):(std)**:** BUCHANAN JOHN ANDREW ; CAVILL GREGORY ALAN ; LEEMHUIS JAMES RICHARD ; WILLIAMSON RANDAL SCOTT ; SCOTT WILLIAMSON RANDAL ; RICHARD LEEMHUIS JAMES ; ANDREW BUCHANAN JOHN ; ALAN CAVILL GREGORY ; RANDAL SCOTT WILLIAMSON ; JOHN ANDREW BUCHANAN ; JAMES RICHARD LEEMHUIS ; GREGORY ALAN CAVILL

Agent(s): WRAYS PTY LTD; ROBIC; JUAN ENRIQUE PUGA V; JAIME EDUARDO DELGADO VILLEGAS; BOERNER ROBERT; JUSTIN M; TROMP JUSTIN MICHAEL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9): G03G G03G15/00 G03G15/06 G03G15/08 G03G21/16 (Advanced/Invention); G03G (Subclass/Invention)

CPC: G03G15/0875 G03G15/0865 G03G15/0894

US class: 1/1 399/258 399/262 399/90

Classification Explorer

Cited documents: US8567932 BB, US8401434 BB, US8342642 BB, US8292411 BB, US8200126 BB, US7992982 BB, US7953347 BB, US7905572 BB, US7840165 BB, US7831168 BB, US7769321 BB, US7734230 BB, US7641313 BB, US7305204 BB, US7272336 BA, US7258558 BA, US7258558, US7174121 BB, US7168799 BB, US7159973 BB, US7136609 BB, US7133629 BB, US6692107 BB, US6530399 BB, US6386681 BA, US6301456 BA, US6134410 A, US6115571 A, US5842093 A, US5819139 A, US5758233 A, US5583612 A, US5434655 A, US5313993 A, US5066976 A, US2013287448 AA, US2013209141 AA, US2013170868 AA, US2013170867 AA, US2013147885 AA, US2012315066 AA, US2012315066, US2011129252 AA, US2011091222 AA, US2010322676 AA, US2009142103 AA, US2009080909 AA, US2009016779 AA, US2007229619 AA, US2007098455 AA, US2006013621 AA, US2005265736 AA, US2003219284 AA, US2003053819 AA, US2002057317 AA, KR20100103807 A, KR20100103807, JP8030079 A2, JP8030079, JP2009134097 A2, JP2009080477 A2,

Forward Citations: US9411303, US9317004, US9291992, US9285758,

Abstract:
Source: US2015098721A A toner cartridge according to one example embodiment includes a housing having a front, rear, first side, second side, top and bottom forming a toner reservoir. An outlet port is positioned on the front of the housing proximate the first side for transferring toner out of the reservoir. A drive gear is positioned on the front of the housing and has a center proximate the second side for receiving rotational power. A cavity is formed in the bottom of the housing. A latch catch is positioned in the cavity on an inner side of the front of the housing for receiving a latch for securing the toner cartridge in an image forming device. The latch catch is positioned closer to the bottom of the housing than the outlet port and the drive gear and between the center of the drive gear and the outlet port in the side−to−side direction.

16) Family number: 11101122 (US6055406A) © PatBase

Title: CLEANING FRAME, CLEANING DEVICE, PROCESS CARTRIDGE AND ELECTROPHOTOGRAPHIC IMAGE FORMING APPARATUS WITH SEGREGATED WASTE TONER CONTAINER

Priority: JP19960249220 19960829

Family:

Publication number	Publication date	Application number	Application date
AU199736107 A1	19980305	AU19970036107	19970829
AU711982 B2	19991028	AU19970036107	19970829
CN1117299 C	20030806	CN19971017550	19970829
CN1175748 A	19980311	CN19971017550	19970829
DE69717217 D1	20030102	DE19976017217	19970827
DE69717217 T2	20030612	DE19976017217T	19970827
EP0827047 A2	19980304	EP19970306551	19970827
EP0827047 A3	19980318	EP19970306551	19970827
EP0827047 B1	20021120	EP19970306551	19970827
HK1009504 A1	20030411	HK19980110199	19980825
JP10069199 A2	19980310	JP19960249220	19960829
US6055406 A	20000425	US19970917868	19970827

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK

Assignee(s): CANON INC ; CANON K K ; CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** ARIMITSU TAKESHI ; KAWAI TACHIO ; MIKINORI YOKOMORI ; MIURA KOJI ; MIURA KOUJI ; MIYAMOTO JUN ; OSAMU MIYAMOTO ; TAITOO KAWAI ; YOKOMORI KANJI

Inventor(s): YOKOMORI MIKINORI ; TAKESHI ARIMITSU ; TACHIO KAWAI ; MIYAMOTO OSAMU ; KAWAI TAITOO ; KOUJI MIURA ; JUN MIYAMOTO ; KANJI YOKOMORI

Agent(s): SPRUSON AND FERGUSON; ASPEN PHARMA PTY LTD

Designated states: AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

International class (IPC 8–9)**:** G03G15/08 G03G21/10 G03G21/12 G03G21/18 (Advanced/Invention); G03G15/08 G03G21/18 (Advanced/Non–invention); G03G15/08 G03G21/10 G03G21/12 G03G21/18 (Core/Invention)

International class (IPC 1–7)**:** G03G G03G15/00 G03G15/08 G03G15/095 G03G21/00 G03G21/10 G03G21/12 G03G21/18 G06T1/00

CPC: G03G21/105 G03G21/12

European class: G03G21/10 G03G21/12

US class: 399/111 399/360

Classification Explorer

Cited documents: US5138394 A, US4730205 A, US4685798 A, JPS63149669, JPS60150076, JPH02302784, JP8314353 A2, JP63149669 A2, JP5257411 A2, EP0382471 A2, EP0227488 A2,

Forward Citations: USD533895, USD532442, USD532441, USD531657, USD523894, USD521545, US9037006, US8879954, US8862024, US8755713, US8628179, US8515306, US8494409, US8428490, US8249485, US8224196, US8180262, US8136930, US8091998, US8045899, US8036543, US7974566, US7848684, US7555249, US7502572, US7310489, US7283766, US7272339, US7257353, US7233752, US7215909, US7200349, US7158735, US7155140, US7130560, US7085516, US7079787, US7072603, US7046942, US7039339, US7027754, US7024137, US7016626, US7010259, US6983114, US6968142, US6947686, US6934489, US6859629, US6834171, US6819885, US6738588, US6735403, US6684041, US6560422, US6553189, US6505007, US6496667, US6480687, US6463234,

US6463232, US6459869, US6351620, US2013223854, US2012051781, US2011229196, US2010221039, US2009290904, US2009245862, US2009067856, US2008292331, US2008181633, US2008008489, US2007237544, US2007195141, US2007092291, US2006285878, US2006245784, US2006216062, US2006147225, US2006045574, US2006013618, US2005220485, US2005201785, US2005191086, US2005185984, US2005169664, US2005117934, US2005025522, US2004117971, US2004117970, US2004081483, US2004005169, US2003228173, US2003219264, US2003161654, US2003156856, US2003086715, KR100803601, JP2012150311, JP2011180453, CN102375396,

Abstract:
Source: US6055406A A cleaning device for removing toner from an electrophotographic photosensitive member usable with an electrophotographic image forming apparatus includes a cleaning member for removing toner from the electrophotographic photosensitive member; a toner transporting portion having a toner transporting member for transporting the toner removed from the electrophotographic photosensitive member by the cleaning member; a toner accommodating portion for accommodating the toner transported by the toner transporting portion; a separation member provided between the toner transporting portion and the toner accommodating portion and having an accommodation opening for permitting the toner to be fed by the toner transporting portion to the toner accommodating portion.

0) US5110705A – CONTACT TYPE DEVELOPING METHOD AND DEVELOPING U...

17) Family number: 3443082 (US5110705A) © PatBase

Title: CONTACT TYPE DEVELOPING METHOD AND DEVELOPING UNIT

Priority: JP19890081919 19890331 JP19890081920 19890331 JP19890081922 19890331 JP19890081923 19890331 JP19890168605 19890630

Family:

Publication number	Publication date	Application number	Application date
DE69015403 D1	19950209	DE19906015403	19900330
DE69015403 T2	19950713	DE19906015403T	19900330
EP0390605 A2	19901003	EP19900303476	19900330
EP0390605 A3	19920701	EP19900303476	19900330
EP0390605 B1	19941228	EP19900303476	19900330
JP2259773 A2	19901022	JP19890081920	19890331
JP2259783 A2	19901022	JP19890081919	19890331
JP2259785 A2	19901022	JP19890081922	19890331
JP2259786 A2	19901022	JP19890081923	19890331
JP2809794 B2	19981015	JP19900058865	19900309
JP2953664 B2	19990927	JP19890081920	19890331
JP2992293 B2	19991220	JP19890081923	19890331
JP3087759 A2	19910412	JP19900058865	19900309
KR930008608 B1	19930910	KR19900004502	19900331
US5110705 A	19920505	US19900502171	19900330

Probable Assignee: TEC CORP

Assignee(s):(std)**:** TOKYO ELECTRIC CO LTD ; TOSHIBA KAWASAKI KK ; TOSHIBA CO LTD ; TOSHIBA KK ; TOSHIBA CORP

Assignee(s): TOSHIBA TEC KK ; TOSHIBA TETSUKU KK ; TOKYO ELECTRIC CO LTD TOKIO TOKYO JP ; TOSHIBA CO ; KABUSHIKI KAISHA TOSHIBA ; KABUSHIKI KAISHA TOSHIBA KAWASAKI KANAGAWA JP ; TEC CORP ; TOKYO ELECTRIC CO

Inventor(s):(std)**:** ENDO MITSUHARU ; ENDO MITSUHARU C O PATENT DEPA ; FUTAMATA YUKIO ; FUTAMATA YUKIO C O PATENT DEPA ; NIMATA YUKIO ; ODAKA YOSHIMITSU ; OHTAKA YOSHIMITSU ; OHTAKA YOSHIMITSU C O PATENT D ; HOSOYA MASAHIRO ; HOSOYA MASAHIRO C O INTELLECTU ; OTAKA YOSHIMITSU ; SAITO MITSUNAGA ; SAITO MITSUNAGA C O INTELLECTU ; SAITO MITSUNAKA ; SAITOU MITSUNAGA

Inventor(s): SAITO MITSUNAGA C O INTELLECTUAL PROPERTY DIV ; HOSOYA MASAHIRO C O INTELLECTUAL PROPERTY DIV ; HOSOYA MASAHIRO C O INTELLECTUAL PROPERTYDIV ; OHTAKA YOSHIMITSU C O PATENT DEPARTMENT ; OHTAKA YOSHIMITSU C O PATENT DEPARTMENT CHIYODA KU ; OOTAKA YOSHIMITSU ; FUTAMATA YUKIO C O PATENT DEPARTMENT ; FUTAMATA YUKIO C O PATENT DEPARTMENT CHIYODA KU TO ; FUTAMATA YUKIO C O PATENT DEPARTMENT CHIYODA... ; ENDO MITSUHARU C O PATENT DEPARTMENT ; ENDO MITSUHARU C O PATENT DEPARTMENT CHIYODA KU TO ; ENDO MITSUHARU C O PATENT DEPARTMENT CHIYODA...

Designated states: DE FR GB

International class (IPC 8–9): G03G13/08 G03G15/06 G03G15/08 (Advanced/Invention); G03G13/06 G03G15/06 G03G15/08 (Core/Invention)

International class (IPC 1–7): G03G13/08 G03G15/06 G03G15/08

CPC: G03G13/08 G03G15/0806 G03G15/0812 G03G2215/0614 G03G2215/0636

European class: G03G13/08 G03G15/08F G03G15/08F3 S03G215/06A1C S03G215/06B1

US class: 399/285 430/120 430/123.58

Classification Explorer

Cited documents: US4913088 A, US4868600 A, US4760422 A, US4710015 A, US4232628 A, US3754953 A, JP64052180 A2, JP64049066 A2, JP63100482 A2, JP63085659 A2, JP63080565 U1, JP63080565 U, JP62223771, JP61240261 A2, JP61176959 A2, JP61165780 U1, JP61165780 U, JP6022352 A2, GB2216438 A1, EP0387096 A2, EP0323252 A2,

Forward Citations: US9581933, US8948665, US8548344, US7869743, US7462146, US7426358, US7386261, US6453142, US6442357, US6256471, US6215509, US6154627, US6035171, US5946536, US5900893, US5887231, US5863626, US5655197, US5557060, US5438394, US5289237, US5270786, US5235387, US5232500, US2015382473, US2013120013, US2011211848, US2008310886, US2007253740, US2006088341, US2005049127, JP8202130, JP6051630, JP5313474, JP5046020, JP4189172, JP3350851, JP3332224, JP3110640, JP3103704, JP3086324, JP3068121, JP2014029557, JP2012155262, JP2007298557, JP2002365902, JP2002023486, JP2000137379, EP1037119, EP1037119, EP0939349, EP0939349, EP0625733, EP0529609, EP0515210, DE4318306, CN102799089,

Abstract:
Source: US5110705A In a developing method in which a thin layer of toner is formed on the surface of a toner carrier to which a developing bias voltage is applied and the thin layer of toner is supplied to an electrostatic latent image to thereby render the electrostatic latent image visible, the improvement wherein: when let it be supposed that: a quantity of electrification of toner that adheres to a latent image holding body by development is q [C/kg]; a quantity of charges accumulated by the toner due to its triboelectrification with the latent image holding body is qp [C/kg]; an electric resistance of the toner carrier is R [OMEGA xm2]; an effective length of the toner carrier is l [m]; an effective surface area of the toner carrier is Sr [m2]; a quantity of the toner that adheres to the latent image holding body by development is mp [k grams per square metre]; a speed of movement of the surface of the latent image holding body is Vp [m/sec]; a quantity of the toner that adheres to the surface of the toner carrier is m [k grams per square metre]; and a speed ratio of the surface of the toner carrier to that of the latent image holding body is k, these values are so adjusted as to satisfy the following conditional expression: −100<{−(q−qp) mp Vp l+qp (km−mp) Vpl}xR/Sr<100. A developing unit is selectively arranged so that this developing method can suitably be applied. The developing method and the developing unit cause an appropriate quantity of toner to be supplied constantly to the electrostatic latent image formed on the surface of the electrostatic latent image holding body through the toner carrier, thereby allowing a uniform, high density, sharp image with no fog on non−image portions to be provided.

18) Family number: 11557965 (US5815644A) © PatBase

Title: Developing frame, process cartridge and image forming apparatus

Priority: AU19950017686 19950427 AU19970037458 19970909 JP19950096884 19950421 US19950430808 19950426 CA19952147941 19950426 JP19940091185 19940428 US19970783294 19970110

Family:

Publication number	Publication date	Application number	Application date
AU199517686 A1	19951123	AU19950017686	19950427
AU199737458 A1	19971211	AU19970037458	19970909
AU682445 B2	19971002	AU19950017686	19950427
AU720641 B2	20000608	AU19970037458	19970909
CA2147941 AA	19951029	CA19952147941	19950426
CA2147941 C	19991109	CA19952147941	19950426
CN1061763 C	20010207	CN19951005101	19950428
CN1121592 A	19960501	CN19951005101	19950428
DE69535925 D1	20090416	DE19956035925	19950428
EP0679959 A2	19951102	EP19950302928	19950428
EP0679959 A3	19971119	EP19950302928	19950428
EP0679959 B1	20090304	EP19950302928	19950428
JP8015940 A2	19960119	JP19950096884	19950421
KR0145585 B1	19981201	KR19950010282	19950428
KR100145585 B1	19981201	KR19950010282	19950428
KR19950029872 A	19951124	KR19950010282	19950428
SG38838 A1	19970417	SG19950000337	19950426
US5815644 A	19980929	US19970783294	19970110

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK

Assignee(s): KANNO KAZUHIKO ; MIURA KOUJI ; NISHIUWATOKO TSUTOMU ; CANON INC ; CANON K K ; CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** KUNNO KAZUHIKO ; MIURA KOCHI ; MIURA KOJI ; MIURA KOUJI ; MIURA KOUJI C O CANON K K ; NISHIKAMIDOKO TSUTOMU ; NISHIKAMITOKO ISAMU ; NISHIUWATOKO TSUTOMU ; NISHIUWATOKO TSUTOMU C O CANON ; KANNO KAZUHIKO ; KANNO KAZUHIKO C O CANON K K ; GANNO KASUHIKO ; NISHIWOWATTOCO TSUTTOMO ; SUGANO KAZUHIKO

Inventor(s): TSUTOMU NISHIUWATOKO ; ISAMU NISHIKAMITOKO ; KAZUHIKO KANNO ; KAZUHIKO KUNNO ; KOJI MIURA ; KOUJI MIURA ; NISHIUWATOKO TSUTOMU C O CANON K K

Agent(s): SPRUSON AND FERGUSON; ASPEN PHARMA PTY LTD; RIDOUT AND MAYBEE LLP; TBK–PATENT

Designated states: CH DE ES FR GB IT LI NL

International class (IPC 8–9): G03G15/00 G03G15/06 G03G15/08 G03G15/16 G03G21/18 H04N1/00 H04N1/29 (Advanced/Invention); G03G15/008 (Advanced/Non–invention); G03G15/00 G03G15/06 G03G15/08 G03G15/16 G03G21/18 (Core/Invention)

International class (IPC 1–7): G03G15/00 G03G15/008 G03G15/06 G03G15/08 G03G15/16 G03G21/16 G03G21/18 H04N1/00 H04N1/29

CPC: G03G15/0896 G03G21/181 G03G21/1832 G03G2221/163 G03G2221/1648 G03G2221/1853 G03G2221/1876 G03G2221/1884

European class: G03G15/08S G03G21/18C2 G03G21/18C5S S03G221/16D S03G221/16J S03G221/18P3 S03G221/18P3C S03G221/18P4

US class: 399/113 399/120 399/262

Classification Explorer

Cited documents: US5436700 A, US5331373 A, US5325163 A, US5294960 A, US5266998 A, US5220385 A, US5177540 A, US5036358 A, JP62075676 A2, JP62075676, JP62017761 A2, JP62017761, JP61219975 A2, JP61219975, JP4080774 A2, JP4080774, EP0590939 A2, EP0560618 A2, EP0549089 A1, EP0520802 A2, EP0331324 A2, EP0330225 A2,

Forward Citations: WO06016244, WO06016244, WO06016242, WO06016242, USD433441, US9429877, US9291994, US9274499, US9256159, US9213267, US9025998, US8843029, US8768208, US8699917, US8682211, US8626008, US8577252, US8571440, US8565638, US8483594, US8463156, US8396380, US8355648, US8170445, US8059988, US7957669, US7933534, US7929881, US7873296, US7844197, US7796915, US7522859, US7505709, US7493071, US7463844, US7412188, US7386253, US7233752, US7162182, US7136609, US7106993, US7058337, US7002608, US6980759, US6961528, US6947687, US6937834, US6901229, US6834173, US6735403, US6681088, US6560422, US6516168, US6505007, US6496667, US6438340, US6381430, US6349191, US6345164, US6317572, US6246848, US6167219, US6141508, US6137973, US6137971, US6061538, US5950047, US5946531, US2013101319, US2011170903, US2011158681, US2011142490, US2011142487, US2011103829, US2009297211, US2009245851, US2008138110, US2007248377, US2007247511, US2007071495, US2007048007, US2006165435, US2006147225, US2006140683, US2006119689, US2005207781, US2005207780, US2005069342, US2005047822, US2005030364, US2005008395, US2004126135, JP2014016484, EP2365396, EP1640814, EP1637933, CN102375377, AU2005270972,

Abstract:
Source: US5815644A A developing frame usable in a process cartridge which is detachably mountable to an image forming apparatus, wherein the process cartridge having an electrophotographic photosensitive member and process means actable on the electrophotographic photosensitive member, includes a first frame having a toner containing portion for containing toner for developing a latent image formed on the photosensitive member, an opening portion formed in the toner containing portion and a toner supply opening for supplying the toner from the toner containing portion to a developing zone; a second frame having a developing device mounting portion for mounting a developing device for developing the latent image on the photosensitive member using the toner contained in the toner containing portion, and a covering member for covering the opening portion of the toner containing portion; wherein the developing frame is constructed by combining the first frame and second frame.

0) US2002028088A – PHOTOSENSITIVE MEMBER CARTRIDGE

19) Family number: 28191022 (US2002028088A) © PatBase

Title: PHOTOSENSITIVE MEMBER CARTRIDGE

Priority:

EP20000103908 20000224
EP20020005650 20000224
EP20050017416 20000224
JP19990050232 19990226
JP19990075560 19990319
US20010928514 20010814
JP19990075561 19990319
JP19990075562 19990319
US20000501659 20000210
US19990281948 19990331
US20020153643 20020524
JP20000088567 20000324
JP19990185126 19990630
JP20060244585 20060908
JP20110060248 20110318
US20030364416 20030212
US20030733390 20031212
US20050053846 20050210
US20050269533 20051109
US20050269663 20051109
US20050269666 20051109
US20070802215 20070521
US20080289686 20081031
US20100801688 20100621
US20110064687 20110408

Family:

Publication number	Publication date	Application number	Application date
AT219582 E	20020715	AT20000103908T	20000224
AT231988 E	20030215	AT19990117598T	19990907
AT308774 E	20051115	AT20000005650T	20000224
AT431576 E	20090515	AT20000017416T	20000224
CN100363841 C	20080123	CN200410076934	20000226
CN100435041 C	20081119	CN200610101839	20000226
CN100507755 C	20090701	CN200610101840	20000226
CN100507756 C	20090701	CN200610101857	20000226
CN1173235 C	20041027	CN20001006540	20000226
CN1266207 A	20000913	CN20001006540	20000226
CN1584755 A	20050223	CN200410076934	20000226
CN1881109 A	20061220	CN200610101857	20000226
CN1892511 A	20070110	CN200610101839	20000226
CN1892512 A	20070110	CN200610101840	20000226
DE60000216 D1	20020725	DE20006000216	20000224
DE60000216 T2	20021128	DE20006000216T	20000224
DE60023723 D1	20051208	DE20006023723	20000224
DE60023723 T2	20060608	DE20006023723T	20000224
DE60042222 D1	20090625	DE20006042222	20000224
DE69905133 D1	20030306	DE19996005133	19990907
DE69905133 T2	20030911	DE19996005133T	19990907
DK1031890 T3	20030623	DK19990117598T	19990907
EP1031890 A1	20000830	EP19990117598	19990907
EP1031890 B1	20030129	EP19990117598	19990907
EP1031894 A1	20000830	EP20000103908	20000224
EP1031894 B1	20020619	EP20000103908	20000224
EP1213623 A2	20020612	EP20020005650	20000224
EP1213623 A3	20030604	EP20020005650	20000224
EP1213623 B1	20051102	EP20020005650	20000224
EP1612615 A2	20060104	EP20050017416	20000224
EP1612615 A3	20060208	EP20050017416	20000224
EP1612615 B1	20090513	EP20050017416	20000224
EP2110717 A2	20091021	EP20090006407	20000224
EP2110717 A3	20131120	EP20090006407	20000224
ES2178982 T3	20030116	ES20000103908T	20000224
ES2192005 T3	20030916	ES19990117598T	19990907

ES2252337 T3	20060516	ES20020005650T	20000224	
HK1030815 A1	20050610	HK20010101683	20010308	
JP2000250378 A2	20000914	JP19990050232	19990226	
JP2000267371 A2	20000929	JP19990075561	19990319	
JP2000267547 A2	20000929	JP19990075562	19990319	
JP2000267549 A2	20000929	JP19990075560	19990319	
JP2001075457 A2	20010323	JP20000088567	20000324	
JP2006323427 A2	20061130	JP20060244585	20060908	
JP2011150367 A2	20110804	JP20110060248	20110318	
JP3431881 B2	20030728	JP20000088567	20000324	
JP3948155 B2	20070725	JP19990075562	19990319	
JP3956526 B2	20070808	JP19990075561	19990319	
JP4453032 B2	20100421	JP20060244585	20060908	
JP4737349 B2	20110727	JP19990050232	19990226	
JP5387602 B2	20140115	JP20110060248	20110318	
US2002028088 AA	20020307	US20010928514	20010814	
US2002141779 AA	20021003	US20020153643	20020524	
US2003118370 AA	20030626	US20030364416	20030212	
US2004126132 AA	20040701	US20030733390	20031212	
US2005135837 AA	20050623	US20050053846	20050210	
US2006056876 AA	20060316	US20050269533	20051109	
US2006056877 AA	20060316	US20050269663	20051109	
US2006056878 AA	20060316	US20050269666	20051109	
US2007264045 AA	20071115	US20070802215	20070521	
US2009092413 AA	20090409	US20080289686	20081031	
US2010296836 AA	20101125	US20100801688	20100621	
US2011188888 AA	20110804	US20110064687	20110408	
US6041203 A	20000321	US19990281948	19990331	
US6330410 BA	20011211	US20000501659	20000210	
US6411789 BA	20020625	US20010928514	20010814	
US6546217 BB	20030408	US20020153643	20020524	
US6690903 BB	20040210	US20030364416	20030212	
US6873810 BB	20050329	US20030733390	20031212	
US7218878 BB	20070515	US20050269533	20051109	
US7224923 BB	20070529	US20050269663	20051109	
US7231167 BB	20070612	US20050053846	20050210	
US7245850 BB	20070717	US20050269666	20051109	
US7457563 BB	20081125	US20070802215	20070521	
US7742720 BB	20100622	US20080289686	20081031	
US7949283 BB	20110524	US20100801688	20100621	
US8121520 BB	20120221	US20110064687	20110408	

Probable Assignee: BROTHER IND LTD

Assignee(s):(std)**:** BROTHER IND LTD ; SATO SHOUGO ; SUZUKI TSUTOMU ; OKABE YASUSHI

Assignee(s): BROTHER INDUSTRIES LTD ; BROTHER KOGYO K K ; BROTHER KOGYO K K NAGOYA ; BROTHER KOGYO KABUSHIKI KAISHA ; BROTHER KOGYO KK

Inventor(s):(std)**:** OKABE OSAMU ; OKABE YASUSHI ; OKABE YASUSHI BROTHER INDUSTRI ; OSAMU OKABE ; SATO SHOGO ; SATO SHOUGO ; SATO SHOUGO BROTHER IND ; SATO SHOUGO BROTHER INDUSTRIES ; SATO SHUOGO ; SHOGO SATO ; SHOUGO SATO ; SUZUKI TSUTOMU ; SUZUKI TSUTOMU BROTHER INDUSTR ; TSUTOMU OKABE YASUSHI SATO SHO ; TSUTOMU SUZUKI ; YASUSHI OKABE

Inventor(s):	SUZUKI TSUTOMU BROTHER INDUSTRIES LTD ; KU ; SUZUKI TSUTOMU BROTHER IND LTD ; SATO SHOUGO BROTHER INDUSTRIES LTD ; SATO SHOUGO BROTHER IND LTD ; SATO SHOUGO BROTHER ; OKABE YASUSHI BROTHER INDUSTRIES LTD ; OKABE YASUSHI SATO SHOUGO SUZUKI TSUTOMU ; OKABE YASUSHI BROTHER IND LTD
Agent(s):	HOFER DOROTHEA ET AL; PRUEFER AND PARTNER GBR EUROPEAN PATENT ATTORNEYS; PRUEFER AND PARTNER GBR EUROPEAN PATENT ATTORNEYS; OLIFF AND BERRIDGE PLC
Designated states:	AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE
International class (IPC 8–9):	B65H3/46 B65H5/00 B65H5/06 B65H9/14 C12Q1/42 G03G15/00 G03G15/04 G03G15/08 G03G15/14 G03G21/00 G03G21/16 G03G21/18 (Advanced/Invention); B65H3/46 B65H5/00 B65H5/06 B65H9/14 C12Q1/42 G03G15/00 G03G15/04 G03G15/08 G03G15/14 G03G21/00 G03G21/16 G03G21/18 (Core/Invention)
International class (IPC 1–7):	B65H3/46 B65H5/00 B65H9/14 C12Q1/42 G03G15/00 G03G15/04 G03G15/06 G03G15/08 G03G15/08 G03G15/14 G03G21/00 G03G21/16 G03G21/18
CPC:	G03G15/0813 G03G21/1821 G03G21/1832 G03G2221/1642 G03G2221/1654 G03G2221/1869 G03G2221/1884 G03G21/1814 G03G21/1825 G03G21/1828 G03G21/1853 G03G2221/1609 G03G2221/1807 G03G2221/1853 G03G2221/1861
European class:	G03G15/08F4 G03G21/16 G03G21/18C3 G03G21/18C4C G03G21/18C4S G03G21/18C5 G03G21/18C5S G03G21/18H1V S03G221/16B1 S03G221/16G S03G221/16K1 S03G221/18A S03G221/18P3 S03G221/18P3A S03G221/18P3B S03G221/18P4
US class:	399/111 399/111P 399/113 399/113P 399/113S 399/114 399/114S 399/116 399/116S 399/119 399/119P 399/119S 399/124
Classification Explorer	
Cited documents:	USD447511 S1, USD442216 S1, USD43559 S1, USD423559 S1, USD422304 S1, US6456810 BA, US6411789 BA, US6385414 BA, US6356723 BA, US6337956 BA, US6336014 BA, US6330410 BA, US6321050 BA, US6304735 BA, US6219505 BA, US6195522 BA, US6195222 BA, US6173140 BA, US6173140 B1, US6141519 A, US6101350 A, US6072968 A, US6041203 A, US6021291 A, US6011935 A, US5966567 A, US5966566 A, US5953561 A, US5920754 A, US5920752 A, US5899601 A, US5893006 A, US5848336 A, US5845176 A, US5842093 A, US5842091 A, US5835822 A, US5805959 A, US5752132 A, US5745824 A, US5740491 A, US5666596 A, US5606406 A, US5585889 A, US5552857 A, US5537187 A, US5530528 A, US5463446 A, US5450159 A, US5418606 A, US5406355 A, US5371575 A, US5343223 A, US5331378 A, US5227843 A, US5208634 A, US5206682 A, US5168308 A, US5160964 A, US5111244 A, US5028966 A, US4987446 A, US4924267 A, US4888620 A, US4887133 A, US4806977 A, US4794420 A, US4657372 A, US4563074 A, US2002090226 AA, US2002028086 AA, US2002025187 AA, US20020090, US20020028, US20020025, JPU6417539, JPU493849, JPU267364, JPS6417539 U, JPS6417539, JPS63273878, JPS6216953, JPS6163871, JPS597387, JPH07234552, JPB295234, JPB2695234, JPB2095234, JP943921, JP943921, JP943921, JP9319285 A2, JP9311610 A2, JP9244484 A2, JP9212063 A2, JP9197746 A2, JP9152826 A2, JP9062099 A2, JP9050224, JP9043921 A2, JP854786, JP854786, JP854786, JP84796, JP84500, JP8227238 A2, JP8194428 A2, JP8054786 A2, JP79474, JP784500, JP784500, JP784500, JP74431, JP7311536 A2, JP7311535 A2, JP7295457 A2, JP7271274 A2, JP7234552 A2, JP7175399 A2, JP7121086 A2, JP7084500 A2, JP7069473 A2, JP7064973 A2, JP7028374 A2, JP6417539, JP6417539, JP6417539, JP64017539 U1, JP64017539 U, JP64017539 A2, JP63871, JP6348123, JP6332345 A2, JP63273878 A2, JP6250450 A2, JP6242643 A2, JP6222629 A2, JP6216953, JP6216953, JP62016953 A2, JP6186798 A2, JP6175425 A2, JP6163871, JP61063871 A2, JP6095234 B2, JP6095234 A2, JP6043706 A2, JP6003891 A2, JP6, JP6, JP59007387 A2, JP54786, JP535005, JP535005, JP535005, JP5297646 A2, JP5273804 A2, JP5216304 A2, JP5197302 A2, JP5074431 A2, JP5035005 A2, JP50224, JP493849, JP493849, JP43921, JP43706, JP4322260 A2, JP4267277 A2, JP4190251 A2, JP41476, JP4110862 A2, JP4093849 U1, JP4093849 A2, JP3891, JP35005, JP348123, JP341476, JP341476, JP341476, JP332345, JP319285, JP311610, JP3107169 A2, JP3041476 A2, JP297646, JP28374, JP281268, JP273878, JP271274, JP2695234 A2, JP2695234, JP2695234, JP2695234, JP267364, JP267364, JP267364, JP267277, JP254327, JP244484, JP242643, JP234552, JP2281268 A2, JP227238, JP222629, JP2213859 A2, JP2199488 A2, JP216304, JP2158756 A2, JP213859, JP212063, JP2095234, JP2067364 U1, JP2067364 A2, JP197746, JP194428, JP186798, JP175425, JP175399, JP16953, JP1184796, JP1184796, JP1184796, JP1179474, JP1179474, JP1179474, JP11084796 A2, JP11079474 A2, JP107169, JP10254327, EP9319285, EP9244484, EP7175399, EP63273878, EP5216304, EP20866387, EP20866387, EP20530491, EP20530491, EP20530491, EP20501497, EP20501497, EP20501497, EP10810490, EP10810490, EP10810490, EP0943921 A1, EP0866387 A2, EP0854786, EP0810490 A1, EP0795794

A1, EP0608812 A2, EP0590939 A2, EP0530491 A2, EP0501497 A2, EP0437097 A2, EP0368346 A3, EP0368346 A2, CN1195793 A,

Forward Citations: WO06079163, USD523896, USD523894, USD522564, USD521545, USD471583, USD471228, US9678471, US9671751, US9658593, US9658592, US9606497, US9594343, US9494913, US9477201, US9417602, US9411305, US9400483, US9395688, US9389571, US9383720, US9377755, US9348303, US9298157, US9280136, US9280132, US9256198, US9223285, US9188941, US9182739, US9176468, US9170529, US9152082, US9104169, US9069328, US9069327, US9058013, US9052683, US9042773, US9037039, US9020399, US9020398, US9020397, US9020396, US8995876, US8977163, US8938187, US8925411, US8897670, US8862027, US8837981, US8831472, US8644730, US8644728, US8639158, US8611806, US8606145, US8600263, US8565650, US8559847, US8559843, US8526856, US8515309, US8483595, US8478163, US8463158, US8457525, US8412070, US8265521, US8233819, US8233816, US8185022, US8185014, US8121520, US8121518, US8078083, US8073358, US8050575, US8041257, US8027615, US8005392, US7957669, US7949283, US7925183, US7912406, US7873296, US7865111, US7844197, US7840154, US7813666, US7796915, US7792459, US7768451, US7747192, US7742720, US7729637, US7689139, US7676174, US7663658, US7647004, US7639969, US7639968, US7639967, US7639966, US7632029, US7620347, US7613415, US7599640, US7565093, US7565092, US7555251, US7522872, US7522859, US7512363, US7505709, US7493061, US7460816, US7457563, US7450882, US7426355, US7419319, US7412188, US7398034, US7386253, US7376371, US7369792, US7369791, US7362988, US7356282, US7298989, US7257350, US7245850, US7231167, US7224923, US7218878, US7212769, US7190921, US7189019, US7187889, US7184688, US7184685, US7174117, US7162182, US7146121, US7136609, US7123858, US7106992, US7085516, US7065311, US7035571, US6923586, US6879792, US6873810, US6871031, US6823160, US6785485, US6767149, US6751428, US6690903, US6678489, US6612763, US6546217, US6415119, US6101350, US2017097588, US2016378018, US2015277368, US2015268625, US2015205257, US2015125179, US2015023694, US2014086635, US2014060225, US2013051851, US2011236064, US2011236060, US2011200358, US2011158682, US2011110683, US2011086201, US2011020032, US2010296837, US2010296836, US2010260516, US2010239312, US2010189466, US2010183329, US2010143012, US2010135696, US2010074648, US2009208245, US2009175652, US2009175651, US2009169248, US2008310881, US2008304862, US2008298836, US2008279583, US2008247776, US2008212993, US2008199214, US2008199204, US2008170882, US2008124122, US2007264045, US2007242977, US2007237549, US2007223965, US2007160381, US2007147941, US2007122176, US2007071483, US2007071481, US2007048007, US2007036581, US2007036579, US2007002122, US2006285880, US2006257163, US2006245787, US2006153594, US2006083545, US2006056878, US2006056877, US2006056876, US2006045603, US2006029423, US2006029422, US2006029421, US2006029420, US2006029419, US2006029418, US2005276631, US2005276630, US2005254854, US2005250309, US2005244187, US2005226673, US2005207781, US2005207780, US2005191088, US2005135837, US2005063735, US2005053394, US2005041054, US2005008394, US2004265000, US2004234320, US2004190938, US2004190935, US2004190934, US2004184834, US2004179859, US2004161260, US2004126133, US2004126132, US2003211861, US2003185594, US2003156848, US2003049046, US2003039485, JP6136937, JP6127795, JP6056999, JP5962170, JP5953996, JP5895400, JP5195259, JP5136582, JP4927451, JP4695445, JP4604769, JP2016105207, JP2015129807, JP2015022179, JP2014016494, JP2013231778, JP2013228422, JP2013050493, JP2013011743, JP2012189747, JP2012159661, JP2011203368, JP2011150377, JP2011133760, JP2011022616, JP2010266893, JP2010156750, JP2010091994, JP2010072588, JP2009193007, JP2009047962, JP2009003056, JP2008249802, JP2008185737, JP2008056434, JP2008003300, JP2007334138, JP2007322554, JP2007148287, JP2007108691, JP2006350033, JP2006343359, JP2006251270, JP2006184502, JP2006171295, JP2006098852, JP2006091375, JP2005316099, EP2759887, EP2365396, EP2246746, EP1953603, EP1837716, EP1742114, EP1722279, EP1717647, EP1710634, EP1681601, EP1640820, EP1571504, EP1496409, EP1327919, EP1327919, EP1293848, EP1156390, EP1156390, CN104298090, CN103885313, CN102968006, CN102467030, CN102467030, CN102367106, CN102367106, CN102200751, CN102200724, CN101896041,

Abstract:
Source: US2002028088A The invention provides a photosensitive member cartridge, that has, for example, a case including a bottom wall, an upper wall, and side walls. A photosensitive drum and a transfer roller are rotatably disposed in a space surrounded by the bottom wall, the upper wall, and the side walls. The bottom wall extends below the transfer roller. A developer cartridge, having a developing roller, is set on the extending portion of the bottom wall.

0) US2013170862A – TONER CARTRIDGE WITH PRESSURE EQUALIZATION SYST...

20) Family number: 54260432 (US2013170862A) © PatBase

Title: TONER CARTRIDGE WITH PRESSURE EQUALIZATION SYSTEM

Priority: US20110340814 20111230 WO2012US65144 20121115

Family:

Publication number	Publication date	Application number	Application date
AU2012363065 AA	20130704	AU20120363065	20121115
AU2012363065 BB	20150813	AU20120363065	20121115
CA2854012 AA	20140429	CA20122854012	20121115
CN104024949 A	20140903	CN201280065524	20121115
EP2798405 A1	20141105	EP20120863459	20121115
EP2798405 A4	20160120	EP20120863459	20121115
HK1204097 A1	20151106	HK20150104269	20150505
IN05923DN2014 A	20150612	IN2014DN05923	20140715
MX2014006339 A1	20140922	MX20140006339	20121115
MX345524 B	20170202	MX20140006339	20121115
US2013170862 AA	20130704	US20110340814	20111230
US8849162 BB	20140930	US20110340814	20111230
WO13101346 A1	20130704	WO2012US65144	20121115

Probable Assignee: LEXMARK INT INC

Assignee(s):(std)**:** HACKNEY GARY NEAL ; LEEMHUIS JAMES RICHARD ; LEXMARK INT INC

Assignee(s): LEXMARK INT INC740 WEST NEW CIRCLE ROADBLDG. 082–1IP LAW DEPARTMENTLEXINGTONKY40550US

Inventor(s):(std)**:** GARY NEAL HACKNEY ; HACKNEY GARY NEAL ; LEEMHIUS JAMES RICHARD ; LEEMHUIS JAMES RICHARD ; JAMES RICHARD LEEMHUIS

Inventor(s): LEEMHUIS JAMES RICHARDUS ; HACKNEY GARY NEALUS ; JAMES RICHARD LEEMHIUS

Agent(s): WRAYS; GOWLING LAFLEUR HENDERSON LLP; BOERNER ROBERT; JOHN VICTOR; JUSTIN M; TROMP JUSTIN MICHAEL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9): G03G15/08 G03G9/08 (Advanced/Invention); G03G (Subclass/Invention)

CPC: G03G15/0886

US class: 399/258 399/260 399/262

Classification Explorer

Cited documents: US7606520 BB, US7548710 BB, US6931224 BB, US6778801 BA, US6315011 BA, US5758231 A, US5526030 A, US5485187 A, US5434654 A, US5414499 A, US5260750 A, US5221945 A, US5109254 A, US5089852 A, US5012289 A, US4955316 A, US4469436 A, US2013170871 AA, US2012301187 AA, US2012243900 AA, US2011279592 AA, US2009245881 AA, US2009016767 AA, US2008226311 AA, US2007003325 AA, US2006239722 AA, US2005244193 AA, US2003170049 AA, US2003053826 AA, US2001051062 AA, JP2006039017 A2, EP1422577 A2, EP0412923 A2,

Forward Citations: US9261818, US9217955, US9128412, US9037051, US8977160, US8774685, US8768223, US2015220021, US2013170863,

Abstract:
Source: US2013170862A A toner cartridge having a pressure equalization system for equalizing a pressure differential between a toner reservoir in the toner cartridge and a toner sump developer unit containing ingested air utilizing a ducted shutter that opens and closes an exit port on the housing of the toner cartridge in combination with a passageway in fluid communication with the ducted shutter and the toner reservoir wherein, when the toner cartridge is mated with a developer unit of the imaging apparatus and the shutter is in the open position, exiting toner leaves the cartridge through the exit port and enters the developer unit while air entrained within the developer unit enters the toner reservoir via the exit port, the duct and the passageway equalizing pressure between the toner cartridge and the to developer unit.

0) US2016109827A – TONER CONTAINER, PROCESS CARTRIDGE, AND IMAGE F...

21) Family number: 57945894 (US2016109827A) © PatBase

Title: TONER CONTAINER, PROCESS CARTRIDGE, AND IMAGE FORMING APPARATUS

Priority: JP20130114144 20130530 JP20130141524 20130705 JP20130162345 20130805 WO2014JP65021 20140530 JP20170002644 20170111

Family:

Publication number	Publication date	Application number	Application date
AU2014271625 AA	20141204	AU20140271625	20140530
CA2913879 AA	20151127	CA20142913879	20140530
CN105408820 A	20160316	CN201480042631	20140530
EP3004987 A1	20160413	EP20140804165	20140530
EP3004987 A4	20160615	EP20140804165	20140530
ID201704390 A	20170428	ID2015P0008663	20140530
IN04181KN2015 A	20160311	IN2015KN04181	20151222
JP2014232270 A2	20141211	JP20130114144	20130530
JP2015014720 A2	20150122	JP20130141524	20130705
JP2015031865 A2	20150216	JP20130162345	20130805
JP2017062515 A2	20170330	JP20170002644	20170111
JP6075546 B2	20170208	JP20130114144	20130530
JP6119984 B2	20170426	JP20130141524	20130705
KR20160014671 A	20160211	KR20157036417	20140530
MX2015016317 A1	20160316	MX20150016317	20140530
PH2015502627 A	20160307	PH20150502627	20151125
TW201502726 A	20150116	TW20140119147	20140530
TW201627783 A	20160801	TW20160112139	20140530
TWI536127 B	20160601	TW20140119147	20140530
US2016109827 AA	20160421	US20140893826	20140530
US9690231 BB	20170627	US20140893826	20140530
WO14192975 A1	20141204	WO2014JP65021	20140530

Probable Assignee: RICOH CO LTD

Assignee(s):(std)**:** ARASAWA SHINICHI ; JUNG GOO CHUL ; OGATA YASUNOBU ; PARK JIN SAM ; SAKAYA KOHTA ; YOSHIDA TOMOFUMI ; RICOH CO LTD ; RICOH KK

Assignee(s): RICOH CO

Inventor(s):(std)**:** JUNG GOO CHUL ; KOHTA SAKAYA ; OGATA YASUNOBU ; OGATA YASUYOSHI ; PARK JIN SAM ; SAKATANI KOTA ; SAKAYA KOHTA ; SAM PARK JIN ; SHINICHI ARASAWA ; TOMOFUMI YOSHIDA ; YASUNOBU OGATA ; YOSHIDA TOMOFUMI ; YOSHIDA TOMOSHI ; ARASAWA SHINICHI ; CHUL JUNG GOO ; CHUNG U SEONG ; JEONG KU CHEOL

Inventor(s): JIN SAM PARK ; GOO CHUL JUNG

Agent(s): WRAYS PTY LTD; SMART AND BIGGAR; SCHWABE SANDMAIR MARX; ANDROMEDA BA SH; OBLON MCCLELLAND MAIER AND NEUSTADT LLP; SAKAI HIROAKI

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9): G03G15/08 G03G21/16 G03G21/18 (Advanced/Invention)

CPC:

G03G15/0865 G03G15/0886 G03G2215/067 G03G2221/1869 G03G15/0875 G03G21/1821

US class: 399/260

Classification Explorer

Cited documents: US9031451 BB, US5608501 A, US2015346636 AA, US2015030355 AA, US2014161491 AA, US2014050507 AA, US2013170865 AA, US2012321341 AA, US2012189345 AA, US2012033982 AA, US2011052266 AA, US2011052266, US2011052256 AA, US2011052255 AA, US2010067957 AA, US2009232547 AA, US2009154973 AA, US2009126876 AA, US2009115071 AA, US2009110452 AA, US2008260421 AA, US2008181661 AA, US2007223965 AA, US2007212118 AA, US2006171744 AA, US2006104663 AA, JP8152784 A2, JP8062979 A2, JP8062979, JP7225514 A2, JP7225514, JP6035321 A2, JP4459025 B2, JP4181967 A2, JP4084835 B2, JP2013160874 A2, JP2013160874, JP2013109031 A2, JP2013109031, JP2013068823 A2, JP2013068823, JP2012242770 A2, JP2012242770, JP2012234219 A2, JP2012234219, JP2012103418 A2, JP2012037554 A2, JP2010256806 A2, JP2010256806, JP2010170100 A2, JP2010170100, JP2010128437 A2, JP2009163059 A2, JP2009163059, JP2008216452 A2, JP2008216452, JP2008134570 A2, JP2008134570, JP2008134526 A2, JP2008134526, JP2008083517 A2, JP2008083517, JP2007101710 A2, JP2007101710, JP2006330151 A2, JP2006309147 A2, JP2006309147, JP2006235592 A2, JP2006201813 A2, JP2006139110 A2, JP2006139110, JP2006139069 A2, JP2002328586 A2, JP11095638 A2, JP11095638, JP10020746 A2, JP07225514, CN1773395 B, CN1773395 A,

Forward Citations: TWI567511,

Abstract:
Source: US2016109827A A toner container includes a container body that is used to house a toner and that is detachably attachable to a mounting portion in a developing device; and an operating member that is used to open and close a shutter. The shutter as well as the operating member includes an engaging portion that can engage with a linking member which is disposed in the mounting portion and which can perform a reciprocating linear movement. In the state in which the container body is not mounted in the mounting portion, the shutter and the operating member are in a non−linked state with each other. In contrast, in the state in which the container body is mounted in the mounting portion, the shutter and the operating member become able to be linked to each other via the linking member.

22) Family number: 10975037 (US5848338A) © PatBase

Title: TONER REPLENISHING DEVICE AND TONER CARTRIDGE FOR USE THEREIN

Priority: CA19982226700 19980113 EP19980300163 19980112 JP19971771297 19970117 JP19970017712 19970117 JP19970017713 19970117 JP19970065593 19970305 JP19971771397 19970117 JP19976559397 19970305

Family:

Publication number	Publication date	Application number	Application date
AU199850395 A1	19980723	AU19980050395	19980108
CA2226700 AA	19980717	CA19982226700	19980113
DE69827862 D1	20050105	DE19986027862	19980112
DE69827862 T2	20051222	DE19986027862T	19980112
EP0854394 A2	19980722	EP19980300163	19980112
EP0854394 A3	19991222	EP19980300163	19980112
EP0854394 B1	20041201	EP19980300163	19980112
EP1293843 A2	20030319	EP20020080476	19980112
EP1293843 A3	20061122	EP20020080476	19980112
ID19584 A	19980723	ID19980000055	19980119
JP10207203 A2	19980807	JP19970017712	19970117
JP10260570 A2	19980929	JP19970065593	19970305
JP3298064 B2	20020702	JP19970017712	19970117
JP3298065 B2	20020702	JP19970065593	19970305
SG94701 A1	20030318	SG19980000091	19980113
TW380216 B	20000121	TW19980100189	19980108
US5848338 A	19981208	US19970998833	19971229

Probable Assignee: MITA INDUSTRIAL CO LTD

Assignee(s):(std)**:** KYOCERA DOCUMENT SOLUTIONS INC ; KYOCERA MITA CORP ; MITA INDUSTRIAL CO LTD

Assignee(s): OKADA MITSUHARU ; KYOCERA MITA CORP OSAKA ; MITA IND CO LTD ; MITA INDUSTRIAL CO

Inventor(s):(std)**:** MITSUHARU OKADA ; OKADA MITSUHARU

Agent(s): DAVIES COLLISON CAVE; DAVIES COLLISON CAVE PTY LTD; MARKS AND CLERK

Designated states: AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

International class (IPC 8–9): B41J27/16 G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)

International class (IPC 1–7): B41J27/16 G03G15/00 G03G15/06 G03G15/08 G03G21/16

CPC: G03G15/0886 G03G15/087 G03G2215/0673 G03G2215/0692

European class: G03G15/08H3C S03G215/06C1B S03G215/06C7

US class: 399/119 399/262

Classification Explorer

Cited documents: US5734953 A, US5722014 A, US5648840 A, US5345297 A, US4942432 A, US4937628 A, US4752807 A, US4304273 A, JP8095365 A2, JP7168435 A2, JP61156176, JP4190266, EP0710896 A1, EP0701181 A2,

Forward Citations: US8634744, US7949287, US7574161, US7515854, US7486915, US7062205, US6650847, US6269234, US6266506, US6249654, US6236826, US6085056, US6058283, US5970292, US5970291, US2009263165, US2007237551, US2007077099, US2006182469, US2004131391, JP4054521, JP3854893, JP2013140401, JP2012013911, JP2003316138, JP2001222160, EP1947524, EP1232064, EP1209537,

EP1209537, DE19962340, DE19962340,

Abstract:
Source: US5848338A A toner replenishing device including a mounting base having a toner replenishment opening formed for replenishing a hopper with a toner, and a toner cartridge to be mountable on the mounting base at a replenishing position at which the toner can be replenished through the toner replenishment opening. The mounting base is provided with a replenishment opening shutter member, and locking means for inhibiting the turning of the replenishment opening shutter member. When the toner cartridge is mounted at the replenishing position, locking of the locking means is released, and when the container is turned, a through−hole of the toner cartridge and the toner replenishment opening open.

0) US2007196136A – TONER CARTRIDGE, PROCESS CARTRIDGE, IMAGE CARTR...

23) Family number: 35422479 (US2007196136A) © PatBase

Title: TONER CARTRIDGE, PROCESS CARTRIDGE, IMAGE CARTRIDGE, AND IMAGE FORMING APPARATUS TO WHICH THOSE CARTRIDGES ARE ATTACHABLE

Priority: JP20060042766 20060220 JP20060048328 20060224 JP20090141869 20090615

Family:

Publication number	Publication date	Application number	Application date
CN101025592 A	20070829	CN200710005421	20070208
CN101025592 B	20100811	CN200710005421	20070208
EP1821157 A2	20070822	EP20070000771	20070116
EP1821157 A3	20130821	EP20070000771	20070116
JP2007219417 A2	20070830	JP20060042766	20060220
JP2007225994 A2	20070906	JP20060048328	20060224
JP2009205172 A2	20090910	JP20090141869	20090615
JP4353189 B2	20091028	JP20060048328	20060224
JP4442714 B2	20100331	JP20090141869	20090615
US2007196136 AA	20070823	US20070704347	20070209
US7747198 BB	20100629	US20070704347	20070209

Probable Assignee: KONICA MINOLTA INC

Assignee(s):(std)**:** KONICA MINOLTA BUSINESS TECH ; KONICA MINOLTA BUSINESS TECHNO

Assignee(s): KONICA MINOLTA BUSINESS TECHNOLOGIES INC ; KONICA MINOLTA INC

Inventor(s):(std)**:** AKIYOSHI JOHDAI ; HIDEKAZU NAKAGAMI ; HIDEKAZU YAMAMOTO YUICHI KAWAI ; IMOTO TOMIKO ; JIYOUDAI AKIYOSHI ; JOHDAI AKIYOSHI ; KAWAI MASAFUMI ; KAWAI MASASHI ; MASASHI KAWAI ; NAKAGAMI HIDEKAZU ; OGAWA TAKAYUKI ; TAKAYUKI OGAWA ; TOMIKO IMOTO ; YAMAMOTO YUICHI ; YUICHI YAMAMOTO

Inventor(s): YAMAMOTO YUICHI C O KONICA BUSINESS TECHN INC ; YAMAMOTO YUICHI KAWAI MASASHI IMOTO TOMIKO ; OGAWA TAKAYUKI C O KONICA BUSINESS TECHN INC ; NAKAGAMI HIDEKAZU C O KONICA BUSINESS TECHN INC ; KAWAI MASASHI C O KONICA BUSINESS TECHN INC ; JOHDAI AKIYOSHI C O KONICA BUSINESS TECHN INC ; IMOTO TOMIKO C O KONICA BUSINESS TECHN INC

Agent(s): HOFFMANN EITLE; COSMOS PATENT OFFICE; MORRISON AND FOERSTER LLP

Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK NL PL PT RO RS SE SI SK TR

International class (IPC 8–9): G03G15/00 G03G15/01 G03G15/08 G03G21/18 (Advanced/Invention); G03G15/08 G03G21/18 (Core/Invention)

CPC: G03G21/1832 G03G15/0875 G03G15/0879 G03G2215/0692 G03G2221/183 G03G15/0886

European class: G03G15/08H3 G03G21/18C5S S03G215/06C7 S03G221/18P

US class: 399/258 399/258P 399/260 399/260S

Classification Explorer

Cited documents: US6324370 BA, US5933691 A, US5608501 A, US5568237 A, US2007212118 AA, US2006029422 AA, US2004091288 AA, US2002085857 AA, JPS63179377, JP9274347 A2, JP9101733 A2, JP7168435 A2, JP7152239 A2, JP63179377 A2, JP6035318 A2, JP6021051 A2, JP5241443 A2, JP2006048328, JP2006042766, JP2006011233 A2, JP2005134686 A2, JP2003316137 A2, JP2001100576, JP200098713, JP2000098713 A2, JP10236688 A2, JP09274347, JP09101733, JP07152239, JP0635318, JP0621051 U, JP04350871, EP0699971 A2,

Forward Citations: WO10142189, USD657413, USD646712, USD644264, US9658568, US9494891, US9483017, US9477179, US9465357, US9411268, US9377717, US9335728, US9244379, US9207571, US9201340, US9188949, US9146499, US9141079, US9122232, US9052685, US9002240, US8918030, US8913919, US8909093, US8886093, US8792809, US8737876, US8634743, US8554116, US8391751,

US8320799, US8315536, US8254807, US8139986, US8095048, US7925182, US7860432, US7856198, US2016187840, US2015261181, US2013028631, US2012257912, US2011064475, US2010329746, US2010329734, US2010329730, US2010247156, US2010247137, US2009060586, US2009060585, US2009016770, US2008080902, JP5783924, JP2013190503, JP2013160874, JP2011095317, EP2653931, CN103454880, CN103454880, CN102135749, CN102135749, CN102004416,

Abstract:
Source: US2007196136A A toner cartridge and a process cartridge, individually, have a shutter which makes sliding movement by opening and closing their toner inlet and toner outlet. When those cartridges are attached to a color printer and fixed together by a fixing lever, the shutters of both cartridges and the fixing lever can move together as one. When they make sliding movement together, both of the shutters are opened and toner supply becomes available. There are thus realized a toner cartridge, a process cartridge, an imaging cartridge, and an image forming apparatus to which those cartridges are attachable, all of which can prevent toner leakage from both a toner housing portion and a process portion and enables even an unaccustomed user to attach each cartridge without making surroundings dirty.

24) Family number: 10373916 (US5612769A) © PatBase

Title: SUBMODULAR UNIT FOR USE IN A MODULAR ROTARY DEVELOPING APPARATUS

Priority: JP19930266660 19931025 JP19930296658 19931126

Family:

Publication number	Publication date	Application number	Application date
DE69417507 D1	19990506	DE19946017507	19941025
DE69417507 T2	19990812	DE19946017507T	19941025
DE69420677 D1	19991021	DE19946020677	19941025
DE69420677 T2	20000302	DE19946020677T	19941025
EP0650102 A2	19950426	EP19940116812	19941025
EP0650102 A3	19950524	EP19940116812	19941025
EP0650102 B1	19990331	EP19940116812	19941025
EP0654713 A1	19950524	EP19940116806	19941025
EP0654713 B1	19990915	EP19940116806	19941025
ES2129561 T3	19990616	ES19940116812T	19941025
ES2137298 T3	19991216	ES19940116806T	19941025
JP7121027 A2	19950512	JP19930266660	19931025
JP7152239 A2	19950616	JP19930296658	19931126
US5612769 A	19970318	US19940328478	19941025
US5768662 A	19980616	US19940328477	19941025

Probable Assignee: RICOH CO LTD

Assignee(s):(std): RICOH KK

Assignee(s): ROCOH COMPANY LTD ; RICOH CO ; RICOH CO LTD ; RICOH CO LTD TOKIO TOKYO JP ; RICOH COMPANY LTD

Inventor(s):(std): KOSUGE KATSUHIRO ; SUGIHARA KAZUYUKI

Inventor(s): SUGIHARA KAZUYUKI YOKOHAMA SHI KANAGAWA JP ; KOSUGE KATSUHIRO SUMIDA KU TOKYO JP

Designated states: DE ES FR GB IT

International class (IPC 8–9): G03G15/01 G03G15/08 G03G21/16 (Advanced/Invention); G03G15/01 G03G15/08 G03G21/16 (Core/Invention)

International class (IPC 1–7): G03G15/01 G03G15/08 G03G21/16

CPC: G03G15/0868 G03G15/0889 G03G15/0896 G03G15/0126 G03G2215/0685

European class: G03G15/01D8 G03G15/08H3B G03G15/08S S03G215/06C4

US class: 399/119 399/228 399/258 399/278 399/284

Classification Explorer

Cited documents: US5331390 A, US5258819 A, US5198866 A, US5115259 A, US5109254 A, US5103764 A, US5030997 A, US4970561 A, US4894684 A, US4792825 A, US4782360 A, US4772916 A, US4772913 A, US4743938 A, US3953121 A, JP63078173 A2, JP63078172 A2, JP63078171 A2, JP63078170 A2, JP63078169 A2, JP62163073 A2, JP62163072 A2, JP62163071 A2, JP62109074 A2, JP61259282, JP61103175, JP59223468, JP58126554, JP5241417 A2, FR2597993 A1, DE4306092 A1,

Forward Citations: WO04081673, US8498552, US7747198, US7522866, US7457570, US7386249, US7295798, US7212773, US7190925, US7177574, US6987942, US6983115, US6963713, US6807381, US6510305, US6301460, US6226481, US6104900, US6070037, US6038416, US5991569, US5956549, US5956546, US5940664, US5852759, US5850586, US5828934, US5797069, US5787328, US2006275049, US2006133856, US2006115299, US2006029435, US2006008298, US2005111882, US2005025529, US2004052553, US2004033087, US2003165347, JP4419366,

JP4019583, JP2004029198, JP2001183902, EP1821157,

Abstract:
Source: US5612769A For image reproduction, a submodular unit including a developing roller and a doctor blade is adjustably mounted on a modular developing unit of a rotary developing apparatus. In general, the modular developing unit is rotatably positioned to juxtapose a photoreceptor drum. This juxtaposed position defines the developing position. The toner loaded on the developing roller in the developing position travels over a spacial gap between the developing roller surface and the photoreceptor drum surface. This crucial gap is necessary for successful image reproduction. However, this gap usually cannot be optimally maintained over extended time. The gap is also changed due vibration caused during shipment. In adjusting the gap, the submodular unit allows an independent and fine adjustment for each modular image developing unit. The submodular unit also allows an efficient assembly of the modular rotary developing unit.

0) US5870652A – DEVELOPER CARTRIDGE FEATURING A DEVELOPER REPLE...

25) Family number: 31018887 (US5870652A) © PatBase

Title: DEVELOPER CARTRIDGE FEATURING A DEVELOPER REPLENISHMENT HOLE AND REMOVABLE CAP HAVING A GRIPPING MEMBER FOR SEALING THE HOLE AND A REMANUFACTURING METHOD USING THE SAME

Priority: JP19930335535 19931228 JP19940048506 19940318 US19940365127 19941228 US19980184654 19981103

Family:

Publication number	Publication date	Application number	Application date
CN1066545 C	20010530	CN19941013509	19941228
CN1119290 A	19960327	CN19941013509	19941228
DE69423722 D1	20000504	DE19946023722	19941228
DE69423722 T2	20000803	DE19946023722T	19941228
EP0661609 A2	19950705	EP19940309875	19941228
EP0661609 A3	19961113	EP19940309875	19941228
EP0661609 B1	20000329	EP19940309875	19941228
ES2143534 T3	20000516	ES19940309875T	19941228
HK1011765 A1	20001103	HK19980112945	19981208
JP3308691 B2	20020729	JP19930335535	19931228
JP3320191 B2	20020903	JP19940048506	19940318
JP7199622 A2	19950804	JP19930335535	19931228
JP7261524 A2	19951013	JP19940048506	19940318
KR0135906 B1	19980515	KR19940037746	19941228
KR19950019987 A	19950724	KR19940037746	19941228
SG70990 A1	20000321	SG19960009276	19941228
US5870652 A	19990209	US19940365127	19941228
US6131008 A	20001010	US19980184654	19981103

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK

Assignee(s): CANON INC ; CANON K K ; CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** BAN YUTAKA ; BAN YUTAKA C O CANON K K ; KANAMORI AKIHITO ; KANAMORI AKIHITO C O CANON K K ; KANAMORI AKIHOTO ; KANAMORI AKITO ; KAZUYUKI MIYANO ; KOMATA KAZUHIKO ; MIYANO KAZUYUKI ; MIYANO KAZUYUKI C O CANON K K ; AKIHITO KANAMORI ; OMATA KAZUHIKO ; OMATA KAZUHIKO C O CANON K K ; YUTAKA BAN ; VAN RYUTAKA ; OMATA GAUZHIKO ; MIYANO GAZYUKI ; GANAMORI AKIHITO

Inventor(s): OMATA KAZUHIKO C O CANON KK ; AKIHOTO KANAMORI ; MIYANO KAZUYUKI C O CANON KK ; KAZUHIKO OMATA

Designated states: CH DE ES FR GB IT LI NL

International class (IPC 8–9): B65D83/06 G03G15/08 (Advanced/Invention); G03G15/08 (Advanced/Non–invention); B65D83/06 G03G15/08 (Core/Invention)

International class (IPC 1–7): B65D83/06 G03G15/06 G03G15/08 G03G16/06

CPC: G03G15/0872 G03G15/0882 G03G15/0894 G03G15/0822 G03G2215/00987 G03G2215/0687 G03G2215/085

European class: G03G15/08H G03G15/08H3P G03G15/08R S03G215/00R S03G215/06C5 S03G215/08A5

US class: 399/106 399/109 399/263

Classification Explorer

Cited documents: US5870652 A, US5579101 A, US5441177 A, US5351728 A, US5268722 A, US5257077 A, US5235389 A, US5204720 A, US5177540 A, US5118013 A, US5030997 A, US4986450 A, US4981218 A, US4949123 A, JP63188665 A2, JP63062857 A2, JP6243371 U, JP62170987 A2, JP62086382 A2, JP60243681, JP5165326, JP5064803 A2, JP506091, JP4337745, JP3271782, JP3245170, JP3131881 A2, JP1310373 A2, JP1310373, EP0481085 A1, EP0387986 A2,

Forward Citations: WO04046829, WO04046829, USD576668, USD529949, US9529303, US9436127, US9298136, US9256194, US9213261, US9207578, US9207574, US9176426, US9046820, US8989622, US8909094, US8644727, US8532542, US8311447, US8290394, US8270871, US8219000, US8045901, US7970321, US7965963, US7890027, US7881645, US7817945, US7809312, US7676178, US7647012, US7592567, US7577385, US7532843, US7515854, US7486905, US7469113, US7433633, US7430390, US7430384, US7386251, US7382997, US7376369, US7324777, US7292811, US7266331, US7260346, US7203449, US7190925, US7139505, US7139505, US7127193, US7116931, US7088944, US7079788, US7039347, US6996353, US6987942, US6978107, US6968141, US6963713, US6950621, US6944417, US6879789, US6766133, US6493516, US6470163, US6438345, US6418290, US6185401, US6173130, US6131008, US2017023879, US2015063878, US2014286677, US2014064795, US2013058680, US2011293322, US2011123216, US2011097107, US2011020039, US2010202803, US2010111573, US2010111561, US2010111560, US2010080644, US2010046982, US2009324295, US2009003872, US2008317511, US2008273895, US2008019738, US2007237551, US2007231017, US2007134021, US2007127947, US2007098454, US2007086810, US2007041749, US2006198656, US2006171737, US2006062604, US2006034641, US2006008291, US2006008290, US2005265753, US2005201776, US2005196200, US2005196197, US2005169672, US2005158069, US2005047818, US2005025529, US2004223791, US2004161266, US2004131383, US2004101331, US2004052553, US2004047657, US2004033087, US2002122676, KR100653086, JP5734719, JP4872321, JP4475877, JP4047135, JP3674472, JP2012215216, JP2011170230, JP2009271279, JP2009122545, JP2009003373, JP2007147726, JP2004264460, JP2004151521, JP2002040785, EP2244136, EP1575735, EP1575735, EP1563345, EP1416333, EP1300731, EP1233311, EP1096330, EP1096330, EP0773483, EP0773483, EP0671670,

Abstract:
Source: US5870652A A developer cartridge comprising a cylindrical portion for accommodating a developer, being provided with a hole at a longitudinal end, wherein the developer is capable of being supplied into the cylindrical portion through the hole, a removable cap for capping the hole, and a gripping member for covering the cap and having a plate−like grip. A developing remanufacturing method, wherein the cartridge includes a cylindrical portion having an opening extending in a longitudinal direction, the cylindrical portion being provided with a hole at a longitudinal end, a cap for capping the hole and a gripping member, includes the steps of removing the gripping member, removing the cap, sealing the opening, supplying a developer through the hole, capping the hole, and mounting the gripping member.

0) US2012213567A – IMAGE–FORMING DEVICE AND DEVELOPER MATERIAL UNI...

26) Family number: 51780117 (US2012213567A) © PatBase

Title: IMAGE–FORMING DEVICE AND DEVELOPER MATERIAL UNIT

Priority: JP20110034345 20110221 JP20110034346 20110221 US20120363113 20120131 US20140457102 20140811 US20150982929 20151229

Family:

Publication number	Publication date	Application number	Application date
JP2012173456 A2	20120910	JP20110034345	20110221
JP2012173457 A2	20120910	JP20110034346	20110221
JP5278468 B2	20130904	JP20110034345	20110221
JP5293758 B2	20130918	JP20110034346	20110221
US2012213567 AA	20120823	US20120363113	20120131
US2014348561 AA	20141127	US20140457102	20140811
US2016109828 AA	20160421	US20150982929	20151229
US8805264 BB	20140812	US20120363113	20120131
US9239560 BB	20160119	US20140457102	20140811
US9360800 BB	20160607	US20150982929	20151229

Probable Assignee: BROTHER IND LTD

Assignee(s):(std)**:** BROTHER IND LTD ; ITABASHI NAO ; SATO SHOUGO

Assignee(s): BROTHER KOGYO KABUSHIKI KAISHA ; BROTHER KOGYO KK

Inventor(s):(std)**:** ITABASHI NAO ; SATO SHOGO ; SATO SHOUGO

Agent(s): BAKER BOTTS LLP

International class(IPC 8–9)**:** G03G15/08 G03G15/16 G03G21/00 G03G21/10 G03G21/12 G03G21/18 (Advanced/Invention)

CPC: G03G21/12 G03G2215/0132 G03G15/0886 G03G21/105

European class: G03G21/10C G03G21/12 S03G215/01P3N1V

US class: 1/1 399/260 399/358 399/358P 399/360

Classification Explorer

Cited documents: US8805264 BB, US8737867 BB, US8369745 BB, US8351819 BB, US8315537 BB, US8208832 BB, US8131183 BB, US8116662 BB, US7965957 BB, US6339689 BA, US6226490 BA, US5842091 A, US5608501 A, US4138687 A, US2014334859 AA, US2012251160 AA, US2012213567 AA, US2012213566 AA, US2012213547 AA, US2010272467 AA, US2010209157 AA, US2010080615 AA, US2010080600 AA, US2010028041 AA, US2009324284 AA, US2009285593 AA, US2009232548 AA, US2009154973 AA, US2009136259 AA, US2009035014 AA, US2008279581 AA, US2008267661 AA, US2008199234 AA, US2008145119 AA, US2007248390 AA, US2007183814 AA, US2006257163 AA, US2006204249 AA, US2005008416 AA, US2004009009 AA, JPS6373776 U, JP9319207 A2, JP9319207, JP7225514 A2, JP63073776 U1, JP63073776 U, JP63073776 U, JP63073776 U, JP62116970 A2, JP61129665 A2, JP6021050 U1, JP6021050 U, JP6021050 U, JP6015066 U1, JP6015066 U, JP6015066 U, JP5232845 A2, JP5232845, JP3051455 U1, JP3051455 U, JP2012173457 A2, JP2012173456 A2, JP2012173454 A2, JP2011017939 A2, JP2011017939, JP2010256827 A2, JP2010191013 A2, JP2010191012 A2, JP2010151996 A2, JP2010151966 A2, JP2010151966, JP2010122245 A2, JP2010102285 A2, JP2010102285, JP2010038947 A2, JP2010008472 A2, JP2009276438 A2, JP2009128754 A2, JP2008276137 A2, JP2008224820 A2, JP2008224820, JP2007178654 A2, JP2006343359 A2, JP2006343359, JP2000098841 A2, JP2000098841, JP10333520 A2, JP09319207, JP06021050 U, JP06015066 U, JP05232845,

Forward Citations: US9588481, US9360800, US9239560, US9134684, US8934828, US8805264, US8792816, US2014348561, US2014037321, JP2012173454,

Abstract:
Source: US2012213567A In an image–forming device, a waste developer material accommodating part is

provided integrally with a developer material accommodating part. A waste developer material conveying mechanism is connected to both of a recovering unit and the waste developer material accommodating part and conveys the waste developer material from the recovering unit to the waste developer material accommodating part. The waste developer material conveying mechanism includes a conveying member that is disposed outside the waste developer material accommodating part, that extends in an axial direction of a photosensitive drum, and that is coupled to the waste developer material accommodating part while being movable relative to the waste developer material accommodating part.

0) US2005271425A – IMAGE FORMING APPARATUS AND TONER CARTRIDGE

27) Family number: 32476737 (US2005271425A) © PatBase

Title: IMAGE FORMING APPARATUS AND TONER CARTRIDGE

Priority: JP20040167053 20040604 JP20050092387 20050328 US20050142276 20050602 US20080230731 20080904 US20100659097 20100225

Family:

Publication number	Publication date	Application number	Application date
JP2005345874 A2	20051215	JP20040167053	20040604
JP2006276233 A2	20061012	JP20050092387	20050328
JP4738761 B2	20110803	JP20040167053	20040604
US2005271425 AA	20051208	US20050142276	20050602
US2009010679 AA	20090108	US20080230731	20080904
US2010189463 AA	20100729	US20100659097	20100225
US7437095 BB	20081014	US20050142276	20050602
US7689149 BB	20100330	US20080230731	20080904
US7983602 BB	20110719	US20100659097	20100225

Probable Assignee: OKI DATA CORP

Assignee(s):(std)**:** OKI DATA CORP ; OKI DATA KK ; OTA ATSUSHI ; SHIMOMURA TATSUHIKO

Inventor(s):(std)**:** OTA ATSUSHI ; SHIMOMURA TATSUHIKO

Agent(s): RABIN AND BERDO PC

International class (IPC 8–9)**:** G03G15/04 G03G15/06 G03G15/08 G03G21/16 G03G21/18 G03G5/00 (Advanced/Invention); G03G15/04 G03G15/06 G03G15/08 G03G21/16 G03G21/18 G03G5/00 (Core/Invention)

International class (IPC 1–7)**:** G03G15/08 G03G21/18 G03G5/00

CPC: G03G21/1676 G03G21/1647 G03G2221/163 G03G2221/1654

European class: G03G21/16 S03G221/16D S03G221/16K1

US class: 399/119 399/119P 399/120 399/258 399/262

Classification Explorer

Cited documents: US7689149 BB, US7689149 B1, US7010252 BB, US7010252 B1, US6892036 BB, US6892036 B1, US6496671 BB, US6496671 B1, US6363233 BA, US6195521 BA, US6091919 A, US5722019 A, US5594535 A, US5520229 A, US5508795 A, US5229824 A, US5034776 A, JP8305148 A2, JP6124025 A2, JP2002148920 A2, JP2002072657 A2, JP2001305827 A2, JP11258898 A2, JP11133713 A2,

Forward Citations: US9639028, US9316944, US9298130, US8948660, US8948659, US8862028, US8792804, US8750753, US8737887, US8606140, US8554117, US8238799, US7983602, US7805097, US7680433, US7647005, US7639968, US7587155, US7561836, US2013287446, US2012076549, US2012027467, US2011299880, US2010322676, US2010189463, US2008181661, US2007223971, US2007223965, US2007223964, US2007223963, US2006120755, KR20160052490, KR101717464, JP5825136, JP5250596, JP5024491, JP2013171200, JP2013167787, JP2012068564, JP2012037837, JP2009053286,

Abstract:
Source: US2005271425A A toner cartridge is detachably attached to an image forming apparatus and supplies toner to the image forming apparatus. The locking mechanism is positioned either at a locking position or at a non−locking position. Shortly after the toner cartridge has been attached to the image forming apparatus, the locking mechanism is at a non−locking position. When a user operates a driving member of the toner cartridge after the toner cartridge has been attached to the image forming apparatus, the operating lever engages the locking mechanism to cause the locking mechanism to move to a locking position. When the locking mechanism is at the locking position, the locking mechanism limits the driving member to move relative to the engagement portion, so that the toner cartridge is not allowed to be detached from the image forming apparatus.

28) Family number: 26734012 (US5819144A) © PatBase

Title: TONER REPLENISHING DEVICE OF IMAGE FORMING MACHINE

Priority: EP19970304364 19970620 JP19960170187 19960628 JP19960170188 19960628

Family:

Publication number	Publication date	Application number	Application date
AU199728345 A1	19980115	AU19970028345	19970627
CA2208140 AA	19971228	CA19972208140	19970618
CN1114131 C	20030709	CN19971011870	19970627
CN1177124 A	19980325	CN19971011870	19970627
CN1248064 C	20060329	CN20021058497	19970627
CN1492290 A	20040428	CN20021058497	19970627
DE69724197 D1	20030925	DE19976024197	19970620
DE69724197 T2	20040226	DE19976024197T	19970620
EP0816936 A2	19980107	EP19970304364	19970620
EP0816936 A3	20000503	EP19970304364	19970620
EP0816936 B1	20030820	EP19970304364	19970620
EP1276018 A2	20030115	EP20020079465	19970620
EP1276018 A3	20060823	EP20020079465	19970620
ID17308 A	19971218	ID19970002237	19970627
JP10020637 A2	19980123	JP19960170187	19960628
JP10020638 A2	19980123	JP19960170188	19960628
JP3235047 B2	20011204	JP19960170187	19960628
JP3235048 B2	20011204	JP19960170188	19960628
SG52996 A1	19980928	SG19970002142	19970624
TW453454 Y	20010901	TW20000218732U	19970624
US5819144 A	19981006	US19970874526	19970613

Probable Assignee: MITA INDUSTRIAL CO LTD

Assignee(s):(std)**:** KYOCERA DOCUMENT SOLUTIONS INC ; KYOCERA MIDA CORP ; KYOCERA MITA CORP ; KYOCERA MITA IND CO LTD ; MITA INDUSTRIAL CO LTD ; SANDA IND CO LTD ; KYOJI MEDA CO LTD ; KYOCERA MITA INDUSTRIAL CO LTD

Assignee(s): SANDA IND CO ; MITA INDUSTRIAL CO ; KYOCERA MITA INDUSTRIAL CO ; MITA IND CO LTD ; KYOCERA MITA CORP OSAKA

Inventor(s):(std)**:** OKADA MITSUHARA ; OKADA MITSUHARU ; OKADA MITSUJI ; TOSHIKI OKADA KOJI NISHIMURA ; TOSHINORI NISHIMURA ; TOSHIKI NISHIMURA ; KOJI OKADA ; TOSHIKE NISHIMURA ; MITSUJI OKADA ; MITSUHARU OKADA ; NISHIMURA TOSHIKE ; NISHIMURA TOSHIKI ; NISHIMURA TOSHINORI ; OKADA KOJI

Inventor(s): OKADA KOJI NISHIMURA TOSHIKI

Agent(s): PAUL R TAYLOR AND ASSOCIATES

Designated states: AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

International class (IPC 8–9): G03G15/08 G03G21/16 (Advanced/Invention); G03G15/08 G03G21/16 (Core/Invention)

International class (IPC 1–7): G03G15/06 G03G15/08 G03G21/00 G03G21/16

CPC: G03G15/0886 G03G15/0855 G03G15/0865 G03G15/0875 G03G2215/068 G03G2215/083 G03G2215/085

European class: G03G15/08H3 S03G215/06C2 S03G215/08A3C1 S03G215/08A5

US class: 399/258 399/262

Classification Explorer

Cited documents: USRE34344 E, US5629759 A, US5585889 A, US5506665 A, US5475478 A, US4997016 A, US4996566 A, US4740808 A, US4491161 A, JP6314017, JP61156269, JP61051161, JP3102370, EP0736814 A1, EP0604991 A2,

Forward Citations: US8000614, US7894753, US7542703, US7527642, US7044929, US6660029, US6438328, US6324370, US2009216303, US2009129825, US2008038019, US2006161234, US2004106970, US2003235436, US2003055474, EP1211570, EP1211570, EP1211570, EP1172709, EP1089136, EP1089136, EP1041452,

Abstract:
Source: US5819144A A toner replenishing device of an image forming machine, including a toner cartridge receiving member disposed in a machine body and having a cartridge inserting position and a cartridge mounting position; and a toner cartridge having a container body with a toner discharge opening and mounted detachably on the toner cartridge receiving member; wherein a reference alignment mark is provided at a machine body wall portion positioned above the toner cartridge receiving member, a first alignment mark is provided on the container body of the toner cartridge at a position opposite the reference alignment mark at the cartridge inserting position, and a second alignment mark is provided on the container body of the toner cartridge at a position opposite the reference alignment mark at the cartridge mounting position. The cartridge is movable to the cartridge mounting position at right angles to the direction of insertion of the cartridge by using an operating lever.

0) US2002031638A – DRIVING FORCE RECEIVING MEMBER AND DRIVING MECH...

29) Family number: 19241567 (US2002031638A) © PatBase

Title: DRIVING FORCE RECEIVING MEMBER AND DRIVING MECHANISM

Priority: JP20000266733 20000904 JP20010162729 20010530

Family:

Publication number	Publication date	Application number	Application date
CN1229698 C	20051130	CN20011042729	20010904
CN1349137 A	20020515	CN20011042729	20010904
DE60142325 D1	20100722	DE20016042325	20010903
EP1184739 A2	20020306	EP20010121095	20010903
EP1184739 A3	20090225	EP20010121095	20010903
EP1184739 B1	20100609	EP20010121095	20010903
JP2002072689 A2	20020312	JP20000266733	20000904
JP2002351204 A2	20021206	JP20010162729	20010530
JP3862491 B2	20061227	JP20000266733	20000904
KR100425896 B1	20040403	KR20010053791	20010903
KR20020018965 A	20020309	KR20010053791	20010903
US2002031638 AA	20020314	US20010944133	20010904
US6934494 BB	20050823	US20010944133	20010904

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON INC ; CANON KK ; TAZAWA FUMIO ; YAMADA YUSUKE

Assignee(s): MINAGAWA HIRONORI ; CANON K K ; CANON KABUSHIKI KAISHA ; CANON KABUSHIKI KAISHA AB ; BAN YUTAKA

Inventor(s):(std)**:** FUMIO TAZAWA ; FUMIO YAMADA YUSUKE TOMO YUTAK ; MINAGAWA HIRONORI ; BAN YUTAKA ; TAZAWA BUNRO ; TAZAWA FUMIO ; TOMO YUTAKA ; YAMADA YUSUKE ; YAMADA YUSUKE TOMO YUTAKA TAZAWA FUMIO ; YUSUKE YAMADA ; YUTAKA TOMO

Inventor(s): YAMADA YUSUKE CANON KABUSHIKI KAISHA ; TAZAWA FUMIO CANON KABUSHIKI KAISHA ; BAN YUTAKA CANON KABUSHIKI KAISHA ; MINAGAWA HIRONORI CANON KABUSHIKI KAISHA

Agent(s): TBK PATENT; FITZPATRICK CELLA HARPER AND SCINTO

Designated states: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI TR

International class (IPC 8–9): B65D83/06 F16D1/112 G03G15/00 G03G15/08 G03G21/18 (Advanced/Invention); G03G15/08 (Advanced/Non–invention); B65D83/06 F16D1/00 G03G15/00 G03G15/08 G03G21/18 (Core/Invention)

International class (IPC 1–7): B32B3/06 B65D83/06 G03G15/00 G03G15/08 G03G21/00 G03G21/18

CPC: Y10S222/01 G03G21/186 F16D1/112 G03G15/757 G03G2215/0692 G03G2221/1657 G03G2221/183 G03G15/0855 G03G15/0865 G03G15/0872 G03G15/0886 Y10T428/24008 Y10T428/24017 G03G15/08

European class: F16D1/112 G03G15/08H3 G03G15/75F G03G21/18H2C S03G215/06C7 S03G221/16K2 S03G221/18P

US class: 222/DIG.1 399/120 399/262 428/100 428/100S 428/99 428/99P

Classification Explorer

Cited documents: US6256470 BA, US5691021 A, US5634245 A, US5482962 A, US5418600 A, US5307129 A, US5149573 A, US3143895 A, JPS6449720, JP7113796 A2, JP7044000 A2, JP64049720 A2, JP10020744 A2, EP0797125 A1, DE1940981 A1,

Forward Citations: US9256194, US8649711, US8131189, US8099028, US7957679, US7925184, US7899371, US7796923, US7773919, US7764909, US7729644, US7676182, US7539445, US7412192, US7391999, US7369798, US7209686, US7155138,

US6993273, US6980754, US2011194876, US2010278565, US2010178081, US2009232546, US2009154956, US2008304872, US2008304871, US2008304870, US2008213004, US2007280743, US2007269236, US2007264055, US2006133855, US2006104673, US2006029434, US2005147428, US2004190945, US2004028427, JP4570895, JP2012088637, JP2005292676, EP2202588, CN104632908, CN104632908,

Abstract:
Source: US2002031638A A driving force receiving member for receiving a driving force from an image forming apparatus includes a driving force receiving portion for receiving the driving force from a driving force applying portion of the image forming apparatus, wherein said driving force receiving portion is movable relative to the driving force applying portion to permit engagement and disengagement relative to the driving force applying portion; wherein said driving force receiving portion is provided with a surface fastener.

0) US6088561A – TONER CARTRIDGE, IMAGE FORMATION APPARATUS COMP...

30) Family number: 11300087 (US6088561A) © PatBase

Title: Toner cartridge, image formation apparatus comprising toner cartridge, and method of recycling the toner cartridge

Priority: JP19960279045 19961022 JP19970043803 19970227 JP19970286386 19971020 JP20030383378 20031113 JP20030201477 20030725

Family:

Publication number	Publication date	Application number	Application date
CN1115602 C	20030723	CN19971021228	19971022
CN1182893 A	19980527	CN19971021228	19971022
DE69732079 D1	20050203	DE19976032079	19971022
DE69732079 T2	20051208	DE19976032079T	19971022
EP0838733 A2	19980429	EP19970118369	19971022
EP0838733 A3	19990616	EP19970118369	19971022
EP0838733 B1	20041229	EP19970118369	19971022
ES2233989 T3	20050616	ES19970118369T	19971022
HK1011226 A1	20040416	HK19980112246	19981124
JP10301382 A2	19981113	JP19970286386	19971020
JP2004004930 A2	20040108	JP20030201477	20030725
JP2004133479 A2	20040430	JP20030383378	20031113
JP3545919 B2	20040721	JP19970286386	19971020
JP3786655 B2	20060614	JP20030201477	20030725
KR100299647 B1	20010903	KR19970054230	19971022
MX9708116 A1	19980830	MX19970008116	19971021
SG71053 A1	20000321	SG19970003831	19971022
TW405063 B	20000911	TW19970115541	19971021
US6088561 A	20000711	US19970955745	19971022

Probable Assignee: RICOH CO LTD

Assignee(s):(std)**:** RICOH KK

Assignee(s): ROCOH COMPANY LTD ; RICOH CO ; RICOH CO LTD ; RICOH COMPANY LTD

Inventor(s):(std)**:** HIDEO ICHIKAWA ; ICHIKAWA HIDEO ; KANDA SHIGEMI ; KAWAMURA YOSHIHIDE ; YOSHIHIDE KAWAMURA

Inventor(s): SHIGEMI KANDA

Designated states: AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

International class (IPC 8–9): B65D83/06 G03G15/00 G03G15/06 G03G15/08 (Advanced/Invention); B65D83/06 G03G15/00 G03G15/06 G03G15/08 (Core/Invention); G03G (Subclass/Invention)

International class (IPC 1–7): B41M5/00 B65D83/06 G03G15/00 G03G15/06 G03G15/08 G03G21/12

CPC: G03G15/0894 G03G15/0896 G03G2215/00987

European class: G03G15/08R G03G15/08S S03G215/00R

US class: 366/312 399/106 399/120 399/262 399/263

Classification Explorer

Cited documents: US5765079 A, US5697038 A, US5682584 A, US5655195 A, US5627631 A, US5564607 A, US5555081 A, US5548384 A, US5526101 A, US5515143 A, US5500719 A, US5495323 A, US5489976 A, US5455662 A, US5381217 A, US5322198 A, US5293913 A, US5185616 A, US5084734 A, US4993829 A, US4825244 A, US4813563 A, US3853246 A, JP8095380, JP7199617, JP7028317, JP63078184, JP58112769 U, JP4013166, JP1085849 U,

Forward Citations: US9639026, US9618879, US9612569, US9612553, US9612552, US9612551, US9612548, US9606504, US9606503, US9606473, US9605734, US9599954, US9599953, US9599929, US9594329, US9411268, US9298136, US9207567, US9069292, US8973759, US8948661, US8774683, US8761643, US8688015, US8666293, US8126372, US8055164, US7873308, US7853173, US7505718, US7149462, US7116931, US6980755, US6944417, US6854493, US6587660, US6418290, US6389257, US6385422, US6246854, US2012033997, US2008286014, US2008286012, US2006251448, US2006062604, US2005196198, US2004223791, US2004126131, US2003172958, KR101030554, KR100724569, JP5972236, JP5115607, JP4083722, JP3814524, JP2015045683, JP2014044282, JP2013011911, JP2012053095, JP2011053368, JP2009122545, JP2006293214, JP2006106045, JP2003162149, EP2423760, EP2423760, CN105966065, CN104062870, CN104062870, CN102621853, CN102385285, CN102236932,

Abstract:
Source: US6088561A A toner cartridge includes a container body for holding toner therein, at least one rotatable member including a rotation center shaft, for discharging the toner outside from the container body, disposed in the container body, the container body having an opening at one end thereof in the axial direction of rotation of the rotatable member, and a cap member for opening and closing the opening formed in the container body, which is capable of serving as a bearing member for the rotatable member thereon and is detachable through the opening in the direction of the axis of rotation of the rotatable member. This toner cartridge is available with toner loaded therein, and can be recycled when the toner is used up. A method of recycling this toner cartridge is provided. In addition, an image formation apparatus including this toner cartridge is proposed.

0) US2015261176A – CARTRIDGE AND ELECTROPHOTOGRAPHIC IMAGE FORMING...

31) Family number: 60339207 (US2015261176A) © PatBase

Title: CARTRIDGE AND ELECTROPHOTOGRAPHIC IMAGE FORMING APPARATUS USING THE SAME

Priority: EP20150150365 20150107 KR20140029162 20140312

Family:

Publication number	Publication date	Application number	Application date
CN104914701 A	20150916	CN201510084010	20150216
DE602015000336 D1	20161103	DE201560000336T	20150107
EP2919075 A1	20150916	EP20150150365	20150107
EP2919075 B1	20160921	EP20150150365	20150107
KR101585058 B1	20160113	KR20140029162	20140312
KR20150106731 A	20150922	KR20140029162	20140312
US2015261176 AA	20150917	US20140462737	20140819
US9235188 BB	20160112	US20140462737	20140819
WO15137576 A1	20150917	WO2014KR07482	20140812

Probable Assignee: S PRINTING SOLUTION CO LTD

Assignee(s):(std)**:** SAMSUNG ELECTRONICS CO LTD

Assignee(s): SAMSUNG ELECTRONICS CO LTD SUWON SI ; S PRINTING SOLUTION CO LTD ; SAMSUNG ELECTRONICS CO

Inventor(s):(std)**:** HO JIN JANG ; JANG HO JIN ; KIM JOON HEE ; KWON OH DUG ; JI WON MOON ; JOON HEE KIM ; MOON JI WON ; OH DUG KWON

Agent(s): GULDE AND PARTNER PATENT U RECHTSANWALTSKANZLEI MBB; APPLEYARD LEES; APPLEYARD LEES IP LLP; STAAS AND HALSEY LLP; YPLEE MOCK AND PARTNERS

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9): G03G15/00 G03G15/08 G03G21/16 G03G21/18 (Advanced/Invention)

CPC: G03G21/1633 G03G21/1885

US class: 1/1 399/90

Classification Explorer

Cited documents: US7978997 BB, US6079816 A, US2014072333 AA, US2011091222 AA, US2009214249 AA, US2008240776 AA, US2007098437 AA, US2003215248 AA, KR20070047177 A, JP2011164398 A2, JP2008090124 A2, JP2007079284 A2, JP2007079284, JP2006221010 A2, JP2004061596 A2, JP2004061596, JP2004046808 A2, JP2003195723 A2, JP2003195723, JP2002365863 A2, JP2002365863,

Forward Citations: US9625876,

Abstract:
Source: US2015261176A A cartridge is attached to or detached from a main body of an image forming apparatus that has an opening portion and a door that opens or closes the opening portion. The cartridge includes: a memory unit with a contact portion via which the cartridge is connected to the main body to transmit information of the cartridge to the main body; and a moving member on which the contact portion is mounted, wherein the moving member is moved to a first position where the contact portion is hidden inside the cartridge and a second position where the contact portion protrudes out of the cartridge to be connected to a connection portion provided in the main body, the moving member being moved to the second position in connection with closing of the door.

0) US2001001025A – TONER CARTRIDGE

32) Family number: 28119239 (US2001001025A) © PatBase

Title: TONER CARTRIDGE

Priority: JP19980354762 19981214 US20000592822 20000613 US20000730952 20001206

Family:

Publication number	Publication date	Application number	Application date
JP2000181224 A2	20000630	JP19980354762	19981214
JP4183319 B2	20081119	JP19980354762	19981214
US2001001025 AA	20010510	US20000730952	20001206
US6363233 BA	20020326	US20000592822	20000613
US6496671 BB	20021217	US20000730952	20001206

Probable Assignee: OKI DATA CORP

Assignee(s):(std)**:** NAKAJIMA SHIGEKI ; OKI DATA KK

Assignee(s): OKI DATA CORP

Inventor(s):(std)**:** NAKAJIMA SHIGEKI

International class (IPC 8–9)**:** G03G15/08 G03G21/10 G03G21/12 (Advanced/Invention); G03G15/08 G03G21/10 G03G21/12 (Core/Invention)

International class (IPC 1–7)**:** G03G15/08 G03G21/00 G03G21/10

CPC: Y10S222/01 G03G21/12 G03G2215/068 G03G15/0855 G03G15/0865 G03G15/0875 G03G15/0886 G03G21/105

European class: G03G15/08H3 G03G21/12 S03G215/06C2

US class: 222/167 222/DIG.1 399/120 399/120P 399/262 399/262S 399/358 399/358S 399/36 399/360 399/360S

Classification Explorer

Cited documents: US6292644 BA, US5937235 A, US5568237 A, US5078303 A, US4593997 A, JPS59184373, JP59184373 A2,

Forward Citations: US9563169, US9477178, US9477177, US9389537, US9383717, US9360797, US9207572, US9188938, US9164476, US9104141, US9046867, US9042746, US9031451, US8948650, US8913927, US8913921, US8873996, US8867933, US8583023, US8521062, US8380117, US8374527, US8369745, US8315537, US8131182, US7983602, US7949287, US7734232, US7711294, US7689149, US7643777, US7555255, US7437095, US7426356, US7356301, US7315716, US7277658, US7272346, US7245860, US7197266, US7103308, US7103308, US7062205, US7010252, US7006779, US7006777, US6999702, US6934490, US6907213, US6904249, US6493516, US2016306293, US2014105619, US2014029984, US2012328324, US2012128391, US2011076056, US2011044743, US2010074646, US2009263165, US2009060570, US2009010679, US2008260421, US2008199227, US2008131149, US2008038014, US2007297840, US2007253748, US2007031164, US2007025756, US2006216068, US2006120764, US2005271425, US2005220516, US2005002697, US2005002696, US2004265010, US2004131391, US2004105703, US2004047651, US2003223776, JP5386467, JP4930565, JP2012113006, JP2011075887, JP2010078847, JP2009128754, EP3059637, EP2492756, EP2237112, EP1434110, EP1394627, EP1394627, EP1367459,

Abstract:
Source: US2001001025A A toner cartridge extending in a longitudinal direction thereof has a fresh toner chamber and a water toner chamber. The fresh toner chamber and waste toner chamber extend parallel to each other so that the fresh toner chamber and the waste toner chamber are aligned in a direction perpendicular to the longitudinal direction. The waste toner chamber incorporates a toner–conveying member such as a screw conveyor. The screw conveyor extends between the opposed longitudinal ends, and causes the waste toner to move further into the waste toner chamber. The waste toner chamber has an entrance formed therein through which waste toner is received from a print process cartridge. The entrance opens yieldably when a waste toner exit enters the waste toner chamber through the entrance and closes when the waste toner exit moves out of the enters the waste toner chamber.

0) US2004228651A – METHOD AND APPARATUS FOR REASSEMBLING A TONER C...

33) Family number: 31022966 (US2004228651A) © PatBase

Title: METHOD AND APPARATUS FOR REASSEMBLING A TONER CARTRIDGE

Priority: US20030439432 20030516 US20030676514 20031001 US20040899284 20040726 US20080070412 20080219 US20060335427 20060119

Family:

Publication number	Publication date	Application number	Application date
US2004228651 AA	20041118	US20030676514	20031001
US2005008392 AA	20050113	US20040899284	20040726
US2006120753 AA	20060608	US20060335427	20060119
US2008138104 AA	20080612	US20080070412	20080219
US6801734 BA	20041005	US20030439432	20030516
US6934488 BB	20050823	US20040899284	20040726
US7013100 BB	20060314	US20030676514	20031001
US7333750 BB	20080219	US20060335427	20060119
US7567768 BB	20090728	US20080070412	20080219

Probable Assignee: STATIC CONTROL COMPONENTS INC

Assignee(s):(std): STATIC CONTROL COMPONENTS INC

Assignee(s): WACHOVIA BANK NATIONAL ASSOCIATION ; BANK OF AMERICA NA ; COLBERT ERICK T ; JONES JAMES H ; MOORE DARIN L

Inventor(s):(std): BRANNAN WARREN F ; COLBERT ERICK T ; JONES JAMES H ; JONES JR JAMES H ; MOORE DARIN L

Inventor(s): MOORE DARIN ; JONES JAMES ; COLBERT ERICK ; JR JAMES H ; JONES ; BRANNAN WARREN

Agent(s): WILLIAM L LONDON

International class (IPC 8–9): G03G15/00 G03G15/08 G03G21/10 (Advanced/Invention); G03G15/00 G03G15/08 G03G21/10 (Core/Invention)

International class (IPC 1–7): G03G15/00 G03G15/08

CPC: G03G15/0894 G03G21/10 G03G2215/00987

European class: G03G15/08R G03G21/10 S03G215/00R

US class: 156/73.5 156/735 399/109 399/109P 399/111 399/119

Classification Explorer

Cited documents: US7110693 BA, US6610079 BA, US6577830 BA, US6563697 BA, US6549736 BB, US6499924 BB, US6499924 BA, US6499924 B1, US6415121 BA, US6406233 BA, US6381430 BA, US6318941 BA, US6282395 BA, US6256467 BA, US6209996 BA, US6141513 A, US6115570 A, US6099190 A, US6079084 A, US6058280 A, US5937238 A, US5829937 A, US5729795 A, US5632584 A, US5531846 A, US5525183 A, US5163265 A, US4997327 A, US4923347 A, US4770583 A, US4074888 A, US3505922 A, US3373789 A, US3221572 A, US2805597 A, US2643839 A, US2435876 A, US2003202817 AA,

Forward Citations: US9285712, US9264429, US9013329, US8844040, US8782755, US8510531, US8392982, US8152946, US8005396, US7764902, US7761031, US7720410, US7689144, US7672610, US7618507, US7590369, US7505708, US7477864, US7424245, US7305202, US7236718, US7103299, US6993266, US6904248, US2014072328, US2010242106, US2010242105, US2009185820, US2009047035, US2009003874, US2009003873, US2008304858, US2008273894, US2008181657, US2008008495, US2008008494, US2008003013, US2007242978, US2007237543, US2007237542, US2007217814, US2007140732, US2007086806, US2006275051, US2006216059, US2006002734, US2005185982, US2004114959,

Abstract:
Source: US2004228651A In the toner cartridge recycling and remanufacturing industry, used xerographic toner

cartridges are reconditioned and refilled with toner. The present invention is directed to a method of reassembling of toner cartridges that may not have sufficient securing surfaces to allow the cartridge to be physically held together using an external securing device. The present invention provides for an efficient way of reassembling a toner cartridge once it has been disassembled, by allowing removable reassembly of a toner cartridge. The present invention, used in conjunction with mounting screws, will provide a secure fastening method for reassembling of a toner cartridge. By taking advantage of the present invention's ability to be used repeatedly, the toner cartridge may be refurbished multiple times.

0) US2007160381A – IMAGE FORMING APPARATUS

34) Family number: 34855599 (US2007160381A) © PatBase

Title: IMAGE FORMING APPARATUS

Priority: JP20050348116 20051201 JP20050348117 20051201 JP20050348118 20051201

Family:

Publication number	Publication date	Application number	Application date
JP2007155904 A2	20070621	JP20050348116	20051201
JP2007155905 A2	20070621	JP20050348117	20051201
JP2007155906 A2	20070621	JP20050348118	20051201
JP4626502 B2	20110209	JP20050348116	20051201
US2007160381 AA	20070712	US20060563925	20061128
US2008298836 AA	20081204	US20060425217	20060620
US7555251 BB	20090630	US20060425217	20060620
US7639966 BB	20091229	US20060563925	20061128

Probable Assignee: BROTHER KOGYO KK

Assignee(s):(std)**:** BROTHER IND LTD

Assignee(s): BROTHER KOGYO KABUSHIKI KAISHA ; BROTHER KOGYO KK

Inventor(s):(std)**:** HATTORI SATORU ; HISADA HIDENORI ; SATO SHOGO ; SATO SHOUGO

Agent(s): BANNER AND WITCOFF LTD ATTORNEYS FOR CLIENT NOS 0166889 006760; BANNER AND WITCOFF LTD

International class(IPC 8–9)**:** B65D83/06 B65H5/38 G03G15/00 G03G15/04 G03G15/06 G03G15/08 G03G21/00 G03G21/16 G03G21/18 H04N1/00 (Advanced/Invention); B65D83/06 B65H5/38 G03G15/00 G03G15/04 G03G15/06 G03G15/08 G03G21/00 G03G21/16 G03G21/18 H04N1/00 (Core/Invention)

CPC: G03G21/1638 G03G15/087 G03G15/0872 G03G15/0886 G03G15/1665 G03G15/6558 G03G2215/00409 G03G2215/067 G03G2215/0692 G03G15/65

European class: G03G15/08H3C G03G15/65 G03G15/65M2 G03G21/16 S03G215/00G1H S03G215/06C1A2 S03G215/06C7

US class: 399/107 399/107P 399/111 399/111S 399/119 399/119P 399/120 399/124 399/124S 399/262 399/263 399/388

Classification Explorer

Cited documents: US7269377 BB, US7194219 BB, US7035568 BB, US7019870 BB, US6873810 BB, US6741820 BB, US6690903 BB, US6546217 BB, US6473579 BA, US6470160 BA, US6411789 BA, US6330410 BA, US6041203 A, US5953561 A, US5867755 A, US5842083 A, US5608501 A, US5227841 A, US5095334 A, US4974033 A, US2008025756 AA, US2007160381 AA, US2007092292 AA, US2006103068 AA, US2006056878 AA, US2006056877 AA, US2006056876 AA, US2006029419 AA, US2005135842 AA, US2005135837 AA, US2005129442 AA, US2004247337 AA, JP9160370 A2, JP7298019 A2, JP7271274 A2, JP7225514 A2, JP7181769 A2, JP6010255 U1, JP5318854 A2, JP5094854 U1, JP5094849 U1, JP4274450 A2, JP2219066 A2, JP2005196124 A2, JP2005189552 A2, JP2005173171 A2, JP2005024759 A2, JP2004214803 A2, JP2004069884 A2, JP2002247264 A2, JP2002244377 A2, JP2001089040 A2, JP2000267549 A2, JP11272050 A2, JP10247051 A2, JP10149059 A2, JP10055103 A2,

Forward Citations: US9690227, US9575452, US9488957, US9448522, US9389535, US9323206, US9244381, US9223289, US9201357, US9091973, US8606169, US8233018, US8131188, US8013883, US8013882, US7742726, US7555251, US2016033919, US2014064779, US2011200354, US2010284722, US2009245906, US2009058928, US2008298836, US2008239868, US2008205939, JP2009271099,

Abstract:
Source: US2007160381A When a guide lever is in a toner open position, a space is formed between an upper surface of the guide lever and a lower surface of a flat bed unit as a part of a transport path of a paper. Therefore, the paper is turned forward around in a generally U−shape in the transport path, and passes over a toner cartridge, then is ejected to an ejection tray. So the transport path can be increased in radius of curvature at the

U−turn point thereof, and whereby a reliable feed of the paper with a reduced risk of paper jam can be achieved. Further, since a scanning unit is disposed below and adjacent to a process cartridge and the ejection tray so that it can overlap with the process cartridge and the ejection tray, and is disposed adjacent to a feed tray so that it can overlap upwardly with the feed tray, reduction in size of a laser printer can be achieved.

0) US2002028081A – TONER CARTRIDGE AND IMAGE FORMING APPARATUS

35) Family number: 19241570 (US2002028081A) © PatBase

Title: TONER CARTRIDGE AND IMAGE FORMING APPARATUS

Priority: JP20000257400 20000828

Family:

Publication number	Publication date	Application number	Application date
DE60131611 D1	20080110	DE20016031611	20010824
DE60131611 T2	20081023	DE20016031611T	20010824
EP1184740 A2	20020306	EP20010307213	20010824
EP1184740 A3	20040211	EP20010307213	20010824
EP1184740 B1	20071128	EP20010307213	20010824
JP2002072657 A2	20020312	JP20000257400	20000828
JP3685694 B2	20050824	JP20000257400	20000828
US2002028081 AA	20020307	US20010935764	20010824
US6546213 BB	20030408	US20010935764	20010824

Probable Assignee: OKI DATA CORP

Assignee(s):(std)**:** ITO JUNICHI ; MAEKAWA MASANORI ; OKI DATA CORP ; OKI DATA KK ; SHIOBARA TOSHIMASA

Inventor(s):(std)**:** ITO JUNICHI ; MAEKAWA MASANORI ; SHIOBARA TOSHIMASA

Designated states: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR

International class (IPC 8–9)**:** G03G15/08 G03G21/00 (Advanced/Invention); G03G15/08 G03G21/00 (Core/Invention)

International class (IPC 1–7)**:** G03G15/08 G03G21/00

CPC: G03G15/0855 G03G15/0856 G03G15/086 G03G15/0865 G03G15/0875 G03G2215/085

European class: G03G15/08H2 G03G15/08H3 S03G215/08A5

US class: 399/254 399/27

Classification Explorer

Cited documents: US5436704 A, JP8272200 A2, JP8044182 A2, JP6266229 A2, JP6167885 A2, JP5232806 A2, JP5127520 A2, JP3031878 A2, JP2236574 A2, JP11084850, JP11038744 A2, EP0704772 A1, EP0401020 A2,

Forward Citations: USD626172, US9519243, US9389582, US9335656, US9291989, US9280084, US9164422, US9152080, US9128444, US9128443, US9104134, US9069286, US9046817, US9031424, US8989611, US8983358, US8942601, US8918026, US8755719, US8190069, US7983602, US7689149, US7639969, US7522851, US7437095, US7242888, US7231153, US7187876, US7171132, US7076180, US7039345, US6892036, US2014003844, US2013279941, US2013004208, US2012008989, US2010266310, US2009148194, US2006153578, US2005163536, US2004264984, US2004190938, US2004190932, US2003031479, JP5683520, JP5638035, JP2014010225, JP2013205612, GB2421320, EP2680086, EP2680086,

Abstract:
Source: US2002028081A A toner cartridge detachably is attached to an image forming apparatus. The toner cartridge includes a toner chamber that holds toner therein and a toner–agitating mechanism that agitates the toner in the toner chamber. The mechanism includes a crank shaft that includes a first crank pin and a second crank pin, the crank shaft being rotatably supported in the toner chamber. A rod has a first end rotatably coupled to the second crank pin and a second end slidably inserted in a guide path provided above the toner chamber. The second end has a permanent magnet or a magnetic flux sensitive element attached thereto. The rod moves upward and downward when the crank shaft is driven in rotation. A detection mechanism on the image apparatus side detects the magnetic flux or the permanent magnet.

0) US2007212118A – TONER CARTRIDGE, AND SHUTTER STRUCTURE FOR THE ...

36) Family number: 33468863 (US2007212118A) © PatBase

Title: TONER CARTRIDGE, AND SHUTTER STRUCTURE FOR THE SAME

Priority: JP20050099181 20050330 JP20060014961 20060124 US20060277945 20060330 US20090473277 20090528

Family:

Publication number	Publication date	Application number	Application date
CN100541346 C	20090916	CN200610065967	20060329
CN1841231 A	20061004	CN200610065967	20060329
JP2006309147 A2	20061109	JP20060014961	20060124
US2007212118 AA	20070913	US20060277945	20060330
US2009232547 AA	20090917	US20090473277	20090528
US7555250 BB	20090630	US20060277945	20060330
US7711292 BB	20100504	US20090473277	20090528

Probable Assignee: KYOCERA MITA CORP

Assignee(s):(std)**:** KYOCERA MITA CORP ; YAMAMURA KAZUYOSHI

Inventor(s):(std)**:** NAKAYAMA TOHRU ; NAKAYAMA TORU ; RUMI NAGAE ; TORU NAGAE RUMI NAKAYAMA ; TORU NAKAYAMA ; NAGAE RUMI

Inventor(s): NAGAE RUMI NAKAYAMA TORU

Agent(s): GLOBAL IP COUNSELORS LLP; SHINJYU GLOBAL IP

International class (IPC 8–9): G03G15/06 G03G15/08 (Advanced/Invention); G03G15/06 G03G15/08 (Core/Invention)

CPC: G03G15/0886 G03G15/0855 G03G15/0865 G03G15/0875 G03G2215/067

European class: G03G15/08H3 S03G215/06C1A2

US class: 399/119 399/260 399/262

Classification Explorer

Cited documents: US2006123322 AA, US2005123322 AA, US2004131391 AA, JP2004205587 A2, JP2004/205587,

Forward Citations: WO14192975, WO13165830, WO13115014, WO13101351, WO13101350, WO13101350, WO13101348, WO13044728, WO08105556, US9690231, US9658590, US9599931, US9563169, US9551974, US9477178, US9477177, US9417603, US9360834, US9360797, US9329527, US9298134, US9298130, US9261851, US9239565, US9207571, US9104141, US9104135, US9057984, US9031451, US8948660, US8948659, US8948650, US8918029, US8879964, US8873996, US8867970, US8867968, US8867966, US8682213, US8620196, US8588659, US8548339, US8521070, US7979009, US7953330, US7801468, US7747198, US2017075295, US2016299456, US2014153972, US2013170864, US2012087699, US2011211864, US2008223173, US2007196136, US2006280526, TWI581980, TWI536127, JP6075546, JP4412736, JP2014232270, JP2010054994, JP2009168856, JP2009037081, JP2008134571, EP2442183, EP1927898, EP1927898, CN104380212, CN104380212,

Abstract:
Source: US2007212118A A toner cartridge includes a container main body includes a toner outlet, a shutter mechanism for opening and closing the toner outlet, a lever for operating the shutter mechanism, a lever locking mechanism, a lock releasing mechanism, and a prevention mechanism. The lever locking mechanism locks the lever so as to be inoperative while the toner outlet is closed. The lock releasing mechanism unlocks the lever locked by the lever locking mechanism in conjunction with installment of the container main body into the image forming device. The prevention mechanism prevents the container main body from being taken out of the image forming device while the container main body is installed in the image forming device, and the lever operates to open the toner outlet.

37) Family number: 49888312 (US2013039678A) © PatBase

Title: POWDER CONTAINER, POWDER CONVEYING APPARATUS, AND IMAGE FORMING APPARATUS

Priority: JP20100102628 20100427 JP20100102630 20100427 JP20100102634 20100427 JP20100212293 20100922 JP20110020866 20110202 JP20110024848 20110208 JP20110043866 20110301 JP20110055537 20110314 WO2011JP59871 20110421

Family:

Publication number	Publication date	Application number	Application date
CN102947762 A	20130227	CN201180030242	20110421
CN102947762 B	20160608	CN201180030242	20110421
JP2011232540 A2	20111117	JP20100102628	20100427
JP2011232541 A2	20111117	JP20100102634	20100427
JP2012068388 A2	20120405	JP20100212293	20100922
JP2012163808 A2	20120830	JP20110024848	20110208
JP2012177878 A2	20120913	JP20110055537	20110314
JP2012181331 A2	20120920	JP20110043866	20110301
JP5605611 B2	20141015	JP20100102628	20100427
JP5605612 B2	20141015	JP20100102634	20100427
JP5659657 B2	20150128	JP20100212293	20100922
JP5741907 B2	20150701	JP20110043866	20110301
TW201207581 A	20120216	TW20110114464	20110426
TWI428715 B	20140301	TW20110114464	20110426
US2013039678 AA	20130214	US20110643718	20110421
US8953986 BB	20150210	US20110643718	20110421
WO11136129 A1	20111103	WO2011JP59871	20110421

Probable Assignee: RICOH CO LTD

Assignee(s):(std)**:** IKEGUCHI HIROSHI ; KATOH SHUNJI ; RICOH CO LTD ; YOSHIDA KEIICHI ; RICOH KK

Assignee(s): RICOH COMPANY LTD ; RICOH COMPANY LIMITED ; RICOH CO

Inventor(s):(std)**:** IKEGUCHI HIROSHI ; KATO SHUNJI ; KATOH SHUNJI ; YOSHIDA KEIICHI

Agent(s): OBLON SPIVAK MCCLELLAND MAIER AND NEUSTADT LLP; SAKAI HIROAKI

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9): B65D30/20 B65D83/06 G03G15/00 G03G15/06 G03G15/08 G03G21/18 (Advanced/Invention)

CPC: G03G15/0868 G03G2215/0682 G03G2221/1645 G03G15/0874 G03G2215/0132

European class: G03G15/08H3B S03G215/06C3 S03G221/16H

US class: 222/214 399/262

Classification Explorer

Cited documents: US7826786 BB, US6678492 BA, US6549744 BB, US2012219318 AA, US2012099902 AA, US2011058858 AA, US2009190960 AA, US2009136257 AA, US2009116864 AA, US2007212116 AA, US2007104516 AA, US2007081832 AA, US2006067727 AA, US2005249533 AA, US2005152722 AA, US2005089347 AA, US2004253023 AA, US2004091289 AA, US2003235435 AA, US2003012586 AA, US2002025196 AA, US2002025195 AA, US2001041083 AA, JP6069961 U1, JP6069961 U, JP6069961 U, JP60115255 U1, JP60115255 U, JP60115255 U, JP60115255 U, JP60115255 A2,

JP4356078 A2, JP4201860 A2, JP3554162 T2, JP2009116046 A2, JP2009116046, JP2009020233 A2, JP2007241147 A2, JP2007241147, JP2007148277 A2, JP2007121471 A2, JP2007121471, JP2005173543 A2, JP2005173543, JP2005107524 A2, JP2005107524, JP2005091879 A2, JP2005024603 A2, JP2005017789 A2, JP2005017789, JP2004333705 A2, JP2004185038 A2, JP2004101718 A2, JP2004101718, JP2004078252 A2, JP2003195617 A2, JP2002278237 A2, JP2002278237, JP2002072645 A2, JP2002053113 A2, JP2002053113, JP2002046843 A2, JP2001194907 A2, JP2001100506 A2, JP2000356898 A2, JP2000356898, JP2000356898, JP11143195 A2, JP11143195, JP11143195, JP10316111 A2, JP10063072 A2, CN1259690 A,

Forward Citations: WO13088996, WO13081174, WO13081173, WO13081173, US9599930, US9302801, US9285707, US9195170, US9091963, US9063464, US9057984, US8849163, US2016170330, US2015234319, US2014376969, US2013336679, US2013164039, JP6112971, JP5936032, JP5808233, JP2014149511, JP2013130681, JP2013114041, CN103513542,

Abstract:
Source: US2013039678A A powder container (61) includes a powder containing unit (66) which has an opening portion formed at one end portion thereof, is configured to contain a powder (T) therein and, is formed of a flexible material so as to be deformable. When a delivery member (81) is pressed inward from the outside of the powder containing unit (66) so as to move toward the opening portion, the powder (T) is delivered out from the opening portion. The end portion provided with the opening portion is provided with a discharging unit (67) which is fixed to a powder conveying apparatus, and discharges the powder (T) delivered from the opening portion out to the powder conveying apparatus. In addition, an end portion opposite to the opening portion is provided with a portion to be locked which is locked to a locking portion of the powder conveying apparatus while being biased in a direction opposite toward the movement direction of the delivery member (81).

38) Family number: 54253460 (US2013170861A) © PatBase

Title: TONER CARTRIDGE HAVING A PIVOTING EXIT PORT COVER

Priority: US20110340797 20111230 US20120723888 20121221 US20160149895 20160509 US20140340797 20140725

Family:

Publication number	Publication date	Application number	Application date
CN103186072 A	20130703	CN201210536025	20121212
EP2610681 A2	20130703	EP20120194280	20121126
EP2610681 A3	20141105	EP20120194280	20121126
EP2610681 B1	20170315	EP20120194280	20121126
US2013170861 AA	20130704	US20110340797	20111230
US2013170872 AA	20130704	US20120723888	20121221
US2016250910 AA	20160901	US20160149895	20160509
US8649710 BB	20140211	US20110340797	20111230
US8774684 BB	20140708	US20120723888	20121221
US9701180 BB	20170711	US20160149895	20160509

Probable Assignee: LEXMARK INT INC

Assignee(s):(std)**:** BARNA GEORGHE ; BUCHANAN JOHN ANDREW ; CAVILL GREGORY ALAN ; KELLEY JONATHAN DAVID ; CARTER JAMES ANTHANY ; FOSTER MARK ; LEXMARK INT INC ; SEAMAN KEITH ; WILLIAMS TYLER FREDRICK ; ROGERS MATTHEW LEE ; LEEMHUIS MICHAEL ; WILLIAMS TYLER FREDERICK

Inventor(s):(std)**:** BARNA GEORGHE ; BUCHANAN JOHN ANDREW ; CAVILL GREGORY ALAN ; CARTER JAMES ANTHANY ; FOSTER MARK ; CARTER III JAMES ANTHANY ; LEEMHUIS MICHAEL ; WILLIAMS TYLER FREDERICK ; FOSTER MARK DUANE ; SEAMAN KEITH ; ROGERS MATTHEW LEE ; KELLEY JONATHAN DAVID ; WILLIAMS TYLER FREDRICK ; LEEMHUIS MICHAEL CRAIG

Agent(s): HUGHES ANDREA MICHELLE; BOERNER ROBERT; JUSTIN M

Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL NO PL PT RO RS SE SI SK SM TR

International class (IPC 8–9): B60J3/02 G03G15/08 G03G21/16 (Advanced/Invention); B60J1/20 (Advanced/Non–invention)

CPC: G03G15/0832 G03G15/0837 G03G15/0834 G03G15/0836 B60J3/0208 B60J1/2063 B60J1/2077 B60J3/02 B60J3/0204 G03G15/0863 G03G15/0865 G03G15/0868 G03G15/0872 G03G15/0875 G03G15/0886 G03G2215/0668 G03G2215/067

US class: 296/97.8 399/258 399/260 399/262 399/263

Classification Explorer

Cited documents: USRE37068 E, USD524206 S1, USD431805 S1, US9233598 BA, US8789870 BA, US8246099 BB, US8165505 BB, US7606520 BB, US7548710 BB, US7421234 BB, US7386250 BB, US6978101 BB, US6968139 BB, US6853828 BB, US6792228 BB, US6594458 BB, US6565140 BB, US6266505 BA, US6259874 BA, US6139084 A, US6128453 A, US5848342 A, US5842748 A, US5758233 A, US5711570 A, US5608501 A, US5156434 A, US5133585 A, US5083158 A, US2501371 A, US2016023541 AA, US2013170869 AA, US2013170868 AA, US2013170866 AA, US2013170865 AA, US2013170864 AA, US2013033059 AA, US2012133173 AA, US2009152891 AA, US2009142103 AA, US2009058125 AA, US2008107453 AA, US2008101821 AA, US2007003325 AA, US2006171744 AA, US2005169672 AA, JP2009116306 A2, JP2000356895 A2, JP2000221766 A2, EP2388655 A2, EP1184741 A2, EP0864945 A1, EP0668546 A2,

Forward Citations: US9477178, US9477176, US9360797, US9354547, US9213303, US9098055, US9063460, US8948650, US8923734, US8918032, US8918031, US8867968, US8682213, US2015185659, US2015168909, US2014079441, US2014079439, US2013170866, US2013170864, EP3182210, EP3130965,

Abstract:
Source: US2013170861A A toner cartridge for use in an image forming device according to one example embodiment includes a housing having a reservoir for containing toner therein. The housing has an exit port in fluid communication with the reservoir. A cover is mounted on an exterior portion of the housing that is pivotable between a closed position blocking the exit port and an open position unblocking the exit port. The cover is biased toward the closed position. An actuation mechanism is operatively connected to the cover to open the cover upon being actuated by an engagement feature in the image forming device.

39) Family number: 32712656 (US2002059880A) © PatBase

Title: Method and apparatus for communicating between printer and card supply

Priority:

EP20000911626	20000121	EP20030724021	20030415	EP20040758811	20040402
US19990117123P	19990125	EP20040758794	20040402	EP20110156304	20040402
US20020126427	20020419	US20000604214	20000627	US20020126441	20020419
US20030459712	20030402	US20010967501	20010928	US19990310770	19990510
US20020071554	20020208	US20000489591	20000121	US20030722377	20031125
WO2003US11440	20030415	WO2003US11413	20030415	US20030647666	20030823
WO2002US28509	20020906	WO2000US01697	20000121	US20040917947	20040813
US20030459712P	20030402	US20030647666	20030825	US20030497009P	20030819
US20050222505	20050908	US20040607880P	20040908	US20050135619	20050523
US20030647798	20030825	US20040611256P	20040917	US20060431170	20060510
WO2005US31861	20050908	WO2005US31861	20050908	WO2004US10273	20040402
WO2004US10216	20040402	WO2003US11440	20041013		

Family:

Publication number	Publication date	Application number	Application date
AT526265 E	20111015	AT20030724021T	20030415
AU200033494 A5	20000807	AU20000033494	20000121
AU2002326841 AA	20030414	AU20020326841	20020906
AU2003221921 AA	20031103	AU20030221921	20030415
AU2003230915 AA	20031103	AU20030230915	20030415
AU2004228646 AA	20041021	AU20040228646	20040402
AU2004228646 BB	20080828	AU20040228646	20040402
BRPI0406377 A	20050809	BR2004PI06377	20040402
BRPI0406377 B1	20170207	BR2004PI06377	20040402
CA2497551 AA	20050302	CA20042497551	20040402
CA2497551 C	20100824	CA20042497551	20040402
CN100336705 C	20070912	CN20028018880	20020906
CN100352749 C	20071205	CN20038008777	20030415
CN100567014 C	20091209	CN200480000718	20040402
CN101124137 A	20080213	CN200580029727	20050908
CN101124137 B	20100407	CN200580029727	20050908
CN1128720 C	20031126	CN20008002852	20000121
CN1351543 A	20020529	CN20008002852	20000121
CN1635975 A	20050706	CN20028018880	20020906
CN1646402 A	20050727	CN20038008777	20030415
CN1764540 A	20060426	CN200480007989	20040402
CN1764540 B	20110216	CN200480007989	20040402
CN1914047 A	20070214	CN200480000718	20040402
CO5720983 A2	20070131	CO20050027927	20050330
DE60042395 D1	20090730	DE20006042395	20000121
DE602004036372 D1	20120329	DE200460036372T	20040402
DE602004045540 D1	20140904	DE200460045540T	20040402
DE602004047222 D1	20150625	DE200460047222T	20040402
DE602005024412 D1	20101209	DE200560024412T	20050908
DE60338531 D1	20111117	DE20036038531	20030415
EP1145164 A2	20011017	EP20000911626	20000121
EP1145164 A3	20040602	EP20000911626	20000121
EP1145164 B1	20090617	EP20000911626	20000121
EP1497210 A1	20050119	EP20030724021	20030415

EP1497210 B1	20110928	EP20030724021	20030415	
EP1525991 A1	20050427	EP20040028859	20000121	
EP1608508 A2	20051228	EP20040758811	20040402	
EP1608508 A4	20091202	EP20040758811	20040402	
EP1608508 B1	20120201	EP20040758811	20040402	
EP1625017 A2	20060215	EP20040758794	20040402	
EP1625017 A4	20121205	EP20040758794	20040402	
EP1625017 B1	20150520	EP20040758794	20040402	
EP1786711 A2	20070523	EP20050803865	20050908	
EP1786711 A4	20090304	EP20050803865	20050908	
EP1786711 B1	20101027	EP20050803865	20050908	
EP2335933 A2	20110622	EP20110156304	20040402	
EP2335933 A3	20120321	EP20110156304	20040402	
EP2335933 B1	20140723	EP20110156304	20040402	
ES2330915 T3	20091217	ES20000911626T	20000121	
ES2353144 T3	20110225	ES20050803865T	20050908	
ES2379727 T3	20120503	ES20030724021T	20030415	
ES2381978 T3	20120604	ES20040758811T	20040402	
ES2495349 T3	20140917	ES20110156304T	20040402	
ES2545638 T3	20150914	ES20040758794T	20040402	
HK1042142 A1	20091231	HK20020102857	20020416	
IN02091CN2005 A	20071109	IN2005CN02091	20050830	
JP2002535172 T2	20021022	JP20000595284T	20000121	
JP2007524525 T2	20070830	JP20060509635T	20040402	
JP4579906 B2	20101110	JP20060509635T	20040402	
KR100894092 B1	20090420	KR20047016382	20030415	
KR101079371 B1	20111102	KR20057003271	20040402	
KR101150126 B1	20120621	KR20077003153	20050908	
KR20020015304 A	20020227	KR20017009324	20010725	
KR20050019067 A	20050228	KR20047016382	20030415	
KR20050113162 A	20051201	KR20057003271	20040402	
KR20070050047 A	20070514	KR20077003153	20050908	
MXPA05009274 A1	20060317	MX2005PA09274	20040402	
US2002059880 AA	20020523	US20020071554	20020208	
US2002105135 AA	20020808	US20010967501	20010928	
US2003024422 AA	20030206	US20020126427	20020419	
US2003152409 AA	20030814	US20020126441	20020419	
US2004109715 AA	20040610	US20030647666	20030825	
US2004114981 AA	20040617	US20030647798	20030825	
US2004136768 AA	20040715	US20030722377	20031125	
US2005019078 AA	20050127	US20040917947	20040813	
US2005271439 AA	20051208	US20050135619	20050523	
US2006071420 AA	20060406	US20050222505	20050908	
US2006204308 AA	20060914	US20060431170	20060510	
US6315283 BA	20011113	US19990310770	19990510	
US6386772 BA	20020514	US20000489591	20000121	
US6536758 BB	20030325	US20010967501	20010928	
US6694884 BB	20040224	US20020071554	20020208	
US6758470 BA	20040706	US20000604214	20000627	
US6758616 BB	20040706	US20020126427	20020419	

US6832866 BB	20041221	US20030722377	20031125	
US6932527 BB	20050823	US20020126441	20020419	
US7018117 BB	20060328	US20030647798	20030825	
US7154519 BB	20061226	US20050135619	20050523	
US7237485 BB	20070703	US20040917947	20040813	
US7344325 BB	20080318	US20030647666	20030825	
US7878505 BB	20110201	US20050222505	20050908	
WO0043932 A2	20000727	WO2000US01697	20000121	
WO0043932 A3	20010517	WO2000US01697	20000121	
WO03029117 A2	20030410	WO2002US28509	20020906	
WO03029117 A3	20030724	WO2002US28509	20020906	
WO03089247 A1	20031030	WO2003US11413	20030415	
WO03089348 A1	20031030	WO2003US11440	20030415	
WO04089633 A2	20041021	WO2004US10216	20040402	
WO04089633 A3	20061005	WO2004US10216	20040402	
WO04089633 C1	20070125	WO2004US10216	20040402	
WO04089634 A2	20041021	WO2004US10273	20040402	
WO04089634 A3	20050519	WO2004US10273	20040402	
WO06029205 A2	20060316	WO2005US31861	20050908	
WO06029205 A3	20070510	WO2005US31861	20050908	

Probable Assignee: ASSA ABLOY AB

Assignee(s):(std)**:** ASSA ABLOY AB ; HID GLOBAL CORP ; TAPP SPENCER L ; MEIER JAMES R ; PRIBULA MARTIN A ; LUKASKAWCEZ STACY W ; LOKKEN ANTHONY L ; FARGO ELECTRONICS INC ; JOHNSON CHADWICK M

Assignee(s): LASALLE BANK NATIONAL ASSOCIATION ; GERSHENOVICH LEON ; FARGO ELECTRONICS INC6533 FLYING CLOUD DRIVEEDEN PRAIRIEMN55344US ; HID GLOBAL CORP9292 JERONIMO ROADIRVINECA92618US ; UPIN JEFFREY D ; LIEN BRENT D ; PARK RYAN G ; MEIER JAMES M ; PLATNER THOMAS C ; KLINEFELTER GARY M ; LENZ GARY A ; GERSHENOVICH LEONID S ; ASSA ABLOY ABKLARABERGSVIADUKTEN 90P.O. BOX 70340SE–107 23STOCKHOLMSE ; BRANDT STEVEN J ; COUNTRYMAN GARY P JR ; DUNHAM MATTHEW K ; FARGO ELECTRONICS ; INC

Inventor(s):(std)**:** BRANDT STEVEN J ; COUNTRYMAN GARY ; COUNTRYMAN GARY P JR ; DUNHAM M K ; DUNHAM MATTEW K ; DUNHAM MATTHEW ; GARY P COUNTRYMAN JR ; GERSHENOVIC LEON ; FLINEFELTER GARY M ; IBS JON ; JAMES M MEIER ; JOHNSON CHADWICK ; KLINEFELTER G M ; KLINEFELTER GARY ; LENZ GARY ; LIEN BRENT D ; LOKKEN ANTHONY ; MEIER JAMES ; MEIER JAMES M JOHNSON CHADWICK ; LUKASKAWCEZ STACY ; MEIER JAMES R JOHNSON CHADWICK ; MEIRER JAMES M ; PARK RYAN ; PAULSON B A ; PLATNER THOMAS ; PRIBULA MARTIN ; TAPP SPENCER L ; UPIN JEFFERY D ; UPIN JEFFREY ; UPIN JEFFREY D ; THOMAS C PLATNER ; STACY W LUKASKAWCEZ ; SKOGLUND JOHN P ; RYAN G PARK ; REYNOLDS KOTZ THOMAS J ; PRIBULA MARTIN A ; MEIER JAMES R ; MATTHEW K DUNHAM ; MARTIN A PRIBULA ; LUKASKAWCEZ STACY W ; LOKKEN ANTHONY L ; LEONID S GERSHENOVICH ; LEON GERSHENOVICH ; LENZ GARY A ; KLINEFELTER GARY M ; JOHNSON CHADWICK M ; JEFFREY D UPIN ; JAMES R MEIER ; JAMES M MEIRER ; HAAS DARREN W ; GERSHENOVICH LEONID S ; GARY P JR COUNTRYMAN ; GARY M KLINEFELTER ; GARY A LENZ ; ANTHONY L LOKKEN ; PLATNER THOMAS C ; PARK RYAN G ; MEIER JAMES M ; IBS JON J ; GERSHENOVICH LEON ; COUNTRYMAN GARY P ; PAULSON BRADLEY A ; MEIER JAMES R BRANDT STEVEN J ; DUNHAM MATTHEW K ; DUMITRU AURELIAN ; CAMPION KEVIN R ; COUNTRYMAN JR GARY P ; CHADWICK M JOHNSON

Inventor(s): B A PAULSON ; G M KLINEFELTER ; M K DUNHAM ; UPIN JEFFREY D EDINA ; UPIN JEFFREY DUS ; PRIBULA MARTIN A EDEN PRAIRIE ; RYAN GPARK ; SPENCER L TAPP ; STEVEN J BRANDT ; PLATNER THOMAS C EDEN PRAIRIE ; PLATNER THOMAS CUS ; PARK RYAN G FARMINGTON ; PARK RYAN GUS ; MK DUNHAM ; MEIER JAMES R JOHNSON CHADWICK M COUNTRYMAN GARY P ; LUKASKAWCEZ STACY W SHAKOPEE ; LUKASKAWCEZ STACY WUS ; MEIER JAMES M JOHNSON CHADWICK M COUNTRYMAN GARY P ; MEIER JAMES M ST PAUL ; MEIER JAMES M STPAUL ; MEIER JAMES MUS ; MEIER JAMES R FALCON HEIGHTS ; LOKKEN ANTHONY L EDEN PRAIRIE ; LENZ GARY A CHANHASSEN ; LENZ GARY AUS ;

KLINEFELTER GARY M EDEN PRAIRIE ; KLINEFELTER GARY MUS ; JOHNSON CHADWICK M SAVAGE ; JOHNSON CHADWICK MUS ; JR GARY P ; KEVIN R CAMPION ; IBS JON J MINNEAPOLIS ; GARY M FLINEFELTER ; GERSHENOVIC LEON EDEN PRAIRIE ; GERSHENOVICH LEON EDEN PRAIRIE ; GERSHENOVICH LEONUS ; GM KLINEFELTER ; DUNHAM MATTHEW K EAGAN ; DUNHAM MATTHEW KUS ; COUNTRYMAN GARY P JR COLUMBIA HEIGHT ; COUNTRYMAN GARY P JRUS ; COUNTRYMAN GARY PJR ; BRENT D LIEN ; COUNTRYMAN ; AURELIAN DUMITRU ; BA PAULSON ; BRADLEY A PAULSON

Agent(s): FREEHILLS PATENT AND TRADE MARK ATTORNEYS; FREEHILLS PATENT ATTORNEYS; HERBERT SMITH FREEHILLS; FPA PATENT ATTORNEYS PTY LTD; BORDEN LADNER GERVAIS LLP; HOARTON LLOYD DOUGLAS CHARLES; GROSFILLIER PHILIPPE; MCLEISH NICHOLAS ALISTAIR MAXWELL; CURELL MIREIA; CHIBA AKIO; MASUI CHUJI; ONO SHINJIRO; HASHIMOTO MASAO; TOMITA HIROYUKI; SHAMOTO ICHIO; KOBAYASHI YASUSHI; ITO TAKAMI; BRIAN D KAUL WESTMAN CHAMPLIN AND KELLY; WESTMAN CHAMPLIN AND KELLY PA; WESTMAN CHAMPLIN AND KELLY

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KM KP KR KZ LC LI LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RU SC SD SE SG SI SK SL SM SN SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

International class (IPC 8–9): B41F1/40 B41F1/54 B41J11/00 B41J11/44 B41J13/10 B41J13/12 B41J17/32 B41J17/36 B41J2/01 B41J2/175 B41J2/355 B41J27/12 B41J29/00 B41J29/38 B41J3/407 B41J31/00 B41J32/00 B41J33/00 B41J35/28 B41J35/36 B65H1/00 B65H1/04 B65H1/06 B65H15/00 B65H29/00 B65H29/58 B65H3/06 B65H3/24 B65H3/50 B65H3/52 B65H3/56 B65H39/10 B65H43/00 B65H5/02 G03G21/00 G06Q10/08 G06Q20/20 (Advanced/Invention); B41J13/12 B41J17/36 B41J2/01 B41J2/175 B41J29/00 B41J29/38 B41J3/407 B41J31/00 B41J32/00 B41J33/00 B65H1/06 B65H43/00 G03G21/00 (Advanced/Non–invention); B41J11/00 B41J13/10 B41J13/12 B41J17/32 B41J17/36 B41J2/175 B41J27/00 B41J35/36 B65H1/06 B65H15/00 B65H29/00 B65H29/58 B65H3/06 B65H39/10 B65H43/00 B65H5/02 (Core/Invention); B41J2/175 B65H43/00 (Core/Non–invention); B41J B65H (Subclass/Invention)

International class (IPC 1–7): B41F1/40 B41F1/54 B41F13/24 B41F17/00 B41J0/00 B41J1/00 B41J11/26 B41J11/44 B41J11/58 B41J11/62 B41J13/10 B41J13/12 B41J17/36 B41J2/01 B41J2/175 B41J25/38 B41J27/12 B41J29/00 B41J29/38 B41J29/54 B41J3/407 B41J31/00 B41J32/00 B41J33/00 B41J35/28 B41J35/36 B65H1/00 B65H1/06 B65H3/06 B65H3/34 B65H3/52 B65M1/06 G03G21/00 G06F17/60

CPC: B41J2/355 B41J17/12 B65H1/04 B65H2405/31 G06Q20/203 B41J17/32 G06Q10/087 B65H1/06 B41J11/0035 B65H3/24 B65H3/50 B65H3/56 B65H2301/42322 B65H2403/513 B65H3/06 B65H5/18 B41J17/16 B41J11/0015 B65H15/00 B65H29/58 B65H2301/33214 B65H2402/10 B65H2404/1421 B65H2511/212 B65H2511/234 B65H2553/612 B65H2601/422 B65H3/063 B65H2404/623 B65H2511/12 B65H2511/13 B65H2511/20 B65H2701/1914 B41J13/12 B41J2/17546 B41J11/009 B41J13/103 B41J17/36 B41J35/36

European class: B41J11/00C B41J11/00E B41J11/00U B41J13/10B B41J13/12 B41J17/12 B41J17/32 B41J17/36 B41J2/175C7E B41J2/355 B41J35/36 B65H1/04 B65H1/06 B65H15/00 B65H29/58 B65H3/06 B65H3/06F B65H3/24 B65H3/50 B65H3/56 B65H5/18 G06Q10/087 G06Q20/203 L65H301/33214 L65H301/42322 L65H333/214 L65H402/10 L65H403/513 L65H405/31 L65H511/120 L65H511/130 L65H511/212 L65H511/234 L65H553/612 L65H601/422 L65H701/1914

US class: 101/232 101/232S 101/35 101/35P 101/483 101/484 235/380 235/385 235/472.02 271/10.09 271/10.11 271/10.13 271/104 271/113 271/116 271/121 271/121P 271/124 271/138 271/167 271/167S 271/171 271/176 271/272 271/272P 271/298 271/300 271/302 271/9.01 280/270 340/500 347/105 347/177 347/211 347/214 358/1.1 358/1.14 400/120.01 400/191 400/191P 400/202.4 400/202.400P 400/208 400/208P 400/621 400/624 400/663 400/663P 400/668 400/692 400/718 400/718P 400/76 400/76P 700/79 705/22 705/28 705/50 711/108

Classification Explorer

Cited documents: WO9949379 A2, WO9921713 A1, WO9904368 A1, WO9852762 A2, WO9509084 A1, WO05070687 A2, WO04011268 A1, WO03089348 A1, WO03060811, WO03019459 A3, WO03019459 A2, WO02070262 A2, WO0192019 A2, WO0043932 A2, US7170537 BB, US6985167 BB, US6832866 BB, US6816968 BA, US6798434 BB, US6798434 BA, US6798434 B1, US6776470 BB, US6776470 BA, US6762780 BB, US6762780 BA, US6762780 B1, US6758616 BB, US6722649 BB, US6702282 BB, US6694884 BB, US6694884 BA, US6688519 BB, US6663100 BB, US6650351 BB, US6650351 BA,

US6650351 B1, US6647871 BB, US6644771 BA, US6640717 BB, US6631967 BA, US6593952 BA, US6592032 BA, US6582141 BB, US6554512 BB, US6512594 BA, US6485012 BA, US6464317 BB, US6464317 BA, US6464317 B1, US6431537 BA, US6428132 BA, US6412991 BA, US6412770 BA, US6409086 BA, US6405055 BA, US6402135 BA, US6386772 BA, US6386722 BB, US6380965 BA, US6371586 BA, US6362868 BA, US6341839 BA, US6325495 BA, US6318918 BA, US6318914 BA, US6315283 BA, US6312106 BA, US6312083 BA, US6305795 BB, US6305795 BA, US6305795 B1, US6302527 BA, US6298336 BA, US6286828 BA, US6286772 BA, US6279901 BA, US6271928 BA, US6267463 BA, US6267370 BA, US6264301 BA, US6264296 BA, US6263170 BA, US6253329 BA, US6252791 BA, US6249303 BA, US6236420 BA, US6220511 BA, US6213392 BA, US6195111 BA, US6193230 BA, US6179401 BA, US6179401 B1, US6171928 BA, US6163658 A, US6113208 A, US6102388 A, US6099178 A, US6099101 A, US6091918 A, US6076982 A, US6076982, US6076913 A, US6072402 A, US6071024 A, US6062558 A, US6059469 A, US6039430 A, US6037879 A, US6029972 A, US6017031 A, US6011948 A, US6011741 A, US5999908 A, US5995774 A, US5984546 A, US5980011 A, US5978621 A, US5974085 A, US5966160 A, US5959278 A, US5941522 A, US5941414 A, US5936008 A, US5927713 A, US5906366 A, US5891259 A, US5889866 A, US5882127 A, US5860363 A, US5837991 A, US5829631 A, US5820281 A, US5814796 A, US5802976 A, US5790162 A, US5772199 A, US5771058 A, US5769408 A, US5762431 A, US5755519 A, US5751330 A, US5709485 A, US5709484 A, US5707162 A, US5703347 A, US5695589 A, US5694849 A, US5685043 A, US5673076 A, US5667316 A, US5646388 A, US5642877 A, US5630581 A, US5588763 A, US5584589 A, US5558449 A, US5545882 A, US5536328 A, US5530468 A, US5516218 A, US5502464 A, US5494364 A, US5466319 A, US5455617 A, US5401111 A, US5368677 A, US5350168 A, US5327201 A, US5326179 A, US5318370 A, US5318369 A, US5301834 A, US5299796 A, US5296874 A, US5295675 A, US5277501 A, US5267800 A, US5266968 A, US5266781 A, US5255606 A, US5244197 A, US5239926 A, US5184181 A, US5150174 A, US5149211 A, US5148187 A, US5138344 A, US5128763 A, US5111239 A, US5098210 A, US5082268 A, US5079565 A, US5077467 A, US5037216 A, US5027288 A, US5019839 A, US5019539 A, US5018614 A, US4970544 A, US4961566 A, US4961088 A, US4848941 A, US4845490 A, US4830354 A, US4822191 A, US4797018 A, US4789079 A, US4782363 A, US4781985 A, US4750743 A, US473980 A, US4734868 A, US4733980 A, US4716346 A, US4687358 A, US4686540 A, US4685702 A, US4680596 A, US4676678 A, US4676678, US4673304 A, US4604631 A, US4534313 A, US4471885 A, US4443006 A, US4437658 A, US4393386 A, US4350454 A, US4350453 A, US4161312 A, US4146900 A, US4102267 A, US4083302 A, US4068028 A, US4061329 A, US4032135 A, US4031578 A, US4031518 A, US4021032 A, US4017068 A, US4015839 A, US4009047 A, US4006507 A, US3991998 A, US3960072 A, US3948506 A, US3908983 A, US3899065 A, US3889795 A, US3889742 A, US3889472 A, US3887106 A, US3761079 A, US3755653 A, US3598396 A, US3584867 A, US3446415 A, US3290042 A, US2937019 A, US2867437 A, US2007086823 AA, US2007025790 AA, US2006251461 AA, US2006071420 AA, US2005084315 AA, US2005019078 AA, US2004223011 AA, US2004114981 AA, US2004109715 AA, US2004022572 AA, US2003216826 AA, US2003215274 AA, US2003197770 AA, US2003152409 AA, US2003128269 AA, US2003109750 AA, US2003059050 AA, US2003028766 AA, US2003024422 AA, US2002180993 AA, US2002172537 AA, US2002171728 AA, US2002158399 AA, US2002118243 AA, US2002106229 AA, US2002051167 AA, US2002005116 AA, US2001052923 AA, US1515986 A, JP7267507 A2, JP7101580, JP63268675 A2, JP6297739 A2, JP6238997 A2, JP60174674 A2, JP60174674, JP6008560 A2, JP55080630, JP55080630, JP4241972 A2, JP411105359, JP411105359, JP4105948 A2, JP404105948, JP401310987, JP363268675, JP3292177 A2, JP3028157 U1, JP3005178 A2, JP2074378 A2, JP2003146510 A2, JP2002120446 A2, JP2002120446, JP2002120446, JP2002109476 A2, JP2001310492 A2, JP2001310492, JP2001039588 A2, JP2000313531 A2, JP2000293027 A2, JP2000293027, JP2000099807 A2, JP1310987 A2, JP11265463 A2, JP11240638, JP11240638, JP11105359 A2, JP11010979 A2, JP0274378, GB2258459 A1, GB2120821 A1, GB1237145 A, FR2770174 A1, FR1068162 A, EP1095783 B1, EP0979736 A1, EP0887197 A2, EP0562979 A2, EP0473191 A1, EP0431172 A1, EP0350050, EP0253618, EP0115208 A1, DE2535699 A1, DD2535699,

Forward Citations: WO17083721, WO17005633, WO16198350, WO16171696, WO16014898, WO16014027, WO15071884, WO14127710, WO12168814, WO12090176, WO12077709, WO11109456, WO11109456, WO11006640, WO10025141, WO09079125, WO09048505, WO08118424, WO08108925, WO08108905, WO08091451, WO08083438, WO08035327, WO07133717, WO07050768, WO06033430, WO05123403, WO05105632, WO05096724, WO05026025, WO05021275, WO05021275, WO05015353, WO05015353, WO04058503, WO04058503, WO04022464, WO03089348, WO03075218, WO03060811, WO03060811, WO03029117, WO03029117, WO03013864, USRE44220, USD775274, USD763350, USD753585, USD522566, US9676179, US9665329, US9662903, US9630436, US9600951, US9592676, US9589400, US9584681, US9566771, US9560221, US9558606, US9558377, US9544451, US9524460, US9481200, US9432529, US9415611, US9415604, US9394122, US9346294, US9338312, US9336633, US9333777,

US9333776, US9327510, US9296214, US9272805, US9268975, US9244644, US9237244, US9219832, US9211747, US9197767, US9195923, US9191530, US9191529, US9185247, US9185246, US9180706, US9179020, US9168761, US9167109, US9154648, US9154647, US9153083, US9152909, US9148530, US9143636, US9143635, US9137398, US9137397, US9131083, US9124745, US9124737, US9124736, US9124735, US9113010, US9113009, US9113008, US9113007, US9108430, US9108419, US9106775, US9100516, US9088675, US9083830, US9083829, US9060128, US9060081, US9055221, US9049318, US9044965, US9036162, US9029129, US9013717, US8960669, US8953178, US8953061, US8953060, US8947679, US8947592, US8937727, US8936196, US8934053, US8934027, US8933978, US8928897, US8922791, US8922670, US8917159, US8913182, US8913151, US8913137, US8908075, US8908069, US8908051, US8902357, US8902340, US8902333, US8902324, US8897021, US8896724, US8896720, US8891008, US8890970, US8890969, US8885180, US8885179, US8878953, US8876110, US8872952, US8866926, US8866923, US8854538, US8854494, US8854493, US8854492, US8845218, US8836809, US8834046, US8823823, US8820878, US8820743, US8810723, US8810619, US8801162, US8800247, US8789939, US8783144, US8764174, US8730283, US8721205, US8721203, US8702328, US8695311, US8690151, US8678570, US8678569, US8667276, US8662386, US8646770, US8630012, US8596770, US8529034, US8525676, US8523664, US8500349, US8478080, US8477357, US8464638, US8454256, US8454141, US8421869, US8404333, US8382265, US8363262, US8351907, US8325016, US8319609, US8317285, US8303201, US8303199, US8301886, US8300261, US8290512, US8286858, US8285137, US8281983, US8274665, US8274569, US8228198, US8220708, US8218195, US8210759, US8197334, US8162228, US8159332, US8127991, US8126272, US8116813, US8113641, US8103307, US8102568, US8099187, US8096642, US8091774, US8090403, US8087772, US8083152, US8081351, US8079511, US8072629, US8070594, US8061913, US8057296, US8042735, US8040541, US8027055, US8025391, US8023935, US8019693, US8016202, US8010155, US8010128, US8005561, US7992213, US7988042, US7983715, US7982904, US7980596, US7973978, US7970435, US7934881, US7931269, US7925300, US7922407, US7918453, US7916031, US7878505, US7874751, US7871213, US7870824, US7860533, US7859412, US7824029, US7815124, US7804982, US7798413, US7793589, US7793353, US7789311, US7767050, US7761090, US7760945, US7738862, US7728048, US7722172, US7717632, US7703881, US7694887, US7689249, US7672664, US7668540, US7665920, US7664257, US7663780, US7661600, US7620815, US7609407, US7600747, US7572077, US7516950, US7512455, US7494414, US7490055, US7445151, US7441970, US7434728, US7430762, US7419154, US7414517, US7408663, US7399131, US7398972, US7394373, US7346184, US7344325, US7342597, US7331576, US7314271, US7290146, US7286257, US7284921, US7259654, US7249583, US7248145, US7239413, US7237485, US7213992, US7212637, US7206010, US7192208, US7154519, US7137000, US7131585, US7131585, US7128482, US7128482, US7126107, US7126107, US7056045, US7032988, US7018118, US7017799, US6985167, US6971808, US6963351, US6945524, US6932527, US6905013, US6896431, US6880992, US6857714, US6832866, US6805285, US6758616, US6694884, US6644771, US6554512, US6536758, US2016243843, US2014377048, US2014366753, US2014306018, US2014293375, US2014063086, US2013220984, US2013215182, US2013118369, US2013093821, US2012286464, US2012257918, US2012200894, US2012069397, US2012055301, US2011315758, US2011230233, US2011217149, US2011217109, US2011188914, US2011150621, US2011123241, US2011098084, US2011092250, US2011083572, US2011069354, US2011058235, US2011019367, US2011007934, US2010328701, US2010328050, US2010313775, US2010304093, US2010295290, US2010289627, US2010284531, US2010283584, US2010279735, US2010277528, US2010273527, US2010260985, US2010257100, US2010248686, US2010234069, US2010231981, US2010225949, US2010223393, US2010165401, US2010135679, US2010134815, US2010099181, US2010069116, US2009309730, US2009294068, US2009277956, US2009271316, US2009268003, US2009175643, US2009162123, US2009153599, US2009152342, US2009149978, US2009131157, US2009121835, US2009121409, US2009097955, US2009088206, US2009070264, US2009070259, US2009058756, US2009039147, US2009033581, US2008316523, US2008316508, US2008298822, US2008279602, US2008278772, US2008236761, US2008236728, US2008219739, US2008219735, US2008217842, US2008217841, US2008216693, US2008216688, US2008216686, US2008184903, US2008179392, US2008153581, US2008153580, US2008106585, US2008105150, US2008035696, US2008030529, US2008024581, US2008024580, US2007286660, US2007274755, US2007262864, US2007251190, US2007134042, US2007104526, US2007086823, US2007081842, US2007067825, US2007066355, US2007066354, US2007066343, US2007066341, US2007066290, US2007064258, US2007064130, US2007047974, US2007043684, US2007029721, US2007029383, US2007025790, US2007023516, US2007012768, US2006267272, US2006267265, US2006251461, US2006251457, US2006239744, US2006238562, US2006228142,

US2006204308, US2006191022, US2006175395, US2006163352, US2006146081, US2006138217, US2006123471, US2006122912, US2006104697, US2006071420, US2005275891, US2005275708, US2005271439, US2005268880, US2005257253, US2005242488, US2005242487, US2005240922, US2005231583, US2005219600, US2005210610, US2005191064, US2005160271, US2005123719, US2005120260, US2005109450, US2005104281, US2005084315, US2005063027, US2005060239, US2005059482, US2005058482, US2005019078, US2004247051, US2004246503, US2004181681, US2004181671, US2004178559, US2004136768, US2004136764, US2004114983, US2004114981, US2004109715, US2004080777, US2004080775, US2004060984, US2003231948, US2003231361, US2003226873, US2003216826, US2003179413, US2003164982, US2003152409, US2003128269, US2003063139, US2003024422, US2002180993, US2002140976, KR101408846, KR101348682, KR101282294, KR100850724, JP5057403, JP4273427, JP2014506839, JP2012121645, JP2010515438, JP2010132003, JP2008162114, JP2006096052, ITTO20130932, ITMI20111022, ITMI20102478, EP3000607, EP2829407, EP2735447, EP2676803, EP2241446, EP2236306, EP2146331, EP2125370, EP2125370, EP2117157, EP2110259, EP1813431, EP1719623, EP1663827, EP1661717, EP1352749, EP1066967, DE102015212492, DE102015212492, DE102013219591, DE102009033221, DE102008012430, DE102008012426, DE102008012424, DE102008012423, DE102008012420, DE102008012419, DE102007059747, DE102007059746, CN1871618, CN105905659, CN104670935, CN104553348, CN104002567, CN103402778, CN103213409, CN103213409, CN103101322, CN102834265, CN102834265, CN102686404, CN102431816, CN102431816, CN102398785, CN102173213, AU2012265967, AU2011350665, AU2011329117, AU2008204727, AU2005200191,

Abstract:
Source: US2002059880A A card supply for use with an identification card printing system includes a card hopper and a supply circuit. The card hopper contains a stack of cards. The supply circuit is mounted to the card hopper that includes a memory containing supply information relating to parameters of the card supply.

40) Family number: 32195456 (US2006000851A) © PatBase

Title: LIQUID CONCENTRATE/EXTRACT BEVERAGE DISPENSER WITH REPLACEABLE CONCENTRATE/EXTRACT CARTRIDGE

Priority:

CA20062549729	20060608	CA20062549742	20060609	EP20060836840	20061102
US20050055915	20050211	US20040544379P	20040213	US20040620251P	20041019
US20050055832	20050211	US20050155058	20050617	US20040586105P	20040707
US20050209016	20050822	US20050700824P	20050720	US20070926931	20071029
US20090497063	20090702	US20050770824P	20050720	US20060326785	20060106
US20050642311P	20050107	US20050682107P	20050518	US20080114050	20080502
US20050266695	20051103	US20060794777P	20060425	US20060845310P	20060918
WO2005US04578	20050211	US20090569066	20090929	US20100897848	20101005
US20110034402	20110224	US20120540139	20120702	WO2006US42878	20061102
US20140455199	20140808				

Family:

Publication number	Publication date	Application number	Application date
AT477212 E	20100815	AT20050713480T	20050211
AT546715 E	20120315	AT20060836840T	20061102
AU2005214741 AA	20050901	AU20050214741	20050211
AU2005214741 BB	20090507	AU20050214741	20050211
AU2006311952 AA	20070518	AU20060311952	20061102
AU2006311952 BB	20130620	AU20060311952	20061102
BRPI0506804 A	20070529	BR2005PI06804	20050211
BRPI0619687 A2	20111011	BR2006PI19687	20061102
CA2549729 AA	20061217	CA20062549729	20060608
CA2549742 AA	20061217	CA20062549742	20060609
CA2555735 AA	20060810	CA20052555735	20050211
CA2555735 C	20100511	CA20052555735	20050211
CA2628262 AA	20080501	CA20062628262	20061102
CA2628262 C	20130205	CA20062628262	20061102
CN101346288 A	20090114	CN200680048961	20061102
CN101346288 B	20121128	CN200680048961	20061102
CN1997585 A	20070711	CN200580004795	20050211
CN1997585 B	20131106	CN200580004795	20050211
DE602005022879 D1	20100923	DE200560022879T	20050211
DE602006027849 D1	20120419	DE200660027849T	20061102
EP1776306 A2	20070425	EP20050713480	20050211
EP1776306 A4	20080827	EP20050713480	20050211
EP1776306 B1	20100811	EP20050713480	20050211
EP1943162 A2	20080716	EP20060836840	20061102
EP1943162 A4	20091014	EP20060836840	20061102
EP1943162 B1	20120222	EP20060836840	20061102
ES2382749 T3	20120613	ES20060836840T	20061102
IL177461 A0	20070704	IL20060177461	20060813
IL177461 A1	20101230	IL20050177461	20050211
IL191227 A0	20081126	IL20060191227	20061102
IL191227 A1	20150630	IL20060191227	20061102
MXPA06009150 A1	20070301	MX2006PA09150	20050211
NZ549321 A	20101126	NZ20050549321	20050211
RU2006132721 A	20080320	RU20060132721	20050211
RU2008122041 A	20091220	RU20080122041	20061102

RU2336223 C2	20081020	RU20060132721	20050211	
RU2383481 C1	20100310	RU20080122041	20061102	
US2006000851 AA	20060105	US20050055915	20050211	
US2006005712 AA	20060112	US20050155058	20050617	
US2006016347 AA	20060126	US20050055832	20050211	
US2006112831 AA	20060601	US20060326785	20060106	
US2006144244 AA	20060706	US20050266695	20051103	
US2006151544 AA	20060713	US20050209016	20050822	
US2008173705 AA	20080724	US20070926931	20071029	
US2009057341 AA	20090305	US20080114050	20080502	
US2009266849 AA	20091029	US20090497063	20090702	
US2010089944 AA	20100415	US20090569066	20090929	
US2011139827 AA	20110616	US20110034402	20110224	
US2011210140 AA	20110901	US20100897848	20101005	
US2013002108 AA	20130103	US20120540139	20120702	
US2014346188 AA	20141127	US20140455199	20140808	
US7578419 BB	20090825	US20050209016	20050822	
US7594525 BB	20090929	US20050055832	20050211	
US7614524 BB	20091110	US20050055915	20050211	
US7651015 BB	20100126	US20050266695	20051103	
US7654191 BB	20100202	US20050155058	20050617	
US7828020 BB	20101109	US20090569066	20090929	
US7896202 BB	20110301	US20090497063	20090702	
US7918156 BB	20110405	US20060326785	20060106	
US8091735 BB	20120110	US20070926931	20071029	
US8196781 BB	20120612	US20110034402	20110224	
US8210396 BB	20120703	US20080114050	20080502	
US8757227 BB	20140624	US20100897848	20101005	
US8800820 BB	20140812	US20120540139	20120702	
US9155417 BB	20151013	US20140455199	20140808	
WO05079361 A2	20050901	WO2005US04578	20050211	
WO05079361 A3	20070315	WO2005US04578	20050211	
WO07056097 A2	20070518	WO2006US42878	20061102	
WO07056097 A3	20070628	WO2006US42878	20061102	
WO09058839 A1	20090507	WO2008US81553	20081029	

Probable Assignee: INTELLIGENT COFFEE CO LLC

Assignee(s):(std)**:** GREENWALD TECHNOLOGIES LLC ; INTELLIGENT COFFEE CO L L ; GREENWALD ZIPORA ; INTELLIGENT COFFEE CO LLC ; INTELLIGENT COFFEE COMPANY LLC ; INTELLIGENT COFFEE COMPANY L L ; ANDERSON ERIK KENNETH ; FISCHER ROY KENNETH ; GIRARD JEFFREY J ; GREENWALD SHLOMO ; INTELLIDZHENT KOFFI KOMPANI EH ; INTELLIGENT COFFEE COMPANY L L C ; INTELLIGENT COFFEE CO L L C ; VASSAUX MARIO E ; SYMINGTON RICHARD ; PIRSHAFIEY NASSER ; KAY HEATHER B ; VAN DEN HOONAARD PAUL ; PIRSHAFIEY NASSAR

Assignee(s): INTELLIGENT COFFEE COLLC SCOTTSDALE ; INTELLIGENT COFFEE CO ; INTELLIDZHENT KOFFI KOMPANI EHL EHL SI

Inventor(s):(std)**:** FISCHER ROY ; FISCHER ROY K ; FISCHER ROY KENNETH ; FISHER ROJ KENNET ; GIRARD JEFFREY ; GIRARD JEFFREY J ; ANDERSON EHRIK KENNET ; ANDERSON ERIK ; ANDERSON ERIK K ; ANDERSON ERIK KENNETH ; GREENW GIRARD JEFFREY J VASSAU ; GREENWALD SHLOMO ; GREENWALD ZIPORA ; GRINVAL D SHLOMO ; GRINVAL D ZIPORA ; KAY HEATHER B ; KEJ KHITER B ; KENNETH ERIK ; KENNETH ROY ; NASSER PIRSHAFIEY ; PIRSHAF E NASSER ; PIRSHAFIEY NASSAR ; PIRSHAFIEY NASSER ; SAJMINGTON RICHARD ; SHLOMO GREENWALD ; SYMINGTON RICHARD ; VAN DEN HOONAARD PAUL ; VASSAUX MARIO ; VASSAUX MARIO E ; VASSO MARIO E ; GREENWALD ZIPOPRA ; GREENWALD SHIOMO ;

ZHIRAR DZHEFFRI DZH ; ZIPORA GREENWALD

Inventor(s): VASSAUX MARIO E SCOTTSDALE ; PIRSHAFIEY NASSER THOUSAND OAKS ; RICHARD SYMINGTON ; ROY KENNETH FISCHER ; PIRSHAF'E NASSER ; MARIO E VASSAUX ; KAY HEATHER B MESA ; GRINVAL'D SHLOMO ; GRINVAL'D ZIPORA ; HEATHER B KAY ; JEFFREY J GIRARD ; KAY HEATHER ; GREENWALD ZIPORA ITHACA ; GREENWALD SHLOMO ITHACA ; ERIK KENNETH ANDERSON ; GIRARD JEFFREY J GILBERT ; GIRARD JEFFREY J VASSAUX MARIO E FISCHER ROY KENNE

Agent(s): MORCOM PERNAT; DARK IP; BORDEN LADNER GERVAIS LLP; GOWLING LAFLEUR HENDERSON LLP; LEDERER AND KELLER PATENTANWAELTE PARTNERSCHAFT MBB; PERKINS SARAH; PERKINS SARAH ET AL; REINHOLD COHN AND PARTNERS; VOLPE AND KOENIG PC; BROWN AND MICHAELS PC, 400 M AND T BANK BUILDING; BROWN AND MICHAELS PC 400 M AND T BANK BUILDING; BROWN AND MICHAELS PC; BUCKLIN DOUGLAS J

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

International class (IPC 8–9): A23L1/00 A47J31/00 A47J31/40 A47J31/41 A47J31/44 A47J31/46 A47J47/01 A47L15/42 A47L15/44 B05B17/04 B22D41/00 B23P15/00 B65B1/04 B65D35/56 B65D37/00 B65D83/00 B65D88/54 B67D B67D1/00 B67D1/04 B67D1/08 B67D1/10 B67D1/12 B67D3/00 B67D5/01 B67D5/06 B67D5/08 B67D5/14 B67D5/38 B67D5/48 B67D5/56 B67D5/60 B67D5/62 B67D5/64 B67D7/00 B67D7/06 B67D7/08 B67D7/14 B67D7/30 B67D7/56 B67D7/66 B67D7/74 B67D7/78 B67D7/80 B67D7/84 D06F33/00 D06F39/02 F04B49/06 F25D9/00 G01F11/00 G01F11/10 G01F11/20 G05D23/00 G05D7/00 G05D7/06 G06F17/00 (Advanced/Invention);
B67D7/78 B67D7/80 G01F11/20 (Advanced/Non–invention);
A23L1/00 A47J31/00 A47J31/44 B05B17/04 B22D41/00 B65D35/00 B65D83/00 B65D88/00 B67D1/00 B67D3/00 B67D7/00 B67D7/06 B67D7/08 B67D7/58 B67D7/74 B67D7/78 B67D7/80 B67D7/84 F25D9/00 G01F11/00 G01F11/10 G05D23/00 G05D7/00 G05D7/06 G06F17/00 (Core/Invention);
B65D B67D (Subclass/Invention)

CPC: A47J36/2411 A47J47/01 B67D1/0021 G01F11/029 A47J31/465 A47J31/56 A47K5/1207 B67D3/0032 A47J31/407 A47J31/41 A47J31/4492 B67D1/0022 B67D1/0046 B67D1/0895 B67D2001/0814 G01F13/00 A47J31/46 A47L15/4418 D06F39/022 Y10T29/49236 F16K31/0655 B67D1/0079 B67D1/1247 F16K31/0651 B05B7/2408 A47J31/402 B05B7/2443 B05B7/2481 B44D3/06 B67D1/0031 B67D1/0043 B67D1/0078 B67D1/0857 B67D1/1231 B67D1/1286 B67D3/0006 B67D2210/00036 B67D2210/00118 B01F5/0496 B01F13/1058 B01F13/1066 Y10T137/7888 Y10T137/87981 A47L15/4463 A47L2301/08 A47L2401/20 A47L2501/07 D06F33/02 D06F2204/02 D06F2212/02 B01F13/1069

European class: A47J31/40B A47J31/40D A47J31/40H A47J31/41 A47J31/44H A47J31/46S2 A47J31/56 A47J36/24D A47J47/01 A47K5/12C1B B05B7/24A26 B05B7/24A3A B67D1/00F4 B67D1/00F4B B67D1/00H2B4 B67D1/00H6B B67D1/08L B67D1/12E F16K31/06C4 F16K31/06C6 G01F11/02B10 G01F13/00 L05B7/24A4R L67D1/08A32B

US class: 1/1 134/58D 137/614.11 137/852 141/2 141/301 141/351 141/355 141/360 141/362 222/1 222/105 222/129.1 222/129.100P 222/129.100S 222/129.3 222/129.4 222/130 222/130S 222/144.5 222/144.500S 222/145.5 222/145.6 222/145.600S 222/146.1 222/146.2 222/146.6 222/146.600S 222/157 222/1P 222/1S 222/207 222/214 222/23 222/23S 222/325 222/326 222/327 222/327S 222/333 222/360 222/380 222/504 222/509 222/52 222/52S 222/54 222/544 222/54S 222/571 222/63 222/64 222/642 222/642S 222/64S 222/96 235/375 235/375P 251/129.01 29/888.02 29/888.020S 312/237 417/417 417/44.1 62/56 62/56S 68/12.01 99/275 99/275P 99/279 99/280 99/290 99/295 99/295P 99/323.3

Classification Explorer

Cited documents: WONL00004, WO9937577 A2, WO9118826 A2, WO8901751, WO05079361 A2, WO05071267 A1, WO05070816 A1, WO04104527 A1, WO02081354 A1, WO0149154 A1, WO0100004, WO0079224 A1, WO0079223 A2, US7896202 BB, US7594525 BB, US7578419 BB, US7182280 BB, US7104184 BB, US7093774 BB, US7077339 BB, US7048149 BA, US6990391 BA, US6974052 BA, US6910931 BA, US6889600 BB, US6886556 BB, US6810931 BB, US6808731 BA, US6740345 BB, US6722527 BA, US6708741 BA, US6698333 BB, US6676908 BB, US6662976 BB, US6651849 BB, US6644173 BB, US6607762 BB, US6589577 BB, US6568565 BA, US6564968 BA, US6460735 BA, US6398081 BB, US6394312 BA, US6343724 BA, US6257445 BA, US6209751 BA, US6173117 BA, US6173117 B1, US6161722 A, US6073539 A, US6019032 A, US5992685 A, US5975365 A, US5975357 A, US5918768 A, US5915930

A, US5909846 A, US5895672 A, US5858437 A, US5842603 A, US5836482 A, US5740719 A, US5724883 A, US5712887 A, US5662461 A, US5656316 A, US5615801 A, US5584229 A, US5567131 A, US5551331 A, US5497918 A, US5477883 A, US5462362 A, US5405050 A, US5353963 A, US5332123 A, US5312017 A, US5295611 A, US5275309 A, US5269443 A, US5197865 A, US5193593 A, US5190652 A, US5188019 A, US5154319 A, US5114047 A, US5111740 A, US5042689 A, US5025714 A, US5014611 A, US4921131 A, US4920871 A, US4909712 A, US4906586 A, US4903586 A, US4901890 A, US4901886 A, US4887740 A, US4808346 A, US4792059 A, US4791860 A, US4791859 A, US4775301 A, US4757752 A, US4735345 A, US4722372 A, US4708266 A, US4660742 A, US4649809 A, US4624395 A, US4598845 A, US4550858 A, US4550651 A, US4518105 A, US4515294 A, US4503507 A, US4496292 A, US4471689 A, US4470999 A, US4450987 A, US4393982 A, US4356937 A, US4352645 A, US4334640 A, US4282984 A, US4169464 A, US4164964 A, US4140150 A, US4137833 A, US4102610 A, US4096893 A, US4015755 A, US4011969 A, US4011696 A, US3893594 A, US3828985 A, US3795788 A, US3727632 A, US3719505 A, US3641918 A, US3634107 A, US3606595 A, US3532505 A, US3521794 A, US3386622 A, US3264973 A, US3258168 A, US3258166 A, US3211331 A, US3207079 A, US3136257 A, US3024718 A, US2979321 A, US2979231 A, US2887255 A, US2849159 A, US2838077 A, US2776074 A, US2740553 A, US2712887 A, US2682984 A, US2657628 A, US2554570 A, US2254833 A, US2009057341 AA, US2008029541 AA, US2007179613 AA, US2006283889 AA, US2006144244 AA, US2005287187 AA, US2005171604 AA, US2004226962 AA, US2004118290 AA, US2004084475 AA, US2004074921 AA, US2003145736 AA, US2002148529 AA, US2002148356 AA, US1949661 A, RU2086169, NLC1003894, NL1003894 C1, JP6211299 A2, JP3129494 A2, FR2813861 A1, EP0067466 A2, DE29919575 U1, DE2921579 A1, DE19523816 A1,

Forward Citations: WO17069327, WO17058259, WO17033004, WO16207211, WO16204615, WO16198442, WO16193116, WO16057869, WO16042562, WO16042562, WO15149999, WO15130791, WO15109050, WO15102493, WO15073402, WO15030583, WO15026767, WO15000880, WO14045114, WO14045114, WO14028844, WO13192625, WO12152609, WO12119923, WO12117399, WO12040546, WO12040546, WO12019922, WO11144628, WO11116247, WO11084603, WO11074953, WO10077699, WO10064228, WO10019214, WO10018581, WO10003878, WO09149492, WO09058839, WO08129376, WO08129376, WO08124851, WO08082528, WO08079462, WO07056097, USD782907, USD763077, USD752391, USD731223, USD718621, USD677510, USD649984, USD649390, USD625952, US9695030, US9687796, US9670047, US9669992, US9604235, US9604234, US9556011, US9546086, US9545643, US9545170, US9534831, US9534336, US9526373, US9517479, US9505510, US9499382, US9481959, US9481508, US9463921, US9457928, US9445686, US9439450, US9435458, US9427106, US9399568, US9399204, US9394153, US9386879, US9386877, US9382655, US9375686, US9370273, US9365341, US9364114, US9364018, US9357874, US9327900, US9320382, US9303917, US9282849, US9277601, US9272827, US9265375, US9260284, US9247846, US9212041, US9198455, US9182169, US9173519, US9169112, US9161656, US9161654, US9155417, US9149151, US9149150, US9149149, US9145290, US9144343, US9114902, US9111324, US9084511, US9073685, US9061881, US9051162, US9046300, US9045327, US9022257, US9014846, US9004320, US8996178, US8985561, US8985395, US8978544, US8945374, US8921746, US8899450, US8893927, US8881958, US8863992, US8857667, US8857317, US8851329, US8846121, US8844429, US8833241, US8833238, US8814000, US8813526, US8808775, US8800820, US8800434, US8800430, US8788380, US8758677, US8757227, US8755932, US8751037, US8744618, US8742883, US8740020, US8733595, US8721162, US8718819, US8718817, US8714413, US8695481, US8689677, US8688277, US8685477, US8677888, US8672534, US8666540, US8652412, US8636174, US8635944, US8631824, US8623441, US8616117, US8606396, US8602263, US8596555, US8590753, US8584912, US8556127, US8544692, US8534501, US8528790, US8515574, US8511221, US8495893, US8480979, US8479784, US8463447, US8459503, US8459176, US8457783, US8453560, US8434642, US8413844, US8397544, US8394241, US8364321, US8362914, US8359969, US8359968, US8340815, US8335587, US8309030, US8306655, US8286288, US8268132, US8251258, US8250972, US8241019, US8227000, US8210396, US8196441, US8180204, US8162176, US8158084, US8116907, US8113107, US8091735, US8087544, US8083104, US8074837, US8009434, US8006866, US7975879, US7950088, US7931032, US7919042, US7896202, US7883733, US7866508, US7863546, US7861646, US7858134, US7828020, US7814824, US7804419, US7713482, US7706671, US7670479, US7651015, US7644650, US7614524, US2017055803, US2017015542, US2016376140, US2016296065, US2016244249, US2016242456, US2016242455, US2016214129, US2016157669, US2016135397, US2016000252, US2015297057, US2015257586, US2015217310, US2015216355, US2015183627, US2015160660, US2015125586, US2015053302, US2015034674, US2015027665, US2015017288, US2014354125, US2014331217, US2014305316, US2014299628, US2014263430, US2014236351, US2014147305,

US2014103064, US2014099405, US2014097549, US2014097203, US2014079652, US2014076171, US2014053944, US2014026474, US2013344205, US2013340629, US2013302481, US2013284029, US2013255507, US2013247772, US2013240565, US2013228595, US2013224347, US2013220137, US2013213493, US2013125758, US2013106097, US2013092567, US2013086754, US2013062366, US2013025467, US2013019756, US2012295234, US2012261441, US2012247341, US2012228395, US2012211521, US2012180533, US2012156337, US2012156336, US2012144878, US2012138632, US2012107453, US2012103197, US2012067928, US2012037487, US2012000367, US2011303759, US2011297002, US2011252976, US2011226343, US2011220683, US2011212229, US2011200381, US2011198413, US2011185907, US2011168738, US2011166946, US2011166910, US2011110815, US2011104357, US2011083561, US2011074835, US2011052766, US2011020508, US2011017074, US2011014339, US2011011273, US2011005398, US2010314410, US2010314407, US2010312384, US2010301070, US2010300300, US2010286820, US2010263546, US2010260907, US2010251901, US2010213187, US2010186851, US2010176155, US2010170656, US2010154647, US2010147155, US2010139496, US2010139493, US2010138053, US2010133297, US2010089944, US2010058932, US2010055252, US2010043647, US2010036528, US2010034949, US2010030355, US2010027226, US2010000264, US2009308255, US2009293735, US2009293530, US2009289055, US2009272682, US2009266849, US2009254215, US2009249960, US2009248199, US2009241782, US2009235828, US2009180905, US2009169419, US2009159611, US2009149988, US2009149987, US2009145925, US2009144190, US2009144189, US2009144184, US2009143900, US2009143899, US2009142223, US2009125457, US2009070234, US2009069949, US2009069947, US2009069934, US2009069931, US2009069930, US2009065570, US2009065520, US2009057341, US2009035438, US2009007792, US2008314926, US2008302818, US2008302251, US2008277417, US2008271809, US2008250937, US2008236402, US2008224512, US2008190827, US2008173705, US2008148959, US2008148953, US2008047973, US2008017041, US2007262081, US2007214966, US2007062972, US2007051246, US2006191824, US2006021919, US2005133420, RU2590993, RU2561452, RU2556490, RU2516855, NL2011347, KR101608014, KR101606019, KR101542356, JP5687497, JP5351258, JP2011522660, JP2011513006, ITPN20100045, ITAN20130216, GB2485575, GB2485575, EP2612577, EP2547241, EP2494895, EP2447642, EP2447640, EP2447206, EP2376368, EP1943162, DE102011086871, DE102011086871, DE102007038353, DE102006025419, CN105764835, CN105143096, CN104619188, CN104523172, CN103935946, CN103935946, CN103892711, CN103892711, CN103767546, CN103620217, CN103620217, CN103298381, CN103260485, CN103260485, CN103068287, CN103026064, CN103026064, CN102649534, CN102259721, CN102177533, AU2011337008, AU2011288573, AU2009268116, AT14148,

Abstract:
Source: US2006000851A A beverage dispenser for dispensing a beverage into a container is provided. The dispenser includes a housing having a dispensing area. A pump or a control valve is in communication with a source of diluent which is to be dispensed into the dispensing area. A cartridge receiving area and a dispensing actuator are located in the housing. A concentrate/extract cartridge is removably insertable into the cartridge receiving area in a position to be actuated by the dispensing actuator, the concentrate/extract cartridge being adapted to hold a beverage concentrate/extract and including a dispensing aperture for dispensing a beverage concentrate/extract into the dispensing area upon placement of the concentrate/extract cartridge in the cartridge receiving area. A controller is located in the housing to control the actuator to discharge concentrate/extract into the dispensing area. A method of dispensing a selected beverage made from concentrate/extract and a diluent is also provided.

0) US5870655A – PROCESS CARTRIDGE HAVING A PARTICULAR ARRANGEME...

41) Family number: 30419201 (US5870655A) © PatBase

Title: PROCESS CARTRIDGE HAVING A PARTICULAR ARRANGEMENT OF ELECTRICAL CONTACTS AND ELECTROPHOTOGRAPHIC IMAGE FORMING APPARATUS USING SUCH A PROCESS CARTRIDGE

Priority: AU19960060837 19960731 AU19980052069 19980115 JP19950194522 19950731 JP19950194523 19950731 JP19950194988 19950731

Family:

Publication number	Publication date	Application number	Application date
AU199660837 A1	19970306	AU19960060837	19960731
AU199660878 A1	19970306	AU19960060878	19960731
AU199852069 A1	19980319	AU19980052069	19980115
AU682800 B2	19971016	AU19960060837	19960731
AU700741 B2	19990114	AU19960060878	19960731
AU708198 B2	19990729	AU19980052069	19980115
CN1081351 C	20020320	CN19961022702	19960731
CN1089912 C	20020828	CN19961022703	19960731
CN1157945 A	19970827	CN19961022702	19960731
CN1180181 A	19980429	CN19961022703	19960731
DE69624634 D1	20021212	DE19966024634	19960731
DE69624634 T2	20030703	DE19966024634T	19960731
DE69631355 D1	20040226	DE19966031355	19960731
DE69631355 T2	20040715	DE19966031355T	19960731
EP0757302 A2	19970205	EP19960305615	19960731
EP0757302 A3	19980325	EP19960305615	19960731
EP0757302 B1	20021106	EP19960305615	19960731
EP0757304 A2	19970205	EP19960305663	19960731
EP0757304 A3	19980401	EP19960305663	19960731
EP0757304 B1	20040121	EP19960305663	19960731
HK1012071 A1	20030411	HK19980113314	19981214
HK1012077 A1	20040702	HK19980113320	19981214
JP3295581 B2	20020624	JP19950194523	19950731
JP3387697 B2	20030317	JP19950194522	19950731
JP3402860 B2	20030506	JP19950194988	19950731
JP9043921 A2	19970214	JP19950194522	19950731
JP9044055 A2	19970214	JP19950194523	19950731
JP9044061 A2	19970214	JP19950194988	19950731
KR100189586 B1	19990601	KR19960031820	19960731
KR100189587 B1	19990601	KR19960031821	19960731
KR19970007526 A	19970221	KR19960031820	19960731
KR19970007527 A	19970221	KR19960031821	19960731
US5870655 A	19990209	US19960689042	19960730
US5893006 A	19990406	US19960689046	19960730
US6070029 A	20000530	US19960689124	19960730

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK

Assignee(s): CANON INC ; CANON K K ; CANON KABUSHIKI KAISHA

Inventor(s):(std)**:**

GOTO HIROSHI ; HIROSHI GOTO ; KANNO KAZUHIKO ; KAZUHIKO KANNO ; KAZUHIKO SUGAHIRO ; KOJI MIURA ; KOUJI MIURA ; MIURA KOJI ; MIURA KOUJI ; MIURA KOUJO ; NISHIKAMI TOKOISAMU ; NISHIKAMI TOKORIKI ; NISHIKAMIDOKO TSUTOMU ; NISHIUWATOKO TSUTOMU ; SUGAHIRO KAZUHIKO ; SUGANO KAZUHIKO ; TOKOISAMU NISHIKAMI ; TOKORIKI NISHIKAMI ; TSUTOMU NISHIUWATOKO

Agent(s): SPRUSON AND FERGUSON; ASPEN PHARMA PTY LTD

Designated states: CH DE FR GB IT LI

International class (IPC 8–9): G03G15/00 G03G15/02 G03G15/08 G03G21/18 (Advanced/Invention); G03G15/00 G03G15/10 (Advanced/Non–invention); G03G15/00 G03G15/02 G03G15/08 G03G21/18 (Core/Invention)

International class (IPC 1–7): G03G15/00 G03G15/02 G03G15/08 G03G15/10 G03G21/16 G03G21/18

CPC: G03G21/1821 G03G2221/1657 G03G2221/1846 G03G21/1633 G03G21/1647 G03G21/1867 G03G21/1896 G03G2221/1654 G03G2221/1687 G03G2221/1853

European class: G03G21/18C4C G03G21/18H3 G03G21/18L2 S03G221/16K1 S03G221/16K2 S03G221/16S3 S03G221/18P2 S03G221/18P3

US class: 399/111 399/113 399/13 399/90

Classification Explorer

Cited documents: US5638161 A, US5634175 A, US5585889 A, US5543898 A, US5500714 A, US5452056 A, US5450166 A, US5398106 A, US5345294 A, US5331378 A, US5331373 A, US5289242 A, US5225870 A, US5153649 A, US5103259 A, US4952974 A, US4803521 A, JP7160173 A2, JP63214766, JP6250482 A2, JP6206743 U, JP6130745, JP6130739, JP5107822, JP484147, JP409054 U, EP0586044 A2, EP0405514 A2, AU3426895 A1, AU1768695 A1,

Forward Citations: WO13022078, WO12173216, WO03069414, USD598950, USD598491, USD591338, USD552671, USD546382, USD438891, US9658590, US9429877, US9417603, US9377754, US9323178, US9317000, US9310716, US9298130, US9291994, US9274499, US9213267, US9195211, US9031457, US9025998, US8977162, US8768208, US8768197, US8725035, US8682211, US8626008, US8577252, US8571440, US8565638, US8483594, US8483588, US8463156, US8437661, US8396380, US8385775, US8355648, US8249482, US8170445, US8170444, US8121520, US8090292, US8059988, US8041248, US7949283, US7933534, US7929881, US7817936, US7742720, US7680433, US7570891, US7536130, US7463844, US7457563, US7421225, US7379218, US7245850, US7231167, US7224923, US7218878, US7209678, US7164877, US7058337, US7035555, US6980759, US6961528, US6947687, US6937834, US6922534, US6901229, US6879792, US6873810, US6871031, US6834173, US6806895, US6801733, US6782219, US6735403, US6690903, US6681088, US6678489, US6560422, US6549731, US6546217, US6522854, US6516168, US6505007, US6496667, US6411789, US6381430, US6351620, US6345164, US6343192, US6330410, US6317572, US6311030, US6275668, US6201935, US6185390, US6173140, US6167219, US6141508, US6137973, US6137971, US6137966, US6101350, US6064841, US6041203, US6009288, US5950047, US2017108826, US2017075295, US2016062309, US2015370209, US2013129384, US2012195636, US2011170903, US2011158681, US2011142490, US2011142487, US2011129251, US2011123225, US2011103829, US2011085202, US2010296836, US2010196048, US2010158559, US2010143012, US2009297211, US2009245851, US2008226337, US2008138110, US2008138105, US2007264045, US2007071495, US2007058993, US2006120755, US2006072928, US2006056878, US2006056877, US2006056876, US2005158074, US2005135837, US2005069342, US2005047822, US2005008395, US2004184834, US2004141768, US2004126135, US2004126133, US2004126132, US2004037587, US2003123896, US2002036807, JP4254689, JP2013020233, JP2008152283, JP2007093830, JP2006126750, EP3144740, EP2798408, EP2112563, EP1367458, EP1331523, EP1065575, EP1065575, EP1031891, EP0866387, DE19814173, CN103620507, CN103620507, CN101916063, AU746772, AU2012363068,

Abstract:
Source: US5870655A A process cartridge detachably mountable to a main assembly of an image forming apparatus includes an electrophotographic photosensitive member; a charging member for charging the electrophotographic photosensitive member; a developing device for developing a latent image formed on the electrophotographic photosensitive member; and a charging bias contact, a developing bias contact, and a grounding contact arranged in a particular manner so as to interface in a particular manner with corresponding contacts on the image forming apparatus main assembly.

0) US2006008294A – IMAGE FORMING DEVICE AND FIXING UNIT

42) Family number: 32540469 (US2006008294A) © PatBase

Title: IMAGE FORMING DEVICE AND FIXING UNIT

Priority: JP20040204655 20040712 JP20040285845 20040930 JP20050195948 20050705 US20050178675 20050712 US20080212392 20080917 JP20070127658 20070514 JP20050195949 20050705

Family:

Publication number	Publication date	Application number	Application date
AT434204 E	20090715	AT20050015036T	20050711
CN100507730 C	20090701	CN200510084700	20050711
CN1722010 A	20060118	CN200510084700	20050711
CN2872427 Y	20070221	CN200520113065U	20050712
DE602005014911 D1	20090730	DE200560014911T	20050711
EP1619563 A2	20060125	EP20050015036	20050711
EP1619563 A3	20070425	EP20050015036	20050711
EP1619563 B1	20090617	EP20050015036	20050711
HK1080156 A3	20060421	HK20060102749	20060302
JP2006053508 A2	20060223	JP20040285845	20040930
JP2007017488 A2	20070125	JP20050195948	20050705
JP2007017489 A2	20070125	JP20050195949	20050705
JP2007199747 A2	20070809	JP20070127658	20070514
JP3981888 B2	20070926	JP20040285845	20040930
US2006008294 AA	20060112	US20050178675	20050712
US2009022515 AA	20090122	US20080212392	20080917
US7437096 BB	20081014	US20050178675	20050712
US7555239 BB	20090630	US20080212392	20080917

Probable Assignee: BROTHER IND LTD

Assignee(s):(std)**:** BROTHER IND LTD

Assignee(s): BROTHER INDUSTRIES LTD ; BROTHER KOGYO K K ; BROTHER KOGYO KABUSHIKI KAISHA ; BROTHER KOGYO KK

Inventor(s):(std)**:** ITO TERUMASA ARATACHI TOMITAKE IKENO TAKAHIRO SHIR ; MASATOSHI ITO AKIMASA ARATATE ; MASATOSHI ITO TERUMASA ARATACH ; SHIRAKI MASATOSHI ; TOMITAKE ARATACHI ; TERUMASA ITO ; TAKAHIRO IKENO ; MASATOSHI SHIRAKI ; ARADATE TOMITAKE ; ARATACHI TOMITAKE ; IKENO TAKAHIRO ; ITO AKIMASA ; ITO TERUMASA

Inventor(s): ITO TERUMASA ARATACHI TOMITAKE IKENO TAKAHIRO ; ITO AKIMASA ARATATE TOMIOKA IKENO TAKAHIRO ; ITO AKIMASA ARATATE TOMIOKA IKENO TAKAHIRO SHIAKIM

Agent(s): KUHNEN AND WACKER; BANNER AND WITCOFF LTD COUNSEL FOR BROTHER IND; BANNER AND WITCOFF LTD ATTORNEYS FOR CLIENT NO 016689; BANNER AND WITCOFF LTD

Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK NL PL PT RO SE SI SK TR YU

International class (IPC 8–9): G03G15/00 G03G15/16 G03G15/20 G03G15/22 G03G21/16 (Advanced/Invention); G03G15/00 G03G15/16 G03G15/20 G03G21/16 (Core/Invention)

CPC: G03G21/1685 G03G21/1604 G03G2215/20 G03G2221/1639

European class: G03G15/20H2P1 G03G21/16 S03G215/20 S03G221/16F

US class: 399/122 399/122P 399/124

Classification Explorer

Cited documents:

US7085504 BB, US6549740 BB, US6314256 BA, US5579098 A, US5206682 A, US4806970 A, US4760411 A, US2003227533 AA, US2003049047 AA, JP8305205 A2, JP7210023 A2, JP7072757 A2, JP5197302 A2, JP4095985 A2, JP2004184515 A2, JP2003287973 A2, JP2002214925 A2, JP2001206562 A2, JP2001206562 A1, JP2001159856 A2, JP11296050 A2, EP1617301 A3, EP1617301 A2,

Forward Citations: US9483014, US9235189, US9213309, US9207628, US9176461, US9176460, US9046840, US8777217, US8544681, US8380108, US8371582, US8270880, US8041254, US8016287, US8010030, US7890023, US7720414, US7079789, US7079789, US2014255065, US2012163864, US2011236068, US2011234731, US2010327510, US2010025415, US2009220282, US2009087235, US2009060573, US2008226343, US2007196127, US2005135849, KR20140110770, KR101693919, KR101385541, JP5682077, JP5405393, JP5061840, JP2014016653, JP2011252982, JP2011197570, JP2011008152, JP2009205077, JP2009026434, JP2008139724, JP2008026651, EP1970768, CN102200738, CN102200738, CN101863390,

Abstract:
Source: US2006008294A A fixing unit is disposed at a position closer to a rear side wall than to a front side wall of a casing. A top wall is formed with a depressed portion depressed toward inside the casing. The depressed portion serves as a sheet discharge tray for receiving a recording medium that has passed through the fixing unit. The sheet discharge tray includes a tray member detachably disposed at the top wall. The rear side wall is formed with an opening through which the fixing unit is removed. When the tray member is disposed at the top wall, the tray member is positioned above and adjacent to the fixing unit and overlaps the fixing unit when viewed through the opening, thereby preventing the fixing unit from being removed from the casing. The fixing unit is removable through the opening when the tray member is detached from the top wall.

0) AU2013202147A – CARTRIDGE AND PRINTING MATERIAL SUPPLY SYSTEM

43) Family number: 54422133 (AU2013202147A) © PatBase

Title: CARTRIDGE AND PRINTING MATERIAL SUPPLY SYSTEM

Priority: AU20120367439 20121226 AU20130201488 20121226 AU20130202147 20130328 JP20120003652 20120112 JP20120003694 20120112 JP20120003653 20120112 JP20120003698 20120112

Family:

Publication number	Publication date	Application number	Application date
AU2013202147 AA	20130801	AU20130202147	20130328
AU2013202147 BB	20161117	AU20130202147	20130328
AU2013202147 BH	20161215	AU20130202147	20130328

Probable Assignee: SEIKO EPSON CORP

Assignee(s):(std)**:** SEIKO EPSON CORP

Inventor(s):(std)**:** HARADA KAZUMASA ; KAWATA HIDETAKA ; KODAMA HIDETOSHI ; MATSUZAKI KAZUTOSHI ; MIZUTANI TADAHIRO ; NAKATA SATOSHI ; NOZAWA IZUMI

Agent(s): DAVIES COLLISON CAVE; DAVIES COLLISON CAVE PTY LTD

International class (IPC 8–9): B41J2/00 B41J2/175 (Advanced/Invention)

CPC: Y02C10/04 Y02C10/06 Y02C10/08

Classification Explorer

Cited documents: EP1547783 A2,

DE102006036716 B3

Abstract:
Source: AU2013202147A A cartridge comprises an ink supply structure, a terminal bearing structure, and a first restriction portion. The terminal bearing structure has terminals arranged in a terminal plane which is neither parallel nor perpendicular to a plane defined by a mounting direction leading edge of the ink supply structure, so that the contact portions of the terminals receive a force in a direction opposite (RD) from the mounting direction. An engagement portion of the first restriction portion is provided at a position adjacent to the terminal bearing structure.

44) Family number: 44466577 (US2010316414A) © PatBase

Title: DEVELOPER STORAGE CONTAINER AND IMAGE FORMING APPARATUS

Priority: JP20090140298 20090611

Family:

Publication number	Publication date	Application number	Application date
AU2010202431 AA	20110106	AU20100202431	20100610
AU2010202431 BB	20110929	AU20100202431	20100610
BRPI1001836 A2	20110705	BR2010PI01836	20100610
CA2706949 AA	20101211	CA20102706949	20100609
CN101923306 A	20101222	CN201010199547	20100610
CN101923306 B	20141119	CN201010199547	20100610
EP2261751 A2	20101215	EP20100165745	20100611
EP2261751 A3	20121121	EP20100165745	20100611
IN01592CH2010 A	20110114	IN2010CH01592	20100609
JP2010286655 A2	20101224	JP20090140298	20090611
JP4412421 B1	20100210	JP20090140298	20090611
KR101477212 B1	20141229	KR20100053745	20100608
KR20100133304 A	20101221	KR20100053745	20100608
MX2010006423 A1	20101213	MX20100006423	20100610
RU2010123799 A	20111220	RU20100123799	20100610
RU2461034 C2	20120910	RU20100123799	20100610
SG167754 A1	20110128	SG20100003995	20100608
TW201100983 A	20110101	TW20100119060	20100611
TWI427444 B	20140221	TW20100119060	20100611
US2010316414 AA	20101216	US20100813054	20100610
US8417157 BB	20130409	US20100813054	20100610

Probable Assignee: FUJI XEROX CO LTD

Assignee(s):(std)**:** FUDZI KSEROKS KO LTD ; FUJI XEROX CO LTD ; KURIKI IWAO ; SAITO KAZUHIRO

Assignee(s): FUJI XEROX CO ; FUDZI KSEROKS KO

Inventor(s):(std)**:** IWAO KURIKI ; KAZUHIRO SAITO ; KURIKI IVAO ; KURIKI IWAO ; SAITO KAZUHIRO ; SAITO KAZUKHIRO

Agent(s): SHELSTON IP; SHELSTON IP PTY LTD; WARD JAMES NORMAN; RODYK AND DAVIDSON LLP; SUGHRUE–265550; SUGHRUE 265550; SUGHRUE MION PLLC

Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL NO PL PT RO RS SE SI SK SM TR

International class (IPC 8–9): G03D5/00 G03G13/08 G03G15/00 G03G15/08 G03G21/10 G03G21/18 (Advanced/Invention); G03G15/00 G03G15/08 (Core/Invention); G03G15/08 G03G21/18 (Core/Non–invention)

International class (IPC 1–7): G03G15/08

CPC: G03G15/0886 G03G15/0868 G03G15/0872 G03G2215/067 G03G2215/0692 G03G2215/085

European class: G03G15/08H3B S03G215/06C1A2 S03G215/06C7 S03G215/08A5

US class: 399/258 399/258P 399/262 399/262S

Classification Explorer

Cited documents: US6023594 A, US2011064481 AA, US2005196180 AA, KR980000356 A, KR19980000356, JP8248754 A2, JP8171330 A2, JP2005250375 A2, JP2003295593 A2,

JP2003295593, JP2001281948 A2, JP2001242692 A2, JP2001242692, JP2001109349 A2, JP2000231252 A2, JP2000231252, EP1681603 A2,

Forward Citations: USD652074, USD651643, USD648781, USD648780, US9317009, US9057984, US9026009, US8761637, US2015234347, US2012237269, US2012099892, KR101446557, JP5708924, JP5017475, JP2012230221, JP2012226357, JP2012226356, CN102650843, CN102650843, CN102298308, CN102073247, CN102073247,

Abstract:
Source: US2010316414A A developer storage container includes a container main body, an outflow port, an open/closed member and a turn stop part. The outflow port from which a developer flows out is formed in the container main body storing the developer. The open/closed member is supported to the container main body and, moves relative to the container main body based on a rotation of the container main body. The open/closed member opens and closes the outflow port. The turn stop part is formed on a wall face of the container main body, and has a circular arc shape being concentric with a rotation direction of the container main body. The turn stop part engages with a convex part which is provided in the attachment section and is formed at a different position in response to the image forming apparatus body.

0) US5884124A – DIP SHEET ADHERING METHOD, CLEANING DEVICE, PRO...

45) Family number: 8924578 (US5884124A) © PatBase

Title: Dip sheet adhering method, cleaning device, process and image forming apparatus

Priority: JP19910186387 19910725 JP19910304709 19911120 JP19920217422 19920724 JP19920194665 19920630

Family:

Publication number	Publication date	Application number	Application date
CN1049983 C	20000301	CN19921010576	19920928
CN1072513 A	19930526	CN19921010576	19920928
DE69223383 D1	19980115	DE19926023383	19920918
DE69223383 T2	19980416	DE19926023383T	19920918
EP0543485 A2	19930526	EP19920308517	19920918
EP0543485 A3	19940504	EP19920308517	19920918
EP0543485 B1	19971203	EP19920308517	19920918
JP3231848 B2	20011126	JP19920217422	19920724
JP6195006 A2	19940715	JP19920217422	19920724
KR970001392 B1	19970206	KR19920017619	19920926
MX9205520 A1	19930630	MX19920005520	19920928
US5884124 A	19990316	US19920952913	19920928

Probable Assignee: CANON KK

Assignee(s):(std): CANON KK

Assignee(s): CANON INC ; CANON K K ; CANON K K TOKIO TOKYO JP ; CANON KABUSHIKI KAISHA

Inventor(s):(std): KARAKAMA TOSHIYUKI ; SHOJI TOSHIYUKI KARAKAMA KAZUS ; WATANABE KAZUFUMI ; WATANABE KAZUSHI ; SHOJI TAKEO ; WATANABE KAZUSI

Inventor(s): SHOJI TAKEO C O CANON KABUSHIKI KAISHA OHTA KU TOK ; SHOJI TAKEO C O CANON KABUSHIKI KAISHA OHTA KU... ; WATANABE KAZUSHI C O CANON KABUSHIKI KAISHA OHTA K ; WATANABE KAZUSHI C O CANON KABUSHIKI KAISHA... ; TAKEO SHOJI ; TOSHIYUKI KARAKAMA ; TOSHIYUKI KARAKAMA KAZUSHI WATANABE TAKEO SHOJI ; KARAKAMA TOSHIYUKI C O CANON KABUSHIKI KAISHA OHTA ; KARAKAMA TOSHIYUKI C O CANON KABUSHIKI KAISHA... ; KAZUSHI WATANABE

Designated states: DE ES FR GB IT

International class (IPC 8–9): G03G15/00 G03G21/00 G03G21/10 G03G21/12 G03G21/18 (Advanced/Invention); G03G15/00 G03G21/00 G03G21/10 G03G21/12 G03G21/18 (Core/Invention)

International class (IPC 1–7): B41F15/40 G03G15/00 G03G15/20 G03G21/00 G03G21/10 G03G21/16 G03G21/18

CPC: G03G21/007 G03G21/12

European class: G03G21/00B8 G03G21/12

US class: 399/111 399/123 399/350

Classification Explorer

Cited documents: US5155527 A, US5138394 A, US5107305 A, US5099280 A, US5038181 A, US5028966 A, US5021830 A, US4972227 A, US4947216 A, US4888620 A, US4870449 A, US4839690 A, US4730205 A, US4708455 A, US4660960 A, US4627701 A, US4609276 A, US4591258 A, US4561766 A, US4540268 A, US4530594 A, US4500195 A, US4451139 A, US4400081 A, US4334766 A, US4211484 A, US4127083 A, US3985436 A, US3820889 A, JP6392376 U, JP63177191, JP63155171, JP63149669 A2, JP60244987 A2, JP58123443 U, JP5714867, JP57046274 A2, JP56122071 A2, JP55036851 A2, JP2012183 A2, EP0314175 A2, DE3522296 A1,

Forward Citations: WO13069808, WO13069805, USRE36920, US9377716, US9367023, US9128417, US9063508, US8918011, US8670689, US8417152, US8103185, US7747042, US7215904, US7095967, US6987938, US6970661, US6928252, US6868243,

US6859627, US6836639, US6832056, US6804483, US6782213, US6738589, US6704525, US6701106, US6697578, US6658224, US6594454, US6591070, US6571070, US6408143, US6397018, US6397017, US6377759, US6330402, US6266502, US6266500, US6253044, US6169867, US6144398, US6118960, US6101354, US2016062309, US2014356041, US2011229190, US2010098470, US2010054807, US2005175366, US2005025508, US2004190933, US2004136740, US2004132856, US2003185588, US2003113131, JP8110743, JP6112845, JP3693693, JP2013210601, JP2012103588, CN104216264, CN104216264, CN102467051, CN102467051, CN101893842,

Abstract:
Source: US5884124A A method is disclosed for attaching a sheet for receiving toner removed from an image bearing member to a frame. The method includes the steps of adhering the sheet to the frame, using an adhesive, while bending the frame and releasing the frame after the sheet is adhered to the frame. A toner−guiding sheet for guiding toner removed from an image bearing member to a toner−receiving unit is also disclosed. The sheet is widened near a central portion in a longitudinal direction so that the sheet edge will conform to the bent shape of an attachment surface. A cleaning device is also disclosed. The cleaning device may include a frame and a sheet attached to the frame by an adhesive in a condition that a tension force is applied to the sheet. Further, the cleaning device may include a cleaning container having a wall that is thinner at a position near an attachment surface for a sheet than at a position away from the attachment surface, to facilitate bending of the attachment surface during application of a sheet to the attachment surface.

0) US5175588A – DEVELOPING DEVICE

46) Family number: 3179309 (US5175588A) © PatBase

Title: DEVELOPING DEVICE

Priority: CA19902025503 19900917 JP19890241116 19890918 JP19890242822 19890919

Family:

Publication number	Publication date	Application number	Application date
CA2025503 AA	19910319	CA19902025503	19900917
CA2025503 C	19981117	CA19902025503	19900917
DE69018743 D1	19950524	DE19906018743	19900918
DE69018743 T2	19951123	DE19906018743T	19900918
EP0418824 A2	19910327	EP19900117940	19900918
EP0418824 A3	19920226	EP19900117940	19900918
EP0418824 B1	19950419	EP19900117940	19900918
JP2831047 B2	19981202	JP19890241116	19890918
JP2862284 B2	19990303	JP19890242822	19890919
JP3102370 A2	19910426	JP19890241116	19890918
JP3103881 A2	19910430	JP19890242822	19890919
KR940011867 B1	19941227	KR19900014704	19900918
US5175588 A	19921229	US19900583554	19900917

Probable Assignee: TOSHIBA KK

Assignee(s):(std)**:** YAMANASHI ELECTRONICS CO LTD ; TOSHIBA KAWASAKI KK ; TOSHIBA CO LTD ; YAMANASHI DENSHI KOGYO KK ; TOSHIBA KK ; TOSHIBA CORP ; SHINDENGEN ELECTRIC MFG

Assignee(s): SHINDENGEN ELECTRIC MFG CO ; YAMANASHI ELECTRONICS CO ; TOSHIBA KAWASAKI KANAGAWA JP KK ; TOSHIBA CO ; SHINDENGEN ELECTRIC MFG CO LTD ; TETSUKU KK ; KABUSHIKI KAISHA TOSHIBA ; KABUSHIKI KAISHA TOSHIBA KAWASAKI KANAGAWA JP ; KATAGATA SATOSHI ; SHINDENGEN ELECTRIC MANUFACTURING CO ; SHINDENGEN ELECTRIC MANUFACTURING CO LTD

Inventor(s):(std)**:** KATAGATA SATOSHI ; KATAGATA SATOSHI C O INTELLECT ; KATAOKA SATOSHI

Inventor(s): KATAGATA SATOSHI C O INTELLECTUAL PROPERTY DIV ; KATAGATA SATOSHI C O INTELLECTUAL PROPERTY DIV MIN

Agent(s): MARKS AND CLERK

Designated states: DE FR GB

International class (IPC 8–9): G03G15/08 (Advanced/Invention) ; G03G15/08 (Core/Invention)

International class (IPC 1–7): G03G15/06 G03G15/08 G03G9/08

CPC: G03G15/0882

European class: G03G15/08H3P

US class: 141/364 220/346 355/200 355/245 355/260 399/106 399/262

Classification Explorer

Cited documents: US5040024 A, US4949123 A, US4862210 A, US4062385 A, JP62289872 A2, JP61170760 A2, JP61170760, JP60153065 A2, JP60153065, JP1173076 A2, EP0285249 A1,

Forward Citations: US8620196, US8565643, US7840165, US7257363, US5999770, US5970284, US5697022, US5555080, US5520229, US5513679, US5475479, US5383502, US5351728, US5337125, US5235390, US2012087699, US2011274462, US2009123191, JP4863702, JP2007144826, EP1276018, EP0581199, EP0581199,

Abstract:
Source: US5175588A A developing device includes a device body which has a toner reception port and supplies toner stored therein to a photosensitive member, a toner cartridge, which is detachably mounted in the device body in coincidence with the toner reception port, has a toner discharge port opposed to the toner reception port, and supplies toner stored therein to the device body through the ports, a sealing member which is mounted on the device body to surround the toner reception port and seals between the device body and the toner cartridge mounted in the device body, and a pressing mechanism which is provided on the toner cartridge and presses the toner cartridge on the sealing member when the toner cartridge is mounted in the device body.

0) US2006013620A – TONER CARTRIDGE AND MECHANISM OF INSTALLING AND...

47) Family number: 32565779 (US2006013620A) © PatBase

Title: TONER CARTRIDGE AND MECHANISM OF INSTALLING AND REMOVING THE SAME

Priority: JP20040209007 20040715 US20050179500 20050713 US20080169246 20080708

Family:

Publication number	Publication date	Application number	Application date
CN100445889 C	20081224	CN200510084172	20050714
CN1722020 A	20060118	CN200510084172	20050714
JP2006030574 A2	20060202	JP20040209007	20040715
US2006013620 AA	20060119	US20050179500	20050713
US2009022522 AA	20090122	US20080169246	20080708
US7400848 BB	20080715	US20050179500	20050713
US7676186 BB	20100309	US20080169246	20080708

Probable Assignee: TOSHIBA KK

Assignee(s):(std)**:** TOKYO SHIBAURA ELECTRIC CO ; TOSHIBA CORP ; TOSHIBA KK ; TOSHIBA TEC KK

Assignee(s): TOSHIBA TEC KABUSHIKI KAISHA ; JWL IP HOLDINGS LLC ; KABUSHIKI KAISHA TOSHIBA ; TOSHIBA TEC CORP

Inventor(s):(std)**:** HISASHI KIMURA ; KIMURA HISASHI ; KIMURA TAKASHI

Agent(s): FOLEY AND LARDNER LLP, SUITE 500; FOLEY AND LARDNER LLP SUITE 500; FOLEY AND LARDNER LLP

International class (IPC 8–9): G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)

CPC: G03G21/1647 G03G2215/0692 G03G2221/1815 G03G15/0868 G03G15/0886 G03G21/1676

European class: G03G15/08H3B G03G21/16 S03G215/06C7 S03G221/18C

US class: 399/258 399/262

Classification Explorer

Cited documents: US7400848 BB, US7302213 BB, US7062205 BB, US6292644 BA, US6262644 BA, US6259877 BA, US5812914 A, US2002164179 AA, JP9179363 A2, JP9114219 A2, JP8297403 A2, JP7199620 A2, JP6149047 A2, JP4350871 A2, JP2001235935 A2, JP10213959 A2, EP0843233 A2,

Forward Citations: US9684264, US9465319, US9280090, US8983344, US8755722, US8285179, US8103198, US7853185, US7676186, US7583917, US7302213, US2011052269, US2009290911, US2009022522, US2008025764, US2006013621, JP2008134570,

Abstract:
Source: US2006013620A In accordance with a replacing mechanism of the present invention, a toner cartridge is replaced from a main body of an image forming apparatus by performing, in a substantially same timing, an operation of closing a toner pouring opening with a cover by a levering action; and an operation of displacing the toner cartridge from the main body of the image forming apparatus to an operater side, the toner cartridge being provided with a flange portion. The toner cartridge cannot be pulled out unless the toner pouring opening is fully closed by the shutter member.

0) US2014079438A – VOLUMETRIC TONER CARTRIDGE HAVING DRIVEN TONER ...

48) Family number: 56020838 (US2014079438A) © PatBase

Title: VOLUMETRIC TONER CARTRIDGE HAVING DRIVEN TONER PLATFORM

Priority: US20120617521 20120914

Family:

Publication number	Publication date	Application number	Application date
US2014079438 AA	20140320	US20120617521	20120914
US9063460 BB	20150623	US20120617521	20120914

Probable Assignee: LEXMARK INT INC

Assignee(s):(std)**:** ABLER JEFFREY ALAN ; HILL JONATHAN MURRAY ; KANT BENJAMIN ERICH ; LEXMARK INT INC ; MARTINKOVIC MATTHEW THOMAS ; MCALPINE ROBERT WATSON

Inventor(s):(std)**:** ABLER JEFFREY ALAN ; HILL JONATHAN MURRAY ; KANT BENJAMIN ERICH ; MARTINKOVIC MATTHEW THOMAS ; MCALPINE ROBERT WATSON

Agent(s): JOHN VICTOR; JUSTIN M

International class (IPC 8–9): G03G15/08 (Advanced/Invention)

CPC: G03G15/0839 G03G15/0836 G03G15/087 G03G15/0875 G03G15/0877 G03G2215/0802

US class: 1/1 399/262

Classification Explorer

Cited documents: US8688016 BB, US8649710 BB, US7606520 BB, US7386250 BB, US6978101 BB, US6968139 BB, US6853828 BB, US6792228 BB, US6594458 BB, US6266505 BA, US5425481 A, US5331388 A, US5084734 A, US3946910 A, US2013170868 AA, US2008138113 AA, US2007172252 AA, US2005169672 AA, US2001008590 AA, JP2006011273 A2,

Forward Citations: US9632477, US9625855, US9519243, US9454125, US9389582, US9354547, US9335656, US9304436, US9291989, US9280084, US9268260, US9261851, US9244384, US9146502, US9134651, US9128444, US9128443, US9104134, US9069286, US2016363888, US2015277291, US2015185663, US2015185661, US2015185659, JP2016042143, JP2016042142, JP2016031494, JP2015187658, JP2015187657, JP2015187656,

Abstract:
Source: US2014079438A A toner cartridge for an imaging apparatus having a housing including two opposed end walls and an elongated body therebetween and an exit port. An inner surface of the body defines a toner reservoir that is communication with the exit port. A drive shaft is rotatably mounted within the housing. A toner platform is provided in slidable contact with the inner surface of the body and is nonrotatable relative to the housing. A drive shaft coupling couples the toner platform to the drive shaft. An exit paddle is positioned adjacent the exit port and is rotatable by the drive shaft. Rotation of the drive shaft translates the toner platform toward the exit port and rotates the exit paddle. As the toner platform moves, toner within the reservoir moves toward the exit paddle and exit port and rotation of the exit paddle moves toner through the exit port.

0) US2002076235A – PROCESS CARTRIDGE, ELECTROPHOTOGRAPHIC IMAGE FO...

49) Family number: 28227369 (US2002076235A) © PatBase

Title: Process cartridge, electrophotographic image forming apparatus and cartridge mounting method

Priority: JP20000351618 20001117

Family:

Publication number	Publication date	Application number	Application date
CN1154888 C	20040623	CN20011037684	20011116
CN1354399 A	20020619	CN20011037684	20011116
DE60143182 D1	20101118	DE20016043182	20011115
EP1207437 A2	20020522	EP20010309633	20011115
EP1207437 A3	20041027	EP20010309633	20011115
EP1207437 B1	20101006	EP20010309633	20011115
JP2002156889 A2	20020531	JP20000351618	20001117
JP3432208 B2	20030804	JP20000351618	20001117
KR100425894 B1	20040403	KR20010071233	20011116
KR20020038529 A	20020523	KR20010071233	20011116
US2002076235 AA	20020620	US20010988342	20011119
US6792229 BB	20040914	US20010988342	20011119

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK ; MATSUZAKI HIROOMI

Assignee(s): CANON INC ; CANON K K ; CANON KABUSHIKI KAISHA ; CANON KABUSHIKI KAISHA AB

Inventor(s):(std)**:** MATSUZAKI HIROOMI ; SUKEOMI MATSUZAKI ; MATSUZAKI SUKEOMI

Inventor(s): MATSUZAKI HIROOMI C O CANON KABUSHIKI KAISHA

Agent(s): TBK PATENT

Designated states: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR

International class (IPC 8–9)**:** G03G15/00 G03G21/18 (Advanced/Invention); G03G15/00 (Advanced/Non–invention); G03G15/00 G03G21/18 (Core/Invention)

International class (IPC 1–7)**:** G03G15/00 G03G21/16 G03G21/18

CPC: G03G21/1853 G03G21/186 G03G2221/1884 G03G15/00

European class: G03G21/18H1V G03G21/18H2C S03G221/18P4

US class: 399/111

Classification Explorer

Cited documents: US6405004 BB, US6173145 BA, US6101350 A, US6097906 A, US6011941 A, US5943529 A, US5138374 A, US5027152 A, JP6194896 A2, JP6130742 A2, JP1243073 A2, JP10003215 A2, EP0679966 A2, EP0679964 A2,

Forward Citations: WO07003005, USD533215, USD531661, USD531660, USD529541, USD528148, US9665040, US9599930, US9529304, US9494915, US9494890, US9383678, US9360831, US9304439, US9291942, US9207581, US9188906, US9152081, US9146500, US8909095, US8867955, US8010011, US7840152, US7813669, US7725051, US7577379, US7499664, US7412193, US7349657, US7349649, US7340197, US7224925, US7212769, US7184691, US7130562, US7127194, US7103300, US6980758, US2016026151, US2013064570, US2009116863, US2008025757, US2007071496, US2006099012, US2006051135, US2005260011, US2005191088, US2005169668, EP1806628, EP1768004, EP1768004, EP1536296, EP1536295, EP1536295, CN103970002,

Abstract:
Source: US2002076235A A process cartridge detachably mountable to a main assembly of an electrophotographic image forming apparatus, the process cartridge includes a cartridge frame; an electrophotographic photosensitve drum; a charger for charging the drum; a developing member for developing an latent image on the drum; a developer accommodating portion to be used the developing member; an engaging member for being supported by a receiving portion of a movable member provided in the main assembly when the engaging member is in the main assembly, wherein the engaging member is provided on–a portion of the cartrige frame which takes an upper position when the cartridge is inserted into the main assembly in a longitudinal direction thereof, at a downstream end positionin a direction of insertion of the cartridge into the main assembly; a first guide provided on an upper portion of the frame, at such a position as takes a downstream position, wherein the first guide is guided by a fixed guide provided in the main assembly; a second guide provided on a lower portion of the frame at such a downstream position, wherein the second guide is guided by a first guide recess provided in the main assembly; a third guiding portion provided on a lower portion the frame at such an upstream position, wherein the third guide is guided by a second guide recess; a driving force receiving member provided at a downstream end portion, wherein the driving force receiving member receives a driving force from a driving force transmitting member provided in the main assembly; and a positioning portion projected from the frame toward an upstream side in the inserting direction, wherein the positioning portion is disposed coaxially with the drum, and wherein when the engaging member supported by the receiving portion is released to permit the cartridge to lower to the mount position, the positioning portion is supported by a positioning recess provided in the main assembly.

50) Family number: 10683018 (US5640644A) © PatBase

Title: IMAGE FORMING APPARATUS HAVING TONER REPLENISHMENT DEVICE

Priority: JP19940125355 19940607 JP19940158736 19940711

Family:

Publication number	Publication date	Application number	Application date
DE69535150 D1	20060921	DE19956035150	19950606
DE69535150 T2	20070628	DE19956035150T	19950606
EP0686892 A2	19951213	EP19950108656	19950606
EP0686892 A3	19970730	EP19950108656	19950606
EP0686892 B1	20060809	EP19950108656	19950606
JP3707080 B2	20051019	JP19940158736	19940711
JP7333959 A2	19951222	JP19940125355	19940607
JP8030080 A2	19960202	JP19940158736	19940711
US5640644 A	19970617	US19950464119	19950605

Probable Assignee: KONICA CORP

Assignee(s):(std)**:** KONICA CORP ; KONISHIROKU PHOTO IND

Inventor(s):(std)**:** HIRAIKE FUMIAKI ; HIRAIKE FUMIAKI C O KONICA COR ; KIMURA KIYOSHI ; KIMURA KIYOSHI C O KONICA CORP

Inventor(s): KIMURA KIYOSHI C O KONICA CORPORATION ; HIRAIKE FUMIAKI C O KONICA CORP ; HIRAIKE FUMIAKI C O KONICA CORPORATION

Designated states: DE FR GB IT NL

International class (IPC 8–9)**:** G03G15/01 G03G15/08 G03G21/16 (Advanced/Invention); G03G15/01 G03G15/08 G03G21/16 (Core/Invention)

International class (IPC 1–7)**:** C03G15/08 G03G15/01 G03G15/08 G03G21/16

CPC: G03G15/0855 G03G15/0856 G03G15/0865 G03G15/0879 G03G15/0126

European class: G03G15/01D8 G03G15/08H2 G03G15/08H3

US class: 399/224 399/262 399/27

Classification Explorer

Cited documents: US5150162 A, JP4066982 A2, EP0702281 A2, EP0571767 A2, EP0503543 A2, EP0383160 A2,

Forward Citations: WO04036319, US9696656, US8989633, US7845782, US7470006, US7130567, US7076192, US6032010, US2016282759, US2007048028, US2005157010, US2005041999, US2004184841, JP8095366, JP3650658,

Abstract:
Source: US5640644A An image forming apparatus includes a toner replenishment device which replenishes a specified monocolor toner to a developing unit arranged around a surface of an image carrier, and which is connected to the developing unit. The apparatus further includes a toner amount detector provided in the toner replenishment device, a cover member provided on a toner replenishment opening portion formed in the toner replenishment device in such a manner that the cover member can be opened and closed, and a cover opening mechanism for enabling the cover member to be opened when the detector detects that the level of toner stored in the toner replenishment device is lower than a predetermined value.

0) US4963939A – CARTRIDGE DISCRIMINATING SYSTEM

51) Family number: 11590301 (US4963939A) © PatBase

Title: CARTRIDGE DISCRIMINATING SYSTEM

Priority: EP19870113843 19870922 JP19860226383 19860924 JP19860228869 19860927 JP19860228870 19860927 JP19860228871 19860927 JP19860234104 19860930 US19870099118 19870921 US19900561910 19900802

Family:

Publication number	Publication date	Application number	Application date
DE3752095 D1	19970904	DE19873752095	19870922
DE3752095 T2	19980205	DE19873752095T	19870922
DE3782790 D1	19930107	DE19873782790	19870922
DE3782790 T2	19930408	DE19873782790T	19870922
EP0261643 A2	19880330	EP19870113843	19870922
EP0261643 A3	19880601	EP19870113843	19870922
EP0261643 B1	19921125	EP19870113843	19870922
EP0478019 A2	19920401	EP19910122030	19870922
EP0478019 A3	19920422	EP19910122030	19870922
EP0478019 B1	19970730	EP19910122030	19870922
JP1912491 C3	19950309	JP19860226383	19860924
JP6042106 B4	19940601	JP19860226383	19860924
JP63080281 A2	19880411	JP19860226383	19860924
JP63082491 A2	19880413	JP19860228869	19860927
JP63082492 A2	19880413	JP19860228870	19860927
JP63082493 A2	19880413	JP19860228871	19860927
JP63085771 A2	19880416	JP19860234104	19860930
US4963939 A	19901016	US19870099118	19870921
US5184181 A	19930202	US19900561910	19900802

Probable Assignee: MITA INDUSTRIAL CO LTD

Assignee(s):(std)**:** MITA INDUSTRIAL CO LTD

Assignee(s): MITA INDUSTRIAL CO LTD OSAKA JP ; MITA IND CO LTD ; MITA INDUSTRIAL CO

Inventor(s):(std)**:** IDO MIKIO ; IMAFUKU TATSUO ; KOMATA HIROSHI ; KURANDO SHIGEO ; KURATO SHIGEO ; MAKIURA YOSHINORI ; MIFUNE EIJI ; OOURA JUNICHI ; OURA JUNICHI ; SHIGEMURA YUTAKA

Inventor(s): SHIGEMURA YUTAKA TAKARAZUKA SHI HYOGO 665 JP ; OOURA JUNICHI HIRAKATA SHI OSAKA 573 JP ; MIFUNE EIJI HIRAKATA SHI OSAKA 573 JP ; MAKIURA YOSHINORI TONDABAYASHI SHI OSAKA 584 JP ; KURANDO SHIGEO TAKATSUKI SHI OSAKA 569 JP ; IMAFUKU TATSUO KAGOSHIMA SHI KAGOSHIMA 891 01 JP ; IDO MIKIO SAKAI SHI OSAKA 588 JP ; IDO MIKIO SAKAI SHI OSAKA 568 JP ; KOMATA HIROSHI AMAGASAKI SHI HYOGO 611 JP ; OORA JUNICHI

Designated states: DE FR GB IT NL

International class (IPC 8–9): G03G15/01 G03G15/08 G03G21/00 (Advanced/Invention); G03G15/01 G03G15/08 G03G21/00 (Core/Invention)

International class (IPC 1–7): G03G15/01 G03G15/08

CPC: G03G15/0872 G03G15/0855 G03G15/0863 G03G15/0865 G03G15/0882 G03G2215/0695 G03G2215/0675 G03G2215/068 G03G2215/0685 G03G2215/0687

European class: G03G15/08H3 S03G215/06C1C S03G215/06C2 S03G215/06C4 S03G215/06C5 S03G215/06C8

US class: 335/203 355/203 355/260 399/12 399/262 D18/043 D18/43

Classification Explorer

Cited documents: US4963939 A, US4768055 A, US4666290 A, US4660505 A, US4634258 A, US4611899 A, US4605299 A, US4579443 A, US4478512 A, US3385500 A, JP64081977 A2, JP62173482 A2, JP6159364 A2, JP61292168 A2, JP61228871 A2, JP61228869 A2, JP61156165 A2, JP61132969 A2, JP61129667 A2, JP61083551 A2, JP61059364 A2, JP61041159 A2, JP61028979 A2, JP61019255 B4, JP60153065 A2, JP57089779 A2, EP0054967 A2, DE3415291 A1,

Forward Citations: WO9957610, WO15104931, WO06013621, USRE45513, USRE42312, USRE41779, USRE40058, USRE40021, USRE39773, US8892008, US8646770, US8396398, US8275295, US8244163, US8195070, US8128186, US8126375, US8121525, US8099187, US8068770, US8050597, US8027048, US8005406, US7991334, US7962069, US7922274, US7917087, US7894753, US7878505, US7869720, US7853184, US7853183, US7840167, US7835673, US7824627, US7822371, US7796914, US7793353, US7747202, US7734230, US7720417, US7720416, US7706699, US7702262, US7620815, US7515855, US7503668, US7490055, US7430762, US7419234, US7399131, US7366431, US7350720, US7344325, US7290146, US7237485, US7210755, US7162190, US7154519, US7149438, US7149438, US7133741, US7133144, US7082276, US7035555, US7018117, US7014287, US6985167, US6945524, US6941082, US6932527, US6922259, US6895191, US6832866, US6827411, US6826380, US6807380, US6802659, US6766119, US6758616, US6729719, US6722753, US6702282, US6694884, US6685312, US6559973, US6527356, US6488352, US6477335, US6473571, US6467888, US6438328, US6398335, US6397015, US6390590, US6375301, US6343883, US6339684, US6324350, US6311025, US6295422, US6289182, US6285836, US6271928, US6267463, US6266506, US6264301, US6263170, US6256469, US6249654, US6240262, US6239879, US6229967, US6212338, US6169860, US6161913, US6126265, US6113208, US6106089, US6099101, US6097908, US6097405, US6089687, US6088560, US6065824, US6039430, US6023594, US6019449, US6009287, US6009285, US5995774, US5995772, US5942067, US5835817, US5812156, US5807005, US5802435, US5761566, US5754923, US5699091, US5678121, US5634169, US5610692, US5579088, US5559589, US5475470, US5430531, US5392102, US5331388, US5309208, US5289242, US5283597, US5261326, US5218409, US5184181, US5132729, US5075724, US4978995, US2016313668, US2015257586, US2014270857, US2011002713, US2010296847, US2010254732, US2010189470, US2009180817, US2009123192, US2009086251, US2009074471, US2009035010, US2009027439, US2008316523, US2008310884, US2008302251, US2008286013, US2008166139, US2008124133, US2008118255, US2008116295, US2008100648, US2008038019, US2007212119, US2007177886, US2007160394, US2007160393, US2007154244, US2007147902, US2007122205, US2007077098, US2007043684, US2006279127, US2006204308, US2006165441, US2006123471, US2006122912, US2006104648, US2006072928, US2006071420, US2006056865, US2006034642, US2005271439, US2005257253, US2005174376, US2005174371, US2005169812, US2005060239, US2004228641, US2004218935, US2004203413, US2004136768, US2004114981, US2004109715, US2003216826, US2003200160, US2003197056, US2003189607, US2003180059, US2003164982, US2003152409, US2003021607, JP4308755, JP4308754, JP3437523, JP3267968, JP3054946, JP2062454, JP2015104931, JP2004338405, JP2001235936, JP1319065, JP1181049, GB2383500, GB2360739, GB2360739, GB2346221, GB2346221, GB2257093, GB2257093, GB2255202, GB2255202, EP1966065, EP1785844, EP1164022, EP1164022, EP1014213, EP1014213, EP0891865, EP0878306, EP0877337, EP0571767, EP0571767, DE4216126, DE4216126, DE3937198, DE19732628,

Abstract:
Source: US4963939A The present invention relates to a system for making discriminations between cartridges for housing toners to be equipped on image forming apparatus such as electrostatic copiers, laser beam printers, facsimiles, etc. in which while a cartridge indicating means is provided on a part of a toner housing cartridge, an indication detecting means for detecting the aforementioned cartridge indicating means is provided on the image forming apparatus proper side, so that the suitability of the type or position of the cartridge inserted is detected by detecting the cartridge indicating means by the aforementioned detecting means, when the cartridge has been inserted into the cartridge inserting part of the image forming apparatus proper.

0) US2008181660A – DEVELOPING DEVICE

52) Family number: 42068536 (US2008181660A) © PatBase

Title: DEVELOPING DEVICE

Priority: JP20070019866 20070130 JP20070019868 20070130

Family:

Publication number	Publication date	Application number	Application date
JP2008185829 A2	20080814	JP20070019866	20070130
JP2008185831 A2	20080814	JP20070019868	20070130
JP4872689 B2	20120208	JP20070019866	20070130
JP4893341 B2	20120307	JP20070019868	20070130
US2008181660 AA	20080731	US20080022205	20080130
US7742725 BB	20100622	US20080022205	20080130

Probable Assignee: BROTHER KOGYO KK

Assignee(s):(std)**:** BROTHER IND LTD

Assignee(s): BROTHER KOGYO KABUSHIKI KAISHA ; BROTHER KOGYO KK

Inventor(s):(std)**:** MASE SOICHIRO ; TAKAGI TAKEYUKI

Agent(s): BANNER AND WITCOFF LTD ATTORNEYS FOR CLIENT NOS 0166889 006760; BANNER AND WITCOFF LTD

International class (IPC 8–9): G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)

CPC: G03G15/0896

European class: G03G15/08S

US class: 399/120 399/258 399/262

Classification Explorer

Cited documents: US5608501 A, US5266998 A, US2008013988 AA, JP8062979 A2, JP7225514 A2, JP6035322 A2, JP2006163374 A2, JP2001042620 A2, JP11258898 A2,

Forward Citations: US8725037, US8131188, US2011243613, US2008239868, JP5722277, JP5663689, JP5622961, JP5622960, JP5622960, JP5622959, JP5622958, JP5568597, JP2014197216, JP2014157378, JP2014157377, JP2014157376, JP2014157375, JP2013250428, JP2013250364, JP2010054994,

Abstract:
Source: US2008181660A A developing device includes a developer carrier, a developing case and a toner cartridge. The toner cartridge includes a toner case including a first opening and a first blocking member. The developing case includes a second opening, a second blocking member and an opening/closing member. The opening/closing member is swingable among a first position where the toner cartridge is detached from the developing case and the second opening is closed, a second position where the toner cartridge is attached to the developing case and the first opening and the second opening are communicate with each other, and a third position between the first position and the second position where the toner cartridge is attached to the developing case and the first opening and the second opening are closed. The opening/closing member swings from the first position to the third position when the toner cartridge is attached to the developing case.

0) US5608501A – DEVELOPMENT UNIT AND TONER CARTRIDGE FOR USE IN...

53) Family number: 29259476 (US5608501A) © PatBase

Title: DEVELOPMENT UNIT AND TONER CARTRIDGE FOR USE IN AN IMAGE FORMATION APPARATUS

Priority: JP19940019227 19940216

Family:

Publication number	Publication date	Application number	Application date
DE69502039 D1	19980520	DE19956002039	19950213
DE69502039 T2	19981029	DE19956002039T	19950213
EP0668546 A2	19950823	EP19950300858	19950213
EP0668546 A3	19960403	EP19950300858	19950213
EP0668546 B1	19980415	EP19950300858	19950213
JP3044997 B2	20000522	JP19940019227	19940216
JP7225514 A2	19950822	JP19940019227	19940216
US5608501 A	19970304	US19940365773	19941229

Probable Assignee: BROTHER KOGYO KK

Assignee(s):(std)**:** BROTHER IND LTD

Assignee(s): BROTHER KOGYO K K NAGOYA AICHI JP ; BROTHER KOGYO KABUSHIKI KAISHA ; BROTHER KOGYO KK

Inventor(s):(std)**:** MAKINO KAZUMASA ; MAKINO KAZUMASA C O BROTHER KO ; MAKINO KAZUNORI

Inventor(s): MAKINO KAZUMASA C O BROTHER KOGYO K K ; MAKINO KAZUMASA C O BROTHER KOGYO K K NAGOYA SHI A ; MAKINO KAZUMASA C O BROTHER KOGYO KK

Designated states: DE FR GB

International class (IPC 8–9): G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)

International class (IPC 1–7): G03G15/06 G03G15/08

CPC: G03G15/0868 G03G15/0875 G03G15/0886 G03G15/0896 G03G2215/0665 G03G2215/067 G03G2215/0675 G03G2215/0685 G03G2215/0692

European class: G03G15/08H3B G03G15/08S S03G215/06C1A S03G215/06C1A2 S03G215/06C1C S03G215/06C4 S03G215/06C7

US class: 399/103 399/119

Classification Explorer

Cited documents: US5506665 A, US5419468 A, US5091750 A, US5089854 A, US5078303 A, US4937628 A, US4615364 A, US4460267 A, US4026241 A, JP63179377 A2, JP63011975, JP61053677 A2, JP4350870 A2, JP1298382, JP1296261 A2, EP0682297 A2, EP0661608 A2, EP0483440 A1, EP0435259 A2, EP0385865 A2, EP0225745 A1, DE3323086 A1,

Forward Citations: WO9900711, WO14192975, WO13101348, US9690231, US9684263, US9658590, US9588481, US9563169, US9477178, US9477177, US9453963, US9383717, US9360800, US9360797, US9239560, US9207572, US9104141, US9031451, US9014595, US8948650, US8934828, US8913921, US8879964, US8879948, US8873996, US8867968, US8867966, US8805264, US8792816, US8787803, US8774684, US8750753, US8712295, US8690459, US8682213, US8676095, US8649711, US8649710, US8639163, US8639156, US8588659, US8577250, US8554107, US8538288, US8521062, US8478163, US8369745, US8224215, US8195070, US8165505, US8155566, US8131189, US8005406, US8000634, US7979006, US7974558, US7957679, US7949282, US7925191, US7907875, US7835673, US7805097, US7801468, US7796923, US7773919, US7764909, US7747198, US7742725, US7697870, US7647005, US7639968, US7639966, US7634218, US7587155, US7577385, US7561836, US7561817, US7555251, US7519317, US7447470, US7430390, US7426363, US7292811, US7266330, US7203449, US7019870, US6828085, US6766133, US6741820, US6438345, US6185401, US6141519, US6006060, US5956551, US5839027, US5630198,

US5629759, US2017075295, US2015078710, US2013108233, US2012107020, US2011236039, US2011076056, US2010054819, US2010054816, US2009180802, US2009052949, US2008298836, US2008286013, US2008273895, US2008212997, US2008205926, US2008181661, US2008181660, US2008003021, US2007223971, US2007223965, US2007223964, US2007223963, US2007196136, US2007160381, US2007065184, US2006280526, US2006193658, US2006193652, US2006177241, US2005169672, US2005135841, US2004161266, US2002118403, KR100694128, JP6075546, JP4930565, JP2014232270, JP2012073437, JP2012037837, JP2011075887, JP2011053712, JP2011034121, JP2010230961, JP2008185831, JP2008185827, JP2008176215, JP2008107765, JP2007212966, JP2007086325, JP2007086324, JP2007086323, JP2007086322, EP3088965, EP2610681, EP2610681, EP2388656, EP2388655, EP2367069, EP2273319, EP2048546, EP2048546, EP1840669, EP1840668, EP1840667, EP1840666, EP1767999, EP1528439, EP1437632, EP1184741, EP1184741, EP1041454, EP1041453, EP0905577, EP0905577, EP0833233, EP0805379, EP0762233, EP0736814, CN102253622,

Abstract:
Source: US5608501A A development unit for use in an image formation apparatus is provided with a mechanism that allows a toner box to be removably attached to a case of the development unit. The mechanism includes a concave first shutter that closes a toner exhaust port formed in the toner box and a second convex shutter that closes a toner introduction port formed in an agitation chamber. The first and second shutter interlock with each other. Arms are provided on bosses formed along the outer circumference of support grooves in a pair of brackets in the case. The second shutter is attached to the arms, and the first shutter is provided between levers that pivot on the support shaft of the toner box. When the levers are pivoted while the support shaft is fitted into the support grooves, engagement projections formed on the levers are positioned in insertion grooves formed in the arms. The arms are then pivotally moved, so that the first and second shutters pivot while overlapping each other. As a result of this, unnecessary leakage of toner is prevented.

0) US5734949A – PROCESS CARTRIDGE AND IMAGE FORMING APPARATUS U...

54) Family number: 15886629 (US5734949A) © PatBase

Title: PROCESS CARTRIDGE AND IMAGE FORMING APPARATUS USABLE WITH THIS PROCESS CARTRIDGE

Priority: JP19910183933 19910628 JP19920079243 19920228 JP19920144484 19920604 US19920905552 19920625 US19940295087 19940824 JP20010033845 20010209 US19980017316 19980202 US19960754630 19961121

Family:

Publication number	Publication date	Application number	Application date
DE69210888 D1	19960627	DE19926010888	19920625
DE69210888 T2	19961114	DE19926010888T	19920625
EP0520802 A2	19921230	EP19920305876	19920625
EP0520802 A3	19931013	EP19920305876	19920625
EP0520802 B1	19960522	EP19920305876	19920625
HK150496 A	19960816	HK19960001504	19960808
JP2001249605 A2	20010914	JP20010033845	20010209
JP3278198 B2	20020430	JP19920144484	19920604
JP3599674 B2	20041208	JP20010033845	20010209
JP5303242 A2	19931116	JP19920144484	19920604
SG67936 A1	19991019	SG19960009347	19920625
US5734949 A	19980331	US19960754630	19961121
US5745823 A	19980428	US19920905552	19920625
US6016412 A	20000118	US19980017316	19980202

Probable Assignee: CANON KK

Assignee(s):(std): CANON KK

Assignee(s): CANON KABUSHIKI KAISHA ; CANON INC ; CANON K K ; CANON K K TOKIO TOKYO JP

Inventor(s):(std): WATANABE YOSHIAKI ; TANOUE MASAHIDE ; TAGAMI MASAHIDE ; SHINJI GOTO ; SAITO JUN ; MASAO ANDO ; JUN SAITO ; ISHI HIROYUKI ; INOUE RYUKICHI ; HIROYUKI ISHI ; ISODA YUZO ; ISHII HIROYUKI ; GOTO SHINJI ; ANDO MASAO ; YOSHIAKI WATANABE

Inventor(s): WATANABE YOSHIAKI C O CANON KABUSHIKI KAISH OHTA KU TOKYO JP ; WATANABE YOSHIAKI C O CANON KABUSHIKI KAISH OHTA K ; WATANABE YOSHIAKI C O CANON KABUSHIKI KAISH ; SAITO JUN C O CANON OHTA KU KK ; ISODA YUZO C O CANON OHTA KU KK ; ISHI HIROYUKI C O CANON KABUSHIKI KAISH OHTA ; GOTO SHINJI C O CANON OHTA KU KK ; ANDO MASAO C O CANON OHTA KU KK ; ANDO MASAO C O CANON OHTA KU TOKYO JP KK ; ANDO MASAO C O CANON KABUSHIKI KAISHA OHTA KU TOKYO JP ; ANDO MASAO C O CANON KABUSHIKI KAISHA OHTA KU TOKY ; ISHI HIROYUKI C O CANON KABUSHIKI KAISH OHTA KU TOKYO JP ; ISHI HIROYUKI C O CANON KABUSHIKI KAISH OHTA KU TO ; GOTO SHINJI C O CANON OHTA KU TOKYO JP KK ; GOTO SHINJI C O CANON KABUSHIKI KAISHA OHTA KU TOKYO JP ; GOTO SHINJI C O CANON KABUSHIKI KAISHA OHTA KU TOK ; ISODA YUZO C O CANON OHTA KU TOKYO JP KK ; ISODA YUZO C O CANON KABUSHIKI KAISHA OHTA KU TOKYO JP ; ISODA YUZO C O CANON KABUSHIKI KAISHA OHTA KU TOKY ; ANDO MASAO C O CANON KABUSHIKI KAISHA OHTA KU... ; GOTO SHINJI C O CANON KABUSHIKI KAISHA OHTA KU... ; ISODA YUZO C O CANON KABUSHIKI KAISHA OHTA KU... ; SAITO JUN C O CANON KABUSHIKI KAISHA OHTA KU... ; SAITO JUN C O CANON OHTA KU TOKYO JP KK ; SAITO JUN C O CANON KABUSHIKI KAISHA OHTA KU TOKYO JP ; SAITO JUN C O CANON KABUSHIKI KAISHA OHTA KU TOKYO

Designated states: DE FR GB IT

International class (IPC 8–9): G03G15/00 G03G21/00 G03G21/10 G03G21/16 G03G21/18 (Advanced/Invention); G03G21/00 G03G21/18 (Core/Invention)

International class (IPC 1–7): G03G15/00 G03G21/00 G03G21/16 G03G21/18

CPC: G03G21/1647 G03G21/1853 G03G2221/1654 G03G2221/183 G03G2221/1884

European class: G03G21/18H1V S03G221/16K1 S03G221/18P S03G221/18P4

US class: 399/111

Classification Explorer

Cited documents: US5500714 A, US5452056 A, US5331373 A, US5115272 A, US5047803 A, US4952989 A, US4912563 A, US4873548 A, US4785319 A, US3985436 A, JPS62186274, JPH0398061, JPH01229270, JP62186274 A2, JP4090561 A2, JP4070767 A2, JP3352668 A2, JP3352668 A2, JP3252669 A2, JP3252668 A2, JP3252667 A2, JP3252665 A2, JP3098061 A2, JP2042454 A2, JP1229270 A2, EP0407183 A2, EP0405514 A2, EP0397465 A1, EP0285139 A2, EP0276910 A1, DE3236854 A1,

Forward Citations: US9465356, US9046860, US9025997, US8725042, US8660462, US8478161, US7912404, US7725051, US7346293, US7286786, US6961528, US6922534, US6834173, US6463233, US6453136, US6169866, US6115569, US6115568, US6064843, US6061538, US5943529, US5937240, US5920753, US5815644, US5708922, US5678139, US5559581, US2016161884, US2012230724, US2012177399, US2008145095, US2007092286, US2006140667, US2005008395, US2003123896, US2003086723, JP8095467, JP8016068, JP6313998, JP4085993, JP3323649, JP3285415, JP3102997, JP2016057430, JP2005257716, GB2277486, EP3156853, EP2392974, EP1596258, EP1596258, EP1363169, EP1248163, EP1248163, EP0833227, EP0821292, EP0740226, EP0679966, EP0679966, EP0679963, EP0679959, EP0679959, EP0679959, EP0622701, EP0586046, DE4317392,

Abstract:
Source: US5734949A A process cartridge is detachably mountable to an image forming apparatus for forming an image on a recording material. The process cartridge includes an image bearing member, a process device for acting on the image bearing member, which includes a developing device for developing an image on the image bearing member, a frame, and a projection disposed on the upper surface of the frame and extending toward the developing device, the projection having (i) an upward inclined surface, (ii) a flat surface continuing from the upper inclined surface, and (iii) a downward inclined surface that is inclined toward the developing device.

0) US6334037B – IMAGE FORMING APPARATUS

55) Family number: 15827233 (US6334037B) © PatBase

Title: IMAGE FORMING APPARATUS

Priority: US20000506327 20000218 US20030745476 20031224 US20070949841 20071204

Family:

Publication number	Publication date	Application number	Application date
JP2001228693 A2	20010824	JP20000181927	20000616
JP3285573 B2	20020527	JP20000181927	20000616
US6334037 BA	20011225	US20000506327	20000218
USRE40021 E	20080122	US20030745476	20031224
USRE41779 E	20100928	US20070949841	20071204

Probable Assignee: TOSHIBA AMERICA BUSINESS SOLUTIONS INC

Assignee(s):(std)**:** TOSHIBA TEC KK

Assignee(s): TOSHIBA AMERICA BUSINESS SOLUTIONS INC ; TOSHIBA TEC CORP ; TOSHIBA TEC KABUSHIKI KAISHA

Inventor(s):(std)**:** ISE TOKIHIKO ; ITOH SHINICHI ; TANIYAMA YOSHIHARU

Agent(s): FOLEY AND LARDNER LLP

International class (IPC 8–9)**:** B65D83/06 G03G15/08 (Advanced/Invention)

International class (IPC 1–7)**:** B65D83/06 G03G15/08

CPC: G03G15/0886 G03G15/0868 G03G15/0872 G03G2215/067 G03G2215/0685

European class: G03G15/08H3C1 S03G215/06C1A2 S03G215/06C4

US class: 399/260 399/262

Classification Explorer

Cited documents: USRE40021 E, USD473588 S1, USD458962 S1, USD458961 S1, USD458960 S1, USD458302 S1, USD458301 S1, USD447167 S1, USD437347 S1, USD437346 S1, USD436121 S1, USD431595 S1, USD430197 S1, USD406162 S1, USD403348 S1, USD356813 S1, US6785497 BA, US6542709 BA, US6505006 BA, US6477335 BA, US6405011 BA, US6347195 BA, US6343883 BA, US6334037 BA, US6308036 BA, US6308017 BA, US6289182 BA, US6259877 BA, US6256470 BA, US6256469 BA, US6240262 BA, US6233421 BA, US6229977 BA, US6229976 BA, US6188859 BA, US6151459 A, US6137972 A, US6134411 A, US6128453 A, US6118951 A, US6104902 A, US6097903 A, US6091920 A, US6075963 A, US6067432 A, US6067423 A, US6064846 A, US6038422 A, US6032013 A, US6032010 A, US6019461 A, US5999759 A, US5991584 A, US5983059 A, US5970293 A, US5970291 A, US5970290 A, US5970273 A, US5966574 A, US5918095 A, US5918090 A, US5909610 A, US5908124 A, US5907756 A, US5890040 A, US5867757 A, US5857129 A, US5812915 A, US5794108 A, US5774773 A, US5774772 A, US5761566 A, US5737668 A, US5627631 A, US5589915 A, US5585899 A, US5557381 A, US5541715 A, US5534988 A, US5528349 A, US5500719 A, US5475469 A, US5455662 A, US5441177 A, US5331381 A, US5319426 A, US5296900 A, US5208637 A, US5088144 A, US4978995 A, US4963939 A, US4961088 A, US4878603 A, US4740808 A, US4436414 A, US4060105 A, US3721360 A, US3669072 A, US3581949 A, TW472988, TW472898, TW467298, TW450900, TW431308, JP9244369, JP9244369, JP9211977, JP9211947, JP9185311, JP9090727, JP8137364, JP7199618, JP7199574, JP7191539, JP7181788, JP7020703, JP63224986, JP6316060, JP63122939, JP63094267, JP63082493, JP63075769, JP6266227, JP6266227, JP6222665 A2, JP62173482, JP62089672 U1, JP62089672 U, JP6149061, JP6149051, JP6149048, JP6149048, JP6149047, JP6149047, JP61215575, JP61099176, JP6035320, JP60153066, JP60101571, JP56066959 U1, JP56066959 U, JP5333749, JP5224479, JP5081855 U, JP5081855, JP5040112 U, JP5040112, JP4062564, JP4060669, JP4001682, JP4000477, JP3153271, JP3002369 U, JP3002369, JP2016366 Y, JP2016366, JP2001175080, JP2001117458, JP2000347503, JP2000321860, JP2000221866, JP2000098725 A2, JP2000047466, JP2000019828, JP2000019828, JP1255875, JP11338210, JP11327272, JP11184232, JP11065390, JP11065252, JP10319705, JP10260574, JP10213957 A2, JP10171231, JP10171230 A2,

JP10048936, JP10020642, DE29914516 U1, DE29914516, DE29906174 U1, DE29813603 U1, DE20206622 U1, DE20206622, DE20110369 U1, DE20110369, DE20101041 U1, DE20101041, CN2465212 Y, CN1200796 A,

Forward Citations: USRE45513, USRE42312, USRE41779, USRE40058, USRE40021, US9639028, US9046820, US8909094, US8374527, US8290394, US8254815, US8050598, US8045901, US7970321, US7965963, US7899370, US7890027, US7881645, US7813679, US7729644, US7647012, US7522866, US7483659, US7433633, US7295798, US7110707, US7110707, US7024135, US6983116, US6785497, US2011211839, US2011097107, US2010322677, US2010111573, US2010111561, US2010111560, US2010046982, US2009285604, US2009103955, US2009003872, US2007264055, US2007098454, US2007048029, US2006194666, US2006133856, US2006008298, US2005265752, US2005002700, US2004265012, US2003235433, JP5931794, JP5812391, JP4422956, JP2014215524, JP2012234115, JP2010237588, JP2004138694, EP1494089, CN104122779, CN104122779, CN101852997, CN101852997, AU2008202680,

Abstract:
Source: US6334037B A developer cartridge which is rotatably mounted in the developing unit of an image forming apparatus, and supplies a developer to the developing unit while rotating includes a cylindrical cartridge main body having a developer outlet hole in the outer surface near one end, and a ring−like cartridge−side shutter which is fitted on the outer surface near one end of the cylindrical cartridge main body to be movable along the rotating shaft of the cylindrical cartridge main body between a position where the developer outlet hole is opened and a position where the developer outlet hole is closed. The developing unit has a guide for inserting the developer cartridge and a driving unit for rotating the developer cartridge, and the guide has a main body−side shutter with a hole. When the developer cartridge is mounted, the cartridge−side shutter moves from the position where the developer outlet hole is closed to the position where the developer outlet hole is opened, and the developer outlet hole aligns itself with the hole of the main body−side shutter. The cylindrical cartridge main body and the main body−side shutter integrally rotate to align the developer outlet hole and the hole of the main body−side shutter with a developer replenishment port formed below the main body−side shutter. Every time this happens, the developer in the developer cartridge is supplied from the developer replenishment port to the developing unit via the developer outlet hole and the hole of the main body−side shutter.

56) Family number: 56477772 (US2014140735A) © PatBase

Title: DEVELOPER MATERIAL HOLDING APPARATUS, SUPPORTING APPARATUS THAT SUPPORTS THE DEVELOPER MATERIAL HOLDING APPARATUS, AND IMAGE FORMING APPARATUS

Priority: JP20120254350 20121120

Family:

Publication number	Publication date	Application number	Application date
CN103838111 A	20140604	CN201310583521	20131120
EP2733551 A2	20140521	EP20130193325	20131118
JP2014102385 A2	20140605	JP20120254350	20121120
JP5822816 B2	20151124	JP20120254350	20121120
US2014140735 AA	20140522	US20130075127	20131108
US9268259 BB	20160223	US20130075127	20131108

Probable Assignee: OKI DATA KK

Assignee(s):(std): OKI DATA KK

Assignee(s): OKI DATA CORP

Inventor(s):(std): ODA YUKIYOSHI ; YUKIYOSHI ODA

Agent(s): BETTEN AND RESCH; RABIN AND BERDO PC

Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL NO PL PT RO RS SE SI SK SM TR

International class (IPC 8–9): G03G15/08 G03G21/16 (Advanced/Invention)

CPC: G03G15/0886 G03G15/0875 G03G2215/0692

US class: 1/1 399/258

Classification Explorer

Cited documents: US2011123232 AA, US2011116843, US0116843, JP3294879, JP3294878, JP2011191686 A2, JP2011191686, JP2011107539, JP2011107537, JP2010237588, JP2008112198, JP2007093697 A2, JP03294879, JP03294878,

Forward Citations: USD727412, US9599931, US2016299456,

Abstract:
Source: US2014140735A A toner cartridge is supported on a supporting apparatus and includes a chamber that holds toner therein. A shutter has a first engagement portion and is slidably mounted on the toner cartridge and is configured to open and close the opening. A second engagement portion is formed on a body of the toner cartridge. The supporting apparatus includes a supporting surface that supports the toner cartridge thereon. A first limiting element limits movement of the toner cartridge in an insertion direction of the toner cartridge. A stopper limits movement of the shutter in the insertion direction when the toner cartridge is inserted into the supporting apparatus. A second limiting element engages the first engagement portion and the second engagement portion to limit movement of the toner cartridge in a pull–out direction of the toner cartridge and movement of the shutter in the pull–out direction.

57) Family number: 30938157 (US2004190945A) © PatBase

Title: DEVELOPER SUPPLY CONTAINER, AND COUPLING–DRIVING MEMBER FOR DEVELOPER SUPPLY CONTAINER

Priority: EP20040001351 20040122 JP20030014010 20030122 US20040761316 20040122 US20050247287 20051012

Family:

Publication number	Publication date	Application number	Application date
CN100401205 C	20080709	CN200410039071	20040129
CN1517813 A	20040804	CN200410039071	20040129
DE602004046808 D1	20150430	DE200460046808T	20040122
EP1460487 A2	20040922	EP20040001351	20040122
EP1460487 A3	20041006	EP20040001351	20040122
EP1460487 B1	20150318	EP20040001351	20040122
JP2004226659 A2	20040812	JP20030014010	20030122
JP4323818 B2	20090902	JP20030014010	20030122
KR100742028 B1	20070723	KR20040004186	20040120
KR20040068002 A	20040730	KR20040004186	20040120
US2004190945 AA	20040930	US20040761316	20040122
US2006029434 AA	20060209	US20050247287	20051012
US6993273 BB	20060131	US20040761316	20040122
US7209686 BB	20070424	US20050247287	20051012

Probable Assignee: CANON KK

Assignee(s):(std): CANON KK

Assignee(s): CANON INC ; CANON K K ; CANON KABUSHIKI KAISHA

Inventor(s):(std): YAMADA YUSUKE ; YUSUKE YAMADA

Inventor(s): YAMADA YUSUKE OHTA KU

Agent(s): TBK; FITZPATRICK CELLA HARPER AND SCINTO

Designated states: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PT RO SE SI SK TR

International class (IPC 8–9): B65D83/06 G03G15/00 G03G15/06 G03G15/08 G03G21/00 (Advanced/Invention); G03G15/06 (Advanced/Non–invention); B65D83/06 G03G15/00 G03G15/06 G03G15/08 G03G21/00 (Core/Invention)

International class (IPC 1–7): B65D83/06 G03G15/06 G03G15/08 G03G21/00

CPC: Y10S222/01 B65D83/06 B65D2231/005 G03G15/0868 G03G15/0872 G03G15/0886 G03G15/06

European class: B65D83/06 G03G15/08H3B L65D231/00B

US class: 222/DIG.1 399/167 399/258 399/258P 399/262

Classification Explorer

Cited documents: US6947690 BB, US6892042 BB, US6768890 BB, US6256469 BA, US6032016 A, US6032013 A, US5828935 A, US2004009006 AA, US2002127029 AA, US2002106215 AA, US2002031638 AA, JP9160362 A2, JP200313987, JP2002327770 A2, JP2002318490 A2, JP11327273 A2, JP1048936, JP10063084 A2, JP10063076 A2, JP10048935 A2,

Forward Citations: USD616491, USD615584, USD615124, USD614232, USD611528, US9442421, US9239565, US9046820, US8929780, US8909094, US8290394, US8290378, US8160471, US8099028, US8045901, US7970321, US7965963, US7925184, US7890027, US7881645, US7835666, US7822369, US7796924, US7792470, US7729644, US7647012, US7599648, US7561821, US7499666, US7474866,

US7391999, US7386251, US7155138, US2014153972, US2012301188, US2011097107, US2010119265, US2010111573, US2010111561, US2010111560, US2010046982, US2009232546, US2009154956, US2009142104, US2009003872, US2008170889, US2008044205, US2007264055, US2007134021, US2007092302, US2007081834, US2007081833, US2006133855, US2006104660, US2005147428, JP5004157, JP2009186621, JP2009168856, JP2007303506, JP2006171537, JP2006139141, EP1548517, AU2007242927,

Abstract:
Source: US2004190945A A developer supply container detachably mountable to an image forming apparatus, the container includes a container body for accommodating the developer; drive connection member, provided substantially at a rotation center of the developer supply container, for driving engagement with a driving member provided in the image forming apparatus, wherein the drive connection member has a drive transmitting portion for transmitting a rotational force received from the driving member to the container body, wherein the drive transmitting portion is disposed so as to be idly rotatable for a sufficient time after start of rotation of the drive transmitting portion and before engagement with the container body.

58) Family number: 10779222 (US5450166A) © PatBase

Title: Process cartridge, recording apparatus, and method for assembling process cartridge

Priority: AU19920016434 19920410 JP19910077606 19910410 US19950432588 19950501 US19920949866 19921123 US19950418803 19950407 JP19920091037 19920410 US19970800760 19970213 WO1992JP00450 19920410 US19950545168 19951019

Family:

Publication number	Publication date	Application number	Application date
AT137871 E	19960515	AT19920908495T	19920410
AU199216434 A1	19921117	AU19920016434	19920410
AU199512335 A1	19950518	AU19950012335	19950217
AU199512336 A1	19950518	AU19950012336	19950217
AU658882 B2	19950504	AU19920016434	19920410
AU691229 B2	19980514	AU19950012335	19950217
AU693145 B2	19980625	AU19950012336	19950217
CA2083831 AA	19921125	CA19922083831	19920410
CA2083831 C	20000118	CA19922083831	19920410
DE69210534 D1	19960613	DE19926010534	19920410
DE69210534 T2	19961002	DE19926010534T	19920410
EP0538479 A1	19930428	EP19920908495	19920410
EP0538479 A4	19940216	EP19920908495	19920410
EP0538479 B1	19960508	EP19920908495	19920410
ES2086736 T3	19960701	ES19920908495T	19920410
HK118297 A	19970905	HK19970001182	19970626
JP2614384 B2	19970528	JP19920091037	19920410
JP5107822 A2	19930430	JP19920091037	19920410
KR970007794 B1	19970516	KR19920073142	19921208
SG43303 A1	19971017	SG19960007773	19920410
US5450166 A	19950912	US19920949866	19921123
US5581328 A	19961203	US19950418803	19950407
US5745824 A	19980428	US19970800760	19970213
WO9218910 A1	19921029	WO1992JP00450	19920410

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK

Assignee(s): YASHIRO MASAHIKO ; CANON INC ; CANON K K ; CANON K K TOKIO TOKYO JP ; CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** YASHIMORO MASAHIKO ; YASHIRO MASAHIKO

Inventor(s): YASHIRO MASAHIKO YOKOHAMA SHI KANAGAWA 232 JP ; CANON KK ; MASAHIKO YASHIRO

Agent(s): SPRUSON AND FERGUSON; ASPEN PHARMA PTY LTD; RIDOUT AND MAYBEE LLP

Designated states: AT AU BE CA CH DE DK ES FR GB GR IT KR LI LU MC NL SE US

International class (IPC 8–9): G03G15/00 G03G21/18 (Advanced/Invention); G03G15/00 (Core/Invention)

International class (IPC 1–7): G03G15/00 G03G21/18

CPC: G03G21/181 G03G21/1825 G03G2221/163 G03G2221/1654 G03G2221/1846 G03G2221/1861 G03G2221/1876

European class:

G03G21/18C2 G03G21/18C4S S03G221/16D S03G221/16K1 S03G221/18P2 S03G221/18P3A S03G221/18P3C

US class: 355/210 399/111 399/113

Classification Explorer

Cited documents: US5450166 A, US5153649 A, US5115272 A, US5061959 A, US5028966 A, US4866482 A, JP61279870 A2, JP60168175 A2, JP3015864 A2, JP1244472 A2, EP0433061 A2, EP0405514 A2, EP0329145 A2, EP0240168 A1, DE3907875 A1, AU1797583 A1,

Forward Citations: WO0071960, WO0071960, USD539335, US9599921, US9529302, US9417603, US9383720, US9323214, US9323178, US9298130, US9268300, US9046860, US8824921, US8725042, US8364059, US8311449, US8121520, US7949283, US7920806, US7865111, US7742720, US7660545, US7630661, US7537410, US7489885, US7457563, US7403733, US7274896, US7248814, US7245850, US7231167, US7231161, US7224923, US7218878, US7162182, US7146121, US7136609, US7092655, US6999696, US6885838, US6873810, US6871031, US6836629, US6804475, US6690903, US6647226, US6580888, US6577831, US6546217, US6499924, US6481081, US6473585, US6445894, US6411789, US6408142, US6400914, US6397027, US6397016, US6384940, US6330410, US6327448, US6308028, US6256471, US6219507, US6215969, US6173140, US6154623, US6128452, US6088556, US6070029, US6064843, US6041203, US6016416, US6016413, US5953560, US5950047, US5937240, US5930561, US5920752, US5895143, US5884136, US5881341, US5878309, US5873012, US5835823, US5835822, US5802433, US5768660, US5758233, US5745824, US5689774, US5619309, US5617579, US5500714, US2013216264, US2013051849, US2010296836, US2010143012, US2010021200, US2009238603, US2009052936, US2008101858, US2007264045, US2006056878, US2006056877, US2006056876, US2005207781, US2005207780, US2005135837, US2004184834, US2004126132, KR101526166, JP9043921, JP8305252, JP8305248, JP6137026, JP3774488, JP3603679, JP3387697, JP3154642, JP2015197528, JP2012128084, JP2008058405, JP2001022250, EP2798408, EP1248163, EP1065575, EP1065575, EP0740231, EP0740229, EP0740229, EP0679966, EP0586041, DE19860959, DE19860959, AU713394, AU2012363068,

Abstract:
Source: US5450166A PCT No. PCT/JP92/00450 Sec. 371 Date Nov. 23, 1992 Sec. 102(e) Date Nov. 23, 1992 PCT Filed Apr. 10, 1992 PCT Pub. No. WO92/18910 PCT Pub. Date Oct. 29, 1992.The present invention realizes to shorten the assembling process of a process cartridge, by employing a first support member supporting an image bearing member, a second support member supporting a development unit for acting on the image bearing member to thereby develope an image of the image bearing member, a defining member for defining the rotary shaft between the first and second support members, and a compression spring for generating an elastic force between the image bearing member and the development unit.

0) US2009080909A – IMAGE FORMING APPARATUS

59) Family number: 43058511 (US2009080909A) © PatBase

Title: IMAGE FORMING APPARATUS

Priority: JP20070246019 20070921

Family:

Publication number	Publication date	Application number	Application date
CN101393405 A	20090325	CN200810211693	20080918
CN101393405 B	20110119	CN200810211693	20080918
JP2009075467 A2	20090409	JP20070246019	20070921
JP4418832 B2	20100224	JP20070246019	20070921
US2009080909 AA	20090326	US20080202585	20080902
US8064783 BB	20111122	US20080202585	20080902

Probable Assignee: SHARP KK

Assignee(s):(std)**:** AKEDO SHUICHI ; KIMURA TAKAHIKO ; SHARP KK ; USUI TOMOYA

Assignee(s): SHARP CORP ; SHARP K K ; SHARP KABUSHIKI KAISHA

Inventor(s):(std)**:** AKEDO SHUICHI ; AKETO SHUICHI ; KIMURA TAKAHIKO ; SHUICHI AKEDO ; TAKAHIKO KIMURA ; TOMOYA USUI ; USUI TOMOYA

Agent(s): HARAKENZO WORLD PATENT AND TRADEMARK; NIXON AND VANDERHYE PC

International class (IPC 8–9): G03G15/00 G03G15/08 G03G21/00 G03G21/18 (Advanced/Invention); G03G15/00 G03G15/08 G03G21/00 G03G21/18 (Core/Invention)

CPC: G03G15/0872 G03G15/0855 G03G15/0863 G03G15/0865 G03G2215/067 G03G2215/0697

European class: G03G15/08H3 S03G215/06C1A2 S03G215/06C8E

US class: 399/13 399/13P 399/83

Classification Explorer

Cited documents: US5636032 A, US4961088 A, US2003228171 AA, JP200508366, JP200461529, JP2004306541, JP2004155145, JP2004069943 A2, JP2002229414, JP2002169428, JP2000231322, JP11338329, JP08101619,

Forward Citations: US9411303, US9317004, US9291992, US9285758, US9280087, US9261851, US9229367, US9164425, US9152083, US9134697, US8928482, US8401434, US8325053, US2015139698, US2010231402, US2010172673, TWI574126, JP2012118493, EP2911007, CN104849974,

Abstract:
Source: US2009080909A An image forming apparatus includes: a toner cartridge supporting member which is movable between (i) an insertion position indicating that the toner cartridge is in the predetermined position and (ii) a draw−out position indicating that the toner cartridge is drawn out from the predetermined position; a detection device which detects a movement of the toner cartridge supporting member in a direction pointing from the insertion position toward the draw−out position; an information storage device which is provided in the toner cartridge; a connector which is provided so as to be detached from or fitted to the information storage device so as to be movable in a moving direction of the toner cartridge supporting member; and an information processing device which is capable of communicating with the information storage device via the connector and which carries out a communication stop process for causing a communication between the information processing device and the information storage device to be stopped when the detection device detects the movement of the toner cartridge supporting member. This prevents a communication error from occurring in the communication between the information storage device on the toner cartridge side and the information processing device on the image forming apparatus side when the toner cartridge is suddenly drawn out from the image forming apparatus.

0) US2005220476A – PROCESS CARTRIDGE, METHOD OF ASSEMBLING PROCESS...

60) Family number: 32285719 (US2005220476A) © PatBase

Title: PROCESS CARTRIDGE, METHOD OF ASSEMBLING PROCESS CARTRIDGE, AND CONNECTING MEMBER

Priority: JP20040099503 20040330 JP20040099504 20040330 JP20040144839 20040514 JP20040273534 20040921 US20040960117 20041008 US20050233067 20050923 JP20040253011 20040831

Family:

Publication number	Publication date	Application number	Application date
CN1677261 A	20051005	CN200410090388	20041112
CN1677261 B	20120328	CN200410090388	20041112
DE602004017581 D1	20081218	DE200460017581T	20041012
EP1600826 A2	20051130	EP20040024310	20041012
EP1600826 A3	20051207	EP20040024310	20041012
EP1600826 B1	20081105	EP20040024310	20041012
JP2005284073 A2	20051013	JP20040099503	20040330
JP2005316357 A2	20051110	JP20040273534	20040921
JP2005326647 A2	20051124	JP20040144839	20040514
JP2006071807 A2	20060316	JP20040253011	20040831
JP3885062 B2	20070221	JP20040099503	20040330
JP3997222 B2	20071024	JP20040253011	20040831
JP4314150 B2	20090812	JP20040144839	20040514
JP4630615 B2	20110209	JP20040273534	20040921
KR100723557 B1	20070531	KR20040092284	20041112
KR20050096821 A	20051006	KR20040092284	20041112
US2005220476 AA	20051006	US20040957616	20041005
US2005220480 AA	20051006	US20040951604	20040929
US2005220490 AA	20051006	US20040960117	20041008
US2005254862 AA	20051117	US20040957610	20041005
US2006051133 AA	20060309	US20050233067	20050923
US7003247 BB	20060221	US20040960117	20041008
US7072601 BB	20060704	US20040957616	20041005
US7164875 BB	20070116	US20040951604	20040929
US7218882 BB	20070515	US20040957610	20041005
US7457566 BB	20081125	US20050233067	20050923

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK

Assignee(s): CANON CO ; CANON CO LTD ; CANON INC ; CANON K K ; CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** ATSU NUUE ; KAKITANI MASAKI ; KAKIYA MASAKI ; KOISHI ISAO ; SATO MASAAKI ; TAKAHITO UENO ; TOBA SHINJIRO ; UENO TAKAHITO ; YOU KONISHI ; MIYABE SHIGEO ; NUMAGAMI ATSUSHI

Inventor(s): NUUE ATSU ; KONISHI YOU

Agent(s): TBK–PATENT; FITZPATRICK CELLA HARPER AND SCINTO

Designated states: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PL PT RO SE SI SK TR

International class (IPC 8–9)**:** F16D1/104 G03G15/00 G03G15/02 G03G15/08 G03G21/00 G03G21/16 G03G21/18 G03G5/00 (Advanced/Invention); G03G15/00 G03G15/02 (Advanced/Non–invention); F16D1/00 G03G15/00 G03G15/02 G03G15/08 G03G21/00 G03G21/16 G03G21/18

G03G5/00 (Core/Invention)

International class (IPC 1–7): F16D1/104 G03G15/00 G03G15/02 G03G15/08 G03G21/18 G03G5/00

CPC: F16D1/104 G03G15/757 G03G21/1853 G03G21/186 G03G2221/1657 G03G15/80 G03G21/181 G03G21/1871 G03G2221/166 G03G2221/1861 G03G15/0812 G03G2215/0634 G03G21/1839 G03G2221/1884

European class: F16D1/104 G03G15/08F3 G03G15/75F G03G15/80 G03G21/18C2 G03G21/18H G03G21/18H1V G03G21/18H2C G03G21/18H3P S03G215/06B S03G221/16K2 S03G221/16K3 S03G221/18P3A S03G221/18P4

US class: 399/111 399/111S 399/113 399/116 399/117 399/167 399/167P 399/284 399/284P 399/88 399/90 399/90P

Classification Explorer

Cited documents: US7020410 BB, US6937835 BB, US6934485 BB, US6901229 BB, US6901229 BA, US6901229 B1, US6895199 BB, US6895199 BA, US6895199 B1, US6829455 BB, US6829455 BA, US6829455 B1, US6795672 BB, US6714752 BB, US6714752 BA, US6714752 B1, US6714749 BB, US6608980 BB, US6608980 BA, US6608980 B1, US6603939 BA, US6577831 BA, US6571070 BB, US6571070 BA, US6571070 B1, US6549736 BB, US6542706 BB, US6522845 BB, US6522845 BA, US6522845 B1, US6519431 BA, US6463233 BB, US6463233 BA, US6463233 B1, US6442359 BA, US6381420 BA, US6334038 BA, US6330409 BA, US6298203 BA, US6289189 BA, US6272299 BA, US6246849 BA, US6188856 BA, US6169866 BA, US6169866 B1, US6167219 A, US6131007 A, US6118960 A, US6104894 A, US6097909 A, US6097908 A, US6070037 A, US6029032 A, US6016413 A, US6006058 A, US5966568 A, US5966566 A, US5940658 A, US5937242 A, US5920753 A, US5870654 A, US5768658 A, US5585889 A, US5500714 A, US4639121 A, US4378753 A, US2005047804 AA, US2004126131 AA, US2004101327 AA, US2004096239 AA, US2004057745 AA, US2004033092 AA, US2003228171 AA, US2003185589 AA, US2002085854 AA, US2002044794 AA, US2002018666 AA, US2002012547 AA, US2001055499 AA, JP9171303 A2, JP8190245 A2, JP2004126030 A2, JP2000186711 A2, JP2000112318 A2, JP2000112200 A2, JP2000098805 A2, JP11015354 A2, EP1195651 A2,

Forward Citations: US9678471, US9671751, US9658593, US9658592, US9632451, US9594343, US9529298, US9501031, US9477201, US9448509, US9429906, US9429877, US9423767, US9423761, US9423760, US9411261, US9400483, US9395679, US9389535, US9377755, US9348303, US9329522, US9304488, US9213266, US9188941, US9182733, US9176468, US9134696, US9091959, US9081323, US8995891, US8942595, US8862015, US8837981, US8712284, US8688008, US8688004, US8687994, US8682215, US8676090, US8670688, US8630564, US8606145, US8588640, US8583006, US8532533, US8526841, US8521060, US8498555, US8494411, US8494399, US8483589, US8452210, US8437669, US8433219, US8422914, US8417152, US8417144, US8401442, US8401441, US8391750, US8391748, US8369748, US8369744, US8340549, US8301054, US8295734, US8290403, US8280278, US8275287, US8275286, US8275283, US8270879, US8254801, US8233821, US8229320, US8213831, US8213828, US8155554, US8150293, US8139979, US7983589, US7953340, US7945200, US7945185, US7894733, US7890012, US7860433, US7853169, US7844198, US7813671, US7778570, US7778567, US7715746, US7711287, US7702251, US7693451, US7689146, US7630665, US7623815, US7603060, US7522862, US7499663, US7483649, US7483646, US7450877, US7440715, US7424253, US7283766, US7257350, US7209682, US7155140, US2015086249, US2014119772, US2014086642, US2013322920, US2011206412, US2011116832, US2011103832, US2011103827, US2011103823, US2011091239, US2011020031, US2010272469, US2010158563, US2010158556, US2010150614, US2010142996, US2010081112, US2010067946, US2010054807, US2010054806, US2010054805, US2010054804, US2010054796, US2009317134, US2009282991, US2009214255, US2009190955, US2009180801, US2009092411, US2009087217, US2009074454, US2009047037, US2009041498, US2009003875, US2008301819, US2008260428, US2008253803, US2008240773, US2008213008, US2008181678, US2008159774, US2008159772, US2008152388, US2008101824, US2008050153, US2008044201, US2007258728, US2007231007, US2007110478, US2007041751, US2007036579, US2007018384, US2006285878, US2006251445, US2006228127, US2006067734, US2006008289, US2005254858, US2005169664, JP6131800, JP5013174, JP3941116, JP2015060165, JP2008185780, JP2006163014, CN104049484, CN103454883, AU2007200524,

Abstract:
Source: US2005220476A A process cartridge detachably mountable on a main body of an electrophotographic image forming apparatus, and including a first unit for supporting an electrophotographic photosensitive member and a charging member for acting on the photosensitive member, a second unit provided with a force imparting portion, an electrically conductive connecting member for pivotally connecting the first unit and the second unit

together, and an electrically conductive member provided in the first unit, wherein the electrically conductive connecting member receives a bias to be supplied from the main body to the charging member when the process cartridge is mounted on the main body, the electrically conductive member is provided in contact with the connecting member to supply the charging member with the bias received by the connecting member when the process cartridge is mounted on the main body, and the force imparting portion imparts to the electrically conductive member an urging force for the electrically conductive member to urge the connecting member by the first unit and the second unit being moved relative to each other in the lengthwise direction thereof.

0) US2008181673A – TONER PATH OPENING AND CLOSING APPARATUS, IMAGE...

61) Family number: 42049729 (US2008181673A) © PatBase

Title: TONER PATH OPENING AND CLOSING APPARATUS, IMAGE FORMING DEVICE HAVING THE SAME AND TONER PATH OPENING AND CLOSING METHOD THEREOF

Priority: KR20070009137 20070129

Family:

Publication number	Publication date	Application number	Application date
CN101236385 A	20080806	CN200710185190	20071112
CN101236385 B	20111116	CN200710185190	20071112
EP1950623 A2	20080730	EP20070121114	20071120
EP1950623 A3	20130828	EP20070121114	20071120
KR101347158 B1	20140103	KR20070009137	20070129
KR20080071036 A	20080801	KR20070009137	20070129
US2008181673 AA	20080731	US20070873729	20071017
US7668489 BB	20100223	US20070873729	20071017

Probable Assignee: S PRINTING SOLUTION CO LTD

Assignee(s):(std)**:** SAMSUNG ELECTRONICS CO LTD

Assignee(s): S PRINTING SOLUTION CO LTD ; SAMSUNG ELECTRONICS CO

Inventor(s):(std)**:** DAE HO KIM ; EDUARD KURGI ; JI HOON WOO ; JIN GEUN KWAK ; KANG SUNG WOOK ; KIM DAE HO ; KURGI EDUARD ; KWAK JIN GEUN ; SUNG WOOK KANG ; WOO JI HOON

Agent(s): WALASKI JAN FILIP ET AL; WALASKI JAN FILIP; STEIN MCEWEN AND BUI LLP; STAAS AND HALSEY LLP

Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL PL PT RO RS SE SI SK TR

International class (IPC 8–9)**:** G03G15/00 G03G15/06 G03G15/08 G03G21/16 (Advanced/Invention); G03G15/00 G03G15/06 G03G15/08 G03G21/16 (Core/Invention)

CPC: G03G2215/0802 G03G15/0886 G03G15/0855 G03G15/0865

European class: G03G15/08H3 S03G215/08A

US class: 399/106 399/119 399/120 399/258 399/260 399/262

Classification Explorer

Cited documents: US5402216 A, US5132740 A, US2007237551 AA, JP6222664 A2, JP2004258472 A2, JP2002169364 A2, EP1845422 A2,

Forward Citations: WO15126038, US9417560, US9207575, US8918030, US8811862, US8787803, US8611788, US8095049, US8078087, US2012107020, US2011211868, US2010129118, US2010003056, US2009129824, EP2597528, EP2597528, AU2010202615,

Abstract:
Source: US2008181673A A toner path opening and closing apparatus of an image forming device includes a first shutter elastically supported by a first elastic member to open and close a first toner path, and a second shutter elastically supported by a second elastic member having an elastic modulus smaller than the first elastic member to open and close a second toner path by the first shutter. After the second toner path is opened by the first shutter, the first is opened, so that the first and second toner paths communicate with each other. The first toner path is a toner supplying pipeline to which a toner is supplied from a toner cartridge, and the second toner path is a toner injecting port disposed in a developing unit. In mounting of the developing unit, after the toner injecting port disposed in the developing unit is first opened, the toner supplying pipeline is opened, and in dismounting of the developing unit, after the toner supplying pipeline is first closed, the toner injecting port is closed, so that in mounting and dismounting of the developing unit, toner is prevented from being leaked through the toner paths.

0) US2006291909A – PROCESS CARTRIDGE FOR IMAGE FORMING APPARATUS

62) Family number: 34036580 (US2006291909A) © PatBase

Title: PROCESS CARTRIDGE FOR IMAGE FORMING APPARATUS

Priority: KR20050055059 20050624

Family:

Publication number	Publication date	Application number	Application date
KR100683184 B1	20070215	KR20050055059	20050624
KR20070000033 A	20070102	KR20050055059	20050624
US2006291909 AA	20061228	US20060371075	20060309
US7505716 BB	20090317	US20060371075	20060309

Probable Assignee: S PRINTING SOLUTION CO LTD

Assignee(s):(std)**:** SAMSUNG ELECTRONICS CO LTD

Assignee(s): S PRINTING SOLUTION CO LTD ; SAMSUNG ELECTRONICS CO

Inventor(s):(std)**:** PARK JONG HYUN

Agent(s): STEIN MCEWEN AND BUI LLP

International class (IPC 8–9)**:** G03G15/06 G03G15/08 (Advanced/Invention); G03G15/06 (Advanced/Non–invention); G03G15/06 G03G15/08 (Core/Invention)

CPC: G03G15/0886 G03G15/0855 G03G15/0865 G03G15/0875 G03G2215/0692 G03G15/06

European class: G03G15/08H3 S03G215/06C7

US class: 399/106 399/113 399/119 399/258

Classification Explorer

Cited documents: US6968147 BB, US5708925 A, US2002085857 AA, JP8234552 A2, JP5333694 A2, JP2004126018 A2, JP2003122099 A2, JP2002268356 A2, JP10161410 A2,

Forward Citations: US8897677, US7962072, US2013121731, US2008131170, JP2011242528,

Abstract:
Source: US2006291909A A process cartridge of an image forming apparatus including a development cartridge including, a development cartridge housing with a toner inlet port therein, and a toner inlet port cover movably formed at the development cartridge housing, to open and close the toner inlet port, having a rib at a leading end thereof and a locking recess at a lateral surface thereof; and a toner cartridge including, a toner cartridge housing, detachably engaged with the development cartridge, having toner provided therein, a toner supply part provided with a toner supply port and a locking protrusion to contact the rib of the toner inlet port cover, and a locker to lock in the locking recess of the toner inlet port cover. As the toner cartridge is engaged with the development cartridge, the locking protrusion of the toner supply part contacts the rib of the toner inlet port and the locker is locked in the locking recess of the toner inlet port so that the toner inlet port cover moves in engagement and disengagement directions with respect to the toner cartridge to open and close the toner inlet port of the development cartridge.

0) US2008124105A – DEVELOPER CARTRIDGE, IMAGE FORMING APPARATUS, A...

63) Family number: 41039150 (US2008124105A) © PatBase

Title: DEVELOPER CARTRIDGE, IMAGE FORMING APPARATUS, AND SHUTTER DEVICE

Priority: JP20060184708 20060704 JP20060184709 20060704 WO2007JP63337 20070704 JP20060184710 20060704

Family:

Publication number	Publication date	Application number	Application date
CN101356480 A	20090128	CN200780001420	20070704
CN101356480 B	20110713	CN200780001420	20070704
CN101916061 A	20101215	CN201010250993	20070704
CN101916061 B	20131009	CN201010250993	20070704
EP2037330 A1	20090318	EP20070768107	20070704
JP2008015106 A2	20080124	JP20060184708	20060704
JP2008015107 A2	20080124	JP20060184709	20060704
JP2008015108 A2	20080124	JP20060184710	20060704
JP4386052 B2	20091216	JP20060184708	20060704
JP4386053 B2	20091216	JP20060184709	20060704
JP4419991 B2	20100224	JP20060184710	20060704
US2008124105 AA	20080529	US20070772715	20070702
US7783234 BB	20100824	US20070772715	20070702
WO08004566 A1	20080110	WO2007JP63337	20070704

Probable Assignee: SEIKO EPSON CORP

Assignee(s):(std)**:** FUKUMOTO TAKATOMO ; ICHIKAWA KAZUHIRO ; OKAMOTO KATSUMI ; OSHIMA TOSHIAKI ; SEIKO EPSON CORP

Inventor(s):(std)**:** TOSHIAKI OSHIMA ; TAKATOMO FUKUMOTO ; OSHIMA TOSHIAKI ; OKAMOTO KATSUMI ; KAZUHIRO ICHIKAWA ; KATSUMI OKAMOTO ; ICHIKAWA KAZUHIRO ; FUKUMOTO TAKATOMO

Agent(s): HOFFMANN EITLE; ISSHIKI AND CO; HOGAN AND HARTSON LLP; ISSHIKI CO

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9): B65D83/06 G03G15/00 G03G15/043 G03G15/08 G03G21/16 (Advanced/Invention); B65D83/06 G03G15/043 G03G15/08 G03G21/16 (Core/Invention)

CPC: G03G15/0886 G03G15/0855 G03G15/0865 G03G15/0872 G03G2215/0692

European class: G03G15/08H3 S03G215/06C7

US class: 399/106 399/111 399/260 399/262 399/51

Classification Explorer

Cited documents: WO06052005 A2, US7450890 BB, US7426363 BB, US7266330 BB, US7111654 BB, US6438345 BA, US6185401 BA, US5771427 A, US5761585 A, US5697014 A, US5678147 A, US5630198 A, US2008260422 AA, US2008013988 AA, US2006104671 AA, US2005135841 AA, JP8305148 A2, JP8146734 A2, JP6386652 U, JP63086652 U1, JP63086652 U, JP63086652 U, JP6208299 A2, JP2006163374 A2, JP2006163374, JP2006084844 A2, JP2005326869 A2, JP2005326869, JP2005221866 A2, JP2005173568 A2, JP2003107892 A2, JP2002091144 A2, JP2001201925 A2, JP2001201925, JP2001083788 A2, JP2001083788, JP2000098724 A2, JP11282233 A2, JP11194600 A2, JP1055103, JP10055103 A2, JP10055103, EP1659455 A2, EP1533664 A1, EP1528439 A1, EP1437632 A1, EP0905577 A2, EP0805379 A1, EP0793149 A1,

Forward Citations: US9207578, US9176426, US8958725, US8754326, US8712295, US8244162, US8229330, US8190066, US7983590, US2017003646, US2013216272, US2009116877,

US2009087224, US2009087215, US2008298835, JP5595642, JP2012058412, JP2010237259, JP2009258480, EP2660659, CN102591178,

Abstract:
Source: US2008124105A A developer cartridge, including: a container for containing developer; a shutter that is supported so that the shutter can linearly move relative to the container, and that opens and closes by moving linearly; a handle member that is supported so that the handle member can rotationally move relative to the container, and that includes a handle; and a conversion mechanism by which rotational−movement force that rotationally moves the handle member is converted into linear−movement force that linearly moves the shutter.

0) US2008199212A – REMOVABLY MOUNTABLE FRAME FOR AN IMAGE PROCESSS...

64) Family number: 34085483 (US2008199212A) © PatBase

Title: REMOVABLY MOUNTABLE FRAME FOR AN IMAGE PROCESSSING APPARATUS, A REMOVABLY MOUNTABLE ADAPTOR FOR AN IMAGE PROCESSING APPARATUS AND CARTRIDGES FOR USE WITH A REMOVABLY FRAME AND REMOVABLY MOUNTABLE ADAPTOR

Priority: AU20050903654 20050705 WO2006AU00936 20060705

Family:

Publication number	Publication date	Application number	Application date
US2008199212 AA	20080821	US20060994761	20060705
US8010011 BB	20110830	US20060994761	20060705
WO07003005 A2	20070111	WO2006AU00936	20060705
WO07003005 A3	20070419	WO2006AU00936	20060705

Probable Assignee: KATUN CORP

Assignee(s):(std): GCC IP PTY LTD ; TSUI SAMUEL ; MERCER CHRISTOPHER ; KATUN CORP

Assignee(s): JPMORGAN CHASE BANK NATIONAL ASSOCIATION ADMINISTRATIVE AGENT AS ; SAMC FUNDING I LTD ; HSBC BANK USA ; JPMORGAN CHASE BANK NATIONAL ASSOCIATION ADMINISTR ; COMVEST CAPITAL III LP ADMINISTRATIVE AGENT AS

Inventor(s):(std): MERCER CHRISTOPHER ; MERCER CHRISTOPHER PAUL ; TSUI SAMUEL

Agent(s): BROOKS KUSHMAN PC; SCHWEGMAN LUNDBERG AND WOESSNER PA

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD MG MK ML MN MR MW MX MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9): G03G21/16 G03G21/18 (Advanced/Invention); G03G21/16 G03G21/18 (Core/Invention)

CPC: G03G21/186 G03G21/1864

European class: G03G21/18H2C G03G21/18H2P

US class: 399/110 399/111 399/111P 399/113

Classification Explorer

Cited documents: US7747191 BB, US7526228 BB, US7305204 BB, US7062192 BB, US6813469 BB, US6584293 BA, US5528343 A, US4432632 A, EP1403734 A1, EP1207437 A2, EP1118914 A2, DE20209842 U1,

Forward Citations: US9678471, US9671751, US9658593, US9658592, US9594343, US9477201, US9377755, US9348303, US9235183, US9176468, US8874003, US2014294445, US2013308981, EP2784598, CN104076644,

Abstract:
Source: US2008199212A A removably mountable frame comprising a driving force receiving means adapted to engage a driving force transmitting means of an image processing apparatus when the removably mountable frame is received within the image processing apparatus; and at least one frame driving force transmitting means, each frame driving force transmitting means adapted to co−axially engage corresponding cartridge driving force receiving means of a cartridge when the cartridge is engagedly received within the removably mountable frame, where the external configuration of the removably mountable frame when the cartridge is received therein is adapted to be received within the image processing apparatus and where the driving force receiving means is further adapted to transfer driving force applied thereto to each of the at least one frame driving force transmitting means.

0) EP0485271A2 – PROCESS CARTRIDGE AND IMAGE FORMING APPARATUS U...

65) Family number: 33535953 (EP0485271A2) © PatBase

Title: Process cartridge and image forming apparatus usable therewith.

Priority: EP19910402953 19911105 JP19900301779 19901106 JP19910054446 19910319

Family:

Publication number	Publication date	Application number	Application date
EP0485271 A2	19920513	EP19910402953	19911105
EP0485271 A3	19920909	EP19910402953	19911105
EP0485271 B1	19970723	EP19910402953	19911105
EP0692745 A2	19960117	EP19950202631	19911105
EP0692745 A3	19961120	EP19950202631	19911105
EP0692745 B1	20000510	EP19950202631	19911105
EP0692746 A2	19960117	EP19950202635	19911105
EP0692746 A3	19961120	EP19950202635	19911105
EP0692746 B1	20000906	EP19950202635	19911105

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK

Assignee(s): CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** IKEMOTO ISAO ; KARAKAMA TOSHIYUKI ; NOMURA YOSHIYA ; SASAKI SHINICHI ; SHIRAI HIROYUKI ; TSUDA TADAYUKI ; WATANABE KAZUSHI

Designated states: DE FR GB IT

International class (IPC 8–9): G03G21/18 (Advanced/Invention)

International class (IPC 1–7): G03G15/00 G03G21/18

CPC: G03G21/181 G03G21/1817 G03G2215/00987 G03G2221/1633 G03G2221/1648 G03G2221/1651 G03G2221/1654 G03G2221/1669 G03G2221/1853 G03G2221/1876

European class: G03G21/18C2 G03G21/18C4 S03G215/00R S03G221/16D1 S03G221/16J S03G221/16K S03G221/16K1 S03G221/16M S03G221/18P3 S03G221/18P3C

Classification Explorer

Cited documents: US4866482 A, US4851960 A, US4757344 A, US4605299 A, JP2257146 A2, JP2168277, JP2163769, JP2123376, GB2074095 A1, FR2611930 A1, EP0368346 A2, EP0330225 A2, EP0276910 A1, EP0276192 A1, DE8907136 U, DE8716525 U, DE4003695 A1,

Forward Citations: US8254804, US6983113, US6473577, US6308028, US6273300, US6272300, US6118958, US5870654, US5828928, US5689774, US5669042, US5652647, US5623328, US5619309, US5617579, US5543898, US5500714, EP2156936, EP1096338, EP0917022, EP0917022, EP0917019, EP0917019, EP0683439, EP0683439, EP0634707, EP0634707, EP0632342, EP0586044, EP0586044, EP0586041, EP0584417, EP0576758, AU675615,

Abstract:
Source: EP0485271A2 A process cartridge detachably mountable to an image forming apparatus includes an image bearing member; process device actable on the image bearing member; a first frame containing the image bearing member and the process device; and a second frame engageable with and disengageable from the first frame and containing a developer container.

66) Family number: 16014430 (US5970280A) © PatBase

Title: Image forming apparatus having a developing bias control unit

Priority: JP19970253891 19970918 JP19970287976 19971003 JP19980237544 19980824 US19980164282 19981001 JP19980267486 19980904 JP19980044701 19980209 US20000576440 20000522

Family:

Publication number	Publication date	Application number	Application date
DE19845852 A1	19990506	DE19981045852	19981005
DE19845852 B4	20050609	DE19981045852	19981005
JP11153900 A2	19990608	JP19980237544	19980824
JP11288157 A2	19991019	JP19980267486	19980904
JP3541691 B2	20040714	JP19980267486	19980904
US5970280 A	19991019	US19980154499	19980917
US6104900 A	20000815	US19980164282	19981001
US6336020 BA	20020101	US20000576440	20000522

Probable Assignee: RICOH KK

Assignee(s):(std): RICOH KK

Assignee(s): MINEBEA CO LTD ; RICOH CO ; RICOH CO LTD ; RICOH CO LTD TOKIO TOKYO JP ; RICOH COMPANY LTD ; ROCOH COMPANY LTD

Inventor(s):(std): ISHIKAWA TOMOJI ; KAWAMURA YOSHIHIDE ; KIMURA YOSHIYUKI ; OGATA FUMIO ; SHOJI HISAFUMI ; SHOJI HISASHI ; SUGIHARA KAZUYUKI ; MAEDA KENJI ; SUZUKI HIROKATSU

Inventor(s): MAEDA KENJI ISEHARA KANAGAEA JP ; SUGIHARA KAZUYUKI YOKOHAMA KANAGAWA JP ; KIMURA YOSHIYUKI TOKIO TOKYO JP ; ISHIKAWA TOMOJI YOKOHAMA KANAGAWA JP

International class (IPC 8–9): G03G15/01 G03G15/06 G03G15/08 (Advanced/Invention)

International class (IPC 1–7): G03G15/01 G03G15/06 G03G15/08

CPC: G03G15/0126 G03G15/065 G03G15/0896 G03G2215/0177

European class: G03G15/01D8 G03G15/06C G03G15/08S S03G215/01S2A

US class: 399/227 399/235 399/262 399/263 399/270 399/285 399/55

Classification Explorer

Cited documents: US6141520 A, US6122469 A, US6104900 A, US6072967 A, US5991569 A, US5956549 A, US5940664 A, US5918092 A, US5915151 A, US5903806 A, US5862442 A, US5850586 A, US5787328 A, US5778279 A, US5771423 A, US5768664 A, US5765059 A, US5761576 A, US5758235 A, US5752141 A, US5722020 A, US5646721 A, US5617198 A, US5600415 A, US5565973 A, US5552877 A, US5500719 A, US5416568 A, US5384628 A, US5296900 A, US5109254 A, US5105226 A, US4975748 A, JP9258534 A2, JP9197783 A2, JP9146363 A2, JP8171269 A2, JP8160724 A2, JP8044177 A2, JP7152239 A2, JP63136063 A2, JP59214054 A2, JP56014266 A2, JP5333673 A2, JP4199073 A2, JP3293379 A2, JP3024569 A2, JP2058069 A2, JP1170969 A2, EP0616268 A1, DE4437070 A1, DE19520340 A1,

Forward Citations: US9223261, US9176424, US8958718, US8879972, US8626037, US8600262, US8532522, US8498546, US8396398, US8369738, US8295742, US8290378, US8195070, US8121525, US8095045, US8027596, US8005406, US7983592, US7894753, US7853183, US7842443, US7840167, US7835673, US7835671, US7826756, US7822371, US7796922, US7796920, US7747202, US7734230, US7724394, US7720417, US7720416, US7697870, US7627260, US7593671, US7574155, US7554574, US7519317, US7505718, US7486916, US7480476, US7466945, US7457570, US7421239, US7398038, US7376370, US7313349, US7298991, US7280779, US7212773, US7162189, US7149462, US7139513, US7139513, US7136610, US7127197, US7127197, US7127195, US7110917,

US7110705, US7110705, US7106991, US7095969, US7079798, US7062207, US7050728, US7043182, US6999700, US6996354, US6987940, US6925277, US6917778, US6898384, US6889024, US6885836, US6885830, US6785497, US6763214, US6751433, US6724998, US6615014, US6597881, US6542710, US6415127, US6385423, US6336020, US6324354, US6134396, US2011038647, US2010329699, US2010254732, US2010119264, US2009279916, US2009175660, US2009175634, US2009123192, US2009074471, US2009028608, US2008286013, US2008260432, US2008124106, US2008085137, US2008038019, US2008003021, US2007274741, US2007177905, US2007160393, US2007147902, US2007134015, US2007127951, US2007122205, US2007122202, US2007122185, US2007081835, US2007077100, US2007036584, US2006251448, US2006182463, US2006140655, US2006078342, US2006072943, US2006029435, US2006013619, US2005281590, US2005281584, US2005196199, US2005196198, US2005180781, US2005175373, US2005111882, US2005088697, US2005078991, US2005031380, US2005019047, US2005013633, US2005002054, US2004265012, US2004265011, US2004247331, US2004223782, US2004170447, US2004114971, US2004101328, US2004037573, US2004028428, US2004018030, US2003202823, US2003185585, JP3695520, JP2014142445, JP2005189407, JP2001318523, EP1471380, EP1471380, EP1396764,

Abstract:
Source: US5970280A An image forming apparatus includes an image support which supports an electrostatic latent image on a surface of the image support. A developing unit has a developing agent support which retains a developing agent, including a toner and carriers, contained in the developing unit. The developing unit converts the latent image on the image support into a toner image by causing the toner to adhere to the surface of the image support. A developing bias supplying unit supplies a developing bias voltage to the developing agent support of the developing unit, the developing bias voltage being one of a DC bias voltage and an AC bias voltage. A timer measures a non−driven period of the developing agent in the developing unit. A control unit selects one of the DC bias voltage and the AC bias voltage from the developing bias supplying unit based on the non−driven period measured by the timer, and controls the developing bias voltage at an output of the developing bias supplying unit such that the selected one of the DC bias voltage and the AC bias voltage is supplied to the developing agent support.

0) US2011044720A – RETAINING CLIP FOR PRINTER CARTRIDGE

67) Family number: 48343407 (US2011044720A) © PatBase

Title: RETAINING CLIP FOR PRINTER CARTRIDGE

Priority: US20090274616P 20090818 US20100806665 20100817

Family:

Publication number	Publication date	Application number	Application date
US2011044720 AA	20110224	US20100806665	20100817
US8374524 BB	20130212	US20100806665	20100817

Probable Assignee: MITSUBISHI KAGAKU IMAGING CORP

Assignee(s):(std)**:** HOLMES DENNY ; MITSUBISHI KAGAKU IMAGING CORP ; RUMMLER CRAIG S

Inventor(s):(std)**:** HOLMES DENNY ; RUMMLER CRAIG S

Agent(s): MITSUBISHI KAGAKU IMAGING CORP

International class (IPC 8–9)**:** G03G15/00 G03G15/08 (Advanced/Invention)

CPC: G03G15/0855 G03G15/0865 G03G15/0875 G03G15/0896

European class: G03G15/08H3 G03G15/08S

US class: 399/109 399/109P 399/113

Classification Explorer

Cited documents: US6240605 BA,

Forward Citations: USD675672, USD674006, US8422911, US2011268470,

Abstract:
Source: US2011044720A There is provided a retaining clip apparatus and method for securing a toner feeder gear housing to a toner hopper of a toner printer cartridge. The apparatus comprises a first end configured to engage a protruding edge of the toner hopper. The apparatus further comprises a second end having a first surface configured to engage a portion of the toner feeder gear housing and having a second surface configured to engage a portion of the top cover housing, such that the second end is positioned within a space between the top cover housing and the toner feeder gear housing. The apparatus further comprises an elongated body portion connecting the first end to the second end.

0) US2012301188A – TONER CONTAINER, IMAGE FORMING APPARATUS, TONER...

68) Family number: 49556014 (US2012301188A) © PatBase

Title: TONER CONTAINER, IMAGE FORMING APPARATUS, TONER CONTAINER PRODUCING METHOD AND TONER CONTAINER RECYCLING METHOD

Priority: JP20100044052 20100301 WO2011JP54665 20110223

Family:

Publication number	Publication date	Application number	Application date
CN102859448 A	20130102	CN201180007914	20110223
CN102859448 B	20151014	CN201180007914	20110223
EP2542944 A1	20130109	EP20110750664	20110223
EP2542944 A4	20160817	EP20110750664	20110223
JP2011180348 A2	20110915	JP20100044052	20100301
JP5582385 B2	20140903	JP20100044052	20100301
MX2012008850 A1	20120912	MX20120008850	20110223
TW201144952 A	20111216	TW20110106712	20110301
TWI430056 B	20140311	TW20110106712	20110301
US2012301188 AA	20121129	US20110576275	20110223
US8929780 BB	20150106	US20110576275	20110223
WO11108554 A1	20110909	WO2011JP54665	20110223

Probable Assignee: RICOH CO LTD

Assignee(s):(std): RICOH CO LTD ; YAMABE JUNJI ; SUZUKI MASATO ; RICOH KK

Assignee(s): RICOH COMPANY LTD ; RICOH CO

Inventor(s):(std): SUZUKI MASAHITO ; SUZUKI MASATO ; YAMABE JUNJI

Inventor(s): JUNJI YAMABE ; MASATO SUZUKI

Agent(s): LAMB MARTIN JOHN CARSTAIRS; OBLON SPIVAK MCCLELLAND MAIER AND NEUSTADT LLP; HIROTA KOICHI

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9): B65D83/06 G03G13/08 G03G15/00 G03G15/08 (Advanced/Invention)

CPC: G03G15/0855 G03G15/0865 G03G15/0881 G03G15/0832 G03G15/0872 G03G2215/0668

European class: G03G15/08H3 S03G215/06C1A1

US class: 399/262

Classification Explorer

Cited documents: WO09116655 A1, US7184691 BB, US6298208 BA, US6097903 A, US4237943 A, US2011038647 AA, US2009279916 AA, US2007077100 AA, US2006251448 AA, US2005196198 AA, US2005157109 AA, US2004190945 AA, TW556058 B, TW556058, TW200941164 A, TW200941164, JP3628539 A2, JP2009271279 A2, JP2009271279, JP2009223047 A2, JP2000214669 A2, JP2000010389 A2, EP1022620 A1, CN1264855 A,

Forward Citations: US9581937, US9557685, US9547258, US9513576, US9482988, US9482987, US9465317, US9454099, US8781375, CN102236292, CN102236292,

Abstract:
Source: US2012301188A A toner container detachably mountable to an image forming apparatus, the toner container including: a cylindrical container which accommodates a toner; a cap portion which holds the cylindrical container such that the cylindrical container can rotate in a circular direction, with an end of the cylindrical

container inserted in the cap portion; and a sealing member lying between the end and an inner surface of the cap portion, wherein the toner in the cylindrical container is discharged to an inside of the cap portion through an opening provided in the end and the toner in the cap portion is discharged to an outside through a toner discharge port provided in the cap portion, as the cylindrical container rotates, and wherein the cylindrical container is provided with a seal receiving surface for fixing the sealing member, and the sealing member is fixed to the seal receiving surface.

0) US2002018668A – TONER SEAL MEMBER, DEVELOPMENT CARTRIDGE, PROCE...

69) Family number: 28168094 (US2002018668A) © PatBase

Title: TONER SEAL MEMBER, DEVELOPMENT CARTRIDGE, PROCESS CARTRIDGE AND ELECTROPHOTOGRAPHIC IMAGE FORMING APPARATUS

Priority: JP20000190857 20000626

Family:

Publication number	Publication date	Application number	Application date
EP1168100 A2	20020102	EP20010115290	20010625
EP1168100 A3	20090204	EP20010115290	20010625
JP2002006609 A2	20020111	JP20000190857	20000626
US2002018668 AA	20020214	US20010888604	20010626
US6560422 BB	20030506	US20010888604	20010626

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK ; CANON INC

Assignee(s): CANON KABUSHIKI KAISHA ; CANON KABUSHIKI KAISHA AB ; HASHIMOTO KOUJI ; KANNO KAZUHIKO ; KAWAI TACHIO ; SHIRATORI TATSUYA

Inventor(s):(std)**:** HASHIMOTO KOUJI ; KANNO KAZUHIKO ; KAWAI TACHIO ; SHIRATORI TATSUYA ; SUGANO KAZUHIKO ; HASHIMOTO KOJI

Agent(s): TBK–PATENT

Designated states: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI TR

International class (IPC 8–9): G03G15/08 (Advanced/Invention) ; G03G15/08 (Core/Invention)

International class (IPC 1–7): G03G15/08

CPC: G03G15/0882 G03G2215/0177 G03G2215/0687

European class: G03G15/08H3P S03G215/01S2A S03G215/06C5

US class: 399/106 399/258 399/262

Classification Explorer

Cited documents: US6301457 BA, US6246853 BA, US6240266 BA, US6226478 BA, US6178302 BA, US6175706 BA, US6163665 A, US6151459 A, US6128454 A, US6122458 A, US6115567 A, US6101352 A, US6072969 A, US6070029 A, US6055406 A, US6044235 A, US6016408 A, US5950049 A, US5940657 A, US5937240 A, US5926666 A, US5923924 A, US5903803 A, US5893006 A, US5870655 A, US5815644 A, US5745822 A, US5740500 A, US5729796 A, US5142335 A, JP9043952 A2, JP9006214 A2, JP4139466 A2, EP1059571 A2, EP1030228 A2, EP0923004 A2,

Forward Citations: WO15111445, USD491602, US9581958, US9429877, US9310719, US9291994, US9274499, US9213267, US9134688, US9025998, US8879954, US8867955, US8798501, US8755713, US8682211, US8639160, US8588647, US8583007, US8577252, US8515306, US8494409, US8467702, US8447209, US8442416, US8428490, US8346127, US8335454, US8285173, US8249485, US8218999, US8180262, US8170445, US8086135, US8059988, US8045899, US8005395, US7933534, US7929881, US7899364, US7848684, US7689146, US7555249, US7499663, US7310489, US7257353, US7233752, US7231164, US7212765, US7197260, US7130560, US7088938, US7085516, US7058337, US7046942, US7039339, US7027754, US7016626, US6975342, US6968142, US6947687, US6947686, US6937834, US6934489, US6834171, US2016209783, US2013136489, US2013028635, US2012070184, US2011229196, US2011170903, US2011142487, US2011103829, US2010221039, US2009297211, US2009290904, US2009290903, US2009245862, US2009245853, US2009245851, US2009074454, US2008240773, US2008170880, US2008138110, US2007237544, US2007092291, US2006216062, US2006204274, US2006198656, US2006147225, US2006133848, US2006045574, US2006008289, US2005281580, US2005220485, US2005191086, US2005095031, US2005053393, US2005047822, US2004126135, US2004075732, US2004037587, US2004005169, US2003156856, JP6035435, JP5777324, JP2015111445, JP2012103287, EP2977822, EP2600206,

Abstract:
Source: US2002018668A A toner sealing member to be used for sealing a developer container including a developer accommodating portion for accommodating a developer; and an opening for supplying the developer from the developer accommodating portion, the toner seal member being for sealing the opening, wherein the toner seal member unseals the opening by being automatically wound up when the developer container, the toner seal member including a sealing portion for covering and sealing the opening; a regulating portion for regulation an operation of a detecting member for detecting winding–up of the toner seal member to unseal the opening.

0) US5610692A – TONER HOPPER LOCKOUT MECHANISM

70) Family number: 11123511 (US5610692A) © PatBase

Title: TONER HOPPER LOCKOUT MECHANISM

Priority: US19940306049 19940914 US19960734933 19961022

Family:

Publication number	Publication date	Application number	Application date
DE69511194 D1	19990909	DE19956011194	19950424
DE69511194 T2	20000309	DE19956011194T	19950424
EP0702281 A2	19960320	EP19950106129	19950424
EP0702281 A3	19960619	EP19950106129	19950424
EP0702281 B1	19990804	EP19950106129	19950424
JP3860853 B2	20061220	JP19950262204	19950914
JP8087176 A2	19960402	JP19950262204	19950914
US5610692 A	19970311	US19940306049	19940914
US5802435 A	19980901	US19960734933	19961022

Probable Assignee: HEWLETT PACKARD DEVELOPMENT CO LP

Assignee(s):(std)**:** HEWLETT PACKARD CO ; KONISHIROKU PHOTO IND

Assignee(s): HEWLETT PACKARDCOMPANY LEGAL DEPARTMENT M S ; KONICA CORP ; HP INC ; HEWLETT PACKARD CO HP ; HEWLETT PACKARD DEVELOPMENT CO LP ; HEWLETT PACKARDCOMPANY

Inventor(s):(std)**:** HONDA HIROYUKI ; JIEFURII ERU TORASUKU ; SATO KENJI ; TRASK JEFFREY L

Designated states: DE FR GB IT

International class (IPC 8–9)**:** G03G15/01 G03G15/08 G03G21/00 G03G21/16 (Advanced/Invention); G03G15/01 G03G15/08 G03G21/00 G03G21/16 (Core/Invention)

International class (IPC 1–7)**:** G03G15/01 G03G15/08 G03G21/00 G03G21/16

CPC: G03G15/0855 G03G15/0856 G03G15/086 G03G15/0865 G03G15/0879 G03G15/0126

European class: G03G15/01D8 G03G15/08H2 G03G15/08H3

US class: 399/224 399/262 399/27

Classification Explorer

Cited documents: US5610692 A, US5430531 A, US5392102 A, US5313993 A, US5289243 A, US5184181 A, US4878091 A, JP6345566 U, JP63220287 A2, JP63220287, JP6250522 A2, JP61170760 A2, JP61170760, JP466982, JP4066982 A2, JP387778, JP1142764 A2, JP1142764,

Forward Citations: US8437648, US6961531, US6829462, US6778801, US6591077, US6438328, US6032010, US6006046, US5802435, US2010329704, EP0686892, EP0686892,

Abstract:
Source: US5610692A A lockout mechanism for preventing an operator from filling a toner hopper in an electrographic printing device until the hopper is at least empty enough to accept the entire contents of a toner cartridge. An interlock mechanism takes advantage of the already existing selector shaft to selectively de–activate lockout members in response to a low toner level transducer. Each hopper is provided with a lockout member which is pivotable between a locked out position and a refill position. The locked out position has the lockout members interfering with a connection between toner cartridges and the top of toner hoppers. The lockout members are held in their locked out positions by cam follower members, which are slidable between an upward locked out position and a downward refill position. The slider member interacts with the cam follower members, via follower pins and notches, to lock the cam follower members in their upwards position or to allow them to move down against the selector cams.

0) US2002085857A – DEVELOPING UNIT–TONER CARTRIDGE ASSEMBLY OF IMA...

71) Family number: 28249257 (US2002085857A) © PatBase

Title: DEVELOPING UNIT–TONER CARTRIDGE ASSEMBLY OF IMAGE FORMING APPARATUS

Priority: KR20000086390 20001229

Family:

Publication number	Publication date	Application number	Application date
JP2002214898 A2	20020731	JP20010335107	20011031
JP3418618 B2	20030623	JP20010335107	20011031
KR100362390 B1	20021123	KR20000086390	20001229
KR20020058323 A	20020712	KR20000086390	20001229
US2002085857 AA	20020704	US20010964376	20010928
US6526243 BB	20030225	US20010964376	20010928

Probable Assignee: S PRINTING SOLUTION CO LTD

Assignee(s):(std)**:** KIM KYUNG HWAN ; PAK KI JU ; SAMSUNG ELECTRONICS CO LTD

Assignee(s): S PRINTING SOLUTION CO LTD ; SAMSUNG ELECTRONICS CO

Inventor(s):(std)**:** BOKU KICHU ; KIM GYEONG HWAN ; KIM KYEONG HWAN ; PARK GI JU ; PAK KI JU ; KIM KYUNG HWAN

International class (IPC 8–9): G03G15/00 G03G15/08 G03G21/18 (Advanced/Invention); G03G15/00 (Advanced/Non–invention); G03G15/00 G03G15/08 G03G21/18 (Core/Invention)

International class (IPC 1–7): G03G15/00 G03G15/08 G03G21/00 G03G21/18

CPC: G03G15/0855 G03G15/0865 G03G15/0886 G03G21/1832 G03G21/185 G03G15/00

European class: G03G15/08H3 G03G21/18C5S G03G21/18H1P

US class: 399/113 399/119 399/258 399/26 399/260 399/262 399/359

Classification Explorer

Cited documents: US6289194 BA, US6041212 A, US5614996 A, US5506665 A, JP6035321 A2,

Forward Citations: WO07105375, WO07093625, US9436156, US9377717, US9335728, US9188949, US9181188, US9141079, US9052685, US8918030, US8841330, US8796250, US8637553, US8618141, US8611788, US8422915, US8290421, US8244163, US8242147, US8213838, US8208846, US8195070, US8180262, US8160461, US8155558, US8139986, US8126375, US8124630, US8110587, US8076488, US8073355, US8071616, US8064805, US8050597, US8045899, US8005406, US7991334, US7897623, US7894753, US7890022, US7881624, US7853184, US7853183, US7848684, US7838541, US7835675, US7835673, US7826777, US7822371, US7778577, US7747198, US7720417, US7706699, US7702262, US7697869, US7678811, US7676178, US7657211, US7574163, US7555249, US7548710, US7505716, US7486910, US7457569, US7406272, US7330681, US7305205, US7257363, US6728500, US2011211868, US2011103856, US2011008075, US2011002713, US2010189470, US2010129118, US2009290910, US2009245862, US2009214269, US2009214268, US2009214257, US2009214249, US2009214230, US2009214227, US2009016770, US2008286013, US2008205953, US2008187331, US2008101821, US2008038019, US2007269237, US2007248384, US2007237544, US2007223970, US2007196136, US2007177886, US2007160394, US2007160393, US2007154244, US2007154243, US2007147902, US2007147900, US2007122205, US2007065196, US2007065182, US2006291909, US2006104663, US2006062601, US2006045569, US2006013598, TWI464545, KR100878403, JP5531579, JP4694100, JP4659231, JP4645116, JP4315933, JP2011076050, JP2007025511, JP2006091284, JP2004264475, JP2002311696, JP2002244533, EP2369425, EP2093626, EP2093626, EP2093625, EP2093623, EP1956440, EP1857887, EP1659456, EP1632819, EP1632819, EP1632819,

Abstract:
Source: US2002085857A In a developing unit–toner cartridge assembly of an image forming apparatus, the developing unit includes an inlet cover for opening and closing a toner inlet formed in an outer casing of the

developing unit, and an outlet cover for opening and closing the toner outlet. The toner cartridge includes a toner feeding roller for selectively opening and closing a toner feeding port formed in an outer casing of the toner cartridge, a recovery cover for opening and closing a toner recovery port formed in an outer casing of the toner cartridge in relative movement with the outlet cover during a mounting and a removal with respect to the developing unit, and a supporting projection for restricting and opening and closing one end of the inlet cover during mounting and removal of the toner cartridge with respect to the developing unit. Since the toner feeding path and toner recovery path are opened and closed in relation to mounting and removal of the toner cartridge with respect to the developing unit, a user does not have to perform additional steps to open and close the toner feeding path and the toner recovery path, and accordingly can use the image forming apparatus with more convenience.

0) US2003031479A – TONER CARTRIDGE AND IMAGE FORMING APPARATUS

72) Family number: 28064893 (US2003031479A) © PatBase

Title: TONER CARTRIDGE AND IMAGE FORMING APPARATUS

Priority: JP20010239001 20010807

Family:

Publication number	Publication date	Application number	Application date
JP2003050505 A2	20030221	JP20010239001	20010807
JP3893259 B2	20070314	JP20010239001	20010807
US2003031479 AA	20030213	US20020212123	20020806
US6892036 BB	20050510	US20020212123	20020806

Probable Assignee: OKI DATA CORP

Assignee(s):(std)**:** ITO JUNICHI ; OKI DATA CORP ; OKI DATA KK

Inventor(s):(std)**:** ITO JUNICHI

Agent(s): RABIN AND BERDO PC

International class (IPC 8–9)**:** G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)

International class (IPC 1–7)**:** G03G15/08

CPC: G03G15/0856 G03G15/0858 G03G15/0875 G03G15/0822 G03G2215/085

European class: G03G15/08H G03G15/08H2 S03G215/08A5

US class: 399/254 399/262 399/263 399/27

Classification Explorer

Cited documents: US6546213 BB, US6510291 BB, US6415126 BB, US6100601 A, US5923918 A, US5790917 A, US5287151 A, US4592642 A, JP11119537 A2,

Forward Citations: US9581938, US9354552, US9098015, US8942601, US8712259, US8606124, US8582989, US8472815, US8311420, US8275285, US8200127, US8150275, US8050591, US7983602, US7962063, US7949287, US7881624, US7831180, US7826780, US7826779, US7792470, US7747199, US7720418, US7689149, US7676178, US7558494, US7440705, US7171132, US7151901, US7076180, US2017031269, US2014376955, US2012008989, US2009263165, US2009232548, US2009214230, US2009190963, US2009148194, US2009129822, US2009010679, US2008226342, US2008226341, US2008187331, US2008170889, US2008095553, US2007092272, US2006140652, US2004264984, US2004151514, JP4475877, JP2012230343, JP2012027505, JP2009128751, JP2008191627, JP2007310147, JP2004264460, JP2004254993, EP2405307, EP2110713,

Abstract:
Source: US2003031479A A toner cartridge has a toner–agitating member that agitates the toner to be supplied to a developing unit. The toner cartridge has at least a part of a detecting mechanism that transmits the motion of the agitating member to detect an amount of the remaining toner in the toner cartridge. The detecting mechanism has a sensor rod. The sensor rod has one end that rotatably engages the agitating member and the other end to which a detector is attached. At least a part of the motion–transmitting section is made of a material that when the part receives a pressure greater than a predetermined value, the part absorbs the pressure.

73) Family number: 42770859 (US2009003875A) © PatBase

Title: PROCESS CARTRIDGE AND ELECTROPHOTOGRAPHIC IMAGE FORMING APPARATUS

Priority:

CN200880021807	20080630	EP20080777919	20080630	JP20070172742	20070629
JP20080162311	20080620	JP20100014496	20100126	RU20100102895	20100128
WO2008JP62243	20080630	US20080164766	20080630	US20100949968	20101119
US20120407190	20120228	US20130890453	20130509		

Family:

Publication number	Publication date	Application number	Application date
AU2008272026 AA	20090108	AU20080272026	20080630
AU2008272026 BB	20101202	AU20080272026	20080630
BRPI0813113 A2	20141223	BR2008PI13113	20080630
CA2691900 AA	20090108	CA20082691900	20080630
CA2691900 C	20140107	CA20082691900	20080630
CN101715570 A	20100526	CN200880021807	20080630
CN101715570 B	20121205	CN200880021807	20080630
CN102880034 A	20130116	CN201210385100	20080630
CN102880034 B	20150826	CN201210385100	20080630
CN102914958 A	20130206	CN201210385098	20080630
CN102914958 B	20140806	CN201210385098	20080630
EP2162799 A1	20100317	EP20080777919	20080630
EP2162799 B1	20160720	EP20080777919	20080630
ES2586432 T3	20161014	ES20080777919T	20080630
HK1142692 A1	20130621	HK20100109022	20100921
HK1176125 A1	20160318	HK20130102733	20130305
HK1179358 A1	20150515	HK20130106090	20100921
HU029450 T2	20170228	HU20080777919T	20080630
IN07661CN2009 A	20100618	IN2009CN07661	20091229
IN277790 B	20161202	IN2009CN07661	20091229
JP2009031770 A2	20090212	JP20080162311	20080620
JP2010092077 A2	20100422	JP20100014496	20100126
JP4458377 B2	20100428	JP20080162311	20080620
JP4882009 B2	20120222	JP20100014496	20100126
KR101140916 B1	20120503	KR20107001460	20080630
KR101249636 B1	20130401	KR20117024581	20080630
KR101323414 B1	20131104	KR20127019935	20080630
KR101347421 B1	20140103	KR20137021050	20080630
KR20100021532 A	20100224	KR20107001460	20080630
KR20110129967 A	20111202	KR20117024581	20080630
KR20120099511 A	20120910	KR20127019935	20080630
KR20130095856 A	20130828	KR20137021050	20080630
MX2009012205 A1	20091201	MX20090012205	20080630
MY150149 A	20131129	MY20090005554	20080630
PL2162799 T3	20170131	PL20080777919T	20080630
PT2162799 T	20160902	PT20080777919T	20080630
RU2010102895 A	20110810	RU20100102895	20080630
RU2012105546 A	20130827	RU20120105546	20120216
RU2014114568 A	20151020	RU20140114568	20140411

RU2014114568 A	20151020	RU20140114568	20080630	
RU2451961 C2	20120527	RU20100102895	20080630	
RU2521161 C2	20140627	RU20120105546	20080630	
RU2521161 C2	20140627	RU20120105546	20120216	
RU2569788 C2	20151127	RU20140114568	20140411	
RU2569788 C2	20151127	RU20140114568	20080630	
RU2569788 C9	20160610	RU20140114568	20080630	
SG10201510338P A1	20160128	SG20151010338	20080630	
SG182225 A1	20120730	SG20120046264	20080630	
TR201613840 T4	20161021	TR20160013840T	20080630	
TW200921306 A	20090516	TW20080124565	20080630	
TW201407304 A	20140216	TW20130135828	20080630	
TWI418962 B	20131211	TW20080124565	20080630	
TWI541620 B	20160711	TW20130135828	20080630	
US2009003875 AA	20090101	US20080164766	20080630	
US2011064459 AA	20110317	US20100949968	20101119	
US2012201567 AA	20120809	US20120407190	20120228	
US2013243481 AA	20130919	US20130890453	20130509	
US7860433 BB	20101228	US20080164766	20080630	
US8213831 BB	20120703	US20100949968	20101119	
US8712284 BB	20140429	US20130890453	20130509	
VN12732 A1	20140625	VN20100000248	20080630	
VN14482 A1	20150925	VN20110003470	20080630	
WO09005159 A1	20090108	WO2008JP62243	20080630	
WO09005159 A4	20090319	WO2008JP62243	20080630	

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK ; YOSHIMURA AKIRA ; NITTANI SUSUMU ; TOBA SHINJIRO ; KENON KK

Assignee(s): KENON KABUSIKI KAJSYA ; CANON INC ; CANON K K ; CANON KABUSHIKI KAISHA ; KEHNON KABUSIKI KAJSJA

Inventor(s):(std)**:** AKIRA YOSHIMURA ; JOSIMURA AKIRA ; NITTANI SUSUMU ; SHINJIRO TOBA ; SHINTANI SUSUMU ; SUSUMU NITTANI ; TOBA SHINJIRO ; TOBA SINDZIRO ; YOSHIMURA AKIRA

Agent(s): SPRUSON AND FERGUSON; RIDOUT AND MAYBEE LLP; TBK PATENT; TBK; DURAN CARLOS; DREW AND NAPIER LLC; ELISAVET YAKOVIDIS CINLEMEZ; FITZPATRICK CELLA HARPER AND SCINTO; YAMADA RYUICHI

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9): G03G15/00 G03G15/01 G03G15/08 G03G21/16 G03G21/18 G06T17/00 (Advanced/Invention); G03G15/00 G03G15/08 (Advanced/Non–invention); G03G15/00 G03G15/01 G03G15/08 G03G21/16 G03G21/18 (Core/Invention); G03G (Subclass/Invention)

International class (IPC 1–7): G03G21/18

CPC: G03G21/1803 G03G21/1825

European class: G03G21/18C4S

US class: 399/107 399/111 399/111P 399/113 399/119

Classification Explorer

Cited documents:

WO07081042 A1, US7463844 BB, US7433622 BB, US7386241 BB, US7319827 BB, US7298990 BB, US7272339 BB, US7248810 BB, US7215909 BB, US7212768 BB, US7209682 BB, US7184690 BB, US7184682 BB, US7164875 BB, US7162174 BB, US7158736 BB, US7158735 BB, US7149457 BB, US7127194 BB, US7088939 BB, US7072603 BB, US7027603 BB, US7024137 BB, US6990302 BB, US6980759 BB, US6980758 BB, US6954601 BB, US6937834 BB, US6912365 BB, US6898391 BB, US6836629 BB, US6834171 BB, US6823153 BB, US6714752 BB, US6681088 BB, US6678488 BB, US6608980 BB, US6603939 BA, US6577831 BA, US6549736 BB, US6542706 BB, US6463234 BB, US6463233 BB, US6459869 BB, US6442359 BA, US6424811 BA, US6408142 BA, US6385416 BA, US6330409 BA, US6308028 BA, US6289189 BA, US6272299 BA, US6266500 BA, US6246849 BA, US6169866 BA, US6169866 B1, US6157792 A, US6131007 A, US6118960 A, US6101354 A, US6097909 A, US6097908 A, US6064842 A, US6061538 A, US6029032 A, US6016413 A, US6006058 A, US5966568 A, US5966566 A, US5953560 A, US5937242 A, US5937239 A, US5920753 A, US5790923 A, US5768658 A, US5689774 A, US5652647 A, US5638161 A, US5619309 A, US5617579 A, US5585895 A, US5543898 A, US5500714 A, US5283616 A, US2008159775 AA, US2008159774 AA, US2008159773 AA, US2008159772 AA, US2008152388 AA, US2007160388 AA, US2007147890 AA, US2007110478 AA, US2007092286 AA, US2007053716 AA, US2006257164 AA, US2006245785 AA, US2006177231 AA, US2005260011 AA, US2005047821, US2003156848 AA, US2003049046 AA, TW200727095, RU2289835, JP4204553 A2, JP2008165023 A2, JP2007213025 A2, JP200665267, JP2006337413 A2, JP2006259448 A2, JP2006065267 A2, JP200599517, JP2005242067 A2, JP2005099517 A2, JP2004361749, JP2004061596 A2, JP2003167499 A2, EP1977289 A1, EP1621942 A2, EP1519248 A1, EP1231523 A2, CN1728013, CN1384405,

Forward Citations: US9684279, US9581952, US9507318, US9429906, US9389584, US9389580, US9354598, US9304488, US9256197, US9213266, US9122240, US9122237, US9081359, US9055205, US8977162, US8934794, US8918014, US8879952, US8824919, US8688003, US8606143, US8583001, US8577252, US8565639, US8521060, US8521058, US8494409, US8483593, US2015370220, US2015205258, US2015055974, US2012195627, US2012039624, US2011229196, US2011229194, US2011229193, US2011200353, US2011164897, US2011142489, US2011142487, JP2013068929, JP2012226306, JP2012141582, JP2011197408, JP2011197407, JP2011053656, EP2597534, EP2597534, CN103135404, CN102749822, CN102193472,

Abstract:
Source: US2009003875A A process cartridge detachably mountable to a main assembly of an electrophotographic image forming apparatus, includes an electrophotographic photosensitive drum; developing roller for developing an electrostatic latent image formed on the electrophotographic photosensitive drum; drum frame supporting the electrophotographic photosensitive drum; a developing frame supporting the developing roller, the developing frame is movable relative to the drum frame and is capable of taking a contacting position in which the developing roller is in contact with the electrophotographic photosensitive drum; and a force receiving device including a first force receiving portion for receiving a first external force and a second force receiving portion for receiving a second external force, wherein the second force receiving portion is movable relative to the developing frame, wherein the second force receiving portion is placed in a stand–by position retracted from an operating position by the first force receiving portion receiving the first external force, and is movable from the stand–by position to the operating position for moving the developing frame from the contacting position to the spacing position, wherein a distance through which the second force receiving portion moves from the stand–by position to the operating position is larger than a distance through which the first force receiving portion is moved by the first external force.

0) US2015261177A – CARTRIDGE AND ELECTROPHOTOGRAPHIC IMAGE FORMING...

74) Family number: 60350153 (US2015261177A) © PatBase

Title: CARTRIDGE AND ELECTROPHOTOGRAPHIC IMAGE FORMING APPARATUS USING THE SAME

Priority: KR20140029160 20140312 WO2014KR10471 20141104

Family:

Publication number	Publication date	Application number	Application date
CN106062641 A	20161026	CN201480076736	20141104
EP3060962 A1	20160831	EP20140885664	20141104
EP3060962 A4	20170705	EP20140885664	20141104
KR20150106729 A	20150922	KR20140029160	20140312
US2015261177 AA	20150917	US20140573005	20141217
US9323213 BB	20160426	US20140573005	20141217
WO15137589 A1	20150917	WO2014KR10471	20141104

Probable Assignee: S PRINTING SOLUTION CO LTD

Assignee(s):(std)**:** S PRINTING SOLUTION CO LTD ; SAMSUNG ELECTRONICS CO LTD

Assignee(s): S PRINTING SOLUTION CO ; SAMSUNG ELECTRONICS CO

Inventor(s):(std)**:** JANG HO JIN ; KIM JOON HEE ; MOON JI WON ; SIM YUN KYU

Agent(s): APPLEYARD LEES IP LLP; STAAS AND HALSEY LLP; YPLEE MOCK AND PARTNERS

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9): G03G15/00 G03G15/08 G03G21/16 G03G21/18 (Advanced/Invention)

CPC: G03G21/1676 G03G21/1647 G03G21/1842 G03G21/1878

US class: 1/1 399/90

Classification Explorer

Cited documents: US6865349 BB, US2012039622 AA, US2008240776 AA, US2008226342 AA, US2007098437 AA, US2006228127 AA, US2003170042 AA, US2003091361 AA, KR20070047177 A, JP2011164398 A2, JP2004061596 A2, JP2004046808 A2,

Abstract:
Source: US2015261177A A cartridge that is attached to or detached from a main body of an image forming apparatus, including: a memory unit that includes a contact portion via which the cartridge is connected to the main body and that is connected to the main body to transmit information of the cartridge to the main body; and a moving member on which the contact portion is mounted, wherein the moving unit is moved to a second position where the contact portion is protruded out of the cartridge in order to be connected to a connection portion provided in the main body and a first position that is hidden inside the cartridge.

0) US2011268470A – RETAINING CLIP FOR PRINTER CARTRIDGE

75) Family number: 49887643 (US2011268470A) © PatBase

Title: RETAINING CLIP FOR PRINTER CARTRIDGE

Priority: US20100343470P 20100429 US20110066934 20110428

Family:

Publication number	Publication date	Application number	Application date
US2011268470 AA	20111103	US20110066934	20110428
US8422911 BB	20130416	US20110066934	20110428

Probable Assignee: MITSUBISHI KAGAKU IMAGING CORP

Assignee(s):(std)**:** HOLMES DENNY ; MITSUBISHI KAGAKU IMAGING CORP ; RUMMLER CRAIG S

Inventor(s):(std)**:** HOLMES DENNY ; RUMMLER CRAIG S

International class (IPC 8–9)**:** G03G15/00 G03G21/00 G03G21/16 (Advanced/Invention)

CPC: G03G21/1676 G03G15/0894 G03G2221/163 G03G2221/1654

European class: G03G15/08R S03G221/16D S03G221/16K1

US class: 399/109 399/109P 399/110 399/110S 399/113 399/126 399/126S

Classification Explorer

Cited documents: US7831171 BB, US6754460 BB, US6240605 BA, US6079084 A, US5887229 A, US2011044720 AA, US2008003013 AA, JP2002268516 A2, DE19936459 A1,

Forward Citations: US9069290, US2014314442,

Abstract:
Source: US2011268470A In one embodiment there is provided a toner cartridge retaining clip. The retaining clip has a first end configured to engage a portion of a contact end cap of a toner cartridge, a second end configured to engage a portion of a toner hopper of the toner cartridge, and a body portion connecting the first end to the second end. The body portion has an abutting surface configured to abut a toner sensor contact on the toner cartridge. When the first end is securely engaged to the portion of the contact end cap, and the second end is securely engaged to the portion of the toner hopper, the first end and the second end exert opposing pressures on the toner cartridge to secure the contact end cap to the toner hopper.

0) US2008181661A – DEVELOPING DEVICE AND TONER CARTRIDGE

76) Family number: 42068537 (US2008181661A) © PatBase

Title: DEVELOPING DEVICE AND TONER CARTRIDGE

Priority: JP20070019864 20070130

Family:

Publication number	Publication date	Application number	Application date
JP2008185827 A2	20080814	JP20070019864	20070130
JP5056032 B2	20121024	JP20070019864	20070130
US2008181661 AA	20080731	US20080022447	20080130
US7805097 BB	20100928	US20080022447	20080130

Probable Assignee: BROTHER KOGYO KK

Assignee(s):(std)**:** BROTHER IND LTD

Assignee(s): BROTHER KOGYO KABUSHIKI KAISHA ; BROTHER KOGYO KK

Inventor(s):(std)**:** MASE SOICHIRO ; TAKAGI TAKEYUKI

Agent(s): BANNER AND WITCOFF LTD ATTORNEYS FOR CLIENT NOS 0166889 006760; BANNER AND WITCOFF LTD

International class (IPC 8–9)**:** G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)

CPC: G03G15/0872 G03G15/0886 G03G15/0896 G03G2215/0692 G03G2221/163 G03G2221/1654 G03G2221/1815

European class: G03G15/08S S03G215/06C7 S03G221/16D S03G221/16K1 S03G221/18C

US class: 399/120 399/120P 399/258

Classification Explorer

Cited documents: US7574161 BB, US7437095 BB, US6738591 BB, US5608501 A, US5587777 A, US5568237 A, US5028966 A, US4641945 A, US2006171744 AA, JP7225514 A2, JP7181793 A2, JP7049610 A2, JP6059576 A2, JP5241443 A2, JP3175471 A2, JP2006235306 A2, JP2006030725 A2, JP2006030488 A2, JP2005037673 A2,

Forward Citations: WO14010116, WO13115014, US9690231, US9317007, US9268301, US9207571, US2015030355, JP5920070, JP5783924, JP5632558, JP5632557, JP5589010, JP2014206758, JP2014206757, JP2014016484, JP2013160874, JP2013156587, EP3004987,

Abstract:
Source: US2008181661A A developing device includes a developing roller that supplies developer, a developing case that supports the developing roller, a toner cartridge that houses the developer and is attachable to and detachable from the developing case in a direction perpendicular to a longitudinal direction of the developing roller, an abutting member that is swingably provided on the developing case and is abuttable against the toner cartridge from a downstream side in a direction along which the toner cartridge is detached from the developing case, an operating member that is swingably provided on the toner cartridge, and an interlocking member that swings the abutting member between an abutting position and a canceling position, the interlocking member swinging in conjunction with a swinging operation of the operating member, and the toner cartridge being detachable from the developing case when the interlocking member is in the second position.

77) Family number: 30918168 (US6272300B) © PatBase

Title: Remanufacturing method for process cartridge, process cartridge and image forming apparatus

Priority: JP19930161354 19930630 JP19940140075 19940622 JP19940140076 19940622 US19970948585 19971010 US19960628445 19960405 US19940267290 19940628

Family:

Publication number	Publication date	Application number	Application date
AT302963 E	20050915	AT19940304752T	19940629
CN1074144 C	20011031	CN19941007267	19940630
CN1101435 A	19950412	CN19941007267	19940630
DE69434466 D1	20050929	DE19946034466	19940629
DE69434466 T2	20060119	DE19946034466T	19940629
EP0632342 A2	19950104	EP19940304752	19940629
EP0632342 A3	19951213	EP19940304752	19940629
EP0632342 B1	20050824	EP19940304752	19940629
JP3210526 B2	20010917	JP19940140075	19940622
JP3347476 B2	20021120	JP19940140076	19940622
JP7098537 A2	19950411	JP19940140076	19940622
JP8002416 A2	19960109	JP19940140075	19940622
KR0136218 B1	19980515	KR19940015393	19940630
KR19950001430 A	19950103	KR19940015393	19940630
SG72677 A1	20000523	SG19960008811	19940629
US6272300 BA	20010807	US19970948585	19971010

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK ; TOSHIBA CORP

Assignee(s): TOSHIBA KK ; KABUSHIKI KAISHA TOSHIBA ; CANON INC ; CANON K K ; CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** YOSHIYA NOMURA ; YASUO FUJIWARA ; SAITO HIROO ; MORIYA OSAMU ; KENJI MATSUDA ; KAWAGUCHI HIDEJI ; HIROAKI MIYAKE ; HIDESHI KAWAGUCHI ; NOMURA YOSHIYA ; MIYAKE HIROAKI ; MATSUDA KENJI ; KAWAGUCHI HIDESHI ; FUJIWARA YASUO ; MATSUDA GENJI ; KAWAKUCHI HIDESHI

Agent(s): MIYOSHI HIDEKAZU

Designated states: AT CH DE ES FR GB IT LI LU NL

International class (IPC 8–9)**:** B60L15/40 B61L23/14 G03G15/00 G03G15/08 G03G21/18 (Advanced/Invention); G03G15/00 G03G15/08 (Advanced/Non–invention); B60L15/00 B61L23/00 G03G15/00 (Core/Invention)

International class (IPC 1–7)**:** B60L15/40 B61L23/14 G03G15/00 G03G15/06 G03G15/08 G03G21/18

CPC: G03G15/0894 G03G21/181 G03G2215/00987 G03G2221/1853 B60L3/0015 B60L15/40 B60L2200/26 B60L2240/12 B60L2240/62 B60L2250/10 Y02T90/16 Y02T90/162 Y02T10/7291

European class: G03G15/08R G03G21/18C2 S03G215/00R S03G221/18P3 Y02T90/16

US class: 399/111 399/113 399/120

Classification Explorer

Cited documents: WO9210404 A1, US5345294, US5331373, US5296902, US5294960, US5267003, US5223068, US5208634, US5184182, US5177540, US5110646 A, US5080745, US5051778, US4996566, US4930684, US4862210, US4816877, US4627701, US4540268, US4500195, US3985436, JP63149669, JP2214944, JP2109770, FR2620973 A1, EP0485271 A2, EP0330225 A2,

Forward Citations: WO16171954, WO14126730, WO13047497, US9342047, US9110431, US9102338, US9091963, US8977414, US8971758, US8755713, US8565642, US8521041, US8494399, US8260171, US8221882, US8155554, US8147783, US8000630, US7945185, US7817946, US7813670, US7702251, US7680434, US7542712, US7519311, US7450877, US7386241, US7291200, US7266338, US7228086, US7200350, US7174113, US7085518, US7085518, US7085509, US6884278, US6754460, US6721520, US6697594, US6654577, US6499924, US6481081, US6029031, US5943528, US5899602, US5825472, US5787323, US5585902, US2017160692, US2014064811, US2013064568, US2013051846, US2011200340, US2010322664, US2010232832, US2010158556, US2010080624, US2009299882, US2009047037, US2008063957, US2007248378, US2006228127, US2006177231, US2005214024, US2005152716, US2005135832, US2005135831, RU2471219, KR101064280, KR101035962, KR100870530, KR100807878, KR100751056, KR100729310, JP5839826, JP5759331, JP5150688, JP3920765, JP2014111431, JP2013078210, JP2012226277, JP2012035813, JP2009096405, JP2008239054, JP2008042981, JP2004203177, JP2003081092, JP2003040111, JP2002027617, FR2809830, FR2809663, EP2026144, EP1217468, EP1168108, EP0997785, EP0740230, EP0740228, EP0740228, EP0740227, EP0671670, EP0671670, EP0622699, EP0622699, EP0622698, EP0622698, EP0622697, CN103826910, CN102749826, CN102749826, CN102372012,

Abstract:
Source: US6272300B A remanufacturing method of a process cartridge detachably mountable to an image forming apparatus includes disassembling the process cartridge into a first frame having a developer accommodating portion for accommodating a developer and a second frame having a developer carrying member for carrying the developer supplied from the developer accommodating portion toward an image bearing member, thus exposing an opening of the first frame for permitting movement of the developer from the first frame to the second frame; removing residual which is resulted from a covering member having been used for sealing the opening and which remains around the opening, wherein the covering member has a sealing portion for sealing the opening and an extension for permitting the sealing portion to be torn with a part thereof remaining around the opening to open the opening, by pulling the extension, wherein the residual is a part of the sealing portion; mounting a fresh covering member to seal the opening; then supplying the developer accommodating portion with a fresh developer; and then engaging the first and second frames together.

0) US5659847A – PROCESS CARTRIDGE HAVING POSITIONING MEMBER FOR...

78) Family number: 33533462 (US5659847A) © PatBase

Title: PROCESS CARTRIDGE HAVING POSITIONING MEMBER FOR POSITIONING OPTICAL DEVICE

Priority: JP19920194653 19920630 JP19920194664 19920630

Family:

Publication number	Publication date	Application number	Application date
CN1049985 C	20000301	CN19921010835	19920928
CN1080734 A	19940112	CN19921010835	19920928
DE69219119 D1	19970522	DE19926019119	19920918
DE69219119 T2	19971002	DE19926019119T	19920918
EP0577893 A1	19940112	EP19920308515	19920918
EP0577893 B1	19970416	EP19920308515	19920918
KR970001389 B1	19970206	KR19920017620	19920926
MX9205523 A1	19940131	MX19920005523	19920928
US5659847 A	19970819	US19920952692	19920928

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON INC ; CANON KK

Assignee(s): CANON K K ; CANON K K TOKIO TOKYO JP ; CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** AL ISAO IKEMOTO ET ; IKEMOTO ISAO ; IKEMOTO ISAO C O CANON KABUSHI ; ISAO IKEMOTO ; NADA SINYA ; NODA SHINYA ; NODA SHINYA C O CANON KABUSHIK ; KOBAYASHI KAZUNORI ; KOBAYASHI KAZUNORI C O CANON K ; SASAGO YOSHIKAZU ; SASAGO YOSHIKAZU C O CANON KAB ; WATANABE KAZUSI ; SEKINE KAZUMI ; SEKINE KAZUMI C O CANON KABUSH ; WATANABE KAZUSHI ; WATANABE KAZUSHI C O CANON KAB ; TSUDA TADAYUKI ; TSUDA TADAYUKI C O CANON KABUS

Inventor(s): TSUDA TADAYUKI C O CANON KABUSHIKI KAISA OHTA KU TOKYO JP ; WATANABE KAZUSHI C O CANON KABUSHIKI KAISA ; WATANABE KAZUSHI C O CANON KABUSHIKI KAISA OHTA KU ; WATANABE KAZUSHI C O CANON KABUSHIKI KAISA OHTA KU TOKYO JP ; SEKINE KAZUMI C O CANON KABUSHIKI KAISA OHTA KU TOKYO JP ; SHINYA NODA ; TADAYUKI TSUDA ; YOSHIKAZU SASAGO ; TSUDA TADAYUKI C O CANON KABUSHIKI KAISA OHTA KU T ; SEKINE KAZUMI C O CANON KABUSHIKI KAISA OHTA KU TO ; SEKINE KAZUMI C O CANON KABUSHIKI KAISA OHTA ; SASAGO YOSHIKAZU C O CANON KABUSHIKI KAIS OHTA ; NODA SHINYA C O CANON KABUSHIKI KAISA OHTA KU TOKY ; NODA SHINYA C O CANON KABUSHIKI KAISA OHTA KU ; KOBAYASHI KAZUNORI C O CANON KABUSHIKI KAISA OHTA ; KOBAYASHI KAZUNORI C O CANON KABUSHIKI KAISA ; IKEMOTO ISAO C O CANON KABUSHIKI KAISA OHTA KU TOK ; IKEMOTO ISAO C O CANON KABUSHIKI KAISA OHTA KU ; TSUDA TADAYUKI C O CANON KABUSHIKI KAISA OHTA ; SASAGO YOSHIKAZU C O CANON KABUSHIKI KAIS OHTA KU ; SASAGO YOSHIKAZU C O CANON KABUSHIKI KAIS OHTA KU TOKYO JP ; KOBAYASHI KAZUNORI C O CANON KABUSHIKI KAISA OHTA KU TOKYO JP ; NODA SHINYA C O CANON KABUSHIKI KAISA OHTA KU TOKYO JP ; ISAO IKEMOTO ET AL ; KAZUMI SEKINE ; KAZUNORI KOBAYASHI ; KAZUSHI WATANABE ; IKEMOTO ISAO C O CANON KABUSHIKI KAISA OHTA KU TOKYO JP

Designated states: DE ES FR GB IT

International class (IPC 8–9): G03G15/00 G03G21/18 (Advanced/Invention); G03G15/00 G03G21/18 (Core/Invention)

International class (IPC 1–7): B41F15/40 G03G15/00 G03G15/04 G03G21/18

CPC: G03G21/1633 G03G21/1647 G03G21/1666 G03G21/1814 G03G15/605 G03G21/1821 G03G2221/1636 G03G2221/1654

European class: G03G15/60D G03G21/18C3 G03G21/18C4C S03G221/16E S03G221/16K1

US class: 399/113 399/118

Classification Explorer

Cited documents: US5404198 A, US5294960 A, US5160963 A, US5111244 A, US5095335 A, US5089846 A, US5028966 A, US4972227 A, US4963928 A, US4888620 A, US4873548 A, US4839690 A, US4708455 A, US4627701 A, US4609276 A, US4591258 A, US4540268 A, US4500195 A, US3985436 A, JPS6466055, JPS6318367, JPS63149669, JPS61231574, JPS61156070, JPS59147377, JP64066055 A2, JP63149669 A2, JP63018367 A2, JP61231574 A2, JP61156070 A2, JP59147377 A2, JP3002786 A2, EP0453963 A2, EP0322219 A2,

Forward Citations: US9519254, US9046860, US8725042, US8095051, US7920806, US7835661, US7660545, US7630661, US7565092, US7555244, US7532840, US7489885, US7403733, US7274896, US7248814, US7231161, US7162182, US7156797, US7136609, US7092655, US6999696, US6895199, US6885838, US6876826, US6868243, US6856775, US6832056, US6804483, US6788908, US6782213, US6738589, US6735406, US6714750, US6714746, US6704525, US6701106, US6697578, US6684040, US6658224, US6603939, US6594454, US6571070, US6542706, US6535699, US6519431, US6501927, US6501926, US6424811, US6415121, US6408143, US6408142, US6400914, US6397018, US6397017, US6377759, US6334035, US6330402, US6272299, US6240266, US6236821, US6229974, US6226478, US6208818, US6185390, US6173145, US6169866, US6151459, US6144398, US6137970, US6118960, US6104894, US6101354, US6097909, US6097906, US6075957, US6070028, US6041196, US6016413, US6011941, US5966568, US2009074453, US2009074452, US2009074449, US2008253796, US2008063429, US2008056754, US2007104511, US2007104510, US2006198654, US2006029423, US2006024086, US2006008287, US2005207781, US2005207780, US2004134070, US2004086300, US2003113131,

Abstract:
Source: US5659847A A process cartridge includes a first upper and second lower frame, separably engageable to each other, an image bearing member, a process means acting on the image bearing member, and a positioning device for positioning an optical unit of an image forming apparatus when the process cartridge is mounted within the image forming apparatus. With this arrangement, the present invention can provide a process cartridge and an image forming apparatus capable of mounting the process cartridge, which can form an image with higher quality than that of the conventional techniques, without distorting the image. The positioning member is located on the second lower frame and passes through openings formed on the first upper frame in order to position the optical unit.

0) US2012148297A – DEVELOPER CARTRIDGE WITH COUNTING MECHANISM

79) Family number: 44267713 (US2012148297A) © PatBase

Title: DEVELOPER CARTRIDGE WITH COUNTING MECHANISM

Priority: CN200910109292 20090805 US20110147777 20110803 US20140147018 20140103 WO2010CN071430 20100330

Family:

Publication number	Publication date	Application number	Application date
AU2010281279 AA	20110210	AU20100281279	20100330
AU2010281279 BB	20140213	AU20100281279	20100330
CN101625537 A	20100113	CN200910109292	20090805
CN101625537 B	20130313	CN200910109292	20090805
DE202010018340 U1	20151112	DE201020018340U	20100330
EP2463723 A1	20120613	EP20100805955	20100330
EP2463723 A4	20131016	EP20100805955	20100330
IN01634MN2011 A	20120120	IN2011MN01634	20110805
JP2013501253 T2	20130110	JP20120523187T	20100330
JP5705852 B2	20150422	JP20120523187T	20100330
RU2011138921 A	20130910	RU20110138921	20100330
RU2014141728 A	20160520	RU20140141728	20141016
RU2538936 C2	20150110	RU20110138921	20100330
RU2589241 C2	20160710	RU20140141728	20141016
RU2589241 C9	20161110	RU20140141728	20141016
US2012148297 AA	20120614	US20100147777	20100330
US2014119775 AA	20140501	US20140147018	20140103
US8655223 BB	20140218	US20100147777	20100330
US9052639 BB	20150609	US20140147018	20140103
WO11015051 A1	20110210	WO2010CN071430	20100330

Probable Assignee: APEX TECHNOLOGY CO LTD

Assignee(s):(std)**:** APEKS TEKNOLODZHI KO LTD ; APEX TECH CO LTD ; ZHUHAI SEINE TECHNOLOGY LTD ; PENG QINGFEI ; CAO JIANXIN ; ZHUHAI SEINE TECHNOLOGY CO LTD ; ZHUHAI SAINA TECHNOLOGY CO LTD

Assignee(s): ZHUHAI SEINE TECHNOLOGY LIMITED ; APEKS TEKNOLODZHI KO ; ZHUHAI SEINE TECHNOLOGY CO ; NINESTAR CORP ; APEX TECHNOLOGY CO ; APEX TECHNOLOGY CO LTD ; ZHUHAI SAINA TECHNOLOGY CO

Inventor(s):(std)**:** CAO JIANXIN ; PEG YAINGFEI ; PENG QINGFEI ; TSAO JIANKHIN ; QINGFEI PENG ; JIANXIN CAO

Agent(s): APT PATENT AND TRADE MARK ATTORNEYS; HELLMICH WOLFGANG; JACKSON IPG PLLC; TROUTMAN SANDERS LLP; SHENZHEN JINYANGHANG PATENT AND TRADEMARK OFFICE

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9): G03G15/00 G03G15/06 G03G15/08 G03G21/00 G03G21/02 G03G21/18 (Advanced/Invention); G03G15/08 (Core/Invention)

CPC: G03G15/0896 G03G15/55 G03G15/553

European class: G03G15/08S G03G15/55B

US class: 1/1 399/119 399/119P 399/61

Classification Explorer

Cited documents: US7418214 BB, US2007140709 AA, US2006193643 AA, US2003185579 AA, RU2372635, JP9160466 A2, JP9160466, JP4031156 U, JP4031156 U, JP2009244563 A2, JP2009244563, JP2009069177 A2, JP2009069177, JP2008216392 A2, JP2008216391 A2, JP2006243072 A2, JP2006243072, JP2006235236 A2, JP2006235236, JP2002169449 A2, JP2002169449, JP1205175 A2, EP1696278 A2, CN1445624 A, CN101625537 A,

Forward Citations: WO11015051, US9639026, US9618879, US9612569, US9612553, US9612552, US9612551, US9612548, US9606504, US9606503, US9606473, US9605734, US9599954, US9599953, US9599929, US9594329, US9207567, JP5751363, JP2014130372, JP2013174923, CN103713499, CN103713499,

Abstract:
Source: US2012148297A The invention provides a developer cartridge with a counting mechanism. The developer cartridge comprises a developer and the counting mechanism, wherein the counting mechanism is provided with protrusions which come in contact with a contact lever on an electronic photographing device so as to count the developer cartridge; and each protrusion has a first position and a second position in the direction perpendicular to a side wall of the developer cartridge, and is, in the first position, in contact with the contact lever, but is not, in the second position, in contact with the contact lever. The working principle of the developer cartridge adopting the counting mechanism is greatly different from the prior art. Therefore, the structure of the counting mechanism of the developer cartridge is simpler and more convenient and reliable; the production precision and the production cost are reduced; and the market competitiveness of the developer cartridge is improved.

80) Family number: 51505182 (US2013182050A) © PatBase

Title: LIQUID CONSUMPTION APPARATUS, LIQUID SUPPLY MEMBER, AND LIQUID SUPPLY SYSTEM

Priority:

AU20130201489	20130110	AU20140246601	20141010	CN201310012909	20130114
AU20150227539	20150921	CA20152806674	20151124	CA20132806674	20130110
JP20120022813	20120206	JP20120005347	20120113	JP20120013238	20120125
CN201380000067	20130110	EP20130707531	20130110	CN201320018340U	20130114
EP20150159593	20150318	EP20150159593	20130110	JP20120022822	20120206
JP20120022819	20120206	JP20120023430	20120206	JP20120022830	20120206
JP20120022831	20120206	JP20130003249	20130111	JP20130006990	20130118
JP20120023431	20120206	JP20120023432	20120206	JP20130512029	20130110
JP20140243739	20141202	JP20140243739	20130110	JP20150024065	20150210
JP20130512029T	20130110	JP20150024065	20130110	JP20160210123	20161027
WO2013JP00066	20130110	US20130736499	20130108	US20130140934	20131226
US20130736433	20130108	US20140451922	20140805	US20140522091	20141023
US20130738347	20130110	US20150879593	20151009		

Family:

Publication number	Publication date	Application number	Application date
AU2013201489 AA	20130801	AU20130201489	20130110
AU2013201489 BB	20150709	AU20130201489	20130110
AU2014246601 AA	20141030	AU20140246601	20141010
AU2014246601 BB	20160512	AU20140246601	20141010
AU2015227539 AA	20151008	AU20150227539	20150921
AU2015227539 BB	20170601	AU20150227539	20150921
CA2806674 AA	20130222	CA20132806674	20130110
CA2806674 C	20160216	CA20132806674	20130110
CA2912560 AA	20130713	CA20132912560	20130110
CN103203995 A	20130717	CN201310012893	20130114
CN103203995 B	20150708	CN201310012893	20130114
CN103203996 A	20130717	CN201310012906	20130114
CN103203996 B	20151223	CN201310012906	20130114
CN103203997 A	20130717	CN201310012909	20130114
CN103203997 B	20150902	CN201310012909	20130114
CN103203998 A	20130717	CN201310013136	20130114
CN103203998 B	20150708	CN201310013136	20130114
CN103313857 A	20130918	CN201380000067	20130110
CN103313857 B	20150729	CN201380000067	20130110
CN104608496 A	20150513	CN201510024872	20130110
CN104608496 B	20170104	CN201510024872	20130110
CN104999799 A	20151028	CN201510346032	20130114
CN104999799 B	20170412	CN201510346032	20130114
CN105946368 A	20160921	CN201610281734	20130110
CN203391473 U	20140115	CN201320018589U	20130114
CN203410164 U	20140129	CN201320018340U	20130114
CN204801244 U	20151125	CN201320859584U	20130114
DE112013000550 T5	20141030	DE201311000550T	20130110
DE202013012026 U1	20150312	DE201320012026U	20130110
DE202013012027 U1	20150319	DE201320012027U	20130110
EP2727733 A1	20140507	EP20130707531	20130110
EP2727733 A4	20140903	EP20130707531	20130110
EP2907665 A2	20150819	EP20150159593	20130110

EP2907665 A3	20160113	EP20150159593	20130110	
EP3109048 A2	20161228	EP20160177729	20130110	
EP3109048 A3	20170614	EP20160177729	20130110	
GB201304967 A0	20130501	GB20130004967	20130110	
GB2509789 A1	20140716	GB20130004967	20130110	
GB2509789 A8	20140730	GB20130004967	20130110	
IL233345 A0	20140831	IL20130233345	20130110	
IN02514DN2013 A	20141031	IN2013DN02514	20130320	
JP2012116202 A2	20120621	JP20120022813	20120206	
JP2012140011 A2	20120726	JP20120023430	20120206	
JP2012140012 A2	20120726	JP20120023432	20120206	
JP2012153140 A2	20120816	JP20120023431	20120206	
JP2013105504 A1	20150511	JP20130512029T	20130110	
JP2013159025 A2	20130819	JP20120022822	20120206	
JP2013159026 A2	20130819	JP20120022830	20120206	
JP2013159027 A2	20130819	JP20120022831	20120206	
JP2013163375 A2	20130822	JP20130003249	20130111	
JP2013173354 A2	20130905	JP20130006990	20130118	
JP2015051640 A2	20150319	JP20140243739	20141202	
JP2015128904 A2	20150716	JP20150024065	20150210	
JP2017024423 A2	20170202	JP20160210123	20161027	
JP5664772 B1	20150204	JP20130512029T	20130110	
JP5700168 B2	20150415	JP20140243739	20141202	
JP5831266 B2	20151209	JP20120022831	20120206	
JP5919858 B2	20160518	JP20120022830	20120206	
JP5927954 B2	20160601	JP20120023430	20120206	
JP5942450 B2	20160629	JP20120022813	20120206	
JP6028338 B2	20161116	JP20120023432	20120206	
JP6032301 B2	20161124	JP20150024065	20150210	
JP6065371 B2	20170125	JP20120022822	20120206	
KR101551552 B1	20150908	KR20137006887	20130110	
KR20130118304 A	20131029	KR20137006887	20130110	
KR20140104022 A	20140827	KR20147019389	20130110	
MX2013003181 A1	20140109	MX20130003181	20130110	
MX344094 B	20161205	MX20130003181	20130110	
RU2013111839 A	20160310	RU20130111839	20130110	
RU2606078 C2	20170110	RU20130111839	20130110	
SG10201505447R A1	20150828	SG20151005447	20130110	
SG11201403082W A1	20141030	SG20141103082	20130110	
TW201332791 A	20130816	TW20130101214	20130111	
US2013182050 AA	20130718	US20130736433	20130108	
US2013182051 AA	20130718	US20130738347	20130110	
US2013186513 AA	20130725	US20130736482	20130108	
US2013187993 AA	20130725	US20130736499	20130108	
US2013194357 AA	20130801	US20130736458	20130108	
US2014104351 AA	20140417	US20130140934	20131226	
US2014340454 AA	20141120	US20140451922	20140805	
US2015042734 AA	20150212	US20140522091	20141023	
US2016031224 AA	20160204	US20150879593	20151009	

US8646889 BB	20140211	US20130736499	20130108	
US8931887 BB	20150113	US20130736433	20130108	
US8955951 BB	20150217	US20130140934	20131226	
US8960871 BB	20150224	US20130736458	20130108	
US9004659 BB	20150414	US20140451922	20140805	
US9108417 BB	20150818	US20140522091	20141023	
US9266337 BB	20160223	US20130738347	20130110	
US9440755 BB	20160913	US20130736482	20130108	
WO13105504 A1	20130718	WO2013JP00066	20130110	

Probable Assignee: SEJKO EPSON KORPOREJSHN

Assignee(s):(std)**:** SEIKO EPSON CORP ; SEJKO EPSON KORPOREJSHN

Assignee(s): AOKI YUJI ; SATOH HIROSHI

Inventor(s):(std)**:** AOKI YUDZI ; AOKI YUJI ; FUJIMORI RYOJI ; IKETANI TAICHI ; ITO HIROYUKI ; KARASAWA MASAHIRO ; SATO HIROSHI ; SATOH HIROSHI ; SATOKH KHIROSI ; SHINOEN AKIRA ; YOSHIDA ATSUSHI ; ZUO TENGYANG ; SEIKO EPSON CORP ; SATOH HIROSA ; YUJI AOKI ; YAMAMOTO YOSHIKATSU ; TANAKA HISAO ; TAKAHASHI MASARU ; HIROSHI SATOH

Agent(s): DAVIES COLLISON CAVE; DAVIES COLLISON CAVE PTY LTD; RICHES MCKENZIE AND HERBERT LLP; HOFFMANN EITLE; TOKKYO GYOMUHOJIN MEISEI INT PATENT FIRM; BIRD AND BIRD ATMD LLP; GLOBAL IP COUNSELORS LLP; STROOCK AND STROOCK AND LAVAN LLP

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9): B41J B41J2/00 B41J2/01 B41J2/14 B41J2/16 B41J2/17 B41J2/175 B65B3/02 B65B3/04 (Advanced/Invention);
B41J2/00 (Core/Invention);
B41J (Subclass/Invention)

CPC: B65B3/045 B65B3/027 B41J2/17566 B41J2/17503 B41J2/17506 B41J2/17552 B41J2/17509 B41J2/17526 B41J2/17523 B41J2/1721 B41J2/17546 B41J2/175 B41J2/17513 B41J2/1752 B41J2/17553 B41J2/17559

US class: 1/1 141/10 347/85 347/86

Classification Explorer

Cited documents: WO9944830 A1, WO9855324 A1, WO9855318 A1, WO200682836, WO07037528 A1, WO06082836 A1, WO06082836, USD712466 S1, USD682931 S1, USD682930 S1, USD682929 S1, USD656184 S1, US8876268 BB, US8646889 BB, US8454142 BB, US8346105 BB, US8197045 BB, US8141998 BB, US8083335 BB, US8083101 BB, US8011772 BB, US7984980 BB, US7814656 BB, US7452062 BB, US7384133 BB, US7380921 BB, US7380912 BB, US7377627 BB, US7278721 BB, US7244018 BB, US7241001 BB, US7178910 BB, US7178908 BB, US6832830 BB, US6609789 BA, US6591874 BB, US6588880 BA, US6582068 BB, US6540342 BB, US6435673 BA, US6422674 BA, US6220702 BA, US6203147 BA, US6106112 A, US5896151 A, US5847722 A, US2014036012 AA, US2013307908 AA, US2013278687 AA, US2013223877 AA, US2013201260 AA, US2013194357 AA, US2013188985 AA, US2013187993 AA, US2013186513 AA, US2013182051 AA, US2013182050 AA, US2012242762 AA, US2012212526 AA, US2012200871 AA, US2012200646 AA, US2012147102 AA, US2012056956 AA, US2011279587 AA, US2011205284 AA, US2011199439 AA, US2011198360 AA, US2010134574 AA, US2010045755 AA, US2009303299 AA, US2009303299, US2009289971 AA, US2009256893 AA, US2009167828 AA, US2009064501 AA, US2008316249 AA, US2008284810 AA, US2008252702 AA, US2008252669 AA, US2008225093 AA, US2008198211 AA, US2008151018 AA, US2008136878 AA, US2008106575 AA, US2008049081 AA, US2008049081, US2007229622 AA, US2007030302, US2006238581 AA, US2006203045 AA, US2006038865 AA, US2006012638 AA, US2003234844 AA, US2003222940 AA, US2002175977 AA, US2002158943 AA, US2002071011 AA, JP63176635 U1, JP63176635 U, JP63176635 U, JP6203147 A2, JP4843112 B2, JP4843112 B1, JP4843112 A2, JP4701959 B2, JP2782610 B2, JP2782610 A1,

JP2012226289 A2, JP201200863, JP201200858, JP201200854, JP2012000863 A2, JP2012000858 A2, JP2012000854 A2, JP2012000854, JP2011240686 A2, JP2011207206 A2, JP2011207206, JP2011194712 A2, JP2011194712, JP2010228377 A2, JP2010228377, JP2010158906 A2, JP2010155465 A2, JP2010058525 A2, JP2010058525, JP2009226687 A2, JP2009226687, JP2009211054 A2, JP2009211054, JP200887159, JP2008273173 A2, JP2008273173, JP2008221675 A2, JP2008221675, JP200818671, JP2008137376 A2, JP2008137376, JP2008087159 A2, JP2008023979, JP2008018671 A2, JP200798594, JP200783677, JP2007268984 A2, JP2007268984 A1, JP2007268984, JP2007245738 A2, JP2007245738, JP2007230249 A2, JP2007230249, JP2007196648 A2, JP2007196648, JP2007098594 A2, JP2007098594 A1, JP2007083680 A2, JP2007083679 A2, JP2007083678 A2, JP2007083677 A2, JP2007083677, JP200682294, JP200682290, JP200676290, JP200672285, JP2006212846 A2, JP2006212846, JP2006082294 A2, JP2006082294, JP2006082292 A2, JP2006082290 A2, JP2006076290 A2, JP2006072285 A2, JP2005047089 A2, JP2004338146 A2, JP2004338146, JP2004195962 A2, JP2003341100 A2, JP2003341086 A2, JP2003341086, JP2003266733 A2, JP2002513341 T2, JP2002513341 A2, JP2002513340 T2, JP2002513340 A2, JP2002505212 T2, JP2002505212 A2, JP2002178544 A2, JP2001001552 A2, JP2000218813 A2, JP10123918 A2, JP10123918, EP3997297 A1, EP2397336 A1, EP2308337 A1, EP1892103 A2, EP1547783 A2, EP1504908 A2, EP1403064, EP1323533 B1, EP1197338 A1, EP1004447 A2, EP0997297 A1, EP0729836, CN202573285 U, CN201693839 U, CN201580063, CN201501160 U, CN201030687 Y, CN201002391 Y, CN1899832 A, CN1874896 A, CN1721194 A, CN1693083 A, CN1636741 A, CN1623789 A, CN1579786 A, CN1517220, CN1396865 A, CN1374196, CN1286659 A, CN1189416 A, CN102285237 A, CN102036828 A, CN102009528 A, CN101683788 A, CN101654017 A, CN101623957 A, CN101559676 A, CN101535053 A, CN101310986 A, CN101177068 A, CN101130309 A, CA2782610 AA,

Forward Citations: WO15136944, WO15136943, WO15136942, US9650202, US9636918, US9522776, US9440755, US9327511, US9327506, US9308734, US9266337, US9108751, US9108417, US9061506, US9004659, US8960871, US8955951, US8931887, US8746862, US8001974, US2017129243, US2016271956, US2016214383, US2015224778, US2013318923, US2013186513, US2012314008, JP2015058545, EP3144154, EP3059089, EP3047975, EP2930029, EP2851205, EP2851205, EP2848411, CN106103108, CN106103107, CN104943389, CN104943389, CN104943388, CN104908436, CN104723687, CN104442005,

Abstract:
Source: US2013182050A A liquid consumption apparatus, onto which a liquid supply member is mounted, includes a liquid delivery unit, a liquid accepting unit and an abutting section. The liquid delivery unit is configured to deliver a liquid from the liquid supply member. The liquid accepting unit is provided below the liquid delivery unit. The abutting section abuts against the liquid supply member. The liquid accepting unit is provided to the abutting section. In a state where the abutting section and the liquid supply member abut against each other, the liquid accepting unit protrudes out closer toward the liquid supply member than a surface where the liquid supply member and the abutting section abut against each other.

81) Family number: 12349283 (US5485244A) © PatBase

Title: ELECTROPHOTOGRAPHIC APPARATUS WITH FREELY OPENABLE UPPER AND LOWER HOUSINGS

Priority: JP19920206833 19920803 US19930021527 19930223 US19930101712 19930803

Family:

Publication number	Publication date	Application number	Application date
EP0582033 A2	19940209	EP19930102946	19930225
EP0582033 A3	19940427	EP19930102946	19930225
JP6051574 A2	19940225	JP19920206833	19920803
US5485244 A	19960116	US19930101712	19930803

Probable Assignee: STAR MICRONICS CO LTD

Assignee(s):(std)**:** STAR MFG CO

Assignee(s): STAR MICRONICS CO ; STAR MICRONICS CO LTD

Inventor(s):(std)**:** GOTODA KATSUHIKO ; INADA HISANOBU ; NAKAMURA MASANARI ; SHIBA KATSUYA ; SHOJI SUSUMU ; TSUKUDA YASUNORI

Designated states: DE FR GB

International class (IPC 8–9)**:** G03G15/00 G03G15/08 G03G15/16 G03G21/10 G03G21/16 G03G21/18 (Advanced/Invention)

International class (IPC 1–7)**:** G03G15/00 G03G15/08 G03G21/00

CPC: G03G21/12 G03G21/1628 G03G21/1814 G03G15/0822 G03G15/165 G03G15/6573 G03G21/1853 G03G2215/00421 G03G2221/1687 G03G15/0877 G03G15/0887 G03G15/0896

European class: G03G15/08H G03G15/08H3D G03G15/16E1G G03G15/65M6 G03G21/10 G03G21/16 G03G21/18C3 G03G21/18H1V S03G215/00G1K1 S03G221/16S3

US class: 355/200 355/210 399/111

Classification Explorer

Cited documents: WO7901073 A1, US5300979 A, US5285240 A, US5231453 A, US5221943 A, US5168308 A, US5117265 A, US5061961 A, US4969010 A, US4947208 A, US4908661 A, US4791454 A, US4789876 A, US4705384 A, US4634264 A, US4518248 A, US4486015 A, US4464042 A, US4214740 A, US4030824 A, JP61279870, JP61067050, JP58095773, JP3251882, JP3003230 A2, GB2244677 A1, FR2275809 A1, EP0366052 A2, EP0311021 A1, EP0296818 A2, EP0193170 A1, DE4038519 A1, DE3433665 A1,

Forward Citations: WO9914052, US8643690, US8633953, US8437665, US8256769, US8233819, US7924299, US7728857, US7515865, US7486908, US7174116, US6275674, US6118962, US6088556, US6086305, US6046815, US5895143, US5884136, US5835822, US2011204556, US2011150527, US2010239305, US2010209125, US2010074648, US2008008480, US2007110472, US2006238599, US2006233566, US2005220517, JP2010072588, CN102530659, CN102530659,

Abstract:
Source: US5485244A To attach or detach a process cartridge to or from a support member of an LED printer, an upper housing is angularly displaced and opened around a supporting position relative to a lower housing. As the upper housing is gradually opening relatively to the lower housing, the support member is angularly displaced around a connection position with the lower housing to be separated from the upper housing. Then, a used process cartridge can be detached from the support member and another new process cartridge can be attached thereto, thereby allowing such maintenance operation to be easily performed.

0) US5515143A – TONER CARTRIDGE WITH SEAL BODY CAPPED UNIT

82) Family number: 10061413 (US5515143A) © PatBase

Title: TONER CARTRIDGE WITH SEAL BODY CAPPED UNIT

Priority: JP19940136108 19940617

Family:

Publication number	Publication date	Application number	Application date
CN1064762 C	20010418	CN19951005628	19950606
CN1113575 A	19951220	CN19951005628	19950606
DE69506483 D1	19990121	DE19956006483	19950529
DE69506483 T2	19990624	DE19956006483T	19950529
EP0689104 A1	19951227	EP19950108231	19950529
EP0689104 B1	19981209	EP19950108231	19950529
JP2986679 B2	19991206	JP19940136108	19940617
JP8006369 A2	19960112	JP19940136108	19940617
US5515143 A	19960507	US19950442541	19950516

Probable Assignee: SHARP KK

Assignee(s):(std)**:** SHARP KK

Assignee(s): SHAAPU KK ; SHARP CORP ; SHARP K K ; SHARP K K OSAKA 545 JP ; SHARP K K OSAKA JP ; SHARP KABUSHIKI KAISHA

Inventor(s):(std)**:** SHIOTANI TAKASHI

Inventor(s): SHIOTANI TAKASHI TOYONAKA SHI OSAKA 565 JP ; TAKASHI SHIOTANI

Agent(s): HARA KENZO

Designated states: DE FR GB

International class (IPC 8–9)**:** G03G15/08 G03G21/16 (Advanced/Invention); G03G15/08 G03G21/16 (Core/Invention)

International class (IPC 1–7)**:** G03G15/08 G03G21/16

CPC: G03G15/0886 G03G15/0868 G03G15/0882 G03G2215/0665 G03G2215/0675 G03G2215/0685

European class: G03G15/08H3B S03G215/06C1A S03G215/06C1C S03G215/06C4

US class: 141/364 355/260 399/106

Classification Explorer

Cited documents: US5441177 A, US5307129 A, US4937628 A, US4060105 A, JP7199618, JP643755, JP60147768 A2, JP60145448 U, JP59102260, JP5150644 A2,

Forward Citations: US9639028, US9207574, US9046820, US8909094, US8396398, US8290394, US8244163, US8195070, US8160461, US8126375, US8121525, US8068770, US8050597, US8045901, US8005406, US7991334, US7970321, US7965963, US7962069, US7917055, US7894753, US7890027, US7881645, US7853184, US7853183, US7840167, US7835675, US7835673, US7826777, US7822371, US7778577, US7747202, US7734230, US7729645, US7706699, US7702262, US7697870, US7680444, US7647012, US7647003, US7577379, US7460819, US7391999, US7376369, US7184691, US7073546, US6732772, US6543496, US6341210, US6305444, US6263928, US6091920, US6088561, US6085809, US6050309, US5947171, US5923931, US5867757, US5774773, US5740506, US5630198, US5629759, US5564607, US2011097107, US2011008075, US2011002713, US2010296847, US2010254732, US2010189470, US2010111573, US2010111561, US2010111560, US2010046982, US2009324298, US2009180817, US2009175660, US2009123192, US2009080945, US2009074471, US2009003872, US2008286013, US2008181674, US2008038019, US2007212119, US2007160394, US2007154244, US2007154243, US2007147902, US2007147900, US2007140746, US2007122205, US2007092304, US2007053716, US2006133855, TWI479282, JP5861930, JP5353524, JP4051058, JP2013160974, JP2011027936, JP2007298711, JP2005092240,

EP1655640, EP0856780, EP0801337, EP0801337, DE29806387, CN101900970, AU741402, AU2015218457, AU2008202679,

Abstract:
Source: US5515143A A toner cartridge including an engaging protrusion and an engaging concavity on a capped unit formed at one end surface of a container, and on a seal cap capped rotatably on the capped unit, a rotating range limiting opening into which the engaging protrusion fits and a stopping claw disallowing the seal cap to rotate by fitting into the engaging concavity to keep a toner replenishing opening closed. The user can not rotate the seal cap unless he presses down the stopping claw, and thus erroneous toner leakage or scattering can be prevented.

0) US2004164147A – CURRENCY CASSETTE ACCESS BASED ON FACIAL RECOGN...

83) Family number: 30737755 (US2004164147A) © PatBase

Title: CURRENCY CASSETTE ACCESS BASED ON FACIAL RECOGNITION

Priority:

CA20032508943	20031230	CA20032689839	20031230	CA20032689840	20031230
CA20042517436	20040309	CA20042642599	20040309	CA20042642596	20040309
CA20042642597	20040309	CA20032750021	20031230	CA20042642600	20040309
US20030450993P	20030228	US20030450983P	20030228	US20030450583P	20030228
US20030450984P	20030228	US20030450992P	20030228	EP20040718814	20040309
EP20030808633	20031230	US20020437636P	20021231	US20020437637P	20021231
CA20082517436	20081202	CA20112508943	20110906	EP20080014821	20040309
US20030750571	20031230	US20040788917	20040227	US20040788916	20040227
US20030451140P	20030228	US20040789280	20040227	US20040788610	20040227
US20040788611	20040227	US20040789746	20040227	US20040797403	20040309
US20040797441	20040309	US20040797332	20040309	US20040797405	20040309
US20030451084P	20030228	US20040788634	20040227	US20030451086P	20030228
US20040790633	20040227	US20030451001P	20030228	US20040788612	20040227
US20030451085P	20030228	US20040788605	20040227	US20060522747	20060918
US20040797331	20040309	US20060819697P	20060710	US20030453609P	20030310
WO2004US07035	20040309	US20070805747	20070524	US20070881013	20070725
US20080288579	20081020	US20100803607	20100630	WO2003US41760	20031230

Family:

Publication number	Publication date	Application number	Application date
AR043910 AA	20050817	AR2004P100767	20040310
AR064818 AB	20090429	AR2008P100075	20080109
AR064819 AB	20090429	AR2008P100076	20080109
AR064820 AB	20090429	AR2008P100077	20080109
AR064821 AB	20090429	AR2008P100078	20080109
AU2003303505 AA	20040729	AU20030303505	20031230
AU2003303505 AH	20040729	AU20030303505	20031230
BRPI0317860 A	20051206	BR2003PI17860	20031230
BRPI0408280 A	20060307	BR2004PI08280	20040309
BRPI0408280 B1	20160614	BR2004PI08280	20040309
CA2508943 AA	20050606	CA20032508943	20031230
CA2508943 C	20130611	CA20032508943	20031230
CA2517436 AA	20050829	CA20042517436	20040309
CA2517436 C	20090127	CA20042517436	20040309
CA2642596 AA	20040923	CA20042642596	20040309
CA2642596 C	20120313	CA20042642596	20040309
CA2642597 AA	20040923	CA20042642597	20040309
CA2642597 C	20120103	CA20042642597	20040309
CA2642599 AA	20040923	CA20042642599	20040309
CA2642599 C	20120424	CA20042642599	20040309
CA2642600 AA	20040923	CA20042642600	20040309
CA2642600 C	20130702	CA20042642600	20040309
CA2689839 AA	20040722	CA20032689839	20031230
CA2689839 C	20120327	CA20032689839	20031230
CA2689840 AA	20040722	CA20032689840	20031230
CA2689840 C	20120313	CA20032689840	20031230
CA2750021 AA	20040722	CA20032750021	20031230
CA2750021 C	20141209	CA20032750021	20031230
CN100398424 C	20080702	CN200480006491	20040309
CN100458684 C	20090204	CN200380107892	20031230
CN101165725 A	20080423	CN200710194804	20040309

CN101165725 B	20100915	CN200710194804	20040309	
CN101188030 A	20080528	CN200710194807	20040309	
CN101188030 B	20100915	CN200710194807	20040309	
CN101256691 A	20080903	CN200710194808	20040309	
CN101256691 B	20100804	CN200710194808	20040309	
CN101369357 A	20090218	CN200810210100	20031230	
CN101369357 B	20110824	CN200810210100	20031230	
CN101436324 A	20090520	CN200710194812	20040309	
CN101436324 B	20100818	CN200710194812	20040309	
CN101866510 A	20101020	CN201010201252	20031230	
CN101866510 B	20110907	CN201010201252	20031230	
CN101866511 A	20101020	CN201010201293	20031230	
CN101866511 B	20110914	CN201010201293	20031230	
CN101866512 A	20101020	CN201010201321	20031230	
CN101866512 B	20110914	CN201010201321	20031230	
CN101866513 A	20101020	CN201010201353	20031230	
CN101866513 B	20110914	CN201010201353	20031230	
CN1732431 A	20060208	CN200380107892	20031230	
CN1759055 A	20060412	CN200480006491	20040309	
DE602004017147 D1	20081127	DE200460017147T	20040309	
DE602004040587 D1	20130228	DE200460040587T	20040309	
DE60339859 D1	20120322	DE20036039859	20031230	
EP1606684 A2	20051221	EP20040718814	20040309	
EP1606684 A4	20060628	EP20040718814	20040309	
EP1606684 B1	20081015	EP20040718814	20040309	
EP1609054 A2	20051228	EP20030808633	20031230	
EP1609054 A4	20071010	EP20030808633	20031230	
EP1609054 B1	20120125	EP20030808633	20031230	
EP1843303 A1	20071010	EP20070013062	20031230	
EP1843303 B1	20160810	EP20070013062	20031230	
EP2015260 A2	20090114	EP20080014821	20040309	
EP2015260 A3	20111130	EP20080014821	20040309	
EP2015260 B1	20121226	EP20080014821	20040309	
ES2314386 T3	20090316	ES20040718814T	20040309	
ES2379780 T3	20120503	ES20030808633T	20031230	
ES2400447 T3	20130409	ES20080014821T	20040309	
ES2599578 T3	20170202	ES20070013062T	20031230	
IN01789DN2007 A	20070831	IN2007DN01789	20070307	
IN01790DN2007 A	20070831	IN2007DN01790	20070307	
IN01791DN2007 A	20070831	IN2007DN01791	20070307	
IN01792DN2007 A	20070831	IN2007DN01792	20070307	
IN01793DN2007 A	20070831	IN2007DN01793	20070307	
IN01794DN2007 A	20070831	IN2007DN01794	20070307	
IN02365DN2005 A	20090327	IN2005DN02365	20050603	
IN03701DN2005 A	20090320	IN2005DN03701	20050822	
IN09635DN2007 A	20080328	IN2007DN09635	20071213	
IN09636DN2007 A	20080328	IN2007DN09636	20071213	
IN10067DN2007 A	20080404	IN2007DN10067	20071226	
IN10068DN2007 A	20080404	IN2007DN10068	20071226	
IN243255 B	20101008	IN2005DN03701	20050822	

IN243789 B	20101112	IN2005DN02365	20050603	
IN258766 B	20140207	IN2007DN01789	20070307	
IN260185 B	20140411	IN2007DN01791	20070307	
IN268337 B	20150828	IN2007DN01793	20070307	
IN276178 B	20161007	IN2007DN10067	20071226	
IN276179 B	20161007	IN2007DN10068	20071226	
IN279668 B	20170203	IN2007DN09635	20071213	
IN279674 B	20170203	IN2007DN09636	20071213	
MXPA05007111 A1	20050826	MX2005PA07111	20031230	
MXPA05009127 A1	20051020	MX2005PA09127	20040309	
PL212097 B1	20120831	PL20040378443	20040309	
PL376078 A1	20051212	PL20030376078	20031230	
PL378443 A1	20060403	PL20040378443	20040309	
RU2005124279 A	20060120	RU20050124279	20031230	
RU2005131182 A	20060320	RU20050131182	20040309	
RU2299466 C2	20070520	RU20050124279	20031230	
RU2309107 C2	20071027	RU20050131182	20040309	
US2004164147 AA	20040826	US20040788917	20040227	
US2004164167 AA	20040826	US20040788916	20040227	
US2004164168 AA	20040826	US20040789280	20040227	
US2004169074 AA	20040902	US20040788610	20040227	
US2004169075 AA	20040902	US20040788611	20040227	
US2004172730 AA	20040902	US20040789746	20040227	
US2004173672 AA	20040909	US20030750571	20031230	
US2004178263 AA	20040916	US20040797403	20040309	
US2004178559 AA	20040916	US20040797441	20040309	
US2004178564 AA	20040916	US20040797332	20040309	
US2004178568 AA	20040916	US20040797331	20040309	
US2004178569 AA	20040916	US20040797405	20040309	
US2004188920 AA	20040930	US20040788634	20040227	
US2004188921 AA	20040930	US20040790633	20040227	
US2004195302 AA	20041007	US20040788612	20040227	
US2004205024 AA	20041014	US20040788605	20040227	
US2007013124 AA	20070118	US20060522747	20060918	
US2007228152 AA	20071004	US20070805747	20070524	
US2007267806 AA	20071122	US20070881013	20070725	
US2009084841 AA	20090402	US20080288579	20081020	
US2010288831 AA	20101118	US20100803607	20100630	
US6913192 BB	20050705	US20040789746	20040227	
US6918483 BB	20050719	US20040788634	20040227	
US6935558 BB	20050830	US20030750571	20031230	
US6948655 BB	20050927	US20040788610	20040227	
US6976634 BB	20051220	US20040788611	20040227	
US6997377 BB	20060214	US20040788612	20040227	
US7000832 BB	20060221	US20040788916	20040227	
US7004383 BB	20060228	US20040797332	20040309	
US7004384 BB	20060228	US20040797403	20040309	
US7070111 BB	20060704	US20040789280	20040227	
US7121461 BB	20061017	US20040790633	20040227	
US7249761 BB	20070731	US20040797331	20040309	

US7293699 BB	20071113	US20040788917	20040227	
US7309005 BB	20071218	US20040788605	20040227	
US7413189 BB	20080819	US20040797405	20040309	
US7438221 BB	20081021	US20070805747	20070524	
US7780073 BB	20100824	US20060522747	20060918	
US8033455 BB	20111011	US20100803607	20100630	
US8052044 BB	20111108	US20080288579	20081020	
WO04061787 A2	20040722	WO2003US41760	20031230	
WO04061787 A3	20041125	WO2003US41760	20031230	
WO04081735 A2	20040923	WO2004US07035	20040309	
WO04081735 A3	20050707	WO2004US07035	20040309	
ZA200505250 A	20060426	ZA20050005250	20050629	
ZA200507597 A	20060628	ZA20050007597	20050920	

Probable Assignee: DIEBOLD SELF SERVICE SYS

Assignee(s):(std)**:** DIEBOLD SELF SERVICE SYSTEMS D ; GRAEF H THOMAS ; HARTY MICHAEL ; JOHNSON MICHAEL S ; KONTOR KENNETH ; JONES BRIAN ; BLACKFORD DAMON J ; DIEBOLD INC ; DIEBOLD SELF SERVICE SYSTEM ; DIEBOLD SELF SERVICE SYSTEMS ; DIEBOLD SELF SERVICE SYS ; DIEBOLD SELF SERVICE SYSTEMS A ; WASHINGTON JON E ; VANKIRK THOMAS A

Assignee(s): WASHINGTON JON ; DAJBOLD INKORPOREJTED ; CHRISTIE JOHN ; DIEBOLD SELF SERVICE SYSTEMS A DIVISION OF DIEBOLD INC ; DIEBOLD INC5995 MAYFAIR ROADNORTH CANTONOH44720US ; DIEBOLD INC NORTH CANTON ; DIEBOLD SELF SERVICE SYSTEMS A DIVISION OF ; DIEBOLD SELF SERVICE SYSTEMS A DIVISION OF DIEBOLD ; BLACKSON DALE ; BLACKSON DALE H ; BARKER DAVID ; BARKER DAVID A ; GRAEF H ; DIEBOLD SELF SERVICE SYSTEMS DIVISION OF DIEBOLD I ; DIEBOLD SELF SERVICE SYSTEMS DIVISION OF ; TUROCY KENNETH ; MA SONGTAO ; MAGEE PAUL D ; SPICER GREGORY ; GEITHER JEFF ; DOMINICK DOUGLAS ; JENKINS RANDALL ; EASTMAN JEFFREY ; VANKEULEN ERIC ; DIEBOLD SELF SERVICE SYSTEMS DIVISION OF DIEBOLD INC ; JPMORGAN CHASE BANK NA ADMINISTRATIVE AGENT AS

Inventor(s):(std)**:** BARKER DAVID ; BARKER DAVID A ; BARKER DEHVID ; BLAC WASHINGTON JON VANKEULEN ; BLACKFORD DAMON J ; BLACKSON DALE ; BLACKSON DALE H ; BLEHKFORD DEHJMON DZH ; BLEHKSON DEJL KH ; CHRISTIE JOHN ; DALE H BLACKSON ; DAVID BARKER ; DOMINICK DOUGLAS ; DOMINIK DUGLAS ; DOUGLAS DOMINICK ; DZHEJTER DZHEFF ; DZHENKINS REHNDALL ; EASTMAN JEFFREY ; GRAEF H THOMAS ; GRAEF THOMAS H ; GRAF KH TOMAS ; GREGORY SPICER ; H THOMAS GRAEF ; HARTY MICHAEL ; ISTMAN DZHEFFRI ; JEFF GEITHER ; JEFFREY EASTMAN ; JENKINS RANDALL ; JO GRAEF H THOMAS BLACKFORD DA ; JOHN CHRISTIE ; JOHNSON MICHAEL J ; JON E WASHINGTON ; JON WASHINGTON ; ERIC VANKEULEN ; GEITHER JEFF ; JONES BRIAN ; KENNETH TUROCY ; KONTOR KENENTH ; KRISTI DZHON ; MA SONGTAO ; MEHDZHI POL D ; PAUL D MAGEE ; RANDALL JENKINS ; SONGTAO MA ; SPAJSER GREGORI ; SPICER GREGORY ; MAGEE PAUL D ; T JUROSI KENNET ; THOMAS A VANKIRK ; TUROCY KENNETH ; VANKEULEN ERIC ; VANKIRK TOMAS A ; VANKULEN EHRIK ; VASHINGTON DZHON ; WASHINGTON JON ; VANKIRK THOMAS A ; WASHINGTON JON E ; WASHINGTON JON VANKEULEN ERIC GEITHER JEFF BARKERD ; VANKEULEN ERIC S ; GRAEF H T ; KONTOR KENNETH C ; JOHNSON MICHAEL S ; HARTY MICHAEL J ; BESKITT WILLIAM D ; WASHINGTON J E ; VANKIRK THOMAS ; KONTOR KEN ; JONES B ; HARTY M ; BLACKFORD D ; VASHINGTON DZHON EH ; THOMASA VANKIRK ; MAGEE PAUL ; KONTOR KENNETH ; KONTOR KENNET ; KHARTI MAJKL ; KENNETH KONTOR ; GRAEF H ; DZHOUNZ BRAJAN ; DZHONSON MAJKL S ; BRIAN JONES ; BLEHKFORD DEJMON DZH ; BLACKFORD DAMON ; THOMAS GRAEF H ; MICHAEL HARTY

Inventor(s): A ; BESKITT WILLIAM ; JOHNSON MICHAEL ; VANKIRK THOMASA ; THOMAS H GRAEF ; GRAEF H THOMASUS ; JENKINS RANDALLUS ; GEITHER JEFFUS ; EASTMAN JEFFREYUS ; DOMINICK DOUGLASUS ; CHRISTIE JOHNUS ; BLACKSON DALE HUS ; BLACKFORD DAMON JUS ; TUROCY KENNETHUS ; SPICER GREGORYUS ; MAGEE PAUL DUS ; MA SONGTAOUS ; WASHINGTON JON VANKEULEN ERIC GEITHER JEFF BARKERDAVID MAGEE PAUL D ; WASHINGTON JONUS ; VANKIRK THOMAS AUS ; VANKEULEN ERICUS ; WASHINGTON JON VANKEULEN ERIC GEITHER JEFF ; VANKIRK THOMAS A WOOSTER ; WASHINGTON JON CLINTON ; VANKEULEN ERIC NORTH CANTON ; TUROCY KENNETH WADSWORTH ; T'JUROSI KENNET ; MAGEE PAUL D NORTH CANTON ; SPICER

GREGORY CUYAHOGA FALLS ; MICHAEL J JOHNSON ; MICHAEL S JOHNSON ; MA SONGTAO WADSWORTH ; KENENTH KONTOR ; GEITHER JEFF NORTH RIDGEVILLE ; JON WASHINOGTON ; JENKINS RANDALL ORVILLE ; H ; GRAEF H THOMAS BLACKFORD DAMON J ; GRAEF H THOMAS BLACKFORD DAMON J JOHNSON MICHAEL S ; GRAEF H THOMAS BOLIVAR ; GRAEF HTHOMAS ; EASTMAN JEFFREY NORTH CANTON ; DOMINICK DOUGLAS NORTH CANTON ; DAMON J BLACKFORD ; CHRISTIE JOHN BATESVILLE IN ; BLACKSON DALE H CANTON ; BLACKFORD DAMON J AKRON ; BARKER DAVID AUS ; BARKER DAVID NORTH CANTON

Agent(s): DIMOCK STRATTON LLP; EISEN MARK B; D YOUNG AND CO LLP; WSL PATENTANWAELTE PARTNERSCHAFT MBB; MELDRUM DAVID JAMES ET AL; MELDRUM DAVID JAMES; PERAL DAVID; ISERN JORGE; RALPH E JOCKE WALKER AND JOCKE LPA; RALPH E JOCKE WALKER AND JOCKE; WALKER AND JOCKE; WASIL DANIEL D; JOCKE RALPH E; RALPH E; DANIEL D; JOCKE RALPH

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NA NE NI NL NO NZ OM PG PH PL PT RO RU SC SD SE SG SI SK SL SN SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

International class (IPC 8–9): B65D83/08 B65G23/44 B65G59/00 B65H1/00 B65H31/30 B65H5/02 B65H5/06 G06F17/60 G06F19/00 G06F7/08 G06K5/00 G06K7/10 G06Q20/00 G06Q20/10 G06Q40/00 G06Q40/02 G07D11/00 G07D13/00 G07F19/00 (Advanced/Invention); B65G59/00 B65H1/00 G06K5/00 G06K7/10 G07F19/00 (Core/Invention); B65H G06F (Subclass/Non–invention)

International class (IPC 1–7): B65H1/00 B65H3/32 B65H5/00 B65H5/02 B65H5/02 G06F0/00 G06F1/00 G06F17/60 G06F7/08 G06K5/00 G06K7/00 G07B15/00 G07C9/00 G07D G07D11/00 G07D13/00 G07F11/00 G07F7/00 G07F9/10 G11B15/00 G11B17/00 G11B5/008 H04N7/18

CPC: G07D11/0012 G07F19/20 G07F19/201 G07F19/205 B65H5/025 B65H5/026 B65H5/06 B65H31/3081 B65H2301/42266 B65H2404/1114 B65H2404/1316 B65H2404/255 B65H2404/264 B65H2701/1912 G07D11/0003 G07D11/0021 G07D11/0024 G07D11/0081 G07F19/203 G06Q20/1085 G07D11/0006 G06Q20/40 B65H1/26 B65H2401/113 B65H2405/1142

European class: B65H1/26 B65H31/30F B65H5/02B4 B65H5/02B8 B65H5/06 G06Q20/1085 G06Q20/40 G07D11/00D G07D11/00D2 G07D11/00D2D G07D11/00D6 G07D11/00D6B G07D11/00H G07F19/00F G07F19/20 G07F19/201 G07F19/203 G07F19/205 L65H301/42266 L65H342/266 L65H401/113 L65H404/1114 L65H404/1316 L65H404/255 L65H404/264 L65H405/1142 L65H701/1912

US class: 194/350 206/459.1 221/1 221/198 221/1S 221/259 232/15 232/15P 235/379 235/379P 235/380 235/381 235/381P 235/382 235/382P 235/383 235/385 235/435 235/486 235/486P 235/492 271/113 271/113P 271/145 271/145P 271/147 271/162 271/162P 271/162S 271/171 271/188 271/198 271/209 271/264 271/264P 271/272 271/275 705/43 705/43P 705/44 726/6 726/6P 901/13 901/14 902/13 902/13S 902/6 902/6S 902/8 902/9

Classification Explorer

Cited documents: WO9953452 A1, WO9919847 A1, WO9905624 A1, WO0152196 A1, US99174801, US7494049 BB, US7322528 BB, US7249761 BB, US7165717 BB, US7144007 BB, US7143933 BB, US7070111 BB, US7059596 BB, US6976634 BB, US6896116 BB, US6845905 BB, US6826383 BB, US6786354 BB, US6786354 BA, US6786354 B1, US6758470 BA, US6724303 BB, US6724303 BA, US6724303 B1, US6705470 BB, US6685183 BB, US6685183 BA, US6685183 B1, US6639647 BA, US6637647 BB, US6637647 BA, US6637647 B1, US6592118 BB, US6592118 BA, US6592118 B1, US6591001 BA, US6557757 BA, US6540136 BA, US6516998 BB, US6516998 BA, US6510985 BA, US6505177 BA, US6494342 BA, US6488276 BB, US6484938 BA, US6454163 BB, US6454163 BA, US6443442 BA, US6427998 BA, US6402025 BA, US6398168 BA, US6398108 BA, US6378770 BA, US6371473 BA, US6296245 BA, US6293540 BA, US6276678 BA, US6276603 BA, US6273413 BA, US6257154 BA, US6196464 BA, US6196457 BA, US6160678 A, US6109522 A, US6073837 A, US6065672 A, US6059090 A, US60437637, US6032948 A, US6029800 A, US6025936 A, US6023688 A, US5945602 A, US5908189 A, US5901950 A, US5900607 A, US5863036 A, US5850075 A, US5797599 A, US5775145 A, US5719383 A, US5709381 A, US5695038 A, US5577720 A, US5563393 A, US5541795 A, US5507481, US5497334 A, US5467334 A, US5451757 A, US5435542, US5422773 A, US5342165 A, US5280902 A, US5251426 A, US5240368 A, US5234209 A, US5213202 A, US5177730 A, US5172903 A, US5172643 A, US5141127 A, US5099423 A, US5071032 A, US5065955 A, US5040779 A, US5039086 A, US5021639 A, US5006940 A, US4992648 A, US4928944 A, US4927130 A, US4917792 A, US4874160 A, US4871085 A, US4854570 A, US4822990 A, US4816652 A, US4795889 A, US4787617 A, US4764821 A, US4747493

A, US4697803 A, US4659008 A, US4655391 A, US4638746 A, US4603847 A, US4570548 A, US4530081 A, US4529119 A, US4474365 A, US4462509 A, US43763602 P, US4350332 A, US4337393 A, US4275667 A, US4235433 A, US4113140, US3667825 A, US3140621 A, US2998731 A, US2009084841 AA, US2007109130 AA, US2005258236 AA, US2005184444 AA, US2005140084 AA, US2004207151 AA, US2004206811 AA, US2004080095 AA, US2004016034 AA, US2003230464 AA, US2003227127 AA, US2003168508 AA, US2003080495 AA, US2003006546 AA, US2002104785 AA, US2002071244 AA, US2002071200 AA, US2002063035 AA, US2002062898 AA, US2002060400 AA, US2002050679 AA, US2002046171 AA, US2001041986 AA, JPS6144441 U, JP61044441 U1, JP61044441 U, JP11015972 A2, GB2308712 A1, GB2202066 A1, EP1258842 A2, EP1126120 A1, EP1082514 B1, EP0827117 A2, EP0392731 A2, DE29600787 U1, DE10135005 A1,

Forward Citations: WO16196167, WO16061088, WO16061086, WO16061084, WO15179854, WO15082346, WO14186472, WO14172696, WO12076592, WO09120391, WO09120391, WO09103980, WO09047742, WO08100861, WO08092754, WO08024043, WO07067106, WO07016091, US9666010, US9633500, US9613502, US9613487, US9603467, US9569908, US9536055, US9517904, US9514610, US9511001, US9508208, US9505582, US9505570, US9501885, US9483911, US9483896, US9466172, US9443399, US9443377, US9430893, US9384637, US9368003, US9368002, US9355532, US9345644, US9330515, US9321602, US9302867, US9299229, US9299206, US9296573, US9291341, US9280881, US9275512, US9251672, US9245405, US9242812, US9189820, US9163978, US9145257, US9127495, US9121197, US9120007, US9119488, US9111408, US9111078, US9082258, US9064366, US9052994, US9038892, US9038805, US9014845, US8985298, US8973817, US8959029, US8920236, US8920233, US8915427, US8910827, US8910771, US8870647, US8851988, US8851373, US8826022, US8819124, US8789787, US8784212, US8746908, US8744621, US8708288, US8701985, US8667457, US8646650, US8635159, US8631501, US8622295, US8621215, US8608056, US8600842, US8588966, US8579278, US8577042, US8573405, US8567664, US8496167, US8495582, US8485432, US8485391, US8479979, US8448939, US8430303, US8423790, US8419011, US8412768, US8396798, US8386075, US8382584, US8371501, US8366542, US8366035, US8353425, US8317188, US8317089, US8317088, US8274364, US8243346, US8225988, US8215520, US8196826, US8196820, US8190289, US8186670, US8177132, US8157162, US8136723, US8123219, US8121944, US8109434, US8109379, US8103379, US8087581, US8052044, US8047428, US8033455, US8033454, US8011581, US8006502, US8001796, US7900829, US7896148, US7878318, US7850164, US7844520, US7832629, US7789299, US7789298, US7780073, US7757940, US7694877, US7641072, US7559459, US7542627, US7533800, US7533784, US7513432, US7510181, US7494059, US7464832, US7450012, US7448535, US7438221, US7431205, US7428983, US7419090, US7341179, US7322518, US7249707, US7230223, US7140608, US7140608, US7103958, US6968997, US6957767, US2017147806, US2017022018, US2016275518, US2015348352, US2015284212, US2015248803, US2015178692, US2015066564, US2014263619, US2014261110, US2014229002, US2014174995, US2014124334, US2014069769, US2014067668, US2013205723, US2013161385, US2013153371, US2013119126, US2013093442, US2013081561, US2012175217, US2012153094, US2012132654, US2012080530, US2011315708, US2011196538, US2011156560, US2011140831, US2011133613, US2011049020, US2011048890, US2011042178, US2011031308, US2010288831, US2010247000, US2010228805, US2010207316, US2010200447, US2010176699, US2010148418, US2010134624, US2010117844, US2010100230, US2010093441, US2010063605, US2010016068, US2009289104, US2009195992, US2009188973, US2009184129, US2009166957, US2009121011, US2009108059, US2009103145, US2009084841, US2009051103, US2009008857, US2008283450, US2008237335, US2008223930, US2008195540, US2008142538, US2008107274, US2008093437, US2008061127, US2008011840, US2008011832, US2007296137, US2007267806, US2007267488, US2007251798, US2007228152, US2007228151, US2007205259, US2007194106, US2007187486, US2007025746, US2007023255, US2007013124, US2006237381, US2006218474, US2006212391, US2006203299, US2006169770, US2006163797, US2006157916, US2006104497, US2006071404, US2006032913, US2005269407, US2005263582, US2005212203, US2005211720, US2005173515, US2005140084, US2005116032, US2005006452, US2004207151, US2004164141, US2004164085, US2004155105, TWI394100, TWI389056, TWI383338, TWI380239, TWI378407, TWI354951, TWI354949, TWI354244, TWI352941, RU2616558, RU2540821, RU2494462, RU2475856, KR100607561, EP2977967, EP2975205, EP2879102, EP2568447, EP2541516, EP2515279, EP2227792, EP2096606, EP1934952, EP1544807, DE102011053443, DE102010061069, DE102007059846, CN106132707, CN105473466, CN105336026, CN105243758, CN105225361, CN105205949, CN104989184, CN104876049, CN104484940, CN104335256, CN104335256, CN104091299, CN104077854, CN103959351, CN103632434, CN103280032, CN103247104, CN103030037, CN102479404, CN102479403, CN102479403, CN102398785, CN102360477, CN102324152, CN101551925,

AU2008309213,

Abstract:
Source: US2004164147A An ATM currency cassette (208) includes a plurality of movable cassette information indicator buttons (214). Each button can be rotated about an axis for repositioning. The buttons can be axially moved outward and inward relative to the cassette housing (210) by rotation thereof. Different axial arrangements of the buttons represent respective different characteristics of cassette content. The cassette can be inserted into an ATM where the button positions can be read by the ATM. The cassette enables unused buttons to remain therewith and also permits a button arrangement to be changed without requiring opening of the cassette.

0) US9471004B – TONER SUPPLY CONTAINER AND APPLICATIONS OF SAME...

84) Family number: 63366710 (US9471004B) © PatBase

Title: TONER SUPPLY CONTAINER AND APPLICATIONS OF SAME

Priority: US20150877625 20151007 US20160070185 20160315

Family:

Publication number	Publication date	Application number	Application date
CN205910499 U	20170125	CN201620696956U	20160704
DE202016102220 U1	20160901	DE201620102220U	20160427
TWM529865 Y	20161001	TW20160210129U	20160705
US9471004 BA	20161018	US20150877625	20151007
US9500985 BA	20161122	US20160070185	20160315

Probable Assignee: GENERAL PLASTIC INDUSTRIAL CO LTD

Assignee(s):(std)**:** GEN PLASTIC IND CO LTD ; GENERAL PLASTIC IND CO LTD

Assignee(s): GENERAL PLASTIC INDUSTRIAL CO ; GENERAL PLASTIC INDUSTRIAL CO LTD

Inventor(s):(std)**:** LEE YUEH CHUN ; LI GUAN TONG ; LI GUANTONG ; LI KUAN TUNG ; LI YUE JUN ; LI YUEJUN

Agent(s): LOCKE LORD LLP; TIM TINGKANG

International class (IPC 8–9)**:** G03G15/08 G03G21/18 (Advanced/Invention)

CPC: G03G15/0834 G03G15/0865 G03G2215/066 G03G15/087 G03G15/0867 G03G15/0886

US class: 1/1

Classification Explorer

Cited documents: US7729644 BB, US7647012 BB, US7455334 BB, US5273328 A, US5217262 A, US4660871 A, US2014169837 AA, US2011115146 AA,

Abstract:
Source: US9471004B A releasing mechanism usable for a toner supply container includes a groove fixable to the toner supply container, a releasing portion slidably fixable to the toner supply container, and a hook member. The releasing portion has an opening for releasing toner, and a fixing structure disposed over the groove. The hook member is disposed between the groove and the fixing structure, and has a first hook received in the groove, and a fixing portion fixable to the fixing structure. By operations of first and second forces pushing the releasing portion toward or away from the toner supply container, the first hook is slidable along the groove and is stoppable at first and second positions of the groove that are close to or away from the toner supply container, such that the releasing portion is movable relative to the toner supply container to provide or stop providing the toner.

0) US2003068174A – TONER CARTRIDGE AND ELECTROPHOTOGRAPHIC APPARAT...

85) Family number: 28510853 (US2003068174A) © PatBase

Title: TONER CARTRIDGE AND ELECTROPHOTOGRAPHIC APPARATUS ADOPTING THE SAME

Priority: JP20010282431 20010917

Family:

Publication number	Publication date	Application number	Application date
JP2003107872 A2	20030409	JP20010282431	20010917
JP4386324 B2	20091216	JP20010282431	20010917
KR100477667 B1	20050318	KR20020056486	20020917
KR20030024627 A	20030326	KR20020056486	20020917
US2003068174 AA	20030410	US20020244590	20020917
US6804484 BB	20041012	US20020244590	20020917

Probable Assignee: S PRINTING SOLUTION CO LTD

Assignee(s):(std)**:** SAMSUNG ELECTRONICS CO LTD

Assignee(s): S PRINTING SOLUTION CO LTD ; SAMSUNG ELECTRONICS CO

Inventor(s):(std)**:** ANDO TAKASHI ; HASHIMOTO TOSHIBUMI ; HASHIMOTO TOSHIFUMI

International class(IPC 8–9)**:** G03G15/08 G03G21/10 (Advanced/Invention); G03G15/08 G03G21/10 (Core/Invention)

International class(IPC 1–7)**:** G03G15/08 G03G21/10

CPC: Y10S222/01 G03G2215/0827 G03G2215/1647 G03G2215/1657 G03G15/0844 G03G15/0855 G03G15/0865 G03G15/0875 G03G15/0877 G03G21/10

European class: G03G15/08H3 G03G15/08H3D S03G215/08A3C S03G215/16C S03G215/16C2

US class: 222/DIG.1 399/120 399/262

Classification Explorer

Cited documents: US5479247 A, JP3217879 A2,

Forward Citations: USD744586, US9383717, US9207572, US8913921, US8626036, US8521062, US8369745, US7962063, US7711288, US7389067, US2012114387, US2011076056, US2009232548, US2008152379, US2007154237, JP4600546, JP2010054570, JP2008040222,

Abstract:
Source: US2003068174A A toner cartridge which is detachably loaded in a predetermined loading portion and has a new toner containing space where new toner is contained and a waste toner containing space where waste toner is contained, the toner cartridge including a supply hole for supplying new toner and a receiving hole for receiving waste toner, which are installed at a predetermined position of a main body of the toner cartridge, and an open and shut mechanism for opening and shutting the supply hole and the receiving hole by a single shutter. An electrophotographic apparatus for forming an image on a recording medium by adhering toner to a photoreceptive body where an electrostatic latent image is formed and transferring the toner to the recording medium from the photoreceptive body, in which the electrophotographic apparatus includes a loading portion where the toner cartridge is detachably installed the toner cartridge. The toner cartridge comprises a new toner containing space where new toner is contained and a waste toner containing space where waste toner is contained, a supply hole for supplying new toner and a receiving hole for receiving waste toner, which are installed at a predetermined position of a main body of the toner cartridge, and an open and shut mechanism for opening and shutting the supply hole and the receiving hole by a single shutter.

0) US2013034370A – CARBON POWDER SUPPLY CARTRIDGE

86) Family number: 47787573 (US2013034370A) © PatBase

Title: CARBON POWDER SUPPLY CARTRIDGE

Priority: CN201020163105U 20100419 WO2011CN72944 20110418

Family:

Publication number	Publication date	Application number	Application date
CN201662687 U	20101201	CN201020163105U	20100419
EP2562602 A1	20130227	EP20110771565	20110418
EP2562602 A4	20131023	EP20110771565	20110418
US2013034370 AA	20130207	US20110641193	20110418
US8867954 BB	20141021	US20110641193	20110418
WO11131112 A1	20111027	WO2011CN72944	20110418

Probable Assignee: ZHUHAI PRINT RITE CO LTD

Assignee(s):(std)**:** LIU QUAN ; PRINT RITE UNICORN IMAGE PROD ; PRINT RITE UNICORN IMAGE PRODUCTS CO LTD OF ZHUHAI ; ZHUHAI PRINT RITE CO LTD ; PRINT RITE UNICORN IMAGE PRODUCTS CO LTD ; PRINT RITE UNICORN IMAGE PRODUCTS CO LTD ZHUHAI

Assignee(s): PRINT−RITE UNICORN IMAGE PRODUCTS CO., LTD. OF ZHUHAI ; ZHUHAI PRINT RITE CO ; PRINT RITE UNICORN IMAGE PRODUCTS CO ; PRINT RITE DEGREES UNICORN IMAGE PRODUCTS CO ; PRINT RITE DEGREES UNICORN IMAGE PRODUCTS CO LTD OF ZHUHAI

Inventor(s):(std)**:** LIU QUAN ; QUAN LIU

Agent(s): Morris Jonathan Paul; LERNER DAVID LITTENBERG KRUMHOLZ AND MENTLIK LLP; INNOPAT INTELLECTUAL PROPERTY CO LTD

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9): G03G15/08 (Advanced/Invention)

CPC: G03G2215/0692 G03G15/0855 G03G15/0865 G03G15/0886 G03G15/0832

European class: G03G15/08H3

US class: 399/106 399/110 399/262

Classification Explorer

Cited documents: US8335455 BB, US7817943 BB, US7574163 BB, US6839534 BB, US5933691 A, US5881345 A, US2009245862 AA, US2007269237 AA, US2007248384 AA, EP1857887 A1, EP0843233 A2, EP0757301 A2, CN201662687 U, CN1182898 A, CN101075116 A, CN101063861 A,

Forward Citations: WO11131112, US8867954,

Abstract:
Source: US2013034370A Disclosed is a toner cartridge, which comprises a case, a toner outlet and a gate that can slide to close the toner outlet. The inside of the gate has a bump which can be resisted by the opening mechanism to open the toner outlet. The outside of the gate has an elastic buckle which can be resisted by the closing mechanism to close the toner outlet. The outside of the toner feeding compartment has a notch; the bottom surface of the notch is connected with the outside of the toner feeding compartment through the guiding slope. When the gate is in the closing position, the elastic buckle and the notch coordinate; when the gate is in the opening position the elastic buckle separates from the notch and puts over the outside of the toner feeding compartment.

0) US2006171744A – TONER CARTRIDGE

87) Family number: 33176872 (US2006171744A) © PatBase

Title: TONER CARTRIDGE

Priority: JP20050023238 20050131 JP20050375125 20051227

Family:

Publication number	Publication date	Application number	Application date
CN100543613 C	20090923	CN200610002912	20060127
CN1815390 A	20060809	CN200610002912	20060127
JP2006235592 A2	20060907	JP20050375125	20051227
US2006171744 AA	20060803	US20060343173	20060130
US7421234 BB	20080902	US20060343173	20060130

Probable Assignee: KYOCERA MITA CORP

Assignee(s):(std)**:** KYOCERA MITA CORP

Inventor(s):(std)**:** CHISATO HATAKEYAMA ; CHISATO IKEDA MASAMI HATAKEYAM ; HATAKEYAMA CHISATO ; IKEDA MASAMI ; MASAMI IKEDA

Inventor(s): IKEDA MASAMI HATAKEYAMA CHISATO ; HATEKEYAMA CHISATO

Agent(s): CASELLA AND HESPOS; HESPOS GERALD E; CASELLA ANTHONY J; GERALD E; ANTHONY J

International class (IPC 8–9)**:** G03G15/08 G03G21/16 (Advanced/Invention); G03G15/08 G03G21/16 (Core/Invention)

CPC: G03G15/0886 G03G15/0875 G03G15/0877

European class: G03G15/08H3D

US class: 399/262

Classification Explorer

Cited documents: US2004131391 AA, JP3002777 A2, JP2004205587 A2,

Forward Citations: WO13101351, US9690231, US9658590, US9563169, US9477178, US9477177, US9417557, US9360797, US9316944, US9176423, US9104141, US9031451, US8948650, US8879964, US8873996, US8867968, US8867966, US8774684, US8682213, US8649710, US8620195, US8588659, US8401437, US8200126, US8050591, US7805097, US7672624, US7606520, US2017075295, US2014205328, US2013170861, US2012224890, US2012134716, US2009238609, US2009142103, US2008181661, US2008145110, US2008107453, TWI581980, KR101499839, JP5896358, JP5683315, JP2014139635, JP2012173352, JP2009229561, EP2884343, EP1895368, EP1895368, CN101539744, AU2013206346,

Abstract:
Source: US2006171744A A toner cartridge (20) has a shutter (40) adapted to be changed between a closed posture (S 1) and an open posture (S 1) for opening a toner supply port (322), a lever (50) to be operated manually to change the posture of the shutter (40), and a postural–change restriction mechanism (60) for controlling a postural change of the shutter (40). The postural–change restriction mechanism (60) includes a lock groove (53) in the lever (50), and a restriction pawl (62) integrally formed with a cartridge body (30). The restriction pawl (62) engages the lock groove (53) when the lever (50) is operated to set the shutter (40) in the closed posture (S 1), to block a postural change of the shutter (40), and to be elastically deformed when the cartridge body (30) is attached to a development device, in a manner to allow the postural change.

0) US2007092301A – TIMING WHEEL FOR TONER CARTRIDGE WITH DUAL SPRI...

88) Family number: 34395503 (US2007092301A) © PatBase

Title: TIMING WHEEL FOR TONER CARTRIDGE WITH DUAL SPRINGS

Priority: EP20060816376 20061005 US20050246926 20051007 WO2006US39064 20061005

Family:

Publication number	Publication date	Application number	Application date
DE602006033516 D1	20130124	DE200660033516T	20061005
EP1934563 A1	20080625	EP20060816376	20061005
EP1934563 B1	20121205	EP20060816376	20061005
US2007092301 AA	20070426	US20050246926	20051007
US7433612 BB	20081007	US20050246926	20051007
WO07044494 A1	20070419	WO2006US39064	20061005

Probable Assignee: TURBON AMERICA INC

Assignee(s):(std)**:** BESSETTE LIONEL C ; CLARITY IMAGING TECHNOLOGIES I ; CLARITY IMAGING TECHNOLOGIES INC

Assignee(s): CLARITY IMAGING TECHNOLOGIES INC WALTHAM ; KELTIC FINANCIAL PARTNERS LP ; TURBON AMERICA INC ; BERKSHIRE BANK

Inventor(s):(std)**:** BESSETTE LIONEL C

Inventor(s): BESSETTE LIONEL C MILLBURY ; BESSETTE LIONEL

Agent(s): EISENFUEHR SPEISER PATENTANWAELTE RECHTSANWAELTE PARTGMBB; EISENFUEHR SPEISER AND PARTNER; HINCKLEY ALLEN AND SNYDER LLP; LOGINOV AND ASSOCIATES PLLC; LOGINOV WILLIAM A; WILLIAM A

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD MG MK ML MN MR MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9): G01F23/22 G03G15/08 (Advanced/Invention); G01F23/22 G03G15/08 (Core/Invention)

CPC: G03G15/0856 G03G15/0875 G01F23/226 G03G2215/0802 G03G2215/0888

European class: G01F23/22C G03G15/08H2 S03G215/08A S03G215/08D

US class: 399/254 399/263 399/27

Classification Explorer

Cited documents: US7218871 BB, US6718147 BA, US6603933 BA, US6510303 BB, US6295422 BA, US6169860 BA, US6169860 B1, US6009285 A, US5995772 A, US5942067 A, US5634169 A, US4668074 A, US4065031 A, US2006188273 AA, JP4323678 A2, JP3017679 A2, JP11084850 A2,

Forward Citations: US9459555, US8995889, US2015117879, US2014072348,

Abstract:
Source: US2007092301A This invention provides a timing wheel assembly for controlling the timing of toner cartridge operation that is fixedly attached to a shaft of a toner tank agitator and that is operatively connected to a drive gear of a toner cartridge mounted coaxially on the shaft with the timing wheel movable between a first stop and a second stop relative to the drive gear to define rotational "dwell" range having a predetermined arcuate distance with a pair of springs of differing strengths. The first spring, of a first strength (first spring constant) biases the timing wheel against the first stop and the second spring of a second strength (second spring constant) is engaged by the timing wheel at higher resistance levels. In this manner, the first spring ensures that an appropriate dwell and snapback motion occurs at lower toner levels and the second spring (in combination with the first) provides heavier resistance and stronger rotational resistance/earlier snapback at higher toner levels.

0) US2010158575A – TONER CARTRIDGE AND IMAGE FORMING APPARATUS INC...

89) Family number: 45554110 (US2010158575A) © PatBase

Title: TONER CARTRIDGE AND IMAGE FORMING APPARATUS INCLUDING THE TONER CARTRIDGE

Priority: JP20080328740 20081224 JP20090269711 20091127 JP20130171210 20130821

Family:

Publication number	Publication date	Application number	Application date
CN101763010 A	20100630	CN200910258155	20091221
CN101763010 B	20121017	CN200910258155	20091221
JP2010170101 A2	20100805	JP20090269711	20091127
JP2013232019 A2	20131114	JP20130171210	20130821
JP5350998 B2	20131127	JP20090269711	20091127
JP5595566 B2	20140924	JP20130171210	20130821
US2010158575 AA	20100624	US20090644387	20091222
US8190070 BB	20120529	US20090644387	20091222

Probable Assignee: KYOCERA MITA CORP

Assignee(s):(std)**:** AKIYAMA TAKAYA ; KYOCERA DOCUMENT SOLUTIONS INC ; KYOCERA MITA CORP ; MAESHIMA MASANOBU

Inventor(s):(std)**:** AKIYAMA TAKAYA ; AKIYAMA TAKUYA ; MAESHIMA MASANOBU ; MASANOBU MAESHIMA ; TAKAYA AKIYAMA

Agent(s): HESPOS AND PORCO LLP; GERALD E; MICHAEL J

International class (IPC 8–9): G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)

CPC: G03G15/0886 G03G15/0868 G03G15/0875 G03G2215/068 G03G2221/1846

European class: G03G15/08H3B S03G215/06C2 S03G221/18P2

US class: 399/262 399/262P 399/263

Classification Explorer

Cited documents: US2007077101 AA, US2004131391 AA, JP2007101712 A2, JP2004205587 A2,

Forward Citations: US9436124, US9354595, US9317003, US9261856, US8781375, US8699916, US8620195, US8244155, US2016033900, US2013004203, US2012134716, US2010329747, JP6088367, JP2015007684,

Abstract:
Source: US2010158575A A toner cartridge for containing toner is provided with a lever for operating the toner cartridge, and a cover partly surrounding the lever. The cover forms an uncovering area where the lever is not covered, and a user can access the lever through the uncovering area.

0) US5255053A – IMAGE FORMING APPARATUS HAVING A TRANSFER DRUM,...

90) Family number: 9773421 (US5255053A) © PatBase

Title: IMAGE FORMING APPARATUS HAVING A TRANSFER DRUM, AN IMAGE MEMBER CARTRIDGE AND EXPOSURE MEANS

Priority: US19920985074 19921203 US19920985075 19921203 US19920985469 19921203 US19920985471 19921203 US19920985472 19921203

Family:

Publication number	Publication date	Application number	Application date
DE69309880 D1	19970522	DE19936009880	19931122
DE69309880 T2	19971016	DE19936009880T	19931122
EP0607528 A2	19940727	EP19930118730	19931122
EP0607528 A3	19940810	EP19930118730	19931122
EP0607528 B1	19970416	EP19930118730	19931122
JP6230673 A2	19940819	JP19930304323	19931203
US5255053 A	19931019	US19920985472	19921203
US5268719 A	19931207	US19920985469	19921203
US5282002 A	19940125	US19920985471	19921203
US5296894 A	19940322	US19920985075	19921203
US5313993 A	19940524	US19920985074	19921203

Probable Assignee: EASTMAN KODAK CO

Assignee(s):(std)**:** EASTMAN KODAK CO

Assignee(s): EASTMAN KODAK CO ROCHESTER N Y US ; NEXPRESS SOLUTIONS LLC ; EASTMAN KODAK COMPANY ; CITICORP NORTH AMERICA INC AGENT AS

Inventor(s):(std)**:** GAUDINO DAVID M ; GREEN MICHAEL H ; JACOBS MICHAEL E ; JIEEMUZU JII RIDERETSUKU ; JIYON EMU BERESU ; KALYANDURG SATYAN R ; KENESU DEII KOOBII ; LENHARD SUZANNE M ; MAIKERU DABURIYU DEIDASU ; MAIKERU EICHI GURIIN ; MAIKERU II BEISUTAA ; MAIKERU II JIEIKOBUZU ; OJHA PURNENDU S ; PAANENDOU ESU OJIYUHA ; POORU EICHI TAMU ; RYDELEK JAMES G ; SATEIAN AARU KARIANDAAGU ; SUZANNU EMU RENHAADO ; TAM PAUL H ; UIRIAMU BII BURIIRANDO ; VREELAND WILLIAM B ; ZIEGELMULLER FRANCISCO L ; AANESUTO II BURITSUZORAARA ; AASAA II DAN ; BAISTER MICHAEL E ; BERES JOHN M ; BRIZZOLARA ERNEST E ; CORBY KENNETH D ; DEBITSUDO EMU GOODEINO ; DIDAS MICHAEL W ; DUNN ARTHUR E ; FURANSHISUKO ERU JIIGERUMIYURA

Inventor(s): FURANSHISUKO ERU JIIGERUMIYURAA

Designated states: CH DE FR GB IT LI NL SE

International class (IPC 8–9): G03G15/00 G03G15/01 G03G15/08 G03G21/18 (Advanced/Invention); G03G15/00 G03G15/01 G03G15/08 G03G21/18 (Core/Invention)

International class (IPC 1–7): B65B1/04 B65B3/00 G03G15/00 G03G15/01 G03G15/06 G03G15/08 G03G21/16 G03G21/18

CPC: G03G21/1647 G03G21/1671 G03G21/1676 Y10S222/01 G03G21/1821 G03G21/1814 G03G15/5037 G03G2221/1618 G03G2221/1636 G03G2221/18 G03G2215/068 G03G2215/0685 G03G2215/083 G03G15/0868 G03G15/0875 G03G15/0887 G03G15/0889 G03G15/0886 G03G15/0126 G03G21/1842 G03G2215/0692

European class: G03G15/01D8 G03G15/08H3B G03G15/50K2 G03G21/18C3 G03G21/18C4C G03G21/18H1 S03G215/06C2 S03G215/06C4 S03G215/06C7 S03G215/08A3C1 S03G221/16C S03G221/16E S03G221/18

US class: 118/645 141/319 141/364 141/366 141/383 222/DIG.1 355/200 355/210 355/245 355/260 355/271 355/299 355/326R 399/111 399/117 399/118 399/119 399/226 399/256 399/258 399/262 399/73

Classification Explorer

Cited documents: WO9015366 A1, US5229824 A, US5202739 A, US5182608 A, US5177531 A, US5172165 A, US5146278 A, US5142335 A, US5138372 A, US5111254 A, US5111245 A, US5101871 A, US5095340 A, US5089854 A, US5087939 A, US5083166 A, US5083164

A, US5074344 A, US5053820 A, US5027156 A, US4997016 A, US4972887 A, US4942432 A, US4937628 A, US4821066 A, US4674865 A, US4639119 A, US4614286 A, US4585327 A, US4580679 A, US4551000 A, US4522487 A, US4516850 A, US4252435 A, US4232306 A, US4140389 A, US4131359 A, US4062385 A, US3966316 A, US3898001 A, US3838472 A, US3815734 A, US2692698 A, JPS642083, JPS61193176, JP64002083 A2, JP61193176 A2, JP4184360 A2, JP1316767, EP0491048 A1, EP0488184 A2, EP0112278 A1,

Forward Citations: WO0069640, USD444495, US9684264, US9465319, US9411303, US9317004, US9291992, US9285758, US9280090, US9280087, US9261851, US9229367, US9164425, US9152083, US9126539, US8983344, US8774697, US8755722, US8285179, US8103198, US7853185, US7822368, US7620348, US7583917, US7515855, US7458207, US7302213, US7292804, US7280787, US7133629, US7031637, US6946230, US6882817, US6775505, US6728503, US6530399, US6526247, US6144825, US6141520, US5970284, US5881782, US5802435, US5765059, US5729794, US5610692, US5592980, US5508795, US5472026, US2015098731, US2015098730, US2015098721, US2011052269, US2010021213, US2009290911, US2009120981, US2008031658, US2008025764, US2007079606, US2007077098, US2006291899, US2006013621, US2004131390, US2004067076, US2003215267, US2003185589, US2003175053, JP9120203, JP3356249, JP2002014532, EP1962147, EP1962147,

Abstract:
Source: US5255053A Image forming apparatus includes a laser and a laser chassis. An image member cartridge containing a photoconductive drum is receivable in the laser chassis and fixed with respect to the laser. The laser chassis and image member cartridge are movable as a unit toward a transfer drum to engage the photoconductive drum and the transfer drum. Positioning surfaces engage opposite ends of a shaft of the photoconductive drum to control positioning of the drums.

0) US6104895A – DEVELOPING CARTRIDGE SIDE COVER, MOUNTING METHO...

91) Family number: 12461996 (US6104895A) © PatBase

Title: DEVELOPING CARTRIDGE SIDE COVER, MOUNTING METHOD THEREOF AND DEVELOPING CARTRIDGE

Priority: JP19970195030 19970703 JP19980186154 19980701

Family:

Publication number	Publication date	Application number	Application date
JP11073018 A2	19990316	JP19980186154	19980701
JP3832972 B2	20061011	JP19980186154	19980701
US6104895 A	20000815	US19980109037	19980702

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK

Assignee(s): CANON INC ; CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** KANNO KAZUHIKO ; NITTANI SUSUMU ; SHINTANI SUSUMU ; SUGANO KAZUHIKO ; YOKOMORI KANJI

International class (IPC 8–9): G03G15/08 G03G21/18 (Advanced/Invention); G03G15/08 G03G21/18 (Core/Invention)

International class (IPC 1–7): G03G15/08 G03G21/18

CPC: G03G15/0855 G03G15/0865 G03G15/0875 G03G15/0886 G03G15/0898 G03G2215/0177 G03G2215/0687 G03G2215/0692

European class: G03G15/08H3 G03G15/08S1 S03G215/01S2A S03G215/06C5 S03G215/06C7

US class: 399/106 399/113

Classification Explorer

Cited documents: US5815782 A, US5729796 A, US5701562 A, US5283619 A, US5202728 A, US4974023 A,

Forward Citations: US9285712, US7844365, US7162183, US6961528, US6947687, US6535709, US6498914, US6411791, US2014072328, US2007019560, US2005288799, US2005013627, US2005008395, US2004037587, JP4280770, JP2009214493, JP2007213025, EP1054307,

Abstract:
Source: US6104895A A side cover for a developing cartridge for developing a latent image formed on an electrophotographic photosensitive member, the developing cartridge being detachably mountable relative to electrophotographic image forming apparatus, the developing cartridge including a developing roller, for developing a latent image formed on an electrophotographic photosensitive member; a toner accommodating portion for accommodating toner to be used for development by the developing roller, the toner accommodating portion being provided with a toner supply opening for supplying the accommodated toner to the developing roller; and A toner seal for sealing the toner supply opening, the toner seal being pulled out prior to start of use of the developing cartridge, by which the toner supply opening is unsealed to permit supply of the toner accommodated in the toner accommodating portion to the developing roller, the side cover, includes a shaft support portion for rotatably supporting a shaft at one end of the developing roller; a toner seal opening for directing the toner seal to outside when a toner supply opening of the toner accommodating portion is opened.

0) US5737668A – TONER CARTRIDGE/COLLECTING TANK ASSEMBLY

92) Family number: 23330790 (US5737668A) © PatBase

Title: TONER CARTRIDGE/COLLECTING TANK ASSEMBLY

Priority: JP19950123478 19950523 JP19950292553 19951110

Family:

Publication number	Publication date	Application number	Application date
AU199652495 A1	19961205	AU19960052495	19960523
CN1159616 A	19970917	CN19961005166	19960523
EP0744671 A2	19961127	EP19960108185	19960522
EP0744671 A3	19990331	EP19960108185	19960522
JP3273723 B2	20020415	JP19950292553	19951110
JP9043960 A2	19970214	JP19950292553	19951110
KR19960042264 A	19961221	KR19960014956	19960508
TH23983 A	19970305	TH19961001620	19960521
TW416533 Y	20001221	TW20000204718U	19960522
US5737668 A	19980407	US19960650226	19960520

Probable Assignee: MITA INDUSTRIAL CO LTD

Assignee(s):(std): MITA INDUSTRIAL CO LTD ; MITAJIRI INDUSTRY CO LTD

Assignee(s): MITAJIRI IND CO LTD ; MITA IND CO LTD ; MITA INDUSTRIAL CO

Inventor(s):(std): ICHIO JOROKU ; JOHROKU KAZUO ; JYOROKU KAZUO ; TAKEMUTSU KAZUO

Inventor(s): KAZUO JYOROKU ; JOROKU ICHIO

Agent(s): PAUL R TAYLOR AND ASSOCIATES

Designated states: CH DE ES FR GB IT LI

International class (IPC 8–9): G03G15/08 G03G21/12 G03G21/18 (Advanced/Invention); G03G15/08 H04N1/00 (Advanced/Non–invention); G03G15/08 G03G21/12 G03G21/18 (Core/Invention)

International class (IPC 1–7): G03G15/08 G03G21/12 G03G21/18

CPC: G03G15/0868 G03G15/0872 G03G21/12

European class: G03G15/08H3C1 G03G21/12

US class: 399/120

Classification Explorer

Cited documents: US5574549 A, US5555081 A, US5398098 A, US5381217 A, US5349425 A, US5126799 A, US5078303 A, US4899690 A, JP6161173, JP5216342 A2, JP3028862 A2, EP0773483 A2, EP0608812 A2, EP0435596 A2, EP0348231 A2,

Forward Citations: USRE45513, USRE42312, USRE41779, USRE40058, USRE40021, US9383716, US9079433, US7486915, US7386254, US6640664, US6418284, US6308036, US6195521, US6151472, US6134410, US6088556, US6021292, US5809376, US5722019, US2013029820, US2007020017, EP0917022, EP0917022, EP0913740, EP0913740, EP0786706,

Abstract:
Source: US5737668A An image forming apparatus which facilitates replacement of a toner cartridge and collecting tank as a unit. The toner cartridge's exterior surface has an integrally formed collecting tank support portion having two opposing claws angled at an obtuse angle. The collecting tank has a support member for engaging the support portion of the toner cartridge for freely attaching/detaching the collecting tank to the toner cartridge.

0) US2002159787A – PROCESS CARTRIDGE REMANUFACTURING METHOD

93) Family number: 28268838 (US2002159787A) © PatBase

Title: Process cartridge remanufacturing method

Priority: JP20010132705 20010427

Family:

Publication number	Publication date	Application number	Application date
CN1191507 C	20050302	CN20021018481	20020427
CN1391142 A	20030115	CN20021018481	20020427
DE60238651 D1	20110203	DE20026038651	20020425
EP1253487 A1	20021030	EP20020252935	20020425
EP1253487 B1	20101222	EP20020252935	20020425
JP2002328579 A2	20021115	JP20010132705	20010427
JP3542569 B2	20040714	JP20010132705	20010427
KR100451073 B1	20041002	KR20020022867	20020426
KR20020083465 A	20021102	KR20020022867	20020426
US2002159787 AA	20021031	US20020128294	20020424
US6931226 BB	20050816	US20020128294	20020424

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK

Assignee(s): CANON INC ; CANON K K ; CANON KABUSHIKI KAISHA ; CANON KABUSHIKI KAISHA AB

Inventor(s):(std)**:** CHATANI KAZUO ; CHIOMI MATSUZAKI ; KAZUO SAYA ; CHADANI KAZUO ; MATSUZAKI HIROOMI ; MATSUZAKI SUKEOMI ; MIYABE SHIGEO ; SHIGEO MIYANOBE ; SUZUKI AKIRA

Inventor(s): SUZUKI AKIRA C O CANON KABUSHIKI KAISHA ; MIYABE SHIGEO C O CANON KABUSHIKI KAISHA ; MIYANOBE SHIGEO ; SAYA KAZUO ; MATSUZAKI HIROOMI C O CANON KABUSHIKI KAISHA ; CHADANI KAZUO C O CANON KABUSHIKI KAISHA ; MATSUZAKI CHIOMI

Agent(s): TBK PATENT; FITZPATRICK CELLA HARPER AND SCINTO

Designated states: DE FR GB

International class (IPC 8–9): G03G15/00 G03G21/18 (Advanced/Invention); G03G15/00 (Advanced/Non–invention); G03G15/00 G03G21/18 (Core/Invention)

International class (IPC 1–7): G03G15/00 G03G21/00 G03G21/18

CPC: G03G21/181 G03G2215/00987 G03G2215/021 G03G2221/1609 G03G15/00

European class: G03G21/18C2 S03G215/00R S03G215/02A S03G221/16B1

US class: 399/109

Classification Explorer

Cited documents: US6542706 BB, US6351620 BA, US6336017 BA, US6317572 BA, US6301457 BA, US6282390 BA, US6282389 BA, US6246853 BA, US6223010 BA, US6219504 BA, US6215969 BA, US6205305 BA, US6178302 BA, US6178302 B1, US6173145 BA, US6173145 B1, US6173140 BA, US6173140 B1, US6167219 A, US6154623 A, US6144815 A, US6128452 A, US6097906 A, US6072968 A, US6029031 A, US6011941 A, US5966567 A, US5950047 A, US5946531 A, US5943529 A, US5926666 A, US5878310 A, US5878309 A, US5873012 A, US5839028 A, US5640650 A, US5585889 A, US5463446 A, US5452056 A, US5331373 A, JP9062167 A2, JP7020762 A2, JP7012108 A2, JP2001034143 A2, EP1054307 A2, EP0683439 A2,

Forward Citations: WO12013143, WO12013141, WO11137750, WO07016162, USD551285, USD550763, US9688008, US9678471, US9671751, US9665040, US9658593, US9658592, US9651915, US9599930, US9594343, US9529304, US9500995, US9494890,

US9477201, US9383678, US9377755, US9367025, US9367023, US9360831, US9348303, US9304439, US9291942, US9274489, US9207581, US9188906, US9176468, US9152081, US9146500, US9116503, US9058018, US9052675, US9046823, US8918011, US8879944, US8867955, US8755713, US8688008, US8688004, US8682215, US8682200, US8676090, US8630564, US8559855, US8559849, US8532533, US8521060, US8503906, US8494411, US8483589, US8452210, US8437669, US8433219, US8417152, US8401442, US8401424, US8391748, US8369748, US8369744, US8295734, US8280278, US8275286, US8233821, US8190056, US8165493, US8160478, US8081898, US7711287, US7689146, US7570900, US7499663, US7433622, US7412193, US7366439, US7349657, US7346292, US7315710, US7266326, US7248810, US7224925, US7212768, US7184690, US7184682, US7158736, US7155141, US7099607, US6868243, US6856775, US2016259295, US2011222915, US2011103827, US2011091239, US2010081112, US2010067943, US2010054807, US2010054806, US2010028042, US2009317134, US2009297215, US2009297214, US2009297208, US2009074454, US2008260428, US2008240773, US2008152388, US2008025757, US2007141889, US2007110474, US2007092291, US2006228132, US2006120754, US2006072938, US2006072936, US2006051135, US2006024080, US2006008289, US2005276628, US2005244188, US2005238387, US2005232654, US2005013628, US2003113131, KR100988030, EA012902, CN102749826, CN102749826, CN102193396, CN102193396,

Abstract:
Source: US2002159787A A remanufacturing method for a process cartridge detachably mountable to a main assembly of an electrophotographic image forming apparatus, includes (a) an end cover removing step of cutting a fixing portion between the second end cover and the drum frame and cutting a fixing portion between the second end cover and the developer frame, and removing the second end cover at the other longitudinal ends of the drum frame, the developing frame and the developer frame; (b) a drum shaft removing step of removing, at the other ends, a drum shaft rotatably supporting the electrophotographic photosensitive drum at the other ends; (c) a roller separating step of applying forced to the drum frame, the developing frame and the developer frame in directions crossing with a longitudinal direction of electrophotographic photosensitive drum so as to separate the electrophotographic photosensitive drum and the developing roller from each other; (d) a drum removing step of moving the electrophotographic photosensitive drum outwardly from the process cartridge at the other end of electrophotographic photosensitive drum, while keeping the forces applied to the drum frame, the developing frame and the developer frame, so that electrophotographic photosensitive drum is inclined, and then removing the electrophotographic photosensitive drum from the drum frame; (e) a drum mounting step of inserting one end of a new electrophotographic photosensitive drum having at one end a driving force receiving portion for receiving a driving force for rotating the electrophotographic photosensitive drum from the main assembly of the electrophotographic image forming apparatus when process cartridge is mounted to the main assembly of the electrophotographic image forming apparatus, such that driving force receiving portion is exposed outside the drum frame, and inserting the drum shaft at the other end from outside of the drum frame, thus mounting a new drum electrophotographic photosensitive drum to the drum frame; (f) a developer refilling step of opening a filling port provided in the developer accommodating portion, refilling the developer and then closing the filling port; and (g) an end cover mounting step of fixedly mounting a second end cover to the other longitudinal ends of the drum frame, the developing frame and the developer frame.

94) Family number: 30664071 (US2004170446A) © PatBase

Title: IMAGE FORMING APPARATUS USING A USER INSTALLABLE PROCESS CARTRIDGE, A METHOD OF ARRANGING THE PROCESS CARTRIDGE, AND THE PROCESS CARTRIDGE ITSELF

Priority: EP20030029204 20031218 JP20020371154 20021220 JP20030421966 20031219 JP20090278063 20091207

Family:

Publication number	Publication date	Application number	Application date
CN100407065 C	20080730	CN200310120664	20031218
CN1510529 A	20040707	CN200310120664	20031218
DE60347057 D1	20150115	DE20036047057	20031218
EP1431837 A1	20040623	EP20030029204	20031218
EP1431837 B1	20141203	EP20030029204	20031218
JP2004212986 A2	20040729	JP20030421966	20031219
JP2010055114 A2	20100311	JP20090278063	20091207
JP4471153 B2	20100602	JP20030421966	20031219
JP4494519 B2	20100630	JP20090278063	20091207
US2004170446 AA	20040902	US20030740665	20031222
US7024133 BB	20060404	US20030740665	20031222

Probable Assignee: RICOH CO LTD

Assignee(s):(std): ARAI YUJI ; HOSOKAWA HIROSHI ; KAWASUMI MASANORI ; KIMURA YOSHIYUKI ; KUWABARA NOBUO ; MURAKAMI WAKAKO ; NAGASHIMA HIROYUKI ; SAMPE ATSUSHI ; ZEMBA HIDEKI ; NARUMI SATOSHI ; TSUDA KIYONORI ; TAKEICHI RYUTA ; UMEMURA KAZUHIKO ; RICOH KK ; RICOH CO LTD

Assignee(s): RICOH COMPANY LTD ; RICOH CO ; ROCOH COMPANY LTD

Inventor(s):(std): AKIRA NARIMI ; ARAI HIROJI ; ARAI YUJI ; HIROJI ARAI ; HOSOKAWA HIROSHI ; HOSOKAWA KOO ; KAWASUMI MASANORI ; KIMURA YOSHIYUKI ; KOO HOSOKAWA ; KUWABARA NOBUO ; MURAKAMI WAKAKO ; NAGASHIMA HIROYASU ; NAGASHIMA HIROYUKI ; NARIMI AKIRA ; NARIMI SATOSHI ; NARUMI SATOSHI ; SAMPE ATSUSHI ; SANPEI ATSUSHI ; TAKECHI RYUTA ; TAKEICHI RYUTA ; TSUDA KIYONORI ; UMEMURA KAZUHIKO ; YOSHINAMI HIDEKI ; ZEMBA HIDEKI ; KIMURA SACHIYUKI

Agent(s): SCHWABE SANDMAIR MARX; OBLON SPIVAK MCCLELLAND MAIER AND NEUSTADT PC

Designated states: DE ES FR GB IT NL

International class (IPC 8–9): G03G15/01 G03G15/08 G03G21/16 G03G21/18 (Advanced/Invention); G03G15/01 G03G15/08 G03G21/16 G03G21/18 (Core/Invention)

International class (IPC 1–7): G03G15/01 G03G15/08 G03G21/16 G03G21/18

CPC: G03G21/1609 G03G21/185 G03G2215/0119 G03G2221/1603 G03G2221/183

European class: G03G21/18H1P S03G215/01P3 S03G221/16A S03G221/18P

US class: 399/111 399/112 399/117

Classification Explorer

Cited documents: US6836629 BB, US6836629 BA, US6836629 B1, US6798430 BB, US6798430 BA, US6798430 B1, US6706459 BB, US6706459 BA, US6706459 B1, US6697595 BB, US6697595 BA, US6697595 B1, US6697588 BB, US6697588 BA, US6697588 B1, US6615013 BB, US6615013 BA, US6615013 B1, US6562529 BA, US6560431 BB, US6560431 BA, US6560431 B1, US6558862 BB, US6558862 BA, US6558862 B1, US6522855 BA, US6521386 BA, US6493529 BA, US6447973 BA, US6363237 BA, US6337957 BA, US6249661 BA, US6212343 BA, US6198895 BA, US6163666 A, US6160977 A, US6125243 A, US6118964 A, US6060205 A, US6033818 A, US6014532 A, US5999772 A, US5952048 A, US5930561 A, US5915155 A, US5879752 A,

US5845183 A, US5826144 A, US5822664 A, US5819145 A, US5805965 A, US5771429 A, US5771426 A, US5768665 A, US5759733 A, US5758241 A, US5740507 A, US5708942 A, US5697026 A, US5689782 A, US5666625 A, US5659860 A, US5627630 A, US5625441 A, US5625440 A, US5625438 A, US5617191 A, US5610693 A, US5552870 A, US5489747 A, US5486909 A, US5482265 A, US5328794 A, US5189102 A, US5169739 A, US5099289 A, US5061587 A, US5026621 A, US4985733 A, US4950573 A, US4875063 A, US2005047823 AA, US2004170447 AA, US2004126134 AA, JP9120203 A2, JP8152774 A2, JP5313426 A2, JP3180861 A2, JP2002139976 A2, JP2002108173 A2, JP2002062711 A2, JP2002006679 A2, JP2001356546 A2, JP2001331012 A2, JP2000098829 A2, JP11095520 A2, JP11095515 A2, JP10039718 A2, EP1162513 A1,

Forward Citations: USD528591, US9405226, US9348301, US9182705, US9106522, US8949417, US8849156, US8805267, US8798507, US8755718, US8666280, US8611786, US8608394, US8543033, US8396398, US8326184, US8280279, US8254805, US8249485, US8195070, US8195065, US8170446, US8135311, US8135305, US8121525, US8121515, US8090293, US8073361, US8036575, US8010020, US8005406, US7957678, US7953331, US7912405, US7899368, US7890028, US7885581, US7840167, US7835673, US7826776, US7751730, US7747202, US7720416, US7697870, US7650101, US7519317, US7486910, US7483648, US7480476, US7466947, US7466945, US7447469, US7428393, US7421239, US7398038, US7382988, US7343132, US7313349, US7305203, US7292816, US7158730, US7153621, US2011182615, US2011123246, US2011123217, US2011116830, US2010254732, US2010215397, US2010129113, US2010119255, US2010034557, US2009290905, US2009290903, US2009257761, US2009214256, US2009123192, US2009116869, US2009116861, US2009103951, US2009080934, US2009028601, US2008286013, US2008253810, US2008069580, US2008038021, US2008003021, US2007264054, US2007177905, US2007077100, US2006115302, US2006083555, US2006062612, US2006018680, US2006008296, US2005238977, US2005238384, US2005232666, US2005196199, US2005158071, US2005111858, US2005078991, US2005063713, KR101215248, KR100955971, JP5454098, JP5124941, JP2013195709, JP2012150522, JP2011107646, JP2009282397, JP2009282352, JP2009075442, JP2007171801, JP2007171305, EP3118691, EP2040131, EP1793286, EP1659456, EP1617304,

Abstract:
Source: US2004170446A An image forming apparatus includes a frame, a plurality of process cartridges, and a guide mounted to the frame. The guide mounted to the frame includes a plurality of guide portions having supporting surfaces arranged at predetermined different heights and on which the plurality of process cartridges are detachably placed, and is configured to guide the plurality of process cartridges placed on the supporting surfaces along a path between respective first positions and respective second positions.

0) US2008031656A – IMAGE FORMING APPARATUS

95) Family number: 41455450 (US2008031656A) © PatBase

Title: IMAGE FORMING APPARATUS

Priority: JP20060197121 20060719 JP20110166988 20110729 US20070780083 20070719 US20120344323 20120105 US20120584384 20120813 US20130855772 20130403 US20140175383 20140207

Family:

Publication number	Publication date	Application number	Application date
JP2008026486 A2	20080207	JP20060197121	20060719
JP2011209766 A2	20111020	JP20110166988	20110729
JP4877495 B2	20120215	JP20060197121	20060719
JP4893869 B2	20120307	JP20110166988	20110729
US2008031656 AA	20080207	US20070780083	20070719
US2012107021 AA	20120503	US20120344323	20120105
US2012308263 AA	20121206	US20120584384	20120813
US2013322912 AA	20131205	US20130855772	20130403
US2014153954 AA	20140605	US20140175383	20140207
US8116652 BB	20120214	US20070780083	20070719
US8265513 BB	20120911	US20120344323	20120105
US8417141 BB	20130409	US20120584384	20120813
US8649700 BB	20140211	US20130855772	20130403
US8965237 BB	20150224	US20140175383	20140207

Probable Assignee: BROTHER IND LTD

Assignee(s):(std)**:** BROTHER IND LTD ; OKABE YASUSHI

Assignee(s): BROTHER INDUSTRIES LTD ; BROTHER KOGYO KABUSHIKI KAISHA ; BROTHER KOGYO KK

Inventor(s):(std)**:** OKABE YASUSHI

Agent(s): PROSPEC PATENT FIRM; BANNER AND WITCOFF LTD ATTORNEYS FOR CLIENT NO 000449 001701; BANNER AND WITCOFF LTD

International class(IPC 8–9)**:** G03G15/00 G03G15/01 G03G15/06 G03G15/08 G03G15/10 G03G21/16 G03G21/18 (Advanced/Invention) ; G03G15/01 G03G15/10 G03G21/18 (Core/Invention)

CPC: G03G21/1652 G03G21/1871 G03G2215/0119 G03G2221/166 G03G2221/1684 G03G2221/1869

European class: G03G15/00P G03G21/18 G03G21/18H3P S03G215/01P3 S03G221/16K3 S03G221/16S2 S03G221/18P3B

US class: 399/107 399/109 399/110 399/111 399/119 399/241 399/241P 399/262 399/262P 399/90

Classification Explorer

Cited documents: US8649700 BB, US7890012 BB, US7813677 BB, US7636531 BB, US7092657 BB, US7062192 BB, US6944415 BB, US6898391 BB, US5521693 A, US2010178076 AA, US2009169251 AA, US2009169235 AA, US2008292355 AA, US2007286632 AA, US2007223962 AA, US2007160380 AA, US2007154232 AA, US2007147881 AA, US2007071487 AA, US2007071482 AA, US2007036582 AA, US2005053391 AA, JP5289427 A2, JP5019552 A2, JP4337758 A2, JP2251872 A2, JP2004272035 A2, JP2004272035, JP2003280321 A2, JP2003280321, JP2003280313 A2, JP2003280313, JP2002244382 A2, JP2000181166 A2, JP11249362 A2, JP10301465 A2, JP05289427,

Forward Citations: USD637225, USD596663, USD588632, USD588190, USD588189, USD579970, USD579484, US9684278, US9581960, US9367019, US9360832, US9354596, US9250600, US9026000, US8965237, US8929772, US8818235, US8606143, US8583006, US8548354, US8358951, US8301053, US8285174, US8213828, US8010014, US2015139679, US2014363189, US2011164897, US2010290803, US2010080617, US2008159773, JP5274644, JP5159944, JP2016012066,

JP2016012065, JP2012063797, JP2012063796, CN102033482, AU2010200962,

Abstract:
Source: US2008031656A The present invention provides a configuration in which an electrically connected condition can further be stabilized in electrical−connection zones between a body of an image−forming apparatus, and an image−forming unit and a plurality of image−forming cartridges. Developing electrode members 161 and wire power−feed electrodes 162 are attached to a slide frame 140. Each of the developing electrode members 161 has a first body−side contact 161 e 3. The developing electrode members 161 are electrically connected with developing−roller output terminals 171 through contact with the developing−roller output terminals 171. The wire power−feed electrodes 162 are electrically connected with wire output terminals 172 through contact with the wire output terminals 172. The developing electrode members 161 are elastically deformed as a result of their first body−side contacts 161 e 3 being pressed in an M 2 direction, which is along a slide direction S, by the developing−roller output terminals 171. The wire power−feed electrodes 162 are pressed in a paper width direction by the wire output terminals 172.

0) US2005053394A – DEVELOPING CARTRIDGE, PHOTOSENSITIVE MEMBER CAR...

96) Family number: 31732260 (US2005053394A) © PatBase

Title: DEVELOPING CARTRIDGE, PHOTOSENSITIVE MEMBER CARTRIDGE, PROCESS UNIT, AND IMAGE FORMING APPARATUS

Priority: EP20040018052 20040729 JP20030204737 20030731 JP20030204737 20090529 JP20090130037 20090529 JP20030204738 20030731

Family:

Publication number	Publication date	Application number	Application date
CN1580970 A	20050216	CN200410055795	20040730
CN1580970 B	20100505	CN200410055795	20040730
CN2791703 Y	20060628	CN200420074031U	20040730
DE602004041552 D1	20130529	DE200460041552T	20040729
EP1515198 A2	20050316	EP20040018052	20040729
EP1515198 A3	20050525	EP20040018052	20040729
EP1515198 B1	20130403	EP20040018052	20040729
JP2005049524 A2	20050224	JP20030204737	20030731
JP2005049525 A2	20050224	JP20030204738	20030731
JP2009187042 A2	20090820	JP20090130037	20090529
JP4344992 B2	20091014	JP20030204737	20030731
JP4344993 B2	20091014	JP20030204738	20030731
JP4719286 B2	20110706	JP20090130037	20090529
KR101023279 B1	20110318	KR20040060009	20040730
KR20050014729 A	20050207	KR20040060009	20040730
US2005053394 AA	20050310	US20040899145	20040727
US7190921 BB	20070313	US20040899145	20040727

Probable Assignee: BROTHER KOGYO KK

Assignee(s):(std)**:** BROTHER IND LTD

Assignee(s): BROTHER INDUSTRIES LTD ; BROTHER KOGYO K K ; BROTHER KOGYO KABUSHIKI KAISHA ; BROTHER KOGYO KK

Inventor(s):(std)**:** HIROTAKA MORI ; ISHII AKIRA ; ISHII MAKOTO ; KAZUKATSU MAKINO ; KAZUMASA MAKINO ; KI MORIUYA ; KISANE TAKENAK ; MAKINO KAZUNORI ; MAKOTO ISHII ; MORI HIROTAKA ; MAKINO KAZUMASA ; MORI NORITAKA ; RYO ISHII ; TAKAMI TAKEUCHI ; TAKEUCHI TAKAMI ; TAKEUCHI TAKASANE

Inventor(s): TAKEUCHI TAKAMI NAGOYA SHI AICHI KEN ; TAKENAK KISANE ; MORIUYA KI ; MAKINO KAZUMASA NAGOYA SHI AICHI KEN ; MORI HIROTAKA NAGOYA SHI AICHI KEN ; MAKINO KAZUKATSU ; ISHII MAKOTO NAGOYA SHI AICHI KEN ; ISHII RYO

Agent(s): KUHNEN AND WACKER PATENT U RECHTSANWALTSBUERO; KUHNEN AND WACKER; OLIFF AND BERRIDGE PLC

Designated states: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PL PT RO SE SI SK TR

International class (IPC 8–9): G03G15/00 G03G15/06 G03G15/08 G03G21/16 G03G21/18 G03G5/00 (Advanced/Invention); G03G15/06 G03G21/18 (Advanced/Non–invention); G03G15/06 G03G15/08 G03G21/16 G03G21/18 G03G5/00 (Core/Invention)

International class (IPC 1–7): G03G15/00 G03G15/06 G03G15/08 G03G21/16 G03G21/18

CPC: G03G21/1821 G03G2221/1853 G03G21/181 G03G21/1817 G03G21/1857 G03G21/1867

European class: G03G21/18C4C S03G221/18P3

US class: 399/111

Classification Explorer

Cited documents: US6836629 BB, US6751428 BB, US6377765 BA, US6041203 A, US5650841 A, US2003049046 AA, US2002181969 AA, JP61063871 A2, JP4343368 A2, JP278411, JP250310, JP2005049524 A2, JP2003084647 A2, JP2002278411 A2, JP2002278411, JP2002149037 A2, JP20015268, JP2001142376 A2, JP2001142376, JP2001005268 A2, JP2000250310 A2, JP15268, JP142376, JP10260566 A2, EP1054308 A2, EP1031891 A1,

Forward Citations: WO16084951, WO16035964, WO14010129, WO14010111, WO07081044, WO06100786, USD539335, USD533215, USD531661, USD531660, USD529541, USD528148, US9684279, US9684261, US9662907, US9625874, US9487025, US9429902, US9411305, US9081323, US9037037, US8781360, US8630556, US8626024, US8396392, US8320780, US8290379, US8121518, US8099018, US7773911, US7747192, US7689158, US7689139, US7512363, US7477865, US7319834, US7221888, US7194225, US7058337, US2016378018, US2016089904, US2015268625, US2013322920, US2011222881, US2010303478, US2010303477, US2010260516, US2010040392, US2007160386, US2007134036, US2007077086, US2007071483, US2007071481, US2006257163, US2006239711, US2005047822, KR100906264, JP5895400, JP5861581, JP5362086, JP2015084013, JP2014055991, JP2014016498, JP2014016480, JP2013050493, JP2010276963, JP2010276962, JP2009187042, EP2899596, EP2536121, EP1768001, EP1705532, CN103454883, CN102057333,

Abstract:
Source: US2005053394A A lever is provided in a photosensitive member frame of a photosensitive member cartridge that accommodates a developing cartridge in a cartridge accommodating portion. The lever is engaged with an engaging shaft of the developing cartridge, and is movable between a contact position and a separation position. When the lever is in the contact position, a developing roller and a photosensitive drum make contact with each other, and when the lever is in the separation position, the developing roller and the photosensitive drum are separated.

0) US2001055498A – PROCESS CARTRIDGE AND IMAGE FORMING APPARATUS

97) Family number: 28137576 (US2001055498A) © PatBase

Title: Process cartridge and image forming apparatus

Priority: JP19990139905 19990520 JP19990201207 19990715 JP19990245139 19990831 JP19990245163 19990831 JP20000132240 20000501

Family:

Publication number	Publication date	Application number	Application date
DE60042576 D1	20090903	DE20006042576	20000522
EP1054308 A2	20001122	EP20000304305	20000522
EP1054308 A3	20040121	EP20000304305	20000522
EP1054308 B1	20090722	EP20000304305	20000522
JP2001142376 A2	20010525	JP20000132240	20000501
JP3372932 B2	20030204	JP20000132240	20000501
US2001055498 AA	20011227	US20000575533	20000522
US6405004 BB	20020611	US20000575533	20000522

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK

Assignee(s): MATSUZAKI HIROOMI ; ASANO NAOKI ; CANON INC ; CANON K K ; CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** ASANO NAOKI ; MATSUZAKI HIROOMI ; MATSUZAKI SUKEOMI

Agent(s): TBK PATENT

Designated states: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

International class (IPC 8–9)**:** G03G21/18 (Advanced/Invention); G03G21/18 (Core/Invention)

International class (IPC 1–7)**:** G03G21/16 G03G21/18

CPC: G03G21/185 G03G2215/021 G03G2221/1884

European class: G03G21/18H1P S03G215/02A S03G221/18P4

US class: 399/111

Classification Explorer

Cited documents: US6101350 A, US6011941 A, US5966567 A, US5943529 A, US5907751 A, US5138374 A, US4876572 A, US4873548 A, US4609276 A, US3985436 A, JP60260961 A2, JP59211054 A2, JP4090561 A2,

Forward Citations: US9665040, US9599930, US9529304, US9494890, US9383678, US9360831, US9304439, US9291942, US9207581, US9188906, US9152081, US9146500, US9122222, US8867955, US8774672, US8660461, US7933536, US7725051, US7412193, US7349657, US7315706, US7292804, US7274895, US7266327, US7224925, US7190921, US6792229, US2012027455, US2011016727, US2008304861, US2008025757, US2007071496, US2006291899, US2006051135, US2005047828, JP6035258, JP4310097, JP2015138224, JP2011209572, JP2010009011, JP2005352478, JP2004138945, EP1515198, EP1515198, EP1253485, CN102207725,

Abstract:
Source: US2001055498A A process cartridge detachably mountable to a main assembly of an electrophotographic image forming apparatus includes an electrophotographic photosensitive member; a developing member for developing an electrostatic latent image formed on the electrophotographic photosensitive member; a developer accommodating portion for accommodating a developer to be usage by the developing number to develop the electrostatic latent image; a cartridge guide for being guided by a main assembly side guide provided in the main assembly of the apparatus; a first cartridge positioning portion; provided at one end portion in an axial direction of the electrophotographic photosensitive member, for engagement with a first main assembly side positioning portion, provided in the main assembly of the apparatus, in response to falling of a side of the process cartridge opposite from a side having the developer accommodating portion in the direction crossing with the axial direction of the electrophotographic photosensitive member by operation of a lever

provided in the main assembly of the apparatus, a second cartridge positioning portion, provided at the other end portion in an axial direction of the electrophotographic photosensitive member, for engagement with a second main assembly side positioning portion, provided in the main assembly of the apparatus, in response to falling of a side of the process cartridge opposite from a side having the developer accommodating portion in the direction crossing with the axial direction of the electrophotographic photosensitive member by operation of a lever provided in the main assembly of the apparatus.

98) Family number: 13157759 (US5650841A) © PatBase

Title: PROCESS CARTRIDGE, IMAGE FORMING APPARATUS USABLE THEREWITH AND TONER SEAL MOUNTING METHOD FOR PROCESS CARTRIDGE

Priority: JP19930123227 19930428 US19940234563 19940428 US19960670231 19960620

Family:

Publication number	Publication date	Application number	Application date
JP3236124 B2	20011210	JP19930123227	19930428
JP6314026 A2	19941108	JP19930123227	19930428
US5650841 A	19970722	US19960670231	19960620

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK

Assignee(s): CANON INC ; CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** KAWAGUCHI HIDEJI ; KAWAGUCHI HIDESHI ; MATSUDA KENJI ; MIYAKE HIROAKI ; NOMURA YOSHIYA ; SUGIURA YOSHINORI

International class (IPC 8–9)**:** G03G15/00 G03G15/08 G03G21/18 (Advanced/Invention)

International class (IPC 1–7)**:** G03G15/00 G03G15/08

CPC: Y10S222/01 G03G15/0882 G03G21/1814 G03G2215/00987 G03G2221/1633 G03G2221/1648 G03G2221/1853

European class: G03G15/08H3P G03G21/18C3 S03G215/00R S03G221/16D1 S03G221/16J S03G221/18P3

US class: 222/DIG.1 399/105 399/111 399/262

Classification Explorer

Cited documents: US5294960 A, US5206619 A, US5136333 A, US5091750 A, US5027156 A, US4732277 A, US4062385 A, JP51117042, JP431158 U, JP1303479,

Forward Citations: USD637226, US9091963, US8855527, US8843021, US8708199, US8660460, US8565642, US8521041, US8260171, US8032052, US8000630, US7813670, US7386241, US7239823, US7228086, US7209676, US7200350, US7200347, US7190921, US7174113, US7085509, US7062192, US6980755, US6968147, US6873815, US6865357, US6842595, US6826373, US6564029, US6324370, US6311026, US6236822, US6208816, US6188855, US6151459, US6101352, US6047153, US6016408, US5890036, US5867751, US5809377, US2015355580, US2014119771, US2014029971, US2012199244, US2011200340, US2010322664, US2010232832, US2010080624, US2008240772, US2008080888, US2006193653, US2006188285, US2006177231, US2005191080, US2005191079, US2005152716, US2005135832, US2005135831, US2005053394, US2004126131, US2004062573, US2003133723,

Abstract:
Source: US5650841A A process cartridge detachably mountable to a main assembly of an image forming apparatus includes a frame; an image bearing member; a developing device; a toner accommodating device for accommodating toner to be supplied to said developing device; opening for supplying to said developing device the toner in said toner accommodating device; a toner seal removably mounted at said opening to close it; a gap in said frame to permit pulling of said toner seal; an elastic sealing member in contact with said toner seal to prevent leakage of the toner through the gap; wherein said toner seal is constructed such that said toner seal is out of contact with an end of said elastic sealing member upon pulling of said toner seal.

0) US2003049046A – IMAGE FORMING DEVICE AND PROCESS UNIT FOR USE T...

99) Family number: 28721831 (US2003049046A) © PatBase

Title: IMAGE FORMING DEVICE AND PROCESS UNIT FOR USE THEREIN

Priority: JP20010277604 20010913 JP20010277605 20010913 JP20020007656F 20020325 JP20020007656 20020325 JP20020007657 20020325 JP20010277606 20010913 JP20020007657F 20020325 US20020242953 20020913 US20040851233 20040524 US20060508303 20060823 US20080081838 20080422 US20100848552 20100802

Family:

Publication number	Publication date	Application number	Application date
CA100388 S	20031030	CA20020100388F	20020821
CA100389 S	20031030	CA20020100389F	20020821
CN100451857 C	20090114	CN20021060644	20020913
CN1428666 A	20030709	CN20021060644	20020913
CN2627544 Y	20040721	CN20022092858U	20020913
EP1293848 A2	20030319	EP20020020654	20020913
EP1293848 A3	20121010	EP20020020654	20020913
HK1055803 A1	20090814	HK20030108145	20031111
JP2003084645 A2	20030319	JP20010277605	20010913
JP2003084647 A2	20030319	JP20010277604	20010913
JP2003084648 A2	20030319	JP20010277606	20010913
US2003049046 AA	20030313	US20020242953	20020913
US2004265000 AA	20041230	US20040851233	20040524
US2006285880 AA	20061221	US20060508303	20060823
US2008247776 AA	20081009	US20080081838	20080422
US2010296837 AA	20101125	US20100848552	20100802
US6751428 BB	20040615	US20020242953	20020913
US7174117 BB	20070206	US20040851233	20040524
US7369791 BB	20080506	US20060508303	20060823
US7792459 BB	20100907	US20080081838	20080422
US7925183 BB	20110412	US20100848552	20100802
USD471228 S1	20030304	US20020165451F	20020812
USD471583 S1	20030311	US20020165453F	20020812

Probable Assignee: BROTHER IND LTD

Assignee(s):(std)**:** BROTHER IND LTD ; BROTHER KOGYO KK

Assignee(s): BROTHER IND ; BROTHER INDUSTRIES ; BROTHER INDUSTRIES LTD ; BROTHER KOGYO K K ; BROTHER KOGYO K USHIKI KAISHA AB ; BROTHER KOGYO KABUSHIKI KAISHA

Inventor(s):(std)**:** ISHII MAKOTO ; KATAYAMA SHIGEHARU ; OKABE OSAMU ; OKABE YASUSHI ; OSAMU OKABE ; YASUSHI OKABE

Inventor(s): OKABE YASUSHI C O BROTHER KOGYO KABUSHIKI KAISHA

Agent(s): ADE AND CO INC; BENNETT JONES LLP; HOFER DOROTHEA; OLIFF AND BERRIDGE PLC

Designated states: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI SK TR

International class (IPC 8–9): G03G15/04 G03G15/06 G03G15/08 G03G21/00 G03G21/16 G03G21/18 (Advanced/Invention); G03G15/08 G03G21/00 G03G21/16 G03G21/18 (Core/Invention); G03G (Subclass/Invention)

International class (IPC 1–7): G03G15/00 G03G15/08 G03G21/00 G03G21/16 G03G21/18

CPC:

G03G21/1864 G03G15/0896 G03G2221/1892 G03G2221/1884 G03G2221/1853 G03G2221/1846 G03G2221/1684 G03G2221/1654 G03G2221/163 G03G2221/1606 G03G21/1896 G03G21/1853 G03G21/1846 G03G21/1825 G03G21/1821

European class: G03G15/08S G03G21/18C4C G03G21/18C4S G03G21/18H1H G03G21/18H1V G03G21/18H2P G03G21/18H3 G03G21/18L2 S03G221/16B S03G221/16D S03G221/16K1 S03G221/16S2 S03G221/18P2 S03G221/18P3 S03G221/18P4 S03G221/18P5

US class: 399/110 399/110P 399/111 399/111P 399/113 399/113P 399/113S 399/116 399/116P 399/119 399/119S D18/40 D18/43 D18/56

Classification Explorer

Cited documents: USD451538, USD450080, USD447511 S1, USD442624, USD442216 S1, USD442214, USD423559 S1, USD422304 S1, USD410676, US7792459 BB, US7512361 BB, US7509071 BB, US7369791 BB, US7245850 BB, US7174117 BB, US6751428 BB, US6546217 BB, US6512904 BB, US6496669 BB, US6496668 BB, US6456810 BA, US6411789 BA, US6385414 BA, US6356723 BA, US6337956 BA, US6336014 BA, US6330410 BA, US6321050 BA, US6304735 BA, US6219505 BA, US6195822, US6195522 BA, US6101350 A, US6061538 A, US6041203 A, US5353100 A, JP8248857 A2, JP8185108 A2, JP6222629 A2, JP5281854 A2, JP281854, JP248857, JP222629, JP185108, EP1031894 A1, EP0708387 A2, CN1266207 A,

Forward Citations: USD786344, USD783087, USD774592, USD755283, USD746905, USD728014, USD718380, USD718378, USD694814, USD668289, USD652862, USD645503, USD638055, USD638054, USD638053, USD638052, USD638051, USD638018, USD637226, USD637225, USD637191, USD636776, USD636775, USD631094, USD631093, USD620045, USD619644, USD601184, USD601183, USD596663, USD595344, USD595343, USD594900, USD594899, USD590992, USD588632, USD588190, USD588189, USD579970, USD579484, USD551285, USD550767, USD550766, USD550765, USD550764, USD550763, USD542837, USD537472, USD533583, USD533215, USD531661, USD531660, USD529946, USD528148, USD523896, USD523895, USD523894, USD523066, USD522564, USD521545, USD512454, USD512092, USD511542, USD510947, USD509239, USD508945, USD507809, USD507597, USD507596, USD507595, USD507296, USD507295, USD506776, USD496395, US9639054, US9581958, US9529302, US9323214, US9310716, US9256198, US9182739, US9104169, US9075389, US9058017, US9052687, US9052673, US9042773, US9031457, US8995876, US8918012, US8897670, US8824920, US8761634, US8725035, US8712284, US8644730, US8478163, US8422915, US8417147, US8320780, US8213838, US8213831, US8190059, US8175492, US8165493, US8155558, US8135310, US8126352, US8078083, US8073355, US8045885, US8032058, US8032056, US7986898, US7986897, US7970314, US7957671, US7957669, US7925183, US7890022, US7885574, US7881624, US7873296, US7844197, US7826767, US7796915, US7792459, US7787805, US7756443, US7711287, US7680436, US7643773, US7620347, US7570891, US7565092, US7555245, US7460816, US7444103, US7389069, US7386254, US7369791, US7362988, US7362985, US7298990, US7292814, US7269378, US7260342, US7242888, US7233753, US7190921, US7174117, US7063318, US6928252, US6871031, US6823160, US2014205314, US2013322924, US2013259520, US2013177333, US2011236060, US2011217080, US2011200359, US2011091242, US2010310273, US2010303499, US2010303478, US2010296837, US2010284707, US2010247141, US2010158576, US2010143012, US2010119256, US2010061761, US2009297214, US2009269097, US2009232555, US2009214269, US2009214268, US2009214249, US2009214230, US2009214227, US2009180802, US2009169257, US2009169248, US2009074448, US2008317499, US2008286003, US2008279583, US2008247776, US2008240778, US2008212994, US2008170882, US2007242977, US2007237549, US2007183814, US2007147890, US2007147889, US2007147881, US2007058993, US2007036591, US2007020017, US2006285880, US2006133850, US2006110184, US2006083544, US2006029423, US2005191090, US2005053394, US2004265000, US2004190932, TWI582550, KR101526166, KR100729626, KR100629497, JP6128044, JP5895400, JP5884343, JP5707883, JP4524696, JP2016105207, JP2015197504, JP2013054058, JP2013050493, JP2012103620, JP2011203365, JP2011197197, JP2010266893, JP2010055126, JP2010054828, JP2009075276, JP2009025830, JP2007178482, JP2007108691, JP2006337904, JP2006184502, JP2005338226, JP2005134483, EP2759888, EP2093619, EP1804137, EP1605319, EP1515198, CN102968036, CN102467030, CN102467030, CN101900988,

Abstract:
Source: US2003049046A A developing unit is detachably mounted on a photosensitive unit to form a combined unit called process unit. In use, the process unit is loaded into an electrophotographic image forming device. A rotational shaft of the photosensitive drum projects out from the photosensitive unit. When the process unit is loaded into the image forming device from a top open space, both ends of the rotational shaft are engaged with a

pair of guides formed in side walls of the image forming device and guided down along the guides. The process unit is accommodated in an accommodating section when both ends of the rotational shaft have brought into abutment with stops at the ends of the guides and a trailing end of the process unit is rotated downward about the rotational shaft.

0) US5337125A – TONER FEEDING DEVICE

100) Family number: 29126142 (US5337125A) © PatBase

Title: TONER FEEDING DEVICE

Priority: JP19910126040 19910529 JP19910126041 19910529 JP19910168918 19910612

Family:

Publication number	Publication date	Application number	Application date
DE69212901 D1	19960926	DE19926012901	19920527
DE69212901 T2	19970306	DE19926012901T	19920527
EP0516090 A2	19921202	EP19920108962	19920527
EP0516090 A3	19930602	EP19920108962	19920527
EP0516090 B1	19960821	EP19920108962	19920527
JP2934051 B2	19990816	JP19910126041	19910529
JP3014484 B2	20000228	JP19910126040	19910529
JP4350871 A2	19921204	JP19910126040	19910529
JP4350872 A2	19921204	JP19910126041	19910529
JP4365074 A2	19921217	JP19910168918	19910612
US5337125 A	19940809	US19920890622	19920528

Probable Assignee: MITA KOGYO KK

Assignee(s):(std)**:** KYOCERA DOCUMENT SOLUTIONS INC ; MITA INDUSTRIAL CO LTD

Assignee(s): MITA INDUSTRIAL CO LTD OSAKA JP ; MITA KOGYO KK ; MITA IND CO LTD ; MITA INDUSTRIAL CO

Inventor(s):(std)**:** HIGASHITANI MASAHIRO ; HIGASHIYA KATSUHIRO ; HIRAI YASUYUKI ; KISHIGAMI MINORU ; KURANDO SHIGEO ; KURATO SHIGEO ; MATSUO YASUHIRO ; MORI SHINGO ; NAKAI KUNIO ; NAKANISHI TSUGIO ; NAKANO KUNIAKI ; NISHIMURA TOSHINORI ; SAKO MASAHIRO

Inventor(s): SAKO MASAHIRO HIRAKATA SHI OSAKA JP ; NISHIMURA TOSHINORI HIRAKATA SHI OSAKA JP ; NAKANO KUNIAKI KITAKATSURAGI GUN NARA JP ; NAKANISHI TSUGIO SENNAN GUN OSAKA JP ; NAKAI KUNIO OSAKA SHI OSAKA JP ; MORI SHINGO SANGOU SHO IKOMA GUN NARA JP ; MATSUO YASUHIRO OSAKA SHI OSAKA JP ; KURANDO SHIGEO TAKATSUKI SHI OSAKA JP ; KISHIGAMI MINORU OSAKA SHI OSAKA JP ; HIRAI YASUYUKI YAO SHI OSAKA JP ; HIGASHITANI MASAHIRO MINAMIKAWACHI GUN OSAKA JP

Designated states: DE FR GB IT

International class (IPC 8–9): G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)

International class (IPC 1–7): G03G15/06 G03G15/08

CPC: G03G15/0886 G03G15/0855 G03G15/0865 G03G15/0877

European class: G03G15/08H3 G03G15/08H3D

US class: 220/353 355/260 399/263

Classification Explorer

Cited documents: US5235390 A, US5207353 A, US5175588 A, US5091750 A, US5074344 A, US5040025 A, US5040024 A, US5018560 A, US4997016 A, US4972887 A, US4587929 A, JP63179377, JP63065058 U1, JP61034270 A2, JP60198567, JP59036268 A2, JP59034564 A2, JP50151643 U1, EP0102002 A2,

Forward Citations: US7676186, US7400848, US6229973, US5918094, US5426493, GB2312760, GB2312760, EP0844537, EP0844537, EP0827041,

Abstract:
Source: US5337125A It is a major object of the present invention to break down and level a heap–up of toner built in the hopper through dropping from the cartridge when feeding toner into the hopper and to prevent toner from leakage from the cartridge due to erroneous operation with a remarkably simple and cheap construction. Namely,

the leveling member moves a plurality of number of times in line with engaging and disengaging operation of the cartridge for the hopper and opening and closing operation of the cartridge in the same direction of the shutter, thereby causing a heap−up of toner built in the hopper housing of the hopper to be effectively broken down and leveled. Furthermore, only when the shutter is in its closed status for the cartridge, the cartridge can be removed from the opening of the hopper.

0) US2013051851A – PROCESS CARTRIDGE

101) Family number: 53124676 (US2013051851A) © PatBase

Title: PROCESS CARTRIDGE

Priority: JP20110186889 20110830 US20120597994 20120829 US20140577576 20141219 US20150867456 20150928

Family:

Publication number	Publication date	Application number	Application date
JP2013050493 A2	20130314	JP20110186889	20110830
JP5895400 B2	20160330	JP20110186889	20110830
US2013051851 AA	20130228	US20120597994	20120829
US2015104217 AA	20150416	US20140577576	20141219
US2016018783 AA	20160121	US20150867456	20150928
US8938187 BB	20150120	US20120597994	20120829
US9170529 BB	20151027	US20140577576	20141219
US9395688 BB	20160719	US20150867456	20150928

Probable Assignee: BROTHER IND LTD

Assignee(s):(std)**:** BROTHER IND LTD ; FUKAMACHI YASUO

Assignee(s): BROTHER KOGYO KABUSHIKI KAISHA ; BROTHER KOGYO KK

Inventor(s):(std)**:** FUKAMACHI YASUO

Agent(s): BANNER AND WITCOFF LTD

International class(IPC 8–9)**:** G03G15/08 G03G21/16 G03G21/18 (Advanced/Invention)

CPC: G03G21/1821 G03G21/1842 G03G15/0865 G03G15/0867

US class: 1/1 399/113 399/262 399/263

Classification Explorer

Cited documents: US8577244 BB, US8374527 BB, US8121520 BB, US7643770 BB, US7369792 BB, US7298990 BB, US7298990, US7224923 BB, US6101350 A, US6101350, US6041203 A, US6041203, US2011236060 AA, US2011236060, US2010303499 AA, US2010303499, US2006029423 AA, US2006029422 AA, US2006029421 AA, US2006029420 AA, US2006029419 AA, US2006029418 AA, US2006029418, US2005053394 AA, US2005053394, US2003049046 AA, US2003049046, US07298990, US06101350, US06041203, US0303499, US0236060, US0053394, US0049046, US0029418, JP6067557 A2, JP6067557, JP6027841 A2, JP6027841, JP5232752 A2, JP5232752, JP2011203365 A2, JP2010266893 A2, JP2010266893, JP2010009075 A2, JP2010009075, JP2009181027 A2, JP2009181027, JP2006323427 A2, JP2006323427, JP2006184502 A2, JP2006184502, JP2006072284 A2, JP2005242067 A2, JP2005242067, JP2003084647 A2, JP2003084647, JP2001318555 A2, JP2001318555, JP2000267547 A2, JP2000267547, JP2000250378 A2, JP2000250378, JP06067557, JP06027841, JP05232752,

Forward Citations: WO16125209, US9429898, US9411305, US9280136, US2015268625, US2015205257,

Abstract:
Source: US2013051851A A process cartridge includes: a drum cartridge including a photoconductor; a development cartridge configured to be detachably attached to the drum cartridge and including a developer carrying member for supplying developer to the photoconductor; a locking member provided on the drum cartridge and configured to be switchable between a locking position in which the development cartridge attached to the drum cartridge is in a locked state and restrained from being moved in a removing direction in which the development cartridge is removed from the drum cartridge and a lifting position in which the locked state is released and the development cartridge is movable in the removing direction, and a retaining member configured to retain the development cartridge which has been moved from the locked state in the removing direction by switching the locking member from the locking position to the lifting position.

0) US2005117937A – DEVELOPING CARTRIDGE FOR ELECTOPHOTOGRAPHIC IMA...

102) Family number: 31962477 (US2005117937A) © PatBase

Title: DEVELOPING CARTRIDGE FOR ELECTOPHOTOGRAPHIC IMAGE FORMING APPARATUS

Priority: KR20030086250 20031201

Family:

Publication number	Publication date	Application number	Application date
KR100522953 B1	20051024	KR20030086250	20031201
KR20050052715 A	20050607	KR20030086250	20031201
US2005117937 AA	20050602	US20040873108	20040623
US7110708 BB	20060919	US20040873108	20040623

Probable Assignee: S PRINTING SOLUTION CO LTD

Assignee(s):(std)**:** SAMSUNG ELECTRONICS CO LTD

Assignee(s): S PRINTING SOLUTION CO LTD ; SAMSUNG ELECTRONICS CO

Inventor(s):(std)**:** JEON IN CHEOL

Agent(s): STAAS AND HALSEY LLP

International class(IPC 8–9)**:** G03G15/08 (Advanced/Invention); G03G15/08 (Advanced/Non–invention); G03G15/08 (Core/Invention)

International class(IPC 1–7)**:** G03G15/08

CPC: G03G15/0886 G03G15/0868 G03G15/0872 G03G2215/0692 G03G15/08

European class: G03G15/08H3C1 S03G215/06C7

US class: 399/260 399/262

Classification Explorer

Cited documents: US6219505 BA, US5890034 A, US5579101 A, JP2002341638 A2, JP2002278272 A2, JP2002244422 A2,

Forward Citations: US9182699, US7925191, US7783236, US7725058, US7634218, US2010054819, US2009074466, US2008193170, US2008062752, US2007065184, KR101441623, KR101046582, EP2037331, EP2037331, CN103092033,

Abstract:
Source: US2005117937A A developing cartridge for an electrophotographic image forming apparatus includes, a toner housing, a toner storage chamber, a toner feeding chamber, a feeding roller, a developing roller and a shielding device. One side of the toner housing has an opening, and the toner storage chamber and the toner–feeding chamber communicate with each other through a communication hole. The shielding device is installed within the toner storage chamber so as to move from a shielding position where it shields the communication hole to an opening position where it opens the communication hole. Accordingly, since the shielding member is capable of moving within the toner storage chamber, the user can save trouble of separating and removing the shielding member from the toner housing.

0) US2009245883A – DEVELOPER MATERIAL HOLDING APPARATUS, PROCESS C...

103) Family number: 43784733 (US2009245883A) © PatBase

Title: DEVELOPER MATERIAL HOLDING APPARATUS, PROCESS CARTRIDGE TO WHICH THE DEVELOPER MATERIAL HOLDING APPARATUS IS ATTACHED,AND IMAGE FORMING APPARATUS TO WHICH THE PROCESS CARTRIDGE IS A ATTACHED

Priority: JP20080091844 20080331

Family:

Publication number	Publication date	Application number	Application date
CN101551623 A	20091007	CN200910133422	20090331
CN101551623 B	20130619	CN200910133422	20090331
EP2110714 A2	20091021	EP20090156257	20090326
EP2110714 A3	20100505	EP20090156257	20090326
JP2009244645 A2	20091022	JP20080091844	20080331
JP4608565 B2	20110112	JP20080091844	20080331
US2009245883 AA	20091001	US20090385048	20090330
US8213840 BB	20120703	US20090385048	20090330

Probable Assignee: OKI DATA CORP

Assignee(s):(std)**:** BARNES PETER ; DAVIDSON ALAN ; ITOU JUNICHI ; KOIDO SHIGENORI ; OKI UK LTD ; OKI DATA KK

Assignee(s): OKI LTD ; OKI DATA K K ; OKI (UK) LTD ; OKI DATA CORP

Inventor(s):(std)**:** ALAN DAVIDSON ; BARNES PETER ; DAVIDSON ALAN ; ITO JUNICHI ; ITOU JUNICHI ; JUNICHI ITOU ; KOIDO SHIGEKI ; KOIDO SHIGENORI ; PETER BARNES ; SHIGENORI KOIDO

Agent(s): PISANI DIANA JEAN ET AL; RABIN AND BERDO PC

Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK TR

International class (IPC 8–9): G03G15/01 G03G15/08 G03G15/10 (Advanced/Invention); G03G15/01 G03G15/08 (Core/Invention)

CPC: G03G15/0886 G03G15/0855 G03G15/0865 G03G2215/067

European class: G03G15/08H3 S03G215/06C1A2

US class: 399/120 399/244 399/260 399/262 399/262P

Classification Explorer

Cited documents: US5572300 A, US3865612 A, JP4350870 A2, JP4323680 A2, JP2007264145 A2, JP2007156269 A2, JP2006309016 A2, JP2006243446 A2, JP2000310905 A2, JP2000122484 A2, JP11272142 A2, JP11272055 A2,

Forward Citations: WO13101347, US9389537, US9341983, US8977160, US8655236, US2014199096, US2014029984, EP2450752, CN103376707,

Abstract:
Source: US2009245883A A developer material holding apparatus holds a developer. A body holds a developer material and includes a first opening through which the developer material is discharged. A shutter is assembled to the body, and is movable either to an opening position where the developer material is discharged from the body or to a closing position where the developer material is not discharged from the body. The shutter includes a second opening such that when the shutter is at the opening position, the second opening is in alignment with the first opening. At least one of the first opening and the second opening is in the form a mesh including a plurality of openings.

0) US2006133847A – SYSTEM AND A METHOD FOR SEALING A CARTRIDGE

104) Family number: 33084066 (US2006133847A) © PatBase

Title: SYSTEM AND A METHOD FOR SEALING A CARTRIDGE

Priority: US20040017365 20041220

Family:

Publication number	Publication date	Application number	Application date
US2006133847 AA	20060622	US20040017365	20041220
US7248813 BB	20070724	US20040017365	20041220

Probable Assignee: TTI INT INC

Assignee(s):(std)**:** BURTON KEVIN E ; T T I INTERNATIONAL INC

Assignee(s): TTI INT ; TTI INT INC

Inventor(s):(std)**:** BURTON KEVIN E

Inventor(s): BURTON KEVIN

Agent(s): PATENTS AND TMS PC

International class (IPC 8–9): G03G15/00 G03G15/08 G03G21/18 (Advanced/Invention); G03G15/00 G03G15/08 G03G21/18 (Core/Invention)

CPC: G03G15/0894

European class: G03G15/08R

US class: 399/106 399/109

Classification Explorer

Cited documents: US6684039 BA, US6577830 BA, US6246848 BA, US5781831 A, US2004047649 AA, JP2002108175 A2,

Forward Citations: USD709946, US9535367, US9494893, US9459561, US9459560, US9454102, US9454101, US9442423, US9333704, US8818247, US8152946, US8112027, US7835664, US7720410, US7618507, US7505708, US2014078711, US2011158687, US2010196068, US2009324295, US2009185820, US2009052937, US2008181657, US2007242978,

Abstract:
Source: US2006133847A A system and a method are provided for sealing a cartridge during a recharging or a refilling of a toner hopper of the cartridge with a toner. The cartridge is filled with the toner through a toner port of the toner hopper. The toner hopper and a shutter drum assembly are separated at a first end of the cartridge. An ultrasonic welder welds a first side at the first end of the cartridge and then welds a second side at the first end of the cartridge. The ultrasonic welder seals the first end of the cartridge by bonding the shutter drum assembly to the toner hopper at the first end of the cartridge. A welding jig maintains alignment of the shutter drum assembly and the toner hopper during reassembly and/or aligns the first side and/or the second side of the cartridge prior to welding by the ultrasonic welder.

0) US2013016995A – IMAGE FORMING APPARATUS

105) Family number: 52815882 (US2013016995A) © PatBase

Title: IMAGE FORMING APPARATUS

Priority: JP20110153628 20110712

Family:

Publication number	Publication date	Application number	Application date
JP2013020112 A2	20130131	JP20110153628	20110712
US2013016995 AA	20130117	US20120544525	20120709
US9182737 BB	20151110	US20120544525	20120709

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK ; HIRAMATSU DAISUKE ; MIYAMOTO JUN ; KIKUCHI KEN ; SUZUKI KENSUKE ; NISHIUWATOKO TSUTOMU

Assignee(s): CANON INC ; CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** HIRAMATSU DAISUKE ; KIKUCHI KEN ; NISHIUWATOKO TSUTOMU ; SUZUKI KENSUKE ; MIYAMOTO JUN ; KIKUCHI TAKESHI

Agent(s): CANON USA INC IP DIVISION

International class (IPC 8–9): G03G15/08 G03G21/16 G03G21/18 (Advanced/Invention)

CPC: G03G21/1821 G03G15/0865 G03G21/1676

US class: 1/1 399/119

Classification Explorer

Cited documents: US6115571 A, US2011064469 AA, US2010166453 AA, JP6130808 A2, JP4212176 A2, JP2004333929 A2,

Forward Citations: US8918015, US2013149004,

Abstract:
Source: US2013016995A A toner storage unit provided in an image forming apparatus that enables a user to replace the toner storage unit when the user opens the door of the image forming apparatus, moves a developing cartridge in a direction corresponding to removal of the developing cartridge, and places the developing cartridge in the toner storage unit replacement position where the toner storage unit can be removed and replaced.

0) US2004114002A – CARTRIDGE, PRINTING APPARATUS, AND METHOD OF TR...

106) Family number: 30420189 (US2004114002A) © PatBase

Title: CARTRIDGE, PRINTING APPARATUS, AND METHOD OF TRANSMITTING INFORMATION TO AND FROM CARTRIDGE

Priority: EP20030255956 20030923 JP20020277542 20020924 US20060460179 20060726 US20030668556 20030922

Family:

Publication number	Publication date	Application number	Application date
AT365640 E	20070715	AT20030255956T	20030923
AT459479 E	20100315	AT20030075503T	20030923
CN100594133 C	20100317	CN200610093869	20030923
CN1268493 C	20060809	CN20031024980	20030923
CN1495031 A	20040512	CN20031024980	20030923
CN1872560 A	20061206	CN200610093869	20030923
CN2712627 Y	20050727	CN20032052647U	20030923
DE20321624 U1	20080626	DE20032021624U	20030923
DE20321625 U1	20080626	DE20032021625U	20030923
DE20321680 U1	20081016	DE20032021680U	20030923
DE60314577 D1	20070809	DE20036014577	20030923
DE60314577 T2	20080228	DE20036014577T	20030923
DE60331607 D1	20100415	DE20036031607	20030923
DK1403070 T3	20071029	DK20030255956T	20030923
EP1403070 A2	20040331	EP20030255956	20030923
EP1403070 A3	20040630	EP20030255956	20030923
EP1403070 B1	20070627	EP20030255956	20030923
EP1837187 A2	20070926	EP20070075503	20030923
EP1837187 A3	20080319	EP20070075503	20030923
EP1837187 B1	20100303	EP20070075503	20030923
ES2287420 T3	20071216	ES20030255956T	20030923
ES2338266 T3	20100505	ES20070075503T	20030923
HK1061998 A1	20071130	HK20040105103	20040713
HK1061998 A3	20041015	HK20040105103	20040713
JP2004114347 A2	20040415	JP20020277542	20020924
JP4175065 B2	20081105	JP20020277542	20020924
PT1403070 T	20070905	PT20030255956T	20030923
SI1403070 T1	20071031	SI20030030888T	20030923
US2004114002 AA	20040617	US20030668556	20030922
US2006256154 AA	20061116	US20060460179	20060726
US7101012 BB	20060905	US20030668556	20030922
US7625060 BB	20091201	US20060460179	20060726

Probable Assignee: SEIKO EPSON CORP

Assignee(s):(std)**:** KOSUGI YASUHIKO ; SARUTA TOSHIHISA ; SEIKO EPSON CORP

Inventor(s):(std)**:** SARUTA TOSHIHISA ; NOBUHISA MASHIDA ; TOSHIHISA KOSUGI YASUHIKO SARU ; MASHIDA NOBUHISA ; YASUHIKO KOSUGI ; TOSHIHISA SARUTA ; KOSUGI YASUHIKO

Inventor(s): KOSUGI YASUHIKO SARUTA TOSHIHISA

Agent(s): CLOUGHLEY PETER ANDREW; TOKKYO GYOMUHOJIN MEISEI INT PATENT FIRM; STROOCK AND STROOCK AND LAVAN LLP

Designated states: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PT RO SE SI SK TR

International class (IPC 8–9): B41J2/01 B41J2/175 B41J29/00 B41J29/38 B41J29/39 B41J29/393 G01F23/28 G03G15/00 G03G15/08 (Advanced/Invention); B41J2/00 B41J2/01 B41J2/175 B41J29/00 B41J29/39 B41J29/393 G01F23/28 G03G15/00 G03G15/08 (Core/Invention); B41J (Subclass/Invention)

International class (IPC 1–7): B41J2/175 B41J29/00 G01F23/28 G03G15/08

CPC: B41J2/17546

European class: B41J2/175C7E

US class: 347/19 347/86 399/12

Classification Explorer

Cited documents: WO01147146, US6312106 BA, US5469196 A, US4839691 A, US4551734 A, US2002033854 AA, US2002003354 AA, JP2002264361 A2, JP2002211000, JP2001147146 A2, JP11348308 A2, JP11348308, JP10119306 A2, EP1403070 B1, EP1241011 A2, EP1219438 A2, EP1164022 A2, EP1080917 A1, EP1053880 A2, EP1053878 A1, EP0940260 B1, EP0854045 B1, EP0812693 A1, EP0789322 A2,

Forward Citations: WO13104214, WO12144221, WO10102660, US9357091, US9116641, US9079410, US8666263, US8348363, US8061794, US7708395, US7625060, US7609397, US7537324, US7458656, US7248376, US2011206387, US2009289977, US2009207199, US2009015607, US2008007578, US2007273907, US2007159505, US2007115307, US2006012812, JP2008012818, GB2445048, EP2426651, CN102950906, CN102756564, CN102756564, CN102744970, CN102501610, CN102501610,

Abstract:
Source: US2004114002A An ink cartridge 111 holding a recording material used for printing therein has a sensor substitute module 170 to simulate operations of a cartridge having a built−in sensor. As a control circuit 222 of a printer 200 gives a sensor access instruction to the ink cartridge 111, the sensor substitute module 170 generates a specific signal and outputs the specific signal via an output module 178. The specified signal is equivalent to a signal that represents a sufficient level of remaining ink and is expected to be output from the built−in sensor of the cartridge. The ink cartridge 111 is thus applicable to both a printer designed for the use of a cartridge with a built−in sensor and a printer designed for the use of a cartridge without a built−in sensor. Namely the cartridge of the invention is compatible with the cartridge having the built−in sensor.

0) US5583613A – IMAGE FORMING SYSTEM

107) Family number: 12885585 (US5583613A) © PatBase

Title: IMAGE FORMING SYSTEM

Priority: JP19920194656 19920630 US19920952666 19920928 US19940307035 19940916

Family:

Publication number	Publication date	Application number	Application date
JP3270120 B2	20020402	JP19920194656	19920630
JP6258875 A2	19940916	JP19920194656	19920630
US5583613 A	19961210	US19940307035	19940916

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK

Assignee(s): CANON INC ; CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** IKEMOTO ISAO ; KOBAYASHI KAZUNORI ; NODA SHINYA ; SASAGO YOSHIKAZU ; SASAKO ETSUICHI ; SEKINE KAZUMI ; TSUDA TADAYUKI ; WATANABE KAZUFUMI ; WATANABE KAZUSHI

International class (IPC 8–9): G03G15/00 G03G15/08 G03G21/00 G03G21/18 (Advanced/Invention)

International class (IPC 1–7): G03G15/00 G03G15/08 G03G21/00 G03G21/18

CPC: G03G21/1633 G03G21/1814 G03G2221/1606 G03G2221/1618 G03G2221/163

European class: G03G21/18C3 S03G221/16B S03G221/16C S03G221/16D

US class: 355/200 355/210 399/111 399/130

Classification Explorer

Cited documents: US5404198 A, US5160964 A, US5095335 A, US5028966 A, US4972227 A, US4888620 A, US4839690 A, US4708455 A, US4627701 A, US4609276 A, US4591258 A, US4575221 A, US4540268 A, US4500195 A, US3985436 A, JPS63149669, JP63149669 A2, JP62153964, JP324562, JP312312 B2, JP2289874,

Forward Citations: US9046860, US8971758, US8725042, US8081900, US7920806, US7660545, US7630661, US7489885, US7403733, US7274896, US7248814, US7231161, US7156797, US7092655, US6999696, US6987938, US6917774, US6895199, US6885838, US6876826, US6856775, US6832056, US6804483, US6788908, US6782213, US6738589, US6735406, US6714750, US6714746, US6704525, US6701106, US6697578, US6690902, US6658224, US6603939, US6594454, US6571070, US6542706, US6535699, US6519431, US6424811, US6415121, US6408143, US6408142, US6400914, US6397018, US6397017, US6377759, US6334035, US6330402, US6272299, US6246849, US6229974, US6208818, US6201935, US6185390, US6173145, US6144398, US6118960, US6104894, US6101354, US6097909, US6097908, US6097906, US6075957, US6070028, US6041196, US6011941, US5966568, US5953562, US5953560, US5867181, US5864731, US2009074453, US2009074452, US2008080891, US2008063429, US2008056754, US2007104511, US2007104510, US2006198654, US2006008287, US2004190933, US2004134070, US2004086300, JP2015108693, JP2014063072, JP2013054061, CN102968020,

Abstract:
Source: US5583613A The present invention includes an image bearing member, a first attachment surface to which a cleaning device for removing toner from the image bearing member is attached. The present invention also includes a second attachment surface which is in parallel with or substantially in parallel with the first attachment surface and to which a developing device for developing an image formed on the image bearing member is attached. With the above construction, it is possible to provide a process cartridge, a method for assembling a process cartridge, and an image forming system mountable and in the process cartridge, which can remarkably improve the assembling ability.

0) US2016062313A – IMAGE FORMING APPARATUS AND DETACHABLE UNIT

108) Family number: 61777749 (US2016062313A) © PatBase

Title: IMAGE FORMING APPARATUS AND DETACHABLE UNIT

Priority: JP20140173860 20140828

Family:

Publication number	Publication date	Application number	Application date
CN106200308 A	20161207	CN201510425757	20150720
EP2990877 A1	20160302	EP20150176801	20150715
JP2016048348 A2	20160407	JP20140173860	20140828
US2016062313 AA	20160303	US20150803929	20150720
US9459586 BB	20161004	US20150803929	20150720

Probable Assignee: OKI DATA KK

Assignee(s):(std)**:** OKI DATA KK

Assignee(s): OKI DATA CORP

Inventor(s):(std)**:** KEIGO MATSUMOTO ; MATSUMOTO KEIGO

Agent(s): BETTEN AND RESCH; RABIN AND BERDO PC

Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL NO PL PT RO RS SE SI SK SM TR

International class (IPC 8–9): G03G15/00 G03G15/08 G03G21/16 G03G21/18 (Advanced/Invention)

CPC: G03G21/1867 G03G15/0863 G03G21/1885

US class: 1/1 399/111 399/119 399/121 399/90

Classification Explorer

Cited documents: US2016067977 AA, US2015153706 AA, US2014168324 AA, US2013083499 AA, US2012258637 AA, US2012256991 AA, US2006228127 AA, US2003215261 AA, US2003215257 AA, US2003123896 AA, JP2011118160 A2, JP2007140266 A2, EP2762982 A1, EP1363168 A2,

Abstract:
Source: US2016062313A An image forming apparatus includes an apparatus main body and a contact terminal, and a detachable unit including a holder for holding a circuit board having an electrode terminal which comes into contact with the contact terminal. A state of the detachable unit is changed to an attached state by inserting it in an insertion direction, and is changed to a detached state by withdrawing the detachable unit in a withdrawal direction. The holder includes a first positioning member for positioning a tip end of the circuit board in the insertion direction when the detachable unit holding the circuit board in the holder is slid in the insertion direction. The first positioning member includes a notch configured so that the contact terminal passes through the notch when the detachable unit not holding the circuit board in the holder in the attached state is slid in the withdrawal direction.

0) US5091750A – CARTRIDGE UNIT

109) Family number: 3779738 (US5091750A) © PatBase

Title: CARTRIDGE UNIT

Priority: JP19890320234 19891208 JP19920202084 19920729

Family:

Publication number	Publication date	Application number	Application date
CA2031791 AA	19910609	CA19902031791	19901207
CA2031791 C	19941101	CA19902031791	19901207
DE69018388 D1	19950511	DE19906018388	19901206
DE69018388 T2	19951116	DE19906018388T	19901206
EP0431615 A2	19910612	EP19900123435	19901206
EP0431615 A3	19921223	EP19900123435	19901206
EP0431615 B1	19950405	EP19900123435	19901206
ES2074110 T3	19950901	ES19900123435T	19901206
JP2565575 B2	19961218	JP19890320234	19891208
JP2810915 B2	19981015	JP19920202084	19920729
JP3180874 A2	19910806	JP19890320234	19891208
JP6067534 A2	19940311	JP19920202084	19920729
US5091750 A	19920225	US19900622526	19901205

Probable Assignee: MITA INDUSTRIAL CO LTD

Assignee(s):(std): MITA INDUSTRIAL CO LTD

Assignee(s): MITA INDUSTRIAL CO LTD OSAKA JP ; MITA IND CO LTD ; MITA INDUSTRIAL CO

Inventor(s):(std): YOSHIDA SEITARO ; ASHIDA KENICHI ; YOSHIDA SEITARO NANKONAK

Inventor(s): ASHIDA KENICHI HYOGO KEN JP ; YOSHIDA SEITARO 5 3 45 1212 NANKONAKA ; YOSHIDA SEITARO 5 3 45 1212 NANKONAKA OSAKA SHI OS ; YOSHIDA SEITARO 5 3 45 1212 NANKONAKA OSAKA SHI OSAKA FU JP ; YOSHIDA SEITARO 5 3 45 1212 NANKONAKA OSAKA...

Designated states: DE ES FR GB IT NL

International class (IPC 8–9): G03G15/00 G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)

International class (IPC 1–7): G03G15/00 G03G15/06 G03G15/08

CPC: G03G15/0886 G03G15/0855 G03G15/0865

European class: G03G15/08H3

US class: 141/364 141/366 355/260 399/106 D18/40 D18/43

Classification Explorer

Cited documents: US4752807 A, JP63178274 A2, JP63065058 U1, JP59034566 A2, JP1209464, GB371520 A, EP0225745 A1, EP0101303 A2,

Forward Citations: USD711965, USD559902, USD538850, USD455778, USD455455, US9459556, US9188950, US9146497, US8139986, US7447470, US6796107, US6650847, US6463243, US6269234, US6266506, US6249654, US6236826, US6137972, US5978624, US5970292, US5970291, US5907747, US5836358, US5737675, US5650841, US5630198, US5627631, US5608501, US5520229, US5513679, US5479247, US5475479, US5402216, US5383502, US5351728, US5337125, US5331382, US5207353, US5184184, US2009016770, US2006285885, US2005115932, US2003101690, JP6116373, JP5435116, JP5333694, JP5289516, JP3498017, JP3498016, JP3498013, JP2849280, JP2802854, JP2014228830, JP2013218276, JP2001051486, JP2001051484, JP2001034052, GB2312760, GB2312760, EP2290461, EP2290461, EP1901133, EP1225487, EP1225487, EP0940732, EP0892321, EP0757301, EP0757301, EP0708384, EP0708384, EP0670530, EP0670530, EP0604999, DE102006007304, CN103309206, CN103309206,

Abstract:
Source: US5091750A A toner cartridge unit for a copying machine having a double shutter at the mouth of the toner cartridge. The double shutter is locked when the cartridge is not attached to a toner hopper of the copying machine and prevents toner from coming out. Owing to the double shutter structure, the outside of the cartridge is always clean. When the cartridge unit is attached to the hopper, many locking and releasing mechanisms for the double shutter and a third shutter provided at the hopper entrance work sequentially and automatically as the cartridge is moved from a preparation site to a supplying site of the toner hopper.

0) US2010054816A – TONER FEED UNIT AND IMAGE FORMING APPARATUS EQU...

110) Family number: 44454800 (US2010054816A) © PatBase

Title: TONER FEED UNIT AND IMAGE FORMING APPARATUS EQUIPPED WITH THE SAME

Priority: JP20080217495 20080827

Family:

Publication number	Publication date	Application number	Application date
CN101661252 A	20100303	CN200910168514	20090821
CN101661252 B	20120509	CN200910168514	20090821
JP2010054638 A2	20100311	JP20080217495	20080827
US2010054816 AA	20100304	US20090534290	20090803
US8155566 BB	20120410	US20090534290	20090803

Probable Assignee: SHARP KK

Assignee(s):(std)**:** MIHARA KOICHI ; SHARP KK ; YOSHIMOTO YUHSUKE ; YOSHIKAWA YOSHIHIRO

Assignee(s): SHARP CORP ; SHARP K K ; SHARP KABUSHIKI KAISHA

Inventor(s):(std)**:** KOICHI MIHARA ; MIHARA KOICHI ; YOSHIHIRO YOSHIKAWA ; YOSHIKAWA YOSHIHIRO ; YOSHIMOTO SUKENORI ; YOSHIMOTO YUHSUKE ; YUHSUKE YOSHIMOTO

Agent(s): MIYAO AKISHIGE; KANDA MASAYOSHI; FUJIMOTO EISUKE; NIXON AND VANDERHYE PC

International class (IPC 8–9): G03G15/01 G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)

CPC: G03G15/0886 G03G15/0877 G03G2215/0692

European class: G03G15/08H3D S03G215/06C7

US class: 399/260 399/260P

Classification Explorer

Cited documents: US5608501 A, US2009060586 AA, JP8286490 A2, JP6035318 A2, JP2007078848 A2, JP2006259228 A2, JP2000098713 A2,

Forward Citations: WO15126038, US9417560,

Abstract:
Source: US2010054816A A toner feed unit includes: a first feed portion having a first feed pipe for forming a first toner feed passage having a rectangular section and a first shutter member constructed so as to be rotatable about an axis perpendicular to the feed direction of the first toner feed passage and open and close the toner output end of the first toner feed passage; and a second feed portion having a second feed pipe for forming a second toner feed passage having a rectangular section and a second shutter member constructed so as to be rotatable about an axis perpendicular to the feed direction of the second toner feed passage and open and close the toner input end of the second toner feed passage.

0) EP0576757A2 – PROCESS CARTRIDGE AND IMAGE FORMING SYSTEM ON W...

111) Family number: 33535524 (EP0576757A2) © PatBase

Title: PROCESS CARTRIDGE AND IMAGE FORMING SYSTEM ON WHICH PROCESS CARTRIDGE IS MOUNTABLE.

Priority: JP19920194662 19920630

Family:

Publication number	Publication date	Application number	Application date
CN1049986 C	20000301	CN19921011666	19920928
CN1081261 A	19940126	CN19921011666	19920928
DE69218423 D1	19970424	DE19926018423	19920918
DE69218423 T2	19970814	DE19926018423T	19920918
EP0576757 A2	19940105	EP19920308511	19920918
EP0576757 A3	19940309	EP19920308511	19920918
EP0576757 B1	19970319	EP19920308511	19920918
JP3270122 B2	20020402	JP19920194662	19920630
JP6019241 A2	19940128	JP19920194662	19920630
KR0123924 B1	19971126	KR19920017623	19920926
MX9205522 A1	19940131	MX19920005522	19920928

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK

Assignee(s): CANON INC ; CANON K K ; CANON K K TOKIO TOKYO JP ; CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** IKEMOTO ISAO ; IKEMOTO ISAO C O CANON KABUSHI ; KAZUMI ; KOBAYASHI KAZUNORI ; KOBAYASHI KAZUNORI C O CANON K ; NADA SHINYA ; NODA SHINYA ; NODA SHINYA C O CANON KABUSHIK ; SASAKO ETSUICHI ; SEKINE ; SEKINE KAZUMI ; SEKINE KAZUMI C O CANON KABUSH ; SASAGO YOSHIKAZU ; SASAGO YOSHIKAZU C O CANON KAB ; TSUDA TADAYUKI ; TSUDA TADAYUKI C O CANON KABUS ; WATANABE KAZUFUMI ; WATANABE KAZUSHI ; WATANABE KAZUSHI C O CANON KAB

Inventor(s): WATANABE KAZUSHI C O CANON KABUSHIKI KAISHA OHTA K ; WATANABE KAZUSHI C O CANON KABUSHIKI KAISHA OHTA KU TOKYO JP ; WATANABE KAZUSHI C O CANON KABUSHIKI KAISHA... ; WATANABE KAZUSHI C O CANON KK ; WATANABE KAZUSHI C O CANON OHTA KU TOKYO JP KK ; YOSHIKAZU SASAGO ; TSUDA TADAYUKI C O CANON KABUSHIKI KAISH OHTA ; TSUDA TADAYUKI C O CANON KABUSHIKI KAISH OHTA KU T ; TSUDA TADAYUKI C O CANON KABUSHIKI KAISH OHTA KU TOKYO JP ; SASAGO YOSHIKAZU C O CANON KABUSHIKI KAISHA OHTA K ; SASAGO YOSHIKAZU C O CANON KABUSHIKI KAISHA OHTA KU TOKYO JP ; SASAGO YOSHIKAZU C O CANON KABUSHIKI KAISHA... ; SASAGO YOSHIKAZU C O CANON KK ; SASAGO YOSHIKAZU C O CANON OHTA KU TOKYO JP KK ; SEKINE KAZUMI C O CANON KABUSHIKI KAISHA OHTA KU T ; SEKINE KAZUMI C O CANON KABUSHIKI KAISHA OHTA KU TOKYO JP ; SEKINE KAZUMI C O CANON KABUSHIKI KAISHA OHTA... ; SEKINE KAZUMI C O CANON OHTA KK ; SEKINE KAZUMI C O CANON OHTA KU TOKYO JP KK ; SHINYA NODA ; TADAYUKI TSUDA ; NODA SHINYA C O CANON KABUSHIKI KAISHA OHTA KU TOK ; NODA SHINYA C O CANON KABUSHIKI KAISHA OHTA KU TOKYO JP ; NODA SHINYA C O CANON KABUSHIKI KAISHA OHTA KU... ; NODA SHINYA C O CANON OHTA KU KK ; NODA SHINYA C O CANON OHTA KU TOKYO JP KK ; KOBAYASHI KAZUNORI C O CANON KABUSHIKI KAISH ; KOBAYASHI KAZUNORI C O CANON KABUSHIKI KAISH OHTA ; KOBAYASHI KAZUNORI C O CANON KABUSHIKI KAISH OHTA KU TOKYO JP ; KAZUMI SEKINE ; KAZUNORI KOBAYASHI ; KAZUSHI WATANABE ; IKEMOTO ISAO C O CANON KABUSHIKI KAISHA OHTA KU TO ; IKEMOTO ISAO C O CANON KABUSHIKI KAISHA OHTA KU TOKYO JP ; IKEMOTO ISAO C O CANON KABUSHIKI KAISHA OHTA... ; IKEMOTO ISAO C O CANON OHTA KK ; IKEMOTO ISAO C O CANON OHTA KU TOKYO JP KK ; ISAO IKEMOTO

Designated states: DE ES FR GB IT

International class (IPC 8–9): B41J2/44 G03G15/00 G03G15/02 G03G21/18 (Advanced/Invention); B41J2/44 G03G15/00 G03G15/02 G03G21/18 (Core/Invention)

International class (IPC 1–7): B41F15/40 B41J2/44 G03G13/00 G03G15/00 G03G15/02 G03G21/18

CPC: G03G21/1633 G03G21/1647 G03G21/181 G03G21/1817 G03G2215/00987 G03G2221/1612 G03G2221/1853 G03G2221/1876

European class: G03G21/18C2 G03G21/18C4 S03G215/00R S03G221/16B1A S03G221/18P3 S03G221/18P3C

Classification Explorer

Cited documents: US5028966 A, US5005053 A, US4816877 A, US4806977 A, JP62165670, JP4362961, JP4157485, JP3256058, JP2289874, JP2257146, EP0453963 A2, EP0437097 A2, EP0193170 A1, DE3941506 A1,

Forward Citations: US6721520, CN102566370,

Abstract:
Source: EP0576757A2 A process cartridge comprises a first frame in which toner containing means for containing toner used for a developing operation and charger means are mounted, and a second frame which can be engaged by and disengaged from the first frame, and in which an image bearing member, developing means and cleaning means are mounted. With this arrangement, the assembling ability and disassembling ability are improved remarkably, and the process cartridge is suitable for the re−cycling to contribute to the protection of the earth−environment.

0) US6256469B – TONER SUPPLY APPARATUS IN IMAGE FORMING SYSTEM ...

112) Family number: 15425487 (US6256469B) © PatBase

Title: TONER SUPPLY APPARATUS IN IMAGE FORMING SYSTEM

Priority: US20000506918 20000218

Family:

Publication number	Publication date	Application number	Application date
JP2001228692 A2	20010824	JP20000080800	20000322
JP3480827 B2	20031222	JP20000080800	20000322
US6256469 BA	20010703	US20000506918	20000218

Probable Assignee: TOSHIBA TEC KK

Assignee(s):(std)**:** TOSHIBA TEC CORP ; TOSHIBA TEC KK

Inventor(s):(std)**:** ITO SHINICHI ; ITOH SHINICHI ; TANIYAMA RYOJI ; TANIYAMA YOSHIHARU ; UMEZAWA NORIYUKI

International class (IPC 8–9): G03G15/08 (Advanced/Invention) ; G03G15/08 (Core/Invention)

International class (IPC 1–7): G03G15/08

CPC: G03G15/0872 G03G15/0868 G03G2215/0668

European class: G03G15/08H3B S03G215/06C1A1

US class: 399/12 399/258 399/262

Classification Explorer

Cited documents: US6032013 A, US5970273 A, US5966574 A, US5867757 A, US5774773 A, US4963939 A, US4740808 A, JP9211977, JP9211947 A2, JP9090727 A2, JP7199618, JP63075769, JP6035320 A2, JP11184232, JP10260574, JP10213957, JP10020642 A2,

Forward Citations: WO06006737, USRE45513, USRE42312, USRE41779, USRE40058, USRE40021, US9329526, US9229423, US9057983, US8693926, US8509658, US8396398, US8369753, US8195070, US8121525, US8005406, US7848685, US7840167, US7835673, US7796924, US7778578, US7747202, US7720416, US7697870, US7693464, US7558515, US7519317, US7512347, US7499666, US7480476, US7466945, US7437107, US7398038, US7383002, US7321744, US7313349, US7283773, US7209686, US6983116, US6778801, US6766135, US6546211, US6456811, US6337965, US2015071659, US2010278564, US2010254732, US2009142104, US2009129813, US2009123192, US2008286013, US2008260433, US2008240771, US2008044205, US2008013989, US2008003021, US2007177905, US2007077100, US2006210318, US2006193646, US2006029434, US2006008299, US2005196199, US2005084296, US2004223790, US2003235433, JP5750803, JP5335546, JP4608307, JP4307009, JP4166596, JP2015052667, JP2012014165, JP2010266520, JP2009265369, JP2006178146, JP2004264432, JP2003295591, EP1766478, CN103676549, CN103676549, CN102236297,

Abstract:
Source: US6256469B A toner supply device includes a toner cartridge. The toner cartridge includes a cylindrical container having a spiral protruding portion therein, and a cap having a toner discharging hole. The toner supply device also includes a drive unit for supplying a toner from the toner discharging hole while gripping and rotating the cap of the toner cartridge. A positioning portion is formed on the outer peripheral surface of the base end side of the cylindrical container, and a recessed portion engaging the positioning portion is formed in an inlet holder. The drive unit includes a holder and a holder cover, which are disassembled vertically, a cup−shaped holder guide, rotatably provided in the holder and holder cover, for gripping the cap at a position, at which the holder guide is communicated with the toner discharging hole, a motor for applying torque to the holder guide, and a drive gear for transmitting torque of the motor to the holder guide.

0) US5913097A – DEVELOPING DEVICE, IMAGE FORMING APPARATUS, AND...

113) Family number: 11313173 (US5913097A) © PatBase

Title: DEVELOPING DEVICE, IMAGE FORMING APPARATUS, AND TONER FILLABLE CARTRIDGE THAT INCLUDES AN AGITATOR HAVING A FIRST MEDIUM AND A SECOND MEDIUM

Priority: JP19970045717 19970228

Family:

Publication number	Publication date	Application number	Application date
JP10240008 A2	19980911	JP19970045717	19970228
JP3680479 B2	20050810	JP19970045717	19970228
US5913097 A	19990615	US19980028767	19980224

Probable Assignee: BROTHER KOGYO KK

Assignee(s):(std)**:** BROTHER IND LTD

Assignee(s): BROTHER KOGYO KABUSHIKI KAISHA ; BROTHER KOGYO KK

Inventor(s):(std)**:** MAKINO KAZUMASA ; MAKINO KAZUNORI ; NAKANO HIROSHI

Agent(s): TOMIZAWA TAKASHI; YAMANAKA IKUO; OKADO AKIYOSHI

International class (IPC 8–9): G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)

International class (IPC 1–7): G03G15/08

CPC: G03G15/0856 G03G15/0862 G03G15/0867 G03G15/0822 G03G2215/067 G03G2215/085 G03G2215/0894

European class: G03G15/08H G03G15/08H2 S03G215/06C1A2 S03G215/08A5 S03G215/08D1A

US class: 366/309 399/256 399/263

Classification Explorer

Cited documents: US604671 A, US5710961 A, US5697014 A, US5678147 A, US5655195 A, US5630198 A, US20804 A, JP7311516, JP7199620, JP6149056,

Forward Citations: WO04077170, USD571394, US9075345, US8879965, US8643690, US8633953, US8577263, US8550694, US8437665, US8396398, US8331829, US8315543, US8195070, US8121525, US8099020, US8099001, US8060002, US8036543, US8005406, US7965962, US7881633, US7840167, US7835673, US7817945, US7796925, US7747202, US7720416, US7697870, US7519317, US7480476, US7466945, US7433632, US7398038, US7321744, US7313349, US7248806, US7145675, US7024135, US6456810, US2013136507, US2011150527, US2010254732, US2010239305, US2010209125, US2010166458, US2010128558, US2009214277, US2009123192, US2009087216, US2008317512, US2008317511, US2008317509, US2008292331, US2008286013, US2008205940, US2008003021, US2007177905, US2007177903, US2007077100, US2006257171, US2006233571, US2005265752, US2005196199, US2004223790, US2002093687, KR100975447, KR100747728, JP2008170896, EP2073074, EP2045667, EP2026140, EP1953602,

Abstract:
Source: US5913097A A developing device for use with an image forming apparatus can properly detect a residual toner level by adjusting the toner diffusion in a toner cartridge. The developing device stirs toner in the toner cartridge by rotating an agitator in the toner cartridge, and supplies the stirred toner from a toner introduction port. The image forming apparatus then forms images by electrophotographic processes. The agitator has at least two elastic film members and is formed so that the first film member is rotated first, then the second film member is rotated by following the first film member.

0) US2011262180A – TONER CARTRIDGE AND IMAGE FORMING APPARATUS

114) Family number: 49807917 (US2011262180A) © PatBase

Title: TONER CARTRIDGE AND IMAGE FORMING APPARATUS

Priority: US20100326595P 20100421 US20110090994 20110420

Family:

Publication number	Publication date	Application number	Application date
CN102236297 A	20111109	CN201110099907	20110420
EP2381317 A1	20111026	EP20110163026	20110419
KR20110117620 A	20111027	KR20110036754	20110420
US2011262180 AA	20111027	US20110090994	20110420

Probable Assignee: TOSHIBA KK

Assignee(s):(std)**:** TOSHIBA CORP ; TOSHIBA KK ; TOSHIBA TEC CORP ; TOSHIBA TEC KK

Assignee(s): KABUSHIKI KAISHA TOSHIBA ; TOSHIBA TEC KABUSHIKI KAISHA

Inventor(s):(std)**:** KENGO SUZUKI ; SUZUKI KENGO

Agent(s): GENDRON VINCENT CHRISTIAN

Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL NO PL PT RO RS SE SI SK SM TR

International class (IPC 8–9): G03G15/00 G03G15/08 (Advanced/Invention)

CPC: G03G15/0886 G03G15/0855 G03G15/0865 G03G15/0867 G03G15/0882 G03G2215/0687 G03G2215/0692

European class: G03G15/08H3 S03G215/06C5 S03G215/06C7

US class: 399/106 399/106P 399/260 399/260S 399/262 399/262S

Classification Explorer

Cited documents: US6256469 BA, US5999770 A, US5812915 A, EP0969331 A2,

Forward Citations: WO15126038, US9417560, US9411268, US9207574, US9146499, US9057986, US8909093, US8792809, US2014376972, US2014064795, US2012163877,

Abstract:
Source: US2011262180A According to one embodiment, in a toner cartridge, an engaging member includes a first engaging section and a sealing tape is fixed to the engaging member. A shutter includes a second engaging section and moves between a shutter first position where the shutter overlaps a toner supply port in plan view and a shutter second position where the shutter does not overlap the toner supply port in plan view. A lever includes a third engaging section and a fourth engaging section. The lever is present in a lever first position where the third engaging section and the first engaging section are disengaged. According to movement of the shutter, the lever moves in a first direction from the lever first position to a lever second position where the third engaging section engages with the first engaging section. Thereafter, the lever moves in a second direction opposite to the first direction from the lever second position to move the engaging member and the sealing tape in the second direction.

0) US5392963A – REFURBISHED TONER CARTRIDGE

115) Family number: 10092573 (US5392963A) © PatBase

Title: REFURBISHED TONER CARTRIDGE

Priority: US19930069636 19930601

Family:

Publication number	Publication date	Application number	Application date
DE69329016 D1	20000817	DE19936029016	19931220
DE69329016 T2	20010322	DE19936029016T	19931220
EP0627673 A2	19941207	EP19930120550	19931220
EP0627673 A3	19960731	EP19930120550	19931220
EP0627673 B1	20000712	EP19930120550	19931220
JP3488282 B2	20040119	JP19940141143	19940531
JP6348128 A2	19941222	JP19940141143	19940531
US5392963 A	19950228	US19930069636	19930601

Probable Assignee: HEWLETT PACKARD DEVELOPMENT CO LP

Assignee(s):(std)**:** HEWLETT PACKARD CO

Assignee(s): HEWLETT PACKARD CO HP ; HEWLETT PACKARD CO PALO ALTO ; HEWLETT PACKARD COMPANY ; HEWLETT PACKARD DEVELOPMENT CO LP ; HP INC

Inventor(s):(std)**:** CHRISTENSEN K TRENT ; CHRISTENSEN TRENT K ; KELLY GAR P ; RENSTROM BRIAN J ; KEE TORENTO KURISUTENSEN ; GARU PII KERII ; BURAIAN JIEI RENSUTOROOMU

Designated states: DE FR GB IT

International class (IPC 8–9)**:** G03G15/08 (Advanced/Invention) ; G03G15/08 (Core/Invention)

International class (IPC 1–7)**:** G03G15/06 G03G15/08 G03G21/00

CPC: Y10S222/01 G03G2215/00987 G03G2215/0682 G03G15/0874 G03G15/0884 G03G15/0894

European class: G03G15/08H3R G03G15/08R S03G215/00R S03G215/06C3

US class: 222/325 222/386.5 222/DIG.1 355/260 399/262

Classification Explorer

Cited documents: US5337126 A, US5335831 A, US5311265 A, US5271534 A, US5235389 A, US5207353 A, US5194900 A, US5177540 A, US5153650 A, US5150807 A, US5148223 A, US5142335 A, US5110646 A, US5080745 A, US4895104 A, US4732277 A, US4489765 A, US4417802 A, US4013195 A, US3501065 A, US2608320 A, JP63256975, JP62218974, JP5920252 U, JP466980, JP410606 Y2, JP3184071, JP3122458 U, EP0070731 A2,

Forward Citations: WO9812606, WO17002839, WO16204199, US8349428, US6648218, US6532352, US6341210, US6246848, US5960238, US5895149, US5887232, US5729795, US5676794, US5594535, US5525183, US2016306299, US2016306298, US2010243158, SG115361, EP1168096, EP1168096, EP1126328, EP1126328,

Abstract:
Source: US5392963A A refurbished toner cartridge includes a cover having elongated side dimensions with integral flanges and a mating bottle also having elongated side flanges, the flanges bonded to create an interior volume for holding a print toner. At one end of the cartridge is a toner fill opening which enables access into the interior volume. The refurbished cartridge further comprises a flexible bladder that is inserted through the fill opening and is positioned within the interior volume of the cartridge. Toner is contained in the bladder and is released upon the bladder being ruptured by user actuation of either an internal knife blade or a pull string attached to the bladder.

0) US2008112724A – METHODS AND APPARATUS FOR REMANUFACTURING TONER...

116) Family number: 41800595 (US2008112724A) © PatBase

Title: METHODS AND APPARATUS FOR REMANUFACTURING TONER CARTRIDGES

Priority: US20030598964 20031114 US20060598964 20061114 US20070985198 20071113 US20080125512P 20080425 US20080229608 20080826 US20090387116 20090428

Family:

Publication number	Publication date	Application number	Application date
US2008112724 AA	20080515	US20060598964	20061114
US2008112725 AA	20080515	US20070985198	20071113
US2009060566 AA	20090305	US20080229608	20080826
US2009208244 AA	20090820	US20090387116	20090428
US7546062 BB	20090609	US20060598964	20061114
US7647002 BB	20100112	US20080229608	20080826
US7676173 BB	20100309	US20090387116	20090428
US7840158 BB	20101123	US20070985198	20071113

Probable Assignee: MITSUBISHI KAGAKU IMAGING CORP

Assignee(s):(std)**:** FUTURE GRAPHICS IMAGING CORP ; FUTURE GRAPHICS LLC ; MITSUBISHI KAGAKU IMAGING CORP

Inventor(s):(std)**:** OHANYAN TIGRAN

Agent(s): ROLAND TONG; ROLAND TONG LEWIS BRISBOIS BISGAARD AND SMITH LLP SUITE 1200; LEWIS BRISHOIS BISGAARD AND SMITH LLP; TONG ROLAND; ROLAND

International class (IPC 8–9): G03G15/00 (Advanced/Invention); G03G15/00 (Core/Invention)

CPC: G03G15/0894 G03G15/751 G03G2215/00991 G03G21/181

European class: G03G15/08R G03G15/75B S03G215/00R1

US class: 399/109 399/109P 399/117

Classification Explorer

Cited documents: US7618507 BB, US7590369 BB, US7505708 BB, US7346292 BB, US7321742 BB, US7212765 BB, US6788909 BB, US6735404 BB, US6499924 BB, US5729795 A, US2008159780 AA, US2007025759 AA,

Forward Citations: WO09053680, USD624583, US9122203, US8942593, US8644726, US8543032, US8483592, US8478160, US8463155, US8249483, US7835664, US2012275818, US2012275817, US2012275816, US2011274460, US2010142991, US2009052937,

Abstract:
Source: US2008112724A A method of removing a drum from a printer toner cartridge, the drum comprising a cylindrical body, the drum further comprising a pair of drum gears attached to each end of the drum, each drum gear being configured to attach the drum to the printer, at least one drum gear comprising a cylindrical body, the cylindrical body defining a hollow drum gear interior, at least one drum gear further comprising a drum gear wall that is positioned perpendicular to the cylindrical body and configured to cover the hollow drum gear interior, the method comprising creating a hole through the drum gear wall and inserting a cutting device through the hollow drum gear interior.

0) EP0584417A1 – PROCESS CARTRIDGE, IMAGE FORMING SYSTEM MOUNTAB...

117) Family number: 33535523 (EP0584417A1) © PatBase

Title: Process cartridge, image forming system mountable same therein and method for assembling cleaning device.

Priority: JP19920194660 19920630 JP19920217423 19920724

Family:

Publication number	Publication date	Application number	Application date
CN1049984 C	20000301	CN19921010575	19920928
CN1080733 A	19940112	CN19921010575	19920928
DE69223241 D1	19980102	DE19926023241	19920918
DE69223241 T2	19980416	DE19926023241T	19920918
EP0584417 A1	19940302	EP19920308514	19920918
EP0584417 B1	19971119	EP19920308514	19920918
MX9205524 A1	19940131	MX19920005524	19920928

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON INC ; CANON KK

Assignee(s): CANON K K ; CANON K K TOKIO TOKYO JP ; CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** AL TADAYUKI TSUDA ET ; IKEMOTO ISAO ; IKEMOTO ISAO C O CANON KABUSHI ; ISAO IKEMOTO ; KAZUMI SEKINE ; KAZUNORY KOBAYASHI ; KAZUSHI WATANABE ; KOBAYASHI KAZUNORI ; KOBAYASHI KAZUNORI C O CANON K ; KOBAYASHI KAZUNORY ; NODA SHINYA ; NODA SHINYA C O CANON KABUSHIK ; SASAGO YOSHIKAZU ; SASAGO YOSHIKAZU C O CANON KAB ; SEKINE KAZUMI ; SEKINE KAZUMI C O CANON KABUSH ; SHINYA NODA ; SHOJI TAKEO ; SHOJI TAKEO C O CANON KABUSHIK ; TADAYUKI TSUDA ; TADAYUKI TSUDA ET AL ; TAKEO SHOJI ; TSUDA TADAYUKI ; TSUDA TADAYUKI C O CANON KABUS ; YOSHIKAZU SASAGO ; WATANABE KAZUSHI ; WATANABE KAZUSHI C O CANON KAB

Inventor(s): WATANABE KAZUSHI C O CANON KABUSHIKI KAISHA ; WATANABE KAZUSHI C O CANON KK ; WATANABE KAZUSHI C O CANON KABUSHIKI KAISHA OHTA K ; TSUDA TADAYUKI C O CANON KABUSHIKI KAISHA OHTA KU ; SHOJI TAKEO C O CANON KABUSHIKI KAISHA OHTA KU TOK ; SEKINE KAZUMI C O CANON KABUSHIKI KAISHA OHTA KU T ; SASAGO YOSHIKAZU C O CANON KABUSHIKI KAISHA OHTA K ; NODA SHINYA C O CANON KABUSHIKI KAISHA OHTA KU TOK ; KOBAYASHI KAZUNORI C O CANON KABUSHIKI KAISHA OHTA ; IKEMOTO ISAO C O CANON KABUSHIKI KAISHA OHTA KU TO ; TSUDA TADAYUKI C O CANON KABUSHIKI KAISHA ; TSUDA TADAYUKI C O CANON KABUSHIKI KAISHA OHTA... ; TSUDA TADAYUKI C O CANON KK ; TSUDA TADAYUKI C O CANON OHTA KK ; SHOJI TAKEO C O CANON KABUSHIKI KAISHA ; SHOJI TAKEO C O CANON KABUSHIKI KAISHA OHTA KU... ; SHOJI TAKEO C O CANON KK ; SHOJI TAKEO C O CANON OHTA KU KK ; SEKINE KAZUMI C O CANON KABUSHIKI KAISHA OHTA... ; SEKINE KAZUMI C O CANON OHTA KK ; SASAGO YOSHIKAZU C O CANON KABUSHIKI KAISHA... ; SASAGO YOSHIKAZU C O CANON KK ; NODA SHINYA C O CANON KABUSHIKI KAISHA ; NODA SHINYA C O CANON KABUSHIKI KAISHA OHTA KU... ; NODA SHINYA C O CANON KK ; NODA SHINYA C O CANON OHTA KU KK ; KOBAYASHI KAZUNORI C O CANON KABUSHIKI KAISHA ; KOBAYASHI KAZUNORI C O CANON KK ; IKEMOTO ISAO C O CANON KABUSHIKI KAISHA ; IKEMOTO ISAO C O CANON KABUSHIKI KAISHA OHTA... ; IKEMOTO ISAO C O CANON KK ; IKEMOTO ISAO C O CANON OHTA KK

Designated states: DE ES FR GB IT

International class (IPC 8–9): G03G21/00 G03G21/18 (Advanced/Invention); G03G21/00 G03G21/18 (Core/Invention)

International class (IPC 1–7): B41F15/40 G03G15/00 G03G21/00 G03G21/18

CPC: G03G21/0011 G03G21/181 G03G2215/00987

European class: G03G21/00B1 G03G21/18C2 S03G215/00R

Classification Explorer

Cited documents: US5036358 A, EP0485271 A2, EP0473180 A2, EP0453963 A2, EP0314140 A2, EP0153824 A2,

Forward Citations: GB2282108, GB2282108, EP1403742, EP1403742,

Abstract:
Source: EP0584417A1 The present invention is characterized by an image bearing member (9), process means acting on the image bearing member (9), a first frame (15), a second frame (14) lockable and separable with respect to the first frame, a locking body (15a;15b) and a locking member (14a) lockable to the locking body (15a;15b) which are provided to separably interlock the first and second frames (14;15), and a recessed portion (15n) and a projection (14h) fittable into the recessed portion which are provided to separably interlock the first and second frames (14;15). With above construction it is possible to provide a process cartridge, an image forming system (A), and a method for assembling a cleaning device (13), which can be easily assembled and can sufficiently cope with a high number of re−cycles. There are additionally disclosed a method of attaching auxilliary parts to a processing cartridge and a method of assembling a cleaning unit. There are as well disclosed means for attaching additional parts into a processing cartridge.

0) US2014169837A – TONER CARTRIDGE

118) Family number: 50555527 (US2014169837A) © PatBase

Title: TONER CARTRIDGE

Priority: CN201110206041 20110722 WO2012CN078397 20120710

Family:

Publication number	Publication date	Application number	Application date
CN102331697 A	20120125	CN201110206041	20110722
CN102331697 B	20130109	CN201110206041	20110722
EP2735917 A1	20140528	EP20120817819	20120710
EP2735917 A4	20150408	EP20120817819	20120710
US2014169837 AA	20140619	US20120233806	20120710
US9063465 BB	20150623	US20120233806	20120710
WO13013572 A1	20130131	WO2012CN78397	20120710

Probable Assignee: ZHUHAI PRINT RITE CO LTD

Assignee(s):(std): PRINT RITE UNICOM IMAGE PRODUCTS CO LTD ; PRINT RITE UNICORN IMAGE PROD ; ZHUHAI PRINT RITE CO LTD ; ZHOU HONGHUI ; PRINT RITE UNICORN IMAGE PRODUCTS CO LTD OF ZHUHAI ; PRINT RITE UNICORN IMAGE PRODUCTS CO LTD ; HUANG ZONGQIAN ; PRINT RITE UNICORN IMAGE PRODUCTS CO LTD ZHUHAI

Assignee(s): PRINT RITE UNICOM IMAGE PRODUCTS CO ; PRINT RITE UNICORN IMAGE PRODUCTS CO ; ZHUHAI PRINT RITE CO

Inventor(s):(std): HONGHUI ZHOU ; ZONGQIAN HUANG ; ZHOU HONGHUI ; HUANG ZONGQIAN

Agent(s): RAYNOR SIMON MARK; LERNER DAVID LITTENBERG KRUMHOLZ AND MENTLIK LLP; INNOPAT INTELLECTUAL PROPERTY CO LTD

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9): G03G15/08 G03G21/18 (Advanced/Invention)

CPC: G03G15/0886 G03G15/087 G03G15/0872

US class: 1/1 399/262

Classification Explorer

Cited documents: US8295742 BB, US8170452 BB, US2009169247 AA, US2008145091 AA, US2007264055 AA, JP2011017783 A2, JP2010134330 A2, JP2008129287 A2, CN2630903 Y, CN201607617 U, CN102331697 A, CN101916059 A,

Forward Citations: WO13013572, USD735804, USD735803, US9500985, US9442421, US9063465,

Abstract:
Source: US2014169837A Disclosed is a toner cartridge. The toner cartridge comprises a rotary container body, a toner discharge port, a sealing component, a connection component and a transmission component. The toner discharge port is placed on the rotary container body. The sealing component is placed inside the toner discharge port. The connection component is slide−connected with the toner discharge port. The transmission component is slide−connected with the connection component. When the transmission component is driven to rotate, it drives the connection component, the toner discharge port, and the rotary container body to rotate together.

0) US2006008296A – IMAGE FORMING APPARATUS

119) Family number: 32560171 (US2006008296A) © PatBase

Title: IMAGE FORMING APPARATUS

Priority: EP20050015093 20050712 JP20040204329 20040712 US20050178286 20050712 US20100683964 20100107 JP20040204329 20041207 US20100774768 20100506

Family:

Publication number	Publication date	Application number	Application date
CN1722014 A	20060118	CN200510083357	20050712
CN1722014 B	20110316	CN200510083357	20050712
DE602005044978 D1	20141204	DE200560044978T	20050712
EP1617304 A1	20060118	EP20050015093	20050712
EP1617304 B1	20141022	EP20050015093	20050712
JP2006030241 A2	20060202	JP20040204329	20040712
JP4490195 B2	20100623	JP20040204329	20040712
KR100864103 B1	20081016	KR20050062067	20050711
KR20060050032 A	20060519	KR20050062067	20050711
US2006008296 AA	20060112	US20050178286	20050712
US2010129113 AA	20100527	US20100683964	20100107
US2010215397 AA	20100826	US20100774768	20100506

Probable Assignee: RICOH CO LTD

Assignee(s):(std)**:** HOSOKAWA HIROSHI ; KIMURA YOSHIYUKI ; KUWABARA NOBUO ; MURAKAMI WAKAKO ; NAGASHIMA HIROYUKI ; RICOH CO LTD ; SAMPE ATSUSHI ; ZEMBA HIDEKI ; RICOH KK

Assignee(s): RICOH COMPANY LTD ; RICOH CO

Inventor(s):(std)**:** ATSUSHI SAMPE ; HIDEKI ZEMBA ; HIROSHI HOSOKAWA ; HIROYUKI NAGASHIMA ; HOSOKAWA HIROSHI ; KIMURA YOSHIYUKI ; KUWABARA NOBUO ; MURAKAMI WAKAKO ; NAGASHIMA HIROYASU ; NAGASHIMA HIROYUKI ; NOBUO KUWABARA ; SAMPE ATSUSHI ; SAMPE ATSUSHI KIMURA YOSHIYUKI ; SANPEI ATSUSHI ; WAKAKO MURAKAMI ; YOSHINAMI HIDEKI ; YOSHIYUKI KIMURA ; ZEMBA HIDEKI ; SAMPE ATSUSHI KIMURA YOSHIYUKI HOSOKAWA HIROSHI NA

Inventor(s): SAMPE ATSUSHI KIMURA YOSHIYUKI HOSOKAWA HIROSHI NAGASHIMA HIROYUKI KUWABARA NOBUO MURAKAMI WAKAKO ZEMBA HIDEKI ; SAMPE ATSUSHI KIMURA YOSHIYUKI HOSOKAWA...

Agent(s): SCHWABE SANDMAIR MARX; OBLON SPIVAK MCCLELLAND MAIER AND NEUSTADT PC; OBLON SPIVAK MCCLELLAND MAIER AND NEUSTADT LLP

Designated states: DE ES FR GB IT NL

International class (IPC 8–9): G03G15/00 G03G15/01 G03G15/02 G03G15/04 G03G15/08 G03G21/16 G03G21/18 (Advanced/Invention) ; G03G15/00 (Advanced/Non–invention) ; G03G15/00 G03G15/01 G03G15/02 G03G15/04 G03G15/08 G03G21/16 G03G21/18 (Core/Invention)

CPC: G03G2221/1642 G03G2221/1884 G03G15/0194 G03G21/1619 G03G15/00

European class: G03G15/01S2 G03G21/16 S03G221/16G S03G221/18P4

US class: 399/110 399/111 399/167

Classification Explorer

Cited documents: US7212767 BB, US6832061 BB, US2005025520 AA, US2004170446 AA, US2004131381 AA, US2003044201 AA, US2002191991 AA, JP2004077554 A2, JP2004029057 A2, JP2003208073 A2, JP2003167412 A2, JP2000137377 A2, JP10186855 A2, EP1431837 A1, EP1431836 A2, EP1172708 A2, EP0689105 A2,

Forward Citations: US8894191, US8676099, US8649714, US8428479, US8073361, US7953331, US7949281, US7885581, US7771010, US7751730, US7708861, US7603053, US7483648, US2009214256, US2009116861, US2008124117, US2008069580,

US2007200895, US2007199671, US2006018680, JP5515866, JP2011185990, JP2010190977, JP2010002645, JP2009122604, JP2009009074, CN102385286,

Abstract:
Source: US2006008296A An image forming apparatus includes an endless transfer member and a plurality of image forming units. The endless transfer member is arranged at a transverse position in the image forming apparatus, and has a circulatory rotating surface declining at a predetermined angle to a horizontal plane. Each of the plurality of image forming units includes a first surface facing the endless transfer member and a second surface opposite to the first surface and angled in a similar direction to the endless transfer member. The plurality of image forming units perform an image forming operation and are arranged next to one another facing the endless transfer member such that, in any two adjacent image forming units of the plurality of image forming units, one of the any two adjacent image forming units has a portion overhanging the other one of the any two adjacent image forming units.

0) US4868599A – DEVICE AND METHOD FOR STORING TONER WASTE

120) Family number: 4623516 (US4868599A) © PatBase

Title: DEVICE AND METHOD FOR STORING TONER WASTE

Priority: JP19860127806 19860602 JP19860209316 19860905 US19870057882 19870602

Family:

Publication number	Publication date	Application number	Application date
JP62284380 A2	19871210	JP19860127806	19860602
JP63064072 A2	19880322	JP19860209316	19860905
US4868599 A	19890919	US19870057882	19870602
US5021825 A	19910604	US19890403513	19890906
US5038180 A	19910806	US19890400434	19890830

Probable Assignee: SEIKO EPSON CORP

Assignee(s):(std)**:** SEIKO EPSON CORP

Inventor(s):(std)**:** NIKI HIROSHI ; NIKI YUJI

International class (IPC 8–9)**:** G01N5/00 G03G21/00 G03G21/10 G03G21/12 (Advanced/Invention); G01N5/00 G03G21/00 G03G21/10 G03G21/12 (Core/Invention)

International class (IPC 1–7)**:** G01N5/00 G03G15/00 G03G21/00

CPC: Y10S222/01 G03G21/12

European class: G03G21/12

US class: 222/DIG.1 355/200 355/210 355/260 355/298 399/111 399/35 399/360

Classification Explorer

Cited documents: US4757344 A, US4754293 A, US4690544 A, US4685798 A, US4530594 A, US4491161 A, US4436414 A, US4436412 A, US4325628 A, US4251155 A, US4218132 A, US4174902 A, US4173405 A, US4140389 A, US3985436 A, US3947107 A, JPS6298376, JPS62294276, JPS6225776, JPS6210684, JPS62105176, JPS6151160, JPS60254072, JPS60107763, JPS60107663, JPS59155878, JPS58203479, JPS58147758, JPS5814177, JPS5726881, JPS55142364, JP62294276 A2, JP62105176 A2, JP62098376 A2, JP62025776 A2, JP62010684 A2, JP6156371 A2, JP6151160 A2, JP61051160 A2, JP60254072 A2, JP60107763 A2, JP60107663 A2, JP59155878 A2, JP58203479 A2, JP58147758 A2, JP58014177 A2, JP57026881 A2, JP5535504 T2, JP55142364 A2, EP0078019 A2, AU20744 A1,

Forward Citations: US9671743, US9523947, US9469130, US8836747, US8805216, US8369720, US7949275, US7426365, US7280776, US7257363, US7205738, US6961528, US6834173, US6731885, US6697589, US6580881, US6505009, US6151472, US6134410, US5809376, US5722019, US5594541, US5530521, US5465619, US5400127, US5268727, US5257076, US5204713, US5160964, US5138394, US5109254, US5084734, US2017010563, US2016078331, US2011243585, US2010196021, US2008260410, US2007065196, US2006120779, US2005260018, US2005212472, US2005163545, US2005008395, US2003086723,

Abstract:
Source: US4868599A In storing toner waste collected from the surface of an image carrier within an image forming apparatus, the toner waste is compressed within a container by a resilient cantilever member. A diaphragm located within the container expands through an opening of the container based on the pressure exerted on the diaphragm by the compressed toner waste. Upon traveling a predetermined distance, the diaphragm forces a switch to close which triggers an alarm indicating that the container is full of toner waste.

0) US2001022906A – IMAGE FORMING APPARATUS

121) Family number: 28105052 (US2001022906A) © PatBase

Title: IMAGE FORMING APPARATUS

Priority: JP19930261604 19930924

Family:

Publication number	Publication date	Application number	Application date
CN1058093 C	20001101	CN19941016753	19940924
CN1130266 A	19960904	CN19941016753	19940924
DE4415742 A1	19950330	DE19944415742	19940504
DE4415742 C2	19990930	DE19944415742	19940504
JP3452074 B2	20030929	JP19930261604	19930924
JP7092789 A2	19950407	JP19930261604	19930924
KR0133629 B1	19980423	KR19940023951	19940923
KR19950009368 A	19950421	KR19940023951	19940923
US2001022906 AA	20010920	US19940220205	19940330

Probable Assignee: FUJITSU LTD

Assignee(s):(std)**:** FUJITSU LTD ; FUJITSU CO LTD

Assignee(s): FUJITSU LIMITED ; FUJITSU CO ; FUJITSU LTD KAWASAKI ; FUJITSU LTD KAWASAKI KANAGAWA JP ; KAWAI HIROYUKI ; SASAKI SACHIO ; SATO SHINJI ; NAGAHARA AKIRA ; SATO MITSURU ; TAKAHASHI TAKEFUMI ; KONISHI MASAO ; WANOU MASAHIRO

Inventor(s):(std)**:** AKIRA NAGAHARA ; DAKAHASHI DAKEFUMI ; GAWAI HIROYUKI ; GONISI MASHO ; HIROYUKI KAWAI ; KAWAI HIROYUKI ; KONISHI MASAO ; SASAKI SACHIO ; SASAKI YUKIO ; SATO MITSURU ; SATO SHINJI ; SHASHAKI SHACHIO ; SHATO MITSURU ; SHATO SHING ; SHINJI SATO ; TAKAHASHI TAKEFUMI ; TAKAHASHI TAKESHI ; WANO MASAHIRO ; WANO MASHAHIRO ; WANOU MASAHIRO ; NAGAHARA AKIRA

Inventor(s): WANOU MASAHIRO KAWASAKI KANAGAWA JP ; TAKAHASHI TAKEFUMI INAGI TOKIO TOKYO JP ; SATO SHINJI INAGI TOKIO TOKYO JP ; SATO MITSURU KAWASAKI KANAGAWA JP ; SASAKI SACHIO KAWASAKI KANAGAWA JP ; KONISHI MASAO KAWASAKI KANAGAWA JP ; NAGAHARA AKIRA KAWASAKI KANAGAWA JP ; KAWAI HIROYUKI KAWASAKI KANAGAWA JP

International class (IPC 8–9): G03G15/08 (Advanced/Invention); G03G15/00 (Advanced/Non–invention); G03G15/08 (Core/Invention)

International class (IPC 1–7): G03G15/00 G03G15/08

CPC: G03G15/0875 G03G15/0877 G03G15/0896 G03G2215/00012

European class: G03G15/08H3D G03G15/08S S03G215/00A2

US class: 399/262

Classification Explorer

Cited documents: US5091748 A, US4650097 A, JP5224532 A2, JP5173419 A2, EP0618513 A2,

Forward Citations: US8116665, US7865091, US2008166143, JP8314333, JP3669007, EP0827042, EP0827042,

Abstract:
Source: US2001022906A Disclosed is an image forming apparatus which will form images in both a horizontal position and an upright position. This image forming apparatus comprises a rotary endless latent image carrier; an image forming unit for forming an electrostatic latent image on the latent image carrier; a developing unit for developing the electrostatic latent image on the latent image carrier with a powdery developer; a toner supplementing mechanism, attached to the developing unit with inclination to a gravitational direction of the apparatus, for supplementing toners to the developing unit; and a transfer unit for transferring the developed image on the latent image carrier to a sheet. With this design, the apparatus can stably supply toners to the developing unit, regardless of the position in which the apparatus is set.

0) US2002154480A – CARTRIDGE FOR ELECTRONIC DEVICES

122) Family number: 28826915 (US2002154480A) © PatBase

Title: Cartridge for electronic devices

Priority:

US19930026902 19930305
US20020128731 20020424
US20080016646 20080118
US20070684770 20070312
US20030727400 20031203
WO1992JP00649 19920520
US19950439633 19950512
US19990452625 19991201
US20080016616 20080118
US20050314726 20051220
US20030442873 20030521
US20020315781 20021210
US19970866195 19970530
US20040128731 20040424
US20040962364 20041008
US20090509644 20090727

Family:

Publication number	Publication date	Application number	Application date
DE69227522 D1	19981210	DE19926027522	19920520
DE69227522 T2	19990506	DE19926027522T	19920520
EP0608418 A1	19940803	EP19920910593	19920520
EP0608418 A4	19950802	EP19920910593	19920520
EP0608418 B1	19981104	EP19920910593	19920520
US2002154480 AA	20021024	US20020128731	20020424
US2003086245 AA	20030508	US20020315781	20021210
US2003198023 AA	20031023	US20030442873	20030521
US2004141294 AA	20040722	US20030727400	20031203
US2005047096 AA	20050303	US20040962364	20041008
US2006158858 AA	20060720	US20050314726	20051220
US2007177357 AA	20070802	US20070684770	20070312
US2008158829 AA	20080703	US20080016646	20080118
US2009185513 AA	20090723	US20080016616	20080118
US2009284913 AA	20091119	US20090509644	20090727
US5659459 A	19970819	US19950439633	19950512
US6025993 A	20000215	US19970866195	19970530
US6404639 BA	20020611	US19990452625	19991201
US6515864 BB	20030204	US20020128731	20020424
US6608753 BB	20030819	US20020315781	20021210
US6771509 BB	20040803	US20030442873	20030521
US6845014 BB	20050118	US20030727400	20031203
US7035108 BB	20060425	US20040962364	20041008
US7345883 BB	20080318	US20070684770	20070312
US7359202 BB	20080415	US20050314726	20051220
US7583505 BB	20090901	US20080016646	20080118
US7804688 BB	20100928	US20090509644	20090727
US8213431 BB	20120703	US20080016616	20080118
WO9323825 A1	19931125	WO1992JP00649	19920520

Probable Assignee: SEIKO ESPON CORP

Assignee(s):(std): BOEING CO ; FLEISCHMAN ERIC W ; SEIKO EPSON CORP ; WAKABAYASHI KENICHI ; TAKAYAMA CHITOSHI ; SHIOZAKI TADASHI ; SEIKO ESPON CORP

Assignee(s): SEIKO EPSON CORP TOKIO TOKYO JP

Inventor(s):(std): FLEISCHMAN ERIC W ; SHIOZAKI TADASHI ; TAKAYAMA CHITOSHI ; WAKABAYASHI KEN ICHI ; WAKABAYASHI KENICHI

Inventor(s): WAKABAYASHI KEN ICHI SUWA SHI NAGANO KEN 392 JP ; TAKAYAMA CHITOSHI SUWA SHI NAGANO KEN 392 JP ; SHIOZAKI TADASHI SUWA SHI NAGANO KEN 392 JP ; SEIKO EPSON CORP

Agent(s):

TOWNSEND AND TOWNSEND AND CREW LLP; HARNESS DICKEY AND PIERCE PLC

Designated states: AT BE CH DE DK ES FR GB GR IT JP LU MC NL SE

International class (IPC 8–9): G06K19/077 H04B7/00 H04L12/56 H05K7/20 (Advanced/Invention); H04B7/00 H05K7/20 (Core/Invention)

International class (IPC 1–7): G06F1/20 G06K19/00 G06K19/077 G11C5/04 H05K5/02 H05K7/20 H05K9/00

CPC: B41J29/377 G06K19/077 G06K19/07735 G06K19/07741 G06K19/07743 H05K5/0208 H05K5/0256 H05K7/20445 H04L65/4069 H04L65/607 H04L65/80 H04L1/0083

European class: B41J29/377 G06K19/077 G06K19/077E9 G06K19/077G4 G06K19/077K H04L1/00F2 H04L29/06M6E H05K5/02C H05K5/02H H05K7/20F2 H05K7/20F4B T04L29/06M4S T04L29/06M8

US class: 174/51 257/718 257/719 257/719S 358/1.16 361/679.32 361/679.54 361/679.540P 361/687 361/704 361/705 361/714 361/714S 361/719 361/719P 361/737 361/737S 361/753 361/818 365/52 370/310 370/310P 370/392 370/392S 711/115

Classification Explorer

Cited documents: WO0106732 A1, US7345883 BB, US7310685 BB, US7286479 BB, US7284162 BB, US7161929 BA, US7035108 BB, US6990111 BB, US6907039 BB, US6845014 BB, US6845014 BA, US6845014 B1, US6771509 BB, US6771509 BA, US6771509 B1, US6608753 BB, US6608753 BA, US6608753 B1, US6515864 BB, US6515864 BA, US6515864 B1, US6515823 BB, US6515823 BA, US6515823 B1, US6404639 BA, US6025993 A, US5659459 A, US5616085 A, US5615085 A, US5548487 A, US5526229 A, US5504669 A, US5481656 A, US5475563 A, US5474563 A, US5473506 A, US5437041 A, US5432913 A, US5424913 A, US5389819 A, US5289342 A, US5287247 A, US5262922 A, US5241453 A, US5227631 A, US5208732 A, US5198965 A, US5195176 A, US5187645 A, US5184211 A, US5162610 A, US5142614 A, US5138521 A, US5136464 A, US5136146 A, US5060112 A, US5031076 A, US5024264 A, US5016086 A, US4987478 A, US4962444 A, US4914551 A, US4887148 A, US4879632 A, US4872091 A, US4855869 A, US4849944 A, US4833570 A, US4823234 A, US4791608 A, US4771365 A, US4739444 A, US4729060 A, US4682566 A, US4649990 A, US464990 A, US4639829 A, US4636916 A, US4626980 A, US4626960 A, US4621304 A, US4563725 A, US4557225 A, US4545030 A, US454030 A, US4521829 A, US4517624 A, US4381552 A, US4323914 A, US4323478 A, US4137563 A, US4092697 A, US4029999 A, US4027206 A, US3993123 A, US325262 A, US3225262 A, US2011149838 AA, US2008212566 AA, US2006029074 AB, US2006029035 AA, US2005175009 AA, US2005041591 AA, US2004228343 AA, US2004181740 AA, US2004141294 AA, US2003198023 AA, US2003137974 AA, US2003086245 AA, JPS6350096, JPS63208251, JPS63184397, JPS63181385, JPS63167796, JPS63119554, JPS6245841, JPS621181, JPS61222763, JPS6032397, JPS60254641, JPS60173791, JPS59194458, JPS5830994, JPS58201349, JPS58162694, JPS58140691, JPS5775499, JPS5775498, JPS542834, JP64074797 A2, JP64074797, JP63292661 A2, JP63289999 A2, JP63284896 A2, JP63284869, JP63278261 A2, JP63208251 A2, JP63187796 U1, JP63184397 A2, JP63181385 A2, JP63167796 U1, JP63167796 A2, JP63119554 A2, JP63050096 A2, JP63020825 A2, JP62045841 U1, JP62045841 A2, JP62001181 A2, JP61222763 A2, JP60254841 A2, JP60254641 A2, JP60179791 A2, JP60173791 A2, JP60032397 A2, JP59194458 A2, JP58201349 A2, JP58162694 A2, JP58140691 A2, JP58030994 A2, JP57198798 A2, JP57075499 A2, JP57075498 A2, JP56129353 A2, JP54002834 A2, JP53091375 A2, JP363208251, JP36320825 A1, JP3182397, JP3036615, JP3022160 A2, JP3011409 A2, JP3006724 A2, JP2277700 A2, JP2253289 A2, JP2123798 U1, JP2123798, JP2119299 A2, JP2066962 A2, JP2066962, JP2058789 A2, JP1319194 A2, JP1319194, JP1298753 A2, JP1298753, JP1220898 A2, JP1220898, JP1200898 A2, JP1165415 A2, JP1140799 A2, JP1140799, JP1122195 A2, JP1122195, JP11066962 A2, JP1089791 U1, JP1089791 A2, JP1089791, JP1074797 A2, GBA2248973, GB2248973 A1, GB2164803 A1, FR2601791 A1, EP0198378 A2, DE9112099 U, DE9112099, DE3416348 A1, DE3237878 A1,

Forward Citations: WO09061948, WO04063867, WO04063867, WO0141521, USRE40154, USRE40150, USD769833, USD727861, USD700899, USD691101, USD673515, USD622663, USD617289, USD603352, USD576968, USD574337, USD562818, US9674987, US9635768, US9615490, US9578760, US9577759, US9485893, US9367297, US9362040, US9320162, US9258934, US9254531, US9215833, US9184850, US9142477, US9079434, US9076593, US9042120, US9035597, US9030822, US8971041, US8971038, US8964392, US8902582, US8885360, US8885334, US8849123, US8830665, US8810833, US8742255, US8727794, US8687371, US8681503, US8630093, US8614900, US8547703, US8515284, US8456842, US8432670, US8406142, US8368207, US8315043, US8314522, US8289721, US8244941, US8243454, US8218335, US8159956, US8086100, US8066528,

US8049319, US7864535, US7804688, US7782621, US7705873, US7705442, US7697300, US7696614, US7684620, US7646598, US7645005, US7583505, US7582959, US7542294, US7502229, US7490336, US7447004, US7433184, US7369413, US7359202, US7345883, US7292459, US7291783, US7255577, US7253365, US7193844, US7190589, US7145781, US7118281, US7103760, US7037011, US7035108, US6994478, US6974265, US6943854, US6942395, US6934150, US6904842, US6883971, US6882536, US6874953, US6865349, US6863547, US6863448, US6853560, US6851867, US6840680, US6832856, US6814502, US6811317, US6796715, US6782347, US6781847, US6781846, US6771509, US6767147, US6722908, US6704204, US6692159, US6669095, US6661664, US6659655, US6654828, US6644876, US6628529, US6608753, US6607308, US6585534, US6547570, US6522542, US6515871, US6515864, US6505665, US6487082, US6485322, US6449163, US6411514, US6404639, US6381136, US6351394, US6343020, US6272021, US6267606, US6252313, US6251219, US6250934, US6239973, US6220878, US6201704, US6195597, US6157538, US6089919, US6046905, US6043983, US6031718, US6026187, US6025993, US5973399, US5838542, US5807005, US2017094092, US2017023970, US2016119812, US2016106006, US2015319890, US2015264820, US2015109747, US2014298104, US2014268578, US2014252649, US2014016283, US2013271923, US2013107434, US2013083499, US2013058052, US2013044436, US2012155031, US2012044521, US2011292621, US2011289521, US2011242762, US2011216507, US2011205710, US2011103027, US2011013370, US2010102425, US2010039786, US2009287863, US2009284913, US2009251867, US2009225522, US2009215285, US2009190290, US2009184155, US2009116194, US2009097209, US2009091889, US2009067134, US2009034180, US2009032291, US2008316720, US2008266812, US2008225477, US2008158829, US2008158808, US2008144290, US2008125035, US2008100668, US2008023818, US2007249188, US2007243748, US2007218719, US2007217176, US2007188692, US2007177357, US2007153485, US2007153484, US2007147004, US2006234541, US2006215910, US2006203439, US2006185890, US2006158858, US2006139900, US2006139860, US2006104034, US2006082974, US2006064708, US2005248916, US2005183872, US2005151762, US2005120003, US2005088827, US2005047096, US2004267380, US2004232447, US2004219842, US2004179882, US2004127102, US2003231478, US2003215245, US2003198023, US2003174486, US2003169572, US2003139083, US2003096524, US2003040353, US2003030989, US2002171857, GB2378823, GB2378823, GB2334386, GB2334386, GB2327540, EP1785807, EP1785807, EP1429276, EP1282198, CN105375415, CN102833156, CN102833156,

Abstract:
Source: US2002154480A An add−on cartridge structure for electronic devices having a housing formed from upper and lower case sections. The upper case is typically made from plastic and has a conductive layer formed on inside surfaces, while the lower case is made from a metallic material such as aluminum. A wall−like mating member is disposed on an outer edge of the lower case, and mates with the sides of the upper case to form a nearly rectangular cross section housing. The double conductive layer formed by the outside surface of the mating member and the inside surface of the upper case prevents leakage of electromagnetic radiation from the cartridge. Furthermore, high frequency noise is prevented by grounding both the signal ground of the printed circuit board and the frame ground at multiple locations. The conductive layer has a surface break caused by a through−hole through which the printed circuit board plug protrudes to the outside. Such an opening tends to allow electromagnetic noise to leak outside of the casing, but by grounding the signal and frame grounds at locations near the ends and middle of the plug, harmful noise from electromagnetic radiation is reduced.

- List: SS4 1−50 (FT=toner and (secur* or attach* or fix*) and (hook* or latch* or lever* or clip) and cartridge) (Results 466)

0) US2009129813A – DEVELOPER SUPPLY CONTAINER AND DEVELOPER SUPPLY...

1) Family number: 33339196 (US2009129813A) © PatBase

Title: DEVELOPER SUPPLY CONTAINER AND DEVELOPER SUPPLYING SYSTEM

Priority:

EP20060715570	20060306	EP20060715571	20060306	EP20110192828	20060306
EP20110192824	20060306	EP20110192821	20060306	EP20130172409	20060306
JP20090114182	20090511	JP20050060317	20050304	JP20050345485	20051130
JP20060058893	20060306	JP20060058894	20060306	HK20080105369	20080514
EP20140168782	20060306	EP20140168782	20140519	JP20090114183	20090511
WO2006JP04819	20060306	US20080719483	20081111	US20100787833	20100526
US20090719361	20090226	US20120366612	20120206	US20120353602	20120119
US20120353642	20120119	US20120353655	20120119	US20060719361	20060306
RU20070136799	20071003	WO2006JP04820	20060306	US20130748800	20130124
US20060719483	20060306	US20130906529	20130531	US20140188949	20140225
WO2006JP304820	20060306	WO2006JP304819	20060306		

Family:

Publication number	Publication date	Application number	Application date
BRPI0608720 A2	20101207	BR2006PI08720	20060306
BRPI0609034 A2	20101116	BR2006PI09034	20060306
CN100594443 C	20100317	CN200680001423	20060306
CN101080677 A	20071128	CN200680001423	20060306
CN101080678 A	20071128	CN200680001424	20060306
CN101080678 B	20100407	CN200680001424	20060306
CN101706644 A	20100512	CN200910205695	20060306
CN101706644 B	20120822	CN200910205695	20060306
CN101770198 A	20100707	CN201010121269	20060306
CN101770198 B	20120606	CN201010121269	20060306
CN101776857 A	20100714	CN201010121288	20060306
CN101776857 B	20130807	CN201010121288	20060306
CN101788778 A	20100728	CN200910205693	20060306
CN101788778 B	20131113	CN200910205693	20060306
CN101794099 A	20100804	CN200910205694	20060306
CN101794099 B	20130807	CN200910205694	20060306
DE602006038342 D1	20131107	DE200660038342T	20060306
DE602006038536 D1	20131114	DE200660038536T	20060306
DE602006038627 D1	20131121	DE200660038627T	20060306
DE602006041663 D1	20140703	DE200660041663T	20060306
DE602006043339 D1	20141120	DE200660043339T	20060306
DE602006047382 D1	20151231	DE200660047382T	20060306
DE602006049168 D1	20160630	DE200660049168T	20060306
DK1859323 T3	20140630	DK20060715571T	20060306
DK2796936 T3	20160822	DK20140168782T	20060306
EP1859322 A1	20071128	EP20060715570	20060306
EP1859322 B1	20130911	EP20060715570	20060306
EP1859323 A1	20071128	EP20060715571	20060306
EP1859323 B1	20140521	EP20060715571	20060306
EP2428849 A2	20120314	EP20110192821	20060306
EP2428849 A3	20120801	EP20110192821	20060306
EP2428849 B1	20130918	EP20110192821	20060306
EP2428850 A2	20120314	EP20110192824	20060306
EP2428850 A3	20120801	EP20110192824	20060306
EP2428850 B1	20130925	EP20110192824	20060306

EP2428851 A2	20120314	EP20110192828	20060306	
EP2428851 A3	20120801	EP20110192828	20060306	
EP2428851 B1	20141008	EP20110192828	20060306	
EP2645177 A1	20131002	EP20130172409	20060306	
EP2645177 B1	20151118	EP20130172409	20060306	
EP2796936 A1	20141029	EP20140168782	20060306	
EP2796936 B1	20160518	EP20140168782	20060306	
EP3081991 A1	20161019	EP20160166855	20060306	
ES2435670 T3	20131220	ES20110192821T	20060306	
ES2436097 T3	20131227	ES20060715570T	20060306	
ES2436352 T3	20131230	ES20110192824T	20060306	
ES2474197 T3	20140708	ES20060715571T	20060306	
ES2524710 T3	20141211	ES20110192828T	20060306	
ES2554461 T3	20151221	ES20130172409T	20060306	
ES2582152 T3	20160909	ES20140168782T	20060306	
HK1110952 A1	20140117	HK20080105369	20080514	
HK1110952 A3	20080725	HK20080105369	20080514	
HK1110953 A1	20140815	HK20080105370	20080514	
HK1110953 A3	20080725	HK20080105370	20080514	
HK1163263 A1	20140124	HK20120103954	20080514	
HK1163264 A1	20150213	HK20120103955	20080514	
HK1163265 A1	20140124	HK20120103956	20080514	
HK1184550 A1	20160610	HK20130111750	20080514	
HK1198453 A1	20150424	HK20140111939	20141126	
HK1198453 A1	20170217	HK20140111939	20141126	
HU030025 T2	20170428	HU20140168782T	20060306	
IN02112CN2012 A	20130621	IN2012CN02112	20120307	
IN02114CN2012 A	20130621	IN2012CN02114	20120307	
IN04368CN2007 A	20080125	IN2007CN04368	20071004	
IN04372CN2007 A	20080125	IN2007CN04372	20071004	
IN251708 B	20120406	IN2007CN04372	20071004	
IN251976 B	20120427	IN2007CN04368	20071004	
JP2007178971 A2	20070712	JP20060058893	20060306	
JP2007178972 A2	20070712	JP20060058894	20060306	
JP2009175759 A2	20090806	JP20090114182	20090511	
JP2009175760 A2	20090806	JP20090114183	20090511	
JP4324174 B2	20090902	JP20060058893	20060306	
JP4328773 B2	20090909	JP20060058894	20060306	
JP4388132 B2	20091224	JP20090114182	20090511	
JP4388133 B2	20091224	JP20090114183	20090511	
KR101281900 B1	20130703	KR20117005299	20060306	
KR101285431 B1	20130712	KR20117005362	20060306	
KR101340731 B1	20131212	KR20117005298	20060306	
KR101340816 B1	20131211	KR20077020115	20060306	
KR101340834 B1	20131211	KR20077020113	20060306	
KR101341724 B1	20131216	KR20117005382	20060306	
KR101349988 B1	20140113	KR20117005392	20060306	
KR101368151 B1	20140228	KR20127032174	20060306	
KR101472240 B1	20141211	KR20137019684	20060306	
KR101556871 B1	20151001	KR20147014126	20060306	

KR101582016 B1	20151231	KR20137022795	20060306	
KR101582433 B1	20160111	KR20147017397	20060306	
KR20070106749 A	20071105	KR20077020113	20060306	
KR20070108220 A	20071108	KR20077020115	20060306	
KR20110028667 A	20110321	KR20117005299	20060306	
KR20110028669 A	20110321	KR20117005362	20060306	
KR20110028670 A	20110321	KR20117005382	20060306	
KR20110031254 A	20110324	KR20117005298	20060306	
KR20110031255 A	20110324	KR20117005392	20060306	
KR20130001742 A	20130104	KR20127032174	20060306	
KR20130095847 A	20130828	KR20137019684	20060306	
KR20130106445 A	20130927	KR20137022795	20060306	
KR20140084288 A	20140704	KR20147014126	20060306	
KR20140097456 A	20140806	KR20147017397	20060306	
KR20150038616 A	20150408	KR20157005880	20060306	
KR20150052352 A	20150513	KR20157010600	20060306	
KR20160130865 A	20161114	KR20167030821	20060306	
PL2796936 T3	20161130	PL20140168782T	20060306	
PT1859323 T	20140716	PT20060715571T	20060306	
PT2796936 T	20160714	PT20140168782T	20060306	
RU2007136793 A	20090410	RU20070136793	20060306	
RU2007136799 A	20090410	RU20070136799	20060306	
RU2010147677 A	20120527	RU20100147677	20101122	
RU2012143627 A	20140420	RU20120143627	20121011	
RU2014112313 A	20151010	RU20140112313	20140331	
RU2398257 C2	20100827	RU20070136793	20060306	
RU2414734 C2	20110320	RU20070136799	20060306	
RU2472200 C2	20130110	RU20100147677	20101122	
RU2519783 C2	20140620	RU20120143627	20121011	
SI1859323 T1	20140930	SI20060031797T	20060306	
SI2796936 T1	20160930	SI20060032089	20060306	
TR201610864 T4	20160822	TR20160010864T	20060306	
TW200702184 A	20070116	TW20060107512	20060306	
TW200900249 A	20090101	TW20080123356	20060306	
TW200902325 A	20090116	TW20080123360	20060306	
TW200918321 A	20090501	TW20080123362	20060306	
TW201111177 A	20110401	TW20100141039	20060306	
TWI315263 B	20091001	TW20060107512	20060306	
TWI335867 B	20110111	TW20080123362	20060306	
TWI339619 B	20110401	TW20080123360	20060306	
TWI353305 B	20111201	TW20080123356	20060306	
TWI380907 B	20130101	TW20100141039	20060306	
US2009129813 AA	20090521	US20060719483	20060306	
US2009297226 AA	20091203	US20060719361	20060306	
US2010278564 AA	20101104	US20100787833	20100526	
US2012134717 AA	20120531	US20120353602	20120119	
US2012134718 AA	20120531	US20120353642	20120119	
US2012134719 AA	20120531	US20120353655	20120119	
US2012134720 AA	20120531	US20120366612	20120206	
US2013136505 AA	20130530	US20130748800	20130124	

US2013336680 AA	20131219	US20130906529	20130531	
US2014169838 AA	20140619	US20140188949	20140225	
US7848685 BB	20101207	US20060719483	20060306	
US8190068 BB	20120529	US20060719361	20060306	
US8320801 BB	20121127	US20120353642	20120119	
US8369753 BB	20130205	US20100787833	20100526	
US8463164 BB	20130611	US20120353655	20120119	
US8472848 BB	20130625	US20120353602	20120119	
US8509658 BB	20130813	US20120366612	20120206	
US8693926 BB	20140408	US20130748800	20130124	
WO06093361 A1	20060908	WO2006JP304819	20060306	
WO06093362 A1	20060908	WO2006JP304820	20060306	

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK ; NAGASHIMA TOSHIAKI ; MURAKAMI KATSUYA ; OKINO AYATOMO

Assignee(s): KEHNON KABUSIKI KAJSJA ; CANON INC ; CANON K K ; CANON KABUSHIKI KAISHA ; CANON KABUSHIKI KAISHAJP

Inventor(s):(std)**:** TOSHIAKI NAGASHIMA ; OKINO NORITOMO ; OKINO AJATOMO ; NAGASIMA TOSIAKI ; MURAKAMI TAKEYA ; MURAKAMI KATSUJA ; KATSUYA MURAKAMI ; AYATOMO OKINO ; TAKEYA MURAKAMI ; OKINO AJAMOTO ; NORITOMO OKINO ; MURAKAMI KATSUYA ; NAGASHIMA TOSHIAKI ; OKINO AYATOMO

Inventor(s): OKINO AYATOMO TOKYO ; NAGASHIMA TOSHIAKI TOKYO ; MURAKAMI KATSUYA TOKYO

Agent(s): TBK; DURAN CARLOS; ELISAVET YAKOVIDIS CINLEMEZ; FITZPATRICK CELLA HARPER AND SCINTO

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT KE KG KM KN KP KR KZ LC LI LK LR LS LT LU LV LY MA MC MD MG MK ML MN MR MW MX MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RU SC SD SE SG SI SK SL SM SN SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

International class (IPC 8–9): B41F31/20 B41J23/14 B41F31/02 B65D83/06 G03G15/00 G03G15/04 G03G15/08 G03G15/18 G03G21/18 (Advanced/Invention);
G03G15/08 (Advanced/Non–invention);
B65D83/06 G03G15/00 G03G15/04 G03G15/08 (Core/Invention);
B41F31/02 B41F31/20 B41J23/14 G03G15/08 (Core/Non–invention);
G03G (Subclass/Invention)

International class (IPC 1–7): G03G15/08

CPC: G03G21/1647 G03G2221/1657 G03G15/0865 G03G15/0887 G03G15/0877 G03G21/1676 G03G15/08 G03G15/0808 G03G21/1832 G03G15/0822 G03G15/0836 G03G15/0867 G03G15/087 G03G15/0872 G03G2215/0802

European class: G03G15/08H3C G03G15/08H3C1 S03G221/16K2

US class: 399/119 399/119P 399/258 399/258P 399/260 399/262 399/262P 399/262S 399/263

Classification Explorer

Cited documents: WO8905231 A1, US8190068 BB, US8131189 BB, US7957679 BB, US7848685 BB, US7796923 BB, US7773919 BB, US7764909 BB, US7412192 BB, US7266330 BB, US6985686 BB, US6879789 BB, US6839533 BB, US6788912 BB, US6785497 BA, US6766133 BA, US6704533 BB, US6603939 BA, US6493516 BB, US6438345 BA, US6418290 BA, US6298208 BA, US6256469 BA, US5966574 A, US5842093 A, US5832343 A, US5797073 A, US5659860 A, US5593068 A, US5235389 A, US5036341 A, US2012114393 AA, US2011194876 AA, US2010278565 AA, US2010278564 AA, US2010027856 AA, US2008304872 AA, US2008304871 AA, US2008304870 AA, US2007280743 AA, US2007104505 AA, US2007036565 AA, US2006193658 AA, US2006104671 AA, US2005271426 AA, US2005135842 AA, US2005008400 AA, US2004223790 AA, US2004208668 AA, US2003223782 AA, US2002141788 AA, US2002003974 AA, TW556058 B, TW556058, TW377664 Y, RU2057028 C1, JPS5346040, JP8185034 A2, JP7168435 A2, JP6035321 A2, JP53046040 A2,

JP3288875 A2, JP2004170747 A2, JP2004170747 A, JP2004170747, JP2003107892 A2, JP2003107892, JP2003107892, JP2001201925, JP200105272, JP11184242, JP0862980, JP07199620, JP0603392 Y2, EP2796936 A1, EP1859322 A1, EP1818729 A1, EP1533664 A1, EP1437632 A1, EP14168782, EP1022621 B1, EP0864945 A1, EP06715571, EP06715570, EP0670530 B1, EP0670530 A2,

Forward Citations: WO13044756, USD618721, USD618720, US9639028, US9639026, US9618879, US9612569, US9612553, US9612552, US9612551, US9612548, US9606504, US9606503, US9606473, US9605734, US9599954, US9599953, US9599929, US9594329, US9581937, US9563169, US9547258, US9513576, US9482988, US9482987, US9477178, US9465317, US9411268, US9389538, US9360797, US9280088, US9146499, US9052688, US9031451, US9008555, US8983341, US8909093, US8792809, US8792804, US8781372, US8712293, US8676096, US8649711, US8606140, US8548360, US8472848, US8463164, US8380111, US8369742, US8320801, US8213838, US8190068, US8180259, US8160471, US8131189, US7983590, US7957679, US2015227082, US2015063872, US2015010334, US2014241758, US2013195510, US2013129389, US2012263504, US2012219330, US2012134719, US2012099904, US2011217067, US2011194876, US2011150536, US2010278565, US2010119265, US2009297226, US2009214268, US2009185824, US2009087215, TWI432340, TWI407272, KR101365666, JP5110219, JP4908932, JP4886366, JP4370540, JP2010211025, JP2007322992, JP2007322991, EP3081991, EP2428851, EP2428850, EP2428849, EP2228689, EP2028559, CN103425020, CN103425020, CN102269958, CN102269958, CN102269957, CN101833270, CN101833270, AU2010200496,

Abstract:
Source: US2009129813A A developer supply container detachably mountable to a developer receiving apparatus and settable in a developer receiving apparatus by a setting operation including at least a rotation toward a setting position, includes a containing portion for containing the developer; a rotatable discharging member for discharging the developer out of said containing portion; drive transmitting means, engageable with a driving gear provided in said developer receiving apparatus and rotatable in a direction opposite the setting direction, for transmitting a rotating force from said driving gear to said discharging member.

0) US2005135838A – REMOVABLE TONER CARTRIDGE UNIVERSAL ADAPTER

2) Family number: 32021031 (US2005135838A) © PatBase

Title: REMOVABLE TONER CARTRIDGE UNIVERSAL ADAPTER

Priority:

CA20042548821	20040826	CA20042649082	20040826	CA20042686399	20040826
CA20042687354	20040826	CA20042706915	20040826	CA20042706645	20040826
CA20042686405	20040826	CA20042714018	20040826	CA20042714039	20040826
US20050160894	20050714	EP20040782220	20040826	CA20052561070	20050401
EP20050735117	20050401	US20050120685	20050503	US20050120684	20050503
US20050120493	20050503	US20040521326P	20040401	US20030742323	20031219
CA20052681904	20050401	CA20092561070	20091110	CA20102548821	20100927
US20060279814	20060414	US20050161192	20050726	US20060382577	20060510
US20060532646	20060918	US20060382593	20060510	US20060382593	20060510
US20070757161	20070601	US20050162930	20050928	US20060382589	20060510
US20080013387	20080111	US20080043892	20080306	US20080043900	20080306
US20080043902	20080306	US20080043886	20080306	US20080122098	20080516
US20080043896	20080306	US20090616624	20091111	US20050907471	20050401
US20060614279	20061221	US20050162878	20050927	US20060334980	20060119
US20060537080	20060929	US20050907470	20050401	US20060279819	20060414
WO2005US11160	20050401	US20090618312	20091113	US20100707355	20100217
US20100721795	20100311	WO2004US27687	20040826	US20100780553	20100514
US20100793471	20100603	US20100815211	20100614	US20100852207	20100806
US20110010673	20110120	US20110008777	20110118	US20110243879	20110923
US20120566762	20120803				

Family:

Publication number	Publication date	Application number	Application date
BRPI0417289 A	20070724	BR2004PI17289	20040826
BRPI0508061 A	20070717	BR2005PI08061	20050401
CA2548821 AA	20060607	CA20042548821	20040826
CA2548821 C	20101214	CA20042548821	20040826
CA2561070 AA	20060925	CA20052561070	20050401
CA2561070 C	20100316	CA20052561070	20050401
CA2649082 AA	20050728	CA20042649082	20040826
CA2649082 C	20100316	CA20042649082	20040826
CA2681904 AA	20051020	CA20052681904	20050401
CA2681904 C	20130625	CA20052681904	20050401
CA2686399 AA	20050728	CA20042686399	20040826
CA2686399 C	20121023	CA20042686399	20040826
CA2686405 AA	20050728	CA20042686405	20040826
CA2686405 C	20111101	CA20042686405	20040826
CA2686685 AA	20050728	CA20042686685	20040826
CA2687354 AA	20050728	CA20042687354	20040826
CA2687354 C	20120424	CA20042687354	20040826
CA2706645 AA	20050728	CA20042706645	20040826
CA2706645 C	20111101	CA20042706645	20040826
CA2706915 AA	20050728	CA20042706915	20040826
CA2706915 C	20121023	CA20042706915	20040826
CA2714018 AA	20050728	CA20042714018	20040826
CA2714018 C	20130730	CA20042714018	20040826
CA2714039 AA	20050728	CA20042714039	20040826
CA2714039 C	20130813	CA20042714039	20040826
CA2714098 AA	20050728	CA20042714098	20040826
CA2714124 AA	20050728	CA20042714124	20040826
EP1695153 A2	20060830	EP20040782220	20040826
EP1695153 A4	20080924	EP20040782220	20040826

EP1730601 A2	20061213	EP20050735117	20050401	
EP1730601 A4	20100217	EP20050735117	20050401	
EP2058707 A2	20090513	EP20090153638	20040826	
EP2058707 A3	20100901	EP20090153638	20040826	
EP2196865 A2	20100616	EP20100158326	20050401	
EP2196865 A3	20100901	EP20100158326	20050401	
EP2228688 A2	20100915	EP20100165930	20040826	
EP2228688 A3	20121219	EP20100165930	20040826	
EP2530530 A2	20121205	EP20120178254	20040826	
EP2530530 A3	20150513	EP20120178254	20040826	
US2005135838 AA	20050623	US20030742323	20031219	
US2005163530 AA	20050728	US20050907470	20050401	
US2005163536 AA	20050728	US20050907471	20050401	
US2006153598 AA	20060713	US20060279819	20060414	
US2006153599 AA	20060713	US20060279814	20060414	
US2007014592 AA	20070118	US20060532646	20060918	
US2007019987 AA	20070125	US20060537080	20060929	
US2007127936 AA	20070607	US20060614279	20061221	
US2007223942 AA	20070927	US20070757161	20070601	
US2008145111 AA	20080619	US20080013387	20080111	
US2008152377 AA	20080626	US20080043886	20080306	
US2008152381 AA	20080626	US20080043892	20080306	
US2008152382 AA	20080626	US20080043900	20080306	
US2008152383 AA	20080626	US20080043902	20080306	
US2008212994 AA	20080904	US20080122098	20080516	
US2008304859 AA	20081211	US20080043896	20080306	
US2010053683 AA	20100304	US20090616624	20091111	
US2010061761 AA	20100311	US20090618312	20091113	
US2010143012 AA	20100610	US20100707355	20100217	
US2010162842 AA	20100701	US20100721795	20100311	
US2010221035 AA	20100902	US20100780553	20100514	
US2010247141 AA	20100930	US20100793471	20100603	
US2010254727 AA	20101007	US20100815211	20100614	
US2010310273 AA	20101209	US20100852207	20100806	
US2011110681 AA	20110512	US20110008777	20110118	
US2011116811 AA	20110519	US20110010673	20110120	
US2012014712 AA	20120119	US20110243879	20110923	
US2012301184 AA	20121129	US20120566762	20120803	
US7039345 BB	20060502	US20050907471	20050401	
US7068954 BA	20060627	US20050160894	20050714	
US7106993 BA	20060912	US20050161192	20050726	
US7113710 BB	20060926	US20060279814	20060414	
US7113710 C1	20121226	US20060279814	20060414	
US7136607 BA	20061114	US20060382577	20060510	
US7136608 BB	20061114	US20030742323	20031219	
US7174123 BA	20070206	US20050120684	20050503	
US7177565 BA	20070213	US20050120493	20050503	
US7177567 BB	20070213	US20050907470	20050401	
US7187874 BA	20070306	US20060334980	20060119	
US7221886 BA	20070522	US20060382593	20060510	

US7257356 BB	20070814	US20060532646	20060918	
US7257356 C1	20121002	US20060532646	20060918	
US7286774 BA	20071023	US20050162878	20050927	
US7319833 BA	20080115	US20050162930	20050928	
US7356279 BB	20080408	US20070757161	20070601	
US7362988 BA	20080422	US20060382589	20060510	
US7373096 BA	20080513	US20050120685	20050503	
US7447464 BB	20081104	US20060279819	20060414	
US7512360 BB	20090331	US20080013387	20080111	
US7526234 BB	20090428	US20080043892	20080306	
US7551859 BB	20090623	US20060614279	20061221	
US7565097 BB	20090721	US20080043902	20080306	
US7639964 BB	20091229	US20080043886	20080306	
US7643773 BB	20100105	US20080122098	20080516	
US7643773 C1	20121015	US20080122098	20080516	
US7647007 BB	20100112	US20080043900	20080306	
US7664432 BB	20100216	US20080043896	20080306	
US8045884 BB	20111025	US20100815211	20100614	
WO05067440 A2	20050728	WO2004US27687	20040826	
WO05067440 A3	20060119	WO2004US27687	20040826	
WO05098549 A2	20051020	WO2005US11160	20050401	
WO05098549 A3	20081113	WO2005US11160	20050401	
WO05098550 A1	20051020	WO2005US11177	20050401	

Probable Assignee: ADVANCED CARTRIDGE TECHNOLOGIES LLC

Assignee(s):(std)**:** CARTRIDGE CORP OF AMERICA IN ; CARTRIDGE CORP OF AMERICA INC ; CARTRIDGE OF AMERI CORP ; MILLER STEVEN ; SCHNELL HERMAN ; SOFTWARE CORP OF AMERICA INC

Assignee(s): CARTRIDGE OF AMERICA IN CORP ; INNOVATIVE CARTRIDGE TECHNOLOGIES ; INNOVATIVE CARTRIDGE TECHNOLOGIES INC ; STATIC CONTROL COMPONENTS INC ; IMAGING TECHNOLOGIES HOLDING LLC ; GLOBAL INNOVATIONS LLC ; WHITNEY NATIONAL BANK ; UNIVERSAL IMAGING HOLDINGS LLC ; UNIVERSAL IMAGING PROPERTIES LLC ; CARTRIDGE OF AMERICA INC CORP ; STEVEN MILLER ; SOFTWARE OF AMERICA INC CORP ; CARTRIDGE CORPORATIONS OF AMERICA INC ; ADVANCED CARTRIDGE TECHNOLOGIES LLC ; AMERICAN IMAGING CARTRIDGE LLC

Inventor(s):(std)**:** CARTRIDGE CORPORATION OF AMERI ; CARTRIDGE OF AMERI CORP ; MILLER STEVEN ; SCHNELL HERMAN

Inventor(s): STEVEN MILLER ; CARTRIDGE OF AMERICA INC CORP ; CARTRIDGE CORPORATION OF AMERICA INC

Agent(s): FINLAYSON AND SINGLEHURST; MEISSNER BOLTE AND PARTNER; MEISSNER BOLTE AND PARTNER GBR; SMITH AND HOPEN PA; SMITH HOPEN PA; STEVEN MILLER; JESSE DELCAMP; THOMAS E; TONER THOMAS E; DELCAMP JESSE; JESSE; JESSE E

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LI LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NA NE NI NL NO NZ OM PG PH PL PT RO RU SC SD SE SG SI SK SL SM SN SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

International class (IPC 8–9): B23P11/00 B41J2/41 B41J29/393 F16H1/20 F16H55/02 F16H57/00 G01D15/28 G03G15/00 G03G15/04 G03G15/06 G03G15/08 G03G15/10 G03G21/00 G03G21/12 G03G21/16 G03G21/18 G03G9/00 G03G9/08 G06F3/12 (Advanced/Invention); B41J2/41 B41J29/393 G01D15/00 G03G15/00 G03G15/04 G03G15/08 G03G15/10 G03G21/00 G03G21/18 G03G9/08 (Core/Invention)

International class (IPC 1–7): G03G15/00 G03G15/08 G03G21/18

CPC: G03G15/0863 G03G21/1892 G03G15/0855 G03G15/0865 G03G15/0868 G03G15/0877 G03G15/0856 G03G15/0862 G03G15/0889 G03G15/0875 G03G2215/0695 G03G2215/0634 G03G2215/0802 G03G21/1857 G03G2221/1624 G03G15/0898 G03G15/0817 G03G2221/166 G03G15/0896 G03G21/1867 G03G21/181 G03G21/1821 G03G2215/085 G03G2215/0888 G03G21/12 G03G15/0894 G03G21/1652 G03G21/1878 G03G21/1896 G03G2215/0697 G03G2215/0852 G03G2221/1815 G03G2221/1823 Y10T29/49826 Y10T74/19642

European class: G03G15/08F6 G03G15/08H2 G03G15/08H3 G03G15/08H3B G03G15/08H3D G03G15/08R G03G15/08S G03G15/08S1 G03G15/50F G03G21/12 G03G21/16C2 G03G21/18C2 G03G21/18C4C G03G21/18H2 G03G21/18H3 G03G21/18L1 G03G21/18L2 S03G215/06B S03G215/06C8 S03G215/06C8E S03G215/08A S03G215/08A5 S03G215/08A5A S03G215/08D S03G221/16C2 S03G221/16K3 S03G221/18C S03G221/18E

US class: 29/428 29/428S 347/152 347/19 358/1.15 358/1.150P 399/103 399/105 399/107 399/107P 399/109 399/109P 399/110 399/110P 399/111 399/111P 399/113 399/113P 399/114 399/117 399/117P 399/119 399/12 399/120 399/120P 399/12P 399/13 399/167 399/222 399/24 399/25 399/254 399/254P 399/258 399/258P 399/260 399/262 399/262P 399/262S 399/263 399/27 399/360 399/360P 399/61 399/90 399/90P 74/412.00RP 74/412R

Classification Explorer

Cited documents: WO0002096 A1, US7643773 BB, US7565097 BB, US7526234 BB, US7356279 BB, US7286774 BA, US7257356 BB, US7254346 BB, US7232209 BB, US7221878 BB, US7187874 BA, US7136608 BB, US7113710 BB, US7106993 BA, US7099606 BB, US7088928 BB, US7068963 BB, US7054577 BB, US7047635 BB, US6980753 BB, US6947685 BB, US6941082 BB, US6940613 BA, US6934489 BB, US6931216 BB, US6912365 BB, US6912365 BA, US6904400 BA, US6904248 BB, US6904248 BA, US6904248 B1, US6882810 BB, US6882810 BA, US6876826 BB, US6876826 BA, US6856775 BB, US6832056 BB, US6826380 BB, US6826380 BA, US6801733 BB, US6782222 BB, US6782222 BA, US6771922 BB, US6771922 BA, US6771922 B1, US6751428 BB, US6735405 BB, US6721520 BB, US6714749 BB, US6701107 BB, US6701107 BA, US6701096 BB, US6684039 BA, US6678481 BB, US6678481 BA, US6678481 B1, US6671476 BA, US6654569 BB, US6654569 BA, US6654569 B1, US6654567 BB, US6654567 BA, US6646571 BA, US6643482 BB, US6641134 BA, US6636702 BB, US6603933 BA, US6556792 BB, US6556792 BA, US6556792 B1, US6546213 BB, US6546213 BA, US6546213 B1, US6539867 BB, US6529691 BB, US6519430 BB, US6459876 BA, US6406128 BB, US6397015 BB, US6389243 BB, US6385407 BA, US6343192 BA, US6330410 BA, US6321048 BA, US6289189 BA, US6263170 BA, US6246841 BA, US6226476 BA, US6181885 BA, US6181885 B1, US6175706 BA, US6175706 B1, US6173140 BA, US6173140 B1, US6137966 A, US6104888 A, US6070029 A, US6064846 A, US6064842 A, US6029019 A, US6018637 A, US6016409 A, US6009289 A, US5995774 A, US5966566 A, US5937239 A, US5909603 A, US5907753 A, US5907752 A, US5907748 A, US5899602 A, US5878317 A, US5878309 A, US5875378 A, US5870654 A, US5867751 A, US5845176 A, US5815644 A, US5807005 A, US5787323 A, US5784671 A, US5768661 A, US5754923 A, US5745824 A, US5652647 A, US5634169 A, US5614996 A, US5579088 A, US5485249 A, US5479467 A, US5446525 A, US5365315 A, US5331378 A, US5331377 A, US5298952 A, US5294960 A, US5268720 A, US5119137 A, US5089853 A, US4961088 A, US4949983 A, US4771313 A, US4739367 A, US2010061761 AA, US2008120216 AA, US2007106523 AA, US2005036800 AA, US2005025522 AA, US2004114959 AA, US2003215261 AA, US2003212565 AA, US2003185587 AA, US2003170045 AA, US2003161658 AA, US2003161654 AA, US2003123896 AA, US2003091361 AA, US2003063311 AA, US2003049046 AA, US2003035017 AA, US2002110379 AA, US2002064395 AA, US2002031359 AA, US2001041079 AA, US10742323, JP7098538 A2, JP2003084631 A2, JP2003057888 A2, JP2002108086 A2, JP2001305935 A2, JP2001175080 A2, JP11237821 A2, JP11084850 A2, GB2389196 A1, GB2354735 A1, EP1363168 A2, EP1146609 A2,

Forward Citations: WO17083223, WO17002355, WO15039432, WO15030812, WO15016875, WO14110384, WO14107369, WO14004189, WO14003828, WO13184102, WO13120441, WO12024355, WO12024355, WO11127820, WO11110044, WO11091025, WO11053426, WO11016895, WO10068612, WO09110693, WO09097258, WO06020217, USD627389, USD597129, USD590012, USD590011, USD580968, USD578155, USD560713, US9690230, US9658590, US9645546, US9619663, US9599945, US9581938, US9575460, US9563169, US9557684, US9551974, US9542222, US9535373, US9529319, US9519243, US9494914, US9494913, US9465351, US9429899, US9417603, US9395684, US9389582, US9360835, US9360834, US9357091, US9342047, US9335656, US9329525, US9298130, US9291989, US9280124, US9280084, US9250590, US9207632, US9203980, US9195207, US9170559, US9152080, US9141816, US9128444, US9128443, US9128414, US9104134, US9098216, US9098015, US9079410, US9069327, US9069286, US9063506, US9046868,

US9046822, US9046817, US9031424, US9030682, US9020399, US9020398, US9020397, US9020396, US8989611, US8977163, US8938179, US8926869, US8909095, US8879953, US8873999, US8867966, US8862027, US8855527, US8714849, US8712259, US8666263, US8606124, US8599424, US8554090, US8532506, US8472815, US8453260, US8394563, US8386781, US8346103, US8332934, US8330966, US8311420, US8311419, US8281983, US8275285, US8177340, US8176549, US8160476, US8160473, US8150275, US8116657, US8099012, US8069478, US8069477, US8045884, US7965957, US7894729, US7829840, US7792438, US7788490, US7693448, US7664432, US7647007, US7643773, US7627257, US7596340, US7515837, US7512360, US7509081, US7496314, US7373096, US7346297, US7319828, US7254346, US2017075295, US2016214391, US2016187813, US2016048704, US2015185662, US2015071434, US2015023694, US2015003877, US2015003858, US2013317668, US2013170875, US2013164032, US2013070301, US2013064570, US2013064568, US2012327455, US2012327451, US2012321338, US2012173051, US2012134687, US2012134686, US2011315758, US2011236064, US2011206387, US2011176850, US2011128567, US2011109938, US2011075189, US2011004768, US2011004746, US2011002002, US2010322641, US2010254727, US2010247141, US2010232815, US2010214597, US2010162842, US2010141715, US2010125844, US2010107909, US2010107908, US2010061761, US2010053684, US2010053683, US2010045762, US2009222886, US2009222664, US2009220077, US2009219559, US2009190962, US2009154951, US2009154950, US2009110815, US2008305422, US2008304859, US2008253799, US2008219698, US2008212994, US2008199222, US2008187358, US2008175624, US2008170866, US2008152382, US2008145112, US2008145111, US2008131163, US2008098218, US2008050129, US2007279464, US2007269225, US2007264040, US2007147853, US2007092269, US2006245767, US2006224889, US2006204284, US2006188273, RU2584826, GB2485889, GB2485889, GB2485888, GB2485888, FR2956490, EP3040780, EP2829923, EP2798408, EP2710649, EP2525980, EP2365397, EP2250605, EP2250605, EP2250605, EP2250600, EP2250600, EP1782131, EA024354, EA023481, CN105431837, CN103268060, CN102858551, CN102858551, CN102689530, CN102689530, CN102555552, CN102555552, CN102442073, CN102063034, CN102063031, AU2011207606,

Abstract:
Source: US2005135838A A universal adapter for a toner cartridge enables a single toner cartridge to be used with printers made by different manufacturers and differing printer models made by a common manufacturer. The toner cartridge includes a waste bin having a leading end that is sculpted to mate with the cartridge−receiving cavities of a large number of printers. Additional improvements include an improved planar having a common thickness along its extent, the elimination of a pivotal motion between the waste bin and the hopper, an enhanced interconnection between the waste bin and the hopper, improved ergonomics along a trailing edge of the waste bin to facilitate its handling, a structure that prevents mounting of a circuit board over a host circuit board, reduced friction media guide ribs, an improved circuit board mounting pad, and a microswitch actuating tab that functions even in a printer with worn hinges and latches.

3) Family number: 54260433 (US2013170864A) © PatBase

Title: TONER CARTRIDGE HAVING A SHUTTER LOCK MECHANISM

Priority:

CA20122854191	20121115	CA20152854191	20151124	US20110340876	20111230
US20110340881	20111230	US20110340797	20111230	CN201280065546	20121115
US20110340935	20111230	US20130780042	20130228	US20140489551	20140918
US20110340911	20111230	US20110340884	20111230	US20140571396	20141216
US20150886198	20151019	US20160072582	20160317	WO2012US65149	20121115
WO2012US65148	20121115	WO2012US65152	20121115	US20160364379	20161130

Family:

Publication number	Publication date	Application number	Application date
AR089368 AA	20140820	AR2012P104868	20121220
AR089370 AA	20140820	AR2012P104870	20121220
AU2012362980 AA	20130704	AU20120362980	20121115
AU2012362980 BB	20151022	AU20120362980	20121115
AU2012363069 AA	20130704	AU20120363069	20121115
AU2012363069 BB	20141127	AU20120363069	20121115
CA2854191 AA	20140430	CA20122854191	20121115
CA2854191 C	20160112	CA20122854191	20121115
CA2854353 AA	20140501	CA20122854353	20121115
CA2910823 AA	20130704	CA20122910823	20121115
CL2014001369 A1	20141103	CL20140001369	20140523
CN104380212 A	20150225	CN201280065546	20121115
CN104380212 B	20160713	CN201280065546	20121115
CN104412169 A	20150311	CN201280065436	20121115
CN104508568 A	20150408	CN201280065035	20121115
CN106019896 A	20161012	CN201610453482	20121115
CO7030943 A2	20140821	CO20140111804	20140523
EP2798409 A2	20141105	EP20120862759	20121115
EP2798409 A4	20160713	EP20120862759	20121115
EP2798411 A2	20141105	EP20120863609	20121115
EP2798411 A4	20160113	EP20120863609	20121115
HK1204095 A1	20151106	HK20150104267	20150505
HK1204096 A1	20151106	HK20150104268	20150505
HK1204098 A1	20151106	HK20150104270	20150505
IL232579 A0	20140630	IL20140232579	20140513
IN05922DN2014 A	20150605	IN2014DN05922	20140715
IN05926DN2014 A	20150612	IN2014DN05926	20140715
KR101554462 B1	20150921	KR20147018258	20121115
KR20140119009 A	20141008	KR20147018258	20121115
MX2014007522 A1	20140904	MX20140007522	20121115
MX2014007765 A1	20140922	MX20140007765	20121115
MX2014007808 A1	20140925	MX20140007808	20121115
MX337200 B	20160217	MX20140007765	20121115
NZ624384 A	20150529	NZ20120624384	20121115
NZ624385 A	20160729	NZ20120624385	20121115
RU2014118413 A	20160220	RU20140118413	20121115
RU2014118417 A	20160220	RU20140118417	20121115
RU2589769 C2	20160710	RU20140118413	20121115
RU2606929 C2	20170110	RU20140118417	20121115

SG11201402377P A1	20140828	SG20141102377	20121115	
SG11201402378Q A1	20140828	SG20141102378	20121115	
TW201339001 A	20131001	TW20120141115	20121106	
TW201341209 A	20131016	TW20120141117	20121106	
TWI515121 B	20160101	TW20120141117	20121106	
TWI581980 B	20170511	TW20120141115	20121106	
US2013170864 AA	20130704	US20110340876	20111230	
US2013170868 AA	20130704	US20110340935	20111230	
US2014241758 AA	20140828	US20130780042	20130228	
US2015003877 AA	20150101	US20140489551	20140918	
US2015098733 AA	20150409	US20140571396	20141216	
US2016041499 AA	20160211	US20150886198	20151019	
US2016195833 AA	20160707	US20160072582	20160317	
US2017075295 AA	20170316	US20160364379	20161130	
US8867966 BB	20141021	US20110340935	20111230	
US8948650 BB	20150203	US20110340876	20111230	
US9031451 BB	20150512	US20130780042	20130228	
US9207577 BB	20151208	US20140571396	20141216	
US9298130 BB	20160329	US20140489551	20140918	
US9323178 BB	20160426	US20150886198	20151019	
US9541860 BB	20170110	US20160072582	20160317	
US9658590 BB	20170523	US20160364379	20161130	
WO13101350 A2	20130704	WO2012US65149	20121115	
WO13101350 A3	20150108	WO2012US65149	20121115	
WO13101351 A2	20130704	WO2012US65152	20121115	
WO13101351 A3	20150625	WO2012US65152	20121115	
WO14133816 A2	20140904	WO2014US16775	20140218	
WO14133816 A3	20151029	WO2014US16775	20140218	
ZA201403289 A	20150826	ZA20140003289	20121115	

Probable Assignee: LEXMARK INT INC

Assignee(s):(std)**:** ACOSTA BENJER ALBARAN ; AMANN MARK WILLIAM ; CARTER II JAMES ANTHANY ; LEXMARK INT INC ; HACKNEY GARY NEAL ; LACTUAN KATRINA ROSIT ; LEEMHUIS JAMES RICHARD ; NEWMAN BENJAMIN KEITH ; HALE JASON ; LEKSMARK INTERNESHNL INK ; SCHARF BRYAN CHRISTOPHER ; SEAMAN KEITH ; ROGERS MATTHEW LEE ; VOWELS CHRISTOPHER GENE ; PORTIG HARALD ; SPROUL RODNEY EVAN

Assignee(s): LEXMARK INT INC740 WEST NEW CIRCLE ROADBLDG. 082−1IP LAW DEPARTMENTLEXINGTONKY40550US ; CARTER JAMES ANTHANY

Inventor(s):(std)**:** ACOSTA BENJER ALBARAN ; AKOSTA BENDZHER ALBARAN ; BENJAMIN KEITH NEWMAN ; BENJER ALBARAN ACOSTA ; BRYAN CHRISTOPHER SCHARF ; BUCHANAN JOHN ANDREW ; CARTER II JAMES ANTHANY ; CARTER JAMES ANTHANY ; CAVILL GREGORY ALAN ; CHRISTOPHER GENE VOWELS ; FOSTER MARK DUANE ; GARY NEAL HACKNEY ; HACKNEY GARY NEAL ; AMANN MARK UILLYAM ; AMANN MARK WILLIAM ; HALE JASON ; JAMES RICHARD LEEMHUIS ; JASON HALE ; KARTER DZHEJMS ENTANI ; KATRINA ROSIT LACTUAN ; KEITH SEAMAN ; KHEJL DZHEJSON ; KHEKNI GARI NIL ; LACTUAN KATRINA ROSIT ; HARALD PORTIG ; JAMES ANTHANY CARTER ; LAKTUAN KATRINA ROZIT ; LEEMHIUS JAMES RICHARD ; LEEMHUIS JAMES RICHARD ; LEMKHEJS DZHEJMS RICHARD ; MARK WILLIAM AMANN ; MATTHEW LEE ROGERS ; NEWMAN BENJAMIN KEITH ; NYUMAN BENDZHAMIN KIT ; PORTIG HARALD ; PORTIG KHARALD ; RODNEY EVAN SPROUL ; RODZHERS METYU LI ; ROGERS MATTHEW LEE ; RULON DARRELL STEPHEN ; SCHARF BRYAN CHRISTOPHER ; SEAMAN KEITH ; SHARF BRAJAN KRISTOFER ; SIMEN KIT ; SPRAUL RODNI EVAN ; SPROUL RODNEY EVAN ; TROMP JUSTIN MICHAEL ; VAUELS KRISTOFER DZHIN ; VOWELS CHRISTOHPER GENE ; VOWELS CHRISTOPHER GENE ; WILLIAMS TYLER FREDERICK

Inventor(s): VOWELS CHRISTOPHER GENEUS ; SPROUL RODNEY EVANUS ; SEAMAN KEITHUS ; SCHARF BRYAN CHRISTOPHERUS ; ROGERS MATTHEW LEEUS ; PORTIG HARALDUS ; NEWMAN BENJAMIN KEITHUS ; NEWMAN BENJAMI KEITH ; LEEMHUIS JAMES RICHARDUS ; JAMES ANTHANY CARTER II ; JAMES RICHARD LEEMHIUS ; LACTUAN KATRINA ROSITPH ; HALE JASONUS ; AMANN MARK WILLIAMUS ; HACKNEY GARY NEALUS ; CARTER JAMES ANTHANYUS ; AMANN MARK ; ACOSTA BENJER ALBARANPH

Agent(s): WRAYS; GOWLING LAFLEUR HENDERSON LLP; ESTUDIO CAREY LTDA; JAIME EDUARDO DELGADO VILLEGAS; BOERNER ROBERT; JOHN VICTOR; JUSTIN M; TROMP JUSTIN MICHAEL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9): B41J2/175 B41L27/04 G03G G03G15/00 G03G15/06 G03G15/08 G03G21/00 G03G21/16 G03G21/18 G06T17/20 (Advanced/Invention);
G03G21/18 (Advanced/Non–invention);
G03G (Subclass/Invention)

CPC: G03G21/185 G03G21/1676 G03G15/08 G03G21/00 G03G2215/0692 G03G21/1842 G03G21/1647 G03G15/80 G03G21/1867 G03G2221/166 G03G2215/067 G03G2221/1654 G03G21/1642 G03G21/1821 G03G15/0886 G03G21/1633 G03G21/1814 G03G15/0867 G03G21/1652 G03G15/0865 G03G15/10 G03G15/11 G03G15/1605 G03G15/1625 G03G21/0088 G03G21/10

US class: 1/1 399/106 399/258 399/260 399/262 399/263

Classification Explorer

Cited documents: WO11155642 A1, US9152081 BB, US9104135 BB, US9063464 BB, US9031451 BB, US8948660 BB, US8879964 BA, US8867955 BB, US8798501 BB, US8693926 BB, US8682213 BB, US8644738 BB, US8588659 BB, US8577252 BB, US8435709 BB, US8165505 BB, US8160481 BB, US8160477 BB, US8095036 BB, US8090292 BB, US8078088 BB, US8078088, US8059988 BB, US8045886 BB, US7929881 BB, US7848684 BB, US7805093 BB, US7761023 BB, US7738817 BB, US7734197 BB, US7674057 BB, US7647005 BB, US7606520 BB, US7574163 BB, US7548710 BB, US7486910 BB, US7447464 BB, US7386250 BB, US7305204 BB, US7272336 BA, US7258558 BA, US7194225 BB, US7149457 BB, US7139510 BB, US7136604 BB, US7116925 BB, US7086872 BB, US7079783 BB, US7074084 BB, US6983115 BB, US6978101 BB, US6968139 BB, US6898392 BB, US6853828 BB, US6848925 BB, US6792228 BB, US6786750 BB, US6782222 BB, US6782219 BB, US6773283 BB, US6771922 BB, US6738589 BB, US6697578 BB, US6652309 BB, US6594458 BB, US6582039 BB, US6502917 BA, US6463233 BB, US6386899 BA, US6349182 BB, US6314262 BA, US6266505 BA, US6259874 BA, US6254408 BA, US6186809 BA, US6168262 BA, US6168262 B1, US6144821 A, US6128453 A, US6115571 A, US6097908 A, US6070029 A, US6014536 A, US6014533 A, US5997329 A, US5946531 A, US5875378 A, US5848342 A, US5842093 A, US5768661 A, US5758233 A, US5746617 A, US5689773 A, US5686985 A, US5608501 A, US5605150 A, US5587777 A, US5581328 A, US5490802 A, US5392371 A, US5259779 A, US5121165 A, US5083158 A, US5002497 A, US4891017 A, US4839691 A, US4824388 A, US2013170872 AA, US2013170868 AA, US2013170866 AA, US2013170861 AA, US2012219328 AA, US2011158684 AA, US2010322676 AA, US2010221039 AA, US2010054814 AA, US2009232547 AA, US2009142103 AA, US2009142103, US2009052949 AA, US2009016779 AA, US2009010679 AA, US2008317510 AA, US2008260421 AA, US2008145110 AA, US2008101821 AA, US2008101821, US2007286634 AA, US2007238634 AA, US2007230999 AA, US2007223965 AA, US2007212118 AA, US2007140725 AA, US2007086806 AA, US2007077101 AA, US2007003325 AA, US2006228127 AA, US2006182469 AA, US2006171744 AA, US2006140664 AA, US2006103701 AA, US2006083555 AA, US2006067725 AA, US2006062589 AA, US2006029423 AA, US2005271425 AA, US2005201777 AA, US2005201773 AA, US2005191091 AA, US2005169672 AA, US2005135838 AA, US2004105699 AA, US2003223775 AA, US2003223775, US2003091361 AA, US2003035016 AA, US2002057319 AA, US2002025725 AA, US2001001025 AA, JP5198550 A2, JP5119550 A2, JP4070779 A2, JP3134674 A2, JP2042454 A2, JP2011191618 A2, JP2009169117 A2, JP2008134570 A2, JP2008134570, JP2005195884 A2, JP2005134725 A2, JP2002268356 A2, JP2000356895 A2, JP11153904 A2, EP2290461 A2, EP1939695 A2, EP1840669 A1, EP1434110 A1, EP0331324 A2, CN1841231 A, CN1815390, CN102262387 A, CN101918900 A,

Forward Citations: WO15076870, US9690231, US9563169, US9551974, US9477178, US9477177, US9477176, US9411303, US9360834, US9360797, US9317004, US9291992, US9285758, US9280087, US9261851, US9229367, US9207577, US9164425, US9152083, US9104141, US9063460, US8948650, US8938179, US8923734, US8918032, US8918031, US8879953, US8873996, US8867968, US8774684, US8682213, US8649710, US2016109827, US2015098733, US2014079441, US2014079439, US2013343777, US2013170866, US2013170864, TWI584086, JP2016033533, EP3144732, EP3130965,

Abstract:
Source: US2013170864A A toner cartridge for use in an image forming device according to one example embodiment includes a housing having a reservoir for containing toner therein. The housing has an exit port in fluid communication with the reservoir. A shutter is positioned at the exit port that is movable between an open position and a closed position. The shutter is biased toward the closed position. A linkage is operatively connected to the shutter to open the shutter upon being actuated by a first engagement feature in the image forming device. An interlock is operatively engaged with the linkage and biased toward a locked position preventing the linkage from opening the shutter. The interlock is movable to an unlocked position that is disengaged with the linkage when the interlock is actuated by a second engagement feature in the image forming device permitting the linkage to open the shutter.

0) US2013051851A – PROCESS CARTRIDGE

101) Family number: 53124676 (US2013051851A) © PatBase

Title: PROCESS CARTRIDGE

Priority: JP20110186889 20110830 US20120597994 20120829 US20140577576 20141219 US20150867456 20150928

Family:

Publication number	Publication date	Application number	Application date
JP2013050493 A2	20130314	JP20110186889	20110830
JP5895400 B2	20160330	JP20110186889	20110830
US2013051851 AA	20130228	US20120597994	20120829
US2015104217 AA	20150416	US20140577576	20141219
US2016018783 AA	20160121	US20150867456	20150928
US8938187 BB	20150120	US20120597994	20120829
US9170529 BB	20151027	US20140577576	20141219
US9395688 BB	20160719	US20150867456	20150928

Probable Assignee: BROTHER IND LTD

Assignee(s):(std)**:** BROTHER IND LTD ; FUKAMACHI YASUO

Assignee(s): BROTHER KOGYO KABUSHIKI KAISHA ; BROTHER KOGYO KK

Inventor(s):(std)**:** FUKAMACHI YASUO

Agent(s): BANNER AND WITCOFF LTD

International class (IPC 8–9): G03G15/08 G03G21/16 G03G21/18 (Advanced/Invention)

CPC: G03G21/1821 G03G21/1842 G03G15/0865 G03G15/0867

US class: 1/1 399/113 399/262 399/263

Classification Explorer

Cited documents: US8577244 BB, US8374527 BB, US8121520 BB, US7643770 BB, US7369792 BB, US7298990 BB, US7298990, US7224923 BB, US6101350 A, US6101350, US6041203 A, US6041203, US2011236060 AA, US2011236060, US2010303499 AA, US2010303499, US2006029423 AA, US2006029422 AA, US2006029421 AA, US2006029420 AA, US2006029419 AA, US2006029418 AA, US2006029418, US2005053394 AA, US2005053394, US2003049046 AA, US2003049046, US07298990, US06101350, US06041203, US0303499, US0236060, US0053394, US0049046, US0029418, JP6067557 A2, JP6067557, JP6027841 A2, JP6027841, JP5232752 A2, JP5232752, JP2011203365 A2, JP2010266893 A2, JP2010266893, JP2010009075 A2, JP2010009075, JP2009181027 A2, JP2009181027, JP2006323427 A2, JP2006323427, JP2006184502 A2, JP2006184502, JP2006072284 A2, JP2005242067 A2, JP2005242067, JP2003084647 A2, JP2003084647, JP2001318555 A2, JP2001318555, JP2000267547 A2, JP2000267547, JP2000250378 A2, JP2000250378, JP06067557, JP06027841, JP05232752,

Forward Citations: WO16125209, US9429898, US9411305, US9280136, US2015268625, US2015205257,

Abstract:
Source: US2013051851A A process cartridge includes: a drum cartridge including a photoconductor; a development cartridge configured to be detachably attached to the drum cartridge and including a developer carrying member for supplying developer to the photoconductor; a locking member provided on the drum cartridge and configured to be switchable between a locking position in which the development cartridge attached to the drum cartridge is in a locked state and restrained from being moved in a removing direction in which the development cartridge is removed from the drum cartridge and a lifting position in which the locked state is released and the development cartridge is movable in the removing direction, and a retaining member configured to retain the development cartridge which has been moved from the locked state in the removing direction by switching the locking member from the locking position to the lifting position.

102) Family number: 31962477 (US2005117937A) © PatBase

Title: DEVELOPING CARTRIDGE FOR ELECTOPHOTOGRAPHIC IMAGE FORMING APPARATUS

Priority: KR20030086250 20031201

Family:

Publication number	Publication date	Application number	Application date
KR100522953 B1	20051024	KR20030086250	20031201
KR20050052715 A	20050607	KR20030086250	20031201
US2005117937 AA	20050602	US20040873108	20040623
US7110708 BB	20060919	US20040873108	20040623

Probable Assignee: S PRINTING SOLUTION CO LTD

Assignee(s):(std)**:** SAMSUNG ELECTRONICS CO LTD

Assignee(s): S PRINTING SOLUTION CO LTD ; SAMSUNG ELECTRONICS CO

Inventor(s):(std)**:** JEON IN CHEOL

Agent(s): STAAS AND HALSEY LLP

International class(IPC 8–9)**:** G03G15/08 (Advanced/Invention); G03G15/08 (Advanced/Non–invention); G03G15/08 (Core/Invention)

International class(IPC 1–7)**:** G03G15/08

CPC: G03G15/0886 G03G15/0868 G03G15/0872 G03G2215/0692 G03G15/08

European class: G03G15/08H3C1 S03G215/06C7

US class: 399/260 399/262

Classification Explorer

Cited documents: US6219505 BA, US5890034 A, US5579101 A, JP2002341638 A2, JP2002278272 A2, JP2002244422 A2,

Forward Citations: US9182699, US7925191, US7783236, US7725058, US7634218, US2010054819, US2009074466, US2008193170, US2008062752, US2007065184, KR101441623, KR101046582, EP2037331, EP2037331, CN103092033,

Abstract:
Source: US2005117937A A developing cartridge for an electrophotographic image forming apparatus includes, a toner housing, a toner storage chamber, a toner feeding chamber, a feeding roller, a developing roller and a shielding device. One side of the toner housing has an opening, and the toner storage chamber and the toner–feeding chamber communicate with each other through a communication hole. The shielding device is installed within the toner storage chamber so as to move from a shielding position where it shields the communication hole to an opening position where it opens the communication hole. Accordingly, since the shielding member is capable of moving within the toner storage chamber, the user can save trouble of separating and removing the shielding member from the toner housing.

0) US2009245883A – DEVELOPER MATERIAL HOLDING APPARATUS, PROCESS C...

103) Family number: 43784733 (US2009245883A) © PatBase

Title: DEVELOPER MATERIAL HOLDING APPARATUS, PROCESS CARTRIDGE TO WHICH THE DEVELOPER MATERIAL HOLDING APPARATUS IS ATTACHED,AND IMAGE FORMING APPARATUS TO WHICH THE PROCESS CARTRIDGE IS A ATTACHED

Priority: JP20080091844 20080331

Family:

Publication number	Publication date	Application number	Application date
CN101551623 A	20091007	CN200910133422	20090331
CN101551623 B	20130619	CN200910133422	20090331
EP2110714 A2	20091021	EP20090156257	20090326
EP2110714 A3	20100505	EP20090156257	20090326
JP2009244645 A2	20091022	JP20080091844	20080331
JP4608565 B2	20110112	JP20080091844	20080331
US2009245883 AA	20091001	US20090385048	20090330
US8213840 BB	20120703	US20090385048	20090330

Probable Assignee: OKI DATA CORP

Assignee(s):(std)**:** BARNES PETER ; DAVIDSON ALAN ; ITOU JUNICHI ; KOIDO SHIGENORI ; OKI UK LTD ; OKI DATA KK

Assignee(s): OKI LTD ; OKI DATA K K ; OKI (UK) LTD ; OKI DATA CORP

Inventor(s):(std)**:** ALAN DAVIDSON ; BARNES PETER ; DAVIDSON ALAN ; ITO JUNICHI ; ITOU JUNICHI ; JUNICHI ITOU ; KOIDO SHIGEKI ; KOIDO SHIGENORI ; PETER BARNES ; SHIGENORI KOIDO

Agent(s): PISANI DIANA JEAN ET AL; RABIN AND BERDO PC

Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK TR

International class (IPC 8–9): G03G15/01 G03G15/08 G03G15/10 (Advanced/Invention); G03G15/01 G03G15/08 (Core/Invention)

CPC: G03G15/0886 G03G15/0855 G03G15/0865 G03G2215/067

European class: G03G15/08H3 S03G215/06C1A2

US class: 399/120 399/244 399/260 399/262 399/262P

Classification Explorer

Cited documents: US5572300 A, US3865612 A, JP4350870 A2, JP4323680 A2, JP2007264145 A2, JP2007156269 A2, JP2006309016 A2, JP2006243446 A2, JP2000310905 A2, JP2000122484 A2, JP11272142 A2, JP11272055 A2,

Forward Citations: WO13101347, US9389537, US9341983, US8977160, US8655236, US2014199096, US2014029984, EP2450752, CN103376707,

Abstract:
Source: US2009245883A A developer material holding apparatus holds a developer. A body holds a developer material and includes a first opening through which the developer material is discharged. A shutter is assembled to the body, and is movable either to an opening position where the developer material is discharged from the body or to a closing position where the developer material is not discharged from the body. The shutter includes a second opening such that when the shutter is at the opening position, the second opening is in alignment with the first opening. At least one of the first opening and the second opening is in the form a mesh including a plurality of openings.

0) US2006133847A – SYSTEM AND A METHOD FOR SEALING A CARTRIDGE

104) Family number: 33084066 (US2006133847A) © PatBase

Title: SYSTEM AND A METHOD FOR SEALING A CARTRIDGE

Priority: US20040017365 20041220

Family:

Publication number	Publication date	Application number	Application date
US2006133847 AA	20060622	US20040017365	20041220
US7248813 BB	20070724	US20040017365	20041220

Probable Assignee: TTI INT INC

Assignee(s):(std)**:** BURTON KEVIN E ; T T I INTERNATIONAL INC

Assignee(s): TTI INT ; TTI INT INC

Inventor(s):(std)**:** BURTON KEVIN E

Inventor(s): BURTON KEVIN

Agent(s): PATENTS AND TMS PC

International class (IPC 8–9): G03G15/00 G03G15/08 G03G21/18 (Advanced/Invention); G03G15/00 G03G15/08 G03G21/18 (Core/Invention)

CPC: G03G15/0894

European class: G03G15/08R

US class: 399/106 399/109

Classification Explorer

Cited documents: US6684039 BA, US6577830 BA, US6246848 BA, US5781831 A, US2004047649 AA, JP2002108175 A2,

Forward Citations: USD709946, US9535367, US9494893, US9459561, US9459560, US9454102, US9454101, US9442423, US9333704, US8818247, US8152946, US8112027, US7835664, US7720410, US7618507, US7505708, US2014078711, US2011158687, US2010196068, US2009324295, US2009185820, US2009052937, US2008181657, US2007242978,

Abstract:
Source: US2006133847A A system and a method are provided for sealing a cartridge during a recharging or a refilling of a toner hopper of the cartridge with a toner. The cartridge is filled with the toner through a toner port of the toner hopper. The toner hopper and a shutter drum assembly are separated at a first end of the cartridge. An ultrasonic welder welds a first side at the first end of the cartridge and then welds a second side at the first end of the cartridge. The ultrasonic welder seals the first end of the cartridge by bonding the shutter drum assembly to the toner hopper at the first end of the cartridge. A welding jig maintains alignment of the shutter drum assembly and the toner hopper during reassembly and/or aligns the first side and/or the second side of the cartridge prior to welding by the ultrasonic welder.

0) US2013016995A – IMAGE FORMING APPARATUS

105) Family number: 52815882 (US2013016995A) © PatBase

Title: IMAGE FORMING APPARATUS

Priority: JP20110153628 20110712

Family:

Publication number	Publication date	Application number	Application date
JP2013020112 A2	20130131	JP20110153628	20110712
US2013016995 AA	20130117	US20120544525	20120709
US9182737 BB	20151110	US20120544525	20120709

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK ; HIRAMATSU DAISUKE ; MIYAMOTO JUN ; KIKUCHI KEN ; SUZUKI KENSUKE ; NISHIUWATOKO TSUTOMU

Assignee(s): CANON INC ; CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** HIRAMATSU DAISUKE ; KIKUCHI KEN ; NISHIUWATOKO TSUTOMU ; SUZUKI KENSUKE ; MIYAMOTO JUN ; KIKUCHI TAKESHI

Agent(s): CANON USA INC IP DIVISION

International class (IPC 8–9): G03G15/08 G03G21/16 G03G21/18 (Advanced/Invention)

CPC: G03G21/1821 G03G15/0865 G03G21/1676

US class: 1/1 399/119

Classification Explorer

Cited documents: US6115571 A, US2011064469 AA, US2010166453 AA, JP6130808 A2, JP4212176 A2, JP2004333929 A2,

Forward Citations: US8918015, US2013149004,

Abstract:
Source: US2013016995A A toner storage unit provided in an image forming apparatus that enables a user to replace the toner storage unit when the user opens the door of the image forming apparatus, moves a developing cartridge in a direction corresponding to removal of the developing cartridge, and places the developing cartridge in the toner storage unit replacement position where the toner storage unit can be removed and replaced.

0) US2004114002A – CARTRIDGE, PRINTING APPARATUS, AND METHOD OF TR...

106) Family number: 30420189 (US2004114002A) © PatBase

Title: CARTRIDGE, PRINTING APPARATUS, AND METHOD OF TRANSMITTING INFORMATION TO AND FROM CARTRIDGE

Priority: EP20030255956 20030923 JP20020277542 20020924 US20060460179 20060726 US20030668556 20030922

Family:

Publication number	Publication date	Application number	Application date
AT365640 E	20070715	AT20030255956T	20030923
AT459479 E	20100315	AT20030075503T	20030923
CN100594133 C	20100317	CN200610093869	20030923
CN1268493 C	20060809	CN20031024980	20030923
CN1495031 A	20040512	CN20031024980	20030923
CN1872560 A	20061206	CN200610093869	20030923
CN2712627 Y	20050727	CN20032052647U	20030923
DE20321624 U1	20080626	DE20032021624U	20030923
DE20321625 U1	20080626	DE20032021625U	20030923
DE20321680 U1	20081016	DE20032021680U	20030923
DE60314577 D1	20070809	DE20036014577	20030923
DE60314577 T2	20080228	DE20036014577T	20030923
DE60331607 D1	20100415	DE20036031607	20030923
DK1403070 T3	20071029	DK20030255956T	20030923
EP1403070 A2	20040331	EP20030255956	20030923
EP1403070 A3	20040630	EP20030255956	20030923
EP1403070 B1	20070627	EP20030255956	20030923
EP1837187 A2	20070926	EP20070075503	20030923
EP1837187 A3	20080319	EP20070075503	20030923
EP1837187 B1	20100303	EP20070075503	20030923
ES2287420 T3	20071216	ES20030255956T	20030923
ES2338266 T3	20100505	ES20070075503T	20030923
HK1061998 A1	20071130	HK20040105103	20040713
HK1061998 A3	20041015	HK20040105103	20040713
JP2004114347 A2	20040415	JP20020277542	20020924
JP4175065 B2	20081105	JP20020277542	20020924
PT1403070 T	20070905	PT20030255956T	20030923
SI1403070 T1	20071031	SI20030030888T	20030923
US2004114002 AA	20040617	US20030668556	20030922
US2006256154 AA	20061116	US20060460179	20060726
US7101012 BB	20060905	US20030668556	20030922
US7625060 BB	20091201	US20060460179	20060726

Probable Assignee: SEIKO EPSON CORP

Assignee(s):(std)**:** KOSUGI YASUHIKO ; SARUTA TOSHIHISA ; SEIKO EPSON CORP

Inventor(s):(std)**:** SARUTA TOSHIHISA ; NOBUHISA MASHIDA ; TOSHIHISA KOSUGI YASUHIKO SARU ; MASHIDA NOBUHISA ; YASUHIKO KOSUGI ; TOSHIHISA SARUTA ; KOSUGI YASUHIKO

Inventor(s): KOSUGI YASUHIKO SARUTA TOSHIHISA

Agent(s): CLOUGHLEY PETER ANDREW; TOKKYO GYOMUHOJIN MEISEI INT PATENT FIRM; STROOCK AND STROOCK AND LAVAN LLP

Designated states:	AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PT RO SE SI SK TR
International class (IPC 8–9):	B41J2/01 B41J2/175 B41J29/00 B41J29/38 B41J29/39 B41J29/393 G01F23/28 G03G15/00 G03G15/08 (Advanced/Invention); B41J2/00 B41J2/01 B41J2/175 B41J29/00 B41J29/39 B41J29/393 G01F23/28 G03G15/00 G03G15/08 (Core/Invention); B41J (Subclass/Invention)
International class (IPC 1–7):	B41J2/175 B41J29/00 G01F23/28 G03G15/08
CPC:	B41J2/17546
European class:	B41J2/175C7E
US class:	347/19 347/86 399/12
Classification Explorer	
Cited documents:	WO01147146, US6312106 BA, US5469196 A, US4839691 A, US4551734 A, US2002033854 AA, US2002003354 AA, JP2002264361 A2, JP2002211000, JP2001147146 A2, JP11348308 A2, JP11348308, JP10119306 A2, EP1403070 B1, EP1241011 A2, EP1219438 A2, EP1164022 A2, EP1080917 A1, EP1053880 A2, EP1053878 A1, EP0940260 B1, EP0854045 B1, EP0812693 A1, EP0789322 A2,
Forward Citations:	WO13104214, WO12144221, WO10102660, US9357091, US9116641, US9079410, US8666263, US8348363, US8061794, US7708395, US7625060, US7609397, US7537324, US7458656, US7248376, US2011206387, US2009289977, US2009207199, US2009015607, US2008007578, US2007273907, US2007159505, US2007115307, US2006012812, JP2008012818, GB2445048, EP2426651, CN102950906, CN102756564, CN102756564, CN102744970, CN102501610, CN102501610,

Abstract:
Source: US2004114002A An ink cartridge 111 holding a recording material used for printing therein has a sensor substitute module 170 to simulate operations of a cartridge having a built−in sensor. As a control circuit 222 of a printer 200 gives a sensor access instruction to the ink cartridge 111, the sensor substitute module 170 generates a specific signal and outputs the specific signal via an output module 178. The specified signal is equivalent to a signal that represents a sufficient level of remaining ink and is expected to be output from the built−in sensor of the cartridge. The ink cartridge 111 is thus applicable to both a printer designed for the use of a cartridge with a built−in sensor and a printer designed for the use of a cartridge without a built−in sensor. Namely the cartridge of the invention is compatible with the cartridge having the built−in sensor.

0) US5583613A – IMAGE FORMING SYSTEM

107) Family number: 12885585 (US5583613A) © PatBase

Title: IMAGE FORMING SYSTEM

Priority: JP19920194656 19920630 US19920952666 19920928 US19940307035 19940916

Family:

Publication number	Publication date	Application number	Application date
JP3270120 B2	20020402	JP19920194656	19920630
JP6258875 A2	19940916	JP19920194656	19920630
US5583613 A	19961210	US19940307035	19940916

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK

Assignee(s): CANON INC ; CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** IKEMOTO ISAO ; KOBAYASHI KAZUNORI ; NODA SHINYA ; SASAGO YOSHIKAZU ; SASAKO ETSUICHI ; SEKINE KAZUMI ; TSUDA TADAYUKI ; WATANABE KAZUFUMI ; WATANABE KAZUSHI

International class (IPC 8–9): G03G15/00 G03G15/08 G03G21/00 G03G21/18 (Advanced/Invention)

International class (IPC 1–7): G03G15/00 G03G15/08 G03G21/00 G03G21/18

CPC: G03G21/1633 G03G21/1814 G03G2221/1606 G03G2221/1618 G03G2221/163

European class: G03G21/18C3 S03G221/16B S03G221/16C S03G221/16D

US class: 355/200 355/210 399/111 399/130

Classification Explorer

Cited documents: US5404198 A, US5160964 A, US5095335 A, US5028966 A, US4972227 A, US4888620 A, US4839690 A, US4708455 A, US4627701 A, US4609276 A, US4591258 A, US4575221 A, US4540268 A, US4500195 A, US3985436 A, JPS63149669, JP63149669 A2, JP62153964, JP324562, JP312312 B2, JP2289874,

Forward Citations: US9046860, US8971758, US8725042, US8081900, US7920806, US7660545, US7630661, US7489885, US7403733, US7274896, US7248814, US7231161, US7156797, US7092655, US6999696, US6987938, US6917774, US6895199, US6885838, US6876826, US6856775, US6832056, US6804483, US6788908, US6782213, US6738589, US6735406, US6714750, US6714746, US6704525, US6701106, US6697578, US6690902, US6658224, US6603939, US6594454, US6571070, US6542706, US6535699, US6519431, US6424811, US6415121, US6408143, US6408142, US6400914, US6397018, US6397017, US6377759, US6334035, US6330402, US6272299, US6246849, US6229974, US6208818, US6201935, US6185390, US6173145, US6144398, US6118960, US6104894, US6101354, US6097909, US6097908, US6097906, US6075957, US6070028, US6041196, US6011941, US5966568, US5953562, US5953560, US5867181, US5864731, US2009074453, US2009074452, US2008080891, US2008063429, US2008056754, US2007104511, US2007104510, US2006198654, US2006008287, US2004190933, US2004134070, US2004086300, JP2015108693, JP2014063072, JP2013054061, CN102968020,

Abstract:
Source: US5583613A The present invention includes an image bearing member, a first attachment surface to which a cleaning device for removing toner from the image bearing member is attached. The present invention also includes a second attachment surface which is in parallel with or substantially in parallel with the first attachment surface and to which a developing device for developing an image formed on the image bearing member is attached. With the above construction, it is possible to provide a process cartridge, a method for assembling a process cartridge, and an image forming system mountable and in the process cartridge, which can remarkably improve the assembling ability.

0) US2016062313A – IMAGE FORMING APPARATUS AND DETACHABLE UNIT

108) Family number: 61777749 (US2016062313A) © PatBase

Title: IMAGE FORMING APPARATUS AND DETACHABLE UNIT

Priority: JP20140173860 20140828

Family:

Publication number	Publication date	Application number	Application date
CN106200308 A	20161207	CN201510425757	20150720
EP2990877 A1	20160302	EP20150176801	20150715
JP2016048348 A2	20160407	JP20140173860	20140828
US2016062313 AA	20160303	US20150803929	20150720
US9459586 BB	20161004	US20150803929	20150720

Probable Assignee: OKI DATA KK

Assignee(s):(std)**:** OKI DATA KK

Assignee(s): OKI DATA CORP

Inventor(s):(std)**:** KEIGO MATSUMOTO ; MATSUMOTO KEIGO

Agent(s): BETTEN AND RESCH; RABIN AND BERDO PC

Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL NO PL PT RO RS SE SI SK SM TR

International class (IPC 8–9): G03G15/00 G03G15/08 G03G21/16 G03G21/18 (Advanced/Invention)

CPC: G03G21/1867 G03G15/0863 G03G21/1885

US class: 1/1 399/111 399/119 399/121 399/90

Classification Explorer

Cited documents: US2016067977 AA, US2015153706 AA, US2014168324 AA, US2013083499 AA, US2012258637 AA, US2012256991 AA, US2006228127 AA, US2003215261 AA, US2003215257 AA, US2003123896 AA, JP2011118160 A2, JP2007140266 A2, EP2762982 A1, EP1363168 A2,

Abstract:
Source: US2016062313A An image forming apparatus includes an apparatus main body and a contact terminal, and a detachable unit including a holder for holding a circuit board having an electrode terminal which comes into contact with the contact terminal. A state of the detachable unit is changed to an attached state by inserting it in an insertion direction, and is changed to a detached state by withdrawing the detachable unit in a withdrawal direction. The holder includes a first positioning member for positioning a tip end of the circuit board in the insertion direction when the detachable unit holding the circuit board in the holder is slid in the insertion direction. The first positioning member includes a notch configured so that the contact terminal passes through the notch when the detachable unit not holding the circuit board in the holder in the attached state is slid in the withdrawal direction.

0) US5091750A – CARTRIDGE UNIT

109) Family number: 3779738 (US5091750A) © PatBase

Title: CARTRIDGE UNIT

Priority: JP19890320234 19891208 JP19920202084 19920729

Family:

Publication number	Publication date	Application number	Application date
CA2031791 AA	19910609	CA19902031791	19901207
CA2031791 C	19941101	CA19902031791	19901207
DE69018388 D1	19950511	DE19906018388	19901206
DE69018388 T2	19951116	DE19906018388T	19901206
EP0431615 A2	19910612	EP19900123435	19901206
EP0431615 A3	19921223	EP19900123435	19901206
EP0431615 B1	19950405	EP19900123435	19901206
ES2074110 T3	19950901	ES19900123435T	19901206
JP2565575 B2	19961218	JP19890320234	19891208
JP2810915 B2	19981015	JP19920202084	19920729
JP3180874 A2	19910806	JP19890320234	19891208
JP6067534 A2	19940311	JP19920202084	19920729
US5091750 A	19920225	US19900622526	19901205

Probable Assignee: MITA INDUSTRIAL CO LTD

Assignee(s):(std): MITA INDUSTRIAL CO LTD

Assignee(s): MITA INDUSTRIAL CO LTD OSAKA JP ; MITA IND CO LTD ; MITA INDUSTRIAL CO

Inventor(s):(std): YOSHIDA SEITARO ; ASHIDA KENICHI ; YOSHIDA SEITARO NANKONAK

Inventor(s): ASHIDA KENICHI HYOGO KEN JP ; YOSHIDA SEITARO 5 3 45 1212 NANKONAKA ; YOSHIDA SEITARO 5 3 45 1212 NANKONAKA OSAKA SHI OS ; YOSHIDA SEITARO 5 3 45 1212 NANKONAKA OSAKA SHI OSAKA FU JP ; YOSHIDA SEITARO 5 3 45 1212 NANKONAKA OSAKA...

Designated states: DE ES FR GB IT NL

International class (IPC 8–9): G03G15/00 G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)

International class (IPC 1–7): G03G15/00 G03G15/06 G03G15/08

CPC: G03G15/0886 G03G15/0855 G03G15/0865

European class: G03G15/08H3

US class: 141/364 141/366 355/260 399/106 D18/40 D18/43

Classification Explorer

Cited documents: US4752807 A, JP63178274 A2, JP63065058 U1, JP59034566 A2, JP1209464, GB371520 A, EP0225745 A1, EP0101303 A2,

Forward Citations: USD711965, USD559902, USD538850, USD455778, USD455455, US9459556, US9188950, US9146497, US8139986, US7447470, US6796107, US6650847, US6463243, US6269234, US6266506, US6249654, US6236826, US6137972, US5978624, US5970292, US5970291, US5907747, US5836358, US5737675, US5650841, US5630198, US5627631, US5608501, US5520229, US5513679, US5479247, US5475479, US5402216, US5383502, US5351728, US5337125, US5331382, US5207353, US5184184, US2009016770, US2006285885, US2005115932, US2003101690, JP6116373, JP5435116, JP5333694, JP5289516, JP3498017, JP3498016, JP3498013, JP2849280, JP2802854, JP2014228830, JP2013218276, JP2001051486, JP2001051484, JP2001034052, GB2312760, GB2312760, EP2290461, EP2290461, EP1901133, EP1225487, EP1225487, EP0940732, EP0892321, EP0757301, EP0757301, EP0708384, EP0708384, EP0670530, EP0670530, EP0604999, DE102006007304, CN103309206, CN103309206,

Abstract:
Source: US5091750A A toner cartridge unit for a copying machine having a double shutter at the mouth of the toner cartridge. The double shutter is locked when the cartridge is not attached to a toner hopper of the copying machine and prevents toner from coming out. Owing to the double shutter structure, the outside of the cartridge is always clean. When the cartridge unit is attached to the hopper, many locking and releasing mechanisms for the double shutter and a third shutter provided at the hopper entrance work sequentially and automatically as the cartridge is moved from a preparation site to a supplying site of the toner hopper.

0) US2010054816A – TONER FEED UNIT AND IMAGE FORMING APPARATUS EQU...

110) Family number: 44454800 (US2010054816A) © PatBase

Title: TONER FEED UNIT AND IMAGE FORMING APPARATUS EQUIPPED WITH THE SAME

Priority: JP20080217495 20080827

Family:

Publication number	Publication date	Application number	Application date
CN101661252 A	20100303	CN200910168514	20090821
CN101661252 B	20120509	CN200910168514	20090821
JP2010054638 A2	20100311	JP20080217495	20080827
US2010054816 AA	20100304	US20090534290	20090803
US8155566 BB	20120410	US20090534290	20090803

Probable Assignee: SHARP KK

Assignee(s):(std)**:** MIHARA KOICHI ; SHARP KK ; YOSHIMOTO YUHSUKE ; YOSHIKAWA YOSHIHIRO

Assignee(s): SHARP CORP ; SHARP K K ; SHARP KABUSHIKI KAISHA

Inventor(s):(std)**:** KOICHI MIHARA ; MIHARA KOICHI ; YOSHIHIRO YOSHIKAWA ; YOSHIKAWA YOSHIHIRO ; YOSHIMOTO SUKENORI ; YOSHIMOTO YUHSUKE ; YUHSUKE YOSHIMOTO

Agent(s): MIYAO AKISHIGE; KANDA MASAYOSHI; FUJIMOTO EISUKE; NIXON AND VANDERHYE PC

International class (IPC 8–9): G03G15/01 G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)

CPC: G03G15/0886 G03G15/0877 G03G2215/0692

European class: G03G15/08H3D S03G215/06C7

US class: 399/260 399/260P

Classification Explorer

Cited documents: US5608501 A, US2009060586 AA, JP8286490 A2, JP6035318 A2, JP2007078848 A2, JP2006259228 A2, JP2000098713 A2,

Forward Citations: WO15126038, US9417560,

Abstract:
Source: US2010054816A A toner feed unit includes: a first feed portion having a first feed pipe for forming a first toner feed passage having a rectangular section and a first shutter member constructed so as to be rotatable about an axis perpendicular to the feed direction of the first toner feed passage and open and close the toner output end of the first toner feed passage; and a second feed portion having a second feed pipe for forming a second toner feed passage having a rectangular section and a second shutter member constructed so as to be rotatable about an axis perpendicular to the feed direction of the second toner feed passage and open and close the toner input end of the second toner feed passage.

0) EP0576757A2 – PROCESS CARTRIDGE AND IMAGE FORMING SYSTEM ON W...

111) Family number: 33535524 (EP0576757A2) © PatBase

Title: PROCESS CARTRIDGE AND IMAGE FORMING SYSTEM ON WHICH PROCESS CARTRIDGE IS MOUNTABLE.

Priority: JP19920194662 19920630

Family:

Publication number	Publication date	Application number	Application date
CN1049986 C	20000301	CN19921011666	19920928
CN1081261 A	19940126	CN19921011666	19920928
DE69218423 D1	19970424	DE19926018423	19920918
DE69218423 T2	19970814	DE19926018423T	19920918
EP0576757 A2	19940105	EP19920308511	19920918
EP0576757 A3	19940309	EP19920308511	19920918
EP0576757 B1	19970319	EP19920308511	19920918
JP3270122 B2	20020402	JP19920194662	19920630
JP6019241 A2	19940128	JP19920194662	19920630
KR0123924 B1	19971126	KR19920017623	19920926
MX9205522 A1	19940131	MX19920005522	19920928

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK

Assignee(s): CANON INC ; CANON K K ; CANON K K TOKIO TOKYO JP ; CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** IKEMOTO ISAO ; IKEMOTO ISAO C O CANON KABUSHI ; KAZUMI ; KOBAYASHI KAZUNORI ; KOBAYASHI KAZUNORI C O CANON K ; NADA SHINYA ; NODA SHINYA ; NODA SHINYA C O CANON KABUSHIK ; SASAKO ETSUICHI ; SEKINE ; SEKINE KAZUMI ; SEKINE KAZUMI C O CANON KABUSH ; SASAGO YOSHIKAZU ; SASAGO YOSHIKAZU C O CANON KAB ; TSUDA TADAYUKI ; TSUDA TADAYUKI C O CANON KABUS ; WATANABE KAZUFUMI ; WATANABE KAZUSHI ; WATANABE KAZUSHI C O CANON KAB

Inventor(s): WATANABE KAZUSHI C O CANON KABUSHIKI KAISHA OHTA K ; WATANABE KAZUSHI C O CANON KABUSHIKI KAISHA OHTA KU TOKYO JP ; WATANABE KAZUSHI C O CANON KABUSHIKI KAISHA... ; WATANABE KAZUSHI C O CANON KK ; WATANABE KAZUSHI C O CANON OHTA KU TOKYO JP KK ; YOSHIKAZU SASAGO ; TSUDA TADAYUKI C O CANON KABUSHIKI KAISH OHTA ; TSUDA TADAYUKI C O CANON KABUSHIKI KAISH OHTA KU T ; TSUDA TADAYUKI C O CANON KABUSHIKI KAISH OHTA KU TOKYO JP ; SASAGO YOSHIKAZU C O CANON KABUSHIKI KAISHA OHTA K ; SASAGO YOSHIKAZU C O CANON KABUSHIKI KAISHA OHTA KU TOKYO JP ; SASAGO YOSHIKAZU C O CANON KABUSHIKI KAISHA... ; SASAGO YOSHIKAZU C O CANON KK ; SASAGO YOSHIKAZU C O CANON OHTA KU TOKYO JP KK ; SEKINE KAZUMI C O CANON KABUSHIKI KAISHA OHTA KU T ; SEKINE KAZUMI C O CANON KABUSHIKI KAISHA OHTA KU TOKYO JP ; SEKINE KAZUMI C O CANON KABUSHIKI KAISHA OHTA... ; SEKINE KAZUMI C O CANON OHTA KK ; SEKINE KAZUMI C O CANON OHTA KU TOKYO JP KK ; SHINYA NODA ; TADAYUKI TSUDA ; NODA SHINYA C O CANON KABUSHIKI KAISHA OHTA KU TOK ; NODA SHINYA C O CANON KABUSHIKI KAISHA OHTA KU TOKYO JP ; NODA SHINYA C O CANON KABUSHIKI KAISHA OHTA KU... ; NODA SHINYA C O CANON OHTA KU KK ; NODA SHINYA C O CANON OHTA KU TOKYO JP KK ; KOBAYASHI KAZUNORI C O CANON KABUSHIKI KAISH ; KOBAYASHI KAZUNORI C O CANON KABUSHIKI KAISH OHTA ; KOBAYASHI KAZUNORI C O CANON KABUSHIKI KAISH OHTA KU TOKYO JP ; KAZUMI SEKINE ; KAZUNORI KOBAYASHI ; KAZUSHI WATANABE ; IKEMOTO ISAO C O CANON KABUSHIKI KAISHA OHTA KU TO ; IKEMOTO ISAO C O CANON KABUSHIKI KAISHA OHTA KU TOKYO JP ; IKEMOTO ISAO C O CANON KABUSHIKI KAISHA OHTA... ; IKEMOTO ISAO C O CANON OHTA KK ; IKEMOTO ISAO C O CANON OHTA KU TOKYO JP KK ; ISAO IKEMOTO

Designated states: DE ES FR GB IT

International class (IPC 8–9): B41J2/44 G03G15/00 G03G15/02 G03G21/18 (Advanced/Invention); B41J2/44 G03G15/00 G03G15/02 G03G21/18 (Core/Invention)

International class (IPC 1–7): B41F15/40 B41J2/44 G03G13/00 G03G15/00 G03G15/02 G03G21/18

CPC: G03G21/1633 G03G21/1647 G03G21/181 G03G21/1817 G03G2215/00987 G03G2221/1612 G03G2221/1853 G03G2221/1876

European class: G03G21/18C2 G03G21/18C4 S03G215/00R S03G221/16B1A S03G221/18P3 S03G221/18P3C

Classification Explorer

Cited documents: US5028966 A, US5005053 A, US4816877 A, US4806977 A, JP62165670, JP4362961, JP4157485, JP3256058, JP2289874, JP2257146, EP0453963 A2, EP0437097 A2, EP0193170 A1, DE3941506 A1,

Forward Citations: US6721520, CN102566370,

Abstract:
Source: EP0576757A2 A process cartridge comprises a first frame in which toner containing means for containing toner used for a developing operation and charger means are mounted, and a second frame which can be engaged by and disengaged from the first frame, and in which an image bearing member, developing means and cleaning means are mounted. With this arrangement, the assembling ability and disassembling ability are improved remarkably, and the process cartridge is suitable for the re−cycling to contribute to the protection of the earth−environment.

0) US6256469B – TONER SUPPLY APPARATUS IN IMAGE FORMING SYSTEM ...

112) Family number: 15425487 (US6256469B) © PatBase

Title: TONER SUPPLY APPARATUS IN IMAGE FORMING SYSTEM

Priority: US20000506918 20000218

Family:

Publication number	Publication date	Application number	Application date
JP2001228692 A2	20010824	JP20000080800	20000322
JP3480827 B2	20031222	JP20000080800	20000322
US6256469 BA	20010703	US20000506918	20000218

Probable Assignee: TOSHIBA TEC KK

Assignee(s):(std)**:** TOSHIBA TEC CORP ; TOSHIBA TEC KK

Inventor(s):(std)**:** ITO SHINICHI ; ITOH SHINICHI ; TANIYAMA RYOJI ; TANIYAMA YOSHIHARU ; UMEZAWA NORIYUKI

International class (IPC 8–9): G03G15/08 (Advanced/Invention) ; G03G15/08 (Core/Invention)

International class (IPC 1–7): G03G15/08

CPC: G03G15/0872 G03G15/0868 G03G2215/0668

European class: G03G15/08H3B S03G215/06C1A1

US class: 399/12 399/258 399/262

Classification Explorer

Cited documents: US6032013 A, US5970273 A, US5966574 A, US5867757 A, US5774773 A, US4963939 A, US4740808 A, JP9211977, JP9211947 A2, JP9090727 A2, JP7199618, JP63075769, JP6035320 A2, JP11184232, JP10260574, JP10213957, JP10020642 A2,

Forward Citations: WO06006737, USRE45513, USRE42312, USRE41779, USRE40058, USRE40021, US9329526, US9229423, US9057983, US8693926, US8509658, US8396398, US8369753, US8195070, US8121525, US8005406, US7848685, US7840167, US7835673, US7796924, US7778578, US7747202, US7720416, US7697870, US7693464, US7558515, US7519317, US7512347, US7499666, US7480476, US7466945, US7437107, US7398038, US7383002, US7321744, US7313349, US7283773, US7209686, US6983116, US6778801, US6766135, US6546211, US6456811, US6337965, US2015071659, US2010278564, US2010254732, US2009142104, US2009129813, US2009123192, US2008286013, US2008260433, US2008240771, US2008044205, US2008013989, US2008003021, US2007177905, US2007077100, US2006210318, US2006193646, US2006029434, US2006008299, US2005196199, US2005084296, US2004223790, US2003235433, JP5750803, JP5335546, JP4608307, JP4307009, JP4166596, JP2015052667, JP2012014165, JP2010266520, JP2009265369, JP2006178146, JP2004264432, JP2003295591, EP1766478, CN103676549, CN103676549, CN102236297,

Abstract:
Source: US6256469B A toner supply device includes a toner cartridge. The toner cartridge includes a cylindrical container having a spiral protruding portion therein, and a cap having a toner discharging hole. The toner supply device also includes a drive unit for supplying a toner from the toner discharging hole while gripping and rotating the cap of the toner cartridge. A positioning portion is formed on the outer peripheral surface of the base end side of the cylindrical container, and a recessed portion engaging the positioning portion is formed in an inlet holder. The drive unit includes a holder and a holder cover, which are disassembled vertically, a cup−shaped holder guide, rotatably provided in the holder and holder cover, for gripping the cap at a position, at which the holder guide is communicated with the toner discharging hole, a motor for applying torque to the holder guide, and a drive gear for transmitting torque of the motor to the holder guide.

0) US5913097A – DEVELOPING DEVICE, IMAGE FORMING APPARATUS, AND...

113) Family number: 11313173 (US5913097A) © PatBase

Title: DEVELOPING DEVICE, IMAGE FORMING APPARATUS, AND TONER FILLABLE CARTRIDGE THAT INCLUDES AN AGITATOR HAVING A FIRST MEDIUM AND A SECOND MEDIUM

Priority: JP19970045717 19970228

Family:

Publication number	Publication date	Application number	Application date
JP10240008 A2	19980911	JP19970045717	19970228
JP3680479 B2	20050810	JP19970045717	19970228
US5913097 A	19990615	US19980028767	19980224

Probable Assignee: BROTHER KOGYO KK

Assignee(s):(std)**:** BROTHER IND LTD

Assignee(s): BROTHER KOGYO KABUSHIKI KAISHA ; BROTHER KOGYO KK

Inventor(s):(std)**:** MAKINO KAZUMASA ; MAKINO KAZUNORI ; NAKANO HIROSHI

Agent(s): TOMIZAWA TAKASHI; YAMANAKA IKUO; OKADO AKIYOSHI

International class (IPC 8–9): G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)

International class (IPC 1–7): G03G15/08

CPC: G03G15/0856 G03G15/0862 G03G15/0867 G03G15/0822 G03G2215/067 G03G2215/085 G03G2215/0894

European class: G03G15/08H G03G15/08H2 S03G215/06C1A2 S03G215/08A5 S03G215/08D1A

US class: 366/309 399/256 399/263

Classification Explorer

Cited documents: US604671 A, US5710961 A, US5697014 A, US5678147 A, US5655195 A, US5630198 A, US20804 A, JP7311516, JP7199620, JP6149056,

Forward Citations: WO04077170, USD571394, US9075345, US8879965, US8643690, US8633953, US8577263, US8550694, US8437665, US8396398, US8331829, US8315543, US8195070, US8121525, US8099020, US8099001, US8060002, US8036543, US8005406, US7965962, US7881633, US7840167, US7835673, US7817945, US7796925, US7747202, US7720416, US7697870, US7519317, US7480476, US7466945, US7433632, US7398038, US7321744, US7313349, US7248806, US7145675, US7024135, US6456810, US2013136507, US2011150527, US2010254732, US2010239305, US2010209125, US2010166458, US2010128558, US2009214277, US2009123192, US2009087216, US2008317512, US2008317511, US2008317509, US2008292331, US2008286013, US2008205940, US2008003021, US2007177905, US2007177903, US2007077100, US2006257171, US2006233571, US2005265752, US2005196199, US2004223790, US2002093687, KR100975447, KR100747728, JP2008170896, EP2073074, EP2045667, EP2026140, EP1953602,

Abstract:
Source: US5913097A A developing device for use with an image forming apparatus can properly detect a residual toner level by adjusting the toner diffusion in a toner cartridge. The developing device stirs toner in the toner cartridge by rotating an agitator in the toner cartridge, and supplies the stirred toner from a toner introduction port. The image forming apparatus then forms images by electrophotographic processes. The agitator has at least two elastic film members and is formed so that the first film member is rotated first, then the second film member is rotated by following the first film member.

0) US2011262180A – TONER CARTRIDGE AND IMAGE FORMING APPARATUS

114) Family number: 49807917 (US2011262180A) © PatBase

Title: TONER CARTRIDGE AND IMAGE FORMING APPARATUS

Priority: US20100326595P 20100421 US20110090994 20110420

Family:

Publication number	Publication date	Application number	Application date
CN102236297 A	20111109	CN201110099907	20110420
EP2381317 A1	20111026	EP20110163026	20110419
KR20110117620 A	20111027	KR20110036754	20110420
US2011262180 AA	20111027	US20110090994	20110420

Probable Assignee: TOSHIBA KK

Assignee(s):(std)**:** TOSHIBA CORP ; TOSHIBA KK ; TOSHIBA TEC CORP ; TOSHIBA TEC KK

Assignee(s): KABUSHIKI KAISHA TOSHIBA ; TOSHIBA TEC KABUSHIKI KAISHA

Inventor(s):(std)**:** KENGO SUZUKI ; SUZUKI KENGO

Agent(s): GENDRON VINCENT CHRISTIAN

Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL NO PL PT RO RS SE SI SK SM TR

International class (IPC 8–9): G03G15/00 G03G15/08 (Advanced/Invention)

CPC: G03G15/0886 G03G15/0855 G03G15/0865 G03G15/0867 G03G15/0882 G03G2215/0687 G03G2215/0692

European class: G03G15/08H3 S03G215/06C5 S03G215/06C7

US class: 399/106 399/106P 399/260 399/260S 399/262 399/262S

Classification Explorer

Cited documents: US6256469 BA, US5999770 A, US5812915 A, EP0969331 A2,

Forward Citations: WO15126038, US9417560, US9411268, US9207574, US9146499, US9057986, US8909093, US8792809, US2014376972, US2014064795, US2012163877,

Abstract:
Source: US2011262180A According to one embodiment, in a toner cartridge, an engaging member includes a first engaging section and a sealing tape is fixed to the engaging member. A shutter includes a second engaging section and moves between a shutter first position where the shutter overlaps a toner supply port in plan view and a shutter second position where the shutter does not overlap the toner supply port in plan view. A lever includes a third engaging section and a fourth engaging section. The lever is present in a lever first position where the third engaging section and the first engaging section are disengaged. According to movement of the shutter, the lever moves in a first direction from the lever first position to a lever second position where the third engaging section engages with the first engaging section. Thereafter, the lever moves in a second direction opposite to the first direction from the lever second position to move the engaging member and the sealing tape in the second direction.

0) US5392963A – REFURBISHED TONER CARTRIDGE

115) Family number: 10092573 (US5392963A) © PatBase

Title: REFURBISHED TONER CARTRIDGE

Priority: US19930069636 19930601

Family:

Publication number	Publication date	Application number	Application date
DE69329016 D1	20000817	DE19936029016	19931220
DE69329016 T2	20010322	DE19936029016T	19931220
EP0627673 A2	19941207	EP19930120550	19931220
EP0627673 A3	19960731	EP19930120550	19931220
EP0627673 B1	20000712	EP19930120550	19931220
JP3488282 B2	20040119	JP19940141143	19940531
JP6348128 A2	19941222	JP19940141143	19940531
US5392963 A	19950228	US19930069636	19930601

Probable Assignee: HEWLETT PACKARD DEVELOPMENT CO LP

Assignee(s):(std)**:** HEWLETT PACKARD CO

Assignee(s): HEWLETT PACKARD CO HP ; HEWLETT PACKARD CO PALO ALTO ; HEWLETT PACKARD COMPANY ; HEWLETT PACKARD DEVELOPMENT CO LP ; HP INC

Inventor(s):(std)**:** CHRISTENSEN K TRENT ; CHRISTENSEN TRENT K ; KELLY GAR P ; RENSTROM BRIAN J ; KEE TORENTO KURISUTENSEN ; GARU PII KERII ; BURAIAN JIEI RENSUTOROOMU

Designated states: DE FR GB IT

International class (IPC 8–9)**:** G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)

International class (IPC 1–7)**:** G03G15/06 G03G15/08 G03G21/00

CPC: Y10S222/01 G03G2215/00987 G03G2215/0682 G03G15/0874 G03G15/0884 G03G15/0894

European class: G03G15/08H3R G03G15/08R S03G215/00R S03G215/06C3

US class: 222/325 222/386.5 222/DIG.1 355/260 399/262

Classification Explorer

Cited documents: US5337126 A, US5335831 A, US5311265 A, US5271534 A, US5235389 A, US5207353 A, US5194900 A, US5177540 A, US5153650 A, US5150807 A, US5148223 A, US5142335 A, US5110646 A, US5080745 A, US4895104 A, US4732277 A, US4489765 A, US4417802 A, US4013195 A, US3501065 A, US2608320 A, JP63256975, JP62218974, JP5920252 U, JP466980, JP410606 Y2, JP3184071, JP3122458 U, EP0070731 A2,

Forward Citations: WO9812606, WO17002839, WO16204199, US8349428, US6648218, US6532352, US6341210, US6246848, US5960238, US5895149, US5887232, US5729795, US5676794, US5594535, US5525183, US2016306299, US2016306298, US2010243158, SG115361, EP1168096, EP1168096, EP1126328, EP1126328,

Abstract:
Source: US5392963A A refurbished toner cartridge includes a cover having elongated side dimensions with integral flanges and a mating bottle also having elongated side flanges, the flanges bonded to create an interior volume for holding a print toner. At one end of the cartridge is a toner fill opening which enables access into the interior volume. The refurbished cartridge further comprises a flexible bladder that is inserted through the fill opening and is positioned within the interior volume of the cartridge. Toner is contained in the bladder and is released upon the bladder being ruptured by user actuation of either an internal knife blade or a pull string attached to the bladder.

0) US2008112724A – METHODS AND APPARATUS FOR REMANUFACTURING TONER...

116) Family number: 41800595 (US2008112724A) © PatBase

Title: METHODS AND APPARATUS FOR REMANUFACTURING TONER CARTRIDGES

Priority: US20030598964 20031114 US20060598964 20061114 US20070985198 20071113 US20080125512P 20080425 US20080229608 20080826 US20090387116 20090428

Family:

Publication number	Publication date	Application number	Application date
US2008112724 AA	20080515	US20060598964	20061114
US2008112725 AA	20080515	US20070985198	20071113
US2009060566 AA	20090305	US20080229608	20080826
US2009208244 AA	20090820	US20090387116	20090428
US7546062 BB	20090609	US20060598964	20061114
US7647002 BB	20100112	US20080229608	20080826
US7676173 BB	20100309	US20090387116	20090428
US7840158 BB	20101123	US20070985198	20071113

Probable Assignee: MITSUBISHI KAGAKU IMAGING CORP

Assignee(s):(std)**:** FUTURE GRAPHICS IMAGING CORP ; FUTURE GRAPHICS LLC ; MITSUBISHI KAGAKU IMAGING CORP

Inventor(s):(std)**:** OHANYAN TIGRAN

Agent(s): ROLAND TONG; ROLAND TONG LEWIS BRISBOIS BISGAARD AND SMITH LLP SUITE 1200; LEWIS BRISHOIS BISGAARD AND SMITH LLP; TONG ROLAND; ROLAND

International class (IPC 8–9): G03G15/00 (Advanced/Invention); G03G15/00 (Core/Invention)

CPC: G03G15/0894 G03G15/751 G03G2215/00991 G03G21/181

European class: G03G15/08R G03G15/75B S03G215/00R1

US class: 399/109 399/109P 399/117

Classification Explorer

Cited documents: US7618507 BB, US7590369 BB, US7505708 BB, US7346292 BB, US7321742 BB, US7212765 BB, US6788909 BB, US6735404 BB, US6499924 BB, US5729795 A, US2008159780 AA, US2007025759 AA,

Forward Citations: WO09053680, USD624583, US9122203, US8942593, US8644726, US8543032, US8483592, US8478160, US8463155, US8249483, US7835664, US2012275818, US2012275817, US2012275816, US2011274460, US2010142991, US2009052937,

Abstract:
Source: US2008112724A A method of removing a drum from a printer toner cartridge, the drum comprising a cylindrical body, the drum further comprising a pair of drum gears attached to each end of the drum, each drum gear being configured to attach the drum to the printer, at least one drum gear comprising a cylindrical body, the cylindrical body defining a hollow drum gear interior, at least one drum gear further comprising a drum gear wall that is positioned perpendicular to the cylindrical body and configured to cover the hollow drum gear interior, the method comprising creating a hole through the drum gear wall and inserting a cutting device through the hollow drum gear interior.

0) EP0584417A1 – PROCESS CARTRIDGE, IMAGE FORMING SYSTEM MOUNTAB...

117) Family number: 33535523 (EP0584417A1) © PatBase

Title: Process cartridge, image forming system mountable same therein and method for assembling cleaning device.

Priority: JP19920194660 19920630 JP19920217423 19920724

Family:

Publication number	Publication date	Application number	Application date
CN1049984 C	20000301	CN19921010575	19920928
CN1080733 A	19940112	CN19921010575	19920928
DE69223241 D1	19980102	DE19926023241	19920918
DE69223241 T2	19980416	DE19926023241T	19920918
EP0584417 A1	19940302	EP19920308514	19920918
EP0584417 B1	19971119	EP19920308514	19920918
MX9205524 A1	19940131	MX19920005524	19920928

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON INC ; CANON KK

Assignee(s): CANON K K ; CANON K K TOKIO TOKYO JP ; CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** AL TADAYUKI TSUDA ET ; IKEMOTO ISAO ; IKEMOTO ISAO C O CANON KABUSHI ; ISAO IKEMOTO ; KAZUMI SEKINE ; KAZUNORY KOBAYASHI ; KAZUSHI WATANABE ; KOBAYASHI KAZUNORI ; KOBAYASHI KAZUNORI C O CANON K ; KOBAYASHI KAZUNORY ; NODA SHINYA ; NODA SHINYA C O CANON KABUSHIK ; SASAGO YOSHIKAZU ; SASAGO YOSHIKAZU C O CANON KAB ; SEKINE KAZUMI ; SEKINE KAZUMI C O CANON KABUSH ; SHINYA NODA ; SHOJI TAKEO ; SHOJI TAKEO C O CANON KABUSHIK ; TADAYUKI TSUDA ; TADAYUKI TSUDA ET AL ; TAKEO SHOJI ; TSUDA TADAYUKI ; TSUDA TADAYUKI C O CANON KABUS ; YOSHIKAZU SASAGO ; WATANABE KAZUSHI ; WATANABE KAZUSHI C O CANON KAB

Inventor(s): WATANABE KAZUSHI C O CANON KABUSHIKI KAISHA ; WATANABE KAZUSHI C O CANON KK ; WATANABE KAZUSHI C O CANON KABUSHIKI KAISHA OHTA K ; TSUDA TADAYUKI C O CANON KABUSHIKI KAISHA OHTA KU ; SHOJI TAKEO C O CANON KABUSHIKI KAISHA OHTA KU TOK ; SEKINE KAZUMI C O CANON KABUSHIKI KAISHA OHTA KU T ; SASAGO YOSHIKAZU C O CANON KABUSHIKI KAISHA OHTA K ; NODA SHINYA C O CANON KABUSHIKI KAISHA OHTA KU TOK ; KOBAYASHI KAZUNORI C O CANON KABUSHIKI KAISHA OHTA ; IKEMOTO ISAO C O CANON KABUSHIKI KAISHA OHTA KU TO ; TSUDA TADAYUKI C O CANON KABUSHIKI KAISHA ; TSUDA TADAYUKI C O CANON KABUSHIKI KAISHA OHTA... ; TSUDA TADAYUKI C O CANON KK ; TSUDA TADAYUKI C O CANON OHTA KK ; SHOJI TAKEO C O CANON KABUSHIKI KAISHA ; SHOJI TAKEO C O CANON KABUSHIKI KAISHA OHTA KU... ; SHOJI TAKEO C O CANON KK ; SHOJI TAKEO C O CANON OHTA KU KK ; SEKINE KAZUMI C O CANON KABUSHIKI KAISHA OHTA... ; SEKINE KAZUMI C O CANON OHTA KK ; SASAGO YOSHIKAZU C O CANON KABUSHIKI KAISHA... ; SASAGO YOSHIKAZU C O CANON KK ; NODA SHINYA C O CANON KABUSHIKI KAISHA ; NODA SHINYA C O CANON KABUSHIKI KAISHA OHTA KU... ; NODA SHINYA C O CANON KK ; NODA SHINYA C O CANON OHTA KU KK ; KOBAYASHI KAZUNORI C O CANON KABUSHIKI KAISHA ; KOBAYASHI KAZUNORI C O CANON KK ; IKEMOTO ISAO C O CANON KABUSHIKI KAISHA ; IKEMOTO ISAO C O CANON KABUSHIKI KAISHA OHTA... ; IKEMOTO ISAO C O CANON KK ; IKEMOTO ISAO C O CANON OHTA KK

Designated states: DE ES FR GB IT

International class (IPC 8–9): G03G21/00 G03G21/18 (Advanced/Invention); G03G21/00 G03G21/18 (Core/Invention)

International class (IPC 1–7): B41F15/40 G03G15/00 G03G21/00 G03G21/18

CPC: G03G21/0011 G03G21/181 G03G2215/00987

European class: G03G21/00B1 G03G21/18C2 S03G215/00R

Classification Explorer

Cited documents: US5036358 A, EP0485271 A2, EP0473180 A2, EP0453963 A2, EP0314140 A2, EP0153824 A2,

Forward Citations: GB2282108, GB2282108, EP1403742, EP1403742,

Abstract:
Source: EP0584417A1 The present invention is characterized by an image bearing member (9), process means acting on the image bearing member (9), a first frame (15), a second frame (14) lockable and separable with respect to the first frame, a locking body (15a;15b) and a locking member (14a) lockable to the locking body (15a;15b) which are provided to separably interlock the first and second frames (14;15), and a recessed portion (15n) and a projection (14h) fittable into the recessed portion which are provided to separably interlock the first and second frames (14;15). With above construction it is possible to provide a process cartridge, an image forming system (A), and a method for assembling a cleaning device (13), which can be easily assembled and can sufficiently cope with a high number of re−cycles. There are additionally disclosed a method of attaching auxilliary parts to a processing cartridge and a method of assembling a cleaning unit. There are as well disclosed means for attaching additional parts into a processing cartridge.

0) US2014169837A – TONER CARTRIDGE

118) Family number: 50555527 (US2014169837A) © PatBase

Title: TONER CARTRIDGE

Priority: CN201110206041 20110722 WO2012CN078397 20120710

Family:

Publication number	Publication date	Application number	Application date
CN102331697 A	20120125	CN201110206041	20110722
CN102331697 B	20130109	CN201110206041	20110722
EP2735917 A1	20140528	EP20120817819	20120710
EP2735917 A4	20150408	EP20120817819	20120710
US2014169837 AA	20140619	US20120233806	20120710
US9063465 BB	20150623	US20120233806	20120710
WO13013572 A1	20130131	WO2012CN78397	20120710

Probable Assignee: ZHUHAI PRINT RITE CO LTD

Assignee(s):(std): PRINT RITE UNICOM IMAGE PRODUCTS CO LTD ; PRINT RITE UNICORN IMAGE PROD ; ZHUHAI PRINT RITE CO LTD ; ZHOU HONGHUI ; PRINT RITE UNICORN IMAGE PRODUCTS CO LTD OF ZHUHAI ; PRINT RITE UNICORN IMAGE PRODUCTS CO LTD ; HUANG ZONGQIAN ; PRINT RITE UNICORN IMAGE PRODUCTS CO LTD ZHUHAI

Assignee(s): PRINT RITE UNICOM IMAGE PRODUCTS CO ; PRINT RITE UNICORN IMAGE PRODUCTS CO ; ZHUHAI PRINT RITE CO

Inventor(s):(std): HONGHUI ZHOU ; ZONGQIAN HUANG ; ZHOU HONGHUI ; HUANG ZONGQIAN

Agent(s): RAYNOR SIMON MARK; LERNER DAVID LITTENBERG KRUMHOLZ AND MENTLIK LLP; INNOPAT INTELLECTUAL PROPERTY CO LTD

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9): G03G15/08 G03G21/18 (Advanced/Invention)

CPC: G03G15/0886 G03G15/087 G03G15/0872

US class: 1/1 399/262

Classification Explorer

Cited documents: US8295742 BB, US8170452 BB, US2009169247 AA, US2008145091 AA, US2007264055 AA, JP2011017783 A2, JP2010134330 A2, JP2008129287 A2, CN2630903 Y, CN201607617 U, CN102331697 A, CN101916059 A,

Forward Citations: WO13013572, USD735804, USD735803, US9500985, US9442421, US9063465,

Abstract:
Source: US2014169837A Disclosed is a toner cartridge. The toner cartridge comprises a rotary container body, a toner discharge port, a sealing component, a connection component and a transmission component. The toner discharge port is placed on the rotary container body. The sealing component is placed inside the toner discharge port. The connection component is slide−connected with the toner discharge port. The transmission component is slide−connected with the connection component. When the transmission component is driven to rotate, it drives the connection component, the toner discharge port, and the rotary container body to rotate together.

0) US2006008296A – IMAGE FORMING APPARATUS

119) Family number: 32560171 (US2006008296A) © PatBase

Title: IMAGE FORMING APPARATUS

Priority: EP20050015093 20050712 JP20040204329 20040712 US20050178286 20050712 US20100683964 20100107 JP20040204329 20041207 US20100774768 20100506

Family:

Publication number	Publication date	Application number	Application date
CN1722014 A	20060118	CN200510083357	20050712
CN1722014 B	20110316	CN200510083357	20050712
DE602005044978 D1	20141204	DE200560044978T	20050712
EP1617304 A1	20060118	EP20050015093	20050712
EP1617304 B1	20141022	EP20050015093	20050712
JP2006030241 A2	20060202	JP20040204329	20040712
JP4490195 B2	20100623	JP20040204329	20040712
KR100864103 B1	20081016	KR20050062067	20050711
KR20060050032 A	20060519	KR20050062067	20050711
US2006008296 AA	20060112	US20050178286	20050712
US2010129113 AA	20100527	US20100683964	20100107
US2010215397 AA	20100826	US20100774768	20100506

Probable Assignee: RICOH CO LTD

Assignee(s):(std)**:** HOSOKAWA HIROSHI ; KIMURA YOSHIYUKI ; KUWABARA NOBUO ; MURAKAMI WAKAKO ; NAGASHIMA HIROYUKI ; RICOH CO LTD ; SAMPE ATSUSHI ; ZEMBA HIDEKI ; RICOH KK

Assignee(s): RICOH COMPANY LTD ; RICOH CO

Inventor(s):(std)**:** ATSUSHI SAMPE ; HIDEKI ZEMBA ; HIROSHI HOSOKAWA ; HIROYUKI NAGASHIMA ; HOSOKAWA HIROSHI ; KIMURA YOSHIYUKI ; KUWABARA NOBUO ; MURAKAMI WAKAKO ; NAGASHIMA HIROYASU ; NAGASHIMA HIROYUKI ; NOBUO KUWABARA ; SAMPE ATSUSHI ; SAMPE ATSUSHI KIMURA YOSHIYUKI ; SANPEI ATSUSHI ; WAKAKO MURAKAMI ; YOSHINAMI HIDEKI ; YOSHIYUKI KIMURA ; ZEMBA HIDEKI ; SAMPE ATSUSHI KIMURA YOSHIYUKI HOSOKAWA HIROSHI NA

Inventor(s): SAMPE ATSUSHI KIMURA YOSHIYUKI HOSOKAWA HIROSHI NAGASHIMA HIROYUKI KUWABARA NOBUO MURAKAMI WAKAKO ZEMBA HIDEKI ; SAMPE ATSUSHI KIMURA YOSHIYUKI HOSOKAWA...

Agent(s): SCHWABE SANDMAIR MARX; OBLON SPIVAK MCCLELLAND MAIER AND NEUSTADT PC; OBLON SPIVAK MCCLELLAND MAIER AND NEUSTADT LLP

Designated states: DE ES FR GB IT NL

International class (IPC 8–9): G03G15/00 G03G15/01 G03G15/02 G03G15/04 G03G15/08 G03G21/16 G03G21/18 (Advanced/Invention) ; G03G15/00 (Advanced/Non–invention) ; G03G15/00 G03G15/01 G03G15/02 G03G15/04 G03G15/08 G03G21/16 G03G21/18 (Core/Invention)

CPC: G03G2221/1642 G03G2221/1884 G03G15/0194 G03G21/1619 G03G15/00

European class: G03G15/01S2 G03G21/16 S03G221/16G S03G221/18P4

US class: 399/110 399/111 399/167

Classification Explorer

Cited documents: US7212767 BB, US6832061 BB, US2005025520 AA, US2004170446 AA, US2004131381 AA, US2003044201 AA, US2002191991 AA, JP2004077554 A2, JP2004029057 A2, JP2003208073 A2, JP2003167412 A2, JP2000137377 A2, JP10186855 A2, EP1431837 A1, EP1431836 A2, EP1172708 A2, EP0689105 A2,

Forward Citations: US8894191, US8676099, US8649714, US8428479, US8073361, US7953331, US7949281, US7885581, US7771010, US7751730, US7708861, US7603053, US7483648, US2009214256, US2009116861, US2008124117, US2008069580,

US2007200895, US2007199671, US2006018680, JP5515866, JP2011185990, JP2010190977, JP2010002645, JP2009122604, JP2009009074, CN102385286,

Abstract:
Source: US2006008296A An image forming apparatus includes an endless transfer member and a plurality of image forming units. The endless transfer member is arranged at a transverse position in the image forming apparatus, and has a circulatory rotating surface declining at a predetermined angle to a horizontal plane. Each of the plurality of image forming units includes a first surface facing the endless transfer member and a second surface opposite to the first surface and angled in a similar direction to the endless transfer member. The plurality of image forming units perform an image forming operation and are arranged next to one another facing the endless transfer member such that, in any two adjacent image forming units of the plurality of image forming units, one of the any two adjacent image forming units has a portion overhanging the other one of the any two adjacent image forming units.

0) US4868599A – DEVICE AND METHOD FOR STORING TONER WASTE

120) Family number: 4623516 (US4868599A) © PatBase

Title: DEVICE AND METHOD FOR STORING TONER WASTE

Priority: JP19860127806 19860602 JP19860209316 19860905 US19870057882 19870602

Family:

Publication number	Publication date	Application number	Application date
JP62284380 A2	19871210	JP19860127806	19860602
JP63064072 A2	19880322	JP19860209316	19860905
US4868599 A	19890919	US19870057882	19870602
US5021825 A	19910604	US19890403513	19890906
US5038180 A	19910806	US19890400434	19890830

Probable Assignee: SEIKO EPSON CORP

Assignee(s):(std)**:** SEIKO EPSON CORP

Inventor(s):(std)**:** NIKI HIROSHI ; NIKI YUJI

International class (IPC 8–9)**:** G01N5/00 G03G21/00 G03G21/10 G03G21/12 (Advanced/Invention); G01N5/00 G03G21/00 G03G21/10 G03G21/12 (Core/Invention)

International class (IPC 1–7)**:** G01N5/00 G03G15/00 G03G21/00

CPC: Y10S222/01 G03G21/12

European class: G03G21/12

US class: 222/DIG.1 355/200 355/210 355/260 355/298 399/111 399/35 399/360

Classification Explorer

Cited documents: US4757344 A, US4754293 A, US4690544 A, US4685798 A, US4530594 A, US4491161 A, US4436414 A, US4436412 A, US4325628 A, US4251155 A, US4218132 A, US4174902 A, US4173405 A, US4140389 A, US3985436 A, US3947107 A, JPS6298376, JPS62294276, JPS6225776, JPS6210684, JPS62105176, JPS6151160, JPS60254072, JPS60107763, JPS60107663, JPS59155878, JPS58203479, JPS58147758, JPS5814177, JPS5726881, JPS55142364, JP62294276 A2, JP62105176 A2, JP62098376 A2, JP62025776 A2, JP62010684 A2, JP6156371 A2, JP6151160 A2, JP61051160 A2, JP60254072 A2, JP60107763 A2, JP60107663 A2, JP59155878 A2, JP58203479 A2, JP58147758 A2, JP58014177 A2, JP57026881 A2, JP5535504 T2, JP55142364 A2, EP0078019 A2, AU20744 A1,

Forward Citations: US9671743, US9523947, US9469130, US8836747, US8805216, US8369720, US7949275, US7426365, US7280776, US7257363, US7205738, US6961528, US6834173, US6731885, US6697589, US6580881, US6505009, US6151472, US6134410, US5809376, US5722019, US5594541, US5530521, US5465619, US5400127, US5268727, US5257076, US5204713, US5160964, US5138394, US5109254, US5084734, US2017010563, US2016078331, US2011243585, US2010196021, US2008260410, US2007065196, US2006120779, US2005260018, US2005212472, US2005163545, US2005008395, US2003086723,

Abstract:
Source: US4868599A In storing toner waste collected from the surface of an image carrier within an image forming apparatus, the toner waste is compressed within a container by a resilient cantilever member. A diaphragm located within the container expands through an opening of the container based on the pressure exerted on the diaphragm by the compressed toner waste. Upon traveling a predetermined distance, the diaphragm forces a switch to close which triggers an alarm indicating that the container is full of toner waste.

0) US2001022906A – IMAGE FORMING APPARATUS

121) Family number: 28105052 (US2001022906A) © PatBase

Title: IMAGE FORMING APPARATUS

Priority: JP19930261604 19930924

Family:

Publication number	Publication date	Application number	Application date
CN1058093 C	20001101	CN19941016753	19940924
CN1130266 A	19960904	CN19941016753	19940924
DE4415742 A1	19950330	DE19944415742	19940504
DE4415742 C2	19990930	DE19944415742	19940504
JP3452074 B2	20030929	JP19930261604	19930924
JP7092789 A2	19950407	JP19930261604	19930924
KR0133629 B1	19980423	KR19940023951	19940923
KR19950009368 A	19950421	KR19940023951	19940923
US2001022906 AA	20010920	US19940220205	19940330

Probable Assignee: FUJITSU LTD

Assignee(s):(std)**:** FUJITSU LTD ; FUJITSU CO LTD

Assignee(s): FUJITSU LIMITED ; FUJITSU CO ; FUJITSU LTD KAWASAKI ; FUJITSU LTD KAWASAKI KANAGAWA JP ; KAWAI HIROYUKI ; SASAKI SACHIO ; SATO SHINJI ; NAGAHARA AKIRA ; SATO MITSURU ; TAKAHASHI TAKEFUMI ; KONISHI MASAO ; WANOU MASAHIRO

Inventor(s):(std)**:** AKIRA NAGAHARA ; DAKAHASHI DAKEFUMI ; GAWAI HIROYUKI ; GONISI MASHO ; HIROYUKI KAWAI ; KAWAI HIROYUKI ; KONISHI MASAO ; SASAKI SACHIO ; SASAKI YUKIO ; SATO MITSURU ; SATO SHINJI ; SHASHAKI SHACHIO ; SHATO MITSURU ; SHATO SHING ; SHINJI SATO ; TAKAHASHI TAKEFUMI ; TAKAHASHI TAKESHI ; WANO MASAHIRO ; WANO MASHAHIRO ; WANOU MASAHIRO ; NAGAHARA AKIRA

Inventor(s): WANOU MASAHIRO KAWASAKI KANAGAWA JP ; TAKAHASHI TAKEFUMI INAGI TOKIO TOKYO JP ; SATO SHINJI INAGI TOKIO TOKYO JP ; SATO MITSURU KAWASAKI KANAGAWA JP ; SASAKI SACHIO KAWASAKI KANAGAWA JP ; KONISHI MASAO KAWASAKI KANAGAWA JP ; NAGAHARA AKIRA KAWASAKI KANAGAWA JP ; KAWAI HIROYUKI KAWASAKI KANAGAWA JP

International class (IPC 8–9): G03G15/08 (Advanced/Invention); G03G15/00 (Advanced/Non–invention); G03G15/08 (Core/Invention)

International class (IPC 1–7): G03G15/00 G03G15/08

CPC: G03G15/0875 G03G15/0877 G03G15/0896 G03G2215/00012

European class: G03G15/08H3D G03G15/08S S03G215/00A2

US class: 399/262

Classification Explorer

Cited documents: US5091748 A, US4650097 A, JP5224532 A2, JP5173419 A2, EP0618513 A2,

Forward Citations: US8116665, US7865091, US2008166143, JP8314333, JP3669007, EP0827042, EP0827042,

Abstract:
Source: US2001022906A Disclosed is an image forming apparatus which will form images in both a horizontal position and an upright position. This image forming apparatus comprises a rotary endless latent image carrier; an image forming unit for forming an electrostatic latent image on the latent image carrier; a developing unit for developing the electrostatic latent image on the latent image carrier with a powdery developer; a toner supplementing mechanism, attached to the developing unit with inclination to a gravitational direction of the apparatus, for supplementing toners to the developing unit; and a transfer unit for transferring the developed image on the latent image carrier to a sheet. With this design, the apparatus can stably supply toners to the developing unit, regardless of the position in which the apparatus is set.

0) US2002154480A – CARTRIDGE FOR ELECTRONIC DEVICES

122) Family number: 28826915 (US2002154480A) © PatBase

Title: Cartridge for electronic devices

Priority:

US19930026902 19930305
US20020128731 20020424
US20080016646 20080118
US20070684770 20070312
US20030727400 20031203
WO1992JP00649 19920520
US19950439633 19950512
US19990452625 19991201
US20080016616 20080118
US20050314726 20051220
US20030442873 20030521
US20020315781 20021210
US19970866195 19970530
US20040128731 20040424
US20040962364 20041008
US20090509644 20090727

Family:

Publication number	Publication date	Application number	Application date
DE69227522 D1	19981210	DE19926027522	19920520
DE69227522 T2	19990506	DE19926027522T	19920520
EP0608418 A1	19940803	EP19920910593	19920520
EP0608418 A4	19950802	EP19920910593	19920520
EP0608418 B1	19981104	EP19920910593	19920520
US2002154480 AA	20021024	US20020128731	20020424
US2003086245 AA	20030508	US20020315781	20021210
US2003198023 AA	20031023	US20030442873	20030521
US2004141294 AA	20040722	US20030727400	20031203
US2005047096 AA	20050303	US20040962364	20041008
US2006158858 AA	20060720	US20050314726	20051220
US2007177357 AA	20070802	US20070684770	20070312
US2008158829 AA	20080703	US20080016646	20080118
US2009185513 AA	20090723	US20080016616	20080118
US2009284913 AA	20091119	US20090509644	20090727
US5659459 A	19970819	US19950439633	19950512
US6025993 A	20000215	US19970866195	19970530
US6404639 BA	20020611	US19990452625	19991201
US6515864 BB	20030204	US20020128731	20020424
US6608753 BB	20030819	US20020315781	20021210
US6771509 BB	20040803	US20030442873	20030521
US6845014 BB	20050118	US20030727400	20031203
US7035108 BB	20060425	US20040962364	20041008
US7345883 BB	20080318	US20070684770	20070312
US7359202 BB	20080415	US20050314726	20051220
US7583505 BB	20090901	US20080016646	20080118
US7804688 BB	20100928	US20090509644	20090727
US8213431 BB	20120703	US20080016616	20080118
WO9323825 A1	19931125	WO1992JP00649	19920520

Probable Assignee: SEIKO ESPON CORP

Assignee(s):(std): BOEING CO ; FLEISCHMAN ERIC W ; SEIKO EPSON CORP ; WAKABAYASHI KENICHI ; TAKAYAMA CHITOSHI ; SHIOZAKI TADASHI ; SEIKO ESPON CORP

Assignee(s): SEIKO EPSON CORP TOKIO TOKYO JP

Inventor(s):(std): FLEISCHMAN ERIC W ; SHIOZAKI TADASHI ; TAKAYAMA CHITOSHI ; WAKABAYASHI KEN ICHI ; WAKABAYASHI KENICHI

Inventor(s): WAKABAYASHI KEN ICHI SUWA SHI NAGANO KEN 392 JP ; TAKAYAMA CHITOSHI SUWA SHI NAGANO KEN 392 JP ; SHIOZAKI TADASHI SUWA SHI NAGANO KEN 392 JP ; SEIKO EPSON CORP

Agent(s):

TOWNSEND AND TOWNSEND AND CREW LLP; HARNESS DICKEY AND PIERCE PLC

Designated states: AT BE CH DE DK ES FR GB GR IT JP LU MC NL SE

International class (IPC 8–9): G06K19/077 H04B7/00 H04L12/56 H05K7/20 (Advanced/Invention); H04B7/00 H05K7/20 (Core/Invention)

International class (IPC 1–7): G06F1/20 G06K19/00 G06K19/077 G11C5/04 H05K5/02 H05K7/20 H05K9/00

CPC: B41J29/377 G06K19/077 G06K19/07735 G06K19/07741 G06K19/07743 H05K5/0208 H05K5/0256 H05K7/20445 H04L65/4069 H04L65/607 H04L65/80 H04L1/0083

European class: B41J29/377 G06K19/077 G06K19/077E9 G06K19/077G4 G06K19/077K H04L1/00F2 H04L29/06M6E H05K5/02C H05K5/02H H05K7/20F2 H05K7/20F4B T04L29/06M4S T04L29/06M8

US class: 174/51 257/718 257/719 257/719S 358/1.16 361/679.32 361/679.54 361/679.540P 361/687 361/704 361/705 361/714 361/714S 361/719 361/719P 361/737 361/737S 361/753 361/818 365/52 370/310 370/310P 370/392 370/392S 711/115

Classification Explorer

Cited documents: WO0106732 A1, US7345883 BB, US7310685 BB, US7286479 BB, US7284162 BB, US7161929 BA, US7035108 BB, US6990111 BB, US6907039 BB, US6845014 BB, US6845014 BA, US6845014 B1, US6771509 BB, US6771509 BA, US6771509 B1, US6608753 BB, US6608753 BA, US6608753 B1, US6515864 BB, US6515864 BA, US6515864 B1, US6515823 BB, US6515823 BA, US6515823 B1, US6404639 BA, US6025993 A, US5659459 A, US5616085 A, US5615085 A, US5548487 A, US5526229 A, US5504669 A, US5481656 A, US5475563 A, US5474563 A, US5473506 A, US5437041 A, US5432913 A, US5424913 A, US5389819 A, US5289342 A, US5287247 A, US5262922 A, US5241453 A, US5227631 A, US5208732 A, US5198965 A, US5195176 A, US5187645 A, US5184211 A, US5162610 A, US5142614 A, US5138521 A, US5136464 A, US5136146 A, US5060112 A, US5031076 A, US5024264 A, US5016086 A, US4987478 A, US4962444 A, US4914551 A, US4887148 A, US4879632 A, US4872091 A, US4855869 A, US4849944 A, US4833570 A, US4823234 A, US4791608 A, US4771365 A, US4739444 A, US4729060 A, US4682566 A, US4649990 A, US464990 A, US4639829 A, US4636916 A, US4626980 A, US4626960 A, US4621304 A, US4563725 A, US4557225 A, US4545030 A, US454030 A, US4521829 A, US4517624 A, US4381552 A, US4323914 A, US4323478 A, US4137563 A, US4092697 A, US4029999 A, US4027206 A, US3993123 A, US325262 A, US3225262 A, US2011149838 AA, US2008212566 AA, US2006029074 AB, US2006029035 AA, US2005175009 AA, US2005041591 AA, US2004228343 AA, US2004181740 AA, US2004141294 AA, US2003198023 AA, US2003137974 AA, US2003086245 AA, JPS6350096, JPS63208251, JPS63184397, JPS63181385, JPS63167796, JPS63119554, JPS6245841, JPS621181, JPS61222763, JPS6032397, JPS60254641, JPS60173791, JPS59194458, JPS5830994, JPS58201349, JPS58162694, JPS58140691, JPS5775499, JPS5775498, JPS542834, JP64074797 A2, JP64074797, JP63292661 A2, JP63289999 A2, JP63284896 A2, JP63284869, JP63278261 A2, JP63208251 A2, JP63187796 U1, JP63184397 A2, JP63181385 A2, JP63167796 U1, JP63167796 A2, JP63119554 A2, JP63050096 A2, JP63020825 A2, JP62045841 U1, JP62045841 A2, JP62001181 A2, JP61222763 A2, JP60254841 A2, JP60254641 A2, JP60179791 A2, JP60173791 A2, JP60032397 A2, JP59194458 A2, JP58201349 A2, JP58162694 A2, JP58140691 A2, JP58030994 A2, JP57198798 A2, JP57075499 A2, JP57075498 A2, JP56129353 A2, JP54002834 A2, JP53091375 A2, JP363208251, JP36320825 A1, JP3182397, JP3036615, JP3022160 A2, JP3011409 A2, JP3006724 A2, JP2277700 A2, JP2253289 A2, JP2123798 U1, JP2123798, JP2119299 A2, JP2066962 A2, JP2066962, JP2058789 A2, JP1319194 A2, JP1319194, JP1298753 A2, JP1298753, JP1220898 A2, JP1220898, JP1200898 A2, JP1165415 A2, JP1140799 A2, JP1140799, JP1122195 A2, JP1122195, JP11066962 A2, JP1089791 U1, JP1089791 A2, JP1089791, JP1074797 A2, GBA2248973, GB2248973 A1, GB2164803 A1, FR2601791 A1, EP0198378 A2, DE9112099 U, DE9112099, DE3416348 A1, DE3237878 A1,

Forward Citations: WO09061948, WO04063867, WO04063867, WO0141521, USRE40154, USRE40150, USD769833, USD727861, USD700899, USD691101, USD673515, USD622663, USD617289, USD603352, USD576968, USD574337, USD562818, US9674987, US9635768, US9615490, US9578760, US9577759, US9485893, US9367297, US9362040, US9320162, US9258934, US9254531, US9215833, US9184850, US9142477, US9079434, US9076593, US9042120, US9035597, US9030822, US8971041, US8971038, US8964392, US8902582, US8885360, US8885334, US8849123, US8830665, US8810833, US8742255, US8727794, US8687371, US8681503, US8630093, US8614900, US8547703, US8515284, US8456842, US8432670, US8406142, US8368207, US8315043, US8314522, US8289721, US8244941, US8243454, US8218335, US8159956, US8086100, US8066528,

US8049319, US7864535, US7804688, US7782621, US7705873, US7705442, US7697300, US7696614, US7684620, US7646598, US7645005, US7583505, US7582959, US7542294, US7502229, US7490336, US7447004, US7433184, US7369413, US7359202, US7345883, US7292459, US7291783, US7255577, US7253365, US7193844, US7190589, US7145781, US7118281, US7103760, US7037011, US7035108, US6994478, US6974265, US6943854, US6942395, US6934150, US6904842, US6883971, US6882536, US6874953, US6865349, US6863547, US6863448, US6853560, US6851867, US6840680, US6832856, US6814502, US6811317, US6796715, US6782347, US6781847, US6781846, US6771509, US6767147, US6722908, US6704204, US6692159, US6669095, US6661664, US6659655, US6654828, US6644876, US6628529, US6608753, US6607308, US6585534, US6547570, US6522542, US6515871, US6515864, US6505665, US6487082, US6485322, US6449163, US6411514, US6404639, US6381136, US6351394, US6343020, US6272021, US6267606, US6252313, US6251219, US6250934, US6239973, US6220878, US6201704, US6195597, US6157538, US6089919, US6046905, US6043983, US6031718, US6026187, US6025993, US5973399, US5838542, US5807005, US2017094092, US2017023970, US2016119812, US2016106006, US2015319890, US2015264820, US2015109747, US2014298104, US2014268578, US2014252649, US2014016283, US2013271923, US2013107434, US2013083499, US2013058052, US2013044436, US2012155031, US2012044521, US2011292621, US2011289521, US2011242762, US2011216507, US2011205710, US2011103027, US2011013370, US2010102425, US2010039786, US2009287863, US2009284913, US2009251867, US2009225522, US2009215285, US2009190290, US2009184155, US2009116194, US2009097209, US2009091889, US2009067134, US2009034180, US2009032291, US2008316720, US2008266812, US2008225477, US2008158829, US2008158808, US2008144290, US2008125035, US2008100668, US2008023818, US2007249188, US2007243748, US2007218719, US2007217176, US2007188692, US2007177357, US2007153485, US2007153484, US2007147004, US2006234541, US2006215910, US2006203439, US2006185890, US2006158858, US2006139900, US2006139860, US2006104034, US2006082974, US2006064708, US2005248916, US2005183872, US2005151762, US2005120003, US2005088827, US2005047096, US2004267380, US2004232447, US2004219842, US2004179882, US2004127102, US2003231478, US2003215245, US2003198023, US2003174486, US2003169572, US2003139083, US2003096524, US2003040353, US2003030989, US2002171857, GB2378823, GB2378823, GB2334386, GB2334386, GB2327540, EP1785807, EP1785807, EP1429276, EP1282198, CN105375415, CN102833156, CN102833156,

Abstract:
Source: US2002154480A An add−on cartridge structure for electronic devices having a housing formed from upper and lower case sections. The upper case is typically made from plastic and has a conductive layer formed on inside surfaces, while the lower case is made from a metallic material such as aluminum. A wall−like mating member is disposed on an outer edge of the lower case, and mates with the sides of the upper case to form a nearly rectangular cross section housing. The double conductive layer formed by the outside surface of the mating member and the inside surface of the upper case prevents leakage of electromagnetic radiation from the cartridge. Furthermore, high frequency noise is prevented by grounding both the signal ground of the printed circuit board and the frame ground at multiple locations. The conductive layer has a surface break caused by a through−hole through which the printed circuit board plug protrudes to the outside. Such an opening tends to allow electromagnetic noise to leak outside of the casing, but by grounding the signal and frame grounds at locations near the ends and middle of the plug, harmful noise from electromagnetic radiation is reduced.

0) US2010232815A – TONER CARTRIDGE CAPABLE OF DETECTING RESIDUAL A...

123) Family number: 46844170 (US2010232815A) © PatBase

Title: TONER CARTRIDGE CAPABLE OF DETECTING RESIDUAL AMOUNT OF TONER STORED THEREIN

Priority: US20090402774 20090312

Family:

Publication number	Publication date	Application number	Application date
US2010232815 AA	20100916	US20090402774	20090312

Probable Assignee: ZHENG CHUNHUA

Assignee(s):(std)**:** ZHENG CHUNHUA

Inventor(s):(std)**:** ZHENG CHUNHUA

Agent(s): RABIN AND BERDO PC

International class (IPC 8–9)**:** G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)

CPC: G03G15/553 G03G2215/066 G03G15/556 G03G15/0856 G03G15/0858 G03G15/0865

European class: G03G15/08H2 G03G15/55B S03G215/06C

US class: 399/254 399/254S 399/27 399/27P

Classification Explorer

Cited documents: US7509081 BB, US7177567 BB, US6510303 BB, US5884130 A,

Forward Citations: US9575460, US9557684, US9529319, US9494914, US9454098, US9395684, US9207632, US9195207, US9188904, US8971772, US8831445, US8213839, US2015185691, US2013322928, US2011286754, US2010098461, JP2013222137,

Abstract:
Source: US2010232815A The present invention provides a toner cartridge which comprises: a hopper for storing toner therein; a stirring means comprising a first paddle connected to a driving source and adapted to rotate in the hopper, and a second paddle connected to the first paddle by means of an elastic member, the stirring means being adapted to stir the toner in the hopper by the first paddle and the second paddle; and a detection means comprising an encoder having a first slit and a second slit formed thereon for transmitting light therethrough, the second slit having a width different from that of the first slit, an encoder gear connected to the second paddle for driving the encoder, and a sensor 590 mounted at a sensor reference position for outputting a first signal corresponding to the first slit and a second signal corresponding to the second slit, whereby the sensor detects a time delay of the second signal with respect to the first signal to measure the residual amount of the toner. The present invention also provides an electrophotographic image forming apparatus including the toner cartridge.

0) US5087939A – IMAGE FORMING APPARATUS AND IMAGE MEMBER CARTRI...

124) Family number: 10529403 (US5087939A) © PatBase

Title: IMAGE FORMING APPARATUS AND IMAGE MEMBER CARTRIDGE

Priority: EP19920912927 19920203 US19910650259 19910204 WO1992US00675 19920203 US19910650325 19910204 US19910650260 19910204

Family:

Publication number	Publication date	Application number	Application date
DE69203807 D1	19950907	DE19926003807	19920203
DE69203807 T2	19960321	DE19926003807T	19920203
DE69220510 D1	19970724	DE19926020510	19920203
DE69220510 T2	19971204	DE19926020510T	19920203
EP0523235 A1	19930120	EP19920912927	19920203
EP0523235 B1	19950802	EP19920912927	19920203
EP0651300 A2	19950503	EP19950100526	19920203
EP0651300 A3	19950920	EP19950100526	19920203
EP0651300 B1	19970618	EP19950100526	19920203
JP6501574 T2	19940217	JP19920511583T	19920203
US5087939 A	19920211	US19910650260	19910204
US5138372 A	19920811	US19910650325	19910204
WO9215049 A2	19920903	WO1992US00675	19920203
WO9215049 A3	19930121	WO1992US00675	19920203

Probable Assignee: EASTMAN KODAK CO

Assignee(s):(std)**:** EASTMAN KODAK CO

Assignee(s): EASTMAN KODAK CO A CORP OF NJ ; EASTMAN KODAK CO ROCHESTER N Y US ; EASTMAN KODAK COMPANY

Inventor(s):(std)**:** DECECCA MICHAEL L ; MC DOUGAL DAVID ; MC DOUGAL DAVID RICHARD ; MCDOUGAL DAVID R ; MCDOUGAL DAVID RICHARD ; MCDOUGAL DAVID RICHARD C O EAS ; O DEA DENNIS ; O DEA DENNIS JAMES ; O DEA DENNIS JAMES C O EASTMAN ; RYDELEK JAMES ; RYDELEK JAMES GERARD ; RYDELEK JAMES GERARD C O EASTM ; DE CECCA MICHAEL ; DE CECCA MICHAEL LOUIS

Inventor(s): DE CECCA MICHAEL LOUIS FAIRPORT NY 14450 US ; RYDELEK JAMES GERARD C O EASTMAN KODAK CO ; RYDELEK JAMES GERARD C O EASTMAN KODAK CO ROCHESTE ; RYDELEK JAMES GERARD ROCHESTER NY 14609 US ; O DEA DENNIS JAMES C O EASTMAN KODAK CO ; O DEA DENNIS JAMES C O EASTMAN KODAK CO ROCHESTER ; O DEA DENNIS JAMES MACEDON NY 14502 US ; MCDOUGAL DAVID RICHARD C O EASTMAN KODAK CO ; MCDOUGAL DAVID RICHARD C O EASTMAN KODAK CO ROCHES ; MCDOUGAL DAVID RICHARD C O EASTMAN KODAK CO ROCHESTER NEW YORK 14650 2201 US ; MC DOUGAL DAVID RICHARD FAIRPORT NY 14450 US

Designated states: AT BE CH DE DK ES FR GB GR IT JP LU MC NL SE

International class (IPC 8–9): G03G15/00 G03G15/01 G03G15/16 G03G21/00 G03G21/16 G03G21/18 (Advanced/Invention); G03G15/16 G03G21/18 (Core/Invention)

International class (IPC 1–7): G03G15/00 G03G15/01 G03G15/16 G03G21/00 G03G21/18

CPC: G03G21/1623 G03G21/1647 G03G21/168 G03G15/1615 G03G21/1857 G03G21/1853 G03G15/01 G03G15/0131 G03G15/167 G03G21/1864 G03G2215/018 G03G2221/1603 G03G2221/1642 G03G2221/1651 G03G2221/1654 G03G2221/1657 G03G2221/183

European class: G03G15/01 G03G15/01D14 G03G15/16A G03G15/16F1 G03G21/18H1V G03G21/18H2 G03G21/18H2P S03G215/01S2B S03G221/16A S03G221/16G S03G221/16K S03G221/16K1 S03G221/16K2 S03G221/18P

US class: 355/200 355/210 355/271 399/111 399/121 399/167

Classification Explorer

Cited documents: US5070370 A, US5001515 A, US4994853 A, US4952989 A, US4947208 A, US4939541 A, US4914482 A, US4910558 A, US4876577 A, US4821066 A, US4723145 A, US4712906 A, US4591258 A, US4453820 A, US4068937 A, JPS59220756, JPS58105268, JP59097167, GB2091640 A1, EP0376617 A2, EP0331897 A1, EP0318078 A1,

Forward Citations: WO9315446, US8818238, US7302208, US5953560, US5722015, US5659857, US5638161, US5491544, US5485256, US5479245, US5469247, US5440373, US5428426, US5371575, US5323213, US5313993, US5296894, US5291247, US5282002, US5268719, US5255053, US2012251149, US2009116882, US2007087283, US2005231821, CN102707601, CN102707601,

Abstract:
Source: US5087939A An image forming apparatus includes an image member supplied to the apparatus in an image member cartridge and a transfer member which engages the image member through an access opening in the cartridge. The transfer member is driven by a motor in the image forming apparatus and in turn drives the image member in the cartridge, eliminating the need for a separate driving connection between the image forming apparatus and the image member.

0) US4778086A – TONER REPLENISHING DEVICE

125) Family number: 6645786 (US4778086A) © PatBase

Title: TONER REPLENISHING DEVICE

Priority: JP19860043446 19860227 JP19860043447 19860227

Family:

Publication number	Publication date	Application number	Application date
DE3766981 D1	19910207	DE19873766981	19870225
EP0235732 A1	19870909	EP19870102633	19870225
EP0235732 B1	19901227	EP19870102633	19870225
JP1912485 C3	19950309	JP19860043446	19860227
JP1912486 C3	19950309	JP19860043447	19860227
JP6042104 B4	19940601	JP19860043446	19860227
JP6042105 B4	19940601	JP19860043447	19860227
JP62200377 A2	19870904	JP19860043446	19860227
JP62200378 A2	19870904	JP19860043447	19860227
US4778086 A	19881018	US19870218573	19870225

Probable Assignee: MITA INDUSTRIAL CO LTD

Assignee(s):(std): MITA INDUSTRIAL CO LTD

Assignee(s): MITA INDUSTRIAL CO LTD OSAKA JP ; MITA INDUSTRIAL CO LTD REPRESENTATIVE MITA YOSHIHIRO TAMATSUKURI 1 2 28 HIGASHI KU OSAKA SHI OSAKA JAPAN ; MITA IND CO LTD ; MITA INDUSTRIAL CO

Inventor(s):(std): ODA KENJI ; SHIBATA KIYOSHI

Inventor(s): SHIBATA KIYOSHI OSAKA SHI OSAKA JP ; SHIBATA KYOSHI ; ODA KENJI TOYONAKA SHI OSAKA JP

Designated states: DE FR GB

International class (IPC 8–9): G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)

International class (IPC 1–7): B67D3/00 G03G15/08

CPC: Y10S222/01 G03G15/0882

European class: G03G15/08H3P

US class: 141/364 222/325 222/541 222/541.1 222/DIG.1

Classification Explorer

Cited documents: US4650070 A, US4614286 A, US4573614 A, US4491161 A, US4062385 A, US3385500 A, US2673007 A, JPS5941364 U, JP60177372 A2, JP60107056, JP59041365 U1, JP59041364 U1, JP59041364 U, EP0102002 A2, DE3011938 A1, DE2610661 A1,

Forward Citations: USRE36920, USRE35529, US6356724, US5878306, US5676794, US5525183, US5404212, US5282003, US5261568, US5260749, US5223068, US5184182, US5177540, US5122837, US5018560, US4997016, US4976465, US4931838, US4895104, JP2148073, JP2006321251, GB2230872, GB2230872, GB2208209, FR2748331, EP0583803, EP0583803, EP0400623, EP0356233, EP0330225, DE4134997, BE1003979,

Abstract:
Source: US4778086A A toner replenishing device is improved to prevent unexpected dropping of toner when attaching a toner storage cartridge to a toner receptacle of a developer and detaching it therefrom. The cartridge is easily attached to the developer and is hooked in place thereto when a sheet sealing an open end of the cartridge is removed. The cartridge easily is detached from the developer by the operation of a cam portion engaging with a hooking member as a result of displacement of the cartridge by a distance equal to the thickness of the sheet and a sheet tearing member which previously are removed from the cartridge.

0) US6101350A – PHOTOSENSITIVE MEMBER CARTRIDGE AND DEVELOPER C...

126) Family number: 12442805 (US6101350A) © PatBase

Title: PHOTOSENSITIVE MEMBER CARTRIDGE AND DEVELOPER CARTRIDGE FOR USE IN AN IMAGE–FORMING APPARATUS

Priority: JP19990050231 19990226

Family:

Publication number	Publication date	Application number	Application date
AT229192 E	20021215	AT19990117656T	19990907
CN100356277 C	20071219	CN200410078994	19991008
CN1174292 C	20041103	CN19991021002	19991008
CN1264854 A	20000830	CN19991021002	19991008
CN1591231 A	20050309	CN200410078994	19991008
DE69904287 D1	20030116	DE19996004287	19990907
DE69904287 T2	20030717	DE19996004287T	19990907
EP1031891 A1	20000830	EP19990117656	19990907
EP1031891 B1	20021204	EP19990117656	19990907
ES2189325 T3	20030701	ES19990117656T	19990907
HK1030658 A1	20050715	HK20010101423	20010227
JP2000250310 A2	20000914	JP19990050231	19990226
US6101350 A	20000808	US19990281947	19990331

Probable Assignee: BROTHER KOGYO KK

Assignee(s):(std)**:** BROTHER IND LTD

Assignee(s): BROTHER KOGYO K K ; BROTHER KOGYO K K NAGOYA ; BROTHER KOGYO KABUSHIKI KAISHA ; BROTHER KOGYO KK

Inventor(s):(std)**:** TSUTOMU SUZUKI ; SUZUKI TSUTOMU ; SHOGO SATO ; SATO SHOUGO ; SATO SHOGO ; OSAMU SATO SHOGO SUZUKİ TSUTOM ; OSAMU OKABE ; OKABE YASUSHI ; OKABE OSAMU

Inventor(s): SATO SHOGO SUZUKI TSUTOMU OKABE OSAMU ; SHOUGO SATO ; YASUSHI OKABE

Designated states: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

International class (IPC 8–9)**:** G03G15/08 G03G21/16 G03G21/18 (Advanced/Invention); G03G15/08 G03G21/16 G03G21/18 (Core/Invention)

International class (IPC 1–7)**:** G03G15/00 G03G15/04 G03G15/06 G03G15/08 G03G15/08 G03G15/14 G03G21/16 G03G21/18

CPC: G03G21/1853 G03G15/0896 G03G21/1864 G03G2221/1853

European class: G03G15/08S G03G21/16 G03G21/18H1V G03G21/18H2P S03G221/18P3

US class: 399/111 399/113 399/119

Classification Explorer

Cited documents: US6041203 A, US5890036 A, US5878309 A, US5845176 A, US5805959 A, US5749027 A, US5740491 A, US5537187 A, US5266998 A, US5204713 A, US5170212 A, US5142322 A, US5089849 A, US5028966 A, US4794420 A, US4432632 A, JPH0962099, JP9319285 A2, JP9244484 A2, JP9062099 A2, JP8054786 A2, JP6095234 A2, JP5216304 A2, EP0757302 A2,

Forward Citations: WO14010123, WO03069414, USD471583, USD471228, US9639054, US9606497, US9507316, US9383720, US9182716, US9152082, US9075389, US9058013, US8918012, US8706005, US8626024, US8559843, US8483595, US8457525, US8233816, US8213825, US8185014, US8126366, US8121520, US8121518, US8078083, US8073358, US8032056, US8005392, US7957669, US7949283, US7925183, US7925181, US7899358, US7873296, US7862030, US7844197, US7840154, US7826767, US7796915, US7792459, US7761025, US7747192, US7742720, US7689139, US7639969, US7565094, US7546063, US7542709,

US7539448, US7539447, US7539446, US7522859, US7512363, US7506866, US7457563, US7419319, US7369791, US7245850, US7242874, US7231167, US7224923, US7218878, US7212769, US7190921, US7189019, US7184688, US7174117, US6947687, US6923586, US6879792, US6873810, US6871031, US6792229, US6785485, US6767149, US6751428, US6690903, US6678489, US6612763, US6580888, US6546217, US6501933, US6411789, US6405004, US6330410, US2014086635, US2013259519, US2011236100, US2011206410, US2011020032, US2010296837, US2010296836, US2010260516, US2010158576, US2010040392, US2009304412, US2009175652, US2009169257, US2009169248, US2009169247, US2008247776, US2008212993, US2008199204, US2008170882, US2007264045, US2007242977, US2007147941, US2007071483, US2007071481, US2007071480, US2006275052, US2006257163, US2006140671, US2006056878, US2006056877, US2006056876, US2005226673, US2005220461, US2005135837, US2004265000, US2004234320, US2004190938, US2004184834, US2004179859, US2004126133, US2004126132, US2004037587, KR101023279, JP5982961, JP5895400, JP2013210541, JP2013050493, JP2011197197, JP2009162905, JP2008058405, JP2007206453, JP2007108691, EP3146392, EP2645183, EP2645183, EP2081090, EP2081090, EP2075649, EP1768001, EP1686429, EP1643313, EP1571504, EP1515198, EP1515198, CN105101933, CN103365190,

Abstract:
Source: US6101350A A photosensitive member cartridge, having a photosensitive drum, is provided with guide grooves formed in opposite side walls of the photosensitive member cartridge. The guide grooves extend in an accurate shape from an upwardly open accommodating portion to a vicinity of a shaft of the photosensitive drum. A shaft of a developing roller has protruded opposite end portions that protrude outward from opposite sides of a case of a developer cartridge. The protruded end portions of the developing roller shaft are provided with bearings. When the developer cartridge is inserted into the accommodating portion toward the photosensitive drum, the guide grooves support and guide the bearings on the end portions of the developing roller shaft, so that the developer cartridge becomes properly set in the accommodating portion. An inverted triangular−shaped action−receiving portion, protruding from the outer surface of one of the opposite sides of the developer cartridge, is restrained from above by a lower contact portion of a lock lever that is disposed in the accommodating portion.

127) Family number: 33994401 (US2006280526A) © PatBase

Title: TONER CARTRIDGE AND MECHANISM FOR OPENING AND CLOSING A TONER DISCHARGING OPENING

Priority: JP20050016942 20050609 JP20050169421 20050609

Family:

Publication number	Publication date	Application number	Application date
JP2006343560 A2	20061221	JP20050169421	20050609
JP4629508 B2	20110209	JP20050169421	20050609
US2006280526 AA	20061214	US20060423031	20060608
US7801468 BB	20100921	US20060423031	20060608

Probable Assignee: OKI DATA CORP

Assignee(s):(std): OKI DATA KK

Assignee(s): OKI DATA CORP

Inventor(s):(std): SHIMOMURA TATSUHIKO

Agent(s): AKIN GUMP STRAUSS HAUER AND FELD LLP; PANITCH SCHWARZE BELISARIO AND NADEL LLP

International class (IPC 8–9): G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)

CPC: G03G15/0886 G03G15/0855 G03G15/0865 G03G2215/067

European class: G03G15/08H3 S03G215/06C1A2

US class: 399/258 399/260

Classification Explorer

Cited documents: US6324371 BA, US5956546 A, US5608501 A, US2007212118 AA, US2006104671 AA, US2004091288 AA, JP7181793 A2, JP6214461 A2, JP6102763 A2, JP3271783 A2, JP2004170790 A2, JP11084838 A2,

Forward Citations: US9696657, US9459556, US9188950, US9146497, US8811861, US8655236, US8467708, US8385772, US8358953, US8260169, US8208836, US8200127, US8165505, US7949287, US7548710, US2016139540, US2013243491, US2012114385, US2011280619, US2011103845, US2011052266, US2009263165, US2009190963, US2009185833, US2009052949, US2009016767, US2008101821, JP5879928, JP2013092660, JP2009175403, EP2290461, EP2290461,

Abstract:
Source: US2006280526A A toner cartridge and a developing unit are used in an image forming apparatus. The toner cartridge includes a toner chamber, an inner shutter, and an outer shutter. The toner chamber holds toner therein and has an opening through which the toner is discharged into the developing unit. The inner shutter is disposed in the toner chamber and is rotatable relative to the toner chamber to close and open the opening. The outer shutter has an engagement portion, is mounted to an outer surface of the toner chamber, and is movable either to a closing position where said outer shutter closes the opening or to an opening position where the outer shutter opens the opening. When the toner cartridge is moved into the developing unit, the engagement portion is guided in a guide groove formed in the developing unit to move relative to the toner chamber from the closing position to the opening position.

128) Family number: 30912793 (US5410641A) © PatBase

Title: Intelligent cartridge for attachment to a printer to perform image processing tasks in a combination image processing system and method of image processing

Priority: JP19910305457 19911023 JP19920504705T 19920224 US19910816455 19911230 US19920883753 19920515 US19950461224 19950605 WO1992JP00245 19920227 US19920895536 19920608 WO1992JP00197 19920224 US19950372488 19950112 WO1992JP00337 19920319

Family:

Publication number	Publication date	Application number	Application date
EP0572665 A1	19931208	EP19920905293	19920224
EP0572665 A4	19941102	EP19920905293	19920224
EP0572668 A1	19931208	EP19920906231	19920227
EP0572668 A4	19941102	EP19920906231	19920227
EP0572668 B1	19971105	EP19920906231	19920227
JP3097130 B2	20001010	JP19920504705T	19920224
JP3103867 B2	20001030	JP19920506734T	19920319
US5410641 A	19950425	US19910816455	19911230
US5461705 A	19951024	US19920883753	19920515
US5504669 A	19960402	US19920911558	19920707
US5537517 A	19960716	US19950461224	19950605
US5592595 A	19970107	US19950372488	19950112
WO9308027 A1	19930429	WO1992JP00197	19920224
WO9308028 A1	19930429	WO1992JP00245	19920227
WO9308029 A1	19930429	WO1992JP00337	19920319

Probable Assignee: SEIKO EPSON CORP

Assignee(s):(std)**:** SEIKO EPSON CORP

Assignee(s): SEIKO EPSON A CORP OF JAPAN CORP

Inventor(s):(std)**:** WAKABAYASHI KENICHI ; WAKABAYASHI KEN ICHI ; TAKAYAMA CHITOSHI ; SHIOZAKI TADASHI ; NISHIZAWA HAJIME ; NISHIMURA KIYOTAKA ; NAKAJIMA AKIRA ; MORIKAWA TSUYOSHI ; HATAKOSHI KAORU

Designated states: AT BE CH DE DK ES FR GB GR IT JP LU MC NL SE

International class (IPC 8–9)**:** B41J29/00 B41J29/38 B41J5/44 G06F13/38 G06F13/42 G06K15/00 G06K15/12 (Advanced/Invention); B41J29/00 B41J29/38 B41J5/44 G06F13/38 G06F13/42 G06K15/00 G06K15/12 (Core/Invention)

International class (IPC 1–7)**:** B41J29/00 B41J29/38 G06F13/42 G06F15/00 G06F19/00 G06F3/12 G06K15/00

CPC: G06K15/128 B41J5/44 B41J29/00 G06F13/385 G06F13/4226 G06K15/00 G06K2215/0002 G06K2215/0025 G06K2215/0082

European class: B41J29/00 B41J5/44 G06F13/38A2 G06F13/42C2A G06K15/00 G06K15/12G S06K215/00B S06K215/00B4B2 S06K215/00D

US class: 345/502 347/6 347/86 358/1.11 358/1.13 358/1.14 358/1.16 364/131 395/112 395/115 395/166 395/502 700/2

Classification Explorer

Cited documents: WO9012359 A1, US5208732 A, US5200958 A, US5195176 A, US5142614 A, US5137379 A, US5109490 A, US5075874 A, US5051925 A, US5041918 A, US5038025 A, US4953103 A, US4949188 A, US4908637 A, US4872091 A, US4730947 A, US4691317 A, US4441164 A, JPS647281, JPS6459274, JPS6341163, JPS63255750, JPS63250788, JPS6275991, JPS625875, JPS62299892, JPS6214689, JPS621181, JPS62111776, JPS61196495, JPS6052885, JPS6052884, JPS60218939, JPS60142730, JPS58211285, JP64059274 A2, JP64007281 A2, JP63255750 A2, JP63250788 A2, JP63041163 A2,

JP62299892 A2, JP62282322 A2, JP62111776 A2, JP62075991 A2, JP62014689 A2, JP62005875 A2, JP62001181 A2, JP61196495 A2, JP60218939 A2, JP60142730 A2, JP60052885 A2, JP60052884 A2, JP58211285 A2, JP55255750 A2, JP55083982 A2, JP3053635 A2, JP3051938 A2, JP3045365 A2, JP3022160 A2, JP2301890 A2, JP2301463 A2, JP2288985 A2, JP2253289 A2, JP2249022 A2, JP2244851 A2, JP2159615 A2, JP2155675 A2, JP2122343 A2, JP2121023 A2, JP2088985 A2, JP2064728 A2, JP2058789 A2, JP2053289 A2, JP2049022 A2, JP2044851 A2, JP2037590 A2, JP1159274 A2, JP1059274 A2, JP1007281 A2, EP0383518 A1,

Forward Citations: WO9941677, USRE42725, USRE41377, USRE41238, USRE40677, USRE38111, US9389822, US9383956, US9298407, US9296214, US9203980, US9164718, US9110622, US9092177, US9069510, US9042811, US9037088, US9036181, US9015329, US9008572, US8989064, US8964220, US8810833, US8721203, US8714849, US8630000, US8547703, US8474938, US8363262, US8332934, US8313189, US8303199, US8289535, US8277044, US8277028, US8261140, US8177340, US8176549, US8128186, US8118395, US8104889, US8089652, US8069478, US8069477, US8061793, US8057032, US8057006, US8052238, US8028170, US8027055, US8020979, US8020002, US8018478, US8016414, US8009321, US8001432, US7999964, US7997682, US7991432, US7953818, US7944577, US7934822, US7934794, US7808660, US7804688, US7705873, US7686441, US7669993, US7614732, US7589850, US7583505, US7575313, US7513590, US7502136, US7452048, US7393092, US7388879, US7385715, US7359202, US7345883, US7344214, US7325915, US7268915, US7267415, US7259588, US7237883, US7237882, US7234801, US7195346, US7146534, US7146534, US7137113, US7137113, US7134738, US7133954, US7116241, US7116241, US7102767, US7068387, US7054028, US7044589, US7035108, US7014301, US6995861, US6979079, US6975817, US6975241, US6969140, US6955422, US6955411, US6954278, US6943906, US6924902, US6923531, US6845014, US6837576, US6830323, US6771509, US6755501, US6750987, US6747563, US6734988, US6722753, US6715864, US6712459, US6709093, US6705714, US6705713, US6702435, US6633405, US6608753, US6608564, US6606161, US6588872, US6565198, US6542253, US6515864, US6505926, US6488352, US6480922, US6467888, US6404639, US6388763, US6375314, US6375301, US6330067, US6323865, US6299280, US6267463, US6264301, US6263170, US6196670, US6161913, US6126265, US6113208, US6111659, US6108100, US6106172, US6065824, US6053645, US6039430, US6034673, US6023343, US6019449, US5990907, US5978781, US5971632, US5963713, US5930407, US5917723, US5862367, US5850230, US5838358, US5835817, US5813009, US5812156, US5807005, US5805950, US5748860, US5726894, US5699091, US5652870, US5604843, US5561528, US5535310, US2013070301, US2012044521, US2011276846, US2011225327, US2011224810, US2011211226, US2011176850, US2011103027, US2011098084, US2011092250, US2011058235, US2011004768, US2011004746, US2011002002, US2010277528, US2010269902, US2010245505, US2010234067, US2010203824, US2010201996, US2010195133, US2010182648, US2010149582, US2010125765, US2010110139, US2010081471, US2010013900, US2010002043, US2009284913, US2009273628, US2009256869, US2009220077, US2009213150, US2009168119, US2009109255, US2009088209, US2009070411, US2009067002, US2009066768, US2009027467, US2009027439, US2009015605, US2009002760, US2008318602, US2008278746, US2008239360, US2008161046, US2008158829, US2008055346, US2007279464, US2007243748, US2007188539, US2007182793, US2007177357, US2007103522, US2007103515, US2007081842, US2007055971, US2006284947, US2006268028, US2006252456, US2006250483, US2006190324, US2006164667, US2006158858, US2006109507, US2006007261, US2005280679, US2005264625, US2005234737, US2005200670, US2005200637, US2005174404, US2005174372, US2005146581, US2005088495, US2005057980, US2005047096, US2005024416, US2004253011, US2004218934, US2004177173, US2004141294, US2004138945, US2004135857, US2004125397, US2004095407, US2004012660, US2003198023, US2003197751, US2003193403, US2003193402, US2003156129, US2003128380, US2003095514, US2003058297, US2003053539, US2003035143, US2003007027, US2002186392, US2002180851, US2002170051, US2002158948, US2002077980, US2002062406, US2002054281, SG138433, GB2287623, GB2287623, EP1476309, AU2011207606, AU2006200716,

Abstract:
Source: US5410641A The image processing performance of a present day or existing page printer, e.g., electrophotographic printer, is improved and accelerated with the use of a detachable intelligent cartridge which contains a CPU and necessary memory to process print data into image dated for the electronic control unit of the printer to which the cartridge is attached. Depending upon the page description language (PDL) to be employed, a cartridge can be selected for use with the printer and accelerate its PDL conversion and printing output. The intelligent cartridge CPU, which is different from the printer CPU, receives print data from the printer and, since the data bus connecting the intelligent cartridge and the electronic control unit of the printer has only a read only capability from the electronic control unit, data transfer to the cartridge is made possible by utilizing the print data as an index for the read address accomplished by the printer CPU. The bit image data is accomplished by the

cartridge CPU from print data received via the printer CPU and after data development, the bit image data is transferred to the printer for hardcopy printout.

129) Family number: 9494470 (US5189480A) © PatBase

Title: APPARATUS FOR FIXING A TONER IMAGE INCLUDING ECCENTRICALLY MOUNTED PRESSURE RELIEVING MEANS

Priority: US19920829858 19920131 US19920830033 19920131 US19920830034 19920131 US19920830037 19920131 US19920830048 19920131 US19920830040 19920131 WO1993US00690 19930119

Family:

Publication number	Publication date	Application number	Application date
DE69304824 D1	19961024	DE19936004824	19930119
DE69304824 T2	19970410	DE19936004824T	19930119
EP0578813 A1	19940119	EP19930904639	19930119
EP0578813 B1	19960918	EP19930904639	19930119
JP6507029 T2	19940804	JP19930513384T	19930119
US5189480 A	19930223	US19920830040	19920131
US5191380 A	19930302	US19920829858	19920131
US5200785 A	19930406	US19920830037	19920131
US5214481 A	19930525	US19920830033	19920131
US5239349 A	19930824	US19920830034	19920131
US5305065 A	19940419	US19920830048	19920131
WO9315446 A1	19930805	WO1993US00690	19930119

Probable Assignee: EASTMAN KODAK CO

Assignee(s):(std)**:** EASTMAN KODAK CO

Assignee(s): EASTMAN KODAK CO A NEW JERSEY CORP ; EASTMAN KODAK CO A NJ CORP ; EASTMAN KODAK COMPANY ; EASTMAN KODAK CO ROCHESTER N Y US ; EASTMAN KODAK CO A OF NEW JERSEY CORP ; CITICORP NORTH AMERICA INC AGENT AS

Inventor(s):(std)**:** HOOVER LINN ; HOOVER LINN C ; HOOVER LINN CHRISTMAN ; O DEA DENNIS J ; WILLIAMS RALPH ; WILLIAMS RALPH E ; WILLIAMS RALPH EDWARD

Inventor(s): WILLIAMS RALPH EDWARD ROCHESTER NY 14613 US ; HOOVER LINN CHRISTMAN ROCHESTER NY 14609 US

Designated states: AT BE CH DE DK ES FR GB GR IE IT JP LU MC NL PT SE

International class (IPC 8–9): B05C1/02 G03G15/20 (Advanced/Invention); B05C1/02 G03G15/20 (Core/Invention)

International class (IPC 1–7): B05C1/02 G03G15/20

CPC: G03G21/1652 G03G21/168 G03G15/2035 G03G15/2032 G03G15/2025 G03G15/2064 G03G2215/20 G03G2221/1639 G03G2221/1663 G03G2221/18 G03G21/1685

European class: G03G15/20H2P G03G15/20H2P1 G03G15/20H2P1M G03G15/20H2P2 S03G215/20 S03G221/16F S03G221/16L S03G221/18

US class: 100/168 118/60 219/216 355/282 355/284 355/285 355/295 399/114 399/122 399/323 399/335 399/339 432/60

Classification Explorer

Cited documents: US5172177 A, US5114818 A, US5087939 A, US5083488 A, US5081495 A, US5045887 A, US5043768 A, US5043764 A, US5041871 A, US5038173 A, US5021828 A, US4965640 A, US4939541 A, US4908670 A, US4899197 A, US4873549 A, US4839694 A, US4806970 A, US4802439 A, US4791448 A, US4782359 A, US4708455 A, US4682878 A, US4585325 A, US4429990 A, US4127764 A, US4121089 A, US3964431 A, US3856462 A, US2986086 A, JPS63107319, JP63107319 A2, JP1274175 A2, JP1201690 A2, EP0333106 A2, EP0213745 A1, CH641255,

Forward Citations: WO05047867, WO05047867, WO0069640, USD523067, US9342045, US9310724, US8882424, US8837958, US8761649, US7986893, US7796907, US7773239,

US7743655, US7729651, US7649638, US7412181, US7251450, US7231153, US7103292, US7103292, US6876832, US6850721, US6785493, US6775508, US6697589, US6564026, US6104888, US5848331, US5822668, US5787323, US5749038, US5729798, US5716714, US5623720, US5534986, US5486908, US5481350, US5477316, US5436430, US5406362, US5379092, US5353107, US5327204, US5319426, US2015071680, US2015063868, US2013129362, US2013108397, US2011236091, US2009196642, US2009162081, US2009133488, US2007140757, US2007140754, US2007140718, US2007063013, US2006153578, US2005084276, US2004247351, US2004247339, US2004090647, US2004084838, JP2015064423, EP1197815, EP1156397, EP0833224, EP0833224, DE19655048, DE10023715,

Abstract:
Source: US5189480A A toner image fixing apparatus includes first and second fixing members, at least the first member including a rotatable roller. The rotatable roller includes a bearing support that has a shaft eccentrically positioned and fixed in it. The bearing support supports rotation of the roller about a primary axis of rotation, while the shaft is rotatable around a secondary axis of rotation displaced from the primary axis of rotation. The rotation of the shaft changes the position of the primary axis of rotation with respect to a pair of shaft support arms to move the roller away from the second fixing member to relieve the pressure between the fixing members.

0) US6337965B – COMPACT TONER SUPPLY DEVICE CAPABLE OF PREVENTI...

130) Family number: 15607534 (US6337965B) © PatBase

Title: COMPACT TONER SUPPLY DEVICE CAPABLE OF PREVENTING INADVERTANT REMOVAL OF TONER BOTTLE AND SCATTERING OF TONER

Priority: JP19990268881 19990922

Family:

Publication number	Publication date	Application number	Application date
JP2001092229 A2	20010406	JP19990268881	19990922
JP3384368 B2	20030310	JP19990268881	19990922
US6337965 BA	20020108	US20000666797	20000921

Probable Assignee: NEC CORP

Assignee(s):(std)**:** NEC CORP

Inventor(s):(std)**:** MURAMATSU SHIGEKI

International class (IPC 8–9)**:** G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)

International class (IPC 1–7)**:** G03G15/08

CPC: G03G15/0868 G03G15/0856 G03G2215/067 G03G2215/0685

European class: G03G15/08H3B S03G215/06C1A2 S03G215/06C4

US class: 399/258 399/262

Classification Explorer

Cited documents: US6259877 BA, US6256469 BA, US6195521 BA, US6032013 A, US5907756 A, US5797073 A, US5710963 A, US5528349 A, US4740808 A, US4089601 A, JP6274028 A2,

Forward Citations: USRE45513, USRE42312, USRE40058, US7116931, US2006062604, JP4166596, JP2004264432,

Abstract:
Source: US6337965B A toner bottle has a protruding portion on a lateral side of the toner bottle and an incised groove is provided in a bottle holder, and both of them are composed to be removable and to rotate integrally. The incised portion is provided in a position where a toner delivery outlet of the toner bottle is rotated slightly from the state of facing straight up and where the protruding portion of the toner bottle may pass through. That is, according to the relative positioning of the protruding portion of the toner bottle and the incised portion of a ring member, the toner is prevented from spilling out of the toner delivery outlet of the toner bottle by regulating a removable attitude of the toner bottle with respect to the bottle holder.

0) US5623328A – PROCESS CARTRIDGE AND IMAGE FORMING SYSTEM ON W...

131) Family number: 33533433 (US5623328A) © PatBase

Title: PROCESS CARTRIDGE AND IMAGE FORMING SYSTEM ON WHICH PROCESS CARTRIDGE IS MOUNTABLE

Priority: JP19900110613 19900427 JP19900301779 19901106 JP19910054446 19910319 JP19920194662 19920630 US19910689517 19910423 US19940356779 19941212 US19920952650 19920928 US19910785401 19911030

Family:

Publication number	Publication date	Application number	Application date
US5623328 A	19970422	US19940356779	19941212

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK

Assignee(s): CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** IKEMOTO ISAO ; ISHIWATA KAZUHIKO ; KARAKAMA TOSHIYUKI ; KOBAYASHI KAZUNORI ; NODA SHINYA ; NOMURA YOSHIYA ; SASAGO YOSHIKAZU ; SASAKI SHINICHI ; SEKINE KAZUMI ; SHIRAI HIROYUKI ; SHISHIDO KAZUO ; TANAKA MAKOTO ; TSUDA TADAYUKI ; WATANABE KAZUSHI ; YANO KANJI

International class (IPC 8–9): G03G15/08 G03G21/18 (Advanced/Invention); G03G15/08 G03G21/18 (Core/Invention)

International class (IPC 1–7): G03G15/00

CPC: G03G21/1633 G03G21/1666 G03G21/1821 G03G15/0898 G03G2215/00987 G03G2221/1648 G03G2221/1651 G03G2221/1654 G03G2221/1669 G03G2221/1876

European class: G03G15/08S1 G03G21/18C4C S03G215/00R S03G221/16J S03G221/16K S03G221/16K1 S03G221/16M S03G221/18P3C

US class: 399/111

Classification Explorer

Cited documents: US5160963 A, US5151734 A, US5134960 A, US5134441 A, US5115272 A, US5095335 A, US5060014 A, US5051778 A, US5036358 A, US5028966 A, US5021830 A, US5005053 A, US4996566 A, US4987446 A, US4974023 A, US4974020 A, US4972227 A, US4938381 A, US4924267 A, US4888620 A, US4862212 A, US4851960 A, US4839690 A, US4816877 A, US4806977 A, US4785319 A, US4708455 A, US4627701 A, US4609276 A, US4591258 A, US4540268 A, US4500195 A, US4386838 A, US3985436 A, JPS63149669, JPS61192768, JPS59155877, JPS5863961, JP63149669 A2, JP61192768 A2, JP59155877 A2, JP58063961 A2, JP4009869 A2, JP2301779 A2, JP2168277 A2, JP2163769 A2, JP2123376 A2, GB2074095 A1, FR2611930 A1, EP0485271 A2, EP0453963 A2, EP0437097 A2, EP0276910 A1, EP0193170 A1, DE8907136 U, DE4003695 A1, DE3941506 A1,

Forward Citations: US9046860, US8865382, US8725042, US8546052, US8260172, US8095051, US7957669, US7920806, US7912404, US7873296, US7844197, US7796915, US7660545, US7630661, US7565092, US7532840, US7489885, US7403733, US7296341, US7274896, US7248814, US7231161, US7156797, US7095967, US7092655, US7073251, US7071962, US7024131, US6999696, US6987938, US6917774, US6895199, US6885838, US6876826, US6868243, US6859627, US6856775, US6836639, US6832056, US6826373, US6804483, US6788908, US6782213, US6738589, US6735406, US6714750, US6714746, US6704525, US6697578, US6690902, US6684040, US6658224, US6603939, US6594454, US6571070, US6542706, US6535699, US6519431, US6465143, US6463223, US6424811, US6415121, US6408143, US6408142, US6400914, US6397018, US6397017, US6377759, US6375314, US6334035, US6330402, US6308028, US6272299, US6266500, US6246853, US6236821, US6229974, US6215969, US6208818, US6208816, US6201935, US6185390, US6173145, US6144398, US6137970, US6118960, US6104894, US6101354, US6101348, US6097909, US6097906, US6075962, US6075957, US6070028, US6041196, US6016413, US6011941, US6009289, US5966568, US5953560, US5937237, US5907749, US5867751, US5864731, US5809374, US2015023694, US2011211863, US2010074647, US2009169248, US2009074453, US2009074452, US2009074449, US2008279583, US2008170882, US2008063429, US2008056754, US2007104511, US2007104510,

US2006198654, US2006029423, US2006024086, US2006008287, US2005283973, US2005025508, US2004207716, US2004190933, US2004136746, US2004134070, US2004086300, US2004045156, US2003113131,

Abstract:
Source: US5623328A A process cartridge includes a first frame in which a toner containing unit for containing toner used for a developing operation and a charger unit are mounted, and a second frame which can be engaged by and disengaged from the first frame, and in which an image bearing member, a developing unit and cleaning unit are mounted. With this arrangement, the assembling ability and disassembling ability are improved remarkably, and the process cartridge is suitable for the re−cycling to contribute to the protection of the earth−environment.

0) US2008240772A – TONER CARTRIDGE, TONER REFILLING METHOD AND IMA...

132) Family number: 42232215 (US2008240772A) © PatBase

Title: TONER CARTRIDGE, TONER REFILLING METHOD AND IMAGE FORMING APPARATUS USING THE TONER CARTRIDGE

Priority: JP20070085604 20070328

Family:

Publication number	Publication date	Application number	Application date
CN101276186 A	20081001	CN200810089119	20080328
JP2008242296 A2	20081009	JP20070085604	20070328
US2008240772 AA	20081002	US20080056329	20080327

Probable Assignee: KYOCERA MITA CORP

Assignee(s):(std)**:** KYOCERA MITA CORP

Inventor(s):(std)**:** NISHIKAWA YOSHIYUKI

Inventor(s): YOSHIYUKI NISHIKAWA

Agent(s): CASELLA AND HESPOS

International class (IPC 8–9)**:** B65D83/06 G03G15/00 G03G15/08 (Advanced/Invention); B65D83/06 G03G15/00 G03G15/08 (Core/Invention)

CPC: G03G15/0894 G03G15/0882 G03G2215/0687

European class: G03G15/08H3P S03G215/06C5

US class: 399/106

Classification Explorer

Cited documents: US5943538 A, US5822653 A, US5650841 A, US2005123323 AA, US2004062573 AA,

Forward Citations: US9541863, US9052640, US8693927, US8521070, US2013308971, US2011222917, JP5975823, JP2014071275, EP2511773, CN103425019, CN103425019, CN102736479, CN102736479,

Abstract:
Source: US2008240772A A toner cartridge (20) includes a main cartridge body (30) having a housing formed with an opening (350) and also having a rotary shaft (41) supported by the housing for rotation about an axis thereof, a detachable member (60) mounted to the opening (350) and having a toner outlet (610) through which the toner (T) is discharged and a sealing film (70) having a first end so attached to the detachable member (60) as to close the toner outlet (610) and a second end attached to a part of the main cartridge body (30), the first end of the sealing film (70) being peeled off from the detachable member (60) by the rotation of the rotary shaft (41).

0) US2006280527A – DEVELOPER AND COLOR IMAGE FORMING APPARATUS USI...

133) Family number: 33994402 (US2006280527A) © PatBase

Title: DEVELOPER AND COLOR IMAGE FORMING APPARATUS USING THE SAME

Priority: KR20050049700 20050610

Family:

Publication number	Publication date	Application number	Application date
KR100677595 B1	20070202	KR20050049700	20050610
KR20060128338 A	20061214	KR20050049700	20050610
US2006280527 AA	20061214	US20060431047	20060510
US7493070 BB	20090217	US20060431047	20060510

Probable Assignee: S PRINTING SOLUTION CO LTD

Assignee(s):(std)**:** SAMSUNG ELECTRONICS CO LTD

Assignee(s): S PRINTING SOLUTION CO LTD ; SAMSUNG ELECTRONICS CO

Inventor(s):(std)**:** LEE WON WOOK

Agent(s): ROYLANCE ABRAMS BERDO AND GOODMAN LLP

International class(IPC 8–9)**:** G03G15/06 G03G15/08 (Advanced/Invention); G03G15/06 (Advanced/Non–invention); G03G15/06 G03G15/08 (Core/Invention)

CPC: G03G15/0875 G03G15/0855 G03G15/0865 G03G2215/067 G03G15/06

European class: G03G15/08H3 S03G215/06C1A2

US class: 399/258 399/262

Classification Explorer

Cited documents: US7289741 BB, US7228089 BB, JP9127777 A2, JP2004334053 A2, JP2004258472 A2, JP2004170747 A2,

Forward Citations: WO13170708, US8422915, US8213838, US8200127, US8155558, US8073355, US7890022, US7881624, US2009190963, KR200476761, KR100899350, EP2085829,

Abstract:
Source: US2006280527A A developer and a color image forming apparatus are provided. The color image forming apparatus includes a development cartridge including a photosensitive drum and a container which stores toner. A toner cartridge is configured to attach to and detach from the development cartridge which contains the toner. A toner transfer unit rotates to agitate the toner stored in the development cartridge so as to move the toner when the toner cartridge attaches to and detaches from the development cartridge.

0) US2008199227A – TONER CARTRIDGE

134) Family number: 42112527 (US2008199227A) © PatBase

Title: TONER CARTRIDGE

Priority: JP20070041465 20070221

Family:

Publication number	Publication date	Application number	Application date
CN101251736 A	20080827	CN200810009303	20080218
CN101251736 B	20111228	CN200810009303	20080218
EP1962148 A1	20080827	EP20080151582	20080218
HK1120622 A3	20090403	HK20090101273	20090211
JP2008203678 A2	20080904	JP20070041465	20070221
JP4905689 B2	20120328	JP20070041465	20070221
KR20080077912 A	20080826	KR20080014389	20080218
US2008199227 AA	20080821	US20080033962	20080220
US7734232 BB	20100608	US20080033962	20080220

Probable Assignee: MURATA MACHINERY LTD

Assignee(s):(std)**:** MURATA MACHINERY LTD ; MURATA MACHINERYLTD

Assignee(s): MURATA MACH LTD

Inventor(s):(std)**:** KAWAI HIDEAKI ; HIDEAKI KAWAI

Agent(s): ACKROYD ROBERT; MURATA MACHINERY LTD MURATEC C O KEATING AND BENNETT LLP; KEATING AND BENNETT LLP

Designated states: AL BA DE GB MK RS

International class(IPC 8–9)**:** B65D50/00 G03G15/00 G03G15/08 (Advanced/Invention); G03G15/08 (Advanced/Non–invention); G03G15/00 G03G15/08 (Core/Invention)

CPC: G03G15/0855 G03G15/0865 G03G15/0875 G03G15/0894 G03G2215/00987

European class: G03G15/08H3 G03G15/08R S03G215/00R

US class: 399/109 399/120 399/262

Classification Explorer

Cited documents: US7486905 BB, US6778786 BB, US6694782 BB, US6496671 BB, US6350026 BA, US5974286 A, US5909610 A, US2008175629 AA, US2006171737 AA, US2002181967 AA, JP9211956 A2, JP8297785 A2, JP2006235046 A2, JP2006202797 A2, JP2006184515 A2, JP2006018197 A2, JP2004151521 A2, JP2002258595 A2, JP2002139903 A2, EP1674944 A2, EP1615084 A2, EP1416333 A1, EP1220050 A2,

Forward Citations: US9156056, US8953977, US2013089357, US2010031882,

Abstract:
Source: US2008199227A In a toner cartridge, a cover member is attached to an outer surface of a case main body so as to cover a filling hole through which a toner is filled in a toner chamber. The cover member is detachably attached to the case main body by a lock mechanism disposed between the case main body and the cover member. The lock mechanism includes two or more lock structures which lock the cover member to the case main body and a release tool which carries out a release operation of the lock structures. Each of the lock structures includes an elastic engagement claw and an engagement recess which are provided on opposite surfaces of the case main body and the cover member, respectively. The release tool is configured to allow all of the elastic engagement claws to be simultaneously displaced in a lock release direction.

0) US2012082478A – IMAGE FORMING APPARATUS

135) Family number: 50899961 (US2012082478A) © PatBase

Title: IMAGE FORMING APPARATUS

Priority: EP20110002152 20110315 JP20100220564 20100930 JP20110035487 20110222 JP20110035478 20110222 US20110049121 20110316 US20130942788 20130716

Family:

Publication number	Publication date	Application number	Application date
CN102445884 A	20120509	CN201110085165	20110331
CN102445884 B	20140730	CN201110085165	20110331
CN102642075 A	20120822	CN201110194329	20110708
CN102642075 B	20150902	CN201110194329	20110708
DE602011015798 D1	20150603	DE201160015798T	20110315
EP2444858 A2	20120425	EP20110002152	20110315
EP2444858 A3	20131113	EP20110002152	20110315
EP2444858 B1	20150422	EP20110002152	20110315
JP2012093700 A2	20120517	JP20110035487	20110222
JP2012170983 A2	20120910	JP20110035478	20110222
JP5216882 B2	20130619	JP20110035478	20110222
JP5316564 B2	20131016	JP20110035487	20110222
KR20120096391 A	20120830	KR20110067733	20110708
US2012082478 AA	20120405	US20110049121	20110316
US2013308974 AA	20131121	US20130942788	20130716
US8509654 BB	20130813	US20110049121	20110316
US8693918 BB	20140408	US20130942788	20130716

Probable Assignee: BROTHER KOGYO KK

Assignee(s):(std)**:** BROTHER IND LTD ; HOSHINO TAKASHI ; JIDONG CORP ; KYOKUTOH CO LTD ; WANG WEI MING

Assignee(s): KYOKUTOH CO ; BROTHER KOGYO KK ; BROTHER KOGYO NAGOYA SHI KK

Inventor(s):(std)**:** HIROTARO NAKAJIMA ; HOSHINO TAKASHI ; MING WANG WEI ; NAKAJIMA KOTARO ; O TAKEAKI ; WANG WEI MING

Inventor(s): NAKAJIMA HIROTARO

Agent(s): KUHNEN AND WACKER PATENT U RECHTSANWALTSBUERO; KUHNEN AND WACKER; BANNER AND WITCOFF LTD

Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL NO PL PT RO RS SE SI SK SM TR

International class (IPC 8–9): B23K11/24 B23K11/30 G01B11/30 G01N21/88 G03G15/00 G03G15/16 G03G15/20 G03G21/16 (Advanced/Invention)

CPC: G03G21/1633 G03G21/1647 G03G2221/1639 G03G2221/1654 G03G2221/169 G03G15/2035 G03G21/1638 G03G15/2032

European class: G03G15/20H2P1 G03G15/20H2P1M G03G21/16A4D G03G21/16A4F G03G21/16C1 S03G221/16F S03G221/16K1 S03G221/16S4

US class: 399/107 399/110 399/110P 399/122 399/122S 399/124 399/124S

Classification Explorer

Cited documents: US8023861 BB, US7974553 BB, US7953348 BB, US7885562 BB, US7263311 BB, US6904257 BB, US6678481 BB, US2012219324 AA, US2010028044 AA, US2009190958 AA, US2009148204 AA, US2002114633 AA, JP9274421 A2, JP8254913 A2, JP7308786 A2, JP7302007 A2, JP7214340 A2, JP5281795 A2, JP5100548 B2, JP5100548 A2, JP4112272 U1, JP4112272 U, JP2010120035 A2, JP2010091598 A2, JP2010038952 A2, JP2010032833 A2, JP2009285725 A2, JP2009180918 A2, JP2007079488 A2, JP2006099003 A2, JP2005043659 A2, JP2003287973 A2, JP2003167469 A2,

JP2002234230 A2, JP2002148992 A2, JP2001166627 A2, JP1192486 A2, JP10207320 A2, CN1725121 A, CN101523202 A,

Forward Citations: US9671745, US9541892, US9098025, US8364061, US2017064109, US2016154370, US2012219324, US2009010680, CN105026094, CN105026094,

Abstract:
Source: US2012082478A An image forming apparatus is provided. The image forming apparatus includes an image forming unit, a door to cover an opening in a chassis, a fixing unit, a frame, a linear motion member to linearly move along with the door, a guiding member to guide the linear motion member to move linearly, a coupler assembly to couple the door with the linear motion member and move the linear motion member, and a manipulation member being movable according to movement of the linear motion member. The linear motion member includes a contact portion, with which the manipulation member comes in contact along an intersecting direction. The guiding member includes a slider plane to slidably support the linear motion member. The linear motion member is slidably supported by the slider plane of the guiding member at a surface which is on an opposite side from the surface having the contact portion.

136) Family number: 12658871 (US6144398A) © PatBase

Title: Process cartridge and electrophotographic image forming apparatus

Priority: JP19970305746 19971107

Family:

Publication number	Publication date	Application number	Application date
JP11143338 A2	19990528	JP19970305746	19971107
JP3420486 B2	20030623	JP19970305746	19971107
US6144398 A	20001107	US19980186646	19981106

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK

Assignee(s): CANON INC ; CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** ITO YOSHIHIRO ; WATANABE KAZUFUMI ; WATANABE KAZUSHI ; YOKOYAMA KATSUNORI

International class (IPC 8–9): B41J2/44 G03G21/16 G03G21/18 (Advanced/Invention); B41J2/44 G03G21/16 G03G21/18 (Core/Invention)

International class (IPC 1–7): B41J2/435 G03G21/16 G03G21/18

CPC: B41J2/442 G03G21/1832 G03G2221/1609

European class: B41J2/44C G03G21/18C5S S03G221/16B1

US class: 347/138 347/263 399/111 399/25

Classification Explorer

Cited documents: US5884124 A, US5878304 A, US5828928 A, US5768658 A, US5669042 A, US5659847 A, US5640650 A, US5638161 A, US5623328 A, US5608509 A, US5602623 A, US5583613 A, US5559581 A, US5510878 A, US5488459 A, US5475470 A, US5470635 A, US5465136 A, US5404198 A, US5345294 A, US5331372 A, US5294960 A, US5095335 A,

Forward Citations: USD500515, USD500335, USD478615, US9046860, US8922840, US8725042, US8670690, US8428490, US7483048, US7248810, US7156797, US6987938, US6937832, US6898392, US6832056, US6804483, US6782213, US6738589, US6704525, US6701106, US6697578, US6684040, US6658224, US6625413, US6594454, US6571070, US6408143, US6388699, US2012177400, US2010221039, US2007219479, US2006165427, US2006067725, US2004190933, US2004134070, US2003235429, KR101615652, CN103568605,

Abstract:
Source: US6144398A A process cartridge is detachably mountable on a main assembly of an electrophotographic image forming apparatus a laser beam emitter, a laser shutter, and a mover. The process cartridge includes a cartridge frame; an electrophotographic photosensitive member; a process device acting to the electrophotographic photosensitive member; a first contact part provided on the cartridge frame to determine the position of the process cartridge relative to the main assembly of the apparatus by contacting a fixing member provided on the main assembly of the apparatus in mounting the process cartridge to the main assembly of the apparatus; and a second contact part provided on the cartridge frame adjacent to the first contact part and contacting with the mover to move the laser shutter from the shutting position to the opening position in mounting step of the process cartridge to the main assembly of the apparatus.

0) US2008260433A – STABILIZER FOR A TONER CARTRIDGE AND RELATED ME...

137) Family number: 42410988 (US2008260433A) © PatBase

Title: STABILIZER FOR A TONER CARTRIDGE AND RELATED METHOD

Priority: US20070788555 20070420

Family:

Publication number	Publication date	Application number	Application date
US2008260433 AA	20081023	US20070788555	20070420
US7693464 BB	20100406	US20070788555	20070420

Probable Assignee: LEXMARK INT ICN

Assignee(s):(std)**:** LEXMARK INT INC

Assignee(s): LEXMARK INTERNATIONAL INC ; LEXMARK INT ; LEXMARK INT ICN

Inventor(s):(std)**:** DICKERSON JAMES E ; FARRIS HOWARD C ; MARSH ABIGAIL S ; SMITH JERRY W

Agent(s): LEXMARK INT INC INTELLECTUAL PROPERTY LAW DEPARTMENT

International class (IPC 8–9)**:** G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)

CPC: G03G15/0855 G03G15/0865 G03G15/0896 G03G2221/163 G03G2221/1815

European class: G03G15/08H3 G03G15/08S S03G221/16D S03G221/18C

US class: 399/110 399/111 399/258 399/262

Classification Explorer

Cited documents: US6256469 BA, US2006245784 AA, US2006067750 AA, US2003228175 AA,

Abstract:
Source: US2008260433A A stabilizer for interconnecting two movable sections of a toner cartridge assembly. A toner cartridge assembly incorporating a stabilizer and a method of stabilizing movable sections of a toner cartridge assembly are also provided.

0) US2005281583A – LASER PRINTER WITH TONER CARTRIDGE

138) Family number: 32508229 (US2005281583A) © PatBase

Title: LASER PRINTER WITH TONER CARTRIDGE

Priority: JP20040179443 20040617

Family:

Publication number	Publication date	Application number	Application date
JP2006003590 A2	20060105	JP20040179443	20040617
JP4556507 B2	20101006	JP20040179443	20040617
US2005281583 AA	20051222	US20050152610	20050614
US7181154 BB	20070220	US20050152610	20050614

Probable Assignee: FUNAI ELECTRIC CO LTD

Assignee(s):(std)**:** FUNAI ELECTRIC CO

Assignee(s): FUNAI ELECTRIC CO LTD

Inventor(s):(std)**:** YAMADA MASAHIRO

Agent(s): NAKAMURA GIHEI; NODA HISATO; SAKAI MASAYUKI; HORII YUTAKA; MORITA TOSHIO; FUKAMI HISAO; OSHA LIANG LLP

International class (IPC 8–9)**:** G03G15/04 G03G15/08 G03G21/16 (Advanced/Invention); G03G15/04 G03G15/08 G03G21/16 (Core/Invention)

International class (IPC 1–7)**:** G03G15/08

CPC: G03G21/1676 G03G21/1647 G03G2221/1654

European class: G03G21/16 S03G221/16K1

US class: 399/119 399/120

Classification Explorer

Cited documents: US6535705 BB, US6035159 A, US5995782 A, US2005214023 AA, JPS60192145 U, JP9179473 A2, JP9179473, JP8248862 A2, JP8248862, JP6167867 A2, JP6167867, JP6135096 A2, JP6135096, JP60192145 U1, JP60192145 u1, JP60192145 U, JP5061281 A2, JP5061281, JP2003345130 A2, JP2001134111 A2, JP2001134111, JP2000293085 A2, JP2000293085, JP11126010 A2, JP11126010, JP09179473, JP08248862, JP06167867, JP06135096, JP05061281,

Forward Citations: US8620196, US8217914, US7835666, US7519312, US2012087699, US2008118271, US2007048009, JP2015138224,

Abstract:
Source: US2005281583A A laser printer is comprised of a coupling including an insert for transmitting driving force to a toner cartridge, a spring biasing the coupling, and a coupling receding arm positionally determining the coupling in a direction toward the toner cartridge. The coupling receding arm is formed of a single member and includes an arm portion in the form of a rod, an engagement rotated around the arm portion's longitudinal axis to move the coupling, and a lock lever connected to the arm portion and rotated around the arm portion's longitudinal axis to lock and unlock the toner cartridge.

0) US2011206389A – IMAGE FORMATION APPARATUS

139) Family number: 49462011 (US2011206389A) © PatBase

Title: IMAGE FORMATION APPARATUS

Priority: JP20100038212 20100224

Family:

Publication number	Publication date	Application number	Application date
JP2011175056 A2	20110908	JP20100038212	20100224
JP4924729 B2	20120425	JP20100038212	20100224
US2011206389 AA	20110825	US20110032018	20110222
US8478141 BB	20130702	US20110032018	20110222

Probable Assignee: KONICA MINOLTA BUSINESS TECHNOLOGIES INC

Assignee(s):(std)**:** KONICA MINOLTA BUSINESS TECH ; NARUSE AKIRA

Assignee(s): KONICA MINOLTA BUSINESS TECHNOLOGIES INC

Inventor(s):(std)**:** NARUSE AKIRA

Agent(s): BUCHANAN INGERSOLL AND ROONEY PC

International class(IPC 8–9)**:** G03G15/08 (Advanced/Invention)

CPC: G03G15/0877 G03G15/0856 G03G15/086 G03G15/0879

European class: G03G15/08H2 G03G15/08H3D

US class: 399/106 399/258 399/258S 399/27 399/27P

Classification Explorer

Cited documents: US5436704 A, US4708458 A, US4592642 A, US4506804 A, JP273276, JP2073276 A2, JP2073276, JP2011174961 A2, JP2011174961, JP2007279420 A2, JP2007279420, JP2001100508 A2, JP1219864 A2, JP1219864,

Forward Citations: US9519243, US9500983, US9465314, US9389582, US9335656, US9296221, US9229360, US9116465, US9020375, US2015098716, US2014270818, US2014029983, JP2014178540, EP2952968, EP2857905,

Abstract:
Source: US2011206389A An image formation apparatus including: a toner cartridge storing toner; a developer; a hopper temporarily storing toner supplied from the toner cartridge and supplying the developer with the toner; a magnetic sensor including a magnet and a reed switch that determines whether the magnet is within a detection area thereof, one of which is fixed to a predetermined position, and the other of which is configured to move downwards as a surface level of toner stored in a toner storage of the hopper decreases and thus serves as a surface level detector for detecting the surface level; a lifter configured to periodically lift the surface level detector above the surface level such that the magnet goes out of the detection area; and an ON−edge detector configured to detect ON−edges each indicating a point in time when the magnet has entered the detection area.

0) US2005265736A – IMAGE FORMING DEVICE

140) Family number: 32451204 (US2005265736A) © PatBase

Title: IMAGE FORMING DEVICE

Priority: JP20040155947 20040526 JP20100064562 20100319

Family:

Publication number	Publication date	Application number	Application date
CN100378603 C	20080402	CN200510002975	20050127
CN1702568 A	20051130	CN200510002975	20050127
JP2005338354 A2	20051208	JP20040155947	20040526
JP2010164991 A2	20100729	JP20100064562	20100319
JP4569171 B2	20101027	JP20040155947	20040526
JP4569716 B2	20101027	JP20100064562	20100319
KR100625633 B1	20060920	KR20050006180	20050124
KR20050112504 A	20051130	KR20050006180	20050124
US2005265736 AA	20051201	US20040000896	20041202
US7433608 BB	20081007	US20040000896	20041202

Probable Assignee: FUJI XEROX CO LTD

Assignee(s):(std)**:** FUJI XEROX CO LTD ; FUJI XEROX CO LTD JP

Assignee(s): FUJI XEROX CO

Inventor(s):(std)**:** YOSHIAKI HAGINOYA ; YOSHIAKI SETO MASANORI HAGINOY ; SETO MASANORI ; OGINOYA YOSHIAKI ; HAGINOYA YOSHIAKI ; MASANORI SETO

Inventor(s): SETO MASANORI HAGINOYA YOSHIAKI

Agent(s): SUGHRUE MION PLLC

International class (IPC 8–9): G03G15/00 G03G15/04 G03G15/06 G03G15/08 G03G21/00 G03G21/18 (Advanced/Invention); G03G21/00 (Advanced/Non–invention); G03G15/00 G03G15/04 G03G15/06 G03G15/08 G03G21/00 G03G21/18 (Core/Invention)

International class (IPC 1–7): G03G15/00 G03G15/04 G03G15/06 G03G15/08 G03G21/00 G03G21/18

CPC: G03G21/1821 G03G2221/1892 B41J29/38 G03G21/16 G03G21/1825 G03G21/1864

European class: G03G21/18C4C S03G221/18P5

US class: 399/13 399/27

Classification Explorer

Cited documents: US6714224 BB, US5909603 A, US2004120723 AA, US2004008997 AA, US2001051051 AA, KR19990039017 U, JP9096938 A2, JP8292708 A2, JP8259036 A2, JP5323714 A2, JP4190253 A2, JP4042258 A2, JP3142490 A2, JP2002244533 A2, JP2002032000 A2, JP2001188437 A2, JP2000356895 A2, JP2000221866 A2, JP11184329 A2,

Forward Citations: WO15076870, US9411303, US9317004, US9291992, US9285758, US9280087, US9261851, US9229367, US9164425, US9152083, US8636345, US8320780, US8290379, US7720396, US2011062699, US2010303478, US2010303477, US2007269227, CN103838110, CN103838110, AU2014353506,

Abstract:
Source: US2005265736A When a process cartridge is installed in a laser printer main body, a projecting rod, which is provided at a toner tank and which projects from a side surface of a housing of the cartridge, enters into a U–shaped positioning portion such that the cartridge is positioned. The projecting rod pushes a lever of a switch downward and turns the switch on. Operation of the printer becomes possible, and power is supplied to a light scanning device. Even if the cartridge, in which the toner tank is not installed, is installed in a laser printer, because the projecting rod does not project out, the process cartridge is not positioned, and the switch remains off. The printer does not operate and power is not supplied to the light scanning device.

141) Family number: 19312555 (US5659837A) © PatBase

Title: DEVELOPING DEVICE FOR USE IN IMAGE FORMING APPARATUS

Priority: KR19940029180 19941108 KR19950040037 19951107

Family:

Publication number	Publication date	Application number	Application date
JP3405627 B2	20030512	JP19950288983	19951107
JP8227215 A2	19960903	JP19950288983	19951107
KR0160198 B1	19990320	KR19950040037	19951107
KR100160198 B1	19990320	KR19950040037	19951107
US5659837 A	19970819	US19950554367	19951108

Probable Assignee: SAMSUNG ELECTRONICS CO LTD

Assignee(s):(std)**:** SAM SUNG ELECTRONIC ; SAMSUNG ELECTRONIC ; SAMSUNG ELECTRONICS CO LTD

Assignee(s): SAMSUNG ELECTRONICS CO ; SAMSUNG ELECTRON CO LTD

Inventor(s):(std)**:** CHO HAE SUK ; JIYO KAISEKI ; JO HAE SEOG

International class (IPC 8–9)**:** G03G15/08 G03G21/00 G03G21/16 (Advanced/Invention); G03G15/08 G03G21/00 G03G21/16 (Core/Invention)

International class (IPC 1–7)**:** G03G15/00 G03G15/08 G03G21/00 G03G21/16

CPC: G03G15/0865 G03G15/0855

European class: G03G15/08H3

US class: 399/111 399/25 399/27

Classification Explorer

Cited documents: US5508795 A, US5430531 A, US5398098 A, US5300991 A, US5289243 A, US5268722 A, US5229824 A, US5196884 A, US2845145 A,

Forward Citations: US9304435, US9229363, US9104174, US9063462, US8905511, US8891982, US7650085, US7647005, US7639968, US7587155, US7561836, US7076188, US7076188, US6829462, US2014219690, US2014003836, US2008025734, US2007223971, US2007223965, US2007223964, US2007223963, US2005207786, US2002198895, JP2006058776, EP2867732, EP1840667, EP1331527,

Abstract:
Source: US5659837A A developing device in an image forming apparatus having a cartridge loading portion for loading a replaceable toner cartridge, a frame including a hollow portion for receiving a developer supplied from the cartridge, a photosensitive drum installed in the hollow portion and having a surface exposed to the exterior of the frame, and a developer roller installed adjacent to the photosensitive drum, the developing device having a cartridge control device installed on the one side of the cartridge loading portion to control the installation and removal of the toner cartridge, in which the cartridge control device includes a cartridge installation and removal device for allowing a user to install or remove the toner cartridge, a counter for counting the number of toner cartridge replacements, and a cartridge removal protector for prohibiting removal of the toner cartridge from the developing device when a predetermined number of toner cartridge replacements is reached so as to prevent contamination resulted from an imbalance between the total amount of the toner supplied and the capacity of a waste toner container.

0) US2011299882A – IMAGE FORMING APPARATUS

142) Family number: 50076039 (US2011299882A) © PatBase

Title: IMAGE FORMING APPARATUS

Priority: JP20100126812 20100602 JP20110091240 20110415 JP20110114806 20110523 JP20150222261 20151112 JP20160163554 20160824 JP20150222261 20110415 US20140276293 20140513 US20110115237 20110525 US20160198391 20160630

Family:

Publication number	Publication date	Application number	Application date
JP2012014158 A2	20120119	JP20110114806	20110523
JP2012226002 A2	20121115	JP20110091240	20110415
JP2016035592 A2	20160317	JP20150222261	20151112
JP2016218469 A2	20161222	JP20160163554	20160824
JP5825847 B2	20151202	JP20110114806	20110523
JP5839823 B2	20160106	JP20110091240	20110415
US2011299882 AA	20111208	US20110115237	20110525
US2015331386 AA	20151119	US20140276293	20140513
US2016238987 A9	20160818	US20140276293	20140513
US2016306289 AA	20161020	US20160198391	20160630
US8768202 BB	20140701	US20110115237	20110525
US9423766 BB	20160823	US20140276293	20140513

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK ; MITSUI YUJI ; MIWA KOJI ; NAKAJIMA KEITA ; TANAAMI RYUJI

Assignee(s): CANON INC ; CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** MITSUI YUJI ; MIWA KOJI ; NAKAJIMA KEITA ; TANAAMI RYUJI ; TENMO RYUJI

Agent(s): FITZPATRICK CELLA HARPER AND SCINTO

International class(IPC 8–9)**:** G03G15/00 G03G15/04 G03G15/08 G03G21/16 G03G21/18 (Advanced/Invention)

CPC: G03G21/1647 G03G21/1842 G03G21/1803 G08G21/1853 G03G2221/1636 G03G2221/1654 G03G15/326 G03G21/185 G03G21/1853 G03G2221/1687 G03G2221/169 G03G15/04054 G03G15/04036 G03G2215/0692 G03G2215/0668 G03G15/0837 G03G15/0834 G03G15/0832 G03G21/1633 G03G21/1666

European class: G03G15/04L G03G15/32L G03G21/18H1P S03G221/16S3 S03G221/16S4

US class: 1/1 399/110 399/110P 399/111 399/111S 399/118 399/205

Classification Explorer

Cited documents: US9008547 BB, US8768203 BB, US8717398 BB, US8611784 BB, US8594532 BB, US8428489 BB, US8427519 BB, US8311437 BB, US8238764 BB, US8208834 BB, US8170447 BB, US8078085 BB, US8068762 BB, US8040368 BB, US7991325 BB, US7962061 BB, US7957666 BB, US7853176 BB, US7840159 BB, US7826769 BB, US7822362 BB, US7720411 BB, US7715753 BB, US7656421 BB, US7388593 BB, US7302221 BB, US7110014 BB, US6434350 BB, US2014241753 AA, US2013315625 AA, US2012114373 AA, US2011299882 AA, US2011299873 AA, US2011255905 AA, US2009220250 AA, US2009202272 AA, US2009190953 AA, US2009142092 AA, US2009129812 AA, US2009052960 AA, US2008304860 AA, US2008219696 AA, US2001021321 AA, JP7302007 A2, JP7302007, JP7104567 A2, JP7104567, JP5265264 A2, JP5265264, JP5035003 A2, JP2012226002 A2, JP201148399, JP2011048399 A2, JP2011048399, JP2010190977 A2, JP2010190977, JP2010076130 A2, JP2009282397 A2, JP2009282397, JP2009128506 A2, JP2008286968 A2, JP2008286967 A2, JP2008286967, JP2008224821 A2, JP2008224821, JP2008216331 A2, JP2008216331, JP2007140392 A2, JP2007140392, JP2004163579 A2, JP2004163579, JP2001209220 A2, JP2001209220, JP2001109358 A2, JP2001109358, JP2000293085 A2, JP2000293085, JP2000181329 A2, JP2000181329, JP1993035003, JP07302007, JP07104567, JP05265264,

Forward Citations:

US9703243, US9671750, US9494918, US9488928, US9471027, US9448531, US9423766, US9411303, US9377717, US9335728, US9317004, US9244381, US9188949, US9141079, US9128456, US9052685, US8583004, US8526851, US8238787, US2016306289, US2016238987, US2016170371, US2014153971, US2013028632, US2012163857, US2010209138, JP6128414, JP5873830, JP2016218469, JP2016035592, JP2015081925, JP2015022038, JP2014191343, JP2014002350, EP3026502, DE102013200948,

Abstract:
Source: US2011299882A The present invention provides an image forming apparatus including: a first moving member pressed and moved by an openable/closable member when the openable/closable member is opened, and switching a cartridge from a state where the cartridge is positioned in an image forming position to a state where the positioning is released; and a second moving member pressed and moved by the openable/closable member when the openable/closable member is opened, and moving the exposure member from an exposure position to a retracted position, wherein when the positioning of the cartridge is released, a reaction force applied from the first moving member to the openable/closable member reaches a first peak, when the exposure member is moved to the retracted position, a reaction force applied from the second moving member to the openable/closable member reaches a second peak, and timing of the first peak is different from timing of the second peak.

0) US5419468A – DEVELOPING TONER SUPPLY DEVICE WITH DETACHABLE ...

143) Family number: 10898840 (US5419468A) © PatBase

Title: DEVELOPING TONER SUPPLY DEVICE WITH DETACHABLE TONER CARTRIDGE AND TONER SUPPLY SHIELDING MEMBER

Priority: JP19920213667 19920717

Family:

Publication number	Publication date	Application number	Application date
JP3116583 B2	20001211	JP19920213667	19920717
JP6035322 A2	19940210	JP19920213667	19920717
US5419468 A	19950530	US19930086898	19930707

Probable Assignee: BROTHER KOGYO KK

Assignee(s):(std)**:** BROTHER IND LTD

Assignee(s): BROTHER KOGYO KABUSHIKI KAISHA ; BROTHER KOGYO KK

Inventor(s):(std)**:** TAKI EIJI

International class (IPC 8–9)**:** G03G15/00 G03G15/08 (Advanced/Invention); G03G15/00 G03G15/08 (Core/Invention)

International class (IPC 1–7)**:** B65D47/00 B67D3/00 G03G15/00 G03G15/06 G03G15/08

CPC: Y10S222/01 G03G15/0875 G03G15/0855 G03G15/0865

European class: G03G15/08H3

US class: 222/554 222/DIG.1 355/260 399/119 399/262

Classification Explorer

Cited documents: US659977 A, US5270785 A, US5266998 A, US4607938 A, US4606990 A, US4588280 A, US3512944 A, US3116857 A, US2126815 A, US1967797 A,

Forward Citations: WO9900711, WO13115014, US9500986, US9207571, US9014595, US8989622, US8977168, US8909099, US8639163, US8639156, US8577250, US8554118, US8554107, US8538288, US8532544, US8185023, US7860437, US7062205, US6018638, US5966568, US5878317, US5839027, US5781831, US5734953, US5655181, US5640229, US5630198, US5608501, US2015030355, US2013259525, US2011129261, US2010202803, US2008247784, US2004131391, JP5783924, JP2014206758, JP2014206757, JP2013160874, JP2013156587, JP2011141573, JP2011113036, JP2011085961, JP2010181766, JP2010181765, JP2008185831, JP2008129561, EP1205819, EP1205819, CN102081327, CN102081327,

Abstract:
Source: US5419468A In this developing toner supply device, the main body of a toner cartridge having an unused toner storing room is designed in a longitudinal vessel shape. A projecting portion is projected from the front wall of the cartridge at the casing side to engage with the recess portion of a toner storing portion. A semi−circular support wall is formed at the projecting portion to project toward the unused toner storing room side. A longitudinally−extending cartridge side opening is formed on the support wall. A semi−cylindrical cartridge side rotating member engages with the cartridge side and opens rotatably between the closing position where the cartridge side opening is closed and the opening position where the cartridge side opening is opened. When the toner cartridge is detached from the casing, the cartridge side opening is closed. The flat side surface of the cartridge side rotating member serves as the outer surface of the toner cartridge. Accordingly, toner attachment to the outer surface of the toner cartridge can be avoided as much as possible.

0) US5778284A – ALL–IN–ONE PROCESS CARTRIDGE INCLUDING A PHOTOR...

144) Family number: 11010439 (US5778284A) © PatBase

Title: All–in–one process cartridge including a photoreceptor and process components having relative critical, image quality acting regions

Priority: US19970970847 19971114

Family:

Publication number	Publication date	Application number	Application date
BRPI9804669 A	19991103	BR1998PI04669	19981113
DE69821719 D1	20040325	DE19986021719	19981109
DE69821719 T2	20040722	DE19986021719T	19981109
EP0917023 A2	19990519	EP19980309142	19981109
EP0917023 A3	20000517	EP19980309142	19981109
EP0917023 B1	20040218	EP19980309142	19981109
JP11219095 A2	19990810	JP19980315802	19981106
US5778284 A	19980707	US19970970847	19971114

Probable Assignee: XEROX CORP

Assignee(s):(std)**:** XEROX CORP

Assignee(s): XEROX CORP ROCHESTER ; BANK ONE NA ADMINISTRATIVE AGENT AS ; JPMORGAN CHASE BANK COLLATERAL AGENT AS

Inventor(s):(std)**:** BRYANT JERRY W ; DAMJI DHIRENDRA C ; KUMAR AJAY

Inventor(s): AJAY KUMAR ; DHIRENDRA C DAMJI ; JERRY W BRYANT

Designated states: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

International class (IPC 8–9)**:** G03G15/02 G03G21/06 G03G21/10 G03G21/18 (Advanced/Invention); G03G15/02 G03G21/06 G03G21/10 G03G21/18 (Core/Invention)

International class (IPC 1–7)**:** G03G21/06 G03G21/10 G03G21/16 G03G21/18

CPC: G03G15/02 G03G21/1803 G03G2221/0015 G03G2221/1618 G03G2221/1693

European class: G03G15/02 G03G21/18C S03G221/00B2 S03G221/16C S03G221/16T

US class: 399/111 399/115 399/116 399/350

Classification Explorer

Cited documents: US5646718 A, US5365317 A, US5229819 A, US4725731 A, EP0738940 A1,

Forward Citations: US8784946, US8068779, US7596339, US6375314, US5899601, US5884123, US5845175, US5835823, US5826132, US2010080927, US2010080636, US2007053715,

Abstract:
Source: US5778284A A process cartridge including a housing having walls defining a process chamber and a photoreceptor mounted to the walls within the process chamber and having a closed loop path and an imaging area having a given length. The process cartridge also includes plural process components acting along the closed loop path for producing imaging affects on the photoreceptor for forming on, and for transferring from, the photoreceptor, a toner image. The process components include a charging component that includes a pin–array charge emitting device having an acting region precisely only as long as the length of the imaging area, in order to avoid occurrence of "dark bands" towards edges of a formed and transferred toner image. The process components also include a developer roll for applying charged toner particles to the imaging area. The developer roll has an acting region centered relative to, and extending slightly beyond, each end of the length of the imaging area. Importantly, the process components include a cleaning component that includes a cleaning blade for removing waste toner from the imaging area and an auger for transporting the waste toner in a waste toner flow direction. The cleaning blade has an acting region slightly longer than the length of the imaging area, and that is offset relative to the imaging area in the direction of waste toner flow, thereby enabling the process cartridge to reliably and effectively produce and transfer high quality toner images.

145) Family number: 62537603 (WO16084986A1) © PatBase

Title: CARTRIDGE AND ELECTROPHOTOGRAPHIC IMAGE FORMING DEVICE

Priority: JP20140242586 20141128 JP20150234282 20151130 WO2015JP84223 20151130

Family:

Publication number	Publication date	Application number	Application date
AU2015354571 AA	20160602	AU20150354571	20151130
JP2016110141 A2	20160620	JP20150234282	20151130
TW201621484 A	20160616	TW20150139938	20151130
WO16084986 A1	20160602	WO2015JP84223	20151130

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON INC ; CANON KK

Inventor(s):(std)**:** KASHIIDE YOSUKE ; MUNETSUGI HIROYUKI ; MUNETSUGU HIROYUKI ; SATO MASAAKI

Agent(s): SPRUSON AND FERGUSON; YAMADA RYUICHI

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9): G03G15/00 G03G15/08 G03G21/16 G03G21/18 (Advanced/Invention)

CPC: G03G21/18

Classification Explorer

Cited documents: JP2012103516 A2, JP2007256663 A2, JP2003058020 A2,

Abstract:
In a cartridge structure that uses a coupling member which can tilt and which can couple with a rotational force transmitting part of an electrophotographic image forming device, in a case where the attaching and removing direction and the development/separation direction of the cartridge with respect to the electrophotographic image forming device are different, the coupling member can't couple with the rotational force transmitting part of the electrophotographic image forming device. In the present invention, provided are: a coupling lever 55 that, in unison with the attachment or detachment of a development cartridge B1, abuts and retracts from a coupling member 180; and a coupling spring 56 that causes the coupling lever 55 to impart an impelling force to the coupling member 180.

0) US5642187A – PROCESS CARTRIDGE, IMAGE FORMING APPARATUS USAB...

146) Family number: 13120825 (US5642187A) © PatBase

Title: PROCESS CARTRIDGE, IMAGE FORMING APPARATUS USABLE THEREWITH AND IMAGE FORMING SYSTEM

Priority: JP19930123179 19930428 US19940234552 19940428 US19950574987 19951219

Family:

Publication number	Publication date	Application number	Application date
JP3320144 B2	20020903	JP19930123179	19930428
JP6313997 A2	19941108	JP19930123179	19930428
US5642187 A	19970624	US19950574987	19951219

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK

Assignee(s): CANON INC ; CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** KAWAGUCHI HIDEJI ; KAWAGUCHI HIDESHI ; MATSUDA KENJI ; MIYAKE HIROAKI ; NOMURA YOSHIYA ; SUGIURA YOSHINORI

International class (IPC 8–9)**:** G03G15/00 G03G21/00 G03G21/10 G03G21/16 G03G21/18 (Advanced/Invention)

International class (IPC 1–7)**:** G03G15/00 G03G21/00 G03G21/18

CPC: G03G21/1633 G03G21/1828 G03G21/1853 G03G2221/1609 G03G2221/1642 G03G2221/1657 G03G2221/169 G03G2221/1853

European class: G03G21/16 G03G21/18C5 G03G21/18H1V S03G221/16B1 S03G221/16G S03G221/16K2 S03G221/16S4 S03G221/18P3

US class: 399/111

Classification Explorer

Cited documents: US5561496 A, US5414492 A, US5333036 A, US5225870 A, US5208626 A, US5028966 A, US4965640 A, US4939541 A, US4896191 A, JP61226758, JP519552, JP470767, JP466959, JP3252667 A2, JP3123380 A2, JP3123380, JP1229270, JP1155365 A2, EP0496400 A2,

Forward Citations: USD723616, US9575460, US9557684, US9529319, US9494914, US9395684, US9091963, US8565642, US8521041, US8260171, US8000630, US7813670, US7512363, US7386241, US7298989, US7228086, US7209676, US7200350, US7200347, US7174113, US7085509, US6980755, US6968147, US6873815, US6865357, US6826373, US6697594, US6654583, US6564029, US6324370, US6311026, US6236822, US6208818, US6208816, US6151459, US6101352, US6075957, US6016408, US5890036, US5867751, US5809377, US2011200340, US2010322664, US2010232832, US2010080624, US2007071483, US2006188285, US2006177231, US2005276630, US2005191079, US2005152716, US2005135832, US2005135831, US2005128273, US2004126131, US2004062573, US2003133723, JP2014178353, JP2010217813,

Abstract:
Source: US5642187A A process cartridge detachably mountable to a main assembly of an image forming apparatus includes a frame; an image bearing member; a process device actable on the image bearing member; a projection formed on the frame and extended downwardly beyond a bottom surface of the frame.

147) Family number: 8840213 (US5371575A) © PatBase

Title: ELECTROPHOTOGRAPHIC IMAGE FORMING APPARATUS WITH DETACHABLE IMAGING CARTRIDGE

Priority: JP19910194333 19910802 JP19910205843 19910816 JP19910205844 19910816 JP19910259736 19910911

Family:

Publication number	Publication date	Application number	Application date
DE69219539 D1	19970612	DE19926019539	19920727
DE69219539 T2	19971218	DE19926019539T	19920727
EP0530491 A2	19930310	EP19920112798	19920727
EP0530491 A3	19931013	EP19920112798	19920727
EP0530491 B1	19970507	EP19920112798	19920727
JP5035005 A2	19930212	JP19910194333	19910802
JP5045951 A2	19930226	JP19910205843	19910816
JP5045952 A2	19930226	JP19910205844	19910816
JP5072833 A2	19930326	JP19910259736	19910911
US5371575 A	19941206	US19920922755	19920730

Probable Assignee: MINOLTA CO

Assignee(s):(std)**:** KONICA MINOLTA HOLDINGS INC ; MINOLTA CAMERA KK ; MINOLTA CO LTD

Assignee(s): MINOLTA CO LTD OSAKA JP ; MINOLTA CO ; MINOLTA CAMERA CO LTD ; MINOLTA CAMERA KABUSHIKI KAISHA

Inventor(s):(std)**:** AKAZAWA TAKASHI ; YOSHIDA NARUTAKA ; YOSHIDA SATOSHI ; SEKINO HITOSHI ; YOSHIDA SHIGETAKA

Inventor(s): SEKINO HITOSHI C O MINOLTA CAMERA K K ; SEKINO HITOSHI C O MINOLTA CAMERA KK ; YOSHIDA SATOSHI C O MINOLTA CAMERA K K ; YOSHIDA SATOSHI C O MINOLTA CAMERA KK ; YOSHIDA NARUTAKA C O MINOLTACAMERA K K ; YOSHIDA NARUTAKA C O MINOLTACAMERA KK ; AKAZAWA TAKASHI C O MINOLTA CAMERA K K ; AKAZAWA TAKASHI C O MINOLTA CAMERA KK

Designated states: DE FR GB

International class (IPC 8–9): G03G15/00 G03G15/16 G03G21/18 (Advanced/Invention); G03G15/00 G03G15/16 G03G21/18 (Core/Invention)

International class (IPC 1–7): G03G13/00 G03G15/00 G03G15/16

CPC: G03G21/1628 G03G21/1817 G03G2215/1652 G03G2221/1618 G03G2221/1642 G03G2221/1654 G03G2221/1693 G03G2221/1853

European class: G03G21/18C4 S03G215/16C1 S03G221/16C S03G221/16G S03G221/16K1 S03G221/16T S03G221/18P3

US class: 355/210 355/271 355/277 399/113 399/121 399/25 399/297 399/313

Classification Explorer

Cited documents: US5138372 A, US5130752 A, US5122839 A, US5103261 A, US5083170 A, US5070370 A, US5029316 A, US5012293 A, US5008711 A, US4994861 A, US4924267 A, US4835568 A, US4831407 A, US4827308 A, US4806967 A, US4786938 A, US4766455 A, US4641948 A, US4413049 A, US3985436 A, JPS634562 U, JPS60140264, JP63004562 U1, JP60140264 A2, JP58634562 A2, JP2166487 A2, GB2199537 A1, EP0437097 A2, EP0240337 A2,

Forward Citations: WO16045597, WO14010125, USD431046, US9298157, US8121520, US7986911, US7949283, US7937020, US7742720, US7715752, US7675536, US7639965, US7567770, US7546063, US7532839, US7457563, US7418222, US7382999, US7356282, US7298991, US7269378, US7245850, US7231167, US7224923, US7218878, US7197262, US7162182, US7136609, US7127195, US7054578, US6996354, US6873810, US6690903, US6594459, US6549737, US6546217, US6411789, US6330410, US5983062, US5787323, US5689774, US5608499,

US5606406, US5537187, US5532795, US5499078, US2010296836, US2010209139, US2007264045, US2007248377, US2007247511, US2007160384, US2007036584, US2006285881, US2006140671, US2006072929, US2006056878, US2006056877, US2006056876, US2006024087, US2005281584, US2005220482, US2005214025, US2005207781, US2005207780, US2005135837, US2005084290, US2005002687, US2004126132, US2004101328, JP8006335, JP7261562, JP3520019, JP3330721, JP3023402, JP2014016494, JP2014016490, JP2013210541, JP2006251270, JP2005345565, JP2001255777, EP1031894, EP0778135, EP0622697,

Abstract:
Source: US5371575A The present invention provides an image forming apparatus comprising a main assembly and an imaging cartridge detachable from the main assembly. The imaging cartridge includes a first unit and a second unit, both of which are separable from each other, a toner image carrier provided in the first unit, and a charging device provided in the second unit for transferring a toner image on the toner image carrier onto a copy sheet, wherein the charging device includes a charging roller. The present invention also provides an imaging cartridge detachable from the main assembly of an image forming apparatus. The imaging cartridge comprises a first unit and a second unit wherein the second unit is separable from the first unit, a toner image carrier provided in the first unit, and a charging device provided in the second unit for transferring a toner image on the toner image carrier onto a copy sheet.

148) Family number: 56548048 (US2015205254A) © PatBase

Title: IMAGE–FORMING DEVICE AND CARTRIDGE MOUNTABLE IN THE SAME

Priority: JP20120254791 20121120 WO2012JP81129 20121130

Family:

Publication number	Publication date	Application number	Application date
CN104704430 A	20150610	CN201280076160	20121130
JP2014102406 A2	20140605	JP20120254791	20121120
JP6056407 B2	20170111	JP20120254791	20121120
US2015205254 AA	20150723	US20150672748	20150330
US9507316 BB	20161129	US20150672748	20150330
WO14080541 A1	20140530	WO2012JP81129	20121130

Probable Assignee: BROTHER IND LTD

Assignee(s):(std)**:** BROTHER IND LTD ; FUJII YASUMASA ; MORI HIROKI

Assignee(s): BROTHER KOGYO KK

Inventor(s):(std)**:** FUJII YASUMASA ; MORI HIROKI

Agent(s): BANNER AND WITCOFF LTD; KITAZAWA KAZUHIRO ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9): G03G15/00 G03G15/04 G03G21/16 G03G21/18 (Advanced/Invention)

CPC: G03G21/1676 G03G21/1647 G03G21/1821

US class: 399/113 399/119

Classification Explorer

Cited documents: US8761634 BB, US7715755 BB, US7298990 BB, US7260342 BB, US7242874 BB, US6101350 A, US2010303499 AA, US2007217816 AA, US2006133850 AA, US2005220461 AA, US2005191090 AA, US2004190932 AA, JP2010276961 A2, JP2010276961, JP2009169433 A2, JP2009169433, JP2008129366 A2, JP2007256352 A2, JP200711401, JP2007011401 A2, JP2006268064 A2, JP2006106020 A2, JP2006106020, JP2005292357 A2, JP2005242067 A2, JP2005242067, JP2004301944 A2, JP2000250310 A2,

Abstract:
Source: US2015205254A An image–forming device includes a cartridge and a main body including a cartridge receiving section configured to receive the cartridge. The cartridge includes a first cartridge configured to store developer therein, and a second cartridge configured to detachably accommodate the first cartridge. The first cartridge is attachable to the second cartridge in a state where the second cartridge alone is mounted in the cartridge receiving section, the first cartridge being configured to be restricted from getting detached from the second cartridge in a state where the first cartridge and the second cartridge are both mounted in the cartridge receiving section.

149) Family number: 43058597 (US2009080935A) © PatBase

Title: PROTECTION COVER, AND PROCESS CARTRIDGE AND IMAGE FORMING APPARATUS USING THE SAME

Priority: JP20070243152 20070919 JP20070243152 20070920 JP20070243153 20070920 JP20070243154 20070920 JP20070243153 20070919

Family:

Publication number	Publication date	Application number	Application date
AU2008201357 AA	20090409	AU20080201357	20080325
AU2008201357 BB	20100624	AU20080201357	20080325
CN101393416 A	20090325	CN200810087778	20080326
CN101393416 B	20120613	CN200810087778	20080326
JP2009075274 A2	20090409	JP20070243152	20070920
JP2009075275 A2	20090409	JP20070243153	20070920
JP2009075276 A2	20090409	JP20070243154	20070920
JP4524694 B2	20100818	JP20070243152	20070920
JP4524695 B2	20100818	JP20070243153	20070920
JP4524696 B2	20100818	JP20070243154	20070920
US2009080935 AA	20090326	US20080076506	20080319
US8055154 BB	20111108	US20080076506	20080319

Probable Assignee: FUJI XEROX CO LTD

Assignee(s):(std): FUJI XEROX CO LTD

Assignee(s): FUJI XEROX CO

Inventor(s):(std): IIKURA KAZUAKI ; KAZUAKI IIKURA ; MATSUI TOSHIYUKI ; TOSHIYUKI MATSUI

Agent(s): SHELSTON IP PTY LTD; SHELSTON IP; NAKAMURA TOMOHIRO; KOIZUMI MASAHIRO; NARUSE KATSUO; OLIFF AND BERRIDGE PLC

International class (IPC 8–9): G03G15/00 G03G21/18 (Advanced/Invention); G03G15/00 G03G21/18 (Core/Invention)

CPC: G03G21/1832

European class: G03G21/18C5S

US class: 399/111 399/114 399/114P

Classification Explorer

Cited documents: US7532841 BB, US4655578 A, US2007206972 AA, JPD1291461, JPD1291022, JP9269625 A2, JP9269625, JP84534, JP8292706 A2, JP66961, JP4066961 A2, JP4066961, JP2006202797 A2, JP2006202797, JP2003084648 A2, JP2003084648, JP2003084534 A2, JP2003084534, JP2002338068 A2, JP2002338068, JP2002132120 A2, JP2002132120, JP2002132011 A2, JP2002132011, JP2000321837 A2, JP2000321837, JP132120, JP132011, JP1291461 A2, JP1291022 A2, JP11072984 A2, JP11072984, JP09269625, JP04066961,

Forward Citations: US9429904, US8467707, US8457521, US8452207, US8270872, US2016209803, US2015063867, US2012033992, US2012033991, US2010209137, JP2009075442, EP3045980, AU2010202616,

Abstract:
Source: US2009080935A A protection cover includes a cover base that covers and protects an external exposure portion of a photosensitive member and that comes into contact with an image forming apparatus housing body to movably guide a process cartridge; an extrusion member that is disposed in the cover base on a side opposite to an insertion direction of the process cartridge to the image forming apparatus housing body and that moves in the insertion direction of the process cartridge to extrude the process cartridge from the cover base; and a restriction portion that is disposed in the extrusion member to restrict the process cartridge in the cover base in a state where the process cartridge is located in the cover base and to release the process cartridge from the cover base in a state where the process cartridge is inserted and mounted to the image forming apparatus housing body.

0) US5768659A – PROCESS CARTRIDGE AND IMAGE FORMING APPARATUS

150) Family number: 10976368 (US5768659A) © PatBase

Title: Process cartridge and image forming apparatus

Priority: JP19940229265 19940926

Family:

Publication number	Publication date	Application number	Application date
JP8095468 A2	19960412	JP19940229265	19940926
US5768659 A	19980616	US19950533389	19950925

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK

Assignee(s): CANON INC ; CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** KAMEDA SEIICHIRO

International class (IPC 8–9)**:** G03G15/01 G03G21/18 (Advanced/Invention); G03G15/01 G03G21/18 (Core/Invention)

International class (IPC 1–7)**:** G03G15/01 G03G21/18

CPC: G03G21/1896 G03G2221/1633 G03G2221/1838 G03G2221/1846

European class: G03G21/18L2 S03G221/16D1 S03G221/18P1 S03G221/18P2

US class: 399/111 399/125

Classification Explorer

Cited documents: US5465136 A, US5331373 A, US4803521 A, US4500195 A,

Forward Citations: USRE43579, US9645537, US9618894, US9494917, US9141075, US8879934, US8655214, US7512347, US7424243, US6681090, US6480687, US6463232, US6285836, US6252672, US6011935, US2015355590, US2015093160, US2012224884, US2012114358, US2012082479, US2009245906, US2008063450, US2006257165, US2006193646, JP2005128414,

Abstract:
Source: US5768659A This invention relates to a process cartridge to be detachably mounted to an image forming apparatus body capable of selecting an image forming condition. The process cartridge includes a cartridge frame, an electrophotographic photosensitive member, a processing device operative on the electrophotographic photosensitive member and a grip member. This grip member is disposed on the cartridge frame and is capable of being gripped to select an image forming condition when the process cartridge is mounted to the image forming apparatus body.

0) US6118961A – DETACHABLE TWO–FRAME PROCESS CARTRIDGE FOR AN I...

151) Family number: 33533759 (US6118961A) © PatBase

Title: DETACHABLE TWO–FRAME PROCESS CARTRIDGE FOR AN IMAGE FORMING APPARATUS

Priority: JP19900301779 19901106 JP19910054446 19910319 US19930170908 19931221 US19930068287 19930528 US19910785401 19911030 US19910689517 19910423 US19970891979 19970711 US19970789604 19970124

Family:

Publication number	Publication date	Application number	Application date
US6118961 A	20000912	US19970891979	19970711

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK

Assignee(s): CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** IKEMOTO ISAO ; KARAKAMA TOSHIYUKI ; NOMURA YOSHIYA ; SASAKI SHINICHI ; SHIRAI HIROYUKI ; TSUDA TADAYUKI ; WATANABE KAZUSHI

International class (IPC 8–9)**:** G03G15/08 G03G21/18 (Advanced/Invention)

International class (IPC 1–7)**:** G03G21/18

CPC: G03G21/1647 G03G21/1652 G03G21/1821 G03G15/0898 G03G21/181 G03G21/1817 G03G2215/00987 G03G2221/1648 G03G2221/1651 G03G2221/1654 G03G2221/1669 G03G2221/1876 Y10T29/49904

European class: G03G15/08S1 G03G21/18C2 G03G21/18C4 G03G21/18C4C S03G215/00R S03G221/16J S03G221/16K S03G221/16K1 S03G221/16M S03G221/18P3C

US class: 29/469 359/109 399/113

Classification Explorer

Cited documents: US5294960 A, US5272505 A, US5160963 A, US5115272 A, US5051778 A, US5036358 A, US4996566 A, US4987446 A, US4974023 A, US4974020 A, US4924267 A, US4866482 A, US4862212 A, US4851960 A, US4816877 A, US4757344 A, US4708455 A, US4605299 A, US4500195 A, US4386838 A, JPS60168159, JPS5821262, JP60168159 A2, JP58021262 A2, JP2257146 A2, JP2168277 A2, JP2163769 A2, JP2123376 A2, GB2074095 A1, FR2611930 A1, EP0368346 A2, EP0330225 A2, EP0276910 A1, EP0276192 A1, DE8907136 U, DE8716525 U, DE4003695 A1,

Forward Citations: US8095051, US7986911, US7912404, US7675536, US7639965, US7565092, US7532840, US7519311, US7162182, US7136609, US6963706, US6879792, US6678489, US2015023694, US2013084098, US2009074449, US2007248378, US2007248377, US2007247511, US2006029423, US2006024086, US2005207781, US2005207780, US2004126133, US2004013446, CN102023506,

Abstract:
Source: US6118961A A process cartridge detachably mountable to an image forming apparatus includes an image bearing member; process device actable on the image bearing member; a first frame containing the image bearing member and the process device; and a second frame engageable with and disengageable from the first frame and containing a developer container.

0) US6122458A – REPLACEABLE DEVELOPER SUPPLYING DEVICE AND REPL...

152) Family number: 12554009 (US6122458A) © PatBase

Title: REPLACEABLE DEVELOPER SUPPLYING DEVICE AND REPLACEABLE IMAGING CARTRIDGE FOR AN IMAGE FORMING DEVICE

Priority: JP19970310362 19971112 JP19970310844 19971112

Family:

Publication number	Publication date	Application number	Application date
JP11143199 A2	19990528	JP19970310362	19971112
JP11143200 A2	19990528	JP19970310844	19971112
US6122458 A	20000919	US19980189765	19981110

Probable Assignee: MINOLTA CO LTD

Assignee(s):(std)**:** KONICA MINOLTA HOLDINGS INC ; MINOLTA CO LTD

Assignee(s): MINOLTA CO

Inventor(s):(std)**:** KITA NOBUHIKO ; SUGIMOTO YUZURU ; TSUDA YASUSHI

Agent(s): TOMIZAWA TAKASHI; YAMANAKA IKUO; OKADO AKIYOSHI

International class (IPC 8–9): B65D83/06 G03G15/08 G03G21/18 (Advanced/Invention); B65D83/06 G03G15/08 G03G21/18 (Core/Invention)

International class (IPC 1–7): B65D83/06 G03G15/08

CPC: G03G15/0882 G03G21/1814 G03G2215/068 G03G2215/0687 G03G2215/085 G03G2221/1648

European class: G03G15/08H3P G03G21/18C3 S03G215/06C2 S03G215/06C5 S03G215/08A5 S03G221/16J

US class: 399/106 399/262 399/27

Classification Explorer

Cited documents: US5745822 A, US5708912 A, US5568237 A, US5506665 A,

Forward Citations: US9389538, US9285707, US9201376, US9091962, US8879949, US8867955, US8509649, US8095033, US6804476, US6560422, US6445893, US6334035, US6266501, US2014348518, US2013164039, US2013136489, US2010135690, US2009297207, US2003161644, JP3980836, JP2002229316, GB2517580, GB2517580, AU743379,

Abstract:
Source: US6122458A In the present invention, a winder shaft of a toner supplying device and that of an imaging cartridge are coupled with gears, and a lock lever for locking rotation of gears is provided with the toner supplying device. Moreover, only when the imaging cartridge is attached to the toner supplying device, the lock lever is set released by a rib disposed for the imaging cartridge, whereby removals of seals for the toner supplying device and the imaging cartridge is made feasible. Thus, without accompanying fear that the seals are removed during storage, toner supplying device can be attached so as to supply toner when a toner in the imaging cartridge is used up.

153) Family number: 62729383 (US2016179051A) © PatBase

Title: DEVELOPING CARTRIDGE AND IMAGE FORMING APPARATUS EMPLOYING THE SAME

Priority: KR20140183300 20141218 WO2015KR10615 20151007

Family:

Publication number	Publication date	Application number	Application date
CN105717765 A	20160629	CN201510954933	20151217
EP3177967 A1	20170614	EP20150870186	20151007
KR20160074232 A	20160628	KR20140183300	20141218
US2016179051 AA	20160623	US20150874952	20151005
US9429902 BB	20160830	US20150874952	20151005
WO16099018 A1	20160623	WO2015KR10615	20151007

Probable Assignee: S PRINTING SOLUTION CO LTD

Assignee(s):(std)**:** S PRINTING SOLUTION CO LTD ; SAMSUNG ELECTRONICS CO LTD

Assignee(s): S PRINTING SOLUTION CO ; SAMSUNG ELECTRONICS CO

Inventor(s):(std)**:** HONG JIN HWA ; KIM JOON HEE ; SIM YUN KYU ; YANG SEONG WOONG

Agent(s): APPLEYARD LEES IP LLP; STAAS AND HALSEY LLP; YPLEE MOCK AND PARTNERS

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9): G03G15/06 G03G15/08 G03G21/16 G03G21/18 (Advanced/Invention)

CPC: G03G21/1676 G03G15/06 G03G15/065 Y10S430/102 G03G21/1821 G03G21/1825

US class: 1/1 399/113

Classification Explorer

Cited documents: US7660550 BB, US7643774 BB, US7542701 BB, US5471286 A, US2015370220 AA, US2013164028 AA, US2013107282 AA, US2012269543 AA, US2007098438 AA, US2005053394 AA, KR20070037888 A, KR100729626 B1, JP6167874 A2, JP2012230136 A2,

Abstract:
Source: US2016179051A Provided is a developing cartridge including a photosensitive unit and a developing unit connected to each other to rotate to a developing location and a non–developing location. An elastic member applies an elastic force to the developing unit and the photosensitive unit in a direction of rotating to the developing location. The developing cartridge includes a nip separating portion switched to a nip forming location where the developing unit is located at the developing location and to a nip separating location where the developing unit is located at the non–developing location, a manipulation portion for switching the nip separating portion to the nip forming location and to the nip separating location by a manual manipulation, and a nip forming unit for switching the nip separating portion from the nip separating location to the nip forming location as the photosensitive unit and the developing unit start to operate.

0) US2007071494A – IMAGE–FORMING DEVICE AND PROCESS CARTRIDGE

154) Family number: 34350115 (US2007071494A) © PatBase

Title: IMAGE–FORMING DEVICE AND PROCESS CARTRIDGE

Priority: JP20050280199 20050927 JP20050374659 20051227 JP20110005514 20110114 US20110239788 20110922 US20110020603 20110203 US20060523628 20060920 US20120729762 20121228 US20140319875 20140630

Family:

Publication number	Publication date	Application number	Application date
CN1940743 A	20070404	CN200610142151	20060927
CN1940743 B	20100728	CN200610142151	20060927
JP2007121983 A2	20070517	JP20050374659	20051227
JP2011070233 A2	20110407	JP20110005514	20110114
JP4730087 B2	20110720	JP20050374659	20051227
JP5218574 B2	20130626	JP20110005514	20110114
US2007071494 AA	20070329	US20060523628	20060920
US2011123221 AA	20110526	US20110020603	20110203
US2012008977 AA	20120112	US20110239788	20110922
US2013129383 AA	20130523	US20120729762	20121228
US2014314441 AA	20141023	US20140319875	20140630
US7907868 BB	20110315	US20060523628	20060920
US8050592 BB	20111101	US20110020603	20110203
US8346124 BB	20130101	US20110239788	20110922
US8768207 BB	20140701	US20120729762	20121228
US9442456 BB	20160913	US20140319875	20140630

Probable Assignee: BROTHER IND LTD

Assignee(s):(std)**:** BROTHER IND LTD ; IGARASHI HIROSHI ; OKABE YASUSHI

Assignee(s): BROTHER INDUSTRIES LTD ; BROTHER KOGYO KABUSHIKI KAISHA ; BROTHER KOGYO KK

Inventor(s):(std)**:** HIROSHI IGARASHI ; IGARASHI HIROSHI ; OKABE YASUSHI ; YASUSHI IGARASHI HIROSHI OKABE ; YASUSHI OKABE

Inventor(s): IGARASHI HIROSHI OKABE YASUSHI

Agent(s): BANNER AND WITCOFF LTD ATTORNEYS FOR CLIENT NOS 0166889 006760; BANNER AND WITCOFF LTD

International class (IPC 8–9)**:** G03G15/00 G03G15/08 G03G21/16 G03G21/18 (Advanced/Invention); G03G15/00 G03G15/08 G03G21/18 (Core/Invention)

CPC: G03G21/1661 G03G2221/1684 G03G2221/1869 G03G21/1623 G03G21/1647

European class: G03G21/16 S03G221/16S2 S03G221/18P3B

US class: 1/1 399/107 399/110 399/110P 399/111

Classification Explorer

Cited documents: US8768207 BB, US7177575 BB, US6721521 BB, US6708011 BB, US5785400 A, US5752133 A, US5663787 A, US5493366 A, US5410387 A, US2007140710 AA, US2006251446 AA, US2006228131 AA, US2006140669 AA, US2006067734 AA, US2005127803 AA, US2005069347 AA, US2004165910 AA, US2004022556 AA, US2003053819 AA, JP9304994 A2, JP9160471 A2, JP7248715 A2, JP7092884 A2, JP6250512 A2, JP2005107189 A2, JP2004258138 A2, JP2004109886 A2, JP2003107838 A2, JP2003107837 A2, JP2003076106 A2, JP2003015378 A2, JP2002304030 A2, JP2002268320 A2, JP2000321956 A2, JP2000082881 A2, JP11219044 A2, JP11174940 A2, JP10161421 A2,

Forward Citations: US9442456, US9383709, US9104170, US9086675, US8878483, US8862023, US8792805, US8731434, US8731418, US8706004, US8682212, US8543023, US8457523, US8417134, US8358954, US8326176, US8311448, US8229319,

US8160472, US8086137, US8055152, US8010013, US7894747, US7890021, US7890019, US7873301, US7715753, US7636531, US7567769, US2014314441, US2013251396, US2011217068, US2011085822, US2011052254, US2010272468, US2010247138, US2010239314, US2010183352, US2010124432, US2010119254, US2010104326, US2010067947, US2010054811, US2009317125, US2008304860, US2008159781, US2008052401, US2007230998, JP2012198444, JP2011002622, JP2010277111, JP2010277073, JP2010078687, JP2010038947, JP2010002827, JP2009265128, EP3062168, EP2136269, EP2136268, CN103293901, CN103293901, CN103279017, CN103279017, CN102193407,

Abstract:
Source: US2007071494A The drawer is equipped with an extending portion at the rear of the housing and a projecting portion behind and above the extending portion. The first support and the second support can be positioned on the extending portion and the projecting portion. Inside a main unit casing is a pair of vertical guiding walls. When the support portions come into contact with the two guiding walls, the vertically inclined movement of the drawer can be restricted.

155) Family number: 28365135 (US2003091361A) © PatBase

Title: ELECTROPHOTOGRAPHIC IMAGE FORMING APPARATUS HAVING DETACHABLE PROCESS CARTRIDGE

Priority: JP20010305128 20011001 JP20020279175 20020925

Family:

Publication number	Publication date	Application number	Application date
CN1229700 C	20051130	CN20021030838	20021008
CN1410850 A	20030416	CN20021030838	20021008
DE60236058 D1	20100602	DE20026036058	20020930
EP1298502 A1	20030402	EP20020256789	20020930
EP1298502 B1	20100421	EP20020256789	20020930
JP2003177650 A2	20030627	JP20020279175	20020925
JP3774691 B2	20060517	JP20020279175	20020925
KR100456048 B1	20041108	KR20020059672	20021001
KR20030028426 A	20030408	KR20020059672	20021001
US2003091361 AA	20030515	US20020256147	20020927
US6876826 BB	20050405	US20020256147	20020927

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK

Assignee(s): CANON INC ; CANON K K ; CANON KABUSHIKI KAISHA ; CANON KABUSHIKI KAISHA AB

Inventor(s):(std)**:** KENJI MATSUSAKI ; KENJI NODA SHINYA MATSUSAKI ; MATSUSAKA KENJI ; MATSUZAKA KENJI ; NODA SHINYA ; SHINYA NODA

Inventor(s): NODA SHINYA C O CANON KABUSHIKI KAISHA ; NODA SHINYA MATSUSAKI KENJI ; MATSUSAKA KENJI C O CANON KABUSHIKI KAISHA ; MATSUSAKI KENJI

Agent(s): TBK PATENT; FITZPATRICK CELLA HARPER AND SCINTO

Designated states: DE FR GB

International class (IPC 8–9)**:** G03G15/00 G03G21/18 (Advanced/Invention); G03G15/00 (Advanced/Non–invention); G03G15/00 G03G21/18 (Core/Invention)

International class (IPC 1–7)**:** G03G15/00 G03G21/16 G03G21/18

CPC: G03G21/1871 G03G21/1885 G03G2221/1654 G03G2221/166 G03G2221/169 G03G2221/1823 G03G2221/1884 G03G15/00

European class: G03G21/18H3P G03G21/18L1C1 S03G221/16K1 S03G221/16K3 S03G221/16S4 S03G221/18E S03G221/18P4

US class: 399/111 399/114 399/90

Classification Explorer

Cited documents: US6661977 BA, US6400914 BA, US6229974 BA, US6201935 BA, US6185390 BA, US5937239 A, US5828928 A, US5669042 A, US5659847 A, US5623328 A, US5608509 A, US5583613 A, US5488459 A, US5404198 A, US5331372 A, US4978817 A, JP2002072825 A2, JP2002072824 A2, JP2002072823 A2, JP2002072784 A2, JP2002072783 A2, JP2002072782 A2, JP11174933 A2, EP0770936 A1, CN1156851 A,

Forward Citations: WO15137589, WO13123858, US9658590, US9429899, US9417603, US9323213, US9298130, US9274454, US9052687, US8483595, US8213829, US8126353, US8086129, US8073358, US7986898, US7840154, US7826768, US7813669, US7742717, US7711295, US7643773, US7570903, US7474863, US7409176, US7395016, US7346293, US7315706, US7221886, US7194220, US7136607, US7065311, US6922534, US2017075295, US2015037059, US2015003877, US2013223853, US2013177333, US2011020032, US2010247141, US2010221033,

US2009269097, US2009196647, US2009074447, US2009067872, US2008240776, US2008212994, US2008199204, US2007098437, US2007092286, US2006062589, US2004190934, TWI441988, KR100846803, KR100762044, KR100727943, JP4110144, JP2009265252, JP2009214493, JP2009169122, JP2006113521, EP2762981, EP2397914, EP2037327, EP1806628, CN103293907, CN103293907, CN103293898, CN102540822,

Abstract:
Source: US2003091361A An electrophotographic image forming apparatus on which a process cartridge having a memory device having a cartridge electrical contact is detachably mountable has an openable and closable cover for opening and closing an opening, a main body positioning portion for positioning a positioning member provided on the process cartridge to thereby position the process cartridge relative to the main body of the electrophotographic image forming apparatus when the process cartridge is to be mounted on the main body the electrophotographic image forming apparatus, a main body electrical contact portion electrically connected to the cartridge electrical contact portion, and a moving member for making the main body electrical contact portion movable in operative association with the opening and closing operation of the openable and closable cover. When the openable and closable cover of the electrophotographic image forming apparatus is moved from the opening position to the closing position, the main body electrical contact is assured to electrically contact with the cartridge electrical contact.

156) Family number: 4912556 (US4556308A) © PatBase

Title: REMOVABLE PROCESSING CARTRIDGE FOR ELECTROSTATOGRAPHIC REPRODUCING APPARATUS

Priority: US19840614201 19840525

Family:

Publication number	Publication date	Application number	Application date
DE3577932 D1	19900628	DE19853577932	19850522
EP0163486 A2	19851204	EP19850303620	19850522
EP0163486 A3	19860827	EP19850303620	19850522
EP0163486 B1	19900523	EP19850303620	19850522
ES543467 A1	19860616	ES19850543467	19850524
ES8607578 A1	19861101	ES19850543467	19850524
JP60260063 A2	19851223	JP19850105771	19850517
MX161410 A	19900921	MX19850205332	19850517
US4556308 A	19851203	US19840614201	19840525

Probable Assignee: XEROX CORP

Assignee(s):(std)**:** XEROX CORP

Assignee(s): XEROX CORP ROCHESTER N Y US

Inventor(s):(std)**:** JIEIMUZU EI RANDOFUERUDO ; LANDEFELD JAMES A ; WAANA EFU HOTSUPUNAA ; HOPPNER WERNER F

Inventor(s): JAMES A LANDEFELD ; WERNER F HOPPNER

Designated states: BE DE FR GB IT

International class(IPC 8–9)**:** G03G15/00 G03G21/18 (Advanced/Invention); G03G15/00 G03G21/18 (Core/Invention)

International class(IPC 1–7)**:** G03G15/00

CPC: G03G21/1633 G03G21/1853 G03G2221/1654 G03G2221/183

European class: G03G21/18H1V S03G221/16K1 S03G221/18P

US class: 355/3BE 355/3R 399/111 399/125

Classification Explorer

Cited documents: US4544260 A, US4470690 A, US4432632 A, US4416532 A, US4372669 A, US4271786 A, US4264199 A, US4236807 A, US4116556 A, US4114998 A, US4087170 A, US4076402 A, US3985436 A, US3976371 A, US3966316 A, US3883242 A, US3647293 A, US3637306 A, DE3142864 A1, DE3047706 A1,

Forward Citations: WO8901188, US8267400, US7979002, US7418766, US6984144, US6084622, US6075958, US6064843, US5881341, US5708922, US5583618, US5543891, US5528342, US5452066, US5341200, US5331388, US5257071, US5233388, US5228671, US5155526, US5136333, US5099280, US5063409, US5041871, US4959731, US4912510, US4786937, US4757342, US4754300, US4657369, US4655578, US2011227274, US2009245906, US2009166966, US2006130277, JP2131252, GB2238017, GB2238017, GB2227454, GB2227454, GB2197258, GB2197258, GB2189438, GB2189438, FR2611930, EP0740226, EP0679963, EP0496400, EP0230033, EP0228062, DE3713520,

Abstract:
Source: US4556308A An electrostatographic reproducing apparatus using a removable processing cartridge containing at least one electrostatographic processing unit together with cartridge mounting means to the main frame of the reproducing apparatus is described. The mounting means comprises a pair of locating pivot pins, one on each side of the main frame and a pair of cartridge latch blocks adjacent said locating pins, one on each side of the main frame; with the cartridge mounting means attached to the cartridge comprising a pair of mounting hinge slots, one on each side of one end of said cartridge which are positioned for cooperative engagement with the pair of locating pivot pins on the main frame, and a pair of mounting pins, one on each side of one end of the

cartridge adjacent the mounting hinge slots which are positioned for cooperative engagement with the pair of cartridge latch blocks on the main frame of the reproducing apparatus. The cartridge latch blocks have arcuate slots defining a stationary inner guide surface and a curved outer deflectable cantelever spring arm, the slots terminating at the lower portion in a cartridge lock for the cartridge mounting pins and wherein when the cartridge is initially inserted in the mount the cartridge mounting hinge slots rest on said main frame locating pivot pins and said cartridge mounting pins engage the upper end of said curved outer deflectable cantelever spring arm and as said cartridge is moved about said locating pivot pins, said spring arm provides an interference with said cartridge mounting pins and is deflected thereby providing a counterbalance to said cartridge as it is lowered in position.

0) US2004009007A – TWO PART CARTRIDGES WITH FORCE BIASING BY PRINT...

157) Family number: 30217639 (US2004009007A) © PatBase

Title: TWO PART CARTRIDGES WITH FORCE BIASING BY PRINTER

Priority: US20020195270 20020715 US20030736355 20031215 US20050057550 20050214 US20060535096 20060926 US20050057650 20050214

Family:

Publication number	Publication date	Application number	Application date
US2004009007 AA	20040115	US20020195270	20020715
US2004126133 AA	20040701	US20030736355	20031215
US2005147430 AA	20050707	US20050057550	20050214
US2007019986 AA	20070125	US20060535096	20060926
US6678489 BA	20040113	US20020195270	20020715
US6879792 BB	20050412	US20030736355	20031215
US7139510 BB	20061121	US20050057550	20050214
US7305204 BB	20071204	US20060535096	20060926

Probable Assignee: LEXMARK INT INC

Assignee(s):(std)**:** FAIN JULIA L ; FOSTER MARK D ; CARTER PHILIP S ; LEXMARK INT INC

Assignee(s): LEXMARK INTIONAL ; LEXMARK INTERNATIONAL INC ; CARTER PHILIP SCOT ; FOSTER MARK DUANE ; LEXMARK INT

Inventor(s):(std)**:** CARTER PHILIP S ; CARTER PHILIP SCOT ; FAIN JULIA L ; FOSTER MARK D ; FOSTER MARK DUANE

Inventor(s): CARTER PHILIP ; FOSTER MARK ; FAIN JULIA

Agent(s): LEXMARK INT INC INTELLECTUAL PROPERTY LAW DEPARTMENT; JOSEPH; ARTHUR I; NAVARRO LAW OFFICES PC; COATS AND BENNETT PLLC

International class (IPC 8–9): G03G21/18 (Advanced/Invention)

International class (IPC 1–7): G03G21/18

CPC: G03G21/1821 G03G2221/1853 G03G2221/1861

European class: G03G21/18C4C S03G221/18P3 S03G221/18P3A

US class: 399/107 399/113 399/113P 399/114

Classification Explorer

Cited documents: US6879792 BB, US6879792 BA, US6678489 BA, US6549737 BB, US6397026 BA, US6173140 BA, US6173140 B1, US6163666 A, US6163660 A, US6118961 A, US6101350 A, US6070029 A, US6041203 A, US5708912 A, US5369479 A, US5266998 A, US5226998 A, US5204713 A, US5049940 A, US5028966 A,

Forward Citations: US9417603, US9411303, US9317004, US9298130, US9291992, US9285758, US9280087, US9261851, US9256198, US9229367, US9182739, US9164425, US9152083, US9104169, US9042773, US8761639, US8010011, US7957669, US7844197, US7684729, US7647004, US7522859, US7505709, US7389069, US7369792, US7321739, US7302205, US7242890, US7233760, US7184688, US7139510, US7020416, US6879792, US6871031, US2013302067, US2009169248, US2008199212, US2007177893, US2007048007, US2006171738, US2006110184, US2006029422, US2006029420, US2005260010, US2005169663, US2005147430, US2004179859, US2004126133, US2004062566,

Abstract:
Source: US2004009007A A two part cartridge having a photoconductor part (1) and a toner part (5) having no force biasing element on either part. The two parts fit together so that a developer roller (7) in the toner part contacts a photoconductor drum (3) in the other part. When the two parts are installed in a printer the cover (50), when closed, brings a spring (62) into contact with one side of the toner part while the frame (F) of the printer blocks movement away from the cover. An advantage of the two part cartridge is that the toner part can be replaced without replacing the photoconductor part. Members on the cartridge for force biasing are avoided and

the need for training or skill to latch the parts together is avoided.

0) US4657372A – PRINTER

158) Family number: 34574779 (US4657372A) © PatBase

Title: PRINTER

Priority: DE19823238505 19821018 JP19810165128 19811016 US19880244584 19880913 US19910806874 19911212 US19870037633 19870413 US19820434701 19821015 US19960595524 19960201 US19930111828 19930825

Family:

Publication number	Publication date	Application number	Application date
DE3238505 A1	19830505	DE19823238505	19821018
DE3238505 C2	19861218	DE19823238505	19821018
DE3249821 A1	19860327	DE19823249821	19821018
DE3249822 A1	19860320	DE19823249822	19821018
DE3249822 C2	19881020	DE19823249822	19821018
JP1798483 C3	19931112	JP19810165128	19811016
JP3050711 B4	19910802	JP19810165128	19811016
JP58065674 A2	19830419	JP19810165128	19811016
US4657372 A	19870414	US19820434701	19821015
US4887133 A	19891212	US19880244584	19880913
USRE37157 E	20010501	US19960595524	19960201

Probable Assignee: RICOH KK

Assignee(s):(std): IKEDA KUNIHIKO ; KODAMA YUTAKA ; NIRO MASAICHI ; SUZUKI SHIGERU ; YOKOTA TAKASHI ; SHIMURA AKIRA ; YAMAZAKI SHIGERU ; TOMITA SATORU ; RICOH KK

Assignee(s): RICOH CO LTD TOKIO TOKYO JP ; RICOH CO LTD TOKYO JP ; RICOH COMPANY LTD ; RICOH CO ; RICOH CO LTD ; RICOH CO LTD A CORP OF JAPAN

Inventor(s):(std): IKEDA KUNIHIKO ; KODAMA YUTAKA ; NIRO MASAICHI ; NIRO MASAKAZU ; SHIMURA AKIRA ; SUZUKI SHIGERU ; TANJI MASAKAZU ; TOMITA SATORU ; YAMAZAKI SHIGERU ; YOKOTA TAKASHI

Inventor(s): YOKOTA TAKASHI TOKIO TOKYO JP ; YOKOTA TAKASHI TOKYO JP ; YAMAZAKI SHIGERU TANASHI TOKIO TOKYO JP ; YAMAZAKI SHIGERU TANASHI TOKYO JP ; TOMITA SATORU KAWASAKI KANAGAWA JP ; SUZUKI SHIGERU YOKOHAMA KANAGAWA JP ; SHIMURA AKIRA KAWASAKI KANAGAWA JP ; NIRO MASAICHI TOKIO TOKYO JP ; NIRO MASAICHI TOKYO JP ; KODAMA YUTAKA TOKIO TOKYO JP ; KODAMA YUTAKA TOKYO JP ; IKEDA KUNIHIKO KODAIRA TOKIO TOKYO JP ; IKEDA KUNIHIKO KODAIRA TOKYO JP

International class (IPC 8–9): B41J13/00 B41J2/46 B65H29/52 B65H29/60 B65H31/00 G03G15/22 G03G15/28 G06K15/12 (Advanced/Invention)

International class (IPC 1–7): B41J13/00 B41J3/18 B65H29/00 B65H29/52 B65H29/60 B65H31/00 G03G15/00 G03G15/04 G03G15/09 G03G15/16 G03G15/20 G03G15/22 G03G21/00 G06K15/12

CPC: Y10S271/902 G03G15/22 G03G15/283

European class: G03G15/22 G03G15/28B

US class: 271/184 271/902 355/16 355/321 355/3BE 355/3R 399/113 399/116 399/119 399/124 399/13 399/405

Classification Explorer

Cited documents: USRE29323 E, US4538896 A, US4499849 A, US4462676 A, US4432632 A, US4429985 A, US4402593 A, US4386838 A, US4382674 A, US4379631 A, US4364656 A, US4335951 A, US4332467 A, US4325626 A, US4320952 A, US4304485 A, US4230406 A, US4212530 A, US4197002 A, US4169674 A, US4149797 A, US4144539 A, US4141648 A, US4110033 A, US4095886 A, US4061222 A, US4048957 A, US4045135 A, US4025186 A, US3985436 A, US3966316 A, US3809475 A, US3772497 A, US3738743 A, US3655282 A, US3606532 A, US3435693 A, US3411932 A, US3181418 A, US3062110 A, JPS5854392, JPS569758, JPS5691248, JPS5647535, JPS5616426, JPS5615507, JPS56128958, JPS56122761, JPS56113152, JPS56111859, JPS5598762, JPS5593185, JPS5586034, JPS5584742, JPS5573073, JPS5538593, JPS5538527,

JPS5527236, JPS55157753, JPS55157723, JPS55153949, JPS55144264, JPS55141132, JPS55133076, JPS55115544, JPS55105451, JPS5452543, JPS54157051, JPS54153240, JPS54153035, JPS5341228, JPS5319834, JPS53108430, JPS5280127, JPS5249631, JPS512433, JPS5053051, JPS5017861, JPS4942930, JP58054392 A2, JP56128958 A2, JP56122761 A2, JP56113152 A2, JP56111859 A2, JP56091248 A2, JP56047535 A2, JP56016426 A2, JP56015507 A2, JP56009758 A2, JP55167954 A2, JP55157753 A2, JP55157723 A2, JP55153949 A2, JP55144264 A2, JP55141132 A2, JP55133076 A2, JP55115544 A2, JP55105451 A2, JP55098762 A2, JP55093185 A2, JP55086034 A2, JP55084742 A2, JP55073073 A2, JP55038593 A2, JP55038527 A2, JP55027236 A2, JP54166336 A2, JP54157051 A2, JP54153240 A2, JP54153035 A2, JP54052543 A2, JP53108430 A2, JP53041228 A2, JP53019834 A2, JP52080127 A2, JP52049631 A2, JP51002433 A2, JP50053051 A2, JP50017861 A2, JP49042930 A2, DE3236854 A1, DE3230907 A1, DE3212881 A1, DE3206237 A1, DE3134188 A1, DE2950961 A1, DE2916555 A1, DE2360885 A1,

Forward Citations: US9575452, US9268274, US9250575, US9239550, US9140725, US9052648, US8971743, US8477392, US8340565, US8190055, US8157424, US8139996, US8121520, US8075089, US7986911, US7957672, US7949283, US7914217, US7909488, US7802787, US7751729, US7742720, US7675536, US7639965, US7632032, US7627268, US7559551, US7457563, US7370860, US7270494, US7245850, US7236710, US7231167, US7224923, US7218878, US7212221, US7162182, US7136609, US6984007, US6873810, US6728510, US6725003, US6522848, US6286124, US6017161, US5611526, US5225877, US5223938, US5213322, US4806970, US2016231687, US2015125189, US2014212189, US2013322934, US2013314112, US2013266332, US2010328739, US2010296836, US2010277545, US2010215420, US2010164168, US2010073942, US2010071190, US2010025514, US2009324258, US2009190978, US2009001651, US2008166145, US2008069591, US2007274759, US2007264045, US2007248377, US2007247511, US2007153012, US2007127972, US2007127971, US2007127955, US2007025762, US2007012209, US2006103717, US2006066705, US2006056878, US2006056877, US2006056876, US2005242495, US2005207781, US2005207780, US2005180765, US2005135837, TWI325845, JP61140450, JP1167136, EP0342715, DE4003966, DE3741950, DE3446999, DE3332143, DE3326166,

Abstract:
Source: US4657372A A printer has a record unit including a record in the form of an endless belt which moves in one direction, a charger for charging the record, an exposure unit for forming an electrostatic latent image on the charged record, a developing unit for converting the latent image into a visual image, a sheet feeder for feeding a record sheet from a stack, as separated one by one, and feeding it into close contact with the record which carries the visual image, a transfer unit for transferring the visual image from the record onto the record sheet, a fixing unit for fixing the transferred visual image on the record sheet, and a delivery unit of delivering the fixed record sheet out of the printer. As a characteristic of the invention, the record unit and the developer unit are detachably mounted together and capable of being slid out of the printer for servicing. The other elements of the printer are disposed around the record unit in a generally U−shaped configuration, so that the record/developer unit can be slid into or out of the hollow portion defined by the U−shaped configuration.

159) Family number: 50076715 (US2011299879A) © PatBase

Title: IMAGE FORMING DEVICE HAVING SHUTTER DRIVING MEMBER

Priority: JP20100128151 20100603

Family:

Publication number	Publication date	Application number	Application date
CN102269958 A	20111207	CN201110084875	20110328
CN102269958 B	20141105	CN201110084875	20110328
JP2011253121 A2	20111215	JP20100128151	20100603
JP5177179 B2	20130403	JP20100128151	20100603
US2011299879 AA	20111208	US20110072718	20110327
US8606140 BB	20131210	US20110072718	20110327

Probable Assignee: BROTHER KOGYO KK

Assignee(s):(std)**:** BROTHER IND LTD ; KAMIMURA NAOYA

Assignee(s): BROTHER KOGYO KABUSHIKI KAISHA ; BROTHER KOGYO KK

Inventor(s):(std)**:** KAMIMURA NAOYA

Agent(s): BAKER BOTTS LLP

International class (IPC 8–9)**:** G03G15/00 G03G15/01 G03G15/08 G03G21/16 G03G21/18 (Advanced/Invention)

CPC: G03G15/0886 G03G15/087 G03G15/0872 G03G2215/067

European class: G03G15/08H3C S03G215/06C1A2

US class: 399/110 399/110P 399/112 399/113 399/113S 399/119 399/119S 399/258 399/258S 399/262

Classification Explorer

Cited documents: US6766133 BA, US6185401 BA, US2012170954 AA, US2011299880 AA, US2011299879 AA, US2009297226 AA, US2009297209 AA, US2009180802 AA, US2009129813 AA, US2009087225 AA, US2005271425 AA, US2004131391 AA, JP6035321 A2, JP3175471 A2, JP3037686 A2, JP2009288473 A2, JP2009086417 A2, JP2009086149 A2, JP2008233841 A2, JP2007178971 A2, JP2006267607 A2, JP2006243763 A2, JP2005338583 A2, JP2005031109 A2, JP2004333608 A2, JP2004205587 A2, JP2000275945 A2, JP11272050 A2, JP11194600 A2, JP10020746 A2,

Forward Citations: US9261856, US9014595, US8792804, US8639163, US8639156, US8606140, US8577250, US8554107, US8538288, US2015086242, US2011299880, JP6131830, JP6088989, JP6088988, JP2015138191, JP2015138190, JP2015087672,

Abstract:
Source: US2011299879A An image forming device includes a main casing, a support member, a plurality of image bearing members supported on the support member, a plurality of developing units supported on the support member, a plurality of toner cartridges detachably mounted on the support member, and a shutter closing mechanism. Each toner cartridge includes a casing formed with an opening through which toner accommodated in the casing is supplied to the developing unit and a shutter movable between an opening position at which the shutter opens the opening and a closing position at which the shutter closes the opening. The shutter closing mechanism moves the shutter of one of the toner cartridges to be replaced from the opening position to the closing position while maintaining the shutters of the remaining toner cartridges at the respective opening positions.

0) US6240262B – TONER SUPPLY DEVICE AND TONER CARTRIDGE

160) Family number: 15405905 (US6240262B) © PatBase

Title: TONER SUPPLY DEVICE AND TONER CARTRIDGE

Priority: JP20000080805 20000322 US20000506607 20000218

Family:

Publication number	Publication date	Application number	Application date
JP2001235936 A2	20010831	JP20000080805	20000322
JP2003280349 A2	20031002	JP20030117955	20030423
JP3437523 B2	20030818	JP20000080805	20000322
JP3662568 B2	20050622	JP20030117955	20030423
US6240262 BA	20010529	US20000506607	20000218

Probable Assignee: TOSHIBA TEC KK

Assignee(s):(std)**:** TOSHIBA TEC CORP ; TOSHIBA TEC KK

Inventor(s):(std)**:** ASADA TOMOYUKI ; ITO SHINICHI ; ITOH SHINICHI ; TANIYAMA RYOJI ; TANIYAMA YOSHIHARU

International class (IPC 8–9)**:** G03G15/08 G03G21/00 (Advanced/Invention); G03G15/08 G03G21/00 (Core/Invention)

International class (IPC 1–7)**:** G03G15/00 G03G15/08 G03G21/00

CPC: G03G15/0872 G03G15/0855 G03G15/0863 G03G15/0865 G03G2215/0665 G03G2215/0695

European class: G03G15/08H3 S03G215/06C1A S03G215/06C8

US class: 399/12 399/262

Classification Explorer

Cited documents: US5999759 A, US5983059 A, US5761566 A, US5088144 A, US4963939 A, JP6316060, JP63082493, JP62173482 A2, JP62173482, JP5224479 A2, JP4062564 A2, JP4062564, JP4001682 A2, JP4001682, JP1255875, JP11338210 A2, JP10207209, JP10020642 A2,

Forward Citations: USRE45513, USRE42312, USRE41779, USRE40058, USRE40021, US9229423, US9025972, US8744282, US8626037, US8417129, US8295742, US7218866, US7162190, US7133144, US6587648, US2015071659, US2013170846, US2013011166, US2010290792, US2010119264, US2008298820, US2004253006, US2003021607, JP5004017, JP4650780, JP4476796, JP2011237521, JP2011059192, JP2009092751, JP2006171232, JP2005326737, EP1995644, EP1496408, EP1496408,

Abstract:
Source: US6240262B A toner supply device comprises: a toner cartridge, which is used for an image forming system, including a substantially cylindrical container for housing therein a toner and which is supplied when the toner is insufficient for the image forming system; an information recording part which is provided on the peripheral surface of the container and on which information including that the toner is a certified product has been recorded; a rotating unit, connected to the tip portion of the container when the container is attached, for rotating the container along the peripheral surface; a cleaning unit, provided in the vicinity of the container, for contacting the information recording part of the container in response to the operation of the rotating unit during the reading operation of a reading sensor, to sequentially clean the information recording part by the rotation of the container; and a reading sensor, provided in the vicinity of the container and in front of the cleaning unit in rotational directions of the toner cartridge, for sequentially reading the information on the information recording part cleaned by the cleaning unit in response to the operation of the rotating unit.

0) US5548384A – TONER SUPPLY CARTRIDGE

161) Family number: 11165693 (US5548384A) © PatBase

Title: TONER SUPPLY CARTRIDGE

Priority: CA19962173294 19960402 US19950417954 19950406 US19950471954 19950406

Family:

Publication number	Publication date	Application number	Application date
CA2173294 AA	19961007	CA19962173294	19960402
EP0736819 A1	19961009	EP19960302470	19960409
US5548384 A	19960820	US19950417954	19950406

Probable Assignee: CIT GROUP BUSINESS CREDIT INC

Assignee(s):(std): INT COMMUNICATIONS MATERIALS I

Assignee(s): INT COMMUNICATIONS MATERIALS INC ; INTERNATIONAL COMMUNICATIONS MATERIALS INC ; NATIONSBANK OF TEXAS NA ; NU KOTE IMP ; TAYLOR JOSEPH G NATIONSBANK OF TEXAS NA ; TAYLOR JOSEPH G ; NU KOTE IMP LTD ; WEED JOHN M ; CIT GROUP BUSINESS CREDIT INC ; INT COMMUNICATION MATERIALS INC

Inventor(s):(std): WEED JOHN M ; WEED JOHN MATTHEW

Agent(s): BORDEN LADNER GERVAIS LLP

Designated states: CH DE FR GB IT LI

International class (IPC 8–9): B41F1/40 G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)

International class (IPC 1–7): B41F1/40 G03G15/08

CPC: Y10S222/01 G03G15/0886 G03G15/0868 G03G2215/0877

European class: G03G15/08H3B S03G215/08C1

US class: 141/364 222/DIG.1 355/260 399/106 399/120 414/411

Classification Explorer

Cited documents: US5235389 A, US5118013 A, US5111976 A, US5030997 A, US4688926 A, US4091765 A, US3337072 A, JP60146271, GB2268726 A1, EP0483440 A1, EP0481085 A1,

Forward Citations: WO12059033, WO05094402, WO05094402, WO04046829, WO04046829, USRE38737, US8396398, US8200128, US8165496, US8165492, US8121525, US8073357, US7949287, US7881633, US7840167, US7747202, US7577385, US7430390, US7386250, US7292811, US7266331, US7203449, US7111654, US7088944, US7046946, US6978101, US6971421, US6968139, US6950621, US6871033, US6853828, US6792228, US6766133, US6594458, US6591078, US6438345, US6438328, US6185401, US6151472, US6134410, US6128453, US6088561, US5860048, US5842092, US5722019, US5630198, US2011142494, US2010254732, US2009263165, US2009245855, US2009245854, US2009180817, US2009123192, US2009087216, US2008273895, US2008124119, US2007258735, US2006000520, US2005196200, US2005196197, US2005169675, US2005169672, US2004228649, US2004161266, US2004123919, US2004101331, US2003175051, US2003161653, US2003118365, EP1548521, EP1548521,

Abstract:
Source: US5548384A The present invention relates to apparatus for dispensing toner comprising a generally cylindrical container for containing a quantity of toner, at least one end aperture and at least one toner discharge opening formed therein, a first closure detachably, rotatably and sealingly secured to the cylindrical container for closing the end aperture, a shutter member extending from the first closure for selectively opening and closing the toner discharge opening of the cylindrical container when the first closure is rotated, and means for aligning the dispensing apparatus.

0) US6091925A – FIXING UNIT WITH UNDIRECTIONAL CLUTCH MECHANISM...

162) Family number: 10839092 (US6091925A) © PatBase

Title: FIXING UNIT WITH UNDIRECTIONAL CLUTCH MECHANISM AND IMAGE FORMING APPARATUS WITH SEALING MEMBER AND AGITATING MECHANISM

Priority: JP19970001700 19970108

Family:

Publication number	Publication date	Application number	Application date
DE69718611 D1	20030227	DE19976018611	19970710
DE69718611 T2	20030522	DE19976018611T	19970710
EP0853262 A2	19980715	EP19970305103	19970710
EP0853262 A3	19991117	EP19970305103	19970710
EP0853262 B1	20030122	EP19970305103	19970710
JP10198213 A2	19980731	JP19970001700	19970108
JP3451867 B2	20030929	JP19970001700	19970108
US6091925 A	20000718	US19970886417	19970701

Probable Assignee: FUJI XEROX CO LTD

Assignee(s):(std)**:** FUJITSU LTD

Assignee(s): FUJITSU LTD KAWASAKI ; FUJI XEROX CO LTD ; FUJITSU LIMITED

Inventor(s):(std)**:** FUKE KENJI ; FUKUYA KENJI ; SHIMATSU KATSUYA ; SHIMAZU KATSUYA ; SUGIMOTO KATSUMI ; TANAKA TOMOAKI ; TATENO KATSUMI ; UTAKA OMIMASA ; UTAKA SHIGENOBU ; WAKABAYASHI YASUHIRO

Designated states: AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

International class (IPC 8–9)**:** G03G15/08 G03G15/20 (Advanced/Invention); G03G15/08 G03G15/20 (Core/Invention)

International class (IPC 1–7)**:** G03G15/08 G03G15/20

CPC: G03G15/2025

European class: G03G15/20H2P2

US class: 399/327

Classification Explorer

Cited documents: US5559591 A, US5529865 A, US4939552 A, US4215588 A, JP9127777, JP8101596 A2, JP8082998 A2, JP7311517 A2, JP6051636, JP60079373, JP5232833 A2, JP4251271 A2, JP4025877, JP3155576 A2, JP3015882 A2, JP2280181 A2, JP1319775 A2, EP0298504 A1,

Forward Citations: US9164434, US8948670, US8611798, US8375855, US7299001, US6532353, US6278860, US2011239881, US2005100371, JP5565801, JP5121880, JP5121879, JP2011237740, JP2011237739, JP2011237738, CN102243464,

Abstract:
Source: US6091925A A fixing unit is provided with a fixing heat roller, a first reel supplying a cleaning member which cleans a surface of the fixing heat roller, a second reel taking up the cleaning member from the first reel, and a unidirectional clutch mechanism intermittently driving the second reel in a direction to take up the cleaning member using rotation of the fixing heat roller.

163) Family number: 12261314 (US6035159A) © PatBase

Title: Process cartridge with axially shiftable drive coupling

Priority: JP19960277526 19960926

Family:

Publication number	Publication date	Application number	Application date
AU199739252 A1	19980402	AU19970039252	19970925
AU720456 B2	20000601	AU19970039252	19970925
CN1140852 C	20040303	CN19971020531	19970926
CN1194388 A	19980930	CN19971020531	19970926
DE69721170 D1	20030528	DE19976021170	19970923
DE69721170 T2	20031218	DE19976021170T	19970923
EP0833226 A2	19980401	EP19970307430	19970923
EP0833226 A3	19990901	EP19970307430	19970923
EP0833226 B1	20030423	EP19970307430	19970923
HK1009528 A1	20030808	HK19980110292	19980828
JP10104905 A2	19980424	JP19960277526	19960926
JP3689504 B2	20050831	JP19960277526	19960926
US6035159 A	20000307	US19970935050	19970922

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK

Assignee(s): CANON INC ; CANON K K ; CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** AGATSUMA JUN ; AZUMA JUN ; GOTO TAKASHI ; GOTO TAKU ; MASAAKI SAIKAWA ; MURAYAMA SHIGEO ; NISHIKAWA MASAAKI ; TAKU GOTO

Inventor(s): SAIKAWA MASAAKI ; SHIGEO MURAYAMA ; TAKASHI GOTO ; JUN AZUMA ; MASAAKI NISHIKAWA

Agent(s): SPRUSON AND FERGUSON; ASPEN PHARMA PTY LTD

Designated states: AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

International class (IPC 8–9)**:** G03G15/00 G03G15/08 G03G21/18 (Advanced/Invention); G03G15/08 (Advanced/Non–invention); G03G15/00 G03G15/08 G03G21/18 (Core/Invention)

International class (IPC 1–7)**:** F16D1/10 G03G15/00 G03G15/08 G03G15/22 G03G21/18

CPC: G03G15/757 G03G21/186 G03G2221/1657

European class: G03G15/75F G03G21/18H2C S03G221/16K2

US class: 399/111 399/167

Classification Explorer

Cited documents: US5903803 A, US5634178 A, US5561496 A, US5559581 A, US5023660 A, US4829335 A, JP63312516, JP5224475 A2, JP424656, JP4024656 A2, JP2240411, GB2141520 A1, EP0735432 A1, EP0098777 A2,

Forward Citations: WO08052260, WO04029724, WO04029724, WO02056117, USD568348, US9377750, US9229424, US9213303, US9134696, US9098055, US9058007, US9046860, US9042786, US8953984, US8874003, US8855534, US8798505, US8725042, US8311455, US7920806, US7761036, US7747191, US7660545, US7630661, US7489885, US7433631, US7403733, US7340198, US7274896, US7272345, US7248814, US7233752, US7231161, US7228090, US7181154, US7131554, US7131554, US7092658, US7092655, US7039339, US7027754, US7006776, US6999696, US6934489, US6892033, US6885838, US6882813, US6829455, US6771915, US6714752, US6714750, US6671475, US6571073, US6510298, US6438341, US6400914, US6397029, US6201935, US6175706, US6169866,

US2015168909, US2014334852, US2013308981, US2011211863, US2011020031, US2010303501, US2009074453, US2009074452, US2008124129, US2008063429, US2008056754, US2007280727, US2007140735, US2007104511, US2007104510, US2006260902, US2006198654, US2006147225, US2006018681, US2006008287, US2005281583, US2005220485, US2005191092, US2004195261, US2004120726, US2004086300, US2004013448, US2003161654, US2003142994, US2002057928, KR101324184, KR100788037, KR100729626, KR100629497, EP2595004, EP1965273, EP1930791, EP1925992, EP1925992, EP1855164, EP1635230, EP1241535, EP1199610, EP1199610, CN105093871, CN103488071, CN102467057, CN102467057, CN102200706, CN102200706, CN102169315, CN101285518,

Abstract:
Source: US6035159A An electrophotographic image forming apparatus which forms an image on a recording medium and to which a process cartridge can detachably be mounted includes (a) a cartridge mounting portion capable of detachably mounting a process cartridge including an electrophotographic photosensitive drum, a process device acting on the photosensitive drum, and a projection having a first−twisted−polygonal prism shape provided on one longitudinal end of the photosensitive drum, (b) a rotatable rotary member having a first twisted hole of polygonal cross−section, (c) a rotatable coupling shaft supported for axial movement and being provided at its one end with a second−twisted−polygonal prism shape fitted into the first twisted hole of the rotary member, and being provided at its other end with a second twisted hole of polygonal cross−section for engaging with and disengaging from the projection having the first−twisted−polygonal prism shape and having substantially the same twisted angle and twisted direction as those of the first−twisted−polygonal prism shape, (d) a spring member for biasing the coupling shaft toward the photosensitive drum, (e) an axial direction shifter for shifting the second twisted hole and the projection having the first−twisted−polygonal prism shape relative to each other between a first position and a second position, and (f) a conveyor for conveying the recording medium.

0) US2003198486A – TONER CARTRIDGE OPENING CONTROL ARRANGEMENT

164) Family number: 30430557 (US2003198486A) © PatBase

Title: TONER CARTRIDGE OPENING CONTROL ARRANGEMENT

Priority: TW19910203001 20020308 TW20020203001U 20020308 US20020128467 20020422

Family:

Publication number	Publication date	Application number	Application date
TW555026 Y	20030921	TW20020203001U	20020308
US2003198486 AA	20031023	US20020128467	20020422
US6668145 BB	20031223	US20020128467	20020422

Probable Assignee: GENERAL PLASTIC INDUSTRIAL CO LTD

Assignee(s):(std)**:** GEN PLASTIC IND CO LTD ; HSU ROBIN ; LIU REN HAO ; WANG JUI CHI

Assignee(s): GENERAL PLASTIC INDUSTRIAL CO ; GENERAL PLASTIC INDUSTRIAL CO LTD

Inventor(s):(std)**:** HSU ROBIN ; LIOU REN HAU ; LIU REN HAO ; SHIU YUNG NAN ; WANG JUI CHI ; WANG RUEI CHI

International class (IPC 8–9)**:** G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)

International class (IPC 1–7)**:** G03G15/08

CPC: G03G15/0882 G03G15/0875

European class: G03G15/08H3P

US class: 399/258 399/26 399/260 399/262

Classification Explorer

Cited documents: US6289193 BA, US6269234 BA, US5520229 A, US5329340 A, US5294963 A, US5018560 A, US2002025192 AA, US2002001485 AA, JP6035318 A2,

Forward Citations: WO04040173, WO04040173, US8346121, US7734231, US7085515, US6968147, US6907208, US2010232828, US2008175629, US2005196191, US2004081481, US2004062573,

Abstract:
Source: US2003198486A A toner cartridge opening control arrangement is constructed to include a toner cartridge for accommodating toner, the toner cartridge having an opening for output of the toner into a toner receiving container, a removable sealing member adapted to close/open the opening of the toner cartridge, a force applying member for receiving an external pulling force to move the removable sealing member, a magnetism device for imparting an outward pressure to the force applying member, and a releasable locking device adapted to lock the force applying member.

0) US2011318052A – PROCESS CARTRIDGE

165) Family number: 50260294 (US2011318052A) © PatBase

Title: PROCESS CARTRIDGE

Priority: JP20100146198 20100628 JP20140203860 20100628 JP20140203860 20141002 JP20150246398 20151217

Family:

Publication number	Publication date	Application number	Application date
JP2012008456 A2	20120112	JP20100146198	20100628
JP2014240995 A2	20141225	JP20140203860	20141002
JP2016057641 A2	20160421	JP20150246398	20151217
JP5627315 B2	20141119	JP20100146198	20100628
JP5863921 B2	20160217	JP20140203860	20141002
JP5976192 B2	20160823	JP20150246398	20151217
US2011318052 AA	20111229	US20110167151	20110623
US9581959 BB	20170228	US20110167151	20110623

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK ; SHIRAYANAGI JUN

Assignee(s): CANON INC ; CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** SHIRAYANAGI JUN

Agent(s): CHIKASHIMA KAZUO; FITZPATRICK CELLA HARPER AND SCINTO

International class (IPC 8–9): G03G15/00 G03G15/08 G03G15/09 G03G21/00 G03G21/16 G03G21/18 (Advanced/Invention)

CPC: G03G21/1842 G03G21/1857 G03G2221/1648 G03G15/0881

European class: G03G21/18H1 G03G21/18H2

US class: 399/111 399/111P

Classification Explorer

Cited documents: US7783227 BB, US7630661 BB, US6343192 BA, US2007041747 AA, JP7199570 A2, JP6175426 A2, JP6051576 A2, JP6033154 U1, JP6033154 U, JP6033154 U, JP6033154 A2, JP2166470 A2, JP2166470, JP2009288286 A2, JP2008129204 A2, JP2008129204, JP2008129090 A2, JP2008129090, JP200808922, JP2008008922 A2, JP2007011417 A2, JP2004109192 A2, JP2004109192, JP2003057998 A2, JP2002268519 A2, JP2002207409 A2, JP2002207409, JP2002072596 A2, JP2002062735 A2, JP2002062735, JP2000238326 A2, JP2000131950 A2, JP10171331 A2, JP06033154 U, JP02166470,

Forward Citations: US9002234, US8577245, US2016216637, US2012076526, JP2014137465,

Abstract:
Source: US2011318052A A process cartridge detachably mountable to a main assembly of an image forming apparatus includes an image bearing member; a developer carrying member for developing an electrostatic image on the image bearing member; a first gear provided on the developer carrying member and a second gear driving–connected to the first gear; and a supporting portion for rotatably supporting the second gear. The supporting member is mounted on a frame of the process cartridge through a vibration damping member having a vibration transmission performance lower than that of at least the supporting portion.

166) Family number: 3210718 (US5168308A) © PatBase

Title: CLAMSHELL–TYPE ELECTROPHOTOGRAPHIC IMAGE FORMING APPARATUS

Priority: JP19890197658 19890729 JP19890241402 19890918 JP19890243640 19890920

Family:

Publication number	Publication date	Application number	Application date
DE69028887 D1	19961121	DE19906028887	19900725
DE69028887 T2	19970327	DE19906028887T	19900725
EP0411825 A2	19910206	EP19900308167	19900725
EP0411825 A3	19920311	EP19900308167	19900725
EP0411825 B1	19961016	EP19900308167	19900725
JP2824674 B2	19981111	JP19890243640	19890920
JP2939625 B2	19990825	JP19890197658	19890729
JP3061972 A2	19910318	JP19890197658	19890729
JP3102362 A2	19910426	JP19890241402	19890918
JP3107169 A2	19910507	JP19890243640	19890920
US5168308 A	19921201	US19900557137	19900723

Probable Assignee: KONISHIROKU PHOTO IND

Assignee(s):(std)**:** KONISHIROKU PHOTO IND

Assignee(s): KONICA A CORP OF JAPAN CORP ; KONICA CORP ; KONICA CORP TOKIO TOKYO JP ; KONIKA KK

Inventor(s):(std)**:** HIRAIKE FUMIAKI ; HONDA HIROYUKI

Inventor(s): HONDA HIROYUKI HACHIOJI SHI TOKYO JP ; HIRAIKE FUMIAKI HACHIOJI SHI TOKYO JP

Designated states: DE FR GB

International class (IPC 8–9)**:** G03G15/00 G03G15/01 G03G15/08 G03G21/00 G03G21/16 G03G21/18 (Advanced/Invention); G03G15/00 G03G15/01 G03G15/08 G03G21/00 G03G21/16 G03G21/18 (Core/Invention)

International class (IPC 1–7)**:** G03G15/00 G03G15/01 G03G15/08 G03G21/16 G03G21/18 G03G5/00

CPC: G03G21/1628 G03G21/1647 G03G21/1671 G03G21/1853 G03G2221/1603 G03G2221/1654 G03G2221/1657 G03G2221/1678 G03G2221/1687

European class: G03G21/18H1V S03G221/16A S03G221/16K1 S03G221/16K2 S03G221/16S S03G221/16S3

US class: 355/211 355/245 399/125

Classification Explorer

Cited documents: US4975744 A, US4965640 A, US4908661 A, US4882605 A, US4873548 A, US4862209 A, US4760424 A, US4702587 A, US4585324 A, US4386841 A, US3667840 A, JPS6488560, JP63113562 A2, EP0410730 A2, EP0397465 A1, EP0370455 A2, EP0322219 A2, EP0287122 A2, EP0232064 A2,

Forward Citations: US9459585, US9081351, US8419006, US8121520, US7949283, US7773910, US7742720, US7457563, US7245850, US7231167, US7224923, US7218878, US7082274, US7058336, US6674982, US6055394, US5937240, US5828928, US5579086, US5541720, US5495327, US5485244, US5418601, US5369475, US5353100, US5311260, US5210573, US2014314447, US2012074643, US2010296836, US2008157639, US2007264045, US2006056878, US2006056877, US2006056876, US2005135837, US2004161259, US2004126600, EP1752837, EP1191409, EP1191409, EP0712058, EP0509726, CN102530659, CN102530659,

Abstract:
Source: US5168308A A clamshell–type electrophotographic image forming apparatus wherein a drum cartridge (4) by which a photosensitive drum (5) is supported is removably accommodated in a clamshell–type opening/closing unit (2) provided on a base plate (1) so as to be opened and closed. The position of a drum shaft

(6) of the photosensitive drum (5) is limited by positioning device (K) which operates according to the opening or closing, or accommodating or removal of the clamshell opening/closing unit. The drum cartridge (500) is permitted to be attached or detached in a direction at right angles with the axial direction of a support shaft (702) about which a clamshell opening/closing unit (700) turns and the developing cartridge (D) is permitted to be attached or detached in a direction in parallel with the axial direction of the support shaft (702). A drive gear (804) of the developing unit (D) is opposed to a drive gear (805) of the side of a main body, and the drum cartridge (500) that is attached, causes the developing unit (D) to be pushed, such that the drive gear (804) of the developing unit (D) meshes with the drive gear (805) of the side of the main, body.

0) US2005191090A – PROCESS CARTRIDGE AND IMAGE FORMING APPARATUS

167) Family number: 32199621 (US2005191090A) © PatBase

Title: PROCESS CARTRIDGE AND IMAGE FORMING APPARATUS

Priority: JP20040053105 20040227

Family:

Publication number	Publication date	Application number	Application date
CN1661500 A	20050831	CN200510052879	20050225
CN1661500 B	20110413	CN200510052879	20050225
CN2916702 Y	20070627	CN200520007312U	20050228
JP2005242067 A2	20050908	JP20040053105	20040227
JP4089639 B2	20080528	JP20040053105	20040227
US2005191090 AA	20050901	US20050061876	20050222
US7298990 BB	20071120	US20050061876	20050222

Probable Assignee: BROTHER KOGYO KK

Assignee(s):(std): BROTHER IND LTD

Assignee(s): BROTHER INDUSTRIES LTD ; BROTHER KOGYO K K ; BROTHER KOGYO KABUSHIKI KAISHA ; BROTHER KOGYO KK

Inventor(s):(std): NISHIMURA SOICHIRO ; SOCHIRO NISHIMURA ; SOICHIRO NISHIMURA

Inventor(s): NISHIMURA SOCHIRO

Agent(s): OLIFF AND BERRIDGE PLC

International class (IPC 8–9): G03G15/00 G03G15/08 G03G21/18 (Advanced/Invention); G03G15/00 G03G15/08 G03G21/18 (Core/Invention)

International class (IPC 1–7): G03G21/18

CPC: G03G21/1821 G03G2221/1654

European class: G03G21/18C4C S03G221/16K1

US class: 399/111 399/113 399/119

Classification Explorer

Cited documents: US6751428 BB, US6647227 BB, US6075957 A, JP2003107975 A2, JP2003084645 A2,

Forward Citations: US9507318, US9507316, US9310716, US9256198, US9182739, US9122237, US9122236, US9104169, US9098053, US9058017, US9042773, US9031457, US8958720, US8897670, US8761634, US8725035, US8712284, US8688003, US8644730, US8369743, US8320780, US8213831, US8175492, US7885574, US7865111, US7689139, US7242890, US2014321881, US2014205316, US2014205315, US2012121292, US2011236060, US2011091242, US2010303499, US2010303478, US2009003876, US2007147889, US2007071481, US2005260010, TWI578118, TWI442196, TWI418962, JP6056999, JP6056407, JP5895400, JP5821192, JP5696451, JP5403018, JP4458378, JP2016105207, JP2014102406, JP2013054052, JP2013050493, JP2012150302, JP2012118176, JP2010276961, JP2010092078, JP2010092077, JP2009109645, JP2009047962, JP2009031771, CN103969977, CN102968019, CN102968019, CN102467030, CN101900988,

Abstract:
Source: US2005191090A A developing cartridge includes an engagement device that is capable of being engaged with an engaging member associated with a frame, wherein: the engagement device can be placed in a restricting state where the engagement device is engaged with the engaging member, the engagement device can be placed in an unrestricting state where the engagement device is disengaged from the engaging member, and the engagement device is automatically placed in the unrestricting state when the developing cartridge is placed in an image forming device.

168) Family number: 44816863 (US2010080619A) © PatBase

Title: COLOR ELECTROPHOTOGRAPHIC IMAGE FORMING APPARATUS

Priority: JP20080249591 20080929 JP20090218550 20090924 JP20100042106 20100226 JP20100042106 20090924 JP20120008031 20120118 US20090568169 20090928 US20110113297 20110523

Family:

Publication number	Publication date	Application number	Application date
JP2010102326 A2	20100506	JP20090218550	20090924
JP2010117731 A2	20100527	JP20100042106	20100226
JP2012073656 A2	20120412	JP20120008031	20120118
JP4514239 B2	20100728	JP20090218550	20090924
JP4916557 B2	20120411	JP20100042106	20100226
JP5479507 B2	20140423	JP20120008031	20120118
US2010080619 AA	20100401	US20090568169	20090928
US2011217074 AA	20110908	US20110113297	20110523
US8112014 BB	20120207	US20090568169	20090928
US8355650 BB	20130115	US20110113297	20110523

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK ; KAWANAMI TAKEO

Assignee(s): CANON INC ; CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** KAWANAMI TAKEO

Agent(s): FITZPATRICK CELLA HARPER AND SCINTO

International class (IPC 8–9): G03G15/00 G03G15/01 G03G21/16 G03G21/18 (Advanced/Invention); G03G15/01 G03G21/16 G03G21/18 (Core/Invention)

CPC: G03G21/1853 G03G2221/1675 G03G2221/1869

European class: G03G21/18H1V S03G221/16P1 S03G221/18P3B

US class: 399/110 399/111 399/112 399/112P

Classification Explorer

Cited documents: US7761024 BB, US7715754 BB, US2009226205 AA, US2009180797 AA, US2007160380 AA, US2006251446 AA, JP9290942 A2, JP8067042 A2, JP2009210937 A2, JP2009210937, JP2008152305 A2, JP2008152305, JP2008055542 A2, JP200733711, JP2007233422 A2, JP2007233422, JP2007033711 A2, JP2006184554 A2, JP2006184554, JP2004269097 A2, JP2004269097, JP2004258440 A2, JP2004258440, JP2004184451 A2, JP2004184451, JP2003162201 A2, JP2003162201, JP2003107838 A2, JP2003107838, JP2002162797 A2, JP2002162797, JP2001228725 A2, JP2001228725, JP1152647, JP1140361 A2, JP11198470 A2, JP11198470, JP11052647 A2, JP09290942, JP0867042, JP01140361 U,

Forward Citations: US9671749, US9639055, US9599956, US9557708, US9529321, US9304486, US9188944, US9098025, US9075353, US9008540, US8965256, US8725031, US8509648, US2012219324, US2011236055, KR20130129847, KR101721013, JP5187338, JP2012073297, JP2011209431, CN102650846, CN102650846,

Abstract:
Source: US2010080619A A color electrophotographic image forming apparatus, wherein a plurality of cartridges is detachably mountable to a main assembly of the apparatus, includes a cartridge supporting member movable between an inside position which is inside the main assembly and an outside position which is outside the main assembly, supporting the cartridges, wherein the cartridges are mounted to and dismounted from the cartridge supporting member placed in the outside position, and wherein the cartridge supporting member is movable between the inside position and the outside position intersecting a feeding path of a recording material.

0) US6154623A – PROCESS CARTRIDGE AND IMAGE FORMING APPARATUS

169) Family number: 12706117 (US6154623A) © PatBase

Title: Process cartridge and image forming apparatus

Priority: JP19960271561 19960920 JP19970242210 19970822

Family:

Publication number	Publication date	Application number	Application date
JP10149080 A2	19980602	JP19970242210	19970822
JP3342362 B2	20021105	JP19970242210	19970822
US6154623 A	20001128	US19970934133	19970919

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK

Assignee(s): CANON INC ; CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** MIYABE SHIGEO ; SUZUKI AKIRA ; TSUDA TADAYUKI

International class (IPC 8–9)**:** G03G15/08 G03G21/18 (Advanced/Invention); G03G15/08 G03G21/18 (Core/Invention)

International class (IPC 1–7)**:** G03G15/00 G03G15/08 G03G21/00 G03G21/18

CPC: G03G21/1846

European class: G03G21/18H1H

US class: 399/111

Classification Explorer

Cited documents: US5878309 A, US5794103 A, US5774766 A, US5749027 A, US5585889 A, US5543891 A, US5500714 A, US5452056 A, US5450166 A, US5331373 A,

Forward Citations: US9688008, US9678471, US9671751, US9658593, US9658592, US9594343, US9500995, US9477201, US9417556, US9377755, US9367025, US9367023, US9348303, US9274489, US9213267, US9176468, US9052675, US9046823, US8918011, US8879944, US8688008, US8688004, US8682215, US8682211, US8676090, US8630564, US8532533, US8521060, US8494411, US8483589, US8452210, US8437669, US8433219, US8417152, US8401442, US8391748, US8369748, US8369744, US8346121, US8295734, US8280278, US8275286, US8275285, US8270879, US8233821, US7933534, US7711287, US7499670, US7412193, US7366439, US7349657, US7315710, US7248810, US7224925, US7212768, US7184690, US7158736, US7120374, US7099607, US6934485, US6931226, US6836629, US6801733, US6795666, US6678488, US6549736, US6535699, US6415127, US6384940, US2016320745, US2011170903, US2011103827, US2010232828, US2010081112, US2010054807, US2010054806, US2010054805, US2009317134, US2009245851, US2008240796, US2008205930, US2008152388, US2008025757, US2007110474, US2007092291, US2007041761, US2006120754, US2006072938, US2006072936, US2006067725, US2006051135, US2005276628, US2005238387, US2005013628, US2004234293, US2004141768, JP5998797, JP5928879, JP2014066840, JP2013210539, JP2009265291, JP2008191305,

Abstract:
Source: US6154623A A process cartridge detachably mountable to a main body of an electrophotographic image forming apparatus includes an electrophotographic photosensitive member, a developing unit for developing a latent image formed on the electrophotographic photosensitive member with a toner, a toner containing portion for containing the toner used by the developing unit, and a recess formed in an outer surface of the toner containing portion over an entire area thereof substantially in parallel with an axis of the electrophotographic photosensitive member for gripping the process cartridge.

0) US6343883B – TONER CARTRIDGE COMPRISING A MAGNET ASSEMBLY

170) Family number: 13505593 (US6343883B) © PatBase

Title: TONER CARTRIDGE COMPRISING A MAGNET ASSEMBLY

Priority: JP19990021608 19990129

Family:

Publication number	Publication date	Application number	Application date
GB200002051 A0	20000322	GB20000002051	20000128
GB2346221 A1	20000802	GB20000002051	20000128
GB2346221 B2	20011114	GB20000002051	20000128
JP2000221866 A2	20000811	JP19990021608	19990129
JP3871460 B2	20070124	JP19990021608	19990129
US6343883 BA	20020205	US20000492159	20000127

Probable Assignee: OKI DATA CORP

Assignee(s):(std)**:** OKI DATA KK

Assignee(s): OKI DATA CORP

Inventor(s):(std)**:** KONDO HIDEYUKI ; TADA TOSHIO

Inventor(s): TOSHIO TADA ; HIDEYUKI KONDO

International class (IPC 8–9)**:** B41J2/17 B41J2/175 G03G15/08 G03G21/00 G03G21/18 (Advanced/Invention); B41J2/17 B41J2/175 G03G15/08 G03G21/00 G03G21/18 (Core/Invention)

International class (IPC 1–7)**:** B41J2/175 B41J32/00 G03G15/08 G03G15/8 G03G15/8 G03G21/00 G03G21/18

CPC: G03G15/0855 G03G15/0863 G03G15/0865 B41J2/17503 B41J2/17543 G03G2215/0695

European class: B41J2/175C B41J2/175C7 G03G15/08H3 S03G215/06C8

US class: 399/104 399/106 399/12 399/262 400/196

Classification Explorer

Cited documents: US5755519 A, US5289242 A, US5184181 A, US4963939 A, US4963938 A, US4912512 A, JP61156165 A2, JP6067532 A2, JP4338989 A2, JP40338989, EP0478019 A2, EP0261643 A2,

Forward Citations: USRE45513, USRE42312, USRE41779, USRE40058, USRE40021, US9632477, US9519243, US9429870, US9389582, US9335656, US9291989, US9280084, US9152080, US9128444, US9128443, US9104134, US9085157, US9069286, US9046868, US9046817, US9031424, US8989611, US8526833, US8064807, US7796924, US7634204, US7512347, US7499666, US7463834, US7283773, US7218866, US6873233, US6663213, US6398335, US2010196019, US2009142104, US2008044205, US2006193646, US2006193643, US2006008299, JP5750803, JP3340119, JP2012014165, JP2010175880, JP2010164991, JP2006301467, JP2005338354, JP2002174946, GB2360739, GB2360739, FR2951035,

Abstract:
Source: US6343883B A cartridge is attached to a printer that performs a printing operation only when the cartridge is a predetermined kind of the cartridge. The cartridge includes a first predetermined number of magnet holders provided on the cartridge and a second predetermined number of magnets each of which is received in a corresponding one of the magnet holders. A maximum value of the second predetermined number is equal to the first predetermined number. A combination of the magnet holders having the magnets therein indicates the kind of the cartridge. The image forming apparatus comprises a detector section and an identifying section. The detector has magnetic sensor elements each of which detects a magnetic flux of a corresponding one of the magnets. The identifying section compares reference data with a combination of outputs of the magnetic sensor elements so as to identify the kind of the cartridge.

0) US2012087699A – TONER CARTRIDGE WITH A LOCK MECHANISM

171) Family number: 44358663 (US2012087699A) © PatBase

Title: TONER CARTRIDGE WITH A LOCK MECHANISM

Priority: CN200910107985 20090612 WO2010CN071379 20100329

Family:

Publication number	Publication date	Application number	Application date
CN101639647 A	20100203	CN200910107985	20090612
CN101639647 B	20130220	CN200910107985	20090612
EP2442183 A1	20120418	EP20100785675	20100329
EP2442183 A4	20140709	EP20100785675	20100329
RU2011123629 A	20130720	RU20110123629	20100329
RU2524043 C2	20140727	RU20110123629	20100329
US2012087699 AA	20120412	US20100131877	20100329
US8620196 BB	20131231	US20100131877	20100329
WO10142162 A1	20101216	WO2010CN71379	20100329

Probable Assignee: APEX TECHNOLOGY CO LTD

Assignee(s):(std)**:** DING GEMING ; PENG QINGFEI ; WU LIANJUN ; ZHUHAI SAINA TECHNOLOGY CO LTD ; ZHUHAI SEINE TECHNOLOGY LTD ; ZHUKHAI SEINE TECHNOLOGY LTD

Assignee(s): ZHUHAI SEINE TECHNOLOGY LIMITED ; ZHUHAI SAINA TECHNOLOGY CO ; APEX TECHNOLOGY CO LTD

Inventor(s):(std)**:** DING GEMING ; GEMING DING ; LIANJUN WU ; PENG JAINGFEI ; PENG QINGFEI ; QINGFEI PENG ; SHCHU LIANJUN ; WU LIANJUN

Agent(s): HELLMICH WOLFGANG; JACKSON IPG PLLC; SHENZHEN JINYANGHANG PATENT AND TRADEMARK OFFICE

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9): G03G15/08 G03G21/16 (Advanced/Invention); G03G15/08 (Core/Invention)

CPC: G03G15/0855 G03G15/0865 G03G2221/1654

European class: G03G15/08H3 G03G15/08H33 S03G221/16K1

US class: 399/120 399/262 399/262P

Classification Explorer

Cited documents: US7738817 BB, US7062205 BB, US5300991 A, US5175588 A, US5046340 A, US3544148 A, US2934370 A, US2007212118 AA, JP4355480 A2, JP2008116479 A2, JP2008018669 A2, JP2007093697 A2, JP2006003590 A2, CN1417651 A, CN101639647 A,

Forward Citations: WO15060542, WO10142162, US9465357, US9411306, US2015261181,

Abstract:
Source: US2012087699A The invention relates to a toner cartridge with a locking mechanism, including a body provided with a top cover and used for receiving a developer, wherein the locking and unlocking mechanism used for locking the toner cartridge into an image forming apparatus is arranged on the body. The locking mechanism includes a handle hinged with the top cover, a gear fixedly connected with the handle, a locking lever capable of reciprocating and a torsion spring used for realizing the automatic reset of the handle. A rack engaged with the gear is arranged on the locking lever. Moreover, the handle is driven to be close to the top cover under the action of a torque force of the torsion spring under the locking state, and the gear is engaged with the rack to drive the locking lever to be extended out of the top cover so as to lock the toner cartridge. When the handle is under the unlocking state by overcoming the torque force of the torsion spring under the action of an external force, the gear and the rack are operated to drive the locking lever to be retracted into the top cover so as to unlock the toner cartridge. Unlocking and locking can be realized through a tensile force of a human hand and the reset of the

torsion spring.

0) US2005025521A – IMAGE–FORMING DEVICE

172) Family number: 31496478 (US2005025521A) © PatBase

Title: IMAGE–FORMING DEVICE

Priority: JP20030280299 20030725 JP20030280305 20030725

Family:

Publication number	Publication date	Application number	Application date
CN100511030 C	20090708	CN200410070800	20040726
CN101241346 A	20080813	CN200810082389	20040726
CN101241346 B	20100721	CN200810082389	20040726
CN1577143 A	20050209	CN200410070800	20040726
CN2781422 Y	20060517	CN200420084280U	20040726
CN2872425 Y	20070221	CN200620007662U	20040726
HK1073892 A3	20051021	HK20050106321	20050725
JP2005043822 A2	20050217	JP20030280299	20030725
JP2005043825 A2	20050217	JP20030280305	20030725
JP4325308 B2	20090902	JP20030280299	20030725
US2005025521 AA	20050203	US20040895912	20040722
US7266327 BB	20070904	US20040895912	20040722

Probable Assignee: BROTHER KOGYO KK

Assignee(s):(std)**:** BROTHER KOGKO K K ; BROTHER IND LTD

Assignee(s): BROTHER INDUSTRIES LTD ; BROTHER KOGKO KK ; BROTHER KOGYO KABUSHIKI KAISHA ; BROTHER KOGYO KK

Inventor(s):(std)**:** ATSUO HIROSE ; ATSUO MORI KEITAKA HIROSE ; HIROSE ATSUO ; HIROSE TOKUO ; HIROTAKA MORI ; MORI HIROTAKA ; MORI NORITAKA ; TAKAKAZU MORIKEI

Inventor(s): MORIKEI TAKAKAZU ; MORI KEITAKA HIROSE ATSUO

Agent(s): OLIFF AND BERRIDGE PLC

International class (IPC 8–9): G03G15/00 G03G15/08 G03G21/00 G03G21/18 (Advanced/Invention); G03G15/08 G03G21/18 (Core/Invention)

International class (IPC 1–7): G03G15/00 G03G21/00 G03G21/18

CPC: G03G21/1842 G03G21/1853 G03G2221/1884

European class: G03G21/18H1 G03G21/18H1V S03G221/18P4

US class: 399/111 399/167

Classification Explorer

Cited documents: US6405004 BB, US2002159790 AA, JP7325535 A2, JP325535, JP10254328 A2,

Forward Citations: US9639054, US9052687, US8653362, US8577258, US8483596, US8238789, US8160472, US8145098, US8010013, US7620347, US7184686, US2013177333, US2011267657, US2011217075, US2011091234, US2009317125, US2007237549, US2006045566, JP2011186142, JP2010156750, EP2365401, CN102193374, CN102193374,

Abstract:
Source: US2005025521A A laser printer includes: a main casing with two side walls; lower guiding grooves formed in the side walls; a process cartridge that is guided by the guiding grooves to be mounted in or removed from the main casing; and a lever rotatably supported by a shaft mounted on the main casing at a position near the lower guiding groove in one side wall. When the lever is rotated, a protruding part provided on one end of the lever protrudes into the lower guiding groove and engages with a fixing boss provided on the process cartridge, thereby preventing the process cartridge from moving in a direction opposite the direction in which the cartridge is mounted in the main casing.

0) US2011236060A – PROCESS CARTRIDGE

173) Family number: 49649989 (US2011236060A) © PatBase

Title: PROCESS CARTRIDGE

Priority: JP20100068575 20100324

Family:

Publication number	Publication date	Application number	Application date
CN102200751 A	20110928	CN201110077190	20110324
CN102200751 B	20140730	CN201110077190	20110324
JP2011203365 A2	20111013	JP20100068575	20100324
JP5182313 B2	20130417	JP20100068575	20100324
US2011236060 AA	20110929	US20110052882	20110321
US8644730 BB	20140204	US20110052882	20110321

Probable Assignee: BROTHER IND LTD

Assignee(s):(std)**:** BROTHER IND LTD ; TAKAGI TAKEYUKI

Assignee(s): BROTHER INDUSTRIES LTD ; BROTHER KOGYO KABUSHIKI KAISHA ; BROTHER KOGYO KK

Inventor(s):(std)**:** TAKAGI TAKEYUKI ; TAKEYUKI TAKAGI

Agent(s): BAKER BOTTS LLP

International class (IPC 8–9)**:** G03G15/08 G03G21/16 G03G21/18 (Advanced/Invention)

CPC: G03G21/1821

European class: G03G21/18C4C

US class: 399/113 399/113P

Classification Explorer

Cited documents: USD471583 S1, USD471228 S1, US2010303499 AA, US2009180802 AA, US2007048007 AA, US2006110181 AA, US2006029423 AA, US2006029422 AA, US2006029421 AA, US2006029420 AA, US2006029419 AA, US2006029418 AA, US2005191090 AA, US2003049046 AA, US2002028088 AA, JP9330687 A2, JP4093849 U1, JP4093849 U, JP2821427 B2, JP2010009075 A2, JP2008032755 A2, JP2006184501 A2, JP2004258693 A2, JP2003164690 A2, JP2003084647 A2, JP2002162797 A2, JP2001015936 A2,

Forward Citations: US9645545, US9395688, US9256198, US9213307, US9182739, US9170529, US9104169, US9042773, US8938187, US2015277348, JP6098410, JP6079647, JP5984577, JP5932304, JP5895400, JP2015129816, JP2015022181, JP2014041179, JP2013105096, JP2013050493,

Abstract:
Source: US2011236060A A process cartridge includes: a drum cartridge; a developing cartridge, which holds a developing roller at a first end portion thereof, and which is detachably mounted to the drum cartridge; a lock member, which is provided to the drum cartridge, and which is displaceable between a lock position and a lock release position; an operation member that displaces the lock member to the lock release position; a lifting member that lifts a second end portion of the developing cartridge from the drum cartridge as the lock member is displaced to the lock release position; a developing−side holding part that extends in a direction orthogonal to the lifting direction of the second end portion from the drum cartridge; and a drum−side holding part that extends in parallel with the developing−side holding part while being opposed to the developing−side holding part in the lifting direction when the developing cartridge is mounted.

0) US2003039485A – GRID, SCOROTORON CHARGER HAVING THE GRID, PROCE...

174) Family number: 28332984 (US2003039485A) © PatBase

Title: GRID, SCOROTORON CHARGER HAVING THE GRID, PROCESS UNIT HAVING THE SCOROTORON CHARGE, AND IMAGE FORMING DEVICE INSTALLING THE PROCESS UNIT

Priority: JP20010252898 20010823 JP20020159558 20020531 US20060370890 20060309 US20020225146 20020822

Family:

Publication number	Publication date	Application number	Application date
JP2003140438 A2	20030514	JP20020159558	20020531
JP3788390 B2	20060621	JP20020159558	20020531
US2003039485 AA	20030227	US20020225146	20020822
US2006153594 AA	20060713	US20060370890	20060309
US7035571 BB	20060425	US20020225146	20020822
US7187889 BB	20070306	US20060370890	20060309

Probable Assignee: BROTHER IND LTD

Assignee(s):(std)**:** BROTHER IND LTD

Assignee(s): BROTHER KOGYO KABUSHIKI KAISHA ; BROTHER KOGYO KK

Inventor(s):(std)**:** YOSHIYAMA IKUNOBU

Agent(s): OLIFF AND BERRIDGE PLC

International class (IPC 8–9)**:** G03G15/02 H01T19/00 (Advanced/Invention); G03G15/02 H01T19/00 (Core/Invention)

International class (IPC 1–7)**:** G03G15/02

CPC: G03G15/0291

European class: G03G15/02

US class: 399/171

Classification Explorer

Cited documents: US7035571 BB, US6512904 BB, US6330410 BA, US6303933 BA, US6246852 BA, US6144826 A, US6000976 A, US5545062 A, US5358165 A, US5008538 A, US4652754 A, US4563076 A, US4358681 A, US4020315 A, US3960444 A, US2922883 A, JPY26025068, JPY260025068, JPU62135142, JPU25764, JPU2005764, JPS6488951, JPS62135142 U, JPS62135142, JPS6025068 Y2, JPS6025068, JPS54143132, JPH025764 U, JP9062056 A2, JP8139254 A2, JP8044154 A2, JP8030072 A2, JP7153522 A2, JP64088951 A2, JP62135142 U1, JP62135142 A2, JP60025068 Y2, JP60025068 A2, JP54143132 A2, JP5074544 A2, JP260025068, JP260025068, JP2005764 U1, JP2005764 A2, JP20005764, JP11097154 A2, JP1088951, JP10171211 A2,

Forward Citations: WO11162058, US7813677, US7809306, US7483255, US7356286, US7339778, US7302211, US7187889, US2010201286, US2009169250, US2009074451, US2006176641, US2006153594, US2006062596, US2006034635, JP5693362, JP2012027444, JP2009157299, JP2007121460,

Abstract:
Source: US2003039485A A grid has a frame body in a U–shaped cross–section defining a main plate section and two side plate sections. A rectangular opening is formed at the main plate section, and a plurality of grid wires extend in a lengthwise direction of the main plate section and at one side thereof. Each end portion of each grid wire is soldered to each lengthwise end portion of the main plate section under tension. For providing a scorotoron charger, a discharge wire is positioned opposite to the grid wires with respect to the main plate section, and each end of the discharge wire is fixed to the frame body in such a manner that the discharge wire extends in parallel with the grid wires.

0) US2012251175A – CARTRIDGE DRIVE SHAFT GEAR

175) Family number: 52068324 (US2012251175A) © PatBase

Title: CARTRIDGE DRIVE SHAFT GEAR

Priority: US20110074849 20110329 US20140172351 20140204 US20140175593 20140207 US20140300845 20140610 US20140546707 20141118 US20140965613P 20140203 US20160139396 20160427 WO2015US13777 20150130

Family:

Publication number	Publication date	Application number	Application date
CN105960610 A	20160921	CN201580007315	20150130
EP3102981 A2	20161214	EP20150747064	20150130
MX2016010000 A1	20170113	MX20160010000	20150130
US2012251175 AA	20121004	US20110074849	20110329
US2014153967 AA	20140605	US20140172351	20140204
US2014153968 AA	20140605	US20140175593	20140207
US2014294499 AA	20141002	US20140300845	20140610
US2015059181 AA	20150305	US20140546707	20141118
US2015316888 A9	20151105	US20140546707	20141118
US2016238985 AA	20160818	US20160139396	20160427
US8644733 BB	20140204	US20110074849	20110329
US8892004 BB	20141118	US20140175593	20140207
US8995880 BB	20150331	US20140300845	20140610
US9122242 BB	20150901	US20140172351	20140204
US9395675 BB	20160719	US20140546707	20141118
WO15119854 A2	20150813	WO2015US13777	20150130
WO15119854 A3	20151022	WO2015US13777	20150130

Probable Assignee: STATIC CONTROL COMPONENTS INC

Assignee(s):(std)**:** CAUSEY ANTHONY D ; HALLACHER CRAIG A ; HUCK DONALD R ; KEY BRANDON ; HALLACHER CRAIG ; STATIC CONTROL COMPONENTS INC ; SHAFFER ERIC ; KEY JR BRANDON ; PENG JIAN ; LONDON WILLIAM L ; LEWIS LAWRENCE DALE ; LONDON III WILLIAM L

Assignee(s): BANK OF AMERICA NA

Inventor(s):(std)**:** CAUSEY ANTHONY D ; DONALD R HUCK ; HALLACHER CRAIG ; HALLACHER CRAIG A ; HUCK DONALD R ; KEY BRANDON ; KEY JR BRANDON ; LAWRENCE DALE LEWIS ; LEWIS LAWRENCE DALE ; LONDON III WILLIAM L ; LONDON WILLIAM L ; PENG JIAN ; SHAFFER ERIC ; WILLIAM L LONDON

Agent(s): LANG JOHANNES; MOORE CHARLES L

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9): F16D1/06 F16D3/10 F16H57/00 G03G15/00 G03G21/16 G03G21/18 (Advanced/Invention)

CPC: G03G21/1857 Y10T403/7075 Y10T29/49467 G03G21/1647 G03G2221/1657 G03G21/186 F16D1/06 F16H57/0025 G03G15/757

European class: G03G15/75F

US class: 1/1 29/893.3 399/106 399/159 399/167 399/311 399/75 403/376

Classification Explorer

Cited documents:

US9395675 BB, US8644733 BB, US8630564 BB, US8615184 BB, US8565640 BB, US8532533 BB, US8494411 BB, US8437669 BB, US8433219 BB, US8417154 BB, US8391748 BB, US8369744 BB, US8369722 BB, US8295734 BB, US8280278 BB, US8275286 BB, US8270876 BB, US8254812 BB, US8249483 BB, US8233821 BB, US8135304 BB, US8121517 BB, US7885575 BB, US6473580 BA, US5993101 A, US2015050050 AA, US2013322924 AA, US2013136492 AA, US2012294649 AA, US2012183331 AA, US2011217073 AA, US2011103812 AA, US2010054823 AA, US2009317135 AA, US2009317134 AA, US2009317132 AA, US2009317131 AA, US2009080936 AA, US2009010681 AA, US2008260428 AA, US2008240796 AA, US2008152388 AA, US2002184974 AA, US2001008590 AA,

Forward Citations: WO16053650, WO15010538, USD733959, USD732730, US9588478, US9488951, US9395675, US9335708, US9329517, US9098048, US9091995, US9091994, US2016238985, US2015316888, US2015153701, US2015050050, US2015050049, US2014165761, TWI536128, CN104597733, CN103376696,

Abstract:
Source: US2012251175A Image recording devices, such as electrophotographic devices, laser printers, copiers, and fax machines, often have a cartridge that utilizes a drive gear to transmit rotational force from the printer to the print cartridge. Also, it is desirable to remanufacture print cartridge both to reduce waste and to save resources. Therefore, it may be desirable to provide a drive gear mechanism that is easily replaced or reused when a print cartridge is remanufactured.

176) Family number: 13784726 (US6324370B) © PatBase

Title: ELECTROPHOTOGRAPHIC IMAGE FORMING APPARATUS DETACHABLY MOUNTING A DEVELOPER REPLENISHING CONTAINER OR IN WHICH A PLURALITY OF CARTRIDGES AND DEVELOPER REPLENISHING CONTAINERS ARE ATTACHABLY AND DETACHABLY POSITIONED

Priority: JP19990087072 19990329

Family:

Publication number	Publication date	Application number	Application date
JP2000284557 A2	20001013	JP19990087072	19990329
US6324370 BA	20011127	US20000532023	20000321

Probable Assignee: CANNON KK

Assignee(s):(std): CANON KK

Assignee(s): CANNON KK ; CANON INC ; CANON KABUSHIKI KAISHA

Inventor(s):(std): FUJITA AKIRA ; FUJITA AKIYOSHI ; ISOBE HIRONOBU ; ISOBE HIROYUKI ; MATSUDA KENJI

International class (IPC 8–9): G03G15/00 G03G15/08 (Advanced/Invention); G03G15/00 G03G15/08 (Core/Invention)

International class (IPC 1–7): G03G15/00 G03G15/08

CPC: Y10S222/01 G03G2215/0119 G03G2215/068 G03G2215/0692 G03G15/0886 G03G15/0855 G03G15/0865 G03G15/0875

European class: G03G15/08H3 S03G215/01P3 S03G215/06C2 S03G215/06C7

US class: 222/DIG.1 399/258 399/262

Classification Explorer

Cited documents: US6016408 A, US5963759 A, US5903806 A, US5825472 A, US5819144 A, US5802441 A, US5697022 A, US5678139 A, US5650841 A, US5642187 A, US5585889 A, US5528341 A, US5452056 A, US5331373 A,

Forward Citations: US9684264, US9671748, US9465319, US9280090, US9091963, US9014595, US8983344, US8837979, US8755722, US8649712, US8639163, US8639156, US8577250, US8565642, US8554107, US8538288, US8521041, US8406655, US8385788, US8285179, US8260171, US8116659, US8103198, US8000630, US7894744, US7853185, US7853174, US7813670, US7583917, US7457561, US7436417, US7386241, US7366452, US7248825, US7212764, US7200350, US7174122, US7155137, US7139502, US6983115, US6980755, US6978100, US6973283, US6968147, US6968146, US6954601, US6954600, US6873815, US6865357, US6782219, US6742861, US6608981, US6564029, US6556800, US2011200340, US2011052269, US2010322664, US2010232832, US2010080624, US2009290911, US2009224709, US2008175627, US2008025764, US2007177902, US2007098453, US2006177231, US2006120775, US2006104670, US2006078358, US2005249517, US2005207797, US2005191091, US2005152716, US2005041992, US2005019064, US2004131387, US2004131379, US2004126131, US2004062573, US2003133723, US2002024579, JP2012027233, EP3051361, EP2388654, EP2299335, EP2299335, EP2299334, EP1821157, EP1403734,

Abstract:
Source: US6324370B An electrophotographic image forming apparatus for forming an image on a recording medium includes: a container mounting portion for attachable/detachably mounting a developer replenishing container having a developer containing portion containing a developer and a discharge port for discharging a developer contained in the developer containing portion, a cartridge mounting portion for attachable/detachably mounting a cartridge having a developing device for developing an electrostatic latent image formed on an electrophotographic photosensitive member using a developer, a developer containing portion for containing the developer used in developing with the developing device, and a developer receiving port for receiving a developer from the developer replenishing container to the developer containing portion, wherein the discharge port in the developer replenishing container and the developer receiving port in the cartridge are communicatively connected to each other in a state where the developer replenishing container and the cartridge are mounted within the electrophotographic image forming apparatus body.

0) US2004233252A – INK JET PRINTHEAD

177) Family number: 33100994 (US2004233252A) © PatBase

Title: INK JET PRINTHEAD

Priority:

AU19970007979 19970715	AU19970007991 19970715	AU19970008057 19970715
AU1997PO07979 19970712	AU1997PO07999 19970715	AU1997PO08004 19970715
AU1997PO08038 19970715	AU1997PO07979 19970715	AU1997PO07991 19970715
AU19980002370 19980326	AU1997PO08504 19970811	US19980112743 19980710
AU1997PO08497 19970811	AU1997PP00871 19971212	AU1998PO02592 19980325
AU1997PO08062 19970715	AU1998PP02592 19980325	AU1997PO08057 19970715
AU1998PP02370 19980316	AU1998PP02370 19980326	AU1998PO07999 19980715
US19980112786 19980710	US19980113086 19980710	US19980112809 19980710
US19980113096 19980710	US19980112767 19980710	US19980113122 19980710
US19980112751 19980710	US19980112802 19980710	US19980113097 19980710
US19980113099 19980710	US19980113084 19980710	US19980113066 19980710
US19980112779 19980710	US19980112818 19980710	US19980112816 19980710
US19980112772 19980710	US19980112819 19980710	US19980113068 19980710
US19980112808 19980710	US19980112780 19980710	US19980113121 19980710
US19980113053 19980710	US19980112781 19980710	US19980112778 19980710
US20030643884 20030820	US20030713094 20031117	US20020120350 20020412
US20050026128 20050103	US20030683217 20031014	US20020302566 20021122
US20050026039 20050103	US20040882767 20040702	US20040831236 20040426
US20040974766 20041028	US20020309026 20021204	US20010966293 20010928
US20040013466 20041217	US20030676026 20031002	US20040982789 20041108
US20030421823 20030424	US20040846561 20040517	US20000663153 20000915
US20030698360 20031103	US20020160273 20020604	US20020302605 20021123
US20020120345 20020412	US20030713084 20031117	US20030401987 20030331
US20010864332 20010525	US20040810588 20040329	US20010798714 20010302
US20040949347 20040927	US20030713095 20031117	US20050026129 20050103
US20020303238 20021123	US20010864378 20010525	US20040962394 20041013
US20030713072 20031117	US20020302556 20021123	US20020120346 20020412
US20030713093 20031117	US20020302275 20021123	US20020120347 20020412
US20040013462 20041217	US20030713071 20031117	US20040882775 20040702
US20020307336 20021202	US20010900159 20010709	US20040944054 20040920
US20010922275 20010806	US20030644008 20030820	US20020120350 20020402
US20050298631 20051212	US20050144805 20050606	US20050165184 20050624
US20050055164 20050211	US20050026419 20050103	US20050185721 20050721
US20050281420 20051118	US20050026131 20050103	US20050144801 20050606
US20050144815 20050606	US20050272417 20051101	US20060442179 20060530
US20050172810 20050705	US20060442191 20060530	US20050165183 20050624
US20050038201 20050121	US20060442190 20060530	US20060442103 20060530
US20060349519 20060208	US20050126221 20050511	US20050076057 20050310

Family:

Publication number	Publication date	Application number	Application date
US2004233252 AA	20041125	US20040882767	20040702
US2005063759 AA	20050324	US20040974766	20041028
US2005093937 AA	20050505	US20040013462	20041217
US2005110839 AA	20050526	US20050026128	20050103
US2005219322 AA	20051006	US20050144801	20050606
US2005225603 AA	20051013	US20050144815	20050606
US2005237362 AA	20051027	US20050165184	20050624
US2005248621 AA	20051110	US20050185721	20050721
US2005275815 AA	20051215	US20050126221	20050511
US2006055733 AA	20060316	US20050272417	20051101
US2006066680 AA	20060330	US20050281420	20051118
US2006146101 AA	20060706	US20060349519	20060208
US2006214012 AA	20060928	US20060442103	20060530
US2006214988 AA	20060928	US20060442190	20060530
US2006214991 AA	20060928	US20060442179	20060530
US2006214992 AA	20060928	US20060442191	20060530
US6932459 BB	20050823	US20040882767	20040702

US7073713 BB	20060711	US20030643884	20030820	
US7077508 BB	20060718	US20050298631	20051212	
US7077515 BB	20060718	US20040831236	20040426	
US7077588 BB	20060718	US20040974766	20041028	
US7083108 BB	20060801	US20050076057	20050310	
US7083261 BB	20060801	US20040013462	20041217	
US7083263 BB	20060801	US20050185721	20050721	
US7083264 BB	20060801	US20050281420	20051118	
US7084951 BB	20060801	US20050126221	20050511	
US7086709 BB	20060808	US20030713094	20031117	
US7086720 BB	20060808	US20040982789	20041108	
US7086724 BB	20060808	US20050144805	20050606	
US7090337 BB	20060815	US20050144801	20050606	
US7097104 BB	20060829	US20040013466	20041217	
US7097263 BB	20060829	US20050026419	20050103	
US7097284 BB	20060829	US20050272417	20051101	
US7097285 BB	20060829	US20050026128	20050103	
US7100834 BB	20060905	US20050055164	20050211	
US7101023 BB	20060905	US20050165184	20050624	
US7110024 BA	20060919	US19980113090	19980710	
US7110139 BB	20060919	US20050026039	20050103	
US7111925 BB	20060926	US20050144815	20050606	
US7246884 BB	20070724	US20060442179	20060530	
US7252367 BB	20070807	US20060442191	20060530	
US7258425 BB	20070821	US20060442190	20060530	
US7284834 BB	20071023	US20040882775	20040702	
US7524045 BB	20090428	US20060442103	20060530	
US7581826 BB	20090901	US20060349519	20060208	

Probable Assignee: GOOGLE INC

Assignee(s):(std)**:** SILVERBROOK RES PTY LTD

Assignee(s): SILVERBROOK RESEARCH PTY LTD ; ZAMTEC LTD ; GOOGLE INC ; KING TOBIN ALLEN ; MEMJET TECHNOLOGY LTD ; SILVERBROOK KIA

Inventor(s):(std)**:** KING TOBIN ALLEN ; LAPSTUN PAUL ; SILVERBROOK KIA ; WALMSLEY SIMON R ; WALMSLEY SIMON ROBERT ; WALSMLEY SIMON ROBERT

Inventor(s): KING TOBIN ; WALMSLEY SIMON

Agent(s): SILVERBROOK RESEARCH PTY LTD

International class (IPC 8–9)**:** B21D53/76 B41F31/00 B41J11/00 B41J11/70 B41J13/10 B41J15/04 B41J2/01 B41J2/04 B41J2/045 B41J2/05 B41J2/06 B41J2/135 B41J2/14 B41J2/155 B41J2/16 B41J2/175 B41J29/00 B41J29/38 B41J3/00 B41J3/42 B41J3/44 B41J5/08 B41J5/10 B41J5/30 B42D15/10 F01B29/10 G01D15/00 G03B27/00 G03B27/58 G03B9/40 G03G15/00 G06F1/16 G06F12/08 G06F15/00 G06F21/00 G06F3/02 G06K1/12 G06K15/00 G06K15/10 G06K19/00 G06K19/06 G06K19/073 G06K7/10 G06K7/14 G06T1/20 G07F7/08 G07F7/12 G11B5/127 G11C11/56 G11C16/04 H04N1/00 H04N1/028 H04N1/032 H04N1/034 H04N1/04 H04N1/21 H04N1/32 H04N1/40 H04N5/225 H04N5/228 H04N5/232 H04N5/262 H04N5/335 H04N5/369 H05K3/20 (Advanced/Invention); B41J2/165 B81B3/00 H04N1/00 H05K1/14 H05K1/18 (Advanced/Non–invention); B41J2/04 B41J2/05 B41J2/135 B41J2/14 B41J2/16 B41J5/00 H04N5/225 H04N5/228 (Core/Invention)

International class (IPC 1–7)**:** B41J2/04 B41J2/045 B41J2/05 B41J5/08 G03B27/00

CPC: H04N1/0018 B41J2/17506 B41J3/60 B41J29/02 B41J29/38 G03B9/40 G03B27/58 H04N1/193 H04N2201/0063 G06F12/0866 G06F2212/2022 G06K7/10722 G06T1/20 G06T3/0006 G09G2310/0281 H04N1/00355 H04N1/2307 H04N1/32122 H04N2201/3242

H05K1/14 H05K1/189 H04N5/23229 G06K15/102 G06K15/1857 H04N1/40031 G06F7/57 G06F9/226 G06F9/265 G06F9/30094 G06F9/30101 G06F9/3885 G06K7/10762 H01L23/576 H04N1/00968 H04N1/32101 H04N1/32587 H04N1/32593 H04N1/32603 H04N2201/0084 Y02B60/1225 H01L2924/0002 Y10T29/49083 Y10T29/49117 Y10T29/49128 Y10T29/49169 Y10T29/49172 Y10T29/49401 Y10T29/49105 Y10T29/49204 G06F1/1626 H04N5/23248 H04N5/23264 B41J11/005 H04N5/378 B41J2/175 B41J2/1752 B41J2/14314 B41J2/16 B41J3/46 G06F3/0202 G06F3/021 H04N2201/0082 G06K19/073 B41J2002/14435 B41J2002/14443 B41J2/155 B41J2002/14459 B41J2002/14475 B41J2202/15 B41J2/1639 B41J2002/14346 B41J2/1623 B41J2/1629 B41J2/1631 B41J2/1632 B41J2/1635 B41J2/1637 B41J2/1642 B41J2/1643 B41J2/1645 B41J2/1646 B41J2/1648 B41J2/16585 B41J2/17503 B41J2/17546 B41J2/17553 B41J2/17596 B41J3/44 B41J11/0005 B41J13/103 B41J15/044 B41J2002/041 B41J2002/17516 B82Y30/00 G06F21/79 G06F21/86 G06F2221/2129 G06K1/121 G06K7/14 G06K7/1417 G06K15/00 G06K19/06037 G06K2215/0002 G07F7/08 G07F7/086 G07F7/12 G11C11/56 H04N1/00127 H04N1/00326 H04N1/0044 H04N1/00477 H04N1/00965 H04N1/2112 H04N1/2154 H04N1/32133 H04N1/32561 H04N2101/00 H04N2201/0008 H04N2201/3222 H04N2201/3261 H04N2201/3264 H04N2201/3269 H04N2201/3276 H04N2201/328 B41J11/70 B41J5/28 H04N5/335 B41J2/14 B41J2/14427 B41J2/1601 B41J2/1626 B41J2/1628 B41J2/17513 H04N5/2628 B42D2035/34 G03B17/00 G03B27/00 H04N5/228 G06K19/06 H04N5/225 G06K13/00 G06K7/10 G06K19/00 B41J2/145 G03B29/00 H04N5/76 H04N1/00278 H04N1/46 H04N5/235 B41J3/445 B41J15/04 B41J2002/14362 B41J2002/14419 B41J2002/14491 B41J2202/21

European class: B41J11/00A B41J11/70 B41J13/10B B41J15/04 B41J15/04C B41J2/14 B41J2/14E B41J2/14S B41J2/155 B41J2/16 B41J2/16B B41J2/16M1 B41J2/16M3 B41J2/16M3D B41J2/16M3W B41J2/16M4 B41J2/16M5 B41J2/16M6 B41J2/16M7 B41J2/16M7S B41J2/16M8C B41J2/16M8P B41J2/16M8S B41J2/16M8T B41J2/16S B41J2/175 B41J2/175C B41J2/175C1 B41J2/175C2 B41J2/175C3 B41J2/175C7E B41J2/175C8 B41J2/175P B41J29/02 B41J29/38 B41J3/42B B41J3/44 B41J3/44B B41J3/46 B41J3/60 B82Y30/00 G03B27/58 G03B29/00 G03B9/40 G06F1/16P3 G06F12/08B12 G06F21/79 G06F21/86 G06F3/02A G06F3/02A3 G06F9/22F G06F9/26N1E G06F9/30B G06F9/30R2 G06F9/38T G06K1/12B G06K15/00 G06K15/10B G06K19/06C3 G06K19/073 G06K7/10S4D G06K7/10S4M G06K7/14 G06K7/14A2C G06T1/20 G06T3/00A G07F7/08 G07F7/08B G07F7/12 G11C11/56 H01L23/57B H04N1/00C22 H04N1/00C2H5 H04N1/00C6 H04N1/00D2B H04N1/00D3D4 H04N1/00D3G H04N1/00W1 H04N1/00W2 H04N1/21B3 H04N1/21B3H H04N1/23B H04N1/32C H04N1/32C15D H04N1/32C16 H04N1/32C17B H04N1/32K H04N1/32K7D H04N1/32K8 H04N1/32K9M H04N1/40J2 H04N5/225 H04N5/232S H04N5/232S2 H04N5/262T H04N5/335 L41J15/04 L41J2/04M L41J2/14I L41J2/14K L41J2/14R L41J2/14S1 L41J2/14S2 L41J2/14U L41J2/14W L41J2/14Y L41J2/165L L41J2/175C2C L41J2/175P L41J202/15 L41J202/21 L42D35/34 S06F212/2022 S06F221/2129 S06F7/57 S06K215/00B S09G310/02V8 T04N1/00C T04N1/193 T04N101/00 T04N201/00C T04N201/00C12 T04N201/00C22 T04N201/00J3 T04N201/00J4 T04N201/32C12 T04N201/32C3H T04N201/32C4E T04N201/32C5 T04N201/32C5S T04N201/32C6 T04N201/32C9B T04N5/232S2 T05K1/14 T05K1/18F

US class: 101/327 235/375 235/375P 235/380 235/382 235/454 235/462.01 235/462.11 235/462.24 235/462.41 235/462.42 235/473P 235/487 235/487P 235/494 235/494P 347/104P 347/13P 347/2 347/2P 347/40 347/42 347/44 347/44P 347/47 347/47P 347/48 347/5 347/54 347/54P 347/55 347/56 347/65 347/69 347/69P 347/84 347/85 347/85P 347/86 347/87 348/207.2 348/208.99 348/E05.024 348/E05.046 348/E05.055 348/E5.024 348/E5.046 348/E5.055 348/E50.24 348/E50.24S 348/E50.55 348/E50.55S 355/18 355/18P 355/72 358/1.100P 358/1.8 358/296 358/471 358/474 365/185.030P 399/12 400/472 400/472P 400/613 400/629 400/635 60/527

Classification Explorer

Cited documents: WO9904551 A1, WO9904368 A1, WO9819253 A1, WO9750243 A1, WO9712689 A1, WO9706958 A1, WO9704353 A1, WO9632265 A1, WO9516323 A1, WO9510810 A1, WO9418010 A1, WO9316323 A1, WO9301565 A1, WO9114336 A1, WO8605722 A1, WO19516323, WO04055126 A1, WO0189839 A1, WO0055089 A1, WO0028379 A1, WO0023279 A1, US7377706 BB, US7357497 BB, US7278723 BB, US719604 A, US7131715 BB, US7086724 BB, US7084951 BB, US7055935 BB, US7055934 BB, US6954254 BB, US6948799 BB, US6945630 BB, US6945630 BA, US6932459 BB, US6932459 BA, US6918542 BB, US6918542 BA, US6913346 BB, US6913346 BA, US6905185 BB, US6837635 BA, US6834939 BB, US6832828 BB, US6832828 BA, US6824251 BB, US6732924 BB, US6732924 BA, US6669332 BB, US6669332 BA, US6666543 BB, US6666543 BA, US6634814 BB, US6634814 BA, US6623105 BA, US6598960 BA, US6588882 BB, US6574958 BA, US6557977 BA, US6555201 BA, US6552821 BB, US6540332 BB, US6540332 BA, US6513908 BB, US6513908 BA, US6488359 BB, US6488359 BA, US6481821 BA, US6474882 BA, US6471336 BB, US6471336 BA, US6425655 BA, US6425651 BA, US6416167 BA, US6389183 BA, US6378997 BA, US6375314 BA, US6362868 BA, US6315200 BA, US6312099 BA, US6305788 BA, US6299290 BA, US6293658 BA, US6292574 BA, US6285410 BA,

US6280106 BA, US6278491 BA, US6273544 BA, US6273535 BA, US6270177 BA, US6264850 BA, US6260137 BA, US6252976 BA, US6247790 BA, US6243131 BA, US6238111 BA, US6238044 BA, US6238033 BA, US6234608 BA, US6231772 BA, US6231148 BA, US6229622 BA, US6217165 BA, US6209989 BA, US6199874 BA, US6196739 BA, US6191405 BA, US6182901 BA, US6180427 BA, US6180427 B1, US6174050 BA, US6174050 B1, US6163361 A, US6163338 A, US6158906 A, US6157394 A, US6155669 A, US6149256 A, US6134339 A, US6130967 A, US6097431 A, US6087431 A, US6084609 A, US6069642 A, US6041600 A, US6041106 A, US6010254 A, US6007187 A, US5995772 A, US5992994 A, US5991865 A, US5990973 A, US5989010 A, US5986698 A, US5982521 A, US5980010 A, US5970998 A, US5949467 A, US5949438 A, US5940096 A, US5923882 A, US5903380 A, US5896155 A, US5883830 A, US5883663 A, US5883650 A, US5877580 A, US5872582 A, US5867213 A, US5861897 A, US5860036 A, US5848144 A, US5847836 A, US5845166 A, US5845144 A, US5838351 A, US5835136 A, US5828394 A, US5828275 A, US5825947 A, US5825275 A, US5822608 A, US5822606 A, US5812159 A, US5809292 A, US5792249 A, US5784959 A, US5784088 A, US5768609 A, US5757388 A, US5748764 A, US5745175 A, US5737729 A, US5719604 A, US5684519 A, US5682191 A, US5675719 A, US5670995 A, US5666141 A, US5659345 A, US5619030 A, US5612723 A, US5606420 A, US5598200 A, US5572596 A, US5549740 A, US5530792 A, US5528339 A, US5523780 A, US5513431 A, US5512951 A, US5495097 A, US5493409 A, US5467118 A, US5465213 A, US5463470 A, US5443320 A, US5434621 A, US5398131 A, US5397131 A, US5343386 A, US5300958 A, US5291227 A, US5282044 A, US5278585 A, US5265033 A, US5260735 A, US5258774 A, US5235428 A, US5216490 A, US5213427 A, US5188464 A, US5171828 A, US5160945 A, US5135095 A, US5126755 A, US5115374 A, US5072241 A, US5043561 A, US5035325 A, US5031049 A, US5029805 A, US4965596 A, US4962391 A, US4937676 A, US4914452 A, US4899181 A, US4875074 A, US4868676 A, US4864824 A, US4855567 A, US4833599 A, US4762986 A, US4737802 A, US4734565 A, US4728392 A, US4723131 A, US4689642 A, US4684913 A, US4672453 A, US4672398 A, US4633267 A, US4623965 A, US4584590 A, US4576111 A, US4558326 A, US4553396 A, US4553393 A, US4550326 A, US4490728 A, US4460905 A, US4459601 A, US4429320 A, US4423401 A, US4210920 A, US4094492 A, US4074324 A, US4032929 A, US3967286 A, US3946398 A, US3747120 A, US3683212 A, US3596275 A, US3373437 A, US2005128252 AA, US2004095436 AA, US2004070648 AA, US2004056911 AA, US2003095726 AA, US2002012807 AA, US1941001 A, SE9601403 A, JP939318, JP9314915 A2, JP9187040 A2, JP9163196 A2, JP9116843 A2, JP9113990 A2, JP9071015 A2, JP9039318 A2, JP891148587, JP89114858, JP7634273 A2, JP7314665 A2, JP7045919 A2, JP691866 A2, JP691865 A2, JP64048124 A2, JP64028839 A2, JP634273, JP62272682 A2, JP6149051 A2, JP61268453 A2, JP61025849 A2, JP6091866 A2, JP6091865 A2, JP6034273 A2, JP59093356 A2, JP58116165 A2, JP58112747 A2, JP5318724 A2, JP528765, JP528765, JP5284765 A2, JP5284764 A2, JP5108278 A2, JP5028765 A2, JP4368851 A2, JP4353458 A2, JP4282995 A2, JP4141429 A2, JP4126255 A2, JP4126225 A2, JP4118241 A2, JP404001051, JP40400105 A2, JP403153359, JP402030543, JP4001051 A2, JP3655348 B2, JP3655348, JP3653348 B2, JP3653348 A2, JP359093356, JP3202351 A2, JP3180350 A2, JP3153359 A2, JP3112662 A2, JP3065348 A2, JP3009846 A2, JP292643 A2, JP2294958 A2, JP2265752 A2, JP2162049 A2, JP2158348 A2, JP2108544 A2, JP2092643 A2, JP2050841 A2, JP2030543 A2, JP2000293335 A2, JP2000196931 A2, JP2000163547 A2, JP2000039849 A2, JP196931, JP1306254 A2, JP1306254, JP128839, JP1257058 A2, JP1257058, JP1148587 A2, JP11345286 A2, JP1128839 A2, JP1128839, JP1115639 A2, JP1115639, JP1105746 A2, JP1105746, JP1048124 A2, JP10283068 A2, JP10143434 A2, GB792145 A, GB2282152 A1, GB2263841 A1, GB2262152 A1, GB2007162 A1, GB1569425 A, GB1428239 A, FR2231076 A2, EP9706958, EP9632265, EP0940975 A2, EP0899684 A2, EP0882590 A2, EP0822590 A2, EP0763930 A1, EP0750993 A2, EP0737580 A2, EP0713774 A2, EP0706893 B1, EP0671271 A2, EP0634273 A2, EP0631870 A2, EP0627314 A2, EP0540338 A2, EP0528765 A1, EP0510648 A2, EP0506232 A1, EP0479441 A2, EP0478956 A2, EP0431338 A2, EP0427291 A1, EP0417673 A2, EP0416540 A2, EP0402016 A2, EP0398295 A2, EP0398031 A1, EP0387295 A1, EP0382044 A2, EP0371763 A2, EP0354581 A2, EP0334546 A2, EP0169794 A1, EP0092229 A2, DE4328433 A1, DE4139731 A1, DE3934280 A1, DE3716996 A1, DE3430155 A1, DE3245283 A1, DE2905063 A1, DE29005063, DE2900506 A1, DE19832369 A1, DE19639717 A1, DE19623620 A1, DE19532913 A1, DE19517969 A1, DE19516997 A1, DE1648322 A1, DE1648322,

Forward Citations: WO08100579, WO06066306, USD763350, USD540380, US9584681, US9560221, US9544451, US9474856, US9432529, US9407715, US9357102, US9346276, US9338312, US9333777, US9333776, US9278510, US9237244, US9219832, US9218235, US9216040, US9211377, US9197767, US9191530, US9191529, US9185247, US9185246, US9180242, US9179020, US9168761, US9167109, US9154648, US9154647, US9148530, US9143636, US9143635, US9137398, US9137397, US9131083, US9124737, US9124736, US9124735, US9113010, US9113009, US9113008, US9113007, US9108430, US9106775, US9102152, US9100516, US9088675, US9083830, US9083829, US9060128, US9060081,

US9056478, US9055221, US9049318, US9044965, US9036162, US9013717, US9010643, US9008803, US8986253, US8953178, US8953061, US8953060, US8950676, US8947679, US8947592, US8937727, US8936196, US8934053, US8934027, US8928897, US8926561, US8925815, US8922791, US8922670, US8913182, US8913151, US8913137, US8908075, US8908069, US8908051, US8902357, US8902340, US8902333, US8902324, US8896724, US8896720, US8891008, US8890970, US8890969, US8885180, US8885179, US8878953, US8872952, US8866926, US8866923, US8854538, US8854494, US8854493, US8854492, US8836809, US8823823, US8810723, US8789939, US8758323, US8721692, US8678549, US8670048, US8650937, US8617148, US8554958, US8523916, US8448824, US8421869, US8419165, US8408679, US8408421, US8345325, US8335978, US8328101, US8322622, US8298184, US8287495, US8287105, US8285137, US8274665, US8220058, US8199204, US8123336, US8117751, US8113629, US8102568, US8098285, US8096642, US8083326, US8079664, US8077207, US8075104, US8068151, US8061828, US8061812, US8029107, US8029102, US8029101, US8025366, US8020979, US8020970, US8016400, US8013905, US8011596, US7997687, US7992961, US7988262, US7984965, US7980667, US7976130, US7976129, US7973965, US7971969, US7971960, US7970275, US7969477, US7967418, US7967416, US7965425, US7965416, US7961249, US7957009, US7950779, US7950777, US7944473, US7942332, US7936395, US7934803, US7934494, US7931200, US7914133, US7907178, US7901041, US7845869, US7764406, US7751646, US7735986, US7733462, US7730746, US7690765, US7686440, US7665834, US7646403, US7621607, US7588329, US7581826, US7549728, US7536285, US7527209, US7524047, US7524045, US7517071, US7509618, US7479614, US7469989, US7465026, US7461924, US7441865, US7424620, US7415618, US7367650, US7363620, US7353499, US7287827, US7284834, US7278723, US7270492, US7254523, US7216957, US7207657, US7201471, US7097285, US2014174645, US2014078229, US2013016241, US2013010141, US2013010140, US2012197961, US2011169785, US2011122263, US2011122261, US2010295902, US2010280504, US2010277551, US2010277531, US2010271429, US2010265339, US2010254694, US2010220199, US2010214366, US2010207997, US2010201846, US2010182379, US2010170951, US2010149255, US2010108766, US2010097480, US2010091116, US2010079600, US2010073431, US2010073427, US2010073426, US2010053268, US2010045746, US2010026763, US2010004429, US2010002273, US2010002086, US2009303286, US2009295868, US2009289996, US2009287891, US2009278901, US2009275151, US2009267991, US2009262149, US2009257102, US2009251737, US2009244292, US2009244215, US2009242636, US2009237458, US2009213150, US2009207432, US2009200386, US2009141054, US2009085976, US2009073286, US2009066757, US2009058957, US2009052879, US2009002466, US2008252754, US2008195762, US2008186368, US2008152414, US2008126046, US2008087736, US2008085107, US2008068433, US2008062232, US2008022874, US2008016259, US2007292185, US2007229580, US2007195129, US2007188715, US2007171255, US2007146821, US2007040856, US2007011023, US2006290784, US2006273691, US2006268065, US2006244784, US2006232631, US2006214012, US2006209283, US2006146101, US2006012652, US2005264611, US2005243117, US2005232676, US2005219656, US2005168543, US2005168542, US2005168541, US2005155213, US2005110839, US2005071664, US2005071655, US2005071653, US2005071652, US2005069138, US2005069131, US2004233253, US2004181384, US2004181383, US2004141061, GB2449773, AU2014262188,

Abstract:
Source: US2004233252A An ink jet printhead chip that is the product of an integrated circuit fabrication technique includes a wafer substrate having a front surface and a rear surface. A plurality of ink passages are defined through the wafer substrate, so that each ink passage defines an inlet at a rear surface of the wafer substrate and an outlet at a front surface of the wafer substrate. Each ink passage is in fluid communication with an ink supply at the rear surface of the wafer substrate. A plurality of actuators are positioned on the rear surface of the wafer substrate and are operatively arranged with respect to the ink passages to generate an ink flow through each passage, from the rear surface to the front surface, when activated.

0) US2006093398A – IMAGE–FORMING DEVICE

178) Family number: 32877132 (US2006093398A) © PatBase

Title: IMAGE–FORMING DEVICE

Priority: JP20040314458 20041028 JP20050231188 20050809

Family:

Publication number	Publication date	Application number	Application date
CN100511032 C	20090708	CN200510118846	20051027
CN1766764 A	20060503	CN200510118846	20051027
CN2891011 Y	20070418	CN200520129019U	20051028
DE602005025842 D1	20110224	DE200560025842T	20051027
EP1653296 A2	20060503	EP20050023559	20051027
EP1653296 A3	20070829	EP20050023559	20051027
EP1653296 B1	20110112	EP20050023559	20051027
HK1085018 A1	20091224	HK20060107200	20060626
HK1085018 A3	20060811	HK20060107200	20060626
JP2006154746 A2	20060615	JP20050231188	20050809
JP4710476 B2	20110629	JP20050231188	20050809
US2006093398 AA	20060504	US20050258177	20051026
US7415224 BB	20080819	US20050258177	20051026

Probable Assignee: BROTHER KOGYO KK

Assignee(s):(std)**:** BROTHER IND LTD

Assignee(s): BROTHER INDUSTRIES LTD ; BROTHER KOGYO K K ; BROTHER KOGYO KABUSHIKI KAISHA ; BROTHER KOGYO KK

Inventor(s):(std)**:** ATSUSHI HAYAKAWA ; HAYAKAWA ATSUSHI

Agent(s): KUHNEN AND WACKER; BANNER AND WITCOFF LTD COUNSEL FOR BROTHER IND; BANNER AND WITCOFF LTD

Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK NL PL PT RO SE SI SK TR YU

International class (IPC 8–9): B41J29/38 G03G15/00 G03G15/01 G03G21/16 G03G21/18 (Advanced/Invention); B41J29/38 G03G15/00 G03G15/01 G03G21/16 G03G21/18 (Core/Invention); B41J G03G (Subclass/Invention)

CPC: G03G21/1647 G03G21/186 G03G2215/0119 G03G2221/1654 G03G2221/1657

European class: G03G21/18H2C S03G215/01P3 S03G221/16K1 S03G221/16K2

US class: 399/111 399/167

Classification Explorer

Cited documents: US7212773 BB, US6968144 BB, US6453135 BA, US6438341 BA, JP6003919 A2, JP2006171633 A2, JP2002169353 A2, JP2001166554 A2, JP2001142378 A2, JP11258966 A2,

Forward Citations: WO16076848, US9678471, US9671751, US9658593, US9658592, US9594343, US9494918, US9477201, US9448527, US9377755, US9348303, US9235183, US9176468, US9098063, US8953981, US8942599, US8862025, US8750754, US8688008, US8688004, US8682215, US8676090, US8630564, US8606144, US8532533, US8515306, US8498553, US8452210, US8437669, US8401442, US8369744, US8295734, US8290397, US8280278, US8275286, US8126366, US8121517, US8064802, US8045889, US8041258, US8041252, US7991322, US7978999, US7945192, US7761036, US7693460, US7623811, US7509075, US2014294445, US2013094881, US2011188889, US2011123226, US2011091239, US2010272466, US2010021207, US2009317132, US2009290904, US2009269085, US2009245869, US2009175653, US2009169259, US2009169247, US2008317506, US2008309206, US2008260428, US2007196131, US2007147895, JP5019180, JP2011158507, JP2009204950, JP2009162915, JP2009075268, JP2009047843, EP1925985, CN102707599, CN102141752, CN102067044,

Abstract:
Source: US2006093398A An image−forming device includes a plurality of process cartridges for a plurality of colors. A plurality of drive transmitting members are provided in one to one correspondence with the process cartridges. Each drive transmitting member is capable of shifting between an engaged position for transmitting a driving force to the corresponding process cartridge and a disengaged position for interrupting transmission of the driving force to the lo process cartridge. A plurality of restricting members are provided in one to one correspondence with the drive transmitting members. Each restricting member moves between a first position and a second position and restrictes the shifting of the corresponding drive transmitting member when in the first position. A single moving member is provided for the plurality of drive transmitting members. The moving member moves the plurality of restricting members between the first position and the second position.

0) US2009245856A – DEVICE AND METHOD FOR REMANUFACTURING PRINTER C...

179) Family number: 43784641 (US2009245856A) © PatBase

Title: DEVICE AND METHOD FOR REMANUFACTURING PRINTER CARTRIDGES

Priority: US20080079842 20080327

Family:

Publication number	Publication date	Application number	Application date
US2009245856 AA	20091001	US20080079842	20080327
US7831171 BB	20101109	US20080079842	20080327

Probable Assignee: MITSUBISHI KAGAKU IMAGING CORP

Assignee(s):(std)**:** FUTURE GRAPHICS LLC ; MITSUBISHI KAGAKU IMAGING CORP

Assignee(s): FUTURE GRAPHICS IMAGING CORP

Inventor(s):(std)**:** HOLMES DENNY ; RUMMLER CRAIG

Agent(s): ROLAND TONG

International class (IPC 8–9)**:** G03G15/00 (Advanced/Invention); G03G15/00 (Core/Invention)

CPC: G03G21/1642 G03G15/0896 G03G2215/0872 G03G2221/163

European class: G03G15/08S G03G21/16 S03G215/08B4 S03G221/16D

US class: 399/109 399/109P 399/113

Classification Explorer

Cited documents: US6952544 BB, US6754460 BB, US6240605 BA, US5937238 A, JP9319198 A2, JP2002268516 A2, JP2002268514 A2, DE19936459 A1,

Forward Citations: US9651896, US8422911, US2011268470, EP2966513,

Abstract:
Source: US2009245856A A printer cartridge fastener comprising a curved portion adapted to grasp a printer cartridge overhang; a main body connected to the curved portion, the main body comprising a first side connected to the curved section; and a second side positioned opposite the first side; and an elongate portion connected to the second side of the main body, the elongate portion configured to abut to a printer cartridge portion positioned substantially perpendicular to the overhang.

180) Family number: 30475701 (DE10245031B4) © PatBase

Title: VERFAHREN UND VORRICHTUNG ZUM ENTLEEREN EINES TONERBEHAELTERS IN EINEM DRUCKGERAET UND SOLCHES DRUCKGERAET

Priority: DE20021045031 20020926

Family:

Publication number	Publication date	Application number	Application date
DE10245031 A1	20040415	DE20021045031	20020926
DE10245031 B4	20040930	DE20021045031	20020926

Probable Assignee: OCE PRINTING SYSTEMS GMBH

Assignee(s):(std)**:** OCE PRINTING SYSTEMS GMBH

Inventor(s):(std)**:** ZEHENTBAUER MARTIN ; LAY MICHAEL

International class (IPC 8–9): G03G15/08 G03G21/16 (Advanced/Invention); G03G15/08 G03G21/16 (Core/Invention)

International class (IPC 1–7): G03G15/08 G03G21/16

CPC: G03G15/0879 G03G15/0855 G03G15/0865

European class: G03G15/08H3

Classification Explorer

Cited documents: EP1202128, EP0238939, DE3633593,

Abstract:
Method for positioning a toner cartridge to enable removal of toner from the container in an essentially upright position. According to the method, in a first position an opening of the container is closed, while in a second position the container is held essentially upright with a holding device, while toner is removed from the container using a hose system (150) via the now open opening. The receiving device (58) is attached to a lever device (64) that has a hose guide (151) for sucking out of the toner material. An Independent claim is made for a device for positioning a toner cartridge to enable removal of toner.

0) US2011229196A – PROCESS CARTRIDGE AND IMAGE FORMING APPARATUS

181) Family number: 49609484 (US2011229196A) © PatBase

Title: PROCESS CARTRIDGE AND IMAGE FORMING APPARATUS

Priority: JP20100059088 20100316 JP20110046024 20110303 US20110042841 20110308 US20130919382 20130617

Family:

Publication number	Publication date	Application number	Application date
CN102193472 A	20110921	CN201110062787	20110316
CN102193472 B	20140122	CN201110062787	20110316
JP2011215607 A2	20111027	JP20110046024	20110303
JP5762054 B2	20150812	JP20110046024	20110303
US2011229196 AA	20110922	US20110042841	20110308
US2014003838 AA	20140102	US20130919382	20130617
US8494409 BB	20130723	US20110042841	20110308

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK ; TORIYAMA YASUNORI ; KAWAI TACHIO ; ANAN OSAMU

Assignee(s): CANON INC ; CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** ANAMI OSAMU ; ANAN OSAMU ; KAWAI TACHIO ; OSAMU ANAN ; TACHIO KAWAI ; TORIYAMA YASUNORI ; YASUNORI TORIYAMA

Agent(s): FITZPATRICK CELLA HARPER AND SCINTO

International class (IPC 8–9): G03G15/00 G03G15/01 G03G15/02 G03G15/08 G03G21/16 G03G21/18 (Advanced/Invention)

CPC: G03G21/1814 G03G21/185

European class: G03G21/18H1P

US class: 399/111 399/111P 399/176

Classification Explorer

Cited documents: US8687993 BB, US8238785 BB, US8160477 BB, US7848684 BB, US7835668 BB, US7792464 BB, US7720412 BB, US7555249 BB, US7457569 BB, US7366439 BB, US7310489 BB, US7257353 BB, US7233752 BB, US7130560 BB, US7099607 BB, US7085516 BB, US7072603 BB, US7046942 BB, US7027754 BB, US7016626 BB, US6968142 BB, US6947686 BB, US6738588 BB, US6735403 BB, US6560422 BB, US6501927 BA, US6501926 BA, US6496667 BB, US6480687 BA, US6463232 BA, US6385416 BA, US6381430 BA, US6349188 BA, US6336018 BA, US6240266 BA, US6226478 BA, US6175706 BA, US6175706 B1, US6163665 A, US6128454 A, US6115567 A, US6064841 A, US6055406 A, US5903803 A, US2011008074 AA, US2010221039 AA, US2009297219 AA, US2009297212 AA, US2009290904 AA, US2009290903 AA, US2009003875 AA, US2007092291 AA, US2007077093 AA, JP6316349 A2, JP6273987, JP2039169 A2, JP2009288303, JP2008170950, JP2007114523 A2, JP2005157063, JP2001194866, JP06273987, CN1940744 A, CN101592913 A, CN101592910 A,

Forward Citations: US9588466, US9285765, US9201392, US9188945, US8879954, US8755713, US8526851, US8238787, US2014161484, US2010209138, JP6112840, JP2014106480, CN104614958,

Abstract:
Source: US2011229196A A process cartridge includes a drum; a rotatable roller including a first shaft end portion and a second shaft end portion; a bearing member for rotatably supporting ends of a shaft of the rotatable roller; an urging member for urging the rotatable roller via the bearing member in a drum contact direction; a cartridge frame for rotatably supporting the drum and for movably holding the rotatable roller via the bearing member; a movable guide member movable in an axial direction of the shaft of the rotatable roller and including a first contact portion; and a fixed guide member including a second contact portion. At least one of the first contact portion and the first shaft end portion has an inclined surface inclined with respect to the axial direction of the rotatable roller, and at least one of the second contact portion and the second shaft end portion has an inclined surface inclined with respect to the axial direction of the rotatable roller.

0) US2017160697A – IMAGE FORMING APPARATUS

182) Family number: 65966265 (US2017160697A) © PatBase

Title: IMAGE FORMING APPARATUS

Priority: JP20150238811 20151207

Family:

Publication number	Publication date	Application number	Application date
JP2017106980 A2	20170615	JP20150238811	20151207
US2017160697 AA	20170608	US20160370809	20161206

Probable Assignee: BROTHER IND LTD

Assignee(s):(std): BROTHER IND LTD

Assignee(s): BROTHER KOGYO KK

Inventor(s):(std): FUKAMACHI YASUO ; MUSHIKA MOTOAKI ; SATO SHOUGO ; TAGUCHI KAZUNA

International class (IPC 8–9): G03G15/00 G03G21/16 G03G21/18 (Advanced/Invention)

CPC: G03G21/1633 G03G21/1814 G03G21/1647 G03G21/1676 G03G21/1821

Classification Explorer

Abstract:
Source: US2017160697A An image forming apparatus, including a process cartridge and a main body with an opening and a cover, is provided. The process cartridge includes a drum cartridge, a toner cartridge, and a switching member. The switching member switches states in the process cartridge between a first state, wherein the toner cartridge is restricted from being detached, and a second state, wherein the toner cartridge is released from the restriction. The process cartridge is movable between an attached position to be placed entirely inside the main body and a detached position to be entirely outside the main body. The main body includes a restrictor to restrict the process cartridge from moving from an intermediate position toward the detached position. While the process cartridge is restricted by the restrictor, a supportive part in the cover supports the process cartridge with the switching member being at least partly placed outside the main body.

0) US2003090538A – PRINTHEAD SUPPORT ASSEMBLY

183) Family number: 15274691 (US2003090538A) © PatBase

Title: PRINTHEAD SUPPORT ASSEMBLY

Priority:

AU19990000559 19990523 AU19990000559 19990525 AU19990001304 19990630
AU19990001305 19990630 AU19990001306 19990630 AU19990000559 19991201
AU19990001313 19990630 AU19990002912 19990917 AU19990003623 19991025
AU19990004392 19990525 AU19990003632 19990630 AU19990001313 19991025
AU1999PQ00559 19990525 AU1999PQ00559 19990523 AU1999PQ04483 19991206
AU1999PQ03457 19991015 AU1999PQ02912 19990917 AU1999PQ03632 19991025
AU1999PQ04392 19991201 AU1999PQ01313 19990630 AU1999PQ01312 19990630
AU1999PQ04912 19991224 AU1999PQ04392 19990525 AU1999PQ03632 19990630
AU1999PQ01313 19991025 AU1999PQ00559 19991201 AU1999PQ03623 19991025
AU1999PQ01304 19990630 AU1999PQ01305 19990630 AU1999PQ01306 19990630
JP19990004392 19991201 US20000545132 20000407 AU20000004392 20001125
AU20000003632 20001025 US20000575196 20000523 JP1999PQ04392 19991201
US20000607844 20000630 US20000575195 20000523 US20000609303 20000630
US20000575132 20000523 US20000609140 20000630 US20000610095 20000630
US20000608920 20000630 US20000607656 20000630 US20000575139 20000523
US20000575189 20000523 US20000575187 20000523 AU20030900746 20030217
AU20030900983 20030304 AU20030901795 20030415 US20000663599 20000915
US20000608970 20000630 US20000575172 20000523 US20000575131 20000523
US20000575171 20000523 AU20020952259 20021025 US20000575168 20000523
AU2000PQ03632 20001025 US20000607605 20000630 AU20030901617 20030407
AU2000PQ04392 20001125 AU20000053743 20000630 US20050124178 20050509
US20040932044 20040902 US20050144840 20050606 US20050202218 20050812
US20050159196 20050623 US20030409864 20030904 US20040815622 20040402
US20040778056 20040217 US20050082988 20050318 US20050206756 20050819
US20020291512 20021112 US20000722141 20001125 US20040943843 20040920
US20050082827 20050318 US20050202251 20050812 US20050203205 20050815
US20050182002 20050715 US20050124158 20050509 US20050082940 20050318
US20050124179 20050509 US20020291706 20021112 US20050084755 20050321
US20040893385 20040719 US20020291705 20021112 US20040803922 20040319
US20040893386 20040719 US20040893373 20040719 US20040990552 20041118
US20040990527 20041118 US20050071117 20050304 US20050072529 20050307
US20050082955 20050318 US20000663701 20000915 US20040986375 20041112
US20050203242 20050815 US20050124256 20050509 US20050123136 20050506
US20020291818 20021112 US20050189695 20050727 US20040917355 20040813
US20020291717 20021112 US20040815649 20040402 US20020309358 20021204
US20050202252 20050812 US20050082815 20050318 US20050185722 20050721
US20020274119 20021021 US20000693704 20001020 US20050124162 20050509
US20040944043 20040920 US20000722147 20001125 US20050155557 20050620
US20020291366 20021112 US20050188016 20050725 US20020291579 20021112
US20050188015 20050725 US20020291827 20021112 US20030409864 20030409
US20000721895 20001125 US20050202112 20050812 US20020291714 20021112
US20020291557 20021112 US20000722088 20001125 US20000693515 20001020
US20050222977 20050912 US20050228488 20050919 US20050286334 20051125
WO2004AU00434 20040402 US20060442381 20060530 US20080036904 20080225
US20050228518 20050919 US20050228498 20050919 US20050228502 20050919
US20050228523 20050919 US20050281671 20051118 US20060442385 20060530
US20060349143 20060208 US20060442366 20060530 US20060327491 20060109
US20060442428 20060530 WO2003AU01343 20031010 US20050531734 20050418
US20060329187 20060111 US20050228479 20050919 US20050227239 20050916
US20050206778 20050819 WO2000AU00753 20000630

Family:

Publication number	Publication date	Application number	Application date
AU130499 A0	19990722	AU1999PQ01304	19990630
AU130599 A0	19990722	AU1999PQ01305	19990630
AU130699 A0	19990722	AU1999PQ01306	19990630
AU131299 A0	19990722	AU1999PQ01312	19990630
AU131399 A0	19990722	AU1999PQ01313	19990630
AU200053743 A5	20010122	AU20000053743D	20000630
AU2002952259 A0	20021107	AU20020952259	20021025
AU2003900746 A0	20030306	AU20030900746	20030217

AU2003900983 A0	20030320	AU20030900983	20030304	
AU2003901617 A0	20030501	AU20030901617	20030407	
AU2003901795 A0	20030501	AU20030901795	20030415	
AU291299 A0	19991007	AU1999PQ02912	19990917	
AU345799 A0	19991111	AU1999PQ03457	19991015	
AU363299 A0	19991118	AU1999PQ03632	19991025	
AU439299 A0	19991223	AU1999PQ04392	19991201	
AU448399 A0	20000106	AU1999PQ04483	19991206	
AU491299 A0	20000203	AU1999PQ04912	19991224	
AU55999 A0	19990617	AU1999PQ00559	19990525	
AU760759 B2	20030522	AU20000053743	20000630	
CA2414702 AA	20021230	CA20002414702	20000630	
CA2414702 C	20080205	CA20002414702	20000630	
CN100555207 C	20091028	CN200410081742	20000524	
CN1165425 C	20040908	CN20008012299	20000630	
CN1264081 C	20060712	CN20008010180	20000524	
CN1269019 C	20060809	CN200410034676	20000524	
CN1269073 C	20060809	CN20008011162	20000630	
CN1371321 A	20020925	CN20008012299	20000630	
CN1565845 A	20050119	CN200410063364	20000630	
CN1818848 A	20060816	CN200410081742	20000524	
EP1204533 A1	20020515	EP20000938326	20000630	
EP1204533 A4	20021009	EP20000938326	20000630	
EP1204533 B1	20050406	EP20000938326	20000630	
EP1706810 A1	20061004	EP20040725236	20040402	
EP1706810 A4	20080521	EP20040725236	20040402	
US2003090538 AA	20030515	US20020291705	20021112	
US2003090541 AA	20030515	US20020291706	20021112	
US2004179063 AA	20040916	US20040803922	20040319	
US2004250421 AA	20041216	US20040893385	20040719	
US2004263555 AA	20041230	US20040893386	20040719	
US2004263566 AA	20041230	US20040893373	20040719	
US2005068363 AA	20050331	US20040990552	20041118	
US2005073551 AA	20050407	US20040990527	20041118	
US2005146568 AA	20050707	US20050071117	20050304	
US2005151794 AA	20050714	US20050072529	20050307	
US2005162463 AA	20050728	US20050084755	20050321	
US2005162466 AA	20050728	US20050082955	20050318	
US2005162467 AA	20050728	US20050082988	20050318	
US2005198515 AA	20050908	US20050082827	20050318	
US2005200636 AA	20050915	US20050124162	20050509	
US2005200892 AA	20050915	US20050123136	20050506	
US2005200894 AA	20050915	US20050124256	20050509	
US2005202804 AA	20050915	US20050124178	20050509	
US2005212830 AA	20050929	US20050124158	20050509	
US2005219600 AA	20051006	US20040932044	20040902	
US2005225541 AA	20051013	US20050144840	20050606	
US2005234737 AA	20051020	US20050124179	20050509	
US2005237312 AA	20051027	US20050155557	20050620	
US2005253780 AA	20051117	US20050188016	20050725	

US2005253809 AA	20051117	US20050188015	20050725	
US2005254106 A9	20051117	US20040815649	20040402	
US2005254874 AA	20051117	US20050185722	20050721	
US2005263595 AA	20051201	US20050189695	20050727	
US2005267841 AA	20051201	US20050182002	20050715	
US2005270575 AA	20051208	US20050202218	20050812	
US2005270577 AA	20051208	US20050203242	20050815	
US2005275889 AA	20051215	US20050206756	20050819	
US2005278254 AA	20051215	US20050202251	20050812	
US2005278260 AA	20051215	US20050202252	20050812	
US2005289054 AA	20051229	US20050203205	20050815	
US2006004602 AA	20060105	US20050206778	20050819	
US2006007489 AA	20060112	US20050227239	20050916	
US2006007490 AA	20060112	US20050228498	20050919	
US2006012813 AA	20060119	US20050228518	20050919	
US2006012814 AA	20060119	US20050228523	20050919	
US2006015541 AA	20060119	US20050222977	20050912	
US2006023257 AA	20060202	US20050228502	20050919	
US2006025117 AA	20060202	US20050228488	20050919	
US2006025175 AA	20060202	US20050228479	20050919	
US2006034496 AA	20060216	US20050202112	20050812	
US2006065859 AA	20060330	US20050281671	20051118	
US2006072828 AA	20060406	US20050286334	20051125	
US2006111090 AA	20060525	US20060329187	20060111	
US2006114517 AA	20060601	US20060327491	20060109	
US2006118643 AA	20060608	US20030531734	20000630	
US2006129841 AA	20060615	US20060349143	20060208	
US2006214000 AA	20060928	US20060442381	20060530	
US2006214013 AA	20060928	US20060442366	20060530	
US2006218099 AA	20060928	US20060442385	20060530	
US2006218100 AA	20060928	US20060442428	20060530	
US2008144118 AA	20080619	US20080036904	20080225	
US6641253 BB	20031104	US20020291705	20021112	
US6755513 BA	20040629	US20000609140	20000630	
US6830315 BB	20041214	US20040803922	20040319	
US6846059 BB	20050125	US20040893386	20040719	
US6871938 BB	20050329	US20040893373	20040719	
US6905194 BB	20050614	US20040893385	20040719	
US7102772 BA	20060905	US20000575139	20000523	
US7105753 BA	20060912	US20000722088	20001125	
US7106888 BA	20060912	US20000575171	20000523	
US7108192 BB	20060919	US20020309358	20021204	
US7110126 BA	20060919	US20000693219	20001020	
US7111791 BB	20060926	US20030410484	20030409	
US7125106 BB	20061024	US20020291706	20021112	
US7128270 BB	20061031	US20040815649	20040402	
US7152938 BB	20061226	US20050084755	20050321	
US7180507 BB	20070220	US20050188015	20050725	
US7202959 BB	20070410	US20060327491	20060109	
US7213756 BB	20070508	US20050189695	20050727	

US7263225 BB	20070828	US20050202112	20050812	
US7284831 BB	20071023	US20050071117	20050304	
US7286113 BA	20071023	US20000609303	20000630	
US7295839 BA	20071113	US20000721895	20001125	
US7314177 BB	20080101	US20060442381	20060530	
US7322524 BB	20080129	US20050159196	20050623	
US7334739 BB	20080226	US20060442366	20060530	
US7357484 BB	20080415	US20050072529	20050307	
US7362314 BB	20080422	US20050188016	20050725	
US7388221 BB	20080617	US20050281671	20051118	
US7389423 BB	20080617	US20050082827	20050318	
US7413363 BB	20080819	US20050185722	20050721	
US7428070 BB	20080923	US20050227239	20050916	
US7463250 BB	20081209	US20050144840	20050606	
US7466439 BB	20081216	US20050202218	20050812	
US7503493 BB	20090317	US20050286334	20051125	
US7551305 BB	20090623	US20050123136	20050506	
US7558563 BB	20090707	US20050228488	20050919	
US7558598 BB	20090707	US20050228479	20050919	
US7571193 BB	20090804	US20050203242	20050815	
US7576876 BB	20090818	US20050206756	20050819	
US7577428 BB	20090818	US20060329187	20060111	
US7589854 BB	20090915	US20050124256	20050509	
US7646503 BB	20100112	US20050228498	20050919	
US7663780 BB	20100216	US20040932044	20040902	
US7792298 BB	20100907	US20050124178	20050509	
US7797528 BB	20100914	US20060349143	20060208	
US7864166 BB	20110104	US20080036904	20080225	
US7864360 BB	20110104	US20050228523	20050919	
US7877111 BB	20110125	US20050124162	20050509	
US7894703 BB	20110222	US20050228518	20050919	
US7936343 BB	20110503	US20050155557	20050620	
US7941338 BB	20110510	US20050222977	20050912	
WO0102172 A1	20010111	WO2000AU00753	20000630	
ZA200200770 A	20021030	ZA20020000770	20020129	

Probable Assignee: SILVERBROOK RESEARCH PTY LTD

Assignee(s):(std)**:** LAPSTUN PAUL ; MOINI ALIREZA ; KING TOBIN ALLEN ; HENDERSON PETER C B ; KIA SILVERBROOK ; KIA SILVERBROOK AND TOBIN ALLE ; SILVERBROOK RES PTY LTD ; SILVERBROOK KIA ; RUSMAN JAN ; YOURLO ZHENYA A ; UNDERWOOD MATTHEW J ; RIDLEY NICHOLAS D ; SILVERBROOK RESEARCH PTY LTD ; SILVERBROOK RES CO LTD ; SILVERBROOKE RES PTY LTD

Assignee(s): SILVERBROOK RESEARCH CO ; SILVERBROOKE RESEARCH PTY LTD ; KING TOBIN A ; SILVERBROOK RESEARCHPTY LTD ; SILVERBROOK RESEARCH LTD ; SILVERBROK RESEARCH PTY LTD ; SILVERBROOK RESEARCH CO LTD ; SILVERBROOK RESEARCH PTYLTD ; SILVERBROOK RESEARCH PTY LTD393 DARLING STREETNSW 2041BALMAINAU ; PAUL LAPSTUN ; ZAMTEC LTD ; ZAMTEC LTD8 FITZWILLIAM SQUAREDUBLIN 2IE ; SILVERBROOK RESEARCH PTY LIMITED ; KIA SILVERBROOK AND TOBIN ALLEN KING ; KING TOBIN ; MPOWA PTY LTD ; LIVESCRIBE INC ; MEMJET TECHNOLOGY LTD ; MEMJET TECHNOLOGY LTD8 FITZWILLIAM SQUAREDUBLIN 2DUBLINIE ; OPUS BANK

Inventor(s):(std)**:** ALLEN KING TOBIN ; GATES ROBERT D ; HENDERSON PETER CHARLES BOYD ; HOLLINS MICHAEL ; HOLLINS MICHAEL J ; KIA SILVERBROOK ; LAPSTUN JACQUELINE A ; LAPSTUN JACQUELINE ANNE ; LAPSTUN KIA SILVERBROOK PAUL ; LAPSTUN PAUL ; MOINI ALIREZA ; KING TOBIN A ; KING TOBIN ALLEN ;

HENDERSON PETER C B ; PAUL LAPSTUN ; RIDLEY NICHOLAS D ; RIDLEY NICHOLAS DAMON ; RUSMAN JAN ; SCOTT PAUL QUENTIN ; SILVERBROOK KIA ; PAUL SILVERBROOK KIA LAPSTUN ; PICKUP COLIN J ; PICKUP COLIN JOHN ; SILVERBROOK P LAPSTON K ; SILVERBROOK PAUL LAPSTUN JACQU ; TOBIN A KING ; TOBIN ALLEN KING ; UNDERWOOD MATTHEW J ; UNDERWOOD MATTHEW JOHN ; WALMSLEY SIMON R ; WALMSLEY SIMON ROBERT ; YOURLO ZHENYA A ; YOURLO ZHENYA ALEXANDER

Inventor(s): WALMSLEY SIMON ; YOURLO ZHENYA ; UNDERWOOD MATTHEW ; RIDLEY NICHOLAS ; PICKUP COLIN ; SILVERBROOK KIA LAPSTUN PAUL ; SILVERBROOK KIAAU ; PAUL LAPSTUN JACQUELINE A LAPSTUN KIA SILVERBROOK ; HENDERSON PETER CB ; KING TOBIN ALLENAU ; LAPSTUN JACQUELINE ; P LAPSTON K SILVERBROOK ; KIA SILVERBROOK PAUL LAPSTUN ; KING TOBIN ; GATES ROBERT DUGALD ; HENDERSON PETER ; GATES ROBERT

Agent(s): SILVERBROOK RESEARCH PTY LTD; PIZZEYS; PIZZEYS PATENT AND TRADE MARK ATTORNEYS PTY LTD; RIDOUT AND MAYBEE LLP

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BY BZ CA CF CG CH CI CM CN CR CU CY CZ DE DK DM DZ EE ES FI FR GA GB GD GE GH GM GN GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LI LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NE NL NO NZ PL PT RO RU SD SE SG SI SK SL SN SZ TD TG TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

International class (IPC 8–9): A63F9/18 B41F31/08 B41J1/00 B41J13/10 B41J2/01 B41J2/045 B41J2/14 B41J2/155 B41J2/165 B41J2/175 B41J2/21 B41J2/475 B41J21/00 B41J21/16 B41J29/00 B41J29/02 B41J29/13 B41J29/38 B41J29/40 B41J3/00 B41J3/01 B41J3/36 B41J3/407 B41J3/42 B41J3/44 B41J5/30 B41L27/10 B41L43/12 B42C1/12 B42C19/02 B42C9/00 B42D15/00 B42D15/02 B42D15/10 B43K1/00 B43K17/00 B43K23/008 B43K24/10 B43K27/00 B43K29/00 B43K29/08 B43K29/093 B43K5/18 B43K8/00 B43K8/22 B65H29/34 B65H37/02 B65H37/04 C09B49/12 C09B57/10 C09D11/00 C09D11/02 D21H19/38 G01N33/48 G01N33/50 G03B15/00 G03B17/00 G03B17/50 G03B19/02 G03B27/00 G03B29/00 G03G15/36 G05B15/00 G06F13/00 G06F15/00 G06F15/02 G06F15/16 G06F17/00 G06F17/21 G06F17/22 G06F17/30 G06F17/40 G06F17/50 G06F19/00 G06F21/20 G06F3/00 G06F3/01 G06F3/023 G06F3/03 G06F3/033 G06F3/0354 G06F3/038 G06F3/041 G06F3/042 G06F3/048 G06F3/0488 G06F3/05 G06F3/06 G06F3/08 G06F3/12 G06F7/00 G06F7/02 G06F7/04 G06F7/08 G06K1/00 G06K1/20 G06K11/00 G06K11/06 G06K11/18 G06K15/00 G06K15/02 G06K17/00 G06K19/00 G06K19/06 G06K19/08 G06K19/10 G06K5/00 G06K7/00 G06K7/10 G06K7/14 G06K9/00 G06K9/18 G06K9/20 G06K9/22 G06K9/46 G06K9/54 G06K9/60 G06K9/62 G06K9/78 G06Q10/00 G06Q10/02 G06Q10/08 G06Q10/10 G06Q20/00 G06Q20/04 G06Q20/10 G06Q20/14 G06Q20/20 G06Q20/36 G06Q20/38 G06Q20/40 G06Q30/00 G06Q30/02 G06Q30/04 G06Q30/06 G06Q40/00 G06Q50/18 G06Q99/00 G06T1/00 G06T11/60 G06T11/80 G07C11/00 G08C17/00 G08C19/00 G08C21/00 G08G1/00 G09B29/00 G09B29/02 G09B7/00 G09C3/00 G09F19/00 G09G5/00 G09G5/08 G10K15/02 G10L13/00 G10L19/00 H04B1/034 H04B1/38 H04B7/00 H04B7/26 H04K1/00 H04L12/16 H04L12/24 H04L12/58 H04L29/06 H04L29/08 H04L9/00 H04L9/10 H04L9/32 H04M1/00 H04M1/247 H04M1/2745 H04M1/2755 H04M1/725 H04M11/00 H04M3/00 H04M3/42 H04M3/56 H04N1/00 H04N1/024 H04N1/04 H04N1/047 H04N1/107 H04N1/23 H04N1/32 H04N1/327 H04N1/387 H04N1/40 H04N1/46 H04N1/60 H04N3/15 H04N5/217 H04N5/222 H04N5/225 H04N5/76 H04N5/91 H04N7/15 H04N7/26 H04Q11/00 H04Q7/32 H04Q7/38 H04Q9/00 (Advanced/Invention);
A63F3/04 A63F9/24 G06F15/16 G06F3/12 G06K9/20 G06K9/22 H04M1/00 H04M1/66 H04M1/68 H04M1/725 H04M3/16 H04N1/107 H04N1/32 H04N101/00 (Advanced/Non–invention);
B41J1/00 B41J2/01 B41J2/045 B41J2/14 B41J2/145 B41J2/175 B41J3/00 B42D15/00 G06F15/00 G06F15/02 G06F17/30 G06F17/40 G06F17/50 G06F3/03 G06F3/033 G06F3/041 G06F3/048 G06F3/12 G06K11/00 G06K15/02 G06K7/00 G06K7/10 G06K9/00 G06K9/46 G06K9/54 G06Q30/00 G06Q40/00 G06Q50/00 G06Q99/00 G08C21/00 H04M1/00 H04N1/024 H04N1/60 H04N3/15 H04N5/217 H04Q7/38 (Core/Invention);
B41J G06F G06K (Subclass/Invention)

International class (IPC 1–7): B41J2/01 B41J2/05 B41J2/14 B41J2/145 B41J2/155 B41J2/16 B41J2/175 B41J21/75 B41J29/393 B41J3/00 B41J3/36 B41J3/54 G06F15/00 G06F15/16 G06F17/30 G06F17/60 G06K1/00 G06K7/00 G06Q40/00 G09G5/00 H04K1/00 H04L9/00 H04N1/46

CPC: G06Q20/14 G06Q20/208 G06Q20/382 G06Q30/04 G06Q30/0633 G06Q30/0641 G06Q40/025 G07F17/26 G06Q10/109 H04M15/00 H04M15/44 H04M15/83 H04M15/84 H04M2215/0104 H04M2215/0176 H04M2215/81 H04M2215/8129 G06K7/14 G06K7/1421 G06K7/1456 G06K7/1473 G06K19/06 G06K19/06009 G06K19/06168 G06K2019/06243 H04N2201/3274 Y10S707/915 Y10S707/917 Y10S707/99932 Y10S707/99933 Y10S707/99934 Y10S707/99935 Y10S707/99942 Y10S707/99945 Y10S707/99931 Y10S118/15 Y10S707/99943 B41J2/17526 B41J3/60 B41J29/02 B41J29/13 B43K7/005 B43K7/02 B43K24/06 B43K25/02 B43K29/00 B43K29/003 B43K29/004 B43K29/093 B43K29/10 C09D11/50 G06F3/1204 G06F3/1265 G06F3/1285 G06F17/30011

G06F17/30056 G06F17/30876 G06Q20/3821 G06Q20/401 G06Q30/0241 G07D7/128 H04N1/00206 H04N1/00278 H04N1/00355 H04N1/32776 H04N2201/001 H04N2201/0055 H04N2201/3266 H04N2201/3267 H04W4/18 H04W88/04 G06Q20/108 G06Q10/025 G06F3/03546 G06F3/038 G06F21/608 G06F2221/2153 G06Q20/042 G06Q30/0248 G06Q30/0283 G06Q40/04 G06Q40/06 G06Q50/188 H04L9/3247 H04L9/3263 H04L2209/56 H04L2209/603 H04L2209/805 H04L65/403 G06Q20/3674 H04L12/1827 H04M3/567 H04N7/15 H04L9/3231 H04L2209/608 G06K15/1894 H04M1/21 H04M1/72552 H04N2201/0084 B41J2/1752 G06F3/016 G06K9/2054 G06K9/2063 G06K9/22 G06K2009/226 G06F3/1288 G06F3/1284 G06F3/1243 G06F17/218 G06F17/242 B41J2/16511 B41J2/16585 G06F2203/0337 H04N1/23 H04N1/32144 H04N2201/3201 G06F3/04817 G06F3/0483 G06F17/243 B41J2/17556 B41J2/17523 B41J2/17546 B41J2/17563 B41J13/103 B42C9/0006 B42C19/02 B42P2261/04 B65H29/34 B65H37/04 G06K17/00 H04N1/00127 G06F17/30643 G06F17/30867 G09B7/00 H04N1/00334 H04N1/00342 G06F1/1626 G06F1/1656 G06F1/1684 G06F1/1688 G06F3/0488 G06F3/16 G06F2200/1614 G06F2200/1637 G06F2203/0384 G06Q40/08 H04M1/72558 H04N5/445 H04N5/76 H04N5/765 H04N5/783 H04N5/907 H04N7/163 H04N21/41407 H04N21/422 H04N21/42203 H04N21/4223 H04N21/478 B41J2/21 H04N19/60 H04N19/61 B41J2/14 B41J2/155 B41J2002/14362 B41J2002/14419 B41J2002/14459 B41J2002/14491 B41J2202/19 B41J2202/20 B41J2202/21 Y02B60/1271 Y10T428/187 Y10T156/1798 Y10T156/1746 Y10T156/1761 G06K2209/01 G06Q50/22 G06Q10/107 G06Q30/00 B41J2/17513 G09B5/02 G09B29/007 G09B29/106 A63F9/183 A63F13/12 A63F2003/0439 A63F2009/186 A63F2009/241 A63F2300/532 G01C21/362 Y10T29/49401 H04M3/42 H04M1/27455 H04M1/2755 H04M1/72527 H04M1/7253 H04M1/72561 H04M7/0018 H04M2250/12 H04N1/00307 H04N1/00392 H04N2201/0082 H04N2201/3264 H04M7/0015 H04N1/00326 H04N1/32133 H04N2201/3247 H04N2201/3243 H04N2201/3249 G06K9/24 G06Q20/10 G06Q20/102 G06Q40/00 G08C21/00 G06F3/04845 G06F3/04886 G06K19/06046 G06K19/06075 G06F3/03545 H04N1/00244 H04N1/00968 H04N1/32778 H04N2201/3226 H04N2201/3269 B41J2/17553 B41J2/17503 B41J2/2114 B41J3/36 B41J13/106 B42C9/0081 B43K8/003 B43K8/006 B43K8/22 B43K23/008 B43K29/08 H04N1/00376 H04N1/00567 H04N1/0461 H04N1/047 H04N1/107 H04N1/32101 H04N1/32128 H04N1/32771 H04N2201/04717 H04N2201/3205 H04N2201/3207 H04N2201/3242 H04N2201/327 H04N2201/3271 H04N2201/3278 G06F3/04883 G06F3/03542 G06F3/0386 G06K9/222 G01C21/3623 H04N1/00204 H04N1/00358 H04N1/32122 G06Q10/087 G06F3/014 G06F3/0321 G06K7/10554 G06K7/10623 G06K7/10693 G06K7/10722 G06K7/10772 G06Q10/00 G06Q20/20 G06Q30/02 G06Q30/0207 G06Q30/0212 G06Q30/0217 G06Q30/0236 G06Q30/0259 G06Q30/0267 G06Q30/0601 H04N3/1568 H04N5/33 H04N5/3559 H04N5/3651 H04N5/3742 H04N5/37457 H04N5/3765 H04N5/378 G06K19/06037 B41J3/445 B41J13/12 B42D15/02 G06Q10/02 G06Q10/10 G06Q20/3829 H04N1/46 G07D7/005 B41J2/145 B41J2/175 B41J2/1433

European class:

A63F13/12 A63F9/18E B41J13/10B B41J13/10C B41J13/12 B41J2/14 B41J2/155 B41J2/165B1M B41J2/165L B41J2/175C B41J2/175C2 B41J2/175C3 B41J2/175C3A B41J2/175C4 B41J2/175C7E B41J2/175C8 B41J2/175C9 B41J2/175F B41J2/21B2 B41J29/02 B41J29/13 B41J3/36 B41J3/42B B41J3/44B B41J3/60 B42C19/02 B42C9/00B B42C9/00D B42D15/02 B43K23/008 B43K24/06 B43K25/02 B43K29/00 B43K29/00L B43K29/00M B43K29/08 B43K29/093 B43K29/10 B43K7/00G B43K7/02 B43K8/00G B43K8/00S B43K8/22 B65H29/34 B65H37/04 C09D11/50 G01C21/36D5 G06F1/16P3 G06F1/16P9E G06F1/16P9P G06F1/16P9P4 G06F17/24F G06F17/30D G06F17/30E4P1 G06F17/30H G06F17/30T2F1V G06F17/30W1F G06F17/30W5 G06F21/60C2 G06F3/01B6 G06F3/01F G06F3/033D2G G06F3/033Z2B2 G06F3/033Z8D2 G06F3/033Z8D2B G06F3/0354L G06F3/0354N G06F3/0354N2 G06F3/038 G06F3/038L G06F3/03H G06F3/03H3 G06F3/03H3A G06F3/042 G06F3/0481H G06F3/0483 G06F3/0484M G06F3/0488 G06F3/0488G G06F3/0488T G06F3/12A2A10 G06F3/12A4M30 G06F3/12A6R G06F3/12T G06K17/00 G06K19/06 G06K19/06C G06K19/06C3 G06K19/06C5 G06K19/06C5C G06K19/06C5Y G06K7/10S2 G06K7/10S2P2B2 G06K7/10S2P4B G06K7/10S4D G06K7/10S4M2 G06K7/14 G06K7/14A2E G06K7/14A4G G06K7/14A6E G06K9/20R G06K9/20R1 G06K9/22 G06K9/22H G06K9/24 G06Q10/00 G06Q10/02 G06Q10/025 G06Q10/087 G06Q10/10 G06Q10/109 G06Q10/10T G06Q20/042 G06Q20/10 G06Q20/102 G06Q20/108 G06Q20/14 G06Q20/20 G06Q20/208 G06Q20/3674 G06Q20/382 G06Q20/3821 G06Q20/3829 G06Q20/401 G06Q30/02 G06Q30/0207 G06Q30/0212 G06Q30/0217 G06Q30/0236 G06Q30/0241 G06Q30/0248 G06Q30/0259 G06Q30/0267 G06Q30/0283 G06Q30/04 G06Q30/0601 G06Q30/0633 G06Q30/0641 G06Q40/00 G06Q40/025 G06Q40/04 G06Q40/06 G06Q40/08 G06Q50/188 G07D7/00F G07D7/12V G07F17/26 G08C21/00 G09B7/00 H04L12/18D3 H04L29/06M4C H04L9/08 H04M1/2745G H04M1/2755 H04M1/725F1B H04M1/725F1B1 H04M1/725F1W H04M15/00 H04M15/44 H04M15/83 H04M15/84 H04M3/42 H04M3/56M H04M7/00C2 H04N1/00C H04N1/00C22 H04N1/00C22C3 H04N1/00C22T H04N1/00C3 H04N1/00C3K H04N1/00C6 H04N1/00C7D H04N1/00D2B H04N1/00D2B2 H04N1/00D2B4 H04N1/00D2M H04N1/00F H04N1/00W2 H04N1/047 H04N1/04F H04N1/107 H04N1/23 H04N1/327F4 H04N1/327F4D H04N1/327F4M H04N1/32C H04N1/32C15D H04N1/32C16 H04N1/32C17 H04N1/32C17B H04N1/32C19 H04N21/414M H04N21/422 H04N21/4223

H04N21/422M H04N3/15E6 H04N5/355C H04N5/365A H04N5/3745C H04N5/374B H04N5/376A H04N5/378 H04N5/445 H04N5/76 H04N7/15 H04N7/16E2 H04N7/30 H04N7/50 H04W88/04 K63F3/04G4 K63F300/53C K63F9/18G K63F9/24N1D L41J2/14K L41J2/14R L41J2/14U L41J2/14Y L41J202/19 L41J202/20 L41J202/21 L42P261/04 S06F200/1614 S06F200/1637 S06F203/0337 S06F203/0384 S06F221/2153 S06F3/16 S06K19/06W6 S06K9/22P T04L9/08 T04L9/32S T04L9/32T T04M1/725F1B1 T04M1/725F1P T04M215/01A T04M215/01N T04M215/81 T04M215/81B T04M242/16 T04M250/12 T04N1/00C T04N1/00C3F T04N1/00C7D T04N1/107 T04N1/32C16 T04N1/32C17 T04N1/32C17B T04N201/00C11T5 T04N201/00C7D T04N201/00C8 T04N201/00J3 T04N201/047D4C T04N201/32C T04N201/32C10 T04N201/32C2B T04N201/32C2C T04N201/32C4B T04N201/32C4E T04N201/32C4F T04N201/32C4K T04N201/32C4L T04N201/32C5S T04N201/32C5T T04N201/32C5V T04N201/32C6 T04N201/32C6B T04N201/32C7 T04N201/32C9 T04N21/478 T04N5/33 T04N5/765 T04N5/783 T04N5/907 T04W4/18

US class: 1/1 1/1P 178/18.01 178/18.03 178/18.09 178/19.01 178/19.04 178/19.05 178/20.01 235/375 235/381 235/435 235/435P 235/439 235/454 235/462.01 235/462.03 235/462.04 235/462.38 235/462.43 235/462.44 235/462.440P 235/462.45 235/462.46 235/472.01 235/472.02 235/494 235/494P 250/566 250/566P 283/74 283/85 29/890.1 29/890.100P 341/13 345/156 345/156P 345/158 345/173 345/176 345/179 345/179P 345/180 345/9 345/9P 346/140.01 346/140.1 347/13 347/19 347/19P 347/2 347/2P 347/40 347/40P 347/42 347/42P 347/45 347/45P 347/49 347/49P 347/49S 347/5 347/58 347/65 347/65P 347/85 348/E03.021 348/E3.021 348/E30.21 348/E30.21S 358/1.1 358/1.12 358/1.120S 358/1.13 358/1.14 358/1.140P 358/1.15 358/1.150P 358/1.16 358/1.18 358/1.180P 358/1.180S 358/1.8 358/1.9 358/1.900P 358/11.8 358/3.28 358/3.280P 358/32.8 358/402 358/403 358/440 358/442 358/442S 358/453 358/462 358/473 358/474 358/474S 358/539 358/539P 379/100.07 380/259 380/259S 380/270 380/51 380/55 382/119 382/119P 382/182 382/186 382/188 382/203 382/312 382/313 382/314 382/314S 382/317 386/109 386/241 386/248 386/353 386/46 400/88 400/88P 401/195 455/411 455/411P 455/414.1 455/414.100P 455/414.4 455/415 455/418 455/419 455/420 455/550.1 455/556.1 455/556.100P 455/556.2 455/557 455/564 455/66.1 705/1 705/14.1 705/14.4 705/40 705/40P 705/51 705/51P 705/57 705/57P 705/6 705/67 705/67S 705/6P 705/71 705/71P 707/200 707/201 707/999.2 707/999.201 707/999.201S 707/E17.067 707/E17.067S 707/E17.109 707/E17.109S 709/206 709/206S 713/150 713/182 713/182P 713/186 713/186P 715/211S 715/221 715/229 715/234 715/243 715/247S 715/268S 715/505 715/506 715/507 715/700

Classification Explorer

Cited documents: WO9950787 A1, WO9950751 A1, WO9950736 A1, WO9949640 A1, WO9949383 A1, WO9939277 A1, WO9934277 A2, WO9923545 A1, WO9921136 A1, WO9919823 A2, WO9918487 A2, WO9844701 A1, WO9820411 A1, WO9814887 A1, WO9740619 A1, WO9722959 A1, WO9711386 A1, WO9639306 A1, WO9517794 A1, WO9510813 A1, WO9101606 A1, WO19950787, WO19919823, WO19918487, WO19021136, WO03103217 A1, WO03013869 A2, WO03013866 A1, WO0245404 A2, WO0223726 A1, WO0141480 A1, WO0105047 A1, WO0103015 A1, WO0072287 A1, WO0045586 A1, USRE34476 E, US90541 A, US7874751 BB, US7735995 BB, US7735993 BB, US7735974 BB, US7726764 BB, US7697159 BB, US7680512 BB, US7645022 BB, US7590561 BB, US7572077 BB, US7517046 BB, US7500268 BB, US7464880 BB, US7369265 BA, US7265854 BA, US7263508 BB, US7249716 BB, US7248376 BB, US7233320 BA, US7212637 BB, US7192208 BB, US7182445 BB, US7178718 BB, US7176896 BA, US7175079 BA, US7162259 BB, US7134606 BB, US7123239 BA, US7113173 BA, US7108192 BB, US7105753 BA, US7091959 BA, US7070110 BB, US7038797 BA, US7034954 BA, US7019319 BB, US6999113 BA, US6995859 BA, US6987573 BA, US6985643 BA, US6983124 BA, US6978019 BA, US6975299 BB, US6965454 BA, US6964734 BB, US6964374 BA, US6963845 BA, US6963359 BA, US6962450 BB, US6957768 BA, US6947157 BA, US6947033 BB, US6937357 BA, US6916128 BA, US6909522 BA, US6906699 BA, US6885769 BB, US6885769 BA, US6883910 BB, US6879341 BA, US6864880 BB, US6836555 BB, US6836555 BA, US6830315 BB, US6825956 BB, US6823065 BA, US6817539 BB, US6817539 BA, US6816274 BA, US6793310 BB, US6781635 BA, US6772949 BB, US6764012 BB, US6759967 BA, US6757826 BA, US6750848 BA, US6747692 BB, US6745327 BA, US6742887 BB, US6737591 BA, US6729547 BA, US6729543 BA, US6726306 BB, US6724374 BA, US6724372 BA, US6720985 BA, US6704906 BA, US6693623 BA, US6689965 BA, US6688739 BB, US6687345 BA, US6685095 BB, US6681045 BA, US6674427 BA, US6666376 BA, US6663008 BA, US6661933 BA, US6655586 BA, US6654008 BB, US6651894 BB, US6641253 BB, US6641253 BA, US6631495 BB, US6628847 BA, US6628333 BA, US6628314 BA, US6625642 BA, US6622923 BA, US6622917 BA, US6622174 BA, US6618504 BA, US6618078 BA, US6615234 BA, US6614931 BA, US6614351 BB, US6612494 BA, US6607134 BA, US6606479 BB, US6603864 BA, US6603464 BA, US6601772 BA, US6580417 BB, US6577746 BA, US6577299 BA, US6575559 BB, US6573880 BA, US6571025 BB, US6570104 BA, US6567530 BA, US6560741 BA, US6552447 BA, US6552412 BB, US6550683 BA, US6549750 BA, US6548768 BA, US6547620 BA, US6546418 BB, US6546400 BA,

US6542673 BA, US6539101 BA, US6537324 BA, US6535614 BA, US6533171 BA, US6513907 BB, US6507345 BA, US6502756 BA, US6490681 BA, US6486875 BA, US6484198 BA, US6474773 BA, US6471126 BB, US6456749 BA, US6456740 BA, US6456326 BB, US6456326 BA, US6454482 BA, US6450614 BA, US6449616 BA, US6446871 BA, US6437836 BA, US6426799 BA, US6426771 BA, US6409401 BA, US6408330 BA, US6407779 BA, US6406120 BB, US6405055 BA, US6401206 BA, US6401206 B1, US6400853 BA, US6396481 BA, US6394354 BA, US6390584 BA, US6386772 BA, US6386671 BA, US6379779 BA, US6378070 BA, US6375314 BA, US6375079 BA, US6373573 BA, US6371588 BA, US6366317 BA, US6364209 BA, US6357939 BA, US6353479 BA, US6351259 BB, US6350013 BA, US6344877 BA, US6335727 BA, US6335084 BA, US6334721 BA, US6331901 BA, US6330976 BA, US6330975 BA, US6327610 BB, US6327395 BA, US6326957 BA, US6326956 BA, US6318849 BA, US6317777 BA, US6311214 BA, US6311042 BA, US6307956 BA, US6307955 BA, US6304898 BA, US6303211 BA, US6303147 BA, US6298176 BB, US6293143 BA, US6282312 BA, US6275852 BA, US6275301 BA, US6272506 BA, US6270271 BA, US6255665 BA, US6254220 BA, US6249652 BA, US6248991 BA, US6244696 BA, US6244686 BA, US6243503 BA, US6242503 BA, US6234605 BA, US6234393 BA, US6213589 BA, US6209787 BA, US6208435 BA, US6203069 BA, US6201903 BA, US6199765 BA, US6199102 BA, US6192165 BA, US6191815 BA, US6186405 BA, US6184873 BA, US6182901 BA, US6177926 BA, US6177926 B1, US6173890 BA, US6173890 B1, US6168081 BA, US6168081 B1, US6167439 A, US6161134 A, US6157465 A, US6152370 A, US6152369 A, US6144848 A, US6141441 A, US6138915 A, US6137950 A, US6137590 A, US6134017 A, US6132024 A, US6129278 A, US6123410 A, US6113208 A, US6104809 A, US6104334 A, US6101483 A, US6100996 A, US6097441 A, US6091514 A, US6090830 A, US6088695 A, US6088127 A, US6088049 A, US6084593 A, US6081629 A, US6081610 A, US6081261 A, US6076734 A, US6072871 A, US6070798 A, US6069711 A, US6068362 A, US6064838 A, US6061052 A, US6050490 A, US6049833 A, US6045048 A, US6043818 A, US6043503 A, US6041274 A, US6039481 A, US6039258 A, US6036086 A, US6035308 A, US6027024 A, US6021217 A, US6019461 A, US6018724 A, US6015211 A, US6012102 A, US6010257 A, US6010065 A, US6005973 A, US6003774 A, US6002491 A, US6000775 A, US5999275 A, US5995976 A, US5995193 A, US5995105 A, US5994710 A, US5992752 A, US5991469 A, US5980016 A, US5974202 A, US5971521 A, US5970231 A, US5969712 A, US5966663 A, US5959286 A, US5945972 A, US5945661 A, US5943137 A, US5940595 A, US5940187 A, US5939702 A, US5938727 A, US5933584 A, US5930799 A, US5930770 A, US5929875 A, US5929423 A, US5929415 A, US5927877 A, US5915022 A, US5913542 A, US5911533 A, US5905251 A, US5904929 A, US5903817 A, US5903729 A, US5903607 A, US5900943 A, US5900110 A, US5898779 A, US5897648 A, US5896403 A, US5894326 A, US5892073 A, US5880727 A, US5870605 A, US5869819 A, US5867029 A, US5857029 A, US5855369 A, US5852434 A, US5852286 A, US5850433 A, US5850214 A, US5848426 A, US5848413 A, US5844473 A, US5837990 A, US5835577 A, US5834749 A, US5822546 A, US5822230 A, US5819032 A, US5818421 A, US5814804 A, US5814427 A, US5809242 A, US5808284 A, US5805719 A, US5799157 A, US5798777 A, US5797061 A, US5794094 A, US5790134 A, US5784091 A, US5781914 A, US5781661 A, US5781651 A, US5777605 A, US5774571 A, US5773808 A, US5768384 A, US5761662 A, US5756978 A, US5754939 A, US5754308 A, US5751470 A, US5748931 A, US5748809 A, US5742705 A, US5742044 A, US5737740 A, US5736725 A, US5734129 A, US5732229 A, US5730602 A, US5727163 A, US5719197 A, US5717940 A, US5717493 A, US5714972 A, US5704029 A, US5699093 A, US5699091 A, US5698544 A, US5696544 A, US5694494 A, US5692073 A, US5684288 A, US5682227 A, US5680460 A, US5677715 A, US5675630 A, US5668583 A, US5663552 A, US5661506 A, US5656804 A, US5652412 A, US5647017 A, US5644408 A, US5644139 A, US5640193 A, US5640002 A, US5635697 A, US5634012 A, US5632996 A, US5630168 A, US5627575 A, US5627356 A, US5619708 A, US5612720 A, US5612524 A, US5594226 A, US5589679 A, US5587560 A, US5585900 A, US5583970 A, US5581366 A, US5581052 A, US5572251 A, US5572010 A, US5565900 A, US5563999 A, US5561446 A, US5553312 A, US5552813 A, US5548092 A, US5546538 A, US5544265 A, US5542971 A, US5541738 A, US5530520 A, US5525790 A, US5523775 A, US5514861 A, US5506697 A, US5506617 A, US5503723 A, US5501535 A, US5500937 A, US5495581 A, US549558 A, US5495528 A, US5493409 A, US5493105 A, US5491495 A, US5490217 A, US5488423 A, US5486686 A, US5483052 A, US5477012 A, US5469199 A, US5469193 A, US5465080 A, US5459796 A, US5453762 A, US5452097 A, US5451998 A, US5449896 A, US5444779 A, US5442147 A, US5438430 A, US5436652 A, US5426594 A, US5420615 A, US5418622 A, US5410641 A, US5407081 A, US5399353 A, US5382776 A, US5373148 A, US5371516 A, US5357062 A, US5340972 A, US5339412 A, US5334821 A, US5333126 A, US5331576 A, US5326959 A, US5311425 A, US5299256 A, US5298919 A, US5294792 A, US5293429 A, US5260556 A, US5258855 A, US5248855 A, US5247591 A, US5247137 A, US5245363 A, US5243149 A, US5241166 A, US5239489 A, US5235654 A, US5231275 A, US5230628 A, US5226091 A, US5217313 A, US5215397 A, US5212555 A, US5206520 A, US5199081 A, US5199068 A, US5195133 A, US5194852 A, US5180192 A, US5179649 A, US5174759 A, US5160945 A, US5159321 A, US5142131

A, US5126858 A, US5120906 A, US5107541 A, US5099340 A, US5085587 A, US5083814 A, US5079570 A, US5076734 A, US5063508 A, US5060980 A, US5057136 A, US5051736 A, US5036266 A, US5027115 A, US5016023 A, US5007085 A, US5001769 A, US4977594 A, US4975546 A, US4963703 A, US4947156 A, US4937439 A, US4935610 A, US4916441 A, US4905015 A, US4901090 A, US4888479 A, US4864618 A, US4856077 A, US4844635 A, US4839634 A, US4814553 A, US4806707 A, US4804949 A, US4785311 A, US4777329 A, US4763276 A, US4758849 A, US4754127 A, US4748460 A, US4746936 A, US4745269 A, US4739377 A, US4728984 A, US4667208 A, US4667182 A, US4661976 A, US4637051 A, US4581482 A, US4577057 A, US4566127 A, US4553261 A, US4532596 A, US4521773 A, US4501931 A, US4494862 A, US4450454 A, US4436439 A, US4418278 A, US4409479 A, US4390873 A, US43562 A, US4351005 A, US4246439 A, US4187520 A, US4180798 A, US4158747 A, US4139901 A, US4109146 A, US4107540 A, US4064389 A, US3952314 A, US3918029 A, US3289211 A, US24193 A, US2417163 A, US2306669 A, US2009073231 AA, US2006165460 AA, US2006129841 AA, US2006087497 AA, US2006075255 AA, US2006010054 AA, US2006001696 AA, US2005245271 AA, US2005218216 AA, US2005203854 AA, US2005200892 AA, US2005200637 AA, US2005188945 AA, US2005151794 AA, US2005146568 AA, US2005145703 AA, US2005145700 AA, US2005138382 AA, US2005093832 AA, US2005073544 AA, US2005073539 AA, US2005063007 AA, US2005062769 AA, US2005059418 AA, US2005052706 AA, US2005046667 AA, US2005037709 AA, US2005030554 AA, US2005030336 AA, US2005018033 AA, US2005012854 AA, US2005011957 AA, US2004253988 AA, US2004246522 AA, US2004226042 AA, US2004212648 AA, US2004203579 AA, US2004189672 AA, US2004168187 AA, US2004162112 AA, US2004160430 AA, US2004135776 AA, US2004128264 AA, US2004117627 AA, US2004111322 AA, US2004109034 AA, US2004097217 AA, US2004093352 AA, US2004075869 AA, US2004075711 AA, US2004075650 AA, US2004061888 AA, US2004061765 AA, US2004047003 AA, US2004046997 AA, US2004046867 AA, US2004041878 AA, US2004018035 AA, US2004008235 AA, US2003189610 AA, US2003159029 AA, US2003154383 A9, US2003112471 AA, US2003103611 AA, US2003095810 AA, US2003095160 AA, US2003093384 AA, US2003090541 AA, US2003083929 AA, US2003079222 AA, US2003076376 AA, US2003069873 AA, US2003064757 AA, US2003063744 AA, US2003059246 AA, US2003035131 AA, US2003019935 AA, US2003007661 AA, US2003001818 AA, US2002196345 AA, US2002181010 AA, US2002159583 AA, US2002143643 AA, US2002140799 AA, US2002111960 AA, US2002097223 AA, US2002087555 AA, US2002080959 AA, US2002071165 AA, US2002065041 AA, US2002063744 AA, US2002050518 AA, US2002044168 AA, US2002043562 AA, US2002036793 AA, US2002024542 AA, US2002020750 AA, US2002019784 AA, US2002011989 AA, US2002007320 AA, US2002000470 AA, US2001037462 AA, US2001034659 AA, US2001032251 AA, US2001024193 AA, US2001010195 AA, US2001009437 AA, US2001005047 AA, RU2108915 C1, JPS617760, JP9325963 A2, JP9149266 A2, JP9128137 A2, JP9062595 A2, JP8256256 A2, JP7334296 A2, JP7234959 A2, JP7141104 A2, JP7115474 A2, JP62214965 A2, JP6183187 A2, JP6106875 A2, JP61007760 A2, JP6055730 A2, JP5050738 A2, JP5040841 A2, JP406055730, JP402252154, JP362214965, JP2252154 A2, JP2001047638 A2, JP2000293303 A2, JP2000200139 A2, JP1249495 A2, JP11352598 A2, JP11198497 A2, JP11112698 A2, JP11008615 A2, JP11003559 A2, JP10011538 A2, GB2343091 A1, GB2336497 A1, GB2306669 A1, GB2295939 A1, GB2287150 A1, GB2284576 A1, GB2269506 A1, GB2226670 A1, GB2202664 A1, GB2036669 A1, FR2516673 A1, EP2287150, EP1291786 A2, EP1203328 A1, EP1143707 A2, EP1016953 A2, EP0969390 A2, EP0914949 A2, EP0914948 A2, EP0913989 A2, EP0887753 A1, EP0848540 A2, EP0844586 A1, EP0838339 A2, EP0836151 A1, EP0827329 A1, EP0822078 A2, EP0811497 A2, EP0805410 A2, EP0785074 A2, EP0697793 A2, EP0671273 A1, EP0666174 B1, EP0666174 A2, EP0621721 A2, EP0568140 A1, EP0540781 B1, EP0517957 B1, EP0494674 A1, EP0493936 A1, EP0459793 A1, EP0407734 A1, DE4326756 C1, DE4326756 A1, DE4326756 A1, DE2306669 B1, DE2306669 A1, DE19836503 A1, CA2249821 AA, AU711687 B3, AU711687,

Forward Citations: WO15088545, WO12035552, WO12035552, WO11115765, WO11082313, WO11082313, WO11025699, WO10147617, WO09075717, WO09075717, WO09032324, WO08095232, WO08031137, WO08014347, WO07109011, WO07103353, WO07103353, WO07092482, USRE44353, USD684067, USD674777, USD643321, USD634657, USD634656, USD634655, US9676189, US9665216, US9654921, US9651499, US9648287, US9645948, US9633325, US9633013, US9615204, US9615114, US9606577, US9600117, US9592663, US9589247, US9588185, US9584960, US9581986, US9576264, US9558250, US9551588, US9542863, US9539819, US9536242, US9535563, US9525547, US9524211, US9514134, US9507610, US9496720, US9467832, US9462107, US9459726, US9459351, US9454764, US9454246, US9451044, US9432182, US9426525, US9425487, US9419311, US9405894, US9400597, US9378728, US9367936, US9367935, US9361664, US9361503, US9354707, US9335362, US9332371, US9330170, US9326138, US9323784, US9312575, US9311728, US9292187, US9286596, US9275051, US9274157,

US9268852, US9268760, US9265999, US9260254, US9255955, US9253616, US9251479, US9248647, US9244100, US9239821, US9235748, US9229917, US9229062, US9220008, US9219579, US9219559, US9216581, US9210234, US9208011, US9202235, US9201120, US9191543, US9185522, US9185176, US9183443, US9183375, US9179019, US9168755, US9167558, US9158907, US9143638, US9142056, US9141220, US9117271, US9116890, US9109952, US9098843, US9097522, US9094588, US9093840, US9092841, US9086277, US9085148, US9082139, US9081799, US9075779, US9063219, US9052366, US9044956, US9031581, US9030699, US9022278, US9018958, US9013312, US9007613, US9007302, US8990235, US8988461, US8982044, US8976737, US8976513, US8972070, US8970540, US8965700, US8963550, US8959016, US8958998, US8954595, US8953570, US8949074, US8938427, US8934042, US8928929, US8926060, US8918729, US8918657, US8914522, US8905519, US8904479, US8903759, US8903643, US8899474, US8897299, US8894191, US8892993, US8892906, US8892778, US8892495, US8891852, US8891113, US8890657, US8888208, US8874504, US8872517, US8872516, US8867864, US8861744, US8856777, US8854677, US8848710, US8843552, US8831635, US8831365, US8824835, US8819072, US8818901, US8806535, US8799303, US8799288, US8799099, US8799054, US8798647, US8798645, US8798593, US8795956, US8793162, US8788581, US8787887, US8787672, US8786889, US8782553, US8781228, US8775077, US8770140, US8756673, US8754653, US8751995, US8751921, US8751298, US8750898, US8750627, US8743778, US8739274, US8739101, US8738309, US8731999, US8731906, US8731830, US8726006, US8725791, US8719718, US8713418, US8712441, US8706877, US8704483, US8702003, US8700989, US8700695, US8700445, US8700325, US8695083, US8694684, US8689102, US8677200, US8675987, US8674810, US8674711, US8674654, US8667596, US8665796, US8662636, US8655839, US8648913, US8643890, US8638363, US8634420, US8630668, US8630478, US8626571, US8621349, US8620760, US8620616, US8620572, US8620083, US8619147, US8616454, US8612148, US8600196, US8599424, US8582925, US8581193, US8573739, US8559918, US8559449, US8556386, US8554830, US8554690, US8549588, US8549297, US8549149, US8547378, US8543095, US8539527, US8538593, US8538458, US8532438, US8532028, US8531710, US8526608, US8526023, US8515816, US8513949, US8511565, US8505813, US8505090, US8504842, US8504685, US8503943, US8502795, US8502714, US8502681, US8500259, US8499057, US8495305, US8493022, US8487833, US8485651, US8485643, US8478525, US8478524, US8478523, US8473209, US8467969, US8458783, US8457893, US8457794, US8447144, US8447143, US8447111, US8447066, US8443040, US8442877, US8442766, US8442331, US8439497, US8436619, US8434858, US8433989, US8429522, US8429177, US8418055, US8416495, US8407285, US8407001, US8406433, US8401879, US8401791, US8400155, US8398216, US8392794, US8391604, US8386178, US8380866, US8375087, US8374789, US8366236, US8363650, US8363262, US8361543, US8353007, US8351333, US8348386, US8344685, US8328088, US8324578, US8321804, US8321800, US8311946, US8311765, US8306690, US8305691, US8303092, US8301839, US8295552, US8292406, US8291119, US8290522, US8290512, US8286858, US8286369, US8286222, US8285561, US8282004, US8280631, US8279039, US8274569, US8266526, US8261340, US8261094, US8261057, US8255456, US8255397, US8254984, US8251501, US8249559, US8238689, US8238684, US8237448, US8235502, US8226009, US8223380, US8220900, US8215747, US8215566, US8214387, US8214075, US8204888, US8204010, US8203528, US8203345, US8200975, US8198900, US8196041, US8190676, US8184101, US8179563, US8175644, US8175643, US8174164, US8171367, US8165427, US8164343, US8159731, US8154524, US8152072, US8150913, US8149431, US8122253, US8116207, US8112120, US8112072, US8111431, US8107114, US8104190, US8103716, US8103371, US8103308, US8103307, US8102554, US8100512, US8100502, US8095110, US8094975, US8091787, US8081994, US8079700, US8079683, US8078960, US8075110, US8075093, US8074217, US8073045, US8069226, US8069174, US8060304, US8059909, US8059908, US8059897, US8057024, US8055087, US8054495, US8052247, US8051288, US8047639, US8046683, US8042922, US8038262, US8038066, US8028894, US8026838, US8024058, US8024057, US8023141, US8023138, US8019648, US8019184, US8016194, US8015418, US8010515, US8007083, US8005720, US8002394, US8002392, US8001459, US7999505, US7999226, US7995867, US7991493, US7991247, US7988261, US7987492, US7987011, US7987010, US7984970, US7984858, US7983774, US7983773, US7982929, US7982904, US7982619, US7980657, US7979856, US7979149, US7979087, US7977914, US7975400, US7974500, US7971978, US7971970, US7971139, US7970484, US7967417, US7966279, US7961364, US7961189, US7957012, US7954920, US7953433, US7952743, US7946685, US7944936, US7941010, US7940199, US7940053, US7940052, US7938508, US7937651, US7937108, US7936275, US7934656, US7934655, US7933037, US7929695, US7925621, US7925299, US7924884, US7924015, US7922310,

US7922290, US7920762, US7918533, US7918530, US7916978, US7914131, US7913159, US7904801, US7901042, US7900134, US7899275, US7898546, US7898155, US7891777, US7891776, US7891768, US7890996, US7889935, US7878408, US7877112, US7874654, US7874641, US7874637, US7873641, US7868793, US7865477, US7864345, US7864162, US7861087, US7860531, US7860349, US7857232, US7857209, US7855811, US7850278, US7849079, US7844297, US7841704, US7840568, US7837567, US7832640, US7827139, US7821507, US7818677, US7809156, US7808375, US7797724, US7797528, US7794065, US7794052, US7794051, US7793824, US7792291, US7791348, US7784924, US7784903, US7783018, US7779027, US7777612, US7775631, US7775440, US7774834, US7774620, US7774288, US7774151, US7772850, US7771016, US7771014, US7768515, US7762453, US7760969, US7760008, US7758173, US7750909, US7743063, US7738918, US7738744, US7738743, US7734247, US7728597, US7725834, US7722162, US7721190, US7717349, US7715662, US7712048, US7712022, US7710119, US7707625, US7706991, US7705602, US7703884, US7694889, US7692636, US7690761, US7689929, US7688074, US7685199, US7680885, US7677699, US7676843, US7673227, US7664485, US7660490, US7660489, US7656162, US7642787, US7640105, US7624356, US7619756, US7619417, US7616122, US7613996, US7610562, US7606741, US7604314, US7604180, US7598743, US7597421, US7595643, US7591529, US7590311, US7584417, US7581177, US7577718, US7577317, US7570275, US7568101, US7566009, US7564605, US7557586, US7549595, US7549115, US7543228, US7542629, US7542160, US7537317, US7533268, US7530023, US7529783, US7524027, US7520583, US7516399, US7516236, US7516145, US7512896, US7509353, US7506243, US7506242, US7498767, US7496837, US7490109, US7484096, US7482936, US7481369, US7477798, US7467849, US7466435, US7465014, US7463250, US7457791, US7451392, US7448725, US7445160, US7439630, US7437376, US7430711, US7430497, US7429096, US7425833, US7418160, US7417773, US7416277, US7416272, US7415672, US7412645, US7406660, US7401891, US7392522, US7386184, US7384127, US7376673, US7370066, US7369258, US7363175, US7360171, US7357484, US7350141, US7347533, US7346848, US7346610, US7334739, US7334187, US7331653, US7325905, US7318063, US7296017, US7295540, US7284831, US7284826, US7281018, US7257278, US7240993, US7229150, US7221781, US7210762, US7207646, US7182434, US7182430, US7175256, US7156492, US7152938, US7128392, US7120320, US7120320, US7114794, US7097282, US7069375, US7066573, US6997545, US6905194, US6871938, US6846059, US6830315, US6755513, US2017111757, US2016210247, US2016179280, US2016179279, US2016173284, US2016057311, US2016009085, US2015324619, US2015199591, US2015114802, US2015106684, US2015058807, US2015055187, US2015025840, US2014289571, US2014225827, US2014192022, US2014161206, US2014156443, US2014063556, US2014063536, US2014036309, US2014028744, US2014016869, US2014015958, US2013293627, US2013251153, US2013235364, US2013163886, US2013128060, US2013126615, US2013109003, US2013088576, US2013085786, US2013083171, US2013067290, US2012318077, US2012262614, US2012173732, US2012127976, US2012105686, US2012099147, US2012075957, US2012046071, US2012038659, US2012013523, US2011310264, US2011261384, US2011226862, US2011220711, US2011215145, US2011208515, US2011200539, US2011197107, US2011187859, US2011184584, US2011176178, US2011175760, US2011174882, US2011170352, US2011169785, US2011166995, US2011164289, US2011164001, US2011151905, US2011148122, US2011134443, US2011129809, US2011126222, US2011125760, US2011122449, US2011122431, US2011110607, US2011109940, US2011103691, US2011102991, US2011102149, US2011092164, US2011090146, US2011086626, US2011080476, US2011071693, US2011055287, US2011055255, US2011047603, US2011040870, US2011029896, US2011029848, US2011029147, US2011029142, US2011029141, US2011024492, US2011022770, US2011022434, US2011022033, US2010328701, US2010328551, US2010325269, US2010321227, US2010309250, US2010302591, US2010301112, US2010295906, US2010295894, US2010284548, US2010276493, US2010276492, US2010276490, US2010274525, US2010273525, US2010263022, US2010253978, US2010234052, US2010232730, US2010218249, US2010214621, US2010208282, US2010207898, US2010205249, US2010201745, US2010201114, US2010195929, US2010177144, US2010165051, US2010149277, US2010149096, US2010127905, US2010119159, US2010118354, US2010116564, US2010110124, US2010106273, US2010105155, US2010104201, US2010100968, US2010099459, US2010095359, US2010078562, US2010053684, US2010046031, US2010045785, US2010045751, US2010045750, US2010042733, US2010031173, US2010027785, US2010020101, US2010013489, US2010007694, US2010001886, US2009315839, US2009315686, US2009304287, US2009300669, US2009298586, US2009292546, US2009281647, US2009281646, US2009279148, US2009279140, US2009277698, US2009276633, US2009273668, US2009268978, US2009268976, US2009268975, US2009267915, US2009265641, US2009262072, US2009261171, US2009249191, US2009249160, US2009247221, US2009246417, US2009244197, US2009236427, US2009236423, US2009236154,

US2009232366, US2009231390, US2009222477, US2009222120, US2009220168, US2009219934, US2009216355, US2009213193, US2009212118, US2009208139, US2009202161, US2009201340, US2009195620, US2009190175, US2009187535, US2009184165, US2009167666, US2009160911, US2009159658, US2009153621, US2009153616, US2009153341, US2009149265, US2009148074, US2009141086, US2009141081, US2009135163, US2009132955, US2009132461, US2009125623, US2009119768, US2009105866, US2009100064, US2009096610, US2009096322, US2009094011, US2009093897, US2009091553, US2009086222, US2009079806, US2009079789, US2009079692, US2009063946, US2009063943, US2009063512, US2009058929, US2009055730, US2009055226, US2009051743, US2009049059, US2009049057, US2009049049, US2009046321, US2009031249, US2009031241, US2009030758, US2009030556, US2009030541, US2009030540, US2009030539, US2009024550, US2008319941, US2008316521, US2008314653, US2008310389, US2008309743, US2008303864, US2008297562, US2008278734, US2008273057, US2008273054, US2008268896, US2008265163, US2008244721, US2008243702, US2008209508, US2008198022, US2008196096, US2008195645, US2008182665, US2008182618, US2008180761, US2008178555, US2008151003, US2008145575, US2008144101, US2008139246, US2008138028, US2008122623, US2008117449, US2008114777, US2008110988, US2008103901, US2008097823, US2008097340, US2008093459, US2008092084, US2008091611, US2008091527, US2008091506, US2008091505, US2008088886, US2008088581, US2008087732, US2008082537, US2008065676, US2008061979, US2008061560, US2008060064, US2008051074, US2008046616, US2008045177, US2008042991, US2008037904, US2008027979, US2008027921, US2008022220, US2008019592, US2008016098, US2008016072, US2008016071, US2008016061, US2008016053, US2008016052, US2008013124, US2008012899, US2008011189, US2007297014, US2007294138, US2007290041, US2007288476, US2007288277, US2007286487, US2007285464, US2007282886, US2007279674, US2007271296, US2007271287, US2007271274, US2007271264, US2007268292, US2007245233, US2007234215, US2007233613, US2007233612, US2007233513, US2007230703, US2007229678, US2007223690, US2007222770, US2007220108, US2007200675, US2007198603, US2007198487, US2007188550, US2007181669, US2007158420, US2007153938, US2007153052, US2007146322, US2007145141, US2007144378, US2007143715, US2007136283, US2007130529, US2007130117, US2007125860, US2007115511, US2007106897, US2007103513, US2007101364, US2007098481, US2007097179, US2007057060, US2007036470, US2007024671, US2007019809, US2007010195, US2007008304, US2006287999, US2006268008, US2006244774, US2006233170, US2006225131, US2006223582, US2006215911, US2006214013, US2006193522, US2006146069, US2006138228, US2006136686, US2006132543, US2006112017, US2006111147, US2006109356, US2006098901, US2006075105, US2006031557, US2006020594, US2006013630, US2006010503, US2005276459, US2005275831, US2005259298, US2005251285, US2005243369, US2005240586, US2005231746, US2005226534, US2005225541, US2005200894, US2005177728, US2005175222, US2005167498, US2005162467, US2005162466, US2005162463, US2005157125, US2005157031, US2005157000, US2005151794, US2005146743, US2005146568, US2005127176, US2005073551, US2005068363, US2005052707, US2005052706, US2005052700, US2005044486, US2005039015, US2005036713, US2005028092, US2005025078, US2005017966, US2005006480, US2004263566, US2004263555, US2004250421, US2004179063, US2004174577, US2004165080, US2004158623, US2004085302, US2004061888, US2004051888, US2004037255, US2003233311, US2003218767, US2003214678, US2003182165, US2003077004, US2003072490, TWI510969, TWI389042, TWI311871, SG139559, NL1036031, KR101402084, JP2014041602, JP2011010145, EP2132615, EP2132615, EP2118819, EP2118819, EP2074554, EP1946927, EP1902410, EP1801661, EP1599826, EP1599319, EP1379392, EP1379392, EP1379389, EP1379389, EP1379389, CN105835529, CN101989131, AU2007295928,

Abstract:
Source: US2003090538A An inkjet printhead assembly includes a hollow elongate member defining ink supply channels. The ink supply channels are in fluid communication with an elongate slot in and extending at least partly along the elongate member. A plurality of printhead segment carriers is received and secured in neighbouring arrangement within the slot, and at least one printhead segment is mounted to each printhead segment carrier.

0) US2007092305A – ROTARY MOUNTING STRUCTURE FOR TONER CARTRIDGE

184) Family number: 34401314 (US2007092305A) © PatBase

Title: ROTARY MOUNTING STRUCTURE FOR TONER CARTRIDGE

Priority: US20050258107 20051026 US20090403379 20090313

Family:

Publication number	Publication date	Application number	Application date
US2007092305 AA	20070426	US20050258107	20051026
US2009169268 AA	20090702	US20090403379	20090313
US7526237 BB	20090428	US20050258107	20051026
US7756451 BB	20100713	US20090403379	20090313

Probable Assignee: KYOCERA MITA CORP

Assignee(s):(std)**:** DAIGO HIRONORI ; KYOCERA MITA CORP ; MURATA KOJI

Inventor(s):(std)**:** DAIGO HIRONORI ; MURATA KOJI

Agent(s): GLOBAL IP COUNSELORS LLP; SHINJYU GLOBAL IP

International class (IPC 8–9)**:** G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)

CPC: G03G15/0875 G03G15/0877 G03G2215/083

European class: G03G15/08H3D S03G215/08A3C1

US class: 399/263

Classification Explorer

Cited documents: US6246854 BA, US6137972 A, US6049685 A, US5715502 A, US5489976 A, JP4199077 A2, JP2002040785 A2,

Forward Citations: US8116642, US2009190938, US2008170890,

Abstract:
Source: US2007092305A A toner cartridge comprising a rotary 2 provided with an agitator 3 that agitates a toner, and a bearing that rotatably supports a shaft tip 6 of the rotary 2, comprises a retainer 10 at the shaft tip 6 of the rotary 2 and at the bearing 7 that inhibits the slipping out, in the axial direction, of the shaft tip 6 of the rotary 2 from the bearing 7.

0) US2009085992A – CARTRIDGE HOLDER

185) Family number: 43087147 (US2009085992A) © PatBase

Title: CARTRIDGE HOLDER

Priority: US20070862620 20070927 WO2008US77390 20080923

Family:

Publication number	Publication date	Application number	Application date
AR068282 AA	20091111	AR2008P104215	20080926
CL2008002870 A1	20090306	CL20080002870	20080926
CL50304 B	20140911	CL20080002870	20080926
CN101808828 A	20100818	CN200880108868	20080923
CN101808828 B	20120704	CN200880108868	20080923
EP2195171 A1	20100616	EP20080834599	20080923
IN01677CN2010 A	20100820	IN2010CN01677	20100324
JP2010540284 T2	20101224	JP20100527084T	20080923
JP4990400 B2	20120801	JP20100527084	20080923
KR101450371 B1	20141014	KR20107009061	20080923
KR20100074226 A	20100701	KR20107009061	20080923
TW200918328 A	20090501	TW20080134863	20080911
US2009085992 AA	20090402	US20070862620	20070927
US7735985 BB	20100615	US20070862620	20070927
WO09042603 A1	20090402	WO2008US77390	20080923

Probable Assignee: HEWLETT PACKARD DEVELOPMENT CO LP

Assignee(s):(std)**:** HEWLETT PACKARD DEVELOPMENT CO ; MCFADDEN BRUCE A ; NOVAK DAVID B ; WARD JEFFERSON P

Assignee(s): HEWLETT PACKARD DEVELOPMENT CO L P ; HEWLETT PACKARD DEVELOPMENT CO LP ; HEWLETT PACKARD DEVELOPMENT COMPANY L P

Inventor(s):(std)**:** CARTRIDGE HOLDER ; MCFADDEN BRUCE A ; NOVAK DAVID B ; WARD JEFFERSON P

Inventor(s): DAVID B NOVAK ; JEFFERSON P WARD ; BRUCE A MCFADDEN

Agent(s): ALESSANDRI; POWELL STEPHEN DAVID; HEWLETT PACKARD COMPANY; WASSON ROBERT D ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9): B41J2/045 B41J2/145 B41J2/175 B41J25/34 G03G15/00 (Advanced/Invention); B41J2/175 B41J25/34 G03G15/00 (Advanced/Non–invention); B41J2/175 G03G15/00 (Core/Invention)

International class (IPC 1–7): B41J2/01 B41J2/175

CPC: B41J2/17546

European class: B41J2/175C7E

US class: 347/50 347/84 347/86

Classification Explorer

Cited documents: US7686441 BB, US7275810 BB, US6372586 BA, US6371586 BA, US5392063 A, US5138344 A, JP6106730 A2, JP3227650 A2, JP2007055138 A2, JP2007044936 A2, JP2006082567 A2, JP2006082313 A2, JP2004098564 A2, JP2002370373 A2,

Forward Citations: US9452614, US9156275, JP2012520215,

Abstract:
Source: US2009085992A In one embodiment a cartridge holder includes: a body having a plurality of bays therein for holding a cartridge and each bay having an electrical connector associated therewith for connecting to a chip; an adapter removably attachable to the body at a bay, the adapter having a site for a chip at a location where a chip installed at the chip site is connected to a connector in the bay when the adapter is attached to the body; and each bay configured to hold: without an adapter attached to the body at the bay, a first cartridge having a first shape and a chip thereon, and, with the adapter attached to the body at the bay, a second cartridge having a second shape different from the first shape and the second cartridge not having a chip thereon.

0) US5124747A – COLOR COPY MACHINE WITH DETACHABLE PROCESS CART...

186) Family number: 5062199 (US5124747A) © PatBase

Title: COLOR COPY MACHINE WITH DETACHABLE PROCESS CARTRIDGE

Priority: CA19892003398 19891120 JP19880295665 19881121 US19890438530 19891117 JP19880321521 19881219

Family:

Publication number	Publication date	Application number	Application date
CA2003398 AA	19900521	CA19892003398	19891120
DE68920831 D1	19950309	DE19896020831	19891121
DE68920831 T2	19950524	DE19896020831T	19891121
EP0370455 A2	19900530	EP19890121503	19891121
EP0370455 A3	19901107	EP19890121503	19891121
EP0370455 B1	19950125	EP19890121503	19891121
JP2140768 A2	19900530	JP19880295665	19881121
JP2165165 A2	19900626	JP19880321521	19881219
JP2614755 B2	19970528	JP19880295665	19881121
US5124747 A	19920623	US19910758445	19910905

Probable Assignee: KONISHIROKU PHOTO IND

Assignee(s):(std)**:** KONISHIROKU PHOTO IND

Assignee(s): MORITA SHIZUO ; MATSUO SHUNJI ; SHOJI HISASHI ; FUKUCHI MASAKAZU ; HANEDA SATOSHI ; KONICA CORP ; KONICA CORP TOKIO TOKYO JP

Inventor(s):(std)**:** FUKUCHI MASAKAZU ; HANEDA SATORU ; HANEDA SATOSHI ; MATSUO SHUNJI ; MORITA SHIZUO ; SHOJI HISAFUMI ; SHOJI HISASHI

Inventor(s): SHOJI HISASHI HACHIOJI SHI TOKYO JP ; MORITA SHIZUO HACHIOJI SHI TOKYO JP ; MATSUO SHUNJI HACHIOJI SHI TOKYO JP ; HANEDA SATOSHI HACHIOJI SHI TOKYO JP ; FUKUCHI MASAKAZU HACHIOJI SHI TOKYO JP

Agent(s): SWABEY OGILVY RENAULT

Designated states: DE FR GB

International class (IPC 8–9)**:** G03B27/00 G03G15/00 G03G15/01 G03G21/18 (Advanced/Invention); G03G15/00 G03G15/01 G03G21/18 (Core/Invention)

International class (IPC 1–7)**:** G03B27/00 G03G15/00 G03G15/01 G03G21/18

CPC: G03G21/1628 G03G21/1647 G03G21/1807 G03G15/01 G03G21/1853 G03G2221/1603 G03G2221/1654 G03G2221/1657 G03G2221/1687 G03G2221/183 G03G2221/1861

European class: G03G15/01 G03G21/18C1 G03G21/18H1V S03G221/16A S03G221/16K1 S03G221/16K2 S03G221/16S3 S03G221/18P S03G221/18P3A

US class: 355/200 355/210 355/326 399/112

Classification Explorer

Cited documents: US4878091 A, US4803510 A, US4702587 A, US4682880 A, US4609276 A, US4575221 A, US4542976 A, US4376577 A, JPS63210951, JPS62134654, JP63125864 U1, JP62134654 A2, JP60191053 U1, EP0287122 A2, EP0278122 A1, DE3404438 A1,

Forward Citations: WO9216879, WO9216879, US9360828, US9141068, US9046860, US8818233, US8725042, US8606142, US8457520, US8265522, US8064793, US7769319, US7720413, US7463847, US7447467, US7444100, US6167222, US5689774, US5579086, US5548379, US5528343, US5471284, US5452064, US5414493, US5353100, US5323210, US5235383, US5168308, US5065195, US2011211863, US2011094986, US2010209140, US2009028602, US2006140674, US2006140673, EP1674948, EP0712058, EP0547348, EP0533484, EP0503430, EP0503430, EP0473182, EP0468752, EP0468749, EP0411825, EP0411825, EP0397465, AU657023,

Abstract:
Source: US5124747A The invention provides a color image forming apparatus provided with an image carrying

unit including a rotatable photoreceptor, a developing unit including a plurality of developing devices, and a cleaning unit. The apparatus is formed with a lower casing and an upper casing. In the upper casing, the image carrying unit, the developing unit and the cleaning unit are accommodated, in which at least two kinds of the units are incorporated in a cartridge capable of being detachably installed in the upper casing. The upper casing is adapted pivotal between an open position and an operation position around an axis which is disposed parallel to the rotation axis of the photoreceptor. When the upper casing is pivotted to the open position, the developing unit is so disposed that a side of the developing unit facing the photoreceptor becomes higher than other side of the developing unit.

0) US2017153597A – IMAGE FORMING APPARATUS

187) Family number: 65823417 (US2017153597A) © PatBase

Title: IMAGE FORMING APPARATUS

Priority: JP20150232862 20151130

Family:

Publication number	Publication date	Application number	Application date
JP2017102150 A2	20170608	JP20150232862	20151130
US2017153597 AA	20170601	US20160364996	20161130

Probable Assignee: BROTHER IND LTD

Assignee(s):(std)**:** BROTHER IND LTD

Assignee(s): BROTHER KOGYO KK

Inventor(s):(std)**:** FUKAMACHI YASUO ; MUSHIKA MOTOAKI ; SATO SHOUGO ; TAGUCHI KAZUNA

International class(IPC 8–9)**:** G03G21/18 (Advanced/Invention)

CPC: G03G21/1842 G03G21/1814 G03G15/0896 G03G21/1821

Classification Explorer

Abstract:
Source: US2017153597A An image forming apparatus, including a process cartridge and a main body with an opening and a cartridge supporter is provided. The process cartridge includes a drum cartridge; a toner cartridge attachable to the drum cartridge; and a switching member switchable states in the process cartridge between a first state, wherein detachment of the toner cartridge is restricted, and a second state, wherein the toner cartridge is released from the restriction. The cartridge supporter is movable between a first position, wherein the cartridge supporter supports the process cartridge to be placed entirely in an inner space in the main body on an inner side of the opening, and a second position, wherein the cartridge supporter supports the process cartridge to be at least partly placed outside the inner space. When the cartridge supporter is in the second position, the switching member is at least partly placed outside the inner space.

188) Family number: 32026166 (EP2662733A3) © PatBase

Title: TONERNACHFUELLKARTUSCHENSYSTEM UND SEIN UMSETZUNGSVERFAHREN
TONER REFILL CARTRIDGE SYSTEM AND IMPLEMENTING METHOD THEREOF

Priority: EP20040300941 20041223 FR20030051176 20031223

Family:

Publication number	Publication date	Application number	Application date
EP1548519 A2	20050629	EP20040300941	20041223
EP1548519 A3	20100414	EP20040300941	20041223
EP2662733 A2	20131113	EP20130171318	20041223
EP2662733 A3	20140219	EP20130171318	20041223
FR2864262 A1	20050624	FR20030051176	20031223
FR2864262 B1	20060324	FR20030051176	20031223

Probable Assignee: SAGEMCOM DOCUMENTS SAS

Assignee(s):(std)**:** SAGEM ; SAGEM COMM ; FUNAI ELECTRIC CO ; SAGEMCOM DOCUMENTS SAS

Assignee(s): FUNAI ELECTRIC CO LTD ; SAGEM COMMUNICATIONS SAS ; SAGEM SA

Inventor(s):(std)**:** MORO PAOLO ; MORO PAOLO M

Inventor(s): PAOLO MORO

Agent(s): CAMUS OLIVIER JEAN CLAUDE; DESCHAMPS SAMUEL; CABINET SCHMIT CHRETIEN

Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK NL PL PT RO SE SI SK TR YU

International class (IPC 8–9): G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)

International class (IPC 1–7): G03G15/08

CPC: G03G15/0894 G03G15/0855 G03G15/0865 G03G15/0867 G03G15/0886 G03G2215/067 G03G2215/0675

European class: G03G15/08H3 S03G215/06C1A2 S03G215/06C1C

Classification Explorer

Cited documents: US6324371 BA, US5907747 A, US5594535 A, US5034776 A, US4949123 A, US4740808 A, JP63217385 A2, JP63208073 A2, JP63188171 A2, JP60254067 A2, JP60147770 A2, JP60087371 A2, EP0778504 A1, EP0423741 A2,

Forward Citations: US8155558, EP2093619,

Abstract:
Source: EP2662733A3 P ID PA01 NUM 0001 L INVENTION CONCERNE UN SYSTEME DE CARTOUCHE A RECHARGE DE TONER COMPORTANT BR UNE CARTOUCHE 1 COMPRENANT UN RECEPTACLE 10 FERME PAR UN COUVERCLE 11 AINSI QU UNE PREMIERE ET UNE SECONDE FACES LATERALES 12A 12B L UNE DE CES FACES COMPRENANT UNE OUVERTURE CIRCULAIRE 12B ET BR UNE RECHARGE CYLINDRIQUE 2 CONTENANT DU TONER ET APTE A ETRE INSEREE DANS LE RECEPTACLE DE LA CARTOUCHE PAR L OUVERTURE CIRCULAIRE DE LA CARTOUCHE P P ID PA02 NUM 0002 L INVENTION CONCERNE AUSSI UN PROCEDE POUR METTRE EN OEUVRE CE SYSTEME IMG ID IAF01 FILE IMGAF001TIF WI 165 HE 79 IMG CONTENT DRAWING IMG FORMAT TIF

0) US2009304412A – IMAGE FORMING APPARATUS

189) Family number: 43459052 (US2009304412A) © PatBase

Title: IMAGE FORMING APPARATUS

Priority: JP20070340751 20071228 JP20070340761 20071228 JP20100008219U 20101217

Family:

Publication number	Publication date	Application number	Application date
CN101470396 A	20090701	CN200810190771	20081226
CN101470396 B	20110824	CN200810190771	20081226
CN102073262 A	20110525	CN201010544099	20081226
CN102073262 B	20131113	CN201010544099	20081226
EP2075649 A1	20090701	EP20080022069	20081218
JP2009162904 A2	20090723	JP20070340751	20071228
JP2009162914 A2	20090723	JP20070340761	20071228
JP3166361 U	20110303	JP20100008219U	20101217
JP4513858 B2	20100728	JP20070340751	20071228
US2009304412 AA	20091210	US20080341006	20081222
US7925181 BB	20110412	US20080341006	20081222

Probable Assignee: BROTHER KOGYO KK

Assignee(s):(std)**:** BROTHER IND LTD

Assignee(s): BROTHER INDUSTRIES LTD ; BROTHER KOGYO KABUSHIKI KAISHA ; BROTHER KOGYO KK

Inventor(s):(std)**:** ATSUHISA NAKASHIMA ; HATTORI YOSHITERU ; HIDETOSHI YANO ; MING WANG WEI ; NAKAJIMA ATSUHISA ; NAKASHIMA ATSUHISA ; O TAKEAKI ; WANG WEI MING ; YANO HIDETOSHI ; YANO SACHIKO ; YOSHITERU HATTORI

Inventor(s): YANO LEGAL REPRESENTATIVE SACHIKO

Agent(s): KUHNEN AND WACKER; BANNER AND WITCOFF LTD ATTORNEYS FOR CLIENT NO 016689; BANNER AND WITCOFF LTD

Designated states: AL BA DE FR GB MK RS

International class (IPC 8–9): G03G15/00 G03G15/01 G03G21/16 G03G21/18 (Advanced/Invention); G03G15/00 G03G21/16 G03G21/18 (Core/Invention)

CPC: G03G21/1842 G03G2221/1869

European class: G03G21/18H1 S03G221/18P3B

US class: 399/111 399/111P

Classification Explorer

Cited documents: US6795671 BB, US6101350 A, US5262824 A, US2007280730 AA, US2007160388 AA, US2007077093 AA, US2007077086 AA, JP8297452 A2, JP8006471 A2, JP4341873 A2, JP2007101636 A2, JP2003215876 A2, JP2003122089 A2, JP2001337511 A2, JP2000250310 A2,

Forward Citations: US9529302, US9323214, US8818234, US8666281, US8577258, US8488996, US8270877, US8213830, US7885562, US2012051800, US2011217075, US2011182623, US2010272470, US2009252530, US2009190958, JP6083175, JP5866932, JP2014071136, JP2013073221, JP2011075659, CN103713509, CN103439871, CN102768487, CN102768487, CN102650838, CN102467029, CN102467029,

Abstract:
Source: US2009304412A An image forming apparatus is provided. The image forming apparatus includes a main body; process cartridges, each including a photosensitive drum and a developing roller; a body frame including a abutment portions and projecting portions; fixing members configured to rotate to a locked state where the fixing members bring the process cartridges into abutment with the abutment portions and to an unlocked state where the fixing members are spaced apart from the process cartridges; spacing members which move to a spacing position where the developing rollers are spaced apart from the photosensitive rollers and a permissive position where the developing rollers are in contact with the developing rollers; and a translation member reciprocating in a

straight line for displacing the fixing members between the locked state and the unlocked state and moving the spacing members between the spacing position and the permissive position.

0) US2009269101A – IMAGE FORMING APPARATUS

190) Family number: 43926611 (US2009269101A) © PatBase

Title: IMAGE FORMING APPARATUS

Priority:

JP20080116288 20080425	JP20080116289 20080425	JP20100138738 20100617
JP20100201699 20100909	JP20100201699 20080425	JP20110173637 20110809
US20090413861 20090330	US20120434521 20120329	US20130054953 20131016
US20140537108 20141110	US20150824224 20150812	US20160091367 20160405

Family:

Publication number	Publication date	Application number	Application date
CN101566807 A	20091028	CN200910130297	20090330
CN101566807 B	20120321	CN200910130297	20090330
JP2009265441 A2	20091112	JP20080116288	20080425
JP2009265442 A2	20091112	JP20080116289	20080425
JP2010256920 A2	20101111	JP20100138738	20100617
JP2010271743 A2	20101202	JP20100201699	20100909
JP2011221563 A2	20111104	JP20110173637	20110809
JP4586877 B2	20101124	JP20080116289	20080425
JP4623132 B2	20110202	JP20080116288	20080425
JP4803312 B2	20111026	JP20100201699	20100909
JP4844682 B2	20111228	JP20100138738	20100617
JP5115642 B2	20130109	JP20110173637	20110809
US2009269101 AA	20091029	US20090413861	20090330
US2012189346 AA	20120726	US20120434521	20120329
US2014044452 AA	20140213	US20130054953	20131016
US2015063870 AA	20150305	US20140537108	20141110
US2015346676 AA	20151203	US20150824224	20150812
US2016216685 AA	20160728	US20160091367	20160405
US8150294 BB	20120403	US20090413861	20090330
US8588649 BB	20131119	US20120434521	20120329
US8886088 BB	20141111	US20130054953	20131016
US9110397 BB	20150818	US20140537108	20141110
US9329564 BB	20160503	US20150824224	20150812
US9535394 BB	20170103	US20160091367	20160405

Probable Assignee: BROTHER IND LTD

Assignee(s):(std)**:** BROTHER IND LTD ; OKABE YASUSHI ; TOMATSU YOSHIYA

Assignee(s): BROTHER INDUSTRIES LTD ; BROTHER KOGYO KABUSHIKI KAISHA ; BROTHER KOGYO KK

Inventor(s):(std)**:** OKABE YASUSHI ; TOMATSU YOSHIYA ; YOSHIYA TOMATSU ; YASUSHI OKABE

Agent(s): BANNER AND WITCOFF LTD ATTORNEYS FOR CLIENT NO 016689; BANNER AND WITCOFF LTD

International class (IPC 8–9)**:** B41J2/44 B41J2/45 B41J2/455 G03G15/00 G03G15/01 G03G15/04 G03G15/08 G03G15/16 G03G21/16 G03G21/18 H04N1/00 (Advanced/Invention); G03G15/01 G03G21/16 G03G21/18 (Core/Invention)

CPC: G03G15/0131 G03G21/1647 G03G21/1671 G03G2221/1603 G03G2221/1636 G03G15/04 G03G21/1633 G03G21/1666 G03G21/1623

European class: G03G15/01D14 G03G21/16 S03G221/16A S03G221/16E

US class: 1/1 399/107 399/110 399/114 399/114P 399/118 399/159 399/159P 399/177

Classification Explorer

Cited documents: US8886088 BB, US8150294 BB, US7778567 BB, US7444099 BB, US7356283 BB, US6708011 BB, US5808649 A, US5477306 A, US5291249 A, US2012114374 AA, US2011050834 AA, US2009220250 AA, US2009058978 AA, US2008304860 AA, US2007122187 AA, US2007071493 AA, US2007047470 AA, US2006067734 AA, US2001021321 AA, JP9160333 A2, JP9160333, JP5249767 A2, JP5249767, JP4212973 A2, JP2008090045 A2, JP2008090045, JP2007155793 A2, JP2007155793, JP2007096889 A2, JP2007096889, JP2007066125 A2, JP2007065125 A2, JP2007065125, JP2006263985 A2, JP2006098772 A2, JP2006018128 A2, JP2006018127 A2, JP2003112446 A2, JP2003015378 A2, JP2001255803 A2, JP2001255803, JP2001175046 A2, JP2001166555 A2, JP2000047458 A2, JP2000047458, JP09160333, JP05249767,

Forward Citations: US9625873, US9535394, US9516184, US9488928, US9471030, US9335716, US9329564, US9310754, US9304484, US9298158, US9201385, US9146531, US9146492, US9141076, US9128456, US9122191, US9110397, US9058015, US9031454, US9008547, US8953979, US8892001, US8886088, US8879950, US8867956, US8843022, US8773486, US8737871, US8725032, US8688000, US8594530, US8588649, US8583004, US8506191, US8452213, US2015063870, US2015037067, US2014140724, US2013164027, US2012189346, US2012183321, US2012183320, US2012183319, US2012163857, US2012070189, US2011135368, JP6040599, JP5970885, JP4678889, JP2014016522, JP2013195541, JP2012168273, JP2012145883, JP2012145882, JP2012145881, JP2012137635, JP2011070142, CN103576495, CN103576495, CN102540801,

Abstract:
Source: US2009269101A An image forming apparatus includes: a main body having an opening; a photoconductor unit including a photoconductor and removably mountable to the main body through the opening by moving the photoconductor unit in a first direction; an exposure member; and a moving mechanism configured to move the exposure member to and away from the photoconductor The moving mechanism includes: a fixed shaft having an axial line thereof fixed relative to the main body; a first arm comprising one end portion thereof which is supported rotatably around the axial line of the fixed shaft; a movable shaft having an axial line thereof which is movable relative to the main body; and a second arm comprising: one end portion supporting the exposure member; and another end portion connected to the first arm via the movable shaft, and the second arm being swingable around the axial line of the movable shaft.

0) US5131539A – PACKAGE FOR INK JET CARTRIDGE

191) Family number: 30340842 (US5131539A) © PatBase

Title: PACKAGE FOR INK JET CARTRIDGE

Priority: AU19900067747 19901204 AU19940071450 19940824 CA19902031567 19901205 KR19940019181U 19940729 KR19900020030 19901206 US19900621989 19901204 JP19890318080 19891206 JP19890318081 19891206 JP19890318082 19891206 US19920872317 19920423

Family:

Publication number	Publication date	Application number	Application date
AT136279 E	19960415	AT19900123337T	19901205
AU199067747 A1	19910613	AU19900067747	19901204
AU199471450 A1	19941103	AU19940071450	19940824
AU199740966 A1	19980108	AU19970040966	19971013
AU696275 B2	19980903	AU19970040966	19971013
CA2031567 AA	19910607	CA19902031567	19901205
CA2031567 C	19951024	CA19902031567	19901205
CN1022304 C	19931006	CN19901010443	19901206
CN1053211 A	19910724	CN19901010443	19901206
DE69026368 D1	19960509	DE19906026368	19901205
DE69026368 T2	19961114	DE19906026368T	19901205
EP0439728 A2	19910807	EP19900123337	19901205
EP0439728 A3	19911002	EP19900123337	19901205
EP0439728 B1	19960403	EP19900123337	19901205
JP3176157 A2	19910731	JP19890318080	19891206
JP3176158 A2	19910731	JP19890318081	19891206
JP3176159 A2	19910731	JP19890318082	19891206
KR200090526 Y1	19950330	KR19940019181U	19940729
KR950002275 Y1	19950330	KR19940019181U	19940729
US5131539 A	19920721	US19900621989	19901204
US5244092 A	19930914	US19920872317	19920423

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK ; CANON K K

Assignee(s): CANON K K TOKIO TOKYO JP ; CANON KABUSHIKI KAISHA ; CANON INC ; KARITA SEIICHIRO ; SAITO AKIO

Inventor(s):(std)**:** AKIO HITOSHIFUJI ; AKIO SAITO ; HITOSHIFUJI AKIO ; KARITA SEIICHIRO ; KARITA SEIICHIRO C O CANON KAB ; KATTA SEIICHIRO ; SAITO AKIO ; SAITO AKIO C O CANON KABUSHIKI ; SEIICHIRO KARITA ; SEIICHIRO KATTA

Inventor(s): SAITO AKIO C O CANON KABUSHIKI KAISH ; SAITO AKIO C O CANON KABUSHIKI KAISHA ; SAITO AKIO C O CANON KABUSHIKI KAISHA TOKYO JP ; KARITA SEIICHIRO C O CANON KABUSHIKI ; KARITA SEIICHIRO C O CANON KABUSHIKI KAISHA ; KARITA SEIICHIRO C O CANON KABUSHIKI KAISHA TOKYO

Agent(s): SPRUSON AND FERGUSON; ASPEN PHARMA PTY LTD; RIDOUT AND MAYBEE LLP

Designated states: AT BE CH DE DK ES FR GB GR IT LI LU NL SE

International class (IPC 8–9): B41J2/01 B41J2/165 B41J2/175 B65D73/00 B65D73/02 B65D75/36 B65D75/56 B65D75/62 B65D85/30 (Advanced/Invention); B65D73/00 (Advanced/Non–invention); B41J2/01 B41J2/165 B41J2/175 B65D73/00 B65D75/28 B65D75/52 B65D85/30 (Core/Invention)

International class (IPC 1–7): B41J2/01 B41J2/175 B65D73/00 B65D73/02 B65D75/36 B65D75/56 B65D75/62 B65D85/30

CPC: B41J2/17536 Y10S206/806 B41J2/1753 B41J2/16505 B41J2/17533 B65D73/0092

European class: B41J2/165B B41J2/175C B41J2/175C4A B41J2/175C5 B41J2/175C6 B65D73/00F1B

US class: 206/462 206/701 206/806 347/87 D18/56

Classification Explorer

Cited documents: WO9013494 A1, US4740796 A, US4734717 A, US4723129 A, US4558333 A, US4463359 A, US4459600 A, US4345262 A, US4313124 A, US4125190 A, US3399763 A, US3303930 A, US3289830 A, US3246747 A, US3129817 A, US2884127 A, JPS6159557, JPS6071260, JPS59138461, JPS59123670, JPS5456847, JP61059557 A2, JP60071260 A2, JP59138461 A2, JP59123670 A2, JP54056847 A2, JP2013494 A2, GB2196320 A1, GB1507828 A, CA804980 A,

Forward Citations: WO06099201, USD625181, USD577991, USD520356, USD516419, USD458125, USD448284, USD444059, USD440871, US9675674, US9662461, US9655850, US9630930, US9610351, US9511198, US9446133, US9446001, US9415960, US9364619, US9364436, US9346766, US9339615, US9283193, US9241903, US9233159, US9220687, US9192675, US9108420, US8925726, US8205747, US8205746, US8152287, US7963395, US7891791, US7864212, US7736710, US7726480, US7669978, US7634217, US7631757, US7517070, US7475779, US7393089, US7219979, US7201476, US7159324, US7086723, US6951389, US6929359, US6871944, US6854834, US6764170, US6666551, US6648140, US6502701, US6501496, US6499595, US6478416, US6422691, US6413599, US6312115, US6247598, US6113230, US6062390, US6045207, US5950403, US5934475, US5844578, US5790158, US5701995, US5697022, US5667063, US5657058, US5648802, US5590510, US5576749, US5477963, US5373936, US5279410, US2012248005, US2010236963, US2010236962, US2010236723, US2010155271, US2010105534, US2009073309, US2009058977, US2007274743, US2007120890, US2007062836, US2007062050, US2007023929, US2007023884, US2007023382, US2007023313, US2006201843, US2006125892, US2006125889, US2005183971, US2005174386, US2005122350, US2004263591, US2004239737, US2002166785, JP9301465, JP5057906, JP3774675, JP2003034362, GB2438809, GB2438809, EP2845736, EP2311751, EP2277796, EP2039522, EP1846305, EP1457342, EP1221379, EP0782927, EP0560266, DE4124462, DE112006000580, CN104417077, AU660527,

Abstract:
Source: US5131539A A package for an ink jet cartridge includes an accommodating container having a main body for accommodating the ink jet cartridge and a flange for sealed connection between the main body and a cover; and a holding member having an opening defining member for defining an opening for insertion of the main body therethrough and a flat member cooperable with the opening defining member to sandwich the flange therebetween, the opening defining member having an edge portion contactable to an outer edge of the flange and a peripheral portion around the outer edge.

192) Family number: 33592071 (US2007296836A)

© PatBase

Title: INTERCONNECTED CAMERA SYSTEM WITH INSERTION CARDS

Priority:

AU19970007934	19970715	AU19970007938	19970715	AU19970007977	19970715
AU19970007942	19970715	AU19970007940	19970715	AU19970007939	19970715
AU19970007983	19970715	AU19970007982	19970715	AU19970007981	19970715
AU19970007980	19970715	AU19970007978	19970715	AU19970007987	19970715
AU19970007986	19970715	AU19970007985	19970715	AU19970008005	19970715
AU19970008012	19970715	AU19970008014	19970715	AU19970008015	19970715
AU19970008016	19970715	AU19970008017	19970715	AU19970008018	19970715
AU19970008000	19970715	AU19970007999	19970715	AU19970007998	19970715
AU19970007997	19970715	AU19970007993	19970715	AU19970007990	19970715
AU19970007989	19970715	AU19970007988	19970715	AU19970008003	19970715
AU19970008019	19970715	AU19970008020	19970715	AU19970008021	19970715
AU19970008022	19970715	AU19970008023	19970715	AU19970008024	19970715
AU19970008025	19970715	AU19970008026	19970715	AU19970008027	19970715
AU19970008028	19970715	AU19970008029	19970715	AU19970008030	19970715
AU19970008031	19970715	AU19970008032	19970715	AU19970008497	19970811
AU19970008499	19970811	AU19970008498	19970811	AU19970008500	19970811
AU19970008501	19970811	AU19970008502	19970811	AU19970008504	19970811
AU19970008505	19970811	AU19970009394	19970923	AU19970009395	19970923
AU19970009396	19970923	AU19970009397	19970923	AU19970009398	19970923
AU19970009399	19970923	AU19970009400	19970923	AU19970009401	19970923
AU19970009402	19970923	AU1997PO07934	19970715	AU1997PO07978	19970715
AU1997PO07988	19970715	AU1997PO08005	19970715	AU1997PO08012	19970715
AU1997PO08014	19970715	AU1997PO08015	19970715	AU1997PO08016	19970715
AU1997PO08017	19970715	AU1997PO08018	19970715	AU1997PO08019	19970715
AU1997PO08020	19970715	AU1997PO08021	19970715	AU1997PO08022	19970715
AU1997PO08023	19970715	AU1997PO08024	19970715	AU1997PO08026	19970715
AU1997PO08027	19970715	AU1997PO08028	19970715	AU1997PO07983	19970715
AU1997PO07982	19970715	AU1997PO07981	19970715	AU1997PO07980	19970715
AU1997PO07977	19970715	AU1997PO07942	19970715	AU1997PO07940	19970715
AU1997PO08000	19970715	AU1997PO07999	19970715	AU1997PO07998	19970715
AU1997PO07997	19970715	AU1997PO07993	19970715	AU1997PO07938	19970715
AU1997PO07990	19970715	AU1997PO07989	19970715	AU1997PO07987	19970715
AU1997PO07985	19970715	AU1997PO07939	19970715	AU1997PO08003	19970715
AU1997PO08029	19970715	AU1997PO08030	19970715	AU1997PO08031	19970715
AU1997PO08032	19970715	AU1997PO08497	19970811	AU1997PO08499	19970811
AU1997PO08498	19970811	AU1997PO08500	19970811	AU1997PO08501	19970811
AU1997PO08502	19970811	AU1997PO08504	19970811	AU1997PO08505	19970811
AU1997PO09394	19970923	AU1997PO09395	19970923	AU1997PO09396	19970923
AU1997PO09397	19970923	AU1997PO09398	19970923	AU1997PO09399	19970923
AU1997PO09400	19970923	AU1997PO09401	19970923	AU1997PO09402	19970923
AU1997PO09404	19970923	AU1997PO09403	19970923	AU1997PO08025	19970715
AU1997PO07979	19970715	AU1997PO07991	19970715	AU1997PO07986	19970715
US20020189477	20020708	US19980113067	19980710	US20040957718	20041005
US20020184883	20020701	US19980113070	19980710	AU1997PO09405	19970923
AU1997PP00959	19971216	AU1998PP01397	19980119	AU1998PP02370	19980316
AU1998PP02371	19980316	AU1998PO04094	19980612	AU1998PO07979	19970715
US20030642331	20030818	US19980112757	19980710	US20070853021	20070911
US20070874178	20071017	US20070930001	20071030	US20070951983	20071206
US20080049975	20080317	US20020485805	20020806	CA20022456728	20020806
US20040485805	20040204	WO2002AU01054	20020806	US20010922207	20010806
US20030636192	20030808	US19980112750	19980710	US20020485652	20020806
US20060488867	20060719	US20040013381	20041217	US20030659015	20030911
US20010922112	20010806	US19980113053	19980710	US20050983082	20050316
US20030729097	20031208	US19980113057	19980710	US20040485652	20040204
WO2002AU01056	20020806	US20010922105	20010806	CA20022564047	20020806

Family:

Publication number	Publication date	Application number	Application date
CA2564047 AA	20030220	CA20022564047	20020806
CA2564047 C	20101130	CA20022564047	20020806
SG120867 A1	20060426	SG20020002650	19980715
SG125898 A1	20061030	SG20020002613	19980715
SG126698 A1	20061129	SG20020002606	19980715
SG126699 A1	20061129	SG20020002618	19980715
SG127677 A1	20061229	SG20020002599	19980715
SG127678 A1	20061229	SG20020002605	19980715
US2007296836 AA	20071227	US20070853021	20070911
US2008030555 AA	20080207	US20070874178	20071017
US2008062232 AA	20080313	US20070930001	20071030
US2008085107 AA	20080410	US20070951983	20071206
US2008165254 AA	20080710	US20080049975	20080317
US7140723 BB	20061128	US20040957718	20041005
US7155395 BB	20061226	US20020189477	20020708
US7187404 BB	20070306	US20030729097	20031208
US7250975 BB	20070731	US20030636192	20030808
US7524047 BB	20090428	US20070951983	20071206
US7621607 BB	20091124	US20070930001	20071030
US7914133 BB	20110329	US20070874178	20071017
US7924313 BB	20110412	US20080049975	20080317

Probable Assignee: MEMJET TECHNOLOGY LTD

Assignee(s):(std)**:** SILVERBROOK RES PTY LTD

Assignee(s): SILVERBROOK RESEARCH PTY LTD ; ZAMTEC LTD ; GOOGLE INC ; MEMJET TECHNOLOGY LTD ; SILVERBROOK KIA

Inventor(s):(std)**:** LAPSTUN PAUL ; SILVERBROOK KIA ; WALMSLEY SIMON ; WALMSLEY SIMON ROBERT

Agent(s): OYEN WIGGS GREEN AND MUTALA LLP; SILVERBROOK RESEARCH PTY LTD

International class (IPC 8–9)**:** B41J11/00 B41J11/70 B41J15/04 B41J2/01 B41J2/05 B41J2/135 B41J2/14 B41J2/155 B41J2/16 B41J2/17 B41J2/175 B41J29/13 B41J3/00 B41J3/42 B41J3/44 B42D15/10 B65H3/44 G01N27/22 G03B17/50 G03B31/06 G03B35/14 G06F1/16 G06F17/00 G06F21/00 G06F21/79 G06F21/86 G06K1/12 G06K19/06 G06K19/073 G06K7/00 G06K7/14 G06Q99/00 G07F7/08 G07F7/12 G11C11/56 H03K3/04 H04N1/00 H04N1/21 H04N1/32 H04N1/50 H04N5/225 H04N5/232 H04N5/26 H04N5/262 (Advanced/Invention); B41J2/165 H04N1/00 (Advanced/Non–invention); B41J2/135 B41J2/17 G01N27/22 G03B31/00 G03B35/00 G06F17/00 G06K7/00 H03K3/00 H04N5/26 (Core/Invention); G03B17/00 G03B17/48 G03B27/00 G06K9/00 G06K9/60 H04N1/04 H04N1/047 (Core/Non–invention)

International class (IPC 1–7)**:** B41J2/14 G02B23/14

CPC: H04N1/00347 H04N1/00485 H04N1/00968 H04N5/23203 H04N5/247 H04N5/262 H04N5/2621 H04N2201/001 H04N2201/0041 H04N2201/0049 H04L9/3218 H04L9/3236 H04L2209/043 G06Q30/018 G07C11/00 G07C2011/04 H01L23/576 H01L2224/48091 H01L2924/1461 H01L2924/13091 B41J2/04 B41J2/14314 B41J2/14427 B41J2/1626 B41J2/1628 B41J2/1629 B41J2/1631 B41J2/1632 B41J2/1635 B41J2/1637 B41J2/1642 B41J2/1643 B41J2/1645 B41J2/1646 B41J2/1648 B41J2/16585 B41J2/17513 B41J2/17596 B41J15/044 B41J2002/041 B41J2202/21 G03B17/50 G06F21/79 G06F2221/2129 G06K1/121 G06K7/14 G06K7/1417 G06K19/06037 G11C11/56 H04N1/00278 H04N1/0044 H04N1/2112 H04N1/2154 H04N2101/00 H04N2201/0084 B41J2/17553 B41J3/4078 B41J3/413 B41J11/0005 B41J11/009 B82Y30/00 G03B27/50 G06K7/10722 G06K7/10732 G06K7/1443 G06K19/073 H04N1/00127 H04N1/00326 H04N1/00965 H04N1/32133 H04N2201/0008 H04N2201/3222 H04N2201/3261 H04N2201/3264 H04N2201/3269 H04N2201/3276 H04N2201/328 B41J2/14 B41J2/16 B41J2/1639 B41J2/17509 B41J2/1752 B41J2002/14362 G06K1/12 B42D2035/34 B41J29/38 B41J2/17 B41J2/15 B41J2/01 B41J3/00 G06K7/10 G06K19/06 G06Q99/00

H04N5/2628 B41J2/175 B41J2/1623 B41J2/17543 B41J2/17546 G06F21/86 H04N5/225 B41J2/17503 B41J29/393

European class: B41J11/00A B41J11/00U B41J11/70 B41J15/04 B41J15/04C B41J2/04 B41J2/14 B41J2/14E B41J2/14S B41J2/16 B41J2/16M1 B41J2/16M3 B41J2/16M3D B41J2/16M3W B41J2/16M4 B41J2/16M5 B41J2/16M6 B41J2/16M7 B41J2/16M7S B41J2/16M8C B41J2/16M8P B41J2/16M8S B41J2/16M8T B41J2/16S B41J2/175 B41J2/175C B41J2/175C1A B41J2/175C2 B41J2/175C3 B41J2/175C7E B41J2/175C8 B41J29/393 B41J3/407T B41J3/413 B41J3/42B B41J3/44B B42D15/10 B82Y30/00 G03B17/50 G03B27/50 G06F21/79 G06F21/86 G06K1/12 G06K1/12B G06K19/06C3 G06K19/073 G06K7/10S4D G06K7/10S4D2 G06K7/14 G06K7/14A2C G06K7/14A4A G06Q30/018 G07C11/00 G11C11/56 H01L23/57B H04L9/32 H04N1/00C22 H04N1/00C24 H04N1/00D3D4 H04N1/00D3P H04N1/00W1 H04N1/00W2 H04N1/21B3 H04N1/21B3H H04N1/32C H04N1/32C16 H04N1/32C17B H04N5/225 H04N5/232C H04N5/247 H04N5/262 H04N5/262C H04N5/262T L41J11/70 L41J2/04M L41J2/14K L41J2/165L L41J2/175P L41J202/21 L42D35/34 S06F221/2129 S07C11/04 T04N1/00C T04N1/00C6 T04N101/00 T04N201/00C T04N201/00C11N2 T04N201/00C11T2 T04N201/00C22 T04N201/00C8 T04N201/00J4 T04N201/32C12 T04N201/32C3H T04N201/32C5 T04N201/32C5S T04N201/32C6 T04N201/32C9B

US class: 271/9.1 347/101 347/104 347/108 347/2 347/42 347/54P 347/68 347/70 347/71 347/85 347/85P 347/86 347/86P 348/207.2 348/207.200P 348/239 348/239P 348/345 348/345P 348/347 348/E05.055 348/E5.024 348/E5.043 348/E5.048 348/E5.051 348/E5.055 348/E50.24 348/E50.24S 348/E50.43S 348/E50.48S 348/E50.51S 348/E50.55 348/E50.55S 358/502 396/40 396/40P 705/1 705/1.1

Classification Explorer

Cited documents: WO9706958 A1, WO9632265 A1, WO9516323 A1, WO03095224 A1, WO0142026 A1, USRE36338 E, US7654626 BB, US7525687 BB, US7404633 BB, US7377706 BB, US7357497 BB, US7291447 BB, US7284843 BB, US7278723 BB, US7186499 BB, US7156512 BB, US7140726 BB, US7110024 BA, US7097263 BB, US7086724 BB, US7084951 BB, US7077515 BB, US7063940 BB, US6954254 BB, US6918654 BB, US6913875 BB, US6857719 BB, US6831681 BA, US6820968 BB, US6820968 BA, US6773874 BB, US6736321 BB, US6727948 BA, US6702417 BB, US6640004 BB, US6626529 BA, US6612110 BA, US6543880 BA, US6530519 BA, US6472052 BA, US6416152 BA, US6402284 BA, US6362868 BA, US6359650 BA, US6357865 BA, US6341845 BA, US6334587 BA, US6318849 BA, US6317192 BA, US6317156 BA, US6315384 BA, US6304825 BA, US6304291 BA, US6297872 BA, US6278486 BA, US6234608 BA, US6229565 BA, US6227643 BA, US6222452 BA, US6217165 BA, US6211911 BA, US6204877 BA, US6201571 BA, US6199969 BA, US6188431 BA, US6188414 BA, US6167761 BA, US6167761 B1, US6163361 A, US6163340 A, US6161915 A, US6157394 A, US6151049 A, US6141431 A, US6141036 A, US6137509 A, US6111605 A, US6094221 A, US6084713 A, US6052648 A, US6042213 A, US6034740 A, US6033137 A, US6022099 A, US6020931 A, US6014170 A, US6011536 A, US6006039 A, US6000773 A, US5999203 A, US5999190 A, US5995772 A, US5992994 A, US5966134 A, US5949467 A, US5930528 A, US5924737 A, US5917542 A, US5914748 A, US5909248 A, US5907434 A, US5907354 A, US5905529 A, US5896176 A, US5884013 A, US5875034 A, US5869595 A, US5866253 A, US5860363 A, US5850234 A, US5847836 A, US5835136 A, US5825882 A, US5825383 A, US5824410 A, US5819240 A, US5818023 A, US5812156 A, US5792249 A, US5788388 A, US5764258 A, US5757388 A, US5755519 A, US5754227 A, US5745175 A, US5734154 A, US5726435 A, US5706049 A, US5696892 A, US5679456 A, US5646658 A, US5621868 A, US5613175 A, US5581399 A, US5534962 A, US5534900 A, US5512951 A, US5502529 A, US5502485 A, US5489930 A, US5488359 A, US5477264 A, US5467118 A, US5452033 A, US5450365 A, US5444230 A, US5436657 A, US5434621 A, US5434518 A, US5428423 A, US5398131 A, US5367324 A, US5356971 A, US5343386 A, US5318370 A, US5315324 A, US5315316 A, US5235428 A, US5208610 A, US5206919 A, US5184169 A, US5179389 A, US5164827 A, US5148534 A, US5138459 A, US5132707 A, US5077565 A, US5049898 A, US5031049 A, US5018072 A, US4987030 A, US4937676 A, US4897724 A, US4868676 A, US4853718 A, US4837628 A, US4835388 A, US4819395 A, US4791443 A, US4783823 A, US4762986 A, US4683781 A, US4683481 A, US4639738 A, US4534142 A, US4528575 A, US4488563 A, US4333088 A, US4330800 A, US4253476 A, US4000239 A, US3943563 A, US3573437 A, US2009052879 AA, US2008062232 AA, US2007040856 AA, US2004253008 AA, US2004125209 AA, US2003043273 AA, JP9187040 A2, JP9116843 A2, JP9071015 A2, JP6149051 A2, FR2741462 A1, EP0763930 A1, EP0570167 B1, EP0570167, EP0569155 A2, EP0398295 A2, EP0382044 A2, DE19832369 A1,

Forward Citations: US9584681, US9560221, US9544451, US9474856, US9432529, US9338312, US9237244, US9219832, US9211377, US9197767, US9191530, US9191529, US9185247, US9185246, US9180242, US9179020, US9168761, US9167109, US9154648, US9154647, US9148530, US9143636, US9143635, US9137398,

US9137397, US9131083, US9124737, US9124736, US9124735, US9113010, US9113009, US9113008, US9113007, US9108430, US9106775, US9100516, US9088675, US9083830, US9083829, US9060128, US9060081, US9055221, US9049318, US9044965, US9036162, US9013717, US9008803, US8986253, US8953178, US8953061, US8953060, US8947679, US8947592, US8937727, US8936196, US8934053, US8934027, US8928897, US8926561, US8922791, US8922670, US8918657, US8913182, US8913151, US8913137, US8908075, US8908069, US8908051, US8902357, US8902340, US8902333, US8902324, US8896724, US8896720, US8891008, US8890970, US8890969, US8885180, US8885179, US8878953, US8872952, US8866926, US8866923, US8854538, US8854494, US8854493, US8854492, US8836809, US8823823, US8810723, US8789939, US8758323, US8698915, US8650937, US8448824, US8421869, US8408421, US8298184, US8287495, US8285137, US8274665, US8102568, US8098285, US8096642, US8077207, US8068151, US8061828, US8020979, US8016400, US8013905, US7988262, US7984965, US7944473, US7934494, US7821538, US7804521, US7760235, US7747154, US7695108, US7576795, US7524047, US7483053, US7483050, US2014244362, US2011122263, US2010201846, US2010182379, US2010004429, US2009262149, US2009256888, US2008252754, US2008252733, US2008252732, US2008246846, US2008180477, US2008085107, US2007035585, US2007035566, US2007011023, US2005146613, US2004213482, US2004196382,

Abstract:
Source: US2007296836A An interconnected camera system includes a number of cameras interconnected via a data communications protocol. Each camera has an image sensor configured to capture an image. A card is configured to be inserted into each camera. The card has encoded thereon various instructions for the manipulation of the captured image. A processor is configured to manipulate the captured image in accordance with the encoded instructions.

0) US2006269313A – PROCESS CARTRIDGE FOR IMAGE–FORMING DEVICE

193) Family number: 33895260 (US2006269313A) © PatBase

Title: PROCESS CARTRIDGE FOR IMAGE–FORMING DEVICE

Priority: JP20050157780 20050530 JP20050173958 20050614

Family:

Publication number	Publication date	Application number	Application date
JP2006330620 A2	20061207	JP20050157780	20050530
JP2006349841 A2	20061228	JP20050173958	20050614
US2006269313 AA	20061130	US20060442291	20060530
US7945184 BB	20110517	US20060442291	20060530

Probable Assignee: BROTHER KOGYO KK

Assignee(s):(std)**:** BROTHER IND LTD

Assignee(s): BROTHER KOGYO KABUSHIKI KAISHA ; BROTHER KOGYO KK

Inventor(s):(std)**:** TAKAGI TAKEYUKI

Agent(s): MCDERMOTT WILL AND EMERY LLP

International class(IPC 8–9)**:** G03G15/00 G03G15/16 G03G21/18 (Advanced/Invention); G03G15/00 G03G15/16 G03G21/18 (Core/Invention)

CPC: G03G21/1867 G03G2221/166

European class: G03G21/18H3 S03G221/16K3

US class: 399/111 399/90 399/90P

Classification Explorer

Cited documents: US6571070 BB, US6519430 BB, US6366749 BA, US6275668 BA, US6097908 A, US5768658 A, US2008159775 AA, US2006110181 AA, US2006062589 AA, US2006024080 AA, US2005069338 AA, US2005025522 AA, US2005019056 AA, US2004131379 AA, US2003123896 AA, US2003118383 AA, US2003095808 AA, JP9325628 A2, JP9319239 A2, JP7219352 A2, JP7219308 A2, JP7146600 A2, JP6289736 A2, JP6118768 A2, JP6059559 A2, JP2004309861 A2, JP2004205964 A2, JP2004102141 A2, JP2003195700 A2, JP2001265196 A2, JP2001201996 A2, JP2000112318 A2, JP11316503 A2, JP10123797 A2, EP1239346 A2,

Forward Citations: USD758482, USD757161, USD743400, US9632456, US9599927, US9568856, US9268295, US9256158, US9213305, US9207631, US9201389, US9195208, US9188945, US9164431, US9110402, US9081327, US9069287, US9042764, US8909071, US8897665, US8867948, US8660441, US8577228, US8538291, US8380103, US8073355, US2015160604, US2015071675, US2014205304, US2013223877, US2013058675, US2013051834, US2011158686, US2010329757, US2009214249, JP5895401, JP5768506, JP2013054057, JP2012247766, JP2011133764, JP2011013268,

Abstract:
Source: US2006269313A A cartridge is detachably mountable in an image–forming device, the image–forming device having a power supply supplying a bias. The cartridge includes; a bias–receiving member; a casing; and a terminal member. The bias–receiving member is configured to receive a bias supplied from a power supply provided in the image–forming device. The casing is configured to accommodate the bias–receiving member. The casing has an opening formed therein. The terminal member is detachably mounted in the opening formed in the casing and exposed outside the casing via the opening to electrically connect the power supply to the bias–receiving member. The terminal member includes: a return–restricting part restricting the terminal member from returning into the casing; a projection–restricting part that restricts the terminal member from further protruding out of the casing; and a contact part that is positioned outside the casing and that is electrically connected to the power supply.

0) US2005260019A – IMAGE FORMING APPARATUS AND METHOD OF MOUNTING ...

194) Family number: 32437175 (US2005260019A) © PatBase

Title: IMAGE FORMING APPARATUS AND METHOD OF MOUNTING AND DISMOUNTING A WASTE TONER BOTTLE

Priority: JP20040152660 20040524 JP20040338913 20041124 JP20040338913 20100420 JP20100096647 20100420

Family:

Publication number	Publication date	Application number	Application date
JP2006011360 A2	20060112	JP20040338913	20041124
JP2010186196 A2	20100826	JP20100096647	20100420
JP4884549 B2	20120229	JP20100096647	20100420
US2005260019 AA	20051124	US20050128253	20050513
US7245868 BB	20070717	US20050128253	20050513

Probable Assignee: RICOH CO LTD

Assignee(s):(std)**:** ARAI YUJI ; RICOH CO LTD ; RICOH KK

Assignee(s): RICOH COMPANY LTD

Inventor(s):(std)**:** ARAI YUJI ; ISHII HIROSHI

Agent(s): OBLON SPIVAK MCCLELLAND MAIER AND NEUSTADT PC

International class (IPC 8–9): G03G15/00 G03G21/10 G03G21/12 (Advanced/Invention); G03G15/00 G03G21/10 G03G21/12 (Core/Invention)

International class (IPC 1–7): G03G21/12

CPC: G03G21/12

European class: G03G21/12

US class: 399/360

Classification Explorer

Cited documents: US5398098 A, US4602864 A, JP8292702 A2, JP7130867 A2, JP5232789 A2, JP3192054 A2, JP3073986 A2, JP2006011360 A2, JP2006011360, JP2004145290 A2, JP2004145290, JP2003252480 A2, JP2003036011 A2, JP2002169441 A2, JP2002169441, JP2000019914 A2, JP2000019914, JP03073986,

Forward Citations: US8886091, US8805267, US8787795, US8761634, US8655205, US8639132, US8577257, US8543033, US8270852, US7391990, US2016349667, US2013077994, US2011103824, US2010303499, US2006110195, KR20130032235, KR101588360, KR101409631, KR101292968, JP5825009, JP5354068, JP5302266, JP5103636, JP4884549, JP2013068824, JP2013029869, JP2012226370, JP2012141373, JP2011257567, JP2011107595, JP2010186196, JP2010122502, JP2009294407, CN102566388, CN102073258,

Abstract:
Source: US2005260019A An image forming apparatus of the present invention is operable with a waste toner bottle removably mounted thereto for collecting residual toner left on an image carrier after image formation. The image forming apparatus includes a handle to be held by an operator for holding the waste toner bottle, and a locking mechanism included in the handle for preventing the waste toner bottle from coming off the apparatus.

0) US4984023A – TONER CARTRIDGE

195) Family number: 30126928 (US4984023A) © PatBase

Title: TONER CARTRIDGE

Priority: JP19890042672U 19890412

Family:

Publication number	Publication date	Application number	Application date
DE4011592 A1	19901018	DE19904011592	19900410
GB2230872 A1	19901031	GB19900008284	19900411
GB2230872 B2	19930414	GB19900008284	19900411
GB9008284 A0	19900613	GB19900008284	19900411
JP2134554 U1	19901108	JP19890042672U	19890412
US4984023 A	19910108	US19900506828	19900410

Probable Assignee: ASAHI OPTICAL CO LTD

Assignee(s):(std): ASAHI OPTICAL CO LTD

Assignee(s): ASAHI KOGAKU KOGYO 2 36 9 MAENO CHO ITABASHI KU TOKYO JAPAN A CORP OF JAPAN KK ; ASAHI KOGAKU KOGYO K K ; ASAHI KOGAKU KOGYO K K TOKIO TOKYO JP ; ASAHI KOGAKU KOGYO KABUSHIKI KAISHA ; ASAHI KOGAKU KOGYO KK

Inventor(s):(std): YOSHIDA TATSUYA

Inventor(s): TATSUYA YOSHIDA ; YOSHIDA TATSUYA SAITAMA JP

International class (IPC 8–9): G03G15/08 (Advanced/Invention) ; G03G15/08 (Core/Invention)

International class (IPC 1–7): B41J2/455 G03G15/06 G03G15/08

CPC: G03G15/0874 G03G15/0855 G03G15/0865 G03G2215/0682

European class: G03G15/08H3 S03G215/06C3

US class: 118/43 355/260 399/106 399/262

Classification Explorer

Cited documents: US4912512 A, US4862226 A, US4862210 A, US4766457 A, US4491161 A, US4062385 A, US3599682 A, JP64054066 B4, JP63244077 A2, JP63155154 B4, JP63132963 U1, JP63132963 U, JP625287, JP62186284 A2, JP62005287 A2, JP61131630 B4, JP59015056 B4, JP59015056 B2, JP2009464 A2, FR2357932 A1, EP0235732 A1, DE3219481 A1, DE3020610 C2,

Forward Citations: WO9501588, US9285707, US7542697, US7412191, US7356290, US7289748, US7277665, US7218880, US7209689, US7209687, US7162188, US7158742, US7130567, US7065313, US7039346, US6898405, US6771921, US6678492, US6647236, US6608983, US6201941, US6178305, US5832343, US5802431, US5761584, US5291242, US5249020, US5206619, US5080745, US2013164039, US2008152380, US2007242982, US2007110480, US2006034643, US2005180782, US2005058472, US2005041999, US2004253023, US2004247343, US2004197120, US2004146320, US2004091289, US2004091287, US2004071481, US2003153860, EP1030227, EP1030227, EP0717326, EP0717326, DE9309693, DE19549724,

Abstract:
Source: US4984023A In a toner cartridge for containing toner utilized in a developing unit of an imaging device of the electrophotographic type, a containing part comprises a foldable material such as vinyl. Thus, the container is folded after toner is supplied to the developing unit. Accordingly, the space for the container filled with toner is prevented from becoming dead space. Further, if the material of the container is transparent, it is possible to detect whether or not toner remains inside of the container.

0) US2015277348A – DRUM CARTRIDGE WITH MOVABLE CLEANING ROLLER

196) Family number: 60453795 (US2015277348A) © PatBase

Title: DRUM CARTRIDGE WITH MOVABLE CLEANING ROLLER

Priority: JP20140071829 20140331

Family:

Publication number	Publication date	Application number	Application date
JP2015194568 A2	20151105	JP20140071829	20140331
JP6149780 B2	20170621	JP20140071829	20140331
US2015277348 AA	20151001	US20150666061	20150323
US9213307 BB	20151215	US20150666061	20150323

Probable Assignee: BROTHER IND LTD

Assignee(s):(std)**:** BROTHER IND LTD

Assignee(s): BROTHER KOGYO KK

Inventor(s):(std)**:** ABE KOJI ; DEGUCHI HIDEAKI

Agent(s): MERCHANT AND GOULD PC

International class (IPC 8–9)**:** G03G21/00 G03G21/16 G03G21/18 (Advanced/Invention)

CPC: G03G21/0058 G03G21/1821 G03G21/169 G03G21/1825

US class: 1/1 399/123

Classification Explorer

Cited documents: US5572293 A, US4702591 A, US4702591, US2013108322 AA, US2011236060 AA, US2010278571 AA, US2009297208 AA, US2007071495 AA, US2004052557 AA, US2004037590 AA, JP7248713 A2, JP7248713, JP61114284 A2, JP61114284, JP57142670 A2, JP57142670, JP55124173 A2, JP55124173, JP5084967 U, JP5084967 U, JP2073672 U1, JP2073672 U, JP2073672 U, JP2013097151 A2, JP2011095711 A2, JP2011007826 A2, JP2010262097 A2, JP2009069699 A2, JP2009069699, JP2008032955 A2, JP2004118095 A2, JP2003307993 A2, JP2003107971 A2, JP2003107971, JP2001767 U1, JP2001767 U, JP2001767 U, JP1085864 U1, JP1085864 U, JP1085864 U,

Abstract:
Source: US2015277348A A drum cartridge and a method are disclosed. An example drum cartridge includes a photosensitive drum, a first cleaning roller positioned to a side of the photosensitive drum. The drum cartridge includes a lever positioned at an outer surface of the drum cartridge. The outer surface of the drum cartridge is positioned toward the side of the photosensitive drum. The lever is extendable in a second direction different from the first direction, and the lever is pivotable with respect to the outer surface of the drum cartridge about a second axis extending in the first direction. The lever is pivotable between an extended position and a retracted position. The drum cartridge includes an engagement portion movable with pivoting of the lever between an engaged position when the lever is in the extended position and a disengaged position when the lever is in the retracted position.

0) US5585889A – PROCESS CARTRIDGE AND IMAGE FORMING APPARATUS

197) Family number: 11423243 (US5585889A) © PatBase

Title: PROCESS CARTRIDGE AND IMAGE FORMING APPARATUS

Priority: JP19920173264 19920630 JP19920173271 19920630 JP19930150639 19930622

Family:

Publication number	Publication date	Application number	Application date
JP3352155 B2	20021203	JP19930150639	19930622
JP6208260 A2	19940726	JP19930150639	19930622
US5585889 A	19961217	US19930083441	19930629

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK

Assignee(s): CANON INC ; CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** HIGETA AKIRA ; ISOBE HIRONOBU ; ISOBE HIROYUKI ; KOBAYASHI HIROO ; MIURA KOJI ; MIYABE SHIGEO ; SATO MINORU ; SHISHIDO KAZUO

International class (IPC 8–9)**:** B41J23/02 B41J25/312 B41J25/316 G03G15/00 G03G15/02 G03G15/08 G03G21/00 G03G21/16 G03G21/18 (Advanced/Invention); B41J23/00 B41J25/312 B41J25/316 G03G15/00 G03G15/02 G03G15/08 G03G21/00 G03G21/16 G03G21/18 (Core/Invention)

International class (IPC 1–7)**:** B41J23/02 B41J25/312 B41J25/316 G03G15/00 G03G15/02 G03G15/08 G03G21/00 G03G21/18

CPC: G03G21/1633 G03G21/1832 G03G2221/1609 G03G2221/1612 G03G2221/1636 G03G2221/1651 G03G2221/1657 G03G2221/166 G03G2221/1687 G03G2221/1846

European class: G03G21/18C5S S03G221/16B1 S03G221/16B1A S03G221/16E S03G221/16K S03G221/16K2 S03G221/16K3 S03G221/16S3 S03G221/18P2

US class: 355/200 355/210 399/113 399/130

Classification Explorer

Cited documents: US5266999 A, US5055876 A, US5028966 A, US4873548 A, US4829335 A, US4588280 A, JPS634253, JPS63244059, JPS59151170, JP63244059 A2, JP63004253 A2, JP59151170 A2, JP2136761 A2, EP0285139 A2,

Forward Citations: US9678471, US9671751, US9658593, US9658592, US9632451, US9594343, US9529298, US9513597, US9477201, US9429906, US9429877, US9377755, US9348303, US9280134, US9176468, US9134696, US9046860, US8725042, US8688008, US8688004, US8682215, US8676090, US8630564, US8532533, US8521060, US8515330, US8494411, US8494399, US8483589, US8467707, US8452210, US8437669, US8433219, US8417152, US8401442, US8391748, US8369748, US8369744, US8295734, US8280278, US8275286, US8270879, US8233821, US8190050, US8155554, US8121520, US8078083, US7986911, US7983589, US7949283, US7945185, US7920806, US7813668, US7742720, US7720408, US7711287, US7702251, US7675536, US7660550, US7660545, US7639965, US7636529, US7630661, US7489885, US7457563, US7450877, US7440715, US7412193, US7403733, US7349657, US7315710, US7283766, US7274896, US7248814, US7248810, US7245850, US7233752, US7231167, US7231161, US7224925, US7224923, US7218882, US7218878, US7212768, US7200349, US7184690, US7174116, US7162182, US7158736, US7155141, US7155140, US7155137, US7136609, US7123857, US7092655, US7062199, US6999696, US6983115, US6978100, US6937832, US6934485, US6931226, US6898399, US6895199, US6885838, US6873810, US6856776, US6853824, US6836629, US6804475, US6795667, US6795666, US6782219, US6775494, US6766127, US6754454, US6721520, US6718148, US6718144, US6714749, US6704525, US6690903, US6678488, US6643482, US6622582, US6615015, US6615008, US6603939, US6574445, US6564029, US6549736, US6542706, US6519431, US6519430, US6505020, US6505007, US6493527, US6473577, US6463233, US6442359, US6415121, US6415111, US6408142, US6400914, US6397025, US6381420, US6351620, US6336017, US6324370, US6317572, US6311026, US6272299, US6215969, US6188856, US6185390, US6167219, US6154623, US6131007, US6128452, US6104894, US6075957, US6070029, US6061538, US6002896, US5966567, US5953560, US5950047, US5943529,

US5937240, US5930560, US5926666, US5893006, US5887228, US5873012, US5870655, US5867751, US5819144, US5819139, US5784671, US2014112684, US2011103827, US2011091239, US2011020031, US2010296836, US2010239278, US2010158556, US2010081112, US2010054807, US2010054806, US2010054805, US2009317134, US2009214248, US2009074453, US2009074452, US2009047037, US2008286004, US2008260428, US2008152388, US2008138107, US2008063429, US2008056754, US2008025757, US2007264045, US2007247511, US2007242977, US2007110478, US2007110474, US2007104511, US2007104510, US2006285878, US2006269318, US2006233566, US2006228127, US2006198654, US2006193654, US2006147225, US2006078358, US2006072938, US2006072936, US2006067725, US2006056878, US2006056877, US2006056876, US2006051135, US2006008287, US2005254862, US2005244188, US2005238387, US2005207781, US2005207780, US2005191091, US2005175382, US2005169664, US2005135837, US2004131387, US2004117971, US2004086300, US2004037590, US2003235429, KR101117282, KR100941420, JP8179626, JP3382399, JP2011059407, JP2002268505, EP1096339, CN103293900, AU2010202616,

Abstract:
Source: US5585889A The present invention provides a process cartridge mountable to an image forming apparatus. The cartridge includes an image bearing member, a processor for acting on the image bearing member, a driving force receiver provided at one end of the image bearing member, a protection member shiftable between a protection position to protect the image bearing member and a retract position, a first projection provided on the side of a toner containing portion, a guide member protruded in the direction perpendicular to the moving direction of the image bearing member, a second projection protruded in the moving direction of the image bearing member, and a third projection protruded from the protection member.

198) Family number: 34252897 (US2007048024A) © PatBase

Title: DEVELOPING CARTRIDGE AND ELECTROPHOTOGRAPHIC IMAGE FORMING APPARATUS INCLUDING THE SAME

Priority: KR20050077537 20050823

Family:

Publication number	Publication date	Application number	Application date
CN100444040 C	20081217	CN200610110801	20060623
CN1920686 A	20070228	CN200610110801	20060623
KR100708174 B1	20070417	KR20050077537	20050823
KR20070023221 A	20070228	KR20050077537	20050823
US2007048024 AA	20070301	US20060450369	20060612
US7529508 BB	20090505	US20060450369	20060612

Probable Assignee: SAMSUNG ELECTRONICS CO LTD

Assignee(s):(std)**:** SAMSUNG ELECTRONICS CO LTD

Assignee(s): SAMSUNG ELECTRONICS CO

Inventor(s):(std)**:** CHOI DEUG HYUN ; KIM SUNG GI ; SUNG GI CHOI DEUG HYUN KIM

Inventor(s): CHOI DEUG HYUN KIM SUNG GI

Agent(s): STANZIONE AND KIM LLP

International class (IPC 8–9)**:** G03G15/00 G03G15/06 G03G15/08 (Advanced/Invention); G03G15/06 (Advanced/Non–invention); G03G15/00 G03G15/06 G03G15/08 (Core/Invention)

CPC: G03G15/0889 G03G15/0822 G03G2215/0685 G03G2215/085 G03G15/06

European class: G03G15/08H S03G215/06C4 S03G215/08A5

US class: 399/254 399/256

Classification Explorer

Cited documents: US7224925 BB, US6421517 BA, US4026241 A, KR980003928 A, KR200537727, KR20050037727 A, KR19983928, KR199820116, KR19980020116 A, JP2000155457 A2, JP10301377 A2, JP10010854 A2,

Forward Citations: US9529300, US9158234, US9037050, US8620197, US8290398, US8260176, US7829840, US2013259530, US2010189469, US2010080630, US2008199222, EP2211237, CN104020654, CN102262373, CN102262373,

Abstract:
Source: US2007048024A A developing cartridge includes an agitator including a pair of ribs to effectively force a toner to a center of a flexible agitator film. In the developing cartridge of an electrophotographic image forming apparatus including a housing containing the toner, a developing roller disposed such that a portion thereof is exposed to the housing, and the agitator which is provided in the housing and feeds the toner to the developing roller, the agitator includes a body, the flexible agitating film including a coupling groove and attached to the body, a hook provided on the body and inserted into the coupling groove, and the pair of ribs provided on the body.

199) Family number: 28927521 (US2003152401A) © PatBase

Title: EP PRINT MEDIA PATH ACTUATED BY INSERTION/REMOVAL OF TONER CARTRIDGE

Priority: US20020075785 20020213

Family:

Publication number	Publication date	Application number	Application date
JP2003241560 A2	20030829	JP20030009428	20030117
US2003152401 AA	20030814	US20020075785	20020213
US6681090 BB	20040120	US20020075785	20020213

Probable Assignee: HEWLETT PACKARD DEVELOPMENT CO LP

Assignee(s):(std): HEWLETT PACKARD DEVELOPMENT CO ; HEWLETT PACKARD CO

Assignee(s): HEWLETT PACKARD DEVELOPMENT COMPANY L P ; HEWLETT PACKARD DEVELOPMENT CO LP ; HP INC ; HEWLETT PACKARD COMPANY ; CORNELIUS WILLIAM LEONARD

Inventor(s):(std): CORNELIUS WILLIAM LEONARD

International class (IPC 8–9): G03G15/20 (Advanced/Invention); G03G15/20 (Core/Invention)

International class (IPC 1–7): G03G15/16 G03G15/20 G03G21/00

CPC: G03G15/2035 G03G2215/20

European class: G03G15/20H2P1M S03G215/20

US class: 399/122 399/124 399/124P

Classification Explorer

Cited documents: US5768659 A, US5737681 A, US5379092 A, US5300998 A, US5105228 A, US4835567 A, US4589758 A, US4428660 A,

Forward Citations: US9612550, US8270874, US8010017, US7174115, US2016282797, US2010254728, US2009232549, US2005185983, JP6100090, JP2014228683,

Abstract:
Source: US2003152401A An electrophotographic printer is provided with a toner cartridge that is inserted/removed from said printer via its top side. The insertion and removal of the toner cartridge sets/releases the pressure on fuser rollers in order to facilitate clearing print media jams in the printer's fuser region.

0) US9429871B – TONER SUPPLY CONTAINER AND APPLICATIONS OF SAME...

200) Family number: 62434924 (US9429871B) © PatBase

Title: TONER SUPPLY CONTAINER AND APPLICATIONS OF SAME

Priority: US20150946878 20151120

Family:

Publication number	Publication date	Application number	Application date
CN105607443 A	20160525	CN201610072517	20160202
DE102016101332 B3	20170511	DE201610101332	20160126
TW201719302 A	20170601	TW20160103110	20160201
TWI567511 B	20170121	TW20160103110	20160201
US9429871 BA	20160830	US20150946878	20151120

Probable Assignee: GENERAL PLASTIC INDUSTRIAL CO LTD

Assignee(s):(std)**:** GENERAL PLASTIC IND CO LTD ; GENERAL PLASTIC INDUSTRIAL CO LTD

Assignee(s): GENERAL PLASTIC INDUSTRIAL CO

Inventor(s):(std)**:** XIAO ZHENG YI ; ZHUANG JIN XI ; ZHUANG JINXI ; XIAO ZHENGYI ; YI XIAO ZHENG ; HIS CHUANG CHIN ; CHUANG CHIN HIS

Agent(s): LOCKE LORD LLP; TIM TINGKANG

International class(IPC 8–9)**:** G03G15/00 G03G15/08 G03G21/18 (Advanced/Invention)

CPC: G03G15/0867 G03G15/087 G03G15/0877 G03G15/0886

US class: 1/1

Classification Explorer

Cited documents: US8565649 BB, US5446478 A, US2013209140 AA, US2012014713 AA, TW201502726,

Abstract:
Source: US9429871B A releasing mechanism usable for a toner supply container includes a rotatable structure, a stationary structure engaged with the rotatable structure, and a pump movably connected to the stationary structure. The rotatable structure has a first magnetic member. The stationary structure has an opening for releasing toner and a second magnetic member. The pump has a pumping portion that is expandable. A first force drives the rotatable structure to rotate relative to the stationary structure, such that the first magnetic member is alternatively aligned and misaligned with the second magnetic member. When the first and second magnetic members are aligned, the pump is pushed away from the stationary structure by a repelling force generated between the first magnetic member and the second magnetic member. When the first and second magnetic members are misaligned, the pump is pushed by a second force toward the stationary structure.

0) US4949123A – TONER SUPPLY DEVICE FOR A DEVELOPING APPARATUS ...

201) Family number: 17017240 (US4949123A) © PatBase

Title: TONER SUPPLY DEVICE FOR A DEVELOPING APPARATUS

Priority: JP19880025915U 19880301

Family:

Publication number	Publication date	Application number	Application date
JP1130159 U1	19890905	JP19880025915U	19880301
JP2096689 Y	19961218	JP19880025915U	19880301
JP7020679 Y2	19950515	JP19880025915U	19880301
KR920007720 B1	19920915	KR19890002572	19890301
US4949123 A	19900814	US19890317564	19890301

Probable Assignee: RICOH KK

Assignee(s):(std)**:** RICOH KK

Assignee(s): RICOH CO ; RICOH CO LTD ; RICOH COMPANY LTD

Inventor(s):(std)**:** MASAYUKI TAKASHIMA ; TAKASHIMA MASAYUKI

International class (IPC 8–9)**:** G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)

International class (IPC 1–7)**:** G03G15/08

CPC: Y10S222/01 G03G15/0872 G03G2215/0665 G03G2215/0675

European class: G03G15/08H3C1 S03G215/06C1A S03G215/06C1C

US class: 222/DIG.1 355/260 399/12 399/262

Classification Explorer

Cited documents: US4855783 A, US4814821 A, US4740808 A, JPS5961845, JP59061845 A2, JP1067658 U1,

Forward Citations: US9581937, US9547258, US9541862, US9513576, US9482988, US9482987, US9465317, US9329529, US9128415, US8929779, US8687984, US8559830, US8091723, US7734197, US6885840, US6871588, US6290346, US6285836, US6131008, US6115571, US5918090, US5870652, US5794108, US5771418, US5678121, US5627631, US5559589, US5541631, US5500719, US5489962, US5455662, US5450167, US5175588, US2014086627, US2012288287, US2012093523, US2008008493, US2007269224, US2004265013, US2002035940, JP2012088395, FR2864262, EP2662733, EP1548519, EP0738936, EP0738936, EP0631186,

Abstract:
Source: US4949123A A toner supply device for supplying a toner to a developing apparatus of an electrophotographic copier or similar image recorder is implemented by a cylindrical toner tank mounted on the apparatus and a toner cartridge filled with a toner and removably loaded in the toner tank. A hook–like yieldable stop is fitted on the toner tank, while lugs having contiguous inclined surface are provided on the toner cartridge for urging the stop when the cartridge is inserted into the tank. The stop and lugs allow only a toner cartridge of exclusive kind associated with the image recorder to be inserted into the toner tank.

0) US6246854B – TONER CARTRIDGE AND METHOD USING THE TONER CART...

202) Family number: 13807787 (US6246854B) © PatBase

Title: Toner cartridge and method using the toner cartridge for feeding a predetermined amount of toner

Priority: JP19990098566 19990406

Family:

Publication number	Publication date	Application number	Application date
JP2000293024 A2	20001020	JP19990098566	19990406
US6246854 BA	20010612	US20000497182	20000203

Probable Assignee: PANASONIC COMMUNICATIONS CO LTD

Assignee(s):(std): MATSUSHITA GRAPHIC COMM SYSTEM ; MATSUSHITA GRAPHIC COMMUNIC

Assignee(s): MATSUSHITA GRAPHIC COMMUNICATION SYSTEMS INC ; PANASONIC COMMUNICATIONS CO LTD

Inventor(s):(std): HACHIMAN KATSUMI ; KUROSAWA EIJI ; NAITO TAKASHI ; YAWATA KATSUMI

International class (IPC 8–9): G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)

International class (IPC 1–7): G03G15/08

CPC: G03G15/0894 G03G2215/0847 G03G2215/085 G03G2221/183

European class: G03G15/08R S03G215/08A4B2 S03G215/08A5 S03G221/18P

US class: 399/263

Classification Explorer

Cited documents: US6115567 A, US6088561 A, US5581334 A, US5345297 A, US4952976 A, US4733267 A,

Forward Citations: US9195166, US9052638, US8676073, US8396398, US8385783, US8219008, US8195070, US8160461, US8121525, US8103195, US8005406, US7970336, US7853183, US7840167, US7835675, US7835673, US7822371, US7756451, US7747202, US7747200, US7630679, US7532843, US7526237, US7444087, US7383000, US6728500, US6654569, US6615007, US6418290, US2014093272, US2014023402, US2012243913, US2011008075, US2010254732, US2010124443, US2009196660, US2009169268, US2009162101, US2009123192, US2008286013, US2008187365, US2008091798, US2008038023, US2007280739, US2007154243, US2007147902, US2007122205, US2007092305, US2007041749, US2006216064, US2006177230, JP2006126486,

Abstract:
Source: US6246854B A toner cartridge is provided that includes an agitator provided in a toner hopper. An agitator gear is coupled with the agitator in such a way that the agitator always has the same positional relationship with the agitator gear. The agitator gear is provided with a mark indicating the orientation of the agitator and an agitation blade fixed thereto. A method of feeding toner using the toner cartridge is also provided, in which the agitator and the agitation blade are withdrawn from the vicinity of a toner feeding hole by turning the agitator gear by hand while watching this mark, and toner is refilled through the toner feeding hole. Feeding toner in this manner enables feeding a predetermined amount of toner.

0) US2008069593A – ROTARY DEVELOPER AND IMAGE FORMATION APPARATUS ...

203) Family number: 41620319 (US2008069593A) © PatBase

Title: ROTARY DEVELOPER AND IMAGE FORMATION APPARATUS HAVING ROTARY DEVELOPER

Priority: JP20060254384 20060920

Family:

Publication number	Publication date	Application number	Application date
JP2008076634 A2	20080403	JP20060254384	20060920
US2008069593 AA	20080320	US20070858808	20070920
US7831174 BB	20101109	US20070858808	20070920

Probable Assignee: SEIKO EPSON CORP

Assignee(s):(std)**:** SEIKO EPSON CORP

Inventor(s):(std)**:** NISHIYAMA KAZUHIRO

Agent(s): HOGAN AND HARTSON LLP; DLA PIPER LLP

International class (IPC 8–9)**:** G03G15/01 G03G15/04 G03G15/08 G03G21/00 (Advanced/Invention); G03G15/01 G03G15/08 (Core/Invention)

CPC: G03G15/0121 G03G15/0896

European class: G03G15/01D6 G03G15/08S

US class: 399/119 399/227 399/227P

Classification Explorer

Cited documents: US2005013632 AA, JP8328448 A2, JP2006308696 A2, JP2006308695 A2, JP10153911 A2,

Forward Citations: WO15060542, US9411306,

Abstract:
Source: US2008069593A The invention provides a rotary developer that includes: a rotary unit that accommodates a plurality of development cartridges each of which has at least a development roller, each of the plurality of development cartridges being inserted into the rotary unit in the axial direction thereof so as to be attached at a predetermined set position of the rotary unit, the rotary unit moving each of the plurality of development cartridges between a development position and a non–development position in a selective manner; and a self–attachment–locking mechanism that starts to operate when the development cartridge is inserted into the rotary unit by a predetermined insertion amount, which does not make the development cartridge reach the predetermined set position thereof, so that the development cartridge is automatically attached at the predetermined set position thereof and self–locked at the predetermined set position thereof.

0) US2012033990A – METHOD OF JOINING MULTIPLE PARTS OF A MAG SECTI...

204) Family number: 50611535 (US2012033990A) © PatBase

Title: METHOD OF JOINING MULTIPLE PARTS OF A MAG SECTION

Priority: US20100303107P 20100210 US20110022257 20110207

Family:

Publication number	Publication date	Application number	Application date
US2012033990 AA	20120209	US20110022257	20110207
US8611781 BB	20131217	US20110022257	20110207

Probable Assignee: STATIC CONTROL COMPONENTS INC

Assignee(s):(std)**:** HUCK DONALD R ; LEWIS LAWRENCE DALE ; STATIC CONTROL COMPONENTS INC ; SZABO GLENN L

Inventor(s):(std)**:** HUCK DONALD R ; LEWIS LAWRENCE DALE ; SZABO GLENN L

International class (IPC 8–9)**:** B32B37/10 B32B37/12 F16J15/06 F16J15/10 G03G15/00 G03G15/08 (Advanced/Invention)

CPC: F16J15/061 G03G15/0894

European class: F16J15/06B G03G15/08R

US class: 156/306.6 156/306.600S 277/654 277/654S 399/109 399/109P

Classification Explorer

Cited documents: US7197260 BB, US6993265 BB, US6961531 BB, US6736406 BA, US6577830 BA, US6289188 BA, US5937238 A, US5594535 A, US5300171 A,

Forward Citations: US9651896, US2016004189,

Abstract:
Source: US2012033990A Imaging devices, such as laser printers, often use a toner cartridge to print images on a recording medium. For both environmental and economical reasons, it is often desirable to reuse an exhausted toner cartridge. Some imaging devices use toner cartridges comprised of two sections that are fixed together with some limited movement. This limited movement is necessary to compensate for any misalignment in the cartridge and to reduce printer defects. Disclosed is a method and device for remanufacturing this type of toner cartridge.

0) US6347204B – TONER CARTRIDGE WITH DETACHABLE PHOTOSENSITIVE ...

205) Family number: 15869188 (US6347204B) © PatBase

Title: Toner cartridge with detachable photosensitive member and image forming apparatus using the toner cartridge

Priority: JP20000056276 20000301

Family:

Publication number	Publication date	Application number	Application date
JP2001242703 A2	20010907	JP20000056276	20000301
JP3263388 B2	20020304	JP20000056276	20000301
US6347204 BA	20020212	US20000678831	20001004

Probable Assignee: PANASONIC COMMUNICATIONS CO LTD

Assignee(s):(std): MATSUSHITA GRAPHIC COMM SYSTEM ; MATSUSHITA GRAPHIC COMMUNIC ; MATSUSHITA GRAPHIC COMMUNICATION SYSTEMS INC

Assignee(s): PANASONIC COMMUNICATIONS CO LTD

Inventor(s):(std): KUROSAWA EIJI

International class (IPC 8–9): G03G15/08 G03G21/10 G03G21/16 G03G21/18 (Advanced/Invention); G03G15/08 G03G21/10 G03G21/16 G03G21/18 (Core/Invention)

International class (IPC 1–7): G03G15/00 G03G15/08 G03G21/10 G03G21/16 G03G21/18

CPC: G03G21/181 G03G21/1821 G03G2221/1657

European class: G03G21/18C2 G03G21/18C4C S03G221/16K2

US class: 399/113 399/117

Classification Explorer

Cited documents: US5331373 A, US5160963 A, JP6012005 A2, JP10031405 A2,

Forward Citations: WO13125300, US8989622, US7986911, US7675536, US7639965, US7383000, US7221889, US7162182, US7136609, US6674982, US2010202803, US2007248377, US2007247511, US2006216064, US2006204275, US2005207781, US2005207780, JP5901997, JP4906251, JP2013174699, JP2006047330, EP2375293, EP2244136,

Abstract:
Source: US6347204B A toner cartridge 107 of the present invention comprises a cartridge main body 106 having a toner storing section 114 for storing toner, a photosensitive member 109 for forming a toner image with the toner, and a rotation unit 105, which is rotatably held by the cartridge main body 106 in a state that the photosensitive member 109 is rotatably maintained, for rotating the photosensitive member 109 to a detachable position.

0) US2005047821A – PROCESS CARTRIDGE, MOUNTING MECHANISM THEREFOR ...

206) Family number: 31720814 (US2005047821A) © PatBase

Title: PROCESS CARTRIDGE, MOUNTING MECHANISM THEREFOR AND ELECTROPHOTOGRAPHIC IMAGE FORMING APPARATUS

Priority: JP20030209842 20030829 US20030746035 20031229 US20050190022 20050727

Family:

Publication number	Publication date	Application number	Application date
CN100442169 C	20081210	CN200310123801	20031230
CN1591207 A	20050309	CN200310123801	20031230
EP1536295 A2	20050601	EP20030029890	20031229
EP1536295 A3	20050608	EP20030029890	20031229
JP2005077441 A2	20050324	JP20030209842	20030829
JP3673793 B2	20050720	JP20030209842	20030829
KR100631455 B1	20061009	KR20030099523	20031230
KR20050022858 A	20050308	KR20030099523	20031230
RU2004126181 A	20060227	RU20040126181	20040827
RU2289835 C2	20061220	RU20040126181	20040827
US2005047821 AA	20050303	US20030746035	20031229
US2005260011 AA	20051124	US20050190022	20050727
US6980758 BB	20051227	US20030746035	20031229
US7340197 BB	20080304	US20050190022	20050727

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK

Assignee(s): KEHNON KABUSIKI KAJSJA ; CANON INC ; CANON K K ; CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** HIDEKI MAESHIMA ; JOKOMORI KANDZI ; KANJI YOKOMORI ; KAZUNARI MURAYAMA ; MAEJIMA HIDEKI ; MAESHIMA HIDEKI ; MAESIMA KHIDEKI ; MURAJAMA KAZUNARI ; MURAYAMA KAZUNARI ; NITTANI SUSUMU ; SHINTANI SUSUMU ; SUSUMU NITTANI ; YOKOMORI KANJI

Agent(s): FITZPATRICK CELLA HARPER AND SCINTO

Designated states: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PT RO SE SI SK TR

International class (IPC 8–9)**:** G03G15/00 G03G15/04 G03G15/08 G03G21/16 G03G21/18 (Advanced/Invention); G03G21/18 (Advanced/Non–invention); G03G15/00 G03G15/04 G03G15/08 G03G21/16 G03G21/18 (Core/Invention)

International class (IPC 1–7)**:** G03G15/00 G03G21/00 G03G21/16 G03G21/18

CPC: G03G21/1839 G03G2221/1861 G03G2221/1884 G03G21/18

European class: G03G21/18H S03G221/18P3A S03G221/18P4

US class: 399/111 399/117

Classification Explorer

Cited documents: US7184686 BB, US7039339 BB, US6934489 BB, US6792229 BB, US6735406 BA, US6714750 BB, US6690902 BB, US2002159790 AA, JP8297452, JP4090561, JP2159790 A2, JP2003208074 A2, JP2002278418, JP2002156889 A2, JP2002156888, JP2001249601 A2, JP2001175147 A2, EP1336905 A2, EP1241536 A2, EP1207437 A2, EP1091266 A2, CN1431565 A, CN1354399 A,

Forward Citations: WO07081042, US9696684, US9696666, US9678471, US9671751, US9658593, US9658592, US9651916, US9632479, US9519264, US9519260, US9507318, US9501034, US9494916, US9494915, US9465356, US9465353, US9400483, US9377755, US9367031, US9310762, US9268302, US9188941, US9141083, US9122237, US9110440, US9063501, US8971760, US8886084, US8874004, US8862022, US8862015, US8837981, US8805237, US8718512, US8712284,

US8699913, US8688003, US8676085, US8606145, US8588646, US8583006, US8583001, US8565640, US8565639, US8559846, US8526841, US8521059, US8472840, US8453260, US8422915, US8406656, US8386781, US8369743, US8364058, US8340549, US8301054, US8290396, US8213838, US8213831, US8213828, US8170445, US8165494, US8160478, US8155558, US8139979, US8073355, US8059988, US8045883, US8036543, US7953340, US7912405, US7894733, US7890022, US7890012, US7881624, US7869740, US7860433, US7813671, US7778567, US7769320, US7715746, US7512361, US7509071, US7489888, US7386241, US7349649, US7346293, US7336916, US7272341, US7272339, US7246963, US7236721, US7130560, US7058336, US2016223985, US2012027457, US2011305480, US2011206412, US2011200353, US2011182619, US2011170905, US2011116832, US2011103829, US2011076055, US2010260518, US2010158563, US2010142996, US2010054823, US2010054798, US2009297215, US2009297211, US2009222886, US2009222664, US2009214269, US2009214268, US2009214257, US2009214249, US2009214230, US2009214227, US2009202271, US2009190955, US2009162095, US2009080934, US2009003876, US2009003875, US2008292331, US2008253803, US2008159774, US2008159772, US2007160388, US2007092286, US2006257164, US2006245785, US2006245784, US2006222402, US2006177231, US2006127129, US2006067734, US2005265746, US2005220484, US2005191086, US2005141947, US2004161259, RU2569788, RU2569788, JP6139060, JP2013210540, EP3023843, EP2889699, EP2884344, CN102169318,

Abstract:
Source: US2005047821A A process cartridge which is capable of being carried on a movable guide provided in the main assembly of an electrophotographic image forming apparatus and which is movable from a receiving position toward a mount position in interrelation with movement of the movable guide, includes an electrophotographic photosensitive drum; process means actable on the drum; a cartridge frame supporting the drum and the process means; a first portion to be carried, provided at one longitudinal end of the drum, for being supported by the movable guide; a second portion to be carried, provided at the other longitudinal end of the drum, for being supported by the movable guide; a first positioning portion to be positioned relative to a main assembly, the first positioning portion extending outwardly from the cartridge frame adjacent the one longitudinal end of the drum; a second positioning portion to be positioned relative to the main assembly, the second positioning portion extending outwardly from the cartridge frame adjacent the other longitudinal end of the drum; and an engaging portion for engagement with a locking portion which is movable in interrelation with the movement of the movable guide to receive a pulling force for movement from the receiving position toward the mount position.

0) US2011211866A – IMAGE FORMING DEVICE HAVING PROCESS UNIT THAT C...

207) Family number: 49545482 (US2011211866A) © PatBase

Title: IMAGE FORMING DEVICE HAVING PROCESS UNIT THAT CAN BE PULLED OUT THEREOF

Priority: JP20100042641 20100226 US20110010244 20110120 US20130832757 20130315

Family:

Publication number	Publication date	Application number	Application date
JP2011180268 A2	20110915	JP20100042641	20100226
JP5071492 B2	20121114	JP20100042641	20100226
US2011211866 AA	20110901	US20110010244	20110120
US2013202317 AA	20130808	US20130832757	20130315
US8417130 BB	20130409	US20110010244	20110120
US8861986 BB	20141014	US20130832757	20130315

Probable Assignee: BROTHER IND LTD

Assignee(s):(std)**:** BROTHER IND LTD ; HASHIMOTO JUNICHI

Assignee(s): BROTHER INDUSTRIES LTD ; BROTHER KOGYO KABUSHIKI KAISHA ; BROTHER KOGYO KK

Inventor(s):(std)**:** HASHIMOTO JUNICHI

Agent(s): BANNER AND WITCOFF LTD

International class(IPC 8–9)**:** G03G15/00 G03G15/06 G03G15/08 G03G21/16 G03G21/18 (Advanced/Invention)

CPC: G03G21/1647 G03G21/1896

European class: G03G21/18L2

US class: 399/113 399/119 399/119P 399/12

Classification Explorer

Cited documents: USRE42796 E, US7991322 BB, US7978997 BB, US7970293 BB, US7953330 BB, US7941072 BB, US7853158 BB, US7756443 BB, US7756426 BB, US7742708 BB, US7496299 BB, US7146121 BB, US7116919 BB, US5311253 A, US2009269085 AA, US2009000423 AA, US2008317480 AA, US2008223173 AA, US2008205911 AA, US2007147881 AA, US2007031158 AA, US2005100363 AA, US2005031359 AA, JPS63271489, JP63271489 A2, JP3279965 A2, JP2009265391 A2, JP2009244564 A2, JP2009014789 A2, JP2009003384 A2, JP2008233940 A2, JP2008216394 A2, JP2007047314 A2, JP2005114976 A2, JP2005055544 A2,

Forward Citations: US9696655, US9651895, US9639026, US9618879, US9612569, US9612553, US9612552, US9612551, US9612548, US9606504, US9606503, US9606502, US9606473, US9605734, US9599954, US9599953, US9599929, US9594329, US9448505, US9405266, US9274451, US9268296, US9207567, US9104172, US9075375, US9052687, US9042777, US9020369, US8995847, US8971728, US8965222, US8849133, US8712286, US8676064, US2016011542, US2014064752, US2013177333, US2013084084, US2013084083, US2013084082, US2011236066, US2011236065, EP2610684, EP2610683, CN103676523, CN103186075,

Abstract:
Source: US2011211866A An image forming device includes a main body, a support unit, a driving unit, a developer cartridge, a moving member, a transmitting member, and a detection member. The support unit can be pulled out from the main body in a removing direction. The developer cartridge is detachably mounted in the support unit and has a driving member. The driving member is driven by the driving unit when the developer cartridge is mounted in the support unit. The moving member moves when the driving member is driven by the driving unit. The transmitting member is provided to the support unit and is rotatable about a rotational axis which extends perpendicular to the removing direction and a longitudinal direction of a photosensitive member. When the moving member contacts the transmitting member, the transmitting member rotates. The detection member detects a rotation of the transmitting member.

0) US6363235B – TONER BOTTLE/CARTRIDGE HOUSING ATTACHMENT ASSEM...

208) Family number: 20395962 (US6363235B) © PatBase

Title: TONER BOTTLE/CARTRIDGE HOUSING ATTACHMENT ASSEMBLY

Priority: US20010773070 20010131

Family:

Publication number	Publication date	Application number	Application date
JP2002244416 A2	20020830	JP20020020706	20020129
JP4031823 B2	20080109	JP20020020706	20020129
US6363235 BA	20020326	US20010773070	20010131

Probable Assignee: XEROX CORP

Assignee(s):(std): XEROX CORP

Assignee(s): BANK ONE NA ADMINISTRATIVE AGENT AS ; BANK ONE NA AS ADMINISTRATIVE AGENT ; JPMORGAN CHASE BANK AS COLLATERAL AGENT ; JPMORGAN CHASE BANK COLLATERAL AGENT AS

Inventor(s):(std): CHIESA DANIEL A ; CLAESSENS THOMAS W ; CLAESSENS TOM W ; HOWARD JOHN ; HOWARD JOHN L ; KURZ KARL E

International class (IPC 8–9): G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)

International class (IPC 1–7): B65B1/04 G03G15/08

CPC: G03G15/087 G03G2215/0678

European class: G03G15/08H3C S03G215/06C1D

US class: 141/346 399/258 399/260

Classification Explorer

Cited documents: US6269234 BA, US6134411 A, US5970284 A, US5710963 A, US4752807 A,

Forward Citations: US8925593, US8630559, US8068748, US7949287, US7747194, US7428399, US7245852, US2012234432, US2012099885, US2009263165, US2009263146, US2009003886, US2007253746, US2005008399,

Abstract:
Source: US6363235B A toner–dispensing container assembly for attachment to a toner compartment cover device on an electrographic printing machine to supply toner composition to the toner receiving compartment while avoiding detachment and spillage. The toner–dispensing container assembly is fastenable over the toner compartment cover device and rotatable to a first position to open the cover to the toner compartment while the toner–dispensing container remains sealed. Further rotation of the toner dispensing container opens it to the toner–receiving compartment to dispense toner thereinto.

0) US2010080613A – METHOD FOR ATTACHING CHARGING WIRE, METHOD FOR ...

209) Family number: 44670028 (US2010080613A) © PatBase

Title: METHOD FOR ATTACHING CHARGING WIRE, METHOD FOR MANUFACTURING PROCESS CARTRIDGE, AND PROCESS CARTRIDGE

Priority: JP20080249575 20080929

Family:

Publication number	Publication date	Application number	Application date
EP2169473 A2	20100331	EP20090170500	20090917
EP2169473 A3	20140730	EP20090170500	20090917
JP2010079135 A2	20100408	JP20080249575	20080929
JP4596062 B2	20101208	JP20080249575	20080929
US2010080613 AA	20100401	US20090565393	20090923
US8346118 BB	20130101	US20090565393	20090923

Probable Assignee: BROTHER KOGYO KK

Assignee(s):(std)**:** BROTHER IND LTD ; ITABASHI NAO

Assignee(s): BROTHER KOGYO KABUSHIKI KAISHA ; BROTHER KOGYO KK

Inventor(s):(std)**:** ITABASHI NAO

Agent(s): PRUEFER AND PARTNER GBR EUROPEAN PATENT ATTORNEYS; PRUEFER AND PARTNER GBR EUROPEAN PATENT ATTORNEYS; BANNER AND WITCOFF LTD ATTORNEYS FOR CLIENT NO 016689; BANNER AND WITCOFF LTD

Designated states: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO SE SI SK SM TR

International class (IPC 8–9): G03G15/02 G03G21/16 G03G21/18 H05K13/00 (Advanced/Invention); G03G15/02 G03G21/16 H05K13/00 (Core/Invention)

CPC: G03G15/0291 G03G21/1814 G03G2215/027 Y10T29/49002

European class: G03G15/02 G03G21/18C3 S03G215/02C1

US class: 29/592.1 29/592.100S 361/225 399/100 399/111 399/111P 399/170

Classification Explorer

Cited documents: US8036570 BB, US7813677 BB, US7809306 BB, US7463850 BB, US2006018683 AA, JP9311524 A2, JP4044649 U1, JP4044649 A2, JP2008249575 A2, JP2006039139 A2, EP1505457 A2,

Forward Citations: US9581960, US9367019, US2014363189, JP2016133786,

Abstract:
Source: US2010080613A The disclosed is a method for attaching a charging wire. At first, a first end of a charging wire is locked to a wire locking portion of a process frame, and portion of a torsion spring shaped wire electrode is engaged with a second end of the charging wire. Thereafter, a coil portion of the wire electrode is attached to a coil support portion of the process frame in a state in which a tension less than a set value is applied to the charging wire. Thereafter, a second spring leg portion of the wire electrode is moved to a fixed position fixed to an electrode support portion of the process frame in a direction in which a deformation amount of the wire electrode increases, without exceeding the fixed position in the first direction.

0) US2006062601A – DEVELOPER CARTRIDGE AND LIQUID–TYPE IMAGE FORMI...

210) Family number: 33639057 (US2006062601A) © PatBase

Title: DEVELOPER CARTRIDGE AND LIQUID–TYPE IMAGE FORMING APPARATUS

Priority: KR20040076240 20040923

Family:

Publication number	Publication date	Application number	Application date
CN100465811 C	20090304	CN200510091043	20050804
CN1752862 A	20060329	CN200510091043	20050804
EP1640816 A2	20060329	EP20050255869	20050922
KR100621404 B1	20060919	KR20040076240	20040923
KR20060027478 A	20060328	KR20040076240	20040923
US2006062601 AA	20060323	US20050155625	20050620
US7305205 BB	20071204	US20050155625	20050620

Probable Assignee: S PRINTING SOLUTION CO LTD

Assignee(s):(std)**:** SAMSUNG ELECTRONICS CO LTD

Assignee(s): S PRINTING SOLUTION CO LTD ; SAMSUNG ELECTRONICS CO

Inventor(s):(std)**:** JEONG YOO HUNG ; YOO HUNG JEONG

Agent(s): ROYLANCE ABRAMS BERDO AND GOODMAN LLP

Designated states: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC NL PL PT RO SE SI SK TR

International class(IPC 8–9)**:** G03G15/04 G03G15/08 G03G15/10 G03G21/10 (Advanced/Invention); G03G15/10 (Advanced/Non–invention); G03G15/04 G03G15/08 G03G15/10 G03G21/10 (Core/Invention)

CPC: G03G15/0875 G03G15/0886 G03G15/104 G03G2215/0119 G03G2215/0685 G03G2215/0692 G03G15/10

European class: G03G15/10D S03G215/01P3 S03G215/06C4 S03G215/06C7

US class: 399/119 399/120 399/238 399/238P

Classification Explorer

Cited documents: US6526243 BB, US6438345 BA, US5828935 A, KR740020020 B1, KR20020018574 A, JP7049611 A2, JP2004050470 A2, JP2002311696 A2,

Forward Citations: US8855534, US8676095, US8078087, US7248815, US2012087694, US2009129824, US2006018685, EP2595004,

Abstract:
Source: US2006062601A A developer cartridge having a developer cartridge body with a fitting part is coupled to a developer supply path connected to a developing unit. A fitting part shutter unit is detachably mounted to the developer cartridge body and moved by an external force to move between a first position covering the fitting part and a second position expositing the fitting part.

211) Family number: 28468461 (US2003049045A) © PatBase

Title: PROCESS UNIT DIVIDED INTO A PLURALITY OF SEPARABLE UNITS AND IMAGE FORMING APPARATUS USING SUCH PROCESS UNIT

Priority: US20010951880 20010913

Family:

Publication number	Publication date	Application number	Application date
US2003049045 AA	20030313	US20010951880	20010913
US6549737 BB	20030415	US20010951880	20010913

Probable Assignee: TOSHIBA KK

Assignee(s):(std)**:** TOSHIBA TEC KK

Assignee(s): TOSHIBA KK ; TOSHIBA TEC K USHIKI KAISHA AB ; TOSHIBA TEC KABUSHIKI KAISHA

Inventor(s):(std)**:** SUGIYAMA HIDEAKI ; SANO ISAO

International class (IPC 8–9): G03G21/18 (Advanced/Invention); G03G21/18 (Core/Invention)

International class (IPC 1–7): G03G21/16 G03G21/18

CPC: G03G21/1821

European class: G03G21/18C4C

US class: 399/111 399/113

Classification Explorer

Cited documents: US6366749 BA, US6298202 BA, US6070030 A, US5371575 A, US5266998 A, US4757344 A, US4692018 A, JP9120251 A2, JP6317954 A2,

Forward Citations: US9389535, US8185033, US7539439, US7400845, US7305204, US7257350, US7228089, US7162182, US7155148, US7136609, US7123858, US6832061, US6792230, US2009257785, US2009214254, US2007154235, US2007036579, US2007019986, US2006216063, US2005244187, US2005207781, US2005207780, US2005100354, US2005036802, US2005002683, US2004258433, JP2016057430, EP2093632,

Abstract:
Source: US2003049045A A process unit of the invention comprises a unit housing including a downwardly opened upper housing and an upwardly opened lower housing, the upper housing and the lower housing being detachably coupled to define a space section, a photosensitive member unit detachably attached in the upper housing, and a developing device detachably attached in the lower housing.

0) US5260749A – TONER CARTRIDGE

212) Family number: 7880284 (US5260749A) © PatBase

Title: TONER CARTRIDGE

Priority: JP19900284983 19901023

Family:

Publication number	Publication date	Application number	Application date
DE4134997 A1	19920430	DE19914134997	19911023
DE4134997 C2	19961212	DE19914134997	19911023
JP4158380 A2	19920601	JP19900284983	19901023
US5260749 A	19931109	US19910779052	19911018

Probable Assignee: RICOH KK

Assignee(s):(std)**:** RICOH KK

Assignee(s): RICOH CO ; RICOH CO LTD ; RICOH CO LTD TOKIO TOKYO JP ; RICOH COMPANY LTD

Inventor(s):(std)**:** YABANETA MASAZUMI ; YAHATA MASASUMI

Inventor(s): YAHATA MASASUMI YOKOHAMA KANAGAWA JP

International class(IPC 8–9)**:** G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)

International class(IPC 1–7)**:** B41J27/16 G03G15/06 G03G15/08

CPC: Y10S222/01 G03G15/0882

European class: G03G15/08H3P

US class: 222/DIG.1 355/215 355/260 399/106 399/263

Classification Explorer

Cited documents: US5080745 A, US5030998 A, US4998140 A, US4969557 A, US4963938 A, US4799608 A, US4778086 A, US4693938 A, US3561647 A, JP2230165 A2, EP0400623 A2,

Forward Citations: US9213268, US6445893, US6144828, US5966566, US5909609, US5621507, US5434656, US5425481, SG80544, JP9127776, JP2007241058, EP0713159, EP0584796,

Abstract:
Source: US5260749A A toner cartridge for supplying a toner to the toner hopper of a developing apparatus incorporated in image forming equipment. A take−up roller is rotatably mounted on a case which stores a toner therein. A seal member covers an opening formed in the bottom of the case and is affixed to the take−up roller at one end thereof. The seal member is automatically attached to and detached from the case without resorting to manual operations.

0) US2014140719A – IMAGE FORMING APPARATUS

213) Family number: 56491472 (US2014140719A) © PatBase

Title: IMAGE FORMING APPARATUS

Priority: JP20120253823 20121120 JP20130233596 20131112 US20130080888 20131115 US20150711896 20150514

Family:

Publication number	Publication date	Application number	Application date
JP2014123110 A2	20140703	JP20130233596	20131112
US2014140719 AA	20140522	US20130080888	20131115
US2015241842 AA	20150827	US20150711896	20150514
US9063514 BB	20150623	US20130080888	20131115
US9632481 BB	20170425	US20150711896	20150514

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KABUSHIKI KAIHSA ; CANON KK

Assignee(s): CANON INC

Inventor(s):(std)**:** SUZUKI TETSUJI

Agent(s): FITZPATRICK CELLA HARPER AND SCINTO

International class (IPC 8–9)**:** G03G15/00 G03G15/01 G03G21/00 G03G21/20 (Advanced/Invention)

CPC: G03G15/0189 G03G15/50 G03G21/206 G03G21/20

US class: 1/1 399/92

Classification Explorer

Cited documents: US9063514 BB, US5146279 A, US2012128386 AA, US2011280609 AA, US2011170883 AA, US2010092193 AA, US2009311017 AA, US2007177899 AA, US2006104657 AA, JP5216340 A2, JP2011227254 A2, JP2005326540 A2, JP2004233452 A2, JP2003208065 A2,

Forward Citations: US9632481, US9229428, US9170561, US2017031316, US2017017200, US2015241842, US2014212164, US2014205303,

Abstract:
Source: US2014140719A The image forming apparatus includes a cooling device for cooling a plurality of cartridges, and a plurality of shielding members for shielding the plurality of openings, respectively. Each developing member is movable between a first position at which the developing member is brought into contact with a photosensitive member and a second position at which the developing member is caused to separate from the photosensitive member. Each of the plurality of shielding members is caused to move in association with a position of the developing member of the cartridge opposed to the opening to be shielded by the each of the shielding members. A gap between the opening and the shielding member the second position of the developing member is smaller than a gap therebetween at the first position of the developing member is.

0) US2005220461A – IMAGE FORMING APPARATUS AND CARTRIDGE

214) Family number: 32285705 (US2005220461A) © PatBase

Title: IMAGE FORMING APPARATUS AND CARTRIDGE

Priority: JP20040105505 20040331

Family:

Publication number	Publication date	Application number	Application date
JP2005292357 A2	20051020	JP20040105505	20040331
JP4023468 B2	20071219	JP20040105505	20040331
US2005220461 AA	20051006	US20050089316	20050325
US7242874 BB	20070710	US20050089316	20050325

Probable Assignee: BROTHER KOGYO KK

Assignee(s):(std)**:** BROTHER IND LTD

Assignee(s): BROTHER KOGYO KABUSHIKI KAISHA ; BROTHER KOGYO KK

Inventor(s):(std)**:** TSUSAKA SHUSAKU

Agent(s): OLIFF AND BERRIDGE PLC

International class(IPC 8–9)**:** B65H9/14 G03G15/00 G03G21/14 G03G21/16 G03G21/18 (Advanced/Invention); B65H9/14 G03G15/00 G03G21/14 G03G21/16 G03G21/18 (Core/Invention)

International class(IPC 1–7)**:** B65H9/14 G03G15/00 G03G21/14 G03G21/16 G03G21/18

CPC: G03G15/6529 G03G21/1896 G03G2215/00603 G03G2221/1672 G03G2221/18

European class: G03G15/65F G03G21/18L2 S03G215/00G3E S03G221/16P S03G221/18

US class: 399/111 399/113 399/119 399/13 399/13P 399/16 399/16S

Classification Explorer

Cited documents: US6885831 BB, US6101350 A, JP9292816 A2, JP8160835 A2, JP7301992 A2, JP6208263 A2, JP2001034100 A2, JP2000098680 A2, JP2000089644 A2, JP11133839 A2, JP10161414 A2,

Forward Citations: WO14080541, US9507316, US9342039, US9182716, US9037006, US8564239, US8320780, US8290379, US7809289, US7570891, US7236710, US2013223854, US2012027425, US2011236100, US2010303478, US2010303477, US2009003847, US2007058993, US2005180765, JP5339750, JP3962730, JP2011203451, JP2010276963, JP2010276962, JP2009217131, JP2005345939, EP2634645, CN102198893, CN102198893,

Abstract:
Source: US2005220461A An image forming apparatus includes a recording medium accommodating portion that is capable of accommodating a recording medium; a feed path along which the recording medium is capable of being fed from the recording medium accommodating portion; and a detector, disposed on the feed path, capable of detecting (1) a cartridge that is capable of being installed in the image forming apparatus when the cartridge is installed in the image forming apparatus and (2) the recording medium when the recording medium passes through the feed path when the cartridge is installed in the image forming apparatus.

215) Family number: 18998131 (US5047803A) © PatBase

Title: IMAGE FORMING APPARATUS WITH DETACHABLY MOUNTABLE PROCESS CARTRIDGE

Priority: JP19880047637 19880302 JP19880047638 19880302

Family:

Publication number	Publication date	Application number	Application date
CN1021932 C	19930825	CN19891001029	19890302
CN1036844 A	19891101	CN19891001029	19890302
DE68908915 D1	19931014	DE19896008915	19890221
DE68908915 T2	19940120	DE19896008915T	19890221
EP0331324 A2	19890906	EP19890301649	19890221
EP0331324 A3	19900221	EP19890301649	19890221
EP0331324 B1	19930908	EP19890301649	19890221
JP1222269 A2	19890905	JP19880047637	19880302
JP1222270 A2	19890905	JP19880047638	19880302
JP2530473 B2	19960904	JP19880047638	19880302
KR930001239 B1	19930222	KR19890002568	19890302
US5047803 A	19910910	US19890313539	19890222

Probable Assignee: CANON KK

Assignee(s):(std): CANON KK

Assignee(s): CANON INC ; CANON K K ; CANON K K TOKIO TOKYO JP ; CANON KABUSHIKI KAISHA

Inventor(s):(std): KANOTO MASANOBU ; KATO MASANOBU ; MASANOBU KATO ; SHIKATO MASANOBU

Inventor(s): KANOTO MASANOBU OHTA KU TOKYO JP

Designated states: DE FR GB IT

International class (IPC 8–9): G03G15/00 G03G21/18 (Advanced/Invention); G03G21/18 (Core/Invention)

International class (IPC 1–7): G03G15/00

CPC: G03G21/1633 G03G21/1647 G03G21/1864 G03G2215/021 G03G2221/1654 G03G2221/1657 G03G2221/1672 G03G2221/1684 G03G2221/183 G03G2221/1884

European class: G03G21/18H2P S03G215/02A S03G221/16K1 S03G221/16K2 S03G221/16P S03G221/16S2 S03G221/18P S03G221/18P4

US class: 355/200 355/211 399/111

Classification Explorer

Cited documents: US4760424 A, US4739367 A, US4598992 A, US4530588 A, JPS6311959, JPS62209546, JPS61282876, JPS61279869, JPS53137151, JP63011959 A2, JP63008653 A2, JP62260166 A2, JP62209546 A2, JP61282876 A2, JP61279869 A2, JP53137151 A2, EP0285139 A2, EP0255713 A2,

Forward Citations: US9417603, US9323178, US9298130, US9235145, US9207578, US9176426, US9031466, US8781367, US8706002, US8697321, US8340548, US8252499, US8206881, US8160472, US8097393, US8064795, US7797833, US7751747, US6804475, US6215969, US6128452, US6064843, US6016412, US5950047, US5937240, US5936654, US5926672, US5909607, US5907745, US5875374, US5873012, US5825472, US5815644, US5794108, US5787323, US5745823, US5734949, US5678139, US5669042, US5634178, US5634172, US5631726, US5621451, US5602623, US5548379, US5526099, US5457517, US5418606, US5402212, US5398097, US5353100, US5343223, US5329299, US5309202, US5287143, US5267001, US5262824, US5247316, US5210573, US5182595, US2014286680, US2014141362, US2014045112, US2013108324, US2011294053,

US2011183255, US2010260515, US2010054824, US2009317126, US2009129817, US2009010678, US2008317500, US2008305426, US2008199218, US2007231733, US2007065739, JP7174214, JP6250453, JP5241417, JP3222913, JP2996572, JP2910580, JP2007322733, GB2277487, GB2277487, EP2798411, EP2012196, EP1248163, EP1248163, EP0917020, EP0679966, EP0679966, EP0679959, EP0679959, EP0679959, EP0656570, EP0622699, EP0622699, EP0560618, EP0487041, EP0468752, EP0468751, EP0468750, EP0468749, EP0346934, EP0346934, EP0285139, CN102298289,

Abstract:
Source: US5047803A An image forming apparatus includes supporting member for detachably supporting a process cartridge (100) which contains a movable image bearing member (1) and at least one process device (2, 3) actable on the image bearing member, openable and closable member (32), a member for applying to the process cartridge force for urging the process cartridge in a direction of dismounting the process cartridge, in response to opening of the openable and closable member, and a member for applying to the process cartridge force for urging the process cartridge in a direction for mounting the process cartridge to the supporting member, in response to closing of the openable and closable member.

0) US5682579A – DETACHABLE TWO–FRAME PROCESS CARTRIDGE FOR AN I...

216) Family number: 33533477 (US5682579A) © PatBase

Title: DETACHABLE TWO–FRAME PROCESS CARTRIDGE FOR AN IMAGE FORMING APPARATUS

Priority: JP19900301779 19901106 JP19910054446 19910319 US19930170908 19931221 US19930068287 19930528 US19910785401 19911030 US19910689517 19910423 US19960734090 19961031 US19940295077 19940826

Family:

Publication number	Publication date	Application number	Application date
US5682579 A	19971028	US19960734090	19961031

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK

Assignee(s): CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** IKEMOTO ISAO ; KARAKAMA TOSHIYUKI ; NOMURA YOSHIYA ; SASAKI SHINICHI ; SHIRAI HIROYUKI ; TSUDA TADAYUKI ; WATANABE KAZUSHI

International class (IPC 8–9): G03G15/08 G03G21/18 (Advanced/Invention)

International class (IPC 1–7): G03G15/08 G03G21/18

CPC: G03G21/1647 G03G21/1652 G03G21/1821 G03G15/0898 G03G21/181 G03G21/1817 G03G2215/00987 G03G2221/1648 G03G2221/1651 G03G2221/1654 G03G2221/1669 G03G2221/1876 Y10T29/49904

European class: G03G15/08S1 G03G21/18C2 G03G21/18C4 G03G21/18C4C S03G215/00R S03G221/16J S03G221/16K S03G221/16K1 S03G221/16M S03G221/18P3C

US class: 399/113 399/11B 399/258

Classification Explorer

Cited documents: US5294960 A, US5272505 A, US5223068 A, US5160963 A, US5115272 A, US5051778 A, US5036358 A, US4996566 A, US4987446 A, US4974023 A, US4974020 A, US4924267 A, US4866482 A, US4862212 A, US4851960 A, US4816877 A, US4757344 A, US4708455 A, US4605299 A, US4500195 A, US4386838 A, JPS60168159, JP60168159 A2, JP2257146 A2, JP2168277 A2, JP2163769 A2, JP2123376 A2, GB2074095 A1, FR2611930 A1, EP0368346 A2, EP0330225 A2, EP0276910 A1, EP0276192 A1, DE907136 A, DE8716525 U, DE4003695 A1,

Forward Citations: US8095051, US7986911, US7957669, US7912404, US7873296, US7844197, US7796915, US7675536, US7639965, US7565092, US7532840, US7499670, US7162182, US7136609, US7123864, US6510291, US6289193, US2013084098, US2009169248, US2008279583, US2008170882, US2007248377, US2007247511, US2007041761, US2006029423, US2006024086, US2005207781, US2005207780, US2004240907,

Abstract:
Source: US5682579A A process cartridge detachably mountable to a main assembly of an image forming apparatus, the cartridge comprising a photosensitive member, a developing means for developing a latent image formed on the photosensitive member, a first frame containing the developing means; and a second frame coupled with the first frame, the second frame including a developer containing portion for containing a developer to be supplied to the developing means to develop the latent image, wherein the second frame is a selected one of plural secondary frames engageable with the first frame and having different developer containing capacities.

0) EP0483440A1 – ELECTROPHOTOGRAPHIC TONER CARTRIDGE. TONERBEHAE...

217) Family number: 3332574 (EP0483440A1) © PatBase

Title: ELECTROPHOTOGRAPHIC TONER CARTRIDGE.

Priority: EP19900830487 19901030

Family:

Publication number	Publication date	Application number	Application date
DE69009480 D1	19940707	DE19906009480	19901030
DE69009480 T2	19940929	DE19906009480T	19901030
EP0483440 A1	19920506	EP19900830487	19901030
EP0483440 B1	19940601	EP19900830487	19901030

Probable Assignee: BULL HN INFORMATION SYST

Assignee(s):(std): BULL HN INFORMATION SYST

Assignee(s): BULL HN INFORMATION SYSTEMS ITALIA S P A ; BULL HN INFORMATION SYSTEMS ITALIA S P A CALUSO TURIN TORINO ; BULL HN INFORMATION SYSTEMS ITALIA S P A CALUSO TURIN TORINO IT ; BULL HN INFORMATION SYSTEMS ITALIA SPA

Inventor(s):(std): CASSIANO COSIMO ; LADU ANGELO

Inventor(s): LADU ANGELO I 21047 SARONNO ; LADU ANGELO I 21047 SARONNO VA ; LADU ANGELO I 21047 SARONNO VA IT ; CASSIANO COSIMO I 20020 VITTUONE ; CASSIANO COSIMO I 20020 VITTUONE MI ; CASSIANO COSIMO I 20020 VITTUONE MI IT

Designated states: BE CH DE FR GB IT LI NL

International class (IPC 8–9): G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)

International class (IPC 1–7): G03G15/08

CPC: G03G15/0865 G03G15/0872 G03G15/0881 G03G2215/0665 G03G2215/0675 G03G2215/0692

European class: G03G15/08H3C1 S03G215/06C1A S03G215/06C1C S03G215/06C7

Classification Explorer

Cited documents: US4060105 A, EP0269402 A2, EP0225745 A1,

Forward Citations: WO13170708, WO07147362, US6115571, US5630198, US5608501, US5548384, FR2864263, EP1548520,

Abstract:
Source: EP0483440A1 Electrophotographic toner cartridge for use in an electrophotographic apparatus having a housing for inserting such cartridge therein, comprising an elongated hollow body (1) containing the toner and a rotatable tile (10) which in a first position seals a discharging opening (3) of the cartridge and in a second position clears such opening (3), the tile (10) being coupled to a key which can be inserted in a keyhole of the apparatus only if the tiled (10) is in the first position and hooks in the keyhole preventing cartridge removal from the housing for any other position of the tile (10).

0) US2008317512A – DEVELOPER CARTRIDGE AND DEVELOPING DEVICE

218) Family number: 42756502 (US2008317512A) © PatBase

Title: DEVELOPER CARTRIDGE AND DEVELOPING DEVICE

Priority: EP20080010627 20080611 JP20070166672 20070625 JP20100004147U 20100618

Family:

Publication number	Publication date	Application number	Application date
CN101334611 A	20081231	CN200810125053	20080625
CN101334611 B	20110413	CN200810125053	20080625
DE602008029891 D1	20140227	DE200860029891T	20080611
EP2073074 A2	20090624	EP20080010627	20080611
EP2073074 A3	20100721	EP20080010627	20080611
EP2073074 B1	20140115	EP20080010627	20080611
JP2009003374 A2	20090108	JP20070166672	20070625
JP3162418 U	20100902	JP20100004147U	20100618
US2008317512 AA	20081225	US20080145626	20080625
US8099020 BB	20120117	US20080145626	20080625

Probable Assignee: BROTHER KOGYO KK

Assignee(s):(std)**:** BROTHER IND LTD ; ITABASHI NAO ; TAKAGI TAKEYUKI ; MASE SOICHIRO

Assignee(s): BROTHER INDUSTRIES LTD ; BROTHER KOGYO KABUSHIKI KAISHA ; BROTHER KOGYO KK ; BROTHER KOGYO NAGOYA SHI KK

Inventor(s):(std)**:** ITABASHI NAO ; MASE SOICHIRO ; NAO ITABASHI ; SOICHIRO MASE ; TAKAGI TAKEYUKI ; TAKEYUKI TAKAGI

Agent(s): KUHNEN AND WACKER PATENT U RECHTSANWALTSBUERO; KUHNEN AND WACKER; BANNER AND WITCOFF LTD ATTORNEYS FOR CLIENT NO 016689; BANNER AND WITCOFF LTD

Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK TR

International class (IPC 8–9): G03G15/00 G03G15/04 G03G15/08 G03G21/18 (Advanced/Invention); G03G15/00 G03G15/08 G03G21/18 (Core/Invention)

CPC: G03G15/0822 G03G21/1857 G03G2215/0802

European class: G03G15/08H G03G21/18H2 S03G215/08A

US class: 399/119 399/263 399/263P

Classification Explorer

Cited documents: US5913097 A, US2007280743 AA, US2007048019 AA, JP7027184 A2, JP2007166672 A2, JP2006178438 A2, JP1247331 A2, JP11223993 A2, JP10240008 A2, EP1818729 A1,

Forward Citations: USD714863, US9696657, US9342040, US9280130, US9176419, US8792808, US8744321, US2017060080, US2014161489,

Abstract:
Source: US2008317512A A developer cartridge and developing device are provided. The developer cartridge is attachable to and detachable from a developing housing, the developing housing supporting a developer carrier and comprising a drive gear for transmitting a driving force to the developer cartridge. The developer cartridge includes a cartridge housing that is configured to accommodate developer, an agitator that is provided in the cartridge housing and is configured to agitate the developer by the driving force, a transmission gear that is configured to mesh with the agitation gear, the transmission gear meshing with the drive gear when the developer cartridge is installed in the developing housing, and a supporting member that is configured to support the transmission gear movably with respect to the agitation gear while the transmission gear meshes with the agitation gear.

0) GB2287904A – RENOVATING PROCESS–CARTRIDGE FOR AN ELECTROSTAT...

219) Family number: 13191586 (GB2287904A) © PatBase

Title: Renovating process–cartridge for an electrostatographic machine.

Priority: IE19940000260 19940324

Family:

Publication number	Publication date	Application number	Application date
GB2287904 A1	19951004	GB19940007704	19940419
GB2287904 B2	19970910	GB19940007704	19940419
GB9407704 A0	19940615	GB19940007704	19940419
IE73274 B	19970521	IE19940000260	19940324
IE940260 A1	19951004	IE19940000260	19940324

Probable Assignee: DATAPRODUCTS TECH LTD

Assignee(s):(std)**:** DATAPRODUCTS TECH LTD ; DATAPRODUCTS TECHNOLOGIES LIMI

Assignee(s): DATAPRODUCTS TECHNOLOGIES LIMITED

Inventor(s):(std)**:** RYAN GEORGE ; DOYLE JOHN ; COYLE BRENDAN

Inventor(s): BRENDAN COYLE ; JOHN DOYLE ; GEORGE RYAN

International class (IPC 8–9): G03G15/00 G03G15/09 G03G21/18 (Advanced/Invention)

International class (IPC 1–7): B43K5/14 G03G21/00

CPC: G03G15/0928 G03G15/75 G03G21/181 G03G2215/00987

European class: G03G15/09E1 G03G15/75 G03G21/18C2 S03G215/00R

Classification Explorer

Cited documents: US5289233 A, US5258814 A,

Forward Citations: WO0120421, US7162785, US6970668, US6858082, US6248170, FR2846436,

Abstract:
Source: GB2287904A A process kit for a laser printer is refurbished by: (a) Dismantling the parts, (b) Cleaning (using high pressure air and vacuum), (c) Testing the printing performance of the photoreceptor, (d) Refilling the toner hopper with a measured amount of toner, (e) Resurfacing the magnetic toner applicator roller by coating, (f) Reassembling the parts to form a reconditioned cartridge (including re–sealing against loss of toner during shipping). A booth for the cleaning step, arrangements for metering fresh toner, and a jig for re–sealing the reconditioned cartridge are all described with reference to respective figures. A production line (comprising respective work stations along a conveyor) is also described.

0) US2012219328A – DEVELOPER CARTRIDGE, DEVELOPING DEVICE AND IMAG...

220) Family number: 51789034 (US2012219328A) © PatBase

Title: DEVELOPER CARTRIDGE, DEVELOPING DEVICE AND IMAGE FORMING APPARATUS

Priority: JP20110041623 20110228 JP20120040428 20120227

Family:

Publication number	Publication date	Application number	Application date
CN102681401 A	20120919	CN201210047298	20120228
CN102681401 B	20161012	CN201210047298	20120228
EP2492756 A2	20120829	EP20120156919	20120224
JP2012194545 A2	20121011	JP20120040428	20120227
JP5583157 B2	20140903	JP20120040428	20120227
US2012219328 AA	20120830	US20120405684	20120227
US8913927 BB	20141216	US20120405684	20120227

Probable Assignee: OKI DATA KK

Assignee(s):(std)**:** NOZAWA KEN ; ODA YUKIYOSHI ; OKI DATA KK

Assignee(s): OKI DATA CORP

Inventor(s):(std)**:** KEN NOZAWA ; NOZAWA KEN ; NOZAWA MASARU ; ODA YUKIYOSHI ; YUKIYOSHI ODA

Agent(s): PIOTROWICZ PAWEL JAN ANDRZEJ; KAKIMOTO YASUSHIGE; RABIN AND BERDO PC

Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL NO PL PT RO RS SE SI SK SM TR

International class (IPC 8–9)**:** G03G15/00 G03G15/06 G03G15/08 G03G21/12 G03G21/16 (Advanced/Invention)

CPC: G03G15/0868 G03G15/0886 G03G15/0834 G03G15/0875 G03G21/1676 G03G2215/0673 G03G2215/068 G03G2215/0692 G03G2221/1654

European class: G03G15/08H33K G03G15/08H3B G03G21/16F3 S03G215/06C1B S03G215/06C2 S03G215/06C7 S03G221/16K1

US class: 399/114 399/260 399/260P 399/262

Classification Explorer

Cited documents: US2011052266 AA, US2011020014 AA, US2010247160 AA, US2009220250 AA, JP4433095 B1, JP2010237588 A2, JP2010237588, JP2007093737 A2, JP2007093697 A2, JP2007093697, JP2005326772 A2, JP2005326772, JP2000181224 A2,

Forward Citations: US9477177, US9298130, US8948660, US8948659, US2016091823, US2016062271, US2013287448, US2013287447,

Abstract:
Source: US2012219328A A developer cartridge is detachably mounted to a main apparatus, and includes a storage portion storing a developer, an ejection opening for ejecting the developer from the storage portion, and a first opening–and–closing member for opening and closing the ejection opening. The first opening–and–closing member is able to take a first position where the first opening–and–closing member opens the ejection opening and causes the developer cartridge to be fixed to the main apparatus, a second position where the first opening–and–closing member closes the ejection opening and makes the developer cartridge detachable from the main apparatus, and a third position where the first opening–and–closing member closes the ejection opening and causes the developer cartridge to be fixed to the main apparatus.

0) US3877806A – PHOTOCOPY MACHINE WITH PHOTOCONDUCTOR BELT AND ...

221) Family number: 1133834 (US3877806A) © PatBase

Title: Photocopy machine with photoconductor belt and cartridge for photocopying

Priority: US19740449033 19740307 US19740521115 19741105

Family:

Publication number	Publication date	Application number	Application date
AU197578788 A1	19760909	AU19750078788	19750304
CA1048591 A1	19790213	CA19750219636	19750207
DE2510081 A1	19750911	DE19752510081	19750307
GB1486106 A	19770921	GB19750007227	19750220
JP50138839 A2	19751106	JP19750026104	19750305
NL7502720 A	19750909	NL19750002720	19750307
US3877806 A	19750415	US19740449033	19740307
US3984241 A	19761005	US19740521115	19741105

Probable Assignee: PITNEY BOWES INC

Assignee(s):(std)**:** PITNEY BOWES ; PITNEY BOWES INC

Assignee(s): PITNEY BOWES INC TE STAMFORD CONNECTICUT VER ST V ; PITNEY BOWES INC TE STAMFORD CONNECTICUT VER ST V AM ; SCHREMPP ERNST ; HAZELTON HENRY S

Inventor(s):(std)**:** HAZELTON HENRY S JR ; HAZELTON HENRY SHERMAN JR ; HAZELTON JR HENRY S ; HAZELTON JUN HENRY SHERMAN ; SCHREMPP ERNST

Inventor(s): SHERMAN HAZELTON JUN ; SHERMAN HAZELTON JUN HENRY ; ERNST SCHREMPP ; HAZELTON HENRY S ; HENRY SHERMAN HAZELTON JR

International class (IPC 8–9)**:** G03G15/00 G03G15/04 G03G15/26 G03G21/00 (Advanced/Invention); G03G15/00 G03G21/00 (Core/Invention)

International class (IPC 1–7)**:** B65H75/34 G03G15/00 G03G15/04 G03G5/00

CPC: G03G15/263 G03G15/754

European class: G03G15/26B G03G15/75D

US class: 355/16 399/161 399/163 399/220 399/288 430/127 430/133 430/31 96/1R

Classification Explorer

Cited documents: US3861613 A, US3843252 A, US3617124 A, US3588242 A, US3563734 A, US3480361 A,

Forward Citations: WO9614799, USRE36275, US8787797, US6949013, US6097912, US6049682, US6014535, US5708923, US5659850, US5622111, US5435242, US5417322, US5386273, US5282345, US5163265, US5006887, US4758486, US4477180, US4396274, US4215932, US4155639, US4084901, US4057344, FR2345748, EP0010848, DE2646821,

Abstract:
Source: US3877806A An apparatus for making photocopies is disclosed with a photoconductor belt adapted to move around a roller assembly with a cartridge which contains belt replacement segments. The roller assembly meshes with the cartridge to enable rapid continuous movement of the photoconductor which passes a flat region where the belt receives a flash exposure of an object. A mechanism and method for continually replacing the photoconductor belt with incremental fresh segments from the cartridge is described to provide gradual replacement thereof with a long effective usable lifetime for the photoconductor belt and cartridge assembly.

0) US2015362856A – IMAGE FORMING APPARATUS

222) Family number: 61123330 (US2015362856A) © PatBase

Title: IMAGE FORMING APPARATUS

Priority: JP20140121243 20140612 US20150730532 20150604 US20170448786 20170303

Family:

Publication number	Publication date	Application number	Application date
JP2016001257 A2	20160107	JP20140121243	20140612
US2015362856 AA	20151217	US20150730532	20150604
US2017176922 AA	20170622	US20170448786	20170303
US9618873 BB	20170411	US20150730532	20150604

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK

Assignee(s): CANON INC

Inventor(s):(std)**:** ANAMI OSAMU ; ANAN OSAMU ; KOMATSU NORIYUKI ; MURAKAMI RYUTA ; NUMATA TETSUYA

Agent(s): FITZPATRICK CELLA HARPER AND SCINTO

International class (IPC 8–9)**:** G03G15/00 G03G15/04 G03G21/16 G03G21/18 (Advanced/Invention); G03G21/18 (Advanced/Non–invention)

CPC: G03G15/04045 G03G21/1623 G03G21/1633 G03G21/1666 G03G21/1671 G03G21/1832 G03G21/1853 G03G2221/1684 G03G21/1619 G03G15/04036

US class: 399/110

Classification Explorer

Cited documents: US9026001 BB, US8768211 BB, US7519311 BB, US6970667 BB, US6308024 BA, US2011091222 AA, US2009245850 AA, US2005243156 AA, US2004126134 AA, JP2010181766 A2,

Abstract:
Source: US2015362856A An image forming apparatus, including: a main body; a moving member movable while supporting an image forming portion having an image bearing member, between an inside position inside the main body and an outside position outside the main body so that at least a part of the image forming portion is removably mountable on the moving member as a cartridge; an exposure device configured to expose the image bearing member with light through an exposure opening provided in the moving member; a shielding member provided in the moving member to shield the exposure opening; and a holding mechanism configured to hold the shielding member in a shielding position for shielding the exposure opening while the moving member is moved, and to hold the shielding member in a non–shielding position for opening the exposure opening when the moving member is in the inside position.

0) US5854955A – PROCESS CARTRIDGE

223) Family number: 10975382 (US5854955A) © PatBase

Title: PROCESS CARTRIDGE

Priority: JP19970005184 19970116 JP20020030539 20020207

Family:

Publication number	Publication date	Application number	Application date
JP10207322 A2	19980807	JP19970005184	19970116
JP2002278426 A2	20020927	JP20020030539	20020207
JP3350384 B2	20021125	JP19970005184	19970116
US5854955 A	19981229	US19970882072	19970625

Probable Assignee: PANASONIC COMMUNICATIONS CO LTD

Assignee(s):(std)**:** MATSUSHITA GRAPHIC COMMUNIC ; MATSUSHITA GRAPHIC COMM SYSTEM

Assignee(s): MATSUSHITA GRAPHIC COMMUN SYST INC ; MATSUSHITA GRAPHIC COMMUNICATION SYSTEMS INC ; MATSUSHITA GRAPHIC COMMUNICATIONS SYSTEMS INC ; MATSUSHITA GRAPHIC COMMUNICATON SYSTEMS INC ; PANASONIC COMMUNICATIONS CO LTD

Inventor(s):(std)**:** GOI SHUICHI ; HACHIMAN KATSUMI ; KUROSAWA EIJI ; YAWATA KATUMI

International class (IPC 8–9)**:** G03G15/02 G03G15/08 G03G21/16 G03G21/18 (Advanced/Invention); G03G15/02 G03G15/08 G03G21/16 G03G21/18 (Core/Invention)

International class (IPC 1–7)**:** G03G15/02 G03G15/08 G03G21/16 G03G21/18

CPC: G03G21/1676 G03G21/1821 G03G2221/1648 G03G2221/1853

European class: G03G21/18C4C S03G221/16J S03G221/18P3

US class: 399/111 399/113 399/114

Classification Explorer

Cited documents: US5583618 A, US5294960 A, US4987446 A,

Forward Citations: US9079433, US8219000, US7899361, US7587156, US7532839, US7295791, US7209677, US2013029820, US2008240777, US2008145096, US2008008497, US2007147873, US2007127947, US2006285870, US2005220482, JP2008242436, JP2006242971,

Abstract:
Source: US5854955A A process cartridge case including a toner hopper, and a discharged toner box disposed at both sides of a drum housing accommodating a photoconductive drum. The process cartridge case is separable into first and second parts at a border in a region of the drum housing. Legs are provided on an outer surface of the toner hopper so that the process cartridge can be placed in an upright position during a refilling operation. An agitator extends beyond a side wall in a cantilever fashion to allow a box with a bearing member to rotatably support the agitator shaft. An elastic member is included in the box to hermetically seal the agitator shaft and prevent toner leakage.

224) Family number: 33533226 (US5294960A) © PatBase

Title: Detachable two–frame process cartridge for an image forming apparatus

Priority: JP19900301779 19901106 JP19910054446 19910319 US19910689517 19910423 US19910785401 19911030 US19930068287 19930528

Family:

Publication number	Publication date	Application number	Application date
US5294960 A	19940315	US19930068287	19930528

Probable Assignee: CANON KK

Assignee(s):(std): CANON KK

Assignee(s): CANON KABUSHIKI KAISHA

Inventor(s):(std): IKEMOTO ISAO ; KARAKAMA TOSHIYUKI ; KARKAMA TOSHIYUKI ; NOMURA YOSHIYA ; SASAKI SHINICHI ; SHIRAI HIROYUKI ; TSUDA TADAYUKI ; WATANABE KAZUSHI

International class (IPC 8–9): G03G15/08 G03G21/18 (Advanced/Invention)

International class (IPC 1–7): G03G15/00

CPC: G03G15/0898 G03G21/181 G03G2215/00987 G03G2221/1648 G03G2221/1651 G03G2221/1654 G03G2221/1669 G03G2221/1876

European class: G03G15/08S1 G03G21/18C2 S03G215/00R S03G221/16J S03G221/16K S03G221/16K1 S03G221/16M S03G221/18P3C

US class: 156/94 355/210 399/113 399/120

Classification Explorer

Cited documents: US5223068 A, US5160963 A, US5115272 A, US5051778 A, US5036358 A, US4996566 A, US4987446 A, US4974023 A, US4974020 A, US4862212 A, US4851960 A, US4816877 A, US4708455 A, US4500195 A, JP60168159 A2, JP2257146 A2, JP2168277 A2, JP2163769 A2, JP2123376 A2, GB2074095 A1, FR2611930 A1, EP0276910 A1, DE8907136 U, DE4003695 A1,

Forward Citations: US9354552, US8095051, US7986911, US7957669, US7912404, US7873296, US7844197, US7796915, US7675536, US7639965, US7565092, US7532840, US7362988, US7296341, US7162182, US7136609, US7095967, US7073251, US7024131, US6987938, US6868243, US6859627, US6836639, US6832056, US6826373, US6804483, US6782213, US6738589, US6704525, US6701106, US6697578, US6684040, US6658224, US6654575, US6603939, US6571070, US6542706, US6535699, US6519431, US6463223, US6424811, US6408143, US6397018, US6397017, US6377759, US6334035, US6330402, US6273300, US6272300, US6253036, US6246853, US6236821, US6226476, US6208816, US6201935, US6173145, US6144398, US6141513, US6118961, US6118960, US6118958, US6101354, US6097910, US6058280, US6041196, US5987278, US5966568, US5966567, US5966566, US5907749, US5899602, US5878310, US5870654, US5867751, US5854955, US5832343, US5826132, US5815644, US5812902, US5809384, US5802433, US5802431, US5790923, US5781831, US5761584, US5708925, US5708913, US5701562, US5697022, US5697021, US5682587, US5682579, US5659847, US5655181, US5652944, US5650841, US5585902, US5502547, US5485249, US5475467, US5446525, US2014376955, US2013084098, US2010247141, US2010061761, US2009169248, US2009074449, US2008279583, US2008170882, US2007247511, US2006029423, US2006024086, US2005283973, US2005207781, US2005207780, US2005025508, US2004190933, US2004136746, US2004120728, US2004045156, US2003113131, EP2071416, EP1730601, EP1217468, EP0683439, EP0679959, EP0679959,

Abstract:
Source: US5294960A A process cartridge detachably mountable to a main assembly of an image forming apparatus includes first and second frames. The first frame has an image bearing member and developing means for developing with a developer an electrostatic latent image formed on the image bearing member. The second frame is separable from the first frame and arranged for covering an upper part of the image bearing member, the second frame having developer accommodating means for accommodating developer to be supplied to the

developer means.

0) US2007206972A – PROTECTIVE COVER, PROCESS CARTRIDGE EMPLOYING S...

225) Family number: 36001161 (US2007206972A) © PatBase

Title: PROTECTIVE COVER, PROCESS CARTRIDGE EMPLOYING SAME, IMAGE FORMING APPARATUS, AND METHOD OF INSTALLING PROCESS CARTRIDGE

Priority: JP20060060210 20060306

Family:

Publication number	Publication date	Application number	Application date
CN100520641 C	20090729	CN200610126987	20060918
CN101034277 A	20070912	CN200610126987	20060918
JP2007240661 A2	20070920	JP20060060210	20060306
JP4983050 B2	20120725	JP20060060210	20060306
US2007206972 AA	20070906	US20060486048	20060714
US7532841 BB	20090512	US20060486048	20060714

Probable Assignee: FUJI XEROX CO LTD

Assignee(s):(std)**:** FUJI XEROX CO LTD ; FUJITSU XEROX CORP

Assignee(s): FUJI XEROX CO

Inventor(s):(std)**:** SHIGERU TANAKA ; TANAKA SHIGERU

Agent(s): NAKAMURA TOMOHIRO; KOIZUMI MASAHIRO; NARUSE KATSUO; MORGAN LEWIS AND BOCKIUS LLP

International class (IPC 8–9)**:** G03G15/00 G03G21/16 G03G21/18 (Advanced/Invention); G03G21/18 (Advanced/Non–invention); G03G15/00 G03G21/16 G03G21/18 (Core/Invention); G03G21/18 (Core/Non–invention)

CPC: G03G21/1832 G03G21/185 G03G2215/0177 G03G2221/1654

European class: G03G21/18C5S G03G21/18H1P S03G215/01S2A S03G221/16K1

US class: 399/108 399/110 399/111 399/114 399/116

Classification Explorer

Cited documents: US7295794 BB, US6389252 BB, US6308030 BA, US6052548 A, US5708924 A, US5666586 A, US5400121 A, US5196884 A, US4811839 A, US4766455 A, US4655578 A, US4655578, US4551000 A, US04655578, JPS60131556, JPS57200051, JP8292706 A2, JP8292706, JP60131556 A2, JP60131556, JP57200051 A2, JP57200051, JP2000131909 A2, JP2000131909, JP10123911 A2, JP10123911, JP08292706,

Forward Citations: US9671750, US9471027, US9429904, US9411303, US9348305, US9317004, US8457521, US8452207, US8270872, US8055154, US7937022, US2015063867, US2012141163, US2012033992, US2012033991, US2010209137, US2010061762, US2009080935, JP5393642, JP5348016, JP5348015, JP5029554, JP5029552, JP2012118258, JP2011175139, JP2011175138, JP2011013272, JP2010078703, JP2010072348, EP3045980, AU2008201357,

Abstract:
Source: US2007206972A A protective cover that includes: a cover body detachably mounted on a process cartridge to protect at least an outwardly exposed part of an electro–photographic photoreceptor; a guide part that is provided on the cover body to guide the process cartridge in a longitudinal direction of the electro–photographic photoreceptor; and a position locking part that is provided at a forward end of the cover body in a direction that the process cartridge is inserted into an image forming apparatus wherein the cover body is positioned and locked to the image forming apparatus to be irremovable and forming a locked state during an installation of the process cartridge into the image forming apparatus, and the locked state is released after the installation is complete.

226) Family number: 48394029 (US2011052253A) © PatBase

Title: OPENING/CLOSING MECHANISM AND IMAGE FORMING APPARATUS

Priority: JP20090199698 20090831

Family:

Publication number	Publication date	Application number	Application date
JP2011053281 A2	20110317	JP20090199698	20090831
JP5590497 B2	20140917	JP20090199698	20090831
US2011052253 AA	20110303	US20100726074	20100317
US8401426 BB	20130319	US20100726074	20100317

Probable Assignee: FUJI XEROX CO LTD

Assignee(s):(std)**:** FUJI XEROX CO LTD ; NIEDA HIROAKI

Assignee(s): FUJI XEROX CO

Inventor(s):(std)**:** NIEDA HIROAKI

Agent(s): SUENARI MIKIO; OLIFF AND BERRIDGE PLC

International class(IPC 8–9)**:** E05C3/14 G03G21/16 G03G21/18 (Advanced/Invention)

CPC: G03G21/1633 E05C19/024 E05B2015/0458 E05C19/02 G03G2221/169

European class: E05C19/02 E05C19/02C G03G21/16 P05B15/04J S03G221/16S4

US class: 399/110 399/110P 399/114 49/394 49/394S

Classification Explorer

Cited documents: US2008240780 AA, US2008199211 AA, US2006104665 AA, JP8105256 A2, JP7253743 A2, JP6222629 A2, JP4109763 U1, JP4086675 A2, JP3045329 Y2, JP3045329 Y, JP254841, JP240259, JP222629, JP2103058 A2, JP2010284823 A2, JP2010284823, JP2008254841 A2, JP2008162087 A2, JP2008162087, JP2006139052 A2, JP2005181453 A2, JP2005181453, JP200445761, JP2004045761 A2, JP2003127445 A2, JP2003127445, JP2001242563 A2, JP2001242563, JP2001240259 A2, JP139052, JP11157188 A2, JP11157188, JP08105256, JP07253743, JP0486675, JP04109763 U, JP02103058,

Forward Citations: US9389577, US9052682, US9042770, US8521064, US2015239689, US2014016962, US2013287434, US2012141158, JP6147011, JP2014149380, JP2013116627, FR3004153,

Abstract:
Source: US2011052253A When closing a front cover opened in a case where a fixing lever is placed in a fixing position, a guide plate portion formed on the front cover raises the fixing lever together with a support shaft. When a connection pin of the fixing lever enters a cam groove provided in the front cover, the fixing lever obtains a closed state in which the fixing lever is connected to the cam groove.

0) US2009220269A – DEVELOPER CARTRIDGE

227) Family number: 35575118 (US2009220269A) © PatBase

Title: DEVELOPER CARTRIDGE

Priority: CN200610033540 20060213 CN200610065235 20060321 WO2006CN001848 20060725 EP20060761578 20060725

Family:

Publication number	Publication date	Application number	Application date
BRPI0621343 A2	20111206	BR2006PI21343	20060725
CN101021706 A	20070822	CN200610033540	20060213
CN101021706 B	20111228	CN200610033540	20060213
CN101042553 A	20070926	CN200610065235	20060321
CN101042553 B	20110406	CN200610065235	20060321
DE202006021282 U1	20141002	DE200620021282U	20060725
EP1993001 A1	20081119	EP20060761578	20060725
EP1993001 A4	20120404	EP20060761578	20060725
EP3144735 A1	20170322	EP20160195886	20060725
IN06944DN2008 A	20081024	IN2008DN06944	20080813
JP2009526249 T2	20090716	JP20080553601T	20060725
JP4740345 B2	20110803	JP20080553601T	20060725
RU2008134731 A	20100320	RU20080134731	20060725
RU2412456 C2	20110220	RU20080134731	20060725
US2009220269 AA	20090903	US20090279078	20090108
US8548353 BB	20131001	US20090279078	20090108
WO07093089 A1	20070823	WO2006CN001848	20060725

Probable Assignee: APEX TECHNOLOGY CO LTD

Assignee(s):(std): DING GE MING ; ZHUHAI NASIDA ELECTRONIC SCIEN ; NINESTAR IMAGE CO LTD ; ZHUHAI NINE STAR ELECTRONIC SC ; WU JUN ZHONG ; ZHUHAI SEINE TECHNOLOGY LTD ; ZHUHAI SAINA TECHNOLOGY CO LTD ; ZHUKHAI SEINE TEKHNOLODZHI LTD ; ZHUHAI SEINE TECH LTD

Assignee(s): ZHUKHAI SEINE TEKHNOLODZHI LIMITED ; ZHUHAI SAINA TECHNOLOGY CO ; ZHUHAI NASIDA ELECTRONIC SCIENCE AND TECHNOLOGY CO ; ZHUHAI NINE STAR ELECTRONIC SCIENCE AND TECHNOLOGY CO LTD ; ZHUHAI NINE STAR ELECTRONIC SCIENCE AND TECHNOLOGY CO ; ZHUHAI SEINE TECHNOLOGY LIMITED ; NINESTAR CORP ; NINESTAR IMAGE CO ; ZHUHAI NINE STAR ELECTRONIC SCIENCE AND TECHNOLOGY ; APEX TECHNOLOGY CO LTD

Inventor(s):(std): DING GE MING ; GEMING DING ; JUNZHONG WU ; VU DZHUN ZHONG ; WU JUN ZHONG ; WU JUNZHONG DING ; WU JUNZHONG ZHOU

Inventor(s): WU JUNZHONG ; VU DZHUN–ZHONG ; JUNZHONG ZHOU WU ; JUN ZHONG WU ; JUNZHONG DING WU ; DING GEMING ; DING GE–MING ; GE MING DING

Agent(s): STUTTARD GARRY PHILIP ET AL; PATENTANWAELTE RUFF WILHELM BEIER DAUSTER AND PARTNER MBB; SINORICA LLC

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD MG MK ML MN MR MW MX MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9): F16H1/20 G03G15/00 G03G15/08 G03G21/16 G03G21/18 (Advanced/Invention); F16H1/02 G03G15/08 G03G21/16 G03G21/18 (Core/Invention)

International class (IPC 1–7): C03G15/08

CPC: G03G21/1647 G03G15/0896 G03G2221/1657 Y10T74/19647

European class: G03G15/08S S03G221/16K2

US class: 399/109 399/126 399/262 399/262S 399/88 399/88P 74/413 74/413S

Classification Explorer

Cited documents: US6275672 BA, US5768656 A, US5319418 A, JPS63178262, JPS6199169, JP7098523 A2, JP63178262 A2, JP63178262, JP61099169 A2, JP2003295614 A2, EP1273979 A1, CN2735402 Y, CN1437076 A,

Forward Citations: CN104730877, CN103713498, CN103238118,

Abstract:
Source: US2009220269A A developer cartridge is provided, which includes a toner cartridge, a developer stirring device located in the toner cartridge, a supply roller for supplying a developer to a developer roller, a developer roller for developing an electrostatic latent image on a photoconductor, and a power receptor for driving only one of gear sets of the above means to receive a power. The power receptor is rotatably fixed at two or more predetermined positions. An initial position of the power receptor is a power receiving position. A power receptor moving device includes a press block, a baffle block, a spring, and a torsion spring. The power receptor moving device is controlled by the press block. When the press block of the power receptor moving device is pressed downwards, the power receptor is rotated to another power receiving position due to the action of the torsion spring. The present invention is applicable to various types of machines.

0) US2001002283A – APPARATUS FOR CLAMPING A PLANAR SUBSTRATE

228) Family number: 30080557 (US2001002283A) © PatBase

Title: APPARATUS FOR CLAMPING A PLANAR SUBSTRATE

Priority:

AT19970009119	19970409	AT20010001309	20010821	AT20010001310	20010821
AU19990044220	19990608	GB19990011083	19970409	DE19971082130	19970409
AU20070202463	20070529	IL19970126501	19970409	AU20030244220	20030901
JP20030076890	20030320	JP20030076891	20030320	JP20020341826	20021126
NZ19970332222	19970409	WO1997US05352	19970409	US20010769227	20010125
US19980095321	19980610	US19960630050	19960409	US20020174301	20020617
US20000740123	20001219	US19980175287	19981020	US20030423785	20030425
US19960661210	19960610	US19960661210	19960610	US19960630012	19960409
WO1997US05354	19970409	JP20030204804	20030731	JP20030128049	20030506
WO1999US12632	19990608				

Family:

Publication number	Publication date	Application number	Application date
AT13092001 A5	20050415	AT20010001309	20010821
AT13102001 A5	20031115	AT20010001310	20010821
AT410271 B	20030325	AT19970009120	19970409
AT410383 B	20030425	AT19970009119	19970409
AT911997 A	20020815	AT19970009119	19970409
AT912097 A	20020715	AT19970009120	19970409
AU199724314 A1	19971029	AU19970024314	19970409
AU199724316 A1	19971029	AU19970024316	19970409
AU199944220 A1	19991230	AU19990044220	19990608
AU2007202463 AA	20070621	AU20070202463	20070529
AU717968 B2	20000406	AU19970024316	19970409
AU719669 B2	20000518	AU19970024314	19970409
AU753922 B2	20021031	AU19990044220	19990608
CA2251330 AA	19981008	CA19972251330	19970409
CA2251586 AA	19981008	CA19972251586	19970409
CA2251586 C	20020910	CA19972251586	19970409
CA2333116 AA	20001123	CA19992333116	19990608
CH694038 A	20040630	CH19990001471	19970409
CH694040 A	20040630	CH19990001472	19970409
CN1091667 C	20021002	CN19971095365	19970409
CN1221364 A	19990630	CN19971095365	19970409
CN1312970 A	20010912	CN19998009578	19990608
DE19758730 B4	20040304	DE19971058730	19970409
DE19782130 T	19991223	DE19971082130T	19970409
DE19782130 T1	19991223	DE19971082130T	19970409
DE19782131 B4	20040819	DE19971082131	19970409
DE19782131 T	19991223	DE19971082131T	19970409
DE19782131 T1	19991223	DE19971082131T	19970409
DE29724005 U1	20000907	DE19972024005U	19970409
DK199900735 A	19990525	DK19990000735	19990525
DK199900736 A	19990525	DK19990000736	19990525
EP1086524 A1	20010328	EP19990927277	19990608
EP1086524 A4	20040811	EP19990927277	19990608
FI991162 A	19990521	FI19990001162	19990521
FI991162 A0	19990521	FI19990001162	19990521
FI991163 A	19990521	FI19990001163	19990521

FI991163 A0	19990521	FI19990001163	19990521	
GB200001824 A0	20000322	GB20000001824	19970409	
GB200001830 A0	20000322	GB20000001830	19970409	
GB2334462 A1	19990825	GB19990011080	19970409	
GB2334462 B2	20001018	GB19990011080	19970409	
GB2334463 A1	19990825	GB19990011083	19970409	
GB2334463 B2	20001018	GB19990011083	19970409	
GB2342875 A1	20000426	GB20000001830	19970409	
GB2342875 B2	20001018	GB20000001830	19970409	
GB2345870 A1	20000726	GB20000001824	19970409	
GB2345870 B2	20001018	GB20000001824	19970409	
GB9911080 A0	19990714	GB19990011080	19970409	
GB9911083 A0	19990714	GB19990011083	19970409	
HK1020028 A1	20030606	HK19990105241	19991112	
HU0202104 AB	20021028	HU20020002104	19990608	
IL126500 A0	19990817	IL19970126500	19970409	
IL126500 A1	20030624	IL19970126500	19970409	
IL126501 A0	19990817	IL19970126501	19970409	
IL139924 A0	20020210	IL19990139924	19990608	
IL152245 A0	20030529	IL19970152245	19970409	
JP2002518835 T2	20020625	JP20000554046T	19990608	
KR20010078732 A	20010821	KR20007014001	20001209	
NZ332222 A	20000623	NZ19970332222	19970409	
NZ332223 A	20000327	NZ19970332223	19970409	
NZ503315 A	20010831	NZ19970503315	19970409	
NZ508389 A	20030725	NZ19990508389	19990608	
PT102921 A	20030731	PT20030102921	20030311	
PT102921 B	20040331	PT20030102921	20030311	
PT102922 A	20030731	PT20030102922	20030311	
PT102922 B	20040331	PT20030102922	20030311	
SE200302478 A	20030918	SE20030002478D	20030918	
SE200302478 A0	20030918	SE20030002478	20030918	
SE200302478 L	20030918	SE20030002478	20030918	
SE521698 C2	20031125	SE19990001883	19990525	
SE523056 C2	20040323	SE19990001882	19990525	
SE9901882 A	19990525	SE19990001882D	19990525	
SE9901882 A0	19990525	SE19990001882	19990525	
SE9901882 L	19990525	SE19990001882	19990525	
SE9901883 A	19990525	SE19990001883	19990525	
SE9901883 A0	19990525	SE19990001883	19990525	
SE9901883 L	19990525	SE19990001883	19990525	
US2001002283 AA	20010531	US20010769227	20010125	
US2001018098 AA	20010830	US20000740123	20001219	
US2003087023 AA	20030508	US20020174301	20020617	
US2003196599 AA	20031023	US20030423785	20030425	
US5788814 A	19980804	US19960630012	19960409	
US5846595 A	19981208	US19960630050	19960409	
US5858099 A	19990112	US19960661210	19960610	
US6294024 BA	20010925	US19980175287	19981020	
US6399143 BA	20020604	US19980095321	19980610	

US6440486 BB	20020827	US20000740123	20001219	
US6592671 BB	20030715	US20010769227	20010125	
US6670038 BB	20031230	US20020174301	20020617	
WO9737803 A1	19971016	WO1997US05354	19970409	
WO9738480 A1	19971016	WO1997US05352	19970409	
WO9965136 A1	19991216	WO1999US12632	19990608	

Probable Assignee: SARNOFF CORP

Assignee(s):(std)**:** DELSYS PHARMACEUTICAL ; DELSYS PHARMACEUTICAL CORP ; DELSYS PHARMACEUTICALS CORP ; DERCHIS PHARMACEUTICAL CORP ; SARNOFF CORP ; SUN HOI CHEONG STEVE ; SARNOFF DAVID RES CENTER ; SEIKO EPSON CORP

Assignee(s): PLETCHER TIMOTHY ALLEN ; SARNOFF CORP PRINCETON ; SUN HOI CHEONG ; SARNOFF CORPORTION ; HEALTHCARE VENTURES V LP ; KNOEDLER CHRISTINA MARIE ; DELSYS PHARMACEUTICAL CORP PRINCETON ; BRYCKI BOGDAN ; DAVID SARNOFF RESEARCH CENTER ; DAVID SARNOFF RESEARCH CENTER INC

Inventor(s):(std)**:** ALLEN PLETCHER TIMOTHY ; AOKI KAZUAKI ; B DRYCKI ; BOGDAN BRYCKI ; BRYCKI BOGDAN ; C M KNOEDLER ; CHRISTINA MARIE KNOEDLER ; DRYCKI B ; FLETCHER TIMOTHY ALLEN ; HARADA KAZUMASA ; HASHII KAZUHIRO ; HC SUN ; HOI CHEONG STEVE SUN ; HOI CHEONG SUN ; KNOEDLER C M ; KNOEDLER CHRISTINA ; KNOEDLER CHRISTINA MARIA ; KNOEDLER CHRISTINA MARIE ; MARIE KNOEDLER CHRISTINA ; PLETCHER TIMOTHY A ; PLETCHER TIMOTHY ALLEN ; SAKAI YASUTO ; SHINADA SATOSHI ; STEVE SUN HOI CHEONG ; SUN H C ; SUN HOI CHEONG ; SUN HOI CHEONG STEAVE ; SUN HOI CHEONG STEVE ; TIMOTHY A PLETCHER ; TIMOTHY ALLEN PLETCHER

Inventor(s): YASUTO SAKAI ; SATOSHI SHINADA ; KAZUAKI AOKI ; KAZUHIRO HASHII ; KAZUMASA HARADA ; H C SUN

Agent(s): SPRUSON AND FERGUSON; ASPEN PHARMA PTY LTD; CALLINANS; SMART AND BIGGAR; OGILVY RENAULT LLP SENCRL SRL; GE EHRLICH 1995 LTD

Designated states: AL AM AT AU AZ BA BB BE BF BG BJ BR BY CA CF CG CH CI CM CN CU CY CZ DE DK EE ES FI FR GA GB GE GH GM GN GR GW HU ID IE IL IS IT JP KE KG KP KR KZ LC LI LK LR LS LT LU LV MC MD MG MK ML MN MR MW MX NE NL NO NZ PL PT RO RU SD SE SG SI SK SL SN SZ TD TG TJ TM TR TT UA UG UZ VN YU ZW

International class (IPC 8–9): A61K9/20 A61K9/28 B01J19/00 B01L11/00 B03C9/00 B05B5/025 B05B5/03 B05B5/08 B05D1/04 B05D1/06 B23B31/28 B23B5/22 B25J7/00 B41J2/17 B41J2/175 B65G47/90 B65G47/92 F16M13/00 H01L21/00 H01L21/683 H02N13/00 (Advanced/Invention); B05B5/03 B05C13/00 (Advanced/Non–invention); A61K9/20 A61K9/28 B01J19/00 B03C9/00 B05B5/025 B05B5/08 B23B5/00 B41J2/17 B41J2/175 B65G47/92 H01L21/00 H02N13/00 (Core/Invention); B23B H02N (Subclass/Invention)

International class (IPC 1–7): A61J1/00 A61J3/00 A61J3/02 A61K9/14 A61K9/20 B01D15/08 B01J19/00 B01J8/02 B01L11/00 B01L9/00 B03C9/00 B05B B05B15/00 B05B5/00 B05B5/025 B05B5/08 B05B50/25 B05C11/00 B05C13/00 B05C19/00 B05C19/04 B05C5/02 B05D1/04 B05D1/06 B05D3/14 B23B B23B31/28 B23B5/22 B23B5/34 B23Q3/08 B25B11/00 B25J15/06 B25J7/00 B32B5/16 B65G B65G1/00 B65G25/00 B65G47/90 B65G47/91 B65G47/92 B65H3/18 B66C1/00 C12Q1/00 C25D C25D15/00 C25D17/00 C25D17/04 C25D17/06 F16M13/00 G01N31/20 G01N35/00 H01L21/00 H01L21/66 H01L21/68 H02N13/00

CPC: Y10S118/02 Y10T279/11 Y10T279/23 Y10T428/2991 B05B5/084 A61K9/2086 A61K9/2893 A61K9/2072 A61K9/2095 B01J19/0046 B01J2219/00459 B01J2219/00468 B01J2219/005 B01J2219/00648 B01J2219/00659 B05B5/032 B05B5/08 B05B5/087 H01L21/6831 H01L21/6838 H02N13/00 B05B5/082

European class: A61K9/20K A61K9/20K4 A61K9/20P A61K9/28P B01J19/00C B05B5/08 B05B5/08D B05B5/08G H01L21/683C H01L21/683V H02N13/00 L01J219/00C2H2 L01J219/00C2H2F L01J219/00C2L2 L01J219/00C4L12 L01J219/00C4L4B L05B5/03A

US class: 118/500 118/500S 118/621 118/621S 118/624 118/624S 118/625 118/629 118/712 118/DIG.2 204/297M 204/297R 279/128 279/3 424/464 424/474 424/490 427/1 427/10 427/10S 427/181 427/197 427/2.14 427/2.140P 427/2.31 427/466 427/469 427/469P 427/472 427/474 427/475 427/475S 427/483 427/485 427/485P 427/8 428/403 438/16 438/16S 438/17 438/17S 438/758 438/758S 438/795 438/795S

Classification Explorer

Cited documents:

WO9737803 A1, WO9639256 A1, WO9013328 A1, US73352596, US66121196, US66121096, US65950196, US6511712 BA, US6440486 BB, US6326149 BA, US6303143 BA, US63001296, US6294024 BA, US5858099 A, US5846595 A, US5788814 A, US5743965 A, US5724121 A, US5723367 A, US5714007 A, US5698269 A, US5692873 A, US5676758 A, US5675471 A, US5647347 A, US5642727 A, US5624499 A, US5619984 A, US5548470 A, US5534309 A, US5532903 A, US5522131 A, US5499487 A, US5463525 A, US5445313 A, US5435782 A, US5377071 A, US5284287 A, US5278588 A, US5234499 A, US5155652 A, US5080380 A, US5042421 A, US5028501 A, US4971257 A, US4925701 A, US4921767 A, US4921727 A, US4917978 A, US4860417 A, US4795644 A, US4724510 A, US4718681 A, US4685620 A, US4652318 A, US4640846 A, US4561688 A, US4554611 A, US4551192 A, US4502094 A, US4349531 A, US4332789 A, US4197289 A, US4160257 A, US4072129 A, US3896762 A, US3798048 A, US2373721 A, US1121452 A, JPS63109934, JP8080453 A2, JP63109934 A2, JP57196211 A2, JP5121469 A2, JP4331934 A2, JP404147643, JP40414764 A2, JP248145, JP2048145 A2, JP20048145, JP1274938 A2, GB2316342 A1, GB2316086 A1, GB2253164 A1, GB2149697 A1, DE69204127 T2, DE3879281 T2,

Forward Citations: WO9963972, WO9961166, WO9942216, WO16106427, WO15120419, WO15117004, WO13133899, WO09134345, WO09134345, WO08095521, WO07079752, WO07079752, WO06009273, WO05000264, WO04112971, WO04036218, WO03046508, WO03046508, WO03006094, WO03002264, WO0221590, WO0221590, WO02094442, WO0196219, WO0196219, WO0187491, WO0173431, WO0118949, WO0064592, WO0058735, WO0058735, WO0049382, WO0049382, WO0002533, WO0002533, WO0002533, USRE42942, USD787087, USD742027, USD692162, USD669191, USD665095, US9677121, US9675674, US9675158, US9670528, US9662461, US9655850, US9651568, US9642694, US9630930, US9627243, US9626908, US9624100, US9620695, US9620487, US9620478, US9618139, US9610351, US9599857, US9589944, US9583533, US9583466, US9582036, US9570427, US9570002, US9559142, US9558721, US9548332, US9548233, US9546932, US9542638, US9539400, US9528142, US9522468, US9511498, US9511198, US9508886, US9505230, US9500645, US9484504, US9484237, US9480983, US9478583, US9463613, US9450147, US9446133, US9446001, US9425151, US9406541, US9401276, US9397250, US9393372, US9391042, US9379092, US9377388, US9370864, US9367094, US9364619, US9364436, US9358352, US9349887, US9347586, US9346766, US9343448, US9339615, US9318644, US9318475, US9317922, US9314930, US9308649, US9296111, US9288899, US9283193, US9263627, US9259735, US9259734, US9255001, US9252375, US9248217, US9241903, US9240397, US9238223, US9236815, US9233159, US9229001, US9224629, US9222954, US9220687, US9217541, US9217143, US9216412, US9214494, US9209348, US9192675, US9186677, US9178123, US9166114, US9162880, US9159700, US9153548, US9153171, US9136161, US9132246, US9111464, US9108217, US9105714, US9105492, US9101038, US9099584, US9095980, US9087764, US9080207, US9076642, US9051604, US9050611, US9044926, US9040816, US9040288, US9035279, US9034754, US9029880, US9028773, US9000566, US8999058, US8991390, US8987765, US8962380, US8960686, US8946547, US8945968, US8941215, US8933433, US8928021, US8926803, US8923961, US8912193, US8906218, US8895311, US8894947, US8883490, US8852862, US8851133, US8835940, US8828517, US8809875, US8794501, US8791530, US8791474, US8789573, US8789569, US8783305, US8768517, US8765076, US8734733, US8716767, US8710211, US8709787, US8703069, US8686542, US8685341, US8679831, US8664737, US8656860, US8646505, US8636001, US8617905, US8592226, US8573469, US8569115, US8558243, US8552436, US8551866, US8518204, US8512581, US8499757, US8485180, US8473104, US8470586, US8469342, US8445314, US8440149, US8439249, US8439033, US8426227, US8424518, US8420435, US8420015, US8415771, US8415768, US8415767, US8415103, US8399331, US8383506, US8377398, US8349116, US8333860, US8324372, US8323900, US8323584, US8294026, US8293558, US8288195, US8287820, US8278192, US8273308, US8268114, US8257967, US8247221, US8246409, US8241940, US8216530, US8193076, US8182763, US8168465, US8133671, US8110158, US8105849, US8105783, US8101431, US8088616, US8053665, US8043581, US8043137, US8035028, US8035027, US8028646, US7999174, US7987022, US7972661, US7951428, US7901945, US7858365, US7837822, US7829025, US7789725, US7781226, US7732020, US7731906, US7674431, US7651868, US7651850, US7648582, US7632533, US7615193, US7498063, US7497910, US7491552, US7452712, US7404968, US7384606, US7368682, US7361309, US7347975, US7338636, US7335260, US7332130, US7323140, US7321159, US7316899, US7288014, US7285303, US7279322, US7270786, US7247353, US7247338, US7195872, US7192557, US7153538, US7151658, US7151658, US7144597, US7140941, US7137857, US7125305, US7101510, US7070656, US7025648, US7022517, US7010391, US7008668, US7005793, US6992876, US6975068, US6948537, US6935913, US6923979, US6908770, US6902456, US6887431, US6852287, US6852162, US6844048, US6822626, US6801001, US6796867,

US6791817, US6783768, US6780696, US6764720, US6764367, US6762566, US6746869, US6720024, US6716475, US6713298, US6696090, US6686207, US6670038, US6660665, US6653681, US6652903, US6649403, US6646388, US6620012, US6612889, US6606234, US6602702, US6592671, US6589779, US6579786, US6578423, US6575188, US6570335, US6545422, US6514339, US6511712, US6491571, US6475351, US6440486, US6432719, US6428809, US6425972, US6406738, US6403322, US6399362, US6399143, US6376256, US6370005, US6368674, US6332144, US6295194, US6294024, US6221438, US6187149, US6182733, US6168666, US6166432, US6149774, US6117479, US6096368, US5882465, US2016195579, US2015331337, US2015239064, US2014169924, US2013130440, US2013082448, US2011162642, US2011120882, US2011097494, US2011065590, US2011014742, US2010304522, US2010304521, US2010300518, US2010294356, US2010279494, US2010267245, US2010267186, US2010248446, US2010203711, US2010203256, US2010203242, US2010197565, US2010194012, US2010177454, US2010175752, US2010154998, US2010151454, US2010148319, US2010148318, US2010144080, US2010116316, US2010109220, US2010087723, US2010078463, US2010038035, US2010037818, US2009314292, US2009308392, US2009308390, US2009301549, US2009232886, US2009118605, US2009107545, US2009090361, US2009087483, US2009042320, US2008289684, US2008273748, US2008273194, US2008264477, US2008210294, US2008146942, US2008029977, US2008020147, US2008014365, US2007258862, US2007240976, US2007184184, US2007144554, US2007087048, US2007028790, US2006280943, US2006257991, US2006257941, US2006257854, US2006255025, US2006205311, US2006137981, US2006097620, US2006082640, US2006079000, US2006073585, US2006051518, US2006046269, US2006036348, US2006011594, US2005279418, US2005263155, US2005214863, US2005208228, US2005206317, US2005191620, US2005189164, US2005158366, US2005136548, US2005130318, US2005064452, US2005036267, US2005019796, US2005013924, US2005009303, US2005003074, US2004255851, US2004241750, US2004238121, US2004224161, US2004219070, US2004212946, US2004177809, US2004106349, US2004086426, US2004063373, US2004060265, US2004053322, US2004051450, US2004023371, US2004004445, US2003214243, US2003207645, US2003207644, US2003207643, US2003207596, US2003186228, US2003184731, US2003148401, US2003143630, US2003138487, US2003113445, US2003049174, US2003014400, US2003010338, US2003003436, US2002197388, US2002195053, US2002185059, US2002150669, US2002144774, US2002143437, US2002142482, US2002113292, TWI527097, TWI429006, TWI390588, TWI358783, SG118222, JP2004508728, GB2540883, GB2417923, GB2417923, GB2392845, EP2975966, EP2384811, EP1632283, EP1509450, EP1316110, EP1282470, EP1121752, EP1094794, EP1056542, EP1007966, DE10144287, CN103693382, CN103449210, CN103202768, CN103202768, CN101360567, AU743087, AU2001273700,

Abstract:
Source: US2001002283A The disclosure relates to an apparatus for electrostatically adhering grains to a planar substrate comprising: a. an electrostatic chuck having a collection surface with at least one grain collection zone for, when the planar substrate is layered on the collection surface, electrostatically directing charged grains to a corresponding surface on the planar substrate; and b. a pattern of holes through the electrostatic chuck allowing a source of low pressure to act through the electrostatic chuck to adhere the planar substrate.

0) US2015037050A – REMOVABLE DEVICE AND IMAGE FORMING APPARATUS

229) Family number: 58447819 (US2015037050A) © PatBase

Title: REMOVABLE DEVICE AND IMAGE FORMING APPARATUS

Priority: JP20120232253 20121019 JP20130092759 20130425 JP20130159366 20130731 JP20130217734 20131018

Family:

Publication number	Publication date	Application number	Application date
JP2015045832 A2	20150312	JP20130217734	20131018
US2015037050 AA	20150205	US20140338472	20140723
US9513575 BB	20161206	US20140338472	20140723

Probable Assignee: RICOH CO LTD

Assignee(s):(std)**:** HAYASHI TOSHIKI ; KIMURA HIDEKI ; RICOH CO LTD ; RICOH KK ; YAMANE MASAYUKI ; TAKAHASHI MASAKI

Inventor(s):(std)**:** YAMANE MASAYUKI ; TAKAHASHI MASAKI ; KIMURA HIDEKI ; HAYASHI TOSHIKI

Agent(s): OBLON MCCLELLAND MAIER AND NEUSTADT LLP

International class (IPC 8–9)**:** B41J2/175 G03G15/00 G03G15/08 G03G21/18 (Advanced/Invention)

CPC: G03G21/1885 G03G15/0863

US class: 399/12 399/90

Classification Explorer

Cited documents: US6253035 BA, US6148354 A, US2014314443 AA, US2013307906 AA, US2013251971 AA, US2012200871 AA, US2010226690 AA, US2007177177 AA, US2007147902 AA, US2006083555 AA, US2005226655 AA, US2005019061 AA, US2004163843 AA, US2003170042 AA, US2002114646 AA, US2001014225 AA, JP4843112 B1, JP2012226288 A2,

Forward Citations: US9606498, US9507313,

Abstract:
Source: US2015037050A A removable device is removably attachable to an image forming apparatus main body. The removable device includes an information storage device, a holder, and a low frictional structure. The information storage device includes: an information storage unit that stores information to be communicated between the apparatus main body and the removable device; a terminal to be contacted with an apparatus main–body terminal, for communicating information with the apparatus main body; and a substrate that holds the information storage unit and the terminal and that includes a guide to be fitted to a protrusion provided on the apparatus main body. The holder holds the substrate such that the substrate can move, when the removable device approaches the apparatus main–body terminal, on a virtual plane intersecting with a moving direction of the removable device. The low frictional structure is arranged on a contact area between the substrate and the holder.

0) US9383720B – PROCESS CARTRIDGE AND DRUM CARTRIDGE

230) Family number: 62808460 (US9383720B) © PatBase

Title: PROCESS CARTRIDGE AND DRUM CARTRIDGE

Priority: JP20150022607 20150206

Family:

Publication number	Publication date	Application number	Application date
JP2016145905 A2	20160812	JP20150022607	20150206
US9383720 BA	20160705	US20150845380	20150904

Probable Assignee: BROTHER KOGYO KK

Assignee(s):(std)**:** BROTHER IND LTD

Assignee(s): BROTHER KOGYO KK

Inventor(s):(std)**:** ABE KOJI ; FUKAMACHI YASUO ; KANDA TAKUYA ; MUSHIGA MOTOAKI ; MUSHIKA MOTOAKI ; TAGUCHI KAZUNA

Agent(s): BANNER AND WITCOFF LTD

International class (IPC 8–9): G03G15/08 G03G21/18 (Advanced/Invention)

CPC: G03G21/1814 G03G21/1821

US class: 1/1

Classification Explorer

Cited documents: US7742720 BB, US6101350 A, US5745824 A, JP2011197197 A2,

Forward Citations: USD783087, US2017108826,

Abstract:
Source: US9383720B A process cartridge includes a drum cartridge and a developing cartridge attachable to and detachable from the drum cartridge. The developing cartridge includes a developing roller, a pressing protrusion and an engagement protrusion. The drum cartridge includes a photosensitive drum, a locking member engageable with the engagement protrusion of the developing cartridge attached to the drum cartridge, and a pressing member disposed between the locking member and the photosensitive drum. The locking member is pivotable between a restricting position engaged with the engagement protrusion to restrict detachment of the developing cartridge from the drum cartridge and a non−restricting position disengaged from the engagement protrusion to allow detachment of the developing cartridge from the drum cartridge. The pressing member is configured to contact the pressing protrusion of the developing cartridge attached to the drum cartridge for pressing the developing cartridge toward the photosensitive drum.

0) US2004156650A – BLADE CLEANER CARTRIDGE WITH DUST AND LINT SEAL...

231) Family number: 30780826 (US2004156650A) © PatBase

Title: BLADE CLEANER CARTRIDGE WITH DUST AND LINT SEAL BLADE

Priority: US20030445580P 20030207 US20030703885 20031107

Family:

Publication number	Publication date	Application number	Application date
US2004156650 AA	20040812	US20030703885	20031107
US7031634 BB	20060418	US20030703885	20031107

Probable Assignee: EASTMAN KODAK CO

Assignee(s):(std)**:** EASTMAN KODAK CO ; NEXPRESS SOLUTIONS LLC

Assignee(s): PAKON INC ; WILMINGTON TRUST NATIONAL ASSOCIATION AGENT AS ; EASTMAN KODAK COMPANY ; CITICORP NORTH AMERICA INC AGENT AS

Inventor(s):(std)**:** ANDERSON DOUGLAS C ; BROWN KENNETH J ; CARRONE MARIA B ; DUNN CAROL K ; ZIEGELMULLER FRANCISCO L

Agent(s): LAWRENCE P

International class (IPC 8–9)**:** G03G21/00 (Advanced/Invention) ; G03G21/00 (Core/Invention)

International class (IPC 1–7)**:** G03G21/00

CPC: G03G21/0011

European class: G03G21/00B1

US class: 399/102 399/350 399/351

Classification Explorer

Cited documents: US6453134 BA, US6075965 A, US6044245 A, US5991568 A, US5442422 A, US5426485 A, US4866483 A, US4527887 A, US4516850 A,

Forward Citations: WO10056273, WO10056268, US9128414, US8985359, US8774697, US8611804, US8139981, US8086133, US7945201, US7796913, US7693448, US7450879, US2011188882, US2011091247, US2010111559, US2010111558, US2009185825, US2008187376, US2007189814, US2007048000,

Abstract:
Source: US2004156650A In an apparatus for cleaning particulates from a moving web, a dust seal blade assembly which is easily mounted to a cleaning blade to reduce internal dusting in the cleaner apparatus and for trapping of lint, paper dust, or fibrous material and which might also reduce the effects of oil contamination. The arrangement provides a low–cost, operator–replaceable cartridge having one or more wiper blades with at least one of them having the dust seal blade assembly and enclosed within a particle sump assembly that is easily removed from association with the web being cleaned.

0) US2007019985A – IMAGE FORMING PROCESS MODULE AND IMAGE FORMING ...

232) Family number: 34117952 (US2007019985A) © PatBase

Title: IMAGE FORMING PROCESS MODULE AND IMAGE FORMING APPARATUS HAVING THE SAME

Priority: JP20050066647 20050722 KR20050066647 20050722

Family:

Publication number	Publication date	Application number	Application date
CN102768490 A	20121107	CN201210224483	20060721
CN1900839 A	20070124	CN200610105989	20060721
EP1746468 A1	20070124	EP20060117662	20060721
KR100633097 B1	20061011	KR20050066647	20050722
US2007019985 AA	20070125	US20060434226	20060516
US7542700 BB	20090602	US20060434226	20060516

Probable Assignee: S PRINTING SOLUTION CO LTD

Assignee(s):(std)**:** SAMSUNG ELECTRONICS CO LTD

Assignee(s): S PRINTING SOLUTION CO LTD ; SAMSUNG ELECTRONICS CO

Inventor(s):(std)**:** HAE SEOG KIM HO DONG JO ; JO HAE SEOG ; KIM HO DONG ; HO DONG KIM ; HAE SEOG JO

Inventor(s): KIM HO DONG JO HAE SEOG

Agent(s): ROYLANCE ABRAMS BERDO AND GOODMAN LLP

Designated states: AL BA DE GB HR MK NL YU

International class (IPC 8–9)**:** G03G15/00 G03G15/01 G03G15/02 G03G15/04 G03G15/08 G03G21/00 G03G21/10 G03G21/12 G03G21/16 G03G21/18 (Advanced/Invention); G03G15/02 G03G15/04 (Advanced/Non–invention); G03G15/00 G03G15/02 G03G15/04 G03G15/08 G03G21/00 G03G21/10 G03G21/16 G03G21/18 (Core/Invention)

CPC: G03G21/105 G03G21/1619 G03G21/12 G03G21/1821 G03G2215/0167 G03G2221/1603 G03G2221/1606 G03G2221/1624 G03G2221/163 G03G2221/1684 G03G2221/1853 G03G15/0168 G03G15/02 G03G15/04

European class: G03G15/01S1 G03G21/12 G03G21/18C4C S03G215/01S S03G221/16A S03G221/16B S03G221/16C2 S03G221/16D S03G221/16S2 S03G221/18P3

US class: 399/111 399/113 399/119 399/120 399/123 399/359 399/360

Classification Explorer

Cited documents: US6647227 BB, US5956556 A, US5579086 A, US5327208 A, US5146270 A, US5030988 A, US2003059230 AA, KR2001102849, KR20010102849 A, KR20010066798 A, KR1020010066798, JP7333946 A2, JP2001166666 A2, EP0376617 A2,

Forward Citations: US9411269, US8989624, US8805236, US8649705, US8626025, US8571441, US8467701, US8326177, US8139978, US8045890, US7877039, US7865123, US7657206, US2013045026, US2011081164, US2010239308, US2010111563, US2009010694, US2008025758, US2007048028, EP2363751, EP2028556, CN102540814, CN102540814,

Abstract:
Source: US2007019985A An image forming process module is provided having an integrated photoreceptor unit and development unit, and an image forming apparatus having the same. The image forming process module includes a photoreceptor unit having at least one photoreceptor on which an electrostatic latent image is formed. A development unit is installed around the outer surface of the photoreceptor and having a plurality of development assemblies for developing the latent image, thereby forming a visual image. A fixing frame is detachably installed to a main body of an image forming apparatus for fixing the photoreceptor unit and the development unit to be integrated into a single module. The image forming process module has the enhanced assembly and replacement efficiencies because the photoreceptor unit and the development unit are simultaneously installed to and uninstalled from a main body of an image forming apparatus as a single module.

0) US5930561A – PROCESS CARTRIDGE AND IMAGE–FORMATION DEVICE SU...

233) Family number: 11654617 (US5930561A) © PatBase

Title: PROCESS CARTRIDGE AND IMAGE–FORMATION DEVICE SUITABLE FOR MINIATURIZATION

Priority: DE19981014173 19980330 JP19970080906 19970331 JP19970089190 19970408 JP19980079359 19980326 JP19970080907 19970331 JP19980079360 19980326

Family:

Publication number	Publication date	Application number	Application date
CN1143184 C	20040324	CN19981009745	19980331
CN1197940 A	19981104	CN19981009745	19980331
CN1249540 C	20060405	CN20031057970	19980331
CN1311311 C	20070418	CN20031057971	19980331
CN1493943 A	20040505	CN20031057970	19980331
CN1495581 A	20040512	CN20031057971	19980331
DE19814173 A1	19981008	DE19981014173	19980330
DE19814173 B4	20060518	DE19981014173	19980330
DE19860959 B4	20060105	DE19981060959	19980330
DE19860959 B9	20060914	DE19981060959	19980330
HK1016280 A1	20040917	HK19990101063	19990315
JP10282863 A2	19981023	JP19970089190	19970408
JP10333530 A2	19981218	JP19980079359	19980326
JP10333531 A2	19981218	JP19980079360	19980326
JP3420681 B2	20030630	JP19970089190	19970408
JP3599263 B2	20041208	JP19980079360	19980326
JP3628869 B2	20050316	JP19980079359	19980326
US5930561 A	19990727	US19980048896	19980327

Probable Assignee: RICOH CO LTD

Assignee(s):(std)**:** RICOH KK

Assignee(s): ROCOH COMPANY LTD ; RICOH CO ; RICOH CO LTD ; RICOH CO LTD TOKIO TOKYO JP ; RICOH COMPANY LTD

Inventor(s):(std)**:** HIROSHI HOSOKAWA ; MASAHIRO KOMEKAWA ; TETSUO YAMANAKA ; YAMANAKA TETSUO ; YONEKAWA MASAHIRO ; HOSOKAWA HIROSHI ; AIZAWA NAOKO ; AIZAWA NAHOKO ; MASAHIRO HOSOKAWA HIROSHI YAMA

Inventor(s): HOSOKAWA HIROSHI YAMANAKA TETSUO KOMEKAWA MASAHIRO ; AIZAWA NAOKO TOKIO TOKYO JP ; YAMANAKA TETSUO TOKIO TOKYO JP ; NAHOKO AIZAWA ; MASAHIRO YONEKAWA ; HOSOKAWA HIROSHI YOKOHAMA KANAGAWA JP ; YONEKAWA MASAHIRO TOKIO TOKYO JP ; KOMEKAWA MASAHIRO

International class (IPC 8–9): G03G15/00 G03G15/08 G03G21/16 G03G21/18 (Advanced/Invention); G03G15/00 G03G15/08 G03G21/16 G03G21/18 (Core/Invention)

International class (IPC 1–7): G03G15/00 G03G15/08 G03G15/22 G03G21/16 G03G21/18

CPC: G03G21/1647 G03G21/1821 G03G2221/1654 G03G2221/1876

European class: G03G21/16 G03G21/18C4C S03G221/16K1 S03G221/18P3C

US class: 399/111 399/114

Classification Explorer

Cited documents: US5845176 A, US5752132 A, US5749027 A, US5708922 A, US5581328 A, US5537187 A, US5258811 A, US5115272 A, US5083158 A, US5028966 A, US4598993 A, US4128079 A, JP9258635, JP8339149, JP8297453, JP7295460, JP7146634 A2, JP7121087, JP6264920 A2, JP6242642 A2, JP6083126, JP4119458 U, JP3101754, JP3016155 U, JP1191861, EP0757304 A2, EP0740226 A1, EP0538479 A1,

Forward Citations: WO14010116, US9523940, US9317007, US9268301, US9134694, US8737870, US8634743, US8287122, US8190039, US7917058, US7787787, US7761030, US7758182, US7731352, US7551867, US7386259, US7340198, US7330679, US7292804, US7292803, US7286787, US7136600, US7106991, US7024133, US6934498, US6920303, US6829465, US6714224, US6708017, US6163666, US2013051843, US2010247137, US2010013901, US2009154947, US2009041481, US2008187364, US2007140731, US2007140708, US2007139506, US2007036589, US2006291899, US2006159486, US2004223782, US2004170446, US2004109708, US2004033090, US2003223784, KR100618344, JP5920070, JP5397837, JP4878499, JP4775472, JP4011882, JP2014016484, JP2012208362, JP2011123361, JP2010231114, JP2007310149, JP2003122120, CN104412168, CN104298090, CN101373369,

Abstract:
Source: US5930561A A method of assembling a process cartridge which includes a photosensitive−body case having a photosensitive drum stored therein and a development−body case having a development roller stored therein is proposed. The method includes the steps of positioning a rotation center of the photosensitive drum relative to a rotation center of the development roller by use of a fixture, and fixing relative positions of the photosensitive−body case and the development−body case while the fixture is in place.

0) US2011089173A – BIODEGRADABLE MATERIAL AND CONTAINER FOR FLUIDS...

234) Family number: 48765810 (US2011089173A) © PatBase

Title: BIODEGRADABLE MATERIAL AND CONTAINER FOR FLUIDS

Priority: US20090603395 20091021 US20100709496 20100221 US20110270573 20111011 US20120590377 20120821 US20140483155 20140911 US20140515468 20141015 WO2010US31887 20100421 WO2010US60794 20101216 WO2011US22316 20110125 US20140553479 20141125 US20140553437 20141125 US20150948335 20151122

Family:

Publication number	Publication date	Application number	Application date
CN102232042 A	20111102	CN201080002441	20101216
CN102232042 B	20150114	CN201080002441	20101216
US2011089173 AA	20110421	US20100709496	20100221
US2011091672 AA	20110421	US20090603395	20091021
US2012138503 AA	20120607	US20110270573	20111011
US2012315688 AA	20121213	US20120590377	20120821
US2014377797 AA	20141225	US20140483155	20140911
US2015032060 AA	20150129	US20140515468	20141015
US2015075532 AA	20150319	US20140553479	20141125
US2015079413 AA	20150319	US20140553437	20141125
US2016145413 AA	20160526	US20150948335	20151122
US8519018 BB	20130827	US20100709496	20100221
US8852157 BB	20141007	US20120590377	20120821
US9527619 BB	20161227	US20110270573	20111011
WO11049640 A1	20110428	WO2010US31887	20100421
WO11102873 A1	20110825	WO2010US60794	20101216
WO11102940 A1	20110825	WO2011US22316	20110125

Probable Assignee: INNOVATIVE BOTTLES LLC

Assignee(s):(std)**:** INNOVATIVE BOTTLES LLC ; PATEL SHANTU ; SAI TECHNOLOGIES INC ; INNOVATIVE BOTTLES INC

Assignee(s): INNOVATIVE BOTTLES LCC

Inventor(s):(std)**:** PATEL SHANTU ; SHANTU PATEL

Agent(s): LARRY E; MINTZ LEVIN COHN FERRIS GLOVSKY AND POPEO PC; FRED C; SEVERIN LARRY

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9): A61B17/32 A61L31/04 A61L31/06 A61L31/14 A61M16/06 A61M16/10 A61M5/00 A61M5/178 A61M5/20 A61M5/32 B01L3/00 B32B1/00 B32B1/02 B32B27/06 B32B27/08 B32B27/30 B65D1/02 B65D50/04 B65D51/00 B65D55/02 B65D6/28 B65D65/46 B65D83/04 B65D85/84 C08F2/42 C08F2/46 C08F2/48 C08F2/50 C08J3/28 C08J7/18 C08K3/34 C08K5/11 C08L1/00 C08L1/02 C08L23/06 C08L3/02 C08L33/08 C08L67/00 C08L67/02 C08L67/04 C08L83/06 C12P1/00 C12S99/00 H05H1/24 (Advanced/Invention); C08F222/10 (Advanced/Non–invention)

CPC: A61M2005/3126 C08K5/0016 C08L101/16 Y10T428/1352 Y10T428/1397 A61M16/0622 A61M16/0694 A61M16/1005 A61M16/104 A61M2016/103 Y10T428/31786 Y10T428/31938 Y10T428/31971 Y02W90/14 B65D65/466 B65D41/065 B65D41/3447 B65D50/046 B65D2251/0015 B65D2251/0093 A61L31/14 A61L31/148 C12P1/00 A61L31/041 A61L2300/80 C08L1/02 C08L67/02 C08L67/04 A61M5/3216 A61M5/3202 A61M5/3205 A61M2205/6081 C08K5/11 A61L31/06 B65D1/0215 B65D65/46 C08F2/50 C08F222/1006 C08J7/18 C08J2300/16 C08J2367/04 C08J2433/06 Y02W90/12 Y02W90/13 C08L23/06 A61L31/141

European class: B32B9/02 B65D1/02B1 B65D41/06B B65D41/34D1 B65D50/04F2 B65D65/46 B65D65/46C C08F2/50 C08K5/00P1 C08L101/16 L65D251/00Y2D L65D251/00Y6M M08F222/10B

US class: 106/163.01 128/206.24 206/524.7 206/524.700P 220/200 264/322 264/328.17 264/523 422/547 422/557 427/385.5 427/385.500S 427/387 427/387S 427/393.5 427/393.500S 427/496 427/496S 427/508 427/508S 427/579 427/579S 428/35.7 428/35.700P 428/36.92 428/446 428/446S 428/480 428/523 428/532 435/262 435/262.5 435/41 522/113 522/120 522/121 522/144 522/148 522/162 522/172 522/178 522/182 522/182S 522/87 522/88 522/89 523/124 523/125 523/128 524/311 524/506 524/506S 524/560 524/560S 524/585 524/599 524/599S 524/601 524/604 524/605 600/235 604/181 604/187 604/189 604/19 604/192 604/218 604/246 604/317 604/48 604/93.01 606/167 606/181

Classification Explorer

Cited documents: WO07130402 A2, WO07011119 A1, US8852157 BB, US7569619 BB, US7422780 BB, US7279205 BB, US7084187 BB, US6767980 BB, US6756422 BA, US6736898 BB, US6706345 BA, US6419729 BA, US6279766 BA, US6235832 BA, US6168035 BA, US6168035 B1, US6112921 A, US6039899 A, US6036036 A, US5908125 A, US5865330 A, US5706963 A, US5602321 A, US4477529 A, US3917097 A, US2015079413 AA, US2015075532 AA, US2015032060 AA, US2014377797 AA, US2010282623 AA, US2010184926 AA, US2010015200 AA, US2009258175 AA, US2009246544 AA, US2009246250 AA, US2009234035 AA, US2009226655 AA, US2009220545 AA, US2009162683 AA, US2009124756 AA, US2009047531 AA, US2008264894 AA, US2008213209 AA, US2008188597 AA, US2008145564 AA, US2008067141 AA, US2007267304 AA, US2007264520 AA, US2007043148 AA, US2007034589 AA, US2005236354 AA, US2005173436 AA, US2002160201 AA, JP5086307 A2, JP2013091763 A2, JP2008220811 A2, JP2004277682 A2, JP2004161802 A2, JP10305532 A2, CN1919696 A, CN101142260 A, CN101031477 A,

Forward Citations: WO16025670, USD756776, USD756234, USD753287, US9655517, US9505858, US9458268, US9452863, US9228050, US9228044, US9193818, US9187597, US9174000, US9090372, US8870003, US8701905, US2016213250, US2016145413, US2014291273, US2013126462, US2013023830, US2012205373, US2010252617, US2010155396, US2010084361,

Abstract:
Source: US2011089173A A resin includes: an acrylate; and a curing agent to cure the acrylate. The resin is adapted to adhere to a degradable material selected from the group consisting of polylactic polymer (PLA), polyhydroxyalkonate (PHA), poly 3 hydroxybutrate co 3 hydroxyhexanote (PHBH), and paper. The curing agent includes a photoinitiator or a sensitizer that, when cured, form a hard coat when the resin is exposed to ultraviolet radiation or an electron beam.

0) US2014161484A – CARTRIDGE AND METHOD OF MANUFACTURING CARTRIDGE...

235) Family number: 56667307 (US2014161484A) © PatBase

Title: CARTRIDGE AND METHOD OF MANUFACTURING CARTRIDGE

Priority: JP20120269557 20121210 JP20150193490 20150930

Family:

Publication number	Publication date	Application number	Application date
JP2014115472 A2	20140626	JP20120269557	20121210
JP2016027425 A2	20160218	JP20150193490	20150930
US2014161484 AA	20140612	US20130100407	20131209
US9201392 BB	20151201	US20130100407	20131209

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK

Assignee(s): CANON INC

Inventor(s):(std)**:** UNEME TETSUJI ; UNEME TETSUSHI

Agent(s): CANON USA INC IP DIVISION

International class(IPC 8–9)**:** B21D39/03 G03G15/08 G03G21/16 G03G21/18 (Advanced/Invention)

CPC: Y10T29/49826 G03G21/181 G03G15/0865 G03G15/0875 G03G21/1821

US class: 1/1 29/428 399/111 399/119

Classification Explorer

Cited documents: US5940657 A, US2011229196 AA, US2004091282 AA, JP9044056 A2, JP2010224363 A2, JP2010026500 A2, JP2009063661 A2, JP2006001065 A2, JP2003241619 A2, JP2003236877 A2, JP2002328584 A2,

Abstract:
Source: US2014161484A A method of manufacturing a cartridge including a first member having a flexible engaging portion and a second member having an engaged portion to be engaged with the engaging portion, configured to manufacture a cartridge by a process of engaging the engaging portion of the first member and the engaged portion of the second member; and a process of forming a third member configured to restrict a movement of the flexible engaging portion by letting a fluent material flow in between the first member and the second member and solidifying the fluent material.

0) US2002097964A – FIBER OPTIC CONNECTOR HAVING AN ANNULAR–SHAPED ...

236) Family number: 30989592 (US2002097964A) © PatBase

Title: FIBER OPTIC CONNECTOR HAVING AN ANNULAR–SHAPED FLOATING SEAL ASSEMBLEY

Priority: US19990119227P 19990209 US19990119367P 19990209 US19990119367P 19990209 US20000647759 20001004 US20000712026 20001114 US19990440025 19991112 US20000712015 20001114 US20020102243 20020319 US20000666693 20000921 WO2000US03255 20000208

Family:

Publication number	Publication date	Application number	Application date
AU200028749 A5	20000829	AU20000028749	20000208
US2002097964 AA	20020725	US20020102243	20020319
US6305849 BA	20011023	US19990440025	19991112
US6305849 C1	20090331	US19990440025	19991112
US6357929 BA	20020319	US20000712015	20001114
US6371660 BA	20020416	US20000712026	20001114
US6394661 BA	20020528	US20000666693	20000921
US6499839 BA	20021231	US20000647759	20001004
WO0047419 A1	20000817	WO2000US03255	20000208
WO0047419 B1	20001123	WO2000US03255	20000208

Probable Assignee: FIBER SYSTEMS INT

Assignee(s):(std)**:** FIBER SYSTEMS INT ; FOX JAMES E ; HUDD ALAN L ; FIBER SYSTEMS INTERNAT ; BAILEY MICHAEL E ; BUSBY MILES T ; WHITAKER KERRY W ; SOURCE TECHNOLOGIES INC

Assignee(s): SOURCE TECHNOLOGIES LLC A DELAWARE LTD ; SOURCE TECHNOLOGIES LLC A DELAWARE LIABILITY CO LT ; SOURCE TECHNOLOGIES LLC A DELAWARE LIABILITY CO LTD ; CONGRESSIONAL BANK ; DIAMOND CREEK CAPITAL LLC ; FARRAGUT MEZZANINE PARTNERS III LP ; FIBER SYSTEMS INT SUITE 103 1681 FA ; FIBER SYSTEMS INT 1681 FA ; LIBERTY PARTNERS LENDERS LLC ; LIBERTY PARTNER LENDERS LLC ; FIBER SYSTEMS INTERNATIONAL ; ROEHRS MICHAEL ; ROEHRS DANIEL ; SC HOLDINGS 001 LLC ; OPUS BANK

Inventor(s):(std)**:** BAILEY MICHAEL E ; BUSBY MILES T ; CULL BRYAN D ; FOX JAMES E ; HUDD ALAN L ; ROEHRS DANIEL C ; WHITAKER KERRY W ; WHITAKER KERRY ; ROEHRS MICHAEL ; ROEHRS DANIEL

Inventor(s): ALAN L HUDD ; JAMES E FOX ; MICHAEL E BAILEY ; MILES T BUSBY

Designated states: AE AL AM AT AU AZ BA BB BE BF BG BJ BR BY CA CF CG CH CI CM CN CR CU CY CZ DE DK DM EE ES FI FR GA GB GD GE GH GM GN GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX NE NL NO NZ PL PT RO RU SD SE SG SI SK SL SN SZ TD TG TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

International class (IPC 8–9): B41J2/175 C09D11/00 G02B6/38 (Advanced/Invention); B41J2/175 C09D11/00 G02B6/38 (Core/Invention)

International class (IPC 1–7): B41J2/17 B41J29/38 G02B6/38

CPC: C09D11/38 G02B6/3851 G02B6/389 G02B6/3825 G02B6/3878 B41J2/175 C09D11/322 G02B6/383 G02B6/3831 G02B6/3849 G02B6/3869 G02B6/3877 G02B6/3887 G02B6/3894

European class: B41J2/175 C09D11/322 C09D11/38 G02B6/38D10A4 G02B6/38D10A6 G02B6/38D14 G02B6/38D14S G02B6/38D2N G02B6/38D2S3 G02B6/38D2S5 S02B6/38D10A4 S02B6/38D12 S02B6/38D2S3 S02B6/38D2S5 S02B6/38D6H2 S02B6/38D8

US class: 347/100 347/106 347/96 385/56 385/56S 385/58 385/58S 385/59 385/59P 385/60 385/69 385/70 385/71 385/76 385/77 385/78

Classification Explorer

Cited documents: USD424020, USD412312 S1, US6305849 BA, US6234693 BA, US6234683 BA, US6206579 BA, US6179481 BA, US6081647 A, US6059407 A, US6048439 A, US6024890 A, US5808637 A, US5796896 A, US5736606 A, US5608828 A, US5590229 A, US5553528 A, US5542487 A, US5517223 A, US5515466 A, US5510884 A, US5463416 A, US5394497 A, US5394494 A, US5382963 A, US5291243 A, US5285510 A, US5283848 A, US5280556 A, US5274567 A, US5064268 A, US4928125 A, US4878730 A, US4812007 A, US4758275 A, US4639748 A, US4599629 A, US4595839 A, US4552469 A, US4493529 A, US4432003 A, US4315267 A, US4309319 A, US4258977 A, US4258371 A, US4197563 A, US4158862 A, US4143381 A, US4140366 A, US4131899 A, US4122459 A, US4107698 A, US4107238 A, US4103306 A, US4078238 A, US4075636 A, US4070679 A, US4068240 A, US4063252 A, US4060812 A, US4045770 A, US4027308 A, US4025925 A, US3998160 A, US3992712 A, US3979756 A, US3972053 A, US3971033 A, US3959797 A, US3928855 A, US3916419 A, US3878518 A, US3864692 A, US3864691 A, US3808272 A, US3787879 A, US3739396 A, US3509816 A, FR166636, EP0166636 A1,

Forward Citations: WO14041450, WO14041449, WO13177014, WO08005204, WO07142845, WO07142845, WO07106713, WO07106713, WO07046840, WO06012354, WO06009701, WO05054381, USRE42522, USD478549, US9664862, US9599777, US9599771, US9568689, US9482829, US9482828, US9435962, US9395499, US9310570, US9239441, US9116307, US9110253, US9052470, US9017468, US8834037, US8821033, US8814442, US8770862, US8672560, US8573761, US8556521, US8540435, US8515233, US8475200, US8454737, US8414196, US8393804, US8202008, US8137002, US8128294, US8123547, US8038354, US7959361, US7942590, US7938686, US7927412, US7918609, US7914135, US7881576, US7878716, US7785015, US7766557, US7762726, US7744288, US7744286, US7722258, US7706645, US7699533, US7686519, US7677814, US7674046, US7651278, US7614798, US7614797, US7591595, US7585116, US7572065, US7572063, US7556437, US7481586, US7476035, US7465103, US7463803, US7458855, US7441962, US7396165, US7350981, US7331827, US7318751, US7290941, US7265176, US7258493, US7255433, US7244066, US7237965, US7220062, US7186144, US7172458, US7165893, US7156560, US7150567, US7137742, US7123836, US7113679, US7111990, US7090407, US7090406, US7048448, US7048446, US7044650, US7008270, US6986607, US6886931, US6874946, US6848834, US6827597, US6769813, US6719461, US6659654, US6394662, US6394661, US2016238796, US2015043870, US2013236140, US2013236139, US2013230284, US2013183002, US2012237169, US2012033921, US2011217016, US2011217014, US2011151706, US2011066718, US2011003501, US2010296779, US2010266244, US2010266242, US2010183264, US2010178008, US2010172616, US2009289180, US2009252459, US2009196563, US2009191759, US2009162016, US2009148104, US2009148103, US2009148102, US2009060423, US2009060420, US2009041411, US2009025603, US2009003772, US2008310796, US2008273840, US2008253717, US2008226234, US2008219626, US2008175546, US2008175543, US2008175541, US2008159699, US2008037946, US2008037938, US2008013890, US2008013889, US2007297723, US2007281552, US2007279467, US2007263959, US2007238360, US2007222838, US2007110384, US2007077010, US2007058907, US2006269194, US2006257076, US2006251359, US2006239620, US2006193567, US2006193562, US2006173112, US2006154529, US2006088247, US2006056770, US2006045430, US2006045428, US2005285918, US2005135755, US2005117850, US2005069262, US2005053342, US2004247255, US2004228589, US2004223720, US2004223699, US2004184739, US2004161203, US2004135863, US2004120655, US2003210870, US2003152332, TWI422887, RU2615592, GB2467028, GB2467028, FR3034345, EP3114178, EP2910989, EP1784469, EP1672401, CN102508340, CN101955706,

Abstract:
Source: US2002097964A A multi−channel fiber optic cable connector is provided for connecting the terminal ends of fiber optic cables utilizing continuous ceramic sleeves to align the adjacent termini of optical fibers included within respective ones of the cables. The continuous ceramic sleeves have internal bores which are slightly larger than the outside diameter of the periphery of the termini, providing a clearance fit between the continuous ceramic sleeves and respective ones of the termini. The termini are independently gimbaled, with gimbal points being disposed distally from respective mating planes between opposing terminal ends of the termini. Floating seal assemblies extend around respective ones of the termini between the mating planes and the gimbal points, and seal between the respective ones of the termini and a connector housing. The floating seal assemblies each include an annular−shaped, floating collar having an aperture through which a respective one of the termini extends. The floating collar is free to move parallel to a longitudinal axis of the respective termini, and also transverse thereto. A first seal element seals between the aperture of the floating collar and the respective termini. The floating collar includes a face which extends transverse to the longitudinal axis of the respective termini. A second seal element extends around the longitudinal axis of the respective termini and is sealingly engaged between the face of the floating collar and a seal surface of a bore in the connector housing.

0) US2008003013A – CARTRIDGE SPLIT RAIL CLIP

237) Family number: 41019541 (US2008003013A) © PatBase

Title: CARTRIDGE SPLIT RAIL CLIP

Priority: US20060478862 20060630

Family:

Publication number	Publication date	Application number	Application date
US2008003013 AA	20080103	US20060478862	20060630

Probable Assignee: STATIC CONTROL COMPONENTS INC

Assignee(s):(std)**:** STATIC CONTROL COMPONENTS INC

Assignee(s): WACHOVIA BANK NATIONAL ASSOCIATION

Inventor(s):(std)**:** HUCK DONALD R ; JONES JAMES H ; MARTIN THOMAS J

Agent(s): WILLIAM L LONDON

International class (IPC 8–9): G03G15/00 (Advanced/Invention); G03G15/00 (Core/Invention)

CPC: G03G15/0894 G03G2215/0872

European class: G03G15/08R S03G215/08B4

US class: 399/109

Classification Explorer

Cited documents: USD494997 S1, USD474762 S1, USD473896 S1, USD473127 S1, USD471067 S1, USD468359 S1, USD446807 S1, US809049 A, US6240605 BA, US6079084 A, US6014534 A, US5979025 A, US5941434 A, US5937238 A, US5799712 A, US4637098 A, US4605978 A, US3082897 A, US2004228651 AA, US1681925 A,

Forward Citations: US9329563, US8422911, US7917067, US2014241773, US2011268470, US2009175666,

Abstract:
Source: US2008003013A A reinforcing clip for use in the toner cartridge remanufacturing industry is disclosed. The reinforcing clip secures a magnetic roller section as it is positioned on a toner hoper reservoir of a toner cartridge. The toner hopper reservoir has a limited amount of space available to mount such a clip. The present invention provides a securing force which is about perpendicular to the fastening force of the reinforcing clip's two securing legs.

0) US2006120748A – IMAGE FORMING APPARATUS

238) Family number: 33001339 (US2006120748A) © PatBase

Title: IMAGE FORMING APPARATUS

Priority: JP20040331143 20041115 JP20040331144 20041115 JP20040331270 20041115

Family:

Publication number	Publication date	Application number	Application date
DE602005004236 D1	20080221	DE200560004236T	20051114
DE602005004236 T2	20090108	DE200560004236T	20051114
EP1657599 A1	20060517	EP20050024825	20051114
EP1657599 B1	20080109	EP20050024825	20051114
JP2006139219 A2	20060601	JP20040331143	20041115
JP2006139220 A2	20060601	JP20040331144	20041115
JP2006139228 A2	20060601	JP20040331270	20041115
JP4384013 B2	20091216	JP20040331270	20041115
JP4538300 B2	20100908	JP20040331144	20041115
US2006120748 AA	20060608	US20050271808	20051114
US7400842 BB	20080715	US20050271808	20051114

Probable Assignee: RICOH CO LTD

Assignee(s):(std)**:** RICOH KK ; SUGA TOMOAKI ; TAKEHARA KENICHI ; TAKIGAWA JUNYA ; IIJIMA YASUAKI

Assignee(s): RICOH CO LTD ; RICOH COMPANY LTD

Inventor(s):(std)**:** IIJIMA YASUAKI ; SUGA TOMOAKI ; TAKEHARA KENICHI ; TAKIGAWA JUNYA

Agent(s): SCHWABE – SANDMAIR – MARX; OBLON SPIVAK MCCLELLAND MAIER AND NEUSTADT PC

Designated states: DE ES FR GB IT NL

International class (IPC 8–9): G03G15/00 G03G15/01 G03G21/00 G03G21/20 (Advanced/Invention); G03G15/00 G03G15/01 G03G21/00 G03G21/20 (Core/Invention)

CPC: G03G2221/1678 G03G2221/18 G03G15/0194 G03G21/206

European class: G03G15/01S2 G03G21/20 S03G221/16S S03G221/18

US class: 399/92 399/94

Classification Explorer

Cited documents: US6308024 BA, US6275670 BA, US5146279 A, US2004101328 AA, US2004052545 AA, JPS59192159, JP9106162 A2, JP9026731 A2, JP8286577 A2, JP8171317 A2, JP8160839 A2, JP7020753 A2, JP6027846 A2, JP6019302 A2, JP59192159 A2, JP5158292 A2, JP3121220 B2, JP3121220, JP2004258159 A2, JP2004205999 A2, JP2003208066 A2, JP2003208065 A2, JP2002297003 A2, JP2002229400 A2, JP2002116670 A2, JP2002006588 A2, JP2000029373 A2, JP1169466 A2, JP10153897 A2, JP10149067 A2, EP1271259 A1,

Forward Citations: US9310763, US9170561, US9158277, US9075331, US9031448, US8798493, US8792800, US8687998, US8538286, US8509647, US8406665, US8385777, US8210489, US8068759, US8036564, US8014696, US7937014, US7877037, US7835661, US7809303, US7526223, US2017017200, US2014212164, US2014003833, US2013084099, US2012070181, US2011188879, US2011110691, US2011110688, US2011097101, US2010244645, US2008253796, US2007268321, US2007146739, US2007071484, US2006257161, JP2011186501, JP2011048253, EP2546700, CN102880036, CN102880036,

Abstract:
Source: US2006120748A Heat exhaust holes are provided in a unit frame at positions just above respective imaging units. An exhaust fan causes air heated at developing elements to be exhausted outside an apparatus via heat exhaust ducts and a common duct. The heat exhaust holes are formed in different sizes depending on a position of the imaging unit. The closer the position of the imaging unit is, the larger the heat exhaust hole provided above the imaging unit is.

239) Family number: 43784727 (US2009245866A) © PatBase

Title: IMAGE FORMING APPARATUS HAVING A CLEANING MEMBER THAT CLEANS A TRANSMITTING MEMBER PROVIDED IN AN OPTICAL DEVICE

Priority: JP20080090199 20080331 JP20080090202 20080331 JP20080090203 20080331

Family:

Publication number	Publication date	Application number	Application date
CN101551632 A	20091007	CN200910132539	20090331
CN101551632 B	20111005	CN200910132539	20090331
JP2009244540 A2	20091022	JP20080090199	20080331
JP2009244543 A2	20091022	JP20080090202	20080331
JP2009244544 A2	20091022	JP20080090203	20080331
JP5038213 B2	20121003	JP20080090202	20080331
JP5038214 B2	20121003	JP20080090203	20080331
JP5247205 B2	20130724	JP20080090199	20080331
US2009245866 AA	20091001	US20090414391	20090330
US7853170 BB	20101214	US20090414391	20090330

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK

Assignee(s): CANON INC ; CANON K K ; CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** HIROSHI KAWAMURA ; KAWAMURA HIROSHI ; KAYAMA NAONORI ; MASAKI SATO ; NAONORI KAYAMA ; NISHITANI SHUJI ; SATO MASAKI ; SHIKAYAMA NAONORI ; SHINICHI TATEDA ; SHUJI NISHIDANI ; UEDA SHINICHI

Inventor(s): TATEDA SHINICHI ; NISHIDANI SHUJI

Agent(s): CANON USA INC INTELLECTUAL PROPERTY DIVISION; CANON USA INC IP DIVISION

International class(IPC 8–9)**:** B41J2/44 G03G15/00 G03G15/01 G03G15/04 G03G15/20 G03G21/00 G03G21/16 G03G21/18 (Advanced/Invention); G03G15/00 G03G15/04 G03G21/16 G03G21/18 (Core/Invention)

CPC: G03G21/1647 G03G21/1666 G03G21/169 G03G21/1842 G03G2221/1636 G03G15/04045

European class: G03G15/04L G03G21/18H1 S03G221/16E

US class: 399/123 399/123P 399/98

Classification Explorer

Cited documents: US7515171 BB, US7436426 BB, US7203444 BB, US6463236 BB, US5689769 A, US5089850 A, US2006001980 AA, JP9160470 A2, JP9160465 A2, JP5341587 A2, JP5281625 A2, JP2064682 A2, JP2008242432 A2, JP2008242432, JP2007240789 A2, JP2007240789, JP2007206579 A2, JP2007206579, JP2006276226 A2, JP2006145588 A2, JP2006145588, JP2006044229 A2, JP2005246901 A2, JP2004085899 A2, JP2002333802 A2, JP2002333802, JP2001343876 A2, JP2001343876, JP11295950 A2, JP11295950, JP09160470, JP05341587, JP05281625, JP0264682,

Forward Citations: US9380184, US9239534, US8364056, US8305419, US8238781, US8112012, US2011286761, US2011222902, US2009250080, US2009213203, JP5984485, JP2015060132, JP2013228635, CN103454892, CN103454892,

Abstract:
Source: US2009245866A An image forming apparatus including a cartridge that has a photosensitive drum and can be attached to and detached from a main body of the image forming apparatus, an optical device that has a cover glass through which light emitted toward the photosensitive drum passes, a cleaning member that can move from a cleaning start position to a cleaning end position for cleaning the cover glass, and a lock member that prevents the cleaning member from moving. Before the cartridge is attached, the lock member prevents the cleaning member from moving in the longitudinal direction of the cover glass. During the attachment of the cartridge, the cartridge engages with the lock member and unlocks the cleaning member and enables the cleaning

member to move from the cleaning start position.

240) Family number: 15703604 (US5854962A) © PatBase

Title: Electrophotographic component cleaning apparatus

Priority: GB19980018904 19980828 GB20010020308 19980828 US19970936096 19970923 GB20010020308 20010821 KR19980039184 19980922

Family:

Publication number	Publication date	Application number	Application date
CN1212386 A	19990331	CN19981015292	19980623
GB200120308 A0	20011017	GB20010020308	19980828
GB2329867 A1	19990407	GB19980018904	19980828
GB2329867 B2	20011128	GB19980018904	19980828
GB2362606 A1	20011128	GB20010020308	19980828
GB2362606 B2	20020424	GB20010020308	19980828
GB9818904 A0	19981021	GB19980018904	19980828
IN00927CA1998 A	20060113	IN1998CA00927	19980522
IN213433 B	20080104	IN1998CA00927	19980522
KR19990030017 A	19990426	KR19980039184	19980922
US5854962 A	19981229	US19970936096	19970923

Probable Assignee: HEWLETT PACKARD DEVELOPMENT CO LP

Assignee(s):(std)**:** HEWLETT PACKARD CO

Assignee(s): HEWLETT PACKARD COMPANY ; HEWLETT PACKARD DEVELOPMENT CO LP

Inventor(s):(std)**:** BOOCKHOLDT DARIUS ; DARIUS BOOCKHOLDT ; HOOPER HOWARD G ; HOWARD G HOOPER ; III ; PHILIPS QUINTIN T ; PHILLIPS QUINTIN T ; QUINTIN T PHILIPS

Inventor(s): QUINTIN T PHILLIPS

International class (IPC 8–9): G03G21/00 (Advanced/Invention); G03G21/00 (Advanced/Non–invention); G03G21/00 (Core/Invention)

International class (IPC 1–7): G03G21/00 G03G21/12 G03G9/08

CPC: G03G21/00 G03G2221/0042 G03G2221/0063 G03G2221/0089 G03G2215/00531 G03G2221/0026 G03G2221/0084

European class: G03G21/00 S03G215/00G2G S03G221/00C S03G221/00C1P S03G221/00C2B S03G221/00C3L S03G221/00C3M

US class: 399/343

Classification Explorer

Cited documents: US5740498 A, US5705447 A, US5560980 A, US5323213 A, US5179416 A, US5148227 A, US4739370 A, US4613229 A, US4392642 A, US4344362 A, US4247196 A, US3980424 A, US3947108 A, GB2292340 A1, GB2282781 A1, GB2282105 A1, GB2276847 A1, GB2116911 A1, EP0671672 A2, EP0563560 A1,

Forward Citations: WO07050064, WO05026847, US8695502, US8608857, US8317930, US7981221, US7532846, US7010259, US6647580, US2011262710, US2010251916, US2009211595, US2007041743, US2005201785, FR2817506, EP1211100, DE10340706,

Abstract:
Source: US5854962A The first embodiment of an electrophotographic component cleaning apparatus includes a sheet of cleaning media, formed from a material such as felt, cloth or abrasive impregnated plastic fibers. Attached to the cleaning media is a retaining device. Preferably, the retaining device includes a plastic tab bonded to the sheet of cleaning media. Attached to the plastic tab is a plastic strap with an adhesive located on the free end. For use, the cleaning media is inserted into the print media path of the printer with the plastic strap looped around any conveniently protruding feature inside the printer. The rotation of the drum against the cleaning media results in the removal of contaminants. A second embodiment of an electrophotographic component cleaning apparatus includes an oversized cleaning roller which is installed into the printer in place of the transfer roller. A reservoir pivotally attached to the shaft of the cleaning roller contains cleaning fluid which is absorbed into the

cleaning roller. Movement of the cleaning roller over the surface of the photoconductor drum results in the removal of contaminants. In a third embodiment of the electrophotographic component cleaning apparatus for use with an electrophotographic print cartridge, the electrophotographic print cartridge is mounted into a stand with the drum in contact with the cleaning roller. Movement of the cleaning roller over the surface of the photoconductor drum results in the removal of contaminants. A fourth embodiment of the electrophotographic component cleaning apparatus uses a cleaning pad disposed in the channel of a cleaning pad holder. The cleaning pad holder is inserted into the laser beam access slot in the electrophotographic print cartridge so that the pad contacts the photoconductor drum through the slot. Movement of the cleaning pad over the surface of the photoconductor drum resulting from rotation provides the cleaning action.

0) US2013084100A – PROCESS CARTRIDGE AND IMAGE FORMING APPARATUS

241) Family number: 53424786 (US2013084100A) © PatBase

Title: PROCESS CARTRIDGE AND IMAGE FORMING APPARATUS

Priority: JP20110213753 20110929

Family:

Publication number	Publication date	Application number	Application date
JP2013073138 A2	20130422	JP20110213753	20110929
JP5443460 B2	20140319	JP20110213753	20110929
US2013084100 AA	20130404	US20120630396	20120928
US8837983 BB	20140916	US20120630396	20120928

Probable Assignee: OKI DATA KK

Assignee(s):(std)**:** OKI DATA KK

Assignee(s): OKI DATA CORP

Inventor(s):(std)**:** NAKASONE YASUSHI

Agent(s): MUNCY GEISSLER OLDS AND LOWE PC

International class (IPC 8–9)**:** G03G21/18 (Advanced/Invention)

CPC: G03G21/1814 G03G21/1821 G03G21/1867 G03G2215/0141

US class: 399/111 399/117 399/90

Classification Explorer

Cited documents: US7050736 BB, JP8328330 A2, JP6180544 A2, JP2000293049 A2, JP2000293049, JP10222040 A2, JP10222040, JP08328330,

Forward Citations: JP2015018125,

Abstract:
Source: US2013084100A A process cartridge attachable to and detachable from an image forming device includes a photosensitive drum that is configured to form an electrostatic latent image, a flange that is arranged to the photosensitive drum, including a cylindrical attachment part, a frame that rotatably holds the flange, and a load member that is slidably press–fitted to the attachment part of the flange. The frame includes an engagement part that is configured to engage with a part of the load member, and a rotation of an end part of the load member is regulated by a regulation surface of the engagement part.

0) EP0306217A2 – CONCENTRATED TONER SOLUTION AND PRESSURIZED TON...

242) Family number: 9850416 (EP0306217A2) © PatBase

Title: CONCENTRATED TONER SOLUTION AND PRESSURIZED TONER DISPENSING MECHANISM.

Priority: US19870091454 19870831

Family:

Publication number	Publication date	Application number	Application date
EP0306217 A2	19890308	EP19880307884	19880825
EP0306217 A3	19890823	EP19880307884	19880825
JP1140180 A2	19890601	JP19880214738	19880829

Probable Assignee: SAVIN CORP

Assignee(s):(std)**:** SAVIN CORP

Inventor(s):(std)**:** ABUNAA EICHI SHIYUNAIDAA ; BENJION RANDA ; HAIMU HOTSUKUMAN ; SCHNEIDER AVNER H ; LANDA BENZION ; HOCHMAN HAIM

Designated states: CH DE FR GB IT LI

International class (IPC 8–9)**:** G03G15/10 G03G15/11 G05D21/02 G05D25/02 (Advanced/Invention); G03G15/10 G03G15/11 G05D21/00 G05D25/00 (Core/Invention)

International class (IPC 1–7)**:** G01F11/08 G03G15/10

CPC: G03G15/104 G05D21/02 G05D25/02

European class: G03G15/10D G05D21/02 G05D25/02

Classification Explorer

Cited documents: WO8705128 A1, US3862849 A, US3789794 A, US3749289 A, US3651782 A, GB1253554 A,

Forward Citations: WO9712289, WO9217824, WO06086041, WO06086041, USRE37859, US6155457, US6088560, US5970273, US5701561, US5655194, US5596396, US5003352, US4994860, JP4072725, JP2004327290, EP0695977, EP0425144, DE4102889,

Abstract:
Source: EP0306217A2 The disclosure is directed to electrophotographic copying equipment and more particularly to a high concentration toner supply and an apparatus (10) to dispense a high concentration toner supply to a reservoir (14) which contains a liquid developer composition. Generally, the apparatus comprises a pressurized toner supply means in fluid communication with a conduit (11). The conduit (11) forms a circulation loop with the reservoir and is arranged to circulate liquid developer composition from the reservoir and through conduit. The pressurized toner supply means is selectively operable to dispense the high concentration toner supply under pressure to the conduit (11) to mix with the liquid developer composition. In a preferred embodiment, the liquid developer flow through the conduit is a turbulent flow to facilitate the mixing of the toner concentrate and the liquid developer composition.

0) US5220385A – PROCESS CARTRIDGE FOR ELECTROGRAPHIC APPARATUS ...

243) Family number: 11196179 (US5220385A) © PatBase

Title: PROCESS CARTRIDGE FOR ELECTROGRAPHIC APPARATUS

Priority: US19910769219 19911001

Family:

Publication number	Publication date	Application number	Application date
US5220385 A	19930615	US19910769219	19911001

Probable Assignee: SURTI TYRONE N

Assignee(s):(std)**:** SURTI TYRONE N

Inventor(s):(std)**:** SURTI TYRONE N

International class (IPC 8–9)**:** G03G15/08 G03G21/18 (Advanced/Invention); G03G15/08 G03G21/18 (Core/Invention)

International class (IPC 1–7)**:** G03G15/06

CPC: Y10S222/01 G03G21/1896 G03G15/0877 G03G15/0882

European class: G03G15/08H3D G03G21/18L2

US class: 222/DIG.1 355/200 355/245 355/260 399/111 399/258

Classification Explorer

Cited documents: US4931838 A, US4615608 A,

Forward Citations: US6823162, US6671481, US5815644, US5510884, US5289243, US2004081487,

Abstract:
Source: US5220385A A process cartridge is provided for use in an electrographic apparatus having control means therein which is actuable responsive to insertion of the process cartridge in the apparatus to control operation of selected elements in the apparatus. The process cartridge is typically provided with a rotatable photosensitive drum upon which an image to be reproduced is formed and a plurality of processing components for acting on the drum. A toner hopper assembly is provided which includes a housing provided with a cavity having toner particles therein for deposition on the drum. The toner hopper defines one of the processing components, and actuating means is secured on the toner hopper for engagement with the control means in the apparatus for actuation thereof.

0) US4012138A – ELECTROSTATIC PHOTOGRAPHIC COPYING APPARATUS

244) Family number: 1376341 (US4012138A) © PatBase

Title: Electrostatic photographic copying apparatus

Priority: JP19720120246 19721130

Family:

Publication number	Publication date	Application number	Application date
DE2359792 A1	19740620	DE19732359792	19731130
DE2359792 B2	19770331	DE19732359792	19731130
FR2209135 A1	19740628	FR19730042540	19731129
FR2209135 B1	19770930	FR19730042540	19731129
GB1450080 A	19760922	GB19730055238	19731128
IT1002078 A	19760520	IT19730031871	19731129
JP1067680 C3	19811023	JP19720120246	19721130
JP49078557 A2	19740729	JP19720120246	19721130
JP56007237 B4	19810217	JP19720120246	19721130
NL162758 B	19800115	NL19730016452	19731130
NL162758 C	19800616	NL19730016452	19731130
NL7316452 A	19740604	NL19730016452	19731130
US4012138 A	19770315	US19730419047	19731126

Probable Assignee: MITA INDUSTRIAL CO LTD

Assignee(s):(std): MITA INDUSTRIAL CO LTD

Assignee(s): MITA INDUSTRIAL CO LTD OSAKA JAPAN ; MITA INDUSTRIAL COMPANY LTD ; MITA INDUSTRIAL CY LTD ; MITA INDUSTRIAL CY LTD JA ; MITA INDUSTRIAL CO

Inventor(s):(std): AIZAWA TATSUO ; WASHIO TAKAJI

Inventor(s): WASHIO TAKAJI TOYONAKA OSAKA ; AIZAWA TATSUO OSAKA

International class (IPC 8–9): G03G15/22 G03G15/30 G03G21/00 (Advanced/Invention); G03G15/00 G03G21/00 (Core/Invention)

International class (IPC 1–7): G03B27/52 G03G15/00 G03G15/22 G03G15/28 G03G15/30 G03G21/00

CPC: G03G15/307

European class: G03G15/30C

US class: 355/51 355/8 399/361 399/76

Classification Explorer

Cited documents: US3819261 A, US3751158 A, US3697169 A, US3647293 A, US3554640 A, US3399610 A, JP51007057 A2, FR2113584 A5, DE2318839 A1, DE2157699 A1, DE2154605 A1, DE2144946 A1,

Forward Citations: US5233389, US4452530, US4303332, US4297023, US4159173, US4124289, US4108544, JP58024158, JP57210366, JP54138450, JP54039134, JP53003829, JP52099828, FR2388310, EP0071145, DE2818965, DE2760140, DE2723081, DE2626037,

Abstract:
Source: US4012138A An electrostatic photographic copying apparatus wherein the image–forming device, the optical device, the transfer device and the transfer paper transferring device are controlled according to the rotation of the rotary drum so that one cycle of the copying operation is completed while the rotating drum, equipped with a photosensitive element on which to form an image, is rotated through two turns. Substantially the entire surface of the rotary drum can be utilized as an image–forming area by rotating the rotary drum through two turns in one cycle of the copying operation.

0) US2005265746A – ELECTROPHOTOGRAPHIC IMAGE FORMING APPARATUS

245) Family number: 32451213 (US2005265746A) © PatBase

Title: ELECTROPHOTOGRAPHIC IMAGE FORMING APPARATUS

Priority: KR20040038745 20040529

Family:

Publication number	Publication date	Application number	Application date
KR100601681 B1	20060714	KR20040038745	20040529
KR20050113522 A	20051202	KR20040038745	20040529
US2005265746 AA	20051201	US20050138291	20050527
US7336916 BB	20080226	US20050138291	20050527

Probable Assignee: S PRINTING SOLUTION CO LTD

Assignee(s):(std)**:** SAMSUNG ELECTRONICS CO LTD

Assignee(s): S PRINTING SOLUTION CO LTD ; SAMSUNG ELECTRONICS CO

Inventor(s):(std)**:** JEONG HEUNG SUP ; JUNG WOO CHUL ; LYU SE HYUN

Agent(s): ROYLANCE ABRAMS BERDO AND GOODMAN LLP

International class(IPC 8–9)**:** G03G15/06 G03G21/16 G03G21/18 (Advanced/Invention); G03G15/06 (Advanced/Non–invention); G03G15/06 G03G21/16 G03G21/18 (Core/Invention)

International class(IPC 1–7)**:** G03G15/06 G03G21/18

CPC: G03G21/1633 G03G21/1853 G03G2221/1654 G03G15/06

European class: G03G21/18H1V S03G221/16K1

US class: 399/110 399/111 399/116 399/117

Classification Explorer

Cited documents: US7092657 BB, US7076187 BB, US2006127129 AA, US2005047821 AA, US2003161654 AA, KRU20000004726, KRU19960038344, KRP1998051632, KR960038344 A, KR20000004726 A, KR1998051632, KR19980051632 A, KR19960038344, JP11223974 A2,

Forward Citations: US9507318, US9423768, US9201390, US9182735, US9182734, US9134691, US9122237, US9052684, US9042770, US8886084, US8699913, US8688003, US8559846, US8401434, US8369743, US8290396, US8135305, US8130247, US8087575, US8045883, US8032058, US7769320, US7522858, US7272341, US2014016964, US2014016962, US2011211884, US2011158678, US2011076055, US2010260518, US2010172673, US2009202271, US2009116869, US2009003876, US2008286003, US2007147885, US2006127129, CN102809916, CN102809916, CN101807036,

Abstract:
Source: US2005265746A An electrophotographic image forming apparatus includes a print unit that prints an image by an electrophotographic process and has a developer cartridge having a photoreceptor drum. A door opens and closes one side of the print unit to install and remove the developer cartridge. A fixing member is selectively shifted between a first position where the developer cartridge is installed and removed and a second position where the developer cartridge is fixed to the print unit by opening and closing the door.

0) US2015117902A – IMAGE FORMING APPARATUS

246) Family number: 59085940 (US2015117902A) © PatBase

Title: IMAGE FORMING APPARATUS

Priority: JP20130224892 20131030

Family:

Publication number	Publication date	Application number	Application date
JP2015087490 A2	20150507	JP20130224892	20131030
US2015117902 AA	20150430	US20140524929	20141027
US9348305 BB	20160524	US20140524929	20141027

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK

Assignee(s): CANON INC

Inventor(s):(std)**:** KANAI DAI ; KANAI MASARU ; YASUMOTO TAKESHI

Agent(s): CHIKASHIMA KAZUO; CANON USA INC IP DIVISION

International class (IPC 8–9)**:** G03G21/18 (Advanced/Invention)

CPC: G03G21/1842 G03G2215/0132

US class: 1/1 399/114

Classification Explorer

Cited documents: US2009297216 AA, US2008138110 AA, JP2008170960 A2, JP2007240661 A2, JP2004126253 A2,

Forward Citations: WO16009867, US9448531, JP5970621, JP2016009867,

Abstract:
Source: US2015117902A An image forming apparatus that can prevent a protection cover from being detached from an apparatus main body when the attaching of a process cartridge is completed, with a simple structure includes a biasing portion that can bias the process cartridge. The biasing portion applies biasing force in such a manner that a distal end portion of the protection cover is sandwiched between the apparatus main body and the process cartridge when the process cartridge is attached to the apparatus main body. This structure can prevent the protection cover from being detached from the apparatus main body at a time when the attaching of the process cartridge is completed.

0) US3936182A – CONTROL ARRANGEMENT FOR AN ELECTROSTATOGRAPHIC ...

247) Family number: 1231480 (US3936182A) © PatBase

Title: Control arrangement for an electrostatographic reproduction apparatus

Priority: US19740496666 19740812

Family:

Publication number	Publication date	Application number	Application date
CA1068762 A1	19791224	CA19750229027	19750610
DE2535952 A1	19760226	DE19752535952	19750812
DE2535952 C2	19851107	DE19752535952	19750812
FR2289941 A1	19760528	FR19750024952	19750811
FR2289941 B1	19830415	FR19750024952	19750811
GB1496971 A	19780105	GB19750020626	19750515
NL7509562 A	19760216	NL19750009562	19750811
US3936182 A	19760203	US19740496666	19740812

Probable Assignee: XEROX CORP

Assignee(s):(std)**:** XEROX CORP

Assignee(s): XEROX CORP ROCHESTER N Y US ; XEROX TE ROCHESTER NEW YORK VER ST V AM CORP ; SHEIKH SIKANDER

Inventor(s):(std)**:** SHEIKH SIKANDER

Inventor(s): SHEIKH SIKANDER WEBSTER N Y

International class (IPC 8–9)**:** G03G15/00 G03G21/14 (Advanced/Invention); G03G21/14 (Core/Invention)

International class (IPC 1–7)**:** G03B27/52 G03G15/00 G03G15/01 G03G15/22 G03G21/00 G05B15/02 G05B19/18 G06F15/20

CPC: G03G21/14

European class: G03G21/14

US class: 399/77

Classification Explorer

Cited documents: US3815988 A, US3797931 A, US3796486 A, US3698805 A, US3690760 A, US3682544 A, US3588472 A, US3062109 A, DE2264004 A1, DE2007178 A1,

Forward Citations: US6934502, US5192971, US5168307, US5093688, US5021827, US5003346, US4942520, US4799082, US4757348, US4755929, US4733269, US4728984, US4716438, US4688173, US4677558, US4523299, US4375917, US4343036, US4322847, US4305654, US4234250, US4213190, US4198680, US4195928, US4165165, US4161277, US2006192987, JP52043435, GB2163704, GB2163704, FR2575841, FR2438286, FR2388316, FR2388315, FR2360922, EP0259839, EP0002567, DE3704583, DE3616602, DE2941647, DE2858780, DE2833020, DE2809057, DE2720537, DE2654076,

Abstract:
Source: US3936182A A copier apparatus control means is disclosed which comprises a digital processor adapted for storing and executing a stored control program. The logical organization of the digital processor is simplified by employing non–destructive memory program storage means. Control of the apparatus is programmable by altering the program through substitution of the non–destructive memory means.

0) US2004057751A – IMAGE FORMING APPARATUS

248) Family number: 30398190 (US2004057751A) © PatBase

Title: IMAGE FORMING APPARATUS

Priority: JP20020250716 20020829 JP20020250717 20020829 JP20020250719 20020829 JP20020250720 20020829 JP20020250718 20020829 JP20030193582 20030708

Family:

Publication number	Publication date	Application number	Application date
JP2004093608 A2	20040325	JP20020250716	20020829
JP2004093609 A2	20040325	JP20020250718	20020829
JP2004093610 A2	20040325	JP20020250719	20020829
JP2004093611 A2	20040325	JP20020250720	20020829
JP2004145272 A2	20040520	JP20030193582	20030708
JP4296383 B2	20090715	JP20020250716	20020829
JP4362681 B2	20091111	JP20020250720	20020829
JP4380971 B2	20091209	JP20020250718	20020829
JP4380972 B2	20091209	JP20020250719	20020829
US2004057751 AA	20040325	US20030650048	20030828
US6985684 BB	20060110	US20030650048	20030828

Probable Assignee: SEIKO EPSON CORP

Assignee(s):(std)**:** SEIKO EPSON CORP

Inventor(s):(std)**:** KISHIGAMI MINORU ; MATSUO YASUHIRO ; MIYAMOTO SATORU

Agent(s): SUGHRUE MION PLLC

International class (IPC 8–9)**:** G03G15/00 G03G15/01 G03G15/08 G03G21/00 G03G21/16 (Advanced/Invention); G03G15/00 G03G15/01 G03G15/08 G03G21/00 G03G21/16 (Core/Invention)

International class (IPC 1–7)**:** G03G15/00 G03G15/01 G03G15/08 G03G21/00 G03G21/16

CPC: G03G15/0121 G03G15/0173 G03G2215/0177

European class: G03G15/01D6 G03G15/01S1 S03G215/01S2A

US class: 399/227

Classification Explorer

Cited documents: US5585911 A, US5495327 A, US5471292 A, US4743938 A, US4030445 A, JP9244402 A2, JP9244402, JP8339111, JP8062923, JP7199586, JP7117784 A2, JP63078175 A2, JP6250482 A2, JP61105565 A2, JP61099169 A2, JP61095370 A2, JP61095370, JP5094086 A2, JP4119369, JP4011030 A2, JP36015877 Y1, JP3129875 B2, JP3129875, JP3095878, JP2003015409 A2, JP2001304296, JP2001134074 A2, JP2001083767, JP2000206753, JP10268606, JP10142886 A2, JP09244402, JP08339111, JP08062923, JP07199586, JP04119369, JP03095878,

Forward Citations: US8600249, US8155564, US8027618, US7933538, US7899366, US7865116, US7668486, US7332887, US7292800, US7286776, US2014215374, US2010054803, US2010054778, US2010008700, US2007177900, US2007040530, US2006072940, US2006039720, US2005281568, JP5523015, JP5366481, JP4363241, JP4267052, JP2011225231, JP2011095603, JP2011013625, JP2010079282, JP2010054863, JP2008310302, JP2007240957, JP2007078891, JP2005300947, EP2159645,

Abstract:
Source: US2004057751A In an image forming apparatus of the present invention, during the image forming operation, the completion of development by one of development cartridges is followed by the rotation of a rotary for setting the next development cartridge to a development position. The rotational speed v of the rotary for this is increased linearly to the maximum speed vmax and, after that, is decreased linearly to stop the rotary when the next development cartridge reaches the development position. During the replacement of the development cartridge in the non−image forming operation, the rotary is rotated to set the development cartridge to be replaced to the replacement position. The rotational speed of the rotary for this is set to be a constant speed v1 in a region other than a contact region where an input gear of the development side is in contact with a driving gear of the fixed side and a speed lower than the speed v1 in the contact region (the minimum speed v2). Therefore, the

impact during collision between the input gear of the development unit and the development unit driving gear according to the rotation of the rotary in the non−image forming operation can be effectively reduced and the time required for rotation of the rotary in the non−image forming operation can be shortened.

0) US2016116864A – REMANUFACTURING METHOD OF DEVELOPER ACCOMMODATI...

249) Family number: 62183348 (US2016116864A) © PatBase

Title: REMANUFACTURING METHOD OF DEVELOPER ACCOMMODATING UNIT

Priority: JP20140218517 20141027 KR20150148459 20151026 US20150919963 20151022 US20160240842 20160818

Family:

Publication number	Publication date	Application number	Application date
CN105549358 A	20160504	CN201510703830	20151027
EP3026497 A1	20160601	EP20150191481	20151026
JP2016085370 A2	20160519	JP20140218517	20141027
KR20160049487 A	20160509	KR20150148459	20151026
PH2015000355 A	20170503	PH20150000355	20151022
US2016116864 AA	20160428	US20150919963	20151022
US2016357128 AA	20161208	US20160240842	20160818
US9465321 BB	20161011	US20150919963	20151022
US9678458 BB	20170613	US20160240842	20160818

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON INC ; CANON KK

Assignee(s): CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** IKEDA KIYOHIRO ; IKEDA TAKAHIRO ; ISOBE YUTA ; KASE TAKASHI ; KOUKI YANO ; TAKAHIRO IKEDA ; TAKASHI KASE ; USUI YUSUKE ; YANO KOKI ; YANO KOUKI ; YUSUKE USUI ; YUTA ISOBE

Agent(s): WALKER PHILIP MARTIN; SALUDO FERNANDEZ AQUINO AND TALEON LAW OFFICES; CANON USA INC IP DIVISION

Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL NO PL PT RO RS SE SI SK SM TR

International class (IPC 8–9): G03G15/08 G03G21/18 (Advanced/Invention)

CPC: G03G15/0875 G03G15/0882 G03G21/181 G03G2215/00987 G03G15/0894 G03G15/0874

US class: 1/1 399/109

Classification Explorer

Cited documents: US6009289 A, US5960238 A, US5761584 A, US5412364 A, US3599682 A, US2015234319 AA, US2015139684 AA, US2014072346 AA, US2010021325 AA, US2009016777 AA, US2008193168 AA, US2008175628 AA, US2007116494 AA, US2005226655 AA, US2003235436 AA, US2003123900 AA, US2001052526 AA, US2001021325 AA, JP8171281 A2, JP3320403 B2, JP2009282259 A2, JP2008122825 A2, JP2006267679 A2, JP2003208003 A2, EP2600206 A2, EP1542088 A1, EP1403736 A1,

Forward Citations: US2016252844,

Abstract:
Source: US2016116864A Provided is a remanufacturing method of a developer accommodating unit including a frame member configured to accommodate a flexible container for accommodating developer. The remanufacturing method includes taking out the flexible container from the inside of the frame member, and refilling the developer into the flexible container.

0) US5210579A – IMAGE FIXING APPARATUS HAVING A PARTING RESIN L...

250) Family number: 3393142 (US5210579A) © PatBase

Title: IMAGE FIXING APPARATUS HAVING A PARTING RESIN LAYER FOR REDUCING FRICTIONAL RESISTANCE OF THE FILM THROUGH WHICH THE IMAGE IS HEATED

Priority: JP19900339896 19901130 JP19900339899 19901130 JP19910170073 19910710

Family:

Publication number	Publication date	Application number	Application date
DE69124671 D1	19970327	DE19916024671	19911129
DE69124671 T2	19970731	DE19916024671T	19911129
EP0488357 A2	19920603	EP19910120497	19911129
EP0488357 A3	19930414	EP19910120497	19911129
EP0488357 B1	19970212	EP19910120497	19911129
JP2900604 B2	19990602	JP19900339896	19901130
JP4204980 A2	19920727	JP19900339896	19901130
JP4204983 A2	19920727	JP19900339899	19901130
JP5019647 A2	19930129	JP19910170073	19910710
KR960005479 B1	19960425	KR19910021861	19911130
US5210579 A	19930511	US19910798546	19911126

Probable Assignee: KYANON KK

Assignee(s):(std)**:** CANON KK

Assignee(s): KYANON KK ; CANON INC ; CANON K K ; CANON K K TOKIO TOKYO JP ; CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** AKIRA KURODA ; KURODA AKIRA ; SETORIYAMA TAKESHI ; TAKESHI SETORIYAMA

Inventor(s): SETORIYAMA TAKESHI C O CANON KABUSHIKI KAISHA OHTA ; SETORIYAMA TAKESHI C O CANON KABUSHIKI KAISHA... ; SETORYAMA TAKESHI ; KURODA AKIRA C O CANON KABUSHIKI KAISHA OHTA KU TO ; KURODA AKIRA C O CANON KABUSHIKI KAISHA OHTA...

Designated states: DE FR GB IT

International class (IPC 8–9)**:** G03G15/20 (Advanced/Invention); G03G15/20 (Core/Invention)

International class (IPC 1–7)**:** G03G15/20

CPC: G03G15/2064

European class: G03G15/20H2P

US class: 219/216 355/285 355/290 399/338

Classification Explorer

Cited documents: US5083168 A, US5043763 A, US5027160 A, US5026276 A, US4998121 A, US4954845 A, US3811828 A, JP61093476 A2, JP61090180 A2, JP54018747 A2, JP2085378 A2, GB2027640 A1, EP0411588 A2, EP0372479 A1, EP0363686 A2, EP0362791 A2,

Forward Citations: USRE45252, USRE45015, US9541870, US9367008, US9335688, US9244409, US9213276, US9146510, US9102472, US9002249, US8971763, US8958735, US8913937, US8626048, US8532554, US8509645, US8471178, US8369765, US8265507, US8254802, US8213832, US8139963, US8112024, US8068778, US8068757, US8026030, US8005414, US7974553, US7949280, US7881650, US7831163, US7796932, US7778584, US7778582, US7769331, US7764895, US7715759, US7684724, US7619185, US7609991, US7561818, US7542692, US7536145, US7518089, US7471919, US7440707, US7437086, US7433625, US7427727, US7424260, US7421219, US7389079, US7386174, US7359654, US7347420, US7321746, US7310486, US7283780, US7266314, US7257342, US7251447, US7242895, US7218873, US7203438, US7199335, US7190917, US7187882, US7187878, US7162194, US7147980, US7147980, US7139500, US7139500, US7130572, US7107000, US7081604, US7076183, US7076183,

US7031624, US7027764, US7015431, US7002105, US6998589, US6993279, US6963718, US6961532, US6954608, US6952553, US6952538, US6947699, US6944420, US6937837, US6929894, US6920293, US6915099, US6895207, US6885832, US6862424, US6862416, US6794611, US6787737, US6763205, US6748192, US6734397, US6713725, US6701102, US6674978, US6671488, US6670044, US6654498, US6628906, US6597888, US6594456, US6580883, US6544708, US6519426, US6518546, US6516166, US6505027, US6469279, US6459878, US6456819, US6455811, US6440347, US6423941, US6377777, US6373232, US6359269, US6347201, US6346800, US6337928, US6336009, US6298213, US6266510, US6246491, US6185383, US6175699, US6115563, US6075228, US6023047, US6002106, US5920757, US5862435, US5860051, US5819149, US5801359, US5778293, US5753889, US5752149, US5742878, US5722026, US5656187, US5621512, US5580045, US5568240, US5543905, US5535012, US5532806, US5493379, US5300997, US5280155, US2016363894, US2014341628, US2013164014, US2011236090, US2011222928, US2010202810, US2010180785, US2010028044, US2009257794, US2009252521, US2009245845, US2009230114, US2009202269, US2009092423, US2008187371, US2008187370, US2008181686, US2008056755, US2008031648, US2008025746, US2007258742, US2007183805, US2007105033, US2007059022, US2007059021, US2007059012, US2007059010, US2007059002, US2007059001, US2006233575, US2006188280, US2006024071, US2005258158, US2005244200, US2005226662, US2005220509, US2005214044, US2005194379, US2005191070, US2005180788, US2005006370, US2004218949, US2004202497, US2004169329, US2004120740, US2004091279, US2004081478, US2004042827, US2004037579, US2004028423, US2004009420, US2003230564, US2003206756, US2003170054, US2003077092, US2002110394, TWI405054, JP4847173, JP4649197, JP3893903, JP3818015, JP2011133691, JP2010151961, JP2008191634, JP2007264927, JP2006293225, JP2006171630, JP2005215390, JP2002357964, JP2001312176, EP2793085, EP1174775, EP0984339, EP0772095, EP0692750, EP0649072, EP0585857, DE102016110690, CN103176385,

Abstract:
Source: US5210579A An image heating apparatus includes a heater; a film slidably contactable to the heater; a back−up rotatable member cooperative with the heater to form a nip therebetween with the film therebetween; a driver for driving the back−up rotatable member; wherein the film is driven only by a driving force of the back−up rotatable member; and a resin layer having a parting property, on a portion of the heater which is slidably contactable to the film.

0) US2014009541A – RECORDING APPARATUS

251) Family number: 55520763 (US2014009541A) © PatBase

Title: RECORDING APPARATUS

Priority: JP20120152568 20120706 JP20120178281 20120810

Family:

Publication number	Publication date	Application number	Application date
CN103522772 A	20140122	CN201310276528	20130703
CN103522772 B	20151118	CN201310276528	20130703
JP2014028500 A2	20140213	JP20120178281	20120810
JP6111555 B2	20170412	JP20120178281	20120810
US2014009541 AA	20140109	US20130936079	20130705
US8899725 BB	20141202	US20130936079	20130705

Probable Assignee: SEIKO EPSON CORP

Assignee(s):(std)**:** SEIKO EPSON CORP

Inventor(s):(std)**:** HARADA KAZUMASA ; KAZUMASA HARADA ; KAZUTOSHI MATSUZAKI ; MATSUZAKI KAZUTOSHI ; OKAZAWA YOSHIYUKI ; YOSHIYUKI OKAZAWA

Agent(s): ONDA HIRONORI; ONDA MAKOTO; WORKMAN NYDEGGER

International class (IPC 8–9)**:** B41J13/10 B41J2/01 B41J2/14 B41J2/175 (Advanced/Invention)

CPC: B41J2/1752

US class: 347/49 347/85 347/86

Classification Explorer

Cited documents: WO9959823 A1, US7944910 BB, US7837311 BB, US7802877 BB, US6955422 BB, US6312105 BA, US6302535 BA, US6250750 BA, US2005146576 AA, JP7314660 A2, JP7246716 A2, JP2300909 A2, JP2300909, JP2006159715 A2, JP2006159715, JP2003072105 A2, JP2003072105, JP2002330209 A2, JP2002330209, JP2001111664 A2, JP2001111664, JP2000127427 A2, JP10250103 A2, JP10250103, JP10109427 A2, EP2147794 B1, CN101132918 A,

Abstract:
Source: US2014009541A A cartridge mounting mechanism includes a chamber that accommodates therein a cartridge introduced through a cartridge inlet formed as an opening directed upward, a biasing mechanism that biases the cartridge set in the chamber in an upward direction corresponding to a removal direction of the cartridge, and a holding mechanism configured to be engaged with the cartridge so as to restrict, against a biasing force of the biasing mechanism, the cartridge from moving in the removal direction when the cartridge is set in the chamber, and disengaged from the cartridge to release the cartridge from the restriction against the biasing force, upon being subjected to an external operating force.

0) US5983054A – METHOD AND IMAGE FORMING APPARATUS FOR PREVENTI...

252) Family number: 11842046 (US5983054A) © PatBase

Title: METHOD AND IMAGE FORMING APPARATUS FOR PREVENTING THE USE OF UNSUITABLE PROCESS CARTRIDGES

Priority: JP19980008706 19980120 KR19990001376 19990119

Family:

Publication number	Publication date	Application number	Application date
CN1117302 C	20030806	CN19991001085	19990115
CN1233790 A	19991103	CN19991001085	19990115
HK1022534 A1	20031121	HK20000101635	20000317
JP11202727 A2	19990730	JP19980008706	19980120
JP3672067 B2	20050713	JP19980008706	19980120
KR100327959 B1	20020316	KR19990001376	19990119
KR19990067965 A	19990825	KR19990001376	19990119
US5983054 A	19991109	US19990233063	19990120

Probable Assignee: RICOH CO LTD

Assignee(s):(std)**:** RICOH KK

Assignee(s): ROCOH COMPANY LTD ; RICOH CO ; RICOH CO LTD ; RICOH COMPANY LTD

Inventor(s):(std)**:** KAMEYAMA KENJI ; KENJI KAMEYAMA ; KENYA KAMEYAMA

Inventor(s): KAMEYAMA KENYA

International class (IPC 8–9): G03G21/18 (Advanced/Invention); G03G15/06 (Advanced/Non–invention); G03G21/18 (Core/Invention)

International class (IPC 1–7): G03G15/00 G03G15/06 G03G15/08 G03G21/16 G03G21/18

CPC: G03G21/1628 G03G21/1892 G03G2221/169 G03G15/06

European class: G03G21/18L1P S03G221/16S4

US class: 399/107 399/125 399/25 399/262

Classification Explorer

Forward Citations: US9639054, US9075389, US8995885, US8918012, US8606141, US7367667, US6826373, US6661977, US2013322925, US2013259518, US2011243601, US2006207129, US2005088504, US2002131792, JP5663689, JP5622961, JP5622960, JP5622960, JP5622959, JP5622958, JP2014197216, JP2014157378, JP2014157377, JP2014157376, JP2014157375, CN103454879, CN103454879,

Abstract:
Source: US5983054A An image forming apparatus having a cover and a process cartridge. The cover has a movable lever and swings over the image forming apparatus to an open position and to a closed position. The cover swings to the closed position only when the movable lever is in a predetermined position. The process cartridge is detachably installed when the cover is in the open position and is secured to the image forming apparatus when the cover is in the closed position. The process cartridge includes a projection that moves the movable lever of the cover to the predetermined position.

0) US2010260514A – IMAGE FORMING DEVICE

253) Family number: 47098425 (US2010260514A) © PatBase

Title: IMAGE FORMING DEVICE

Priority: JP20090097698 20090414

Family:

Publication number	Publication date	Application number	Application date
JP2010249973 A2	20101104	JP20090097698	20090414
JP4902688 B2	20120321	JP20090097698	20090414
US2010260514 AA	20101014	US20100759397	20100413
US8433218 BB	20130430	US20100759397	20100413

Probable Assignee: OKI DATA CORP

Assignee(s):(std)**:** OKI DATA KK ; SUZUKI MASAYUKI

Assignee(s): OKI DATA CORP

Inventor(s):(std)**:** SUZUKI MASAYUKI

Agent(s): ANIYA SETUO; KAKIMOTO YASUSHIGE; POSZ LAW GROUP PLC

International class (IPC 8–9): G03G15/00 G03G15/08 G03G15/16 G03G21/16 G03G21/18 (Advanced/Invention)

CPC: G03G21/1842 G03G15/0194 G03G2215/0193

European class: G03G15/01S2 G03G21/18H1 S03G215/01T1

US class: 399/111 399/111P 399/121

Classification Explorer

Cited documents: US7656421 BB, JP9329931 A2, JP9329931, JP62743, JP5035002 A2, JP5035002, JP235528, JP215880, JP2007062967 A2, JP2007062967, JP2006235528 A2, JP2006078544 A2, JP2006078544, JP2003215880 A2, JP2003215880, JP2002062743 A2, JP2002062743, JP09329931, JP05035002,

Abstract:
Source: US2010260514A An image forming device includes a carrying device configured to carry a recording sheet in a predetermined carrying direction, and a plurality of image forming units that are arranged along the carrying direction and that are in contact with the carrying device. All of the image forming units are configured to be separable from the carrying device when one of the image forming units is detached from the carrying device.

0) US2004005168A – OPC UNIT EXCHANGING APPARATUS

254) Family number: 30161843 (US2004005168A) © PatBase

Title: OPC UNIT EXCHANGING APPARATUS

Priority: KR20020038052 20020702

Family:

Publication number	Publication date	Application number	Application date
KR100423492 B1	20040318	KR20020038052	20020702
KR20040003379 A	20040113	KR20020038052	20020702
US2004005168 AA	20040108	US20030438868	20030516
US6952545 BB	20051004	US20030438868	20030516

Probable Assignee: S PRINTING SOLUTION CO LTD

Assignee(s):(std)**:** SAMSUNG ELECTRONICS CO LTD

Assignee(s): S PRINTING SOLUTION CO LTD ; SAMSUNG ELECTRONICS CO

Inventor(s):(std)**:** BAEK CHUNG GUK

Agent(s): STAAS AND HALSEY LLP

International class(IPC 8–9)**:** G03G15/00 G03G15/08 G03G21/16 (Advanced/Invention); G03G15/00 (Advanced/Non–invention); G03G15/00 G03G15/08 G03G21/16 (Core/Invention)

International class(IPC 1–7)**:** G03G15/00 G03G15/02 G03G21/16

CPC: G03G2215/018 G03G21/1633 G03G21/1647 G03G21/1676 G03G15/0813 G03G15/00

European class: G03G15/08F4 G03G21/16

US class: 399/116 399/126

Classification Explorer

Cited documents: US5471286 A, US5414493 A, US5369475 A, US5089849 A, US4989037 A, US4939547 A, US4845523 A, US4339196 A, JPS63100476, JPS62115469, JP63100476 A2, JP62115469 A2, JP2000242059 A2,

Forward Citations: US9098053, US8483596, US8472837, US8280285, US8238789, US8068775, US7263310, US7236721, US7221888, US2014321881, US2011026968, US2009016768, US2008253813, US2006239711, US2005220484, US2005084289, KR100798388, KR100693340, JP5865862, JP2014202903,

Abstract:
Source: US2004005168A An OPC unit exchanging apparatus of a printer includes an organic photo conductor (OPC) unit; a developing cartridge including a developing roller and contacting the OPC unit; a separating unit to separate the OPC unit and developing cartridge by a predetermined distance; a locking unit to settle the developing cartridge at the predetermined distance away from the OPC unit; an unlocking unit to unlock the developing cartridge locked by the locking unit; and a returning unit to return the developing cartridge so that the developing cartridge contacts the OPC unit.

0) US2007040684A – SYSTEMS, METHODS, AND DEVICES FOR CONVERTING AN...

255) Family number: 34229914 (US2007040684A) © PatBase

Title: SYSTEMS, METHODS, AND DEVICES FOR CONVERTING AND COMMISSIONING WIRELESS SENSORS

Priority: US20050709713P 20050819 US20050729737P 20051024 US20060550376 20061017 US20060465712 20060818 US20070767471 20070622 US20060805777P 20060626 US20080124768 20080521 US20070939603P 20070522 US20100820109 20100621 US20090228160P 20090724 US20090264244P 20091124 US20090288830P 20091221 US20100841744 20100722 US20100891959 20100928 US20120526520 20120619 US20160042993 20160212

Family:

Publication number	Publication date	Application number	Application date
US2007040684 AA	20070222	US20060465712	20060818
US2007125836 AA	20070607	US20060550376	20061017
US2009314829 AA	20091224	US20080124768	20080521
US2010283584 AA	20101111	US20100820109	20100621
US2010289627 AA	20101118	US20100841744	20100722
US2011018689 AA	20110127	US20100891959	20100928
US2012256732 AA	20121011	US20120526520	20120619
US2016162773 AA	20160609	US20160042993	20160212
US7551087 BB	20090623	US20060550376	20061017
US7830258 BB	20101109	US20060465712	20060818
US8159349 BB	20120417	US20100891959	20100928
US8228198 BB	20120724	US20100820109	20100621
US8917159 BB	20141223	US20100841744	20100722
US9272805 BB	20160301	US20120526520	20120619
WO12011979 A1	20120126	WO2011US30608	20110330

Probable Assignee: ADASA INC

Assignee(s):(std)**:** ADASA INC ; CAMPBELL DANIEL ; CAMPBELL DANIEL SHIHADY ; GURNEY MICHAEL ; HADLOCK MICHAEL ; MCALLISTER CLARKE ; MCALLISTER CLARKE W ; PHILLIPS KENNETH ; MCALLISTER CLARKE WILLIAM ; MINTZER TIMOTHY ; MCALLISTOR CLARKE

Inventor(s):(std)**:** CAMPBELL DANIEL ; CAMPBELL DANIEL SHIHADY ; GURNEY MICHAEL ; HADLOCK MICHAEL ; MCALLISTER CLARKE ; MCALLISTER CLARKE W ; MCALLISTER CLARKE WILLIAM ; MCALLISTOR CLARKE ; MINTZER TIMOTHY ; PHILLIPS KENNETH

Agent(s): PETER A HAAS ESQUIRE; PETER A; PETER A HAAS ESQUIRE LLC; FAY KAPLUN AND MARCIN LLP

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9): B65C11/00 B65C9/18 G05B11/01 G06F17/00 G06F21/44 G06F7/00 G06K19/077 G06K7/00 G06K7/01 G06K7/10 G06Q10/08 G06T1/00 G08B13/14 G08B13/24 H04L9/08 H04L9/32 H04Q5/22 (Advanced/Invention); B65C9/00 B65C9/40 G06K17/00 (Advanced/Non–invention); G06F17/00 G06F7/00 G06K7/00 G08B13/14 (Core/Invention)

CPC: G06K1/18 G06K19/07758 G08B13/2417 G06F21/44 G06F2221/2143 G06Q10/087 H04L9/083 H04L9/0891 H04L9/3226 H04L9/3234 H04L2209/805 B65C11/006 B65C2009/0003 B65C2009/404 G06K19/077 G06K2017/0041 G06K19/07716 B65C9/1865 G06K7/0095 G06K7/10336 G06K7/10465 G06K7/10544

European class: B65C11/00C B65C9/18B G06K1/18 G06K19/077 G06K19/077C G06K19/077T3 G06K7/00M G06K7/10A8C G06K7/10A9E G06K7/10S G06Q10/087 G08B13/24B1G1 H04L9/08F2H H04L9/08T H04L9/32J H04L9/32K L65C9/00A L65C9/40K2 S06K17/00W4

T04L209/80A

US class: 1/1 235/375 235/375P 235/435 235/435S 235/439 235/439S 235/462.01 235/462.010S 340/10.1 340/10.100P 340/10.2 340/10.42 340/10.420P 340/10.51 340/10.510S 340/5.8 340/572.1 340/572.100P 340/572.100S 340/572.8 340/572.800S 340/693.5 380/270 700/225 700/225S

Classification Explorer

Cited documents: WO09052059 A1, WO03019459, WO0157807 A1, US9272805 BB, US8228198 BB, US7664257 BB, US7633376 BB, US7629888 BB, US7551087 BB, US7532104 BB, US7477151 BB, US7425897 BB, US7421367 BB, US7411503 BB, US7360714 BB, US7320432 BB, US7249819 BB, US7223030 BB, US7205897 BB, US7193517 BB, US7187294 BB, US7183505 BB, US7147165 BB, US7114655 BB, US7075435 BB, US7073712 BB, US7069251 BA, US706667 A, US7066667 BB, US7055750 BB, US7034689 BB, US7031946 BA, US7018117 BB, US7012531 BB, US6995652 BB, US6986057 BA, US6969134 BB, US6963351 BB, US6954533 BB, US6933848 BA, US6932527 BB, US6899476 BA, US6894711 BB, US6884312 BB, US6879785 BB, US6857714 BB, US6848616 BB, US6832866 BB, US6830181 BA, US6820039 BB, US6808255 BA, US6807380 BB, US6805183 BB, US6802659 BB, US6798997 BA, US6793307 BB, US6791704 BA, US6748182 BB, US6738903 BA, US6735399 BB, US6722753 BB, US6714745 BB, US6708005 BB, US6694884 BB, US6687634 BB, US6677852 BA, US6593853 BA, US6532346 BB, US6517700 BB, US6486780 BA, US6481907 BB, US6478229 BA, US6415978 BA, US6409401 BA, US6379058 BA, US6357662 BA, US6332098 BB, US6317028 BA, US6312106 BA, US6280544 BA, US6279638 BA, US6246326 BA, US6227643 BA, US6195053 BA, US6181248 BA, US6181248 B1, US6130613 A, US6078251 A, US6025780 A, US5962837 A, US5899476 A, US5874902 A, US5850187 A, US5825045 A, US5763867 A, US5382784 A, US5282784 A, US5280159 A, US5227617 A, US2010001848 AA, US2009045919 AA, US2009033464 AA, US2008298870 AA, US2008196106 AA, US2008186177 AA, US2008181398 AA, US2008001724 AA, US2007204329 AA, US2007194889 AA, US2007177738 AA, US2007152033 AA, US2007150219 AA, US2007125836 AA, US2007103314 AA, US2007096852 AA, US2007057057 AA, US2007056027 AA, US2007052523 AA, US2006132313 AA, US2006123471 AA, US2006118229 AA, US2006117554 AA, US2006087407 AA, US2006080819 AA, US2006061475 AA, US2006017570 AA, US2005283272 AA, US2005280537 AA, US2005275708 AA, US2005275540 AA, US2005242957 AA, US2005218219 AA, US2005059880 AA, US2005058292 AA, US2005045724 AA, US2005007238 AA, US2004141790 AA, US2004124235 AA, US2004114981 AA, US2004109715 AA, US2004088230 AA, US2004074964 AA, US2004046644 AA, US2003227528 AA, US2002149468 AA, US2002067264 AA, US2002062898 AA, US2002059880 AA, US2002005774 AA,

Forward Citations: WO17011807, WO16164496, WO16058027, WO15006212, WO14067854, WO14037049, WO12149544, WO12149544, WO12112650, WO12087584, WO12040481, WO11126697, WO11104186, USD775611, USD745875, US9679172, US9678501, US9672395, US9672394, US9652733, US9633325, US9628338, US9619681, US9600726, US9595038, US9591690, US9589247, US9584176, US9583838, US9576461, US9576264, US9559425, US9524408, US9515391, US9514343, US9501913, US9501143, US9497715, US9495570, US9495568, US9489550, US9485790, US9485404, US9485051, US9478110, US9444820, US9444819, US9425847, US9420076, US9418262, US9414342, US9413613, US9413463, US9396631, US9386393, US9379808, US9379445, US9363733, US9361601, US9357425, US9344982, US9342776, US9337949, US9329194, US9325634, US9323230, US9296326, US9286563, US9272805, US9260254, US9256844, US9245160, US9198204, US9191340, US9166894, US9166732, US9154392, US9131586, US9113333, US9104548, US9099880, US9076053, US9073244, US9066638, US9048612, US9042353, US9026462, US9026041, US9020149, US8994514, US8976691, US8955122, US8953491, US8929961, US8917159, US8909865, US8885586, US8867370, US8839459, US8838022, US8820639, US8781927, US8774096, US8749355, US8718551, US8698604, US8687808, US8665066, US8653948, US8638806, US8624712, US8622312, US8604913, US8598989, US8576051, US8566295, US8555363, US8554746, US8537016, US8537007, US8508343, US8489548, US8482389, US8452071, US8395488, US8378790, US8373563, US8362881, US8325041, US8321922, US8319646, US8319643, US8305214, US8284058, US8279066, US8258952, US8258951, US8228201, US8228198, US8225087, US8222048, US8203451, US8169322, US8164453, US8159349, US8115604, US8115595, US8063783, US7948384, US7937298, US7812779, US7714698, US2017177914, US2017011845, US2016283901, US2016162773, US2016134327, US2016121550, US2016088145, US2016056915, US2016012498, US2015347795, US2015329033, US2015312780, US2015284935, US2015200958, US2015200941, US2015146713, US2015137954, US2015137948, US2015114802, US2015054620, US2015015374, US2014368316, US2014347193, US2014346248, US2014327376, US2014324652, US2014319225, US2014297545, US2014286491, US2014232528, US2014195031, US2014136431, US2014133379,

US2014095822, US2014094967, US2014091902, US2014056171, US2013297451, US2013281005, US2013181816, US2013173483, US2013166356, US2013146613, US2013135082, US2013122803, US2013038247, US2013006877, US2012310901, US2012286929, US2012274535, US2012249426, US2012246180, US2012195347, US2012178364, US2012109366, US2012091818, US2012087267, US2012047113, US2012020543, US2011241834, US2011234383, US2011180607, US2011137775, US2011074555, US2011068908, US2011068907, US2011025469, US2011018689, US2010289627, US2010283584, US2010265071, US2010211488, US2010198783, US2010102966, US2010090810, US2010090804, US2010082485, US2010082444, US2010045445, US2010013606, US2009231110, US2009231102, US2009231101, US2009231099, US2009201136, US2009181359, US2009172815, US2009117620, US2009106555, US2009102660, US2009102659, US2009102658, US2009102657, US2009072974, US2009072973, US2008294766, US2008286506, US2008284569, US2008224869, US2008191882, US2008185540, US2008121710, US2007131781, US2007069020, US2006080819, TWI387929, RU2592385, FR2997532, EP3020003, EP2920748, EP2863348, EP2827269, EP2360617, CN104573968, CN103562936, CN103562936, CN102426474,

Abstract:
Source: US2007040684A In one embodiment the present invention is an encoder for commissioning RFID transponders and includes a housing encasing a motor assembly, wireless communication means for transferring instructions and data from and to a remote host, on−board memory, a processor, and an antenna with corresponding mechanism to encode and verify a programmable RFID transponder within a protective enclosure. The present invention further includes novel methods for commissioning RFID transponders, as well as methods for recycling and reusing various components including the protective enclosure and RFID transponders.

0) US5079593A – TONER RECYCLING MECHANISM DETACHABLY CONNECTED ...

256) Family number: 4897215 (US5079593A) © PatBase

Title: TONER RECYCLING MECHANISM DETACHABLY CONNECTED TO A CARTRIDGE

Priority: JP19880155204 19880622 JP19890158756 19890620 US19890366169 19890614

Family:

Publication number	Publication date	Application number	Application date
JP2084666 A2	19900326	JP19890158756	19890620
JP2826664 B2	19981118	JP19890158756	19890620
US5079593 A	19920107	US19900463778	19900108

Probable Assignee: KONISHIROKU PHOTO IND

Assignee(s):(std)**:** KONISHIROKU PHOTO IND

Assignee(s): KONICA CORP ; KONIKA KK

Inventor(s):(std)**:** ENDO KOICHI ; SATO HISAO ; SATOH HISAO

International class (IPC 8–9)**:** G03G15/00 G03G15/08 G03G21/00 G03G21/10 G03G21/16 G03G21/18 (Advanced/Invention); G03G15/00 G03G15/08 G03G21/00 G03G21/10 G03G21/16 G03G21/18 (Core/Invention)

International class (IPC 1–7)**:** G03G15/00 G03G15/08 G03G21/00 G03G21/10 G03G21/16

CPC: G03G21/105 G03G21/1647 G03G21/1814 G03G15/0822 G03G21/1817 G03G2221/1621 G03G2221/163 G03G2221/1648 G03G2221/1651 G03G2221/183

European class: G03G15/08H G03G21/10 G03G21/18C3 G03G21/18C4 S03G221/16C1 S03G221/16D S03G221/16J S03G221/16K S03G221/18B S03G221/18P

US class: 355/210 355/298 399/111 399/359

Classification Explorer

Cited documents: US5017962 A, US4963940 A, US4941022 A, US4894688 A, US4849791 A, US4752805 A, US4724459 A, US4500196 A, JPS638682, JPS60134273, JPS5961859, JP63008682 A2, JP62200384 A2, JP61140373 U1, JP61140373 U, JP60134273 A2, JP59061859 A2,

Forward Citations: US9383716, US7983601, US6377765, US6085052, US5307128, US5249026, US5160964, US2010092216, JP5865862, JP5045733, JP3802152, JP2014202903, JP10049020, EP0756216,

Abstract:
Source: US5079593A An image forming apparatus having a photosensitive member unit, a development unit, and a toner recycling mechanism including a toner feed device. The photosensitive member unit includes a photosensitive member, and an electrostatic latent image forming device and a cleaning device disposed around the photosensitive member. The photosensitive member unit and the development unit are separately mounted in a main body of the apparatus to form an image forming section. The toner feed device is detachably connected between the front sides of the photosensitive member unit and the development unit, the toner collected by the cleaning means is transported to the development unit to perform recycling when the toner feed device is connected, and the photosensitive member unit and the development unit can be independently dismounted from the apparatus body when the toner feed device is detached. The toner feed device is automatically detached when the development unit is dismounted from the apparatus body.

0) US2009324275A – TANDEM–TYPE PROCESS UNIT REMOVABLY LOADED IN IM...

257) Family number: 44153069 (US2009324275A) © PatBase

Title: TANDEM–TYPE PROCESS UNIT REMOVABLY LOADED IN IMAGE FORMING DEVICE

Priority: EP20090003885 20090318 JP20080168155 20080627 US20090407086 20090319 US20110244374 20110924

Family:

Publication number	Publication date	Application number	Application date
CN101614996 A	20091230	CN200910130296	20090330
CN101614996 B	20130731	CN200910130296	20090330
DE602009036639 D1	20160421	DE200960036639T	20090318
EP2138908 A1	20091230	EP20090003885	20090318
EP2138908 B1	20160309	EP20090003885	20090318
JP2010008724 A2	20100114	JP20080168155	20080627
JP4600535 B2	20101215	JP20080168155	20080627
US2009324275 AA	20091231	US20090407086	20090319
US2012057900 AA	20120308	US20110244374	20110924
US8050589 BB	20111101	US20090407086	20090319
US8358952 BB	20130122	US20110244374	20110924

Probable Assignee: BROTHER IND LTD

Assignee(s):(std)**:** BROTHER IND LTD ; OKABE YASUSHI

Assignee(s): BROTHER KOGYO KABUSHIKI KAISHA ; BROTHER KOGYO KK ; BROTHER KOGYO NAGOYA SHI KK

Inventor(s):(std)**:** OKABE YASUSHI ; YASUSHI OKABE

Inventor(s): OKABE YASUSHI NAGOYA SHIAICHI KEN

Agent(s): KUHNEN AND WACKER PATENT U RECHTSANWALTSBUERO; KUHNEN AND WACKER; BANNER AND WITCOFF LTD ATTORNEYS FOR CLIENT NO 016689; BANNER AND WITCOFF LTD

Designated states: AL BA DE FR GB RS

International class (IPC 8–9): G03G15/00 G03G15/01 G03G21/16 G03G21/18 (Advanced/Invention); G03G15/00 G03G21/16 G03G21/18 (Core/Invention)

CPC: G03G21/1652 G03G21/1867 G03G2215/0141 G03G2221/166 G03G2221/1684

European class: G03G21/18H3 S03G215/01P3P1 S03G221/16K3 S03G221/16S2

US class: 399/111 399/111P 399/111S 399/90 399/90P

Classification Explorer

Cited documents: US7813671 BB, US7720405 BB, US7509071 BB, US7493061 BB, US7391991 BB, US7315711 BB, US6944415 BB, US6721521 BB, US6061537 A, US2008159775 AA, US2007286632 AA, US2007160384 AA, US2007160380 AA, US2007071482 AA, US2004022556 AA, JP2007313033 A2, JP2007213033 A2, JP2007213018 A2, JP2005156915 A2, JP2003280313 A2, JP2001249517 A2, JP11344905 A2, JP11174772 A2, EP1939697 A1,

Forward Citations: WO15130591, US9671749, US9639055, US9639053, US9557708, US9529321, US9342043, US9316999, US9285764, US9134692, US8811856, US2016252875, US2015205249, JP2011158629, EP2515183,

Abstract:
Source: US2009324275A A tandem type of process unit removably loaded in an image forming device has a plurality of process cartridges, a pair of lower supporting plates, and a pair of upper supporting plates. Each of the plurality of process cartridges has a photosensitive drum rotatably about an axis extending in a first direction. Each of the plurality of process cartridges has two side faces facing each other in the first direction and a cartridge electrode provided on the side face. The plurality of process cartridges is aligned in a second direction perpendicular to the first direction. Each of the lower supporting plates supports a lower part of the side face of each of the plurality of process cartridges. The pair of upper supporting plates is positioned upward and

separately from the pair of lower supporting plates. Each of the upper supporting plates supports an upper part of the side face of each of the plurality of process cartridges. The pair of upper support plates and the pair of lower support plates provide a side opening facing the side face of each of the plurality of process cartridges to expose the electrode of each of the plurality of process cartridges toward outside through the side opening.

0) US2010254728A – IMAGE FORMING APPARATUS

258) Family number: 47033813 (US2010254728A) © PatBase

Title: IMAGE FORMING APPARATUS

Priority: JP20090093275 20090407 JP20090136797 20090608

Family:

Publication number	Publication date	Application number	Application date
EP2239635 A1	20101013	EP20100159130	20100406
JP2010243851 A2	20101028	JP20090093275	20090407
JP2010282104 A2	20101216	JP20090136797	20090608
JP5361501 B2	20131204	JP20090093275	20090407
US2010254728 AA	20101007	US20100754869	20100406
US8270874 BB	20120918	US20100754869	20100406

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK ; IWASE MASAKI ; NINOMIYA KENJI ; TANAKA HIROYUKI

Assignee(s): CANON INC ; CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** IWASE MASAKI ; NINOMIYA KENJI ; TANAKA HIROYUKI

Agent(s): TBK PATENT; FITZPATRICK CELLA HARPER AND SCINTO

Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL NO PL PT RO RS SE SI SK SM TR

International class (IPC 8–9)**:** G03G15/16 G03G15/20 G03G21/00 G03G21/16 (Advanced/Invention)

CPC: G03G15/2035 G03G2221/1639 G03G2221/1687

European class: G03G15/20H2P1M S03G221/16F S03G221/16S3

US class: 399/107 399/122 399/122P 399/124

Classification Explorer

Cited documents: US7953348 BB, US7269379 BB, US6681090 BB, JP8185076 A2, JP62146138 U1, JP62146138 U, JP62146138 A2, JP2007298691 A2, JP2007279298 A2, JP2007079488 A2, JP2006163381 A2, JP2003186337 A2, JP2003186337, JP2003177649 A2, JP2002296948 A2, JP200075718, JP2000075718 A2, JP08185076,

Forward Citations: US9541892, US9268275, US9098025, US9081358, US8364061, US2017010574, US2014314438, US2012219324, US2009010680,

Abstract:
Source: US2010254728A An image forming apparatus includes a main assembly; a first openable member openably and closably provided in the main assembly; a second openable member openably and closably provided in the main assembly; a fixing unit for fixing a toner image formed on a recording material, the fixing unit including a pressure applying mechanism for applying a pressure to a fixing nip of the fixing unit, wherein a operation force by an operator when at least one of the first openable member and the second openable member is opened by the operator applies to the pressure applying mechanism to release the pressure applied to the fixing nip; wherein the fixing unit is detachably mountable relative to the main assembly and includes a pressure switching member, engaged to the pressure applying mechanism, to receive the operation force when the first openable member is opened and to move the pressure applying mechanism, wherein an operation force when the second openable member is opened is also transmitted to the pressure switching member.

0) US2008008497A – REPLACEABLE PROCESS CARTRIDGE AND IMAGE FORMING...

259) Family number: 41038523 (US2008008497A) © PatBase

Title: REPLACEABLE PROCESS CARTRIDGE AND IMAGE FORMING APPARATUS USING THE SAME

Priority: JP20060167660 20060616

Family:

Publication number	Publication date	Application number	Application date
JP2007334138 A2	20071227	JP20060167660	20060616
JP4927451 B2	20120509	JP20060167660	20060616
US2008008497 AA	20080110	US20070763503	20070615
US7587156 BB	20090908	US20070763503	20070615

Probable Assignee: RICOH CO LTD

Assignee(s):(std)**:** KATO SHINICHI ; KUBA YASUHIRO ; RICOH KK

Assignee(s): RICOH CO LTD ; RICOH COMPANY LTD

Inventor(s):(std)**:** HISAYOSHI YASUHIRO ; KATO SHINICHI ; KUBA YASUHIRO

Agent(s): OBLON SPIVAK MCCLELLAND MAIER AND NEUSTADT PC

International class(IPC 8–9)**:** G03G15/08 G03G21/16 G03G21/18 (Advanced/Invention); G03G15/08 G03G21/16 G03G21/18 (Core/Invention)

CPC: G03G21/1825 G03G2221/163 G03G2221/1853 G03G2221/1861 G03G2221/1869

European class: G03G21/16 G03G21/18C4S S03G221/16D S03G221/18P3 S03G221/18P3A S03G221/18P3B

US class: 399/113

Classification Explorer

Cited documents: US7463844 BB, US7221888 BB, US6980759 BB, US6289194 BA, US5854955 A, US5153640 A, US2006245785 AA, US2006216061 AA, US2006159487 AA, JPS63109960, JP9120251 A2, JP8328368 A2, JP8314352 A2, JP8314352, JP8286508 A2, JP7295457 A2, JP7295457, JP7162568 A2, JP63109960 U, JP63109960 A2, JP6148969 A2, JP6148969, JP6130799 A2, JP6130799, JP5066662 A2, JP5066662, JP3087844 A2, JP3087844, JP200599749, JP2005215629 A2, JP2005188993 A2, JP2005099749 A2, JP2005099749, JP2004109723 A2, JP2004109723, JP200291265, JP200231856, JP2002214900 A2, JP2002108174 A2, JP2002091265 A2, JP2002091265, JP2002031856 A2, JP2002031856, JP2001255791 A2, JP2001255791, JP2001066970 A2, JP2000267547 A2, JP2000267547, JP2000172151 A2, JP08314352, JP07295457, JP06148969, JP06130799, JP0566662, JP0387844,

Forward Citations: US8351820, US8126357, US7826765, US2009297213, US2009154955, JP5195259, JP2010091994, JP2009265291,

Abstract:
Source: US2008008497A A process cartridge for use in an image forming apparatus includes a first unit, a second unit, and a coupling shaft. The first unit includes an image carrier, while the second unit includes a developer carrier. The coupling shaft is configured to couple the first unit and the second unit so as to be pivotable relative to each other. A distance between the image carrier and the developer carrier is adjustable by pivoting at least one of the first unit and the second unit without releasing the coupling of the first unit and the second unit via the coupling shaft.

0) US2012321346A – DEVELOPING CARTRIDGE

260) Family number: 52583814 (US2012321346A) © PatBase

Title: DEVELOPING CARTRIDGE

Priority: CN201210090786 20120330 JP20110012977 20110610 JP20110129977 20110610 US20120431741 20120327 US20150593263 20150109

Family:

Publication number	Publication date	Application number	Application date
CN102819206 A	20121212	CN201210090786	20120330
CN102819206 B	20151125	CN201210090786	20120330
CN105404118 A	20160316	CN201510683876	20120330
JP2012255969 A2	20121227	JP20110129977	20110610
JP5392302 B2	20140122	JP20110129977	20110610
US2012321346 AA	20121220	US20120431741	20120327
US2015117908 AA	20150430	US20150593263	20150109
US8942594 BB	20150127	US20120431741	20120327
US9366991 BB	20160614	US20150593263	20150109

Probable Assignee: BROTHER IND LTD

Assignee(s):(std)**:** BROTHER IND LTD ; FUKAMACHI YASUO ; NISHIYAMA HIDESHI

Assignee(s): BROTHER KOGYO KABUSHIKI KAISHA ; BROTHER KOGYO KK

Inventor(s):(std)**:** FUKAMACHI YASUO ; NISHIYAMA EIJI ; NISHIYAMA HIDESHI

Agent(s): BANNER AND WITCOFF LTD

International class(IPC 8–9)**:** G03G15/00 G03G15/06 G03G15/08 G03G21/16 G03G21/18 (Advanced/Invention); G03G21/18 (Advanced/Non–invention)

CPC: G03G21/1647 G03G21/1857 G03G15/0865 G03G15/0896

US class: 1/1 399/119 399/262

Classification Explorer

Cited documents: US7627262 BB, US7330681 BB, US7076190 BB, US7027756 BB, US6823160 BB, US6816692 BA, US6349189 BA, US6097909 A, US5832345 A, US2011236051 AA, US2010142993 AA, US2009317134 AA, US2009269085 AA, US2008223173 AA, US2006160381 AA, US2005063733 AA, US2003185594 AA, JP5019550 A2, JP5019550, JP2010134330 A2, JP2007057886 A2, JP2007057886, JP2006154257 A2, JP2006154257, JP2005092223 A2, JP2005092223, JP2003295614 A2, JP2002328499 A2, JP2002328499, JP11219090 A2, JP11219090, JP10252864 A2, JP10252864, JP10020742 A2, JP10020742, CN1598709 A,

Forward Citations: US9341986, US2015023700,

Abstract:
Source: US2012321346A A developing cartridge is provided for use with an image forming apparatus and may include a housing, a developing roller rotatably provided in the housing, and a developing roller gear configured to rotate integrally with the developing roller. Further, the developing cartridge can include a driving input gear configured to receive an external driving force and apply the received driving force to the developing roller gear. The driving input gear can be meshed with the developing roller gear or an intermediate gear can be provided to mesh with the developing roller gear and the driving input gear. Such an intermediate gear can be configured to apply the received driving force to the developing roller gear. Also, the developing cartridge can include a receiving member which is disposed between the housing and the developing roller gear and between the housing and the driving input gear.

0) US2006291893A – IMAGE FORMING APPARATUS

261) Family number: 34036567 (US2006291893A) © PatBase

Title: IMAGE FORMING APPARATUS

Priority: JP20050185440 20050624

Family:

Publication number	Publication date	Application number	Application date
CN100462868 C	20090218	CN200610095917	20060623
CN1936734 A	20070328	CN200610095917	20060623
JP2007003925 A2	20070111	JP20050185440	20050624
JP4277220 B2	20090610	JP20050185440	20050624
US2006291893 AA	20061228	US20060473009	20060623
US7450878 BB	20081111	US20060473009	20060623

Probable Assignee: BROTHER KOGYO KK

Assignee(s):(std)**:** BROTHER IND LTD

Assignee(s): BROTHER KOGYO KABUSHIKI KAISHA ; BROTHER KOGYO KK

Inventor(s):(std)**:** HIDETOSHI YANO ; YANO HIDETOSHI

Agent(s): BANNER AND WITCOFF LTD ATTORNEYS FOR CLIENT NOS 0166889 006760; BANNER AND WITCOFF LTD

International class (IPC 8–9)**:** G03G15/00 G03G21/18 (Advanced/Invention); G03G15/00 G03G21/18 (Core/Invention)

International class (IPC 1–7)**:** G03G21/18

CPC: G03G15/80

European class: G03G15/80

US class: 399/111 399/111S 399/88 399/90 399/90P

Classification Explorer

Cited documents: US6993264 BB, US5768660 A, US5283619 A, JP9312112 A2, JP9043939 A2, JP5303263 A2, JP5257378 A2, JP5064867 A2, JP2001154289 A2, JP10207183 A2,

Forward Citations: US9581960, US9360793, US8768201, US8750745, US8401418, US8358951, US8000625, US7787797, US2014363189, US2012308258, US2010290803, US2010239306, US2009214245, US2007003311, JP2016133786, JP2012018394, JP2010217531, JP2009204708, JP2009109781, JP2008242070, CN102809906,

Abstract:
Source: US2006291893A An image forming apparatus that includes: a process cartridge that includes a power supplied member; a casing that includes an accommodating section for detachably accommodating the process cartridge; and a power supplying member that is provided in the accommodating section and is abutted on the power supplied member of the mounted process cartridge, the power supplying member comprises a conductive wire including a winding section and two arms having the conductive wire extending from the winding section in a different direction, wherein the accommodating section is provided with supporting sections that respectively support the two arms such that the power supplied member of the mounted process cartridge is abutted on the winding section.

0) US6079084A – METHOD AND APPARATUS FOR REMOVING AND REPLACING...

262) Family number: 12329286 (US6079084A) © PatBase

Title: METHOD AND APPARATUS FOR REMOVING AND REPLACING A WIPER BLADE ASSEMBLY AND A CORONA GRID IN A TONER CARTRIDGE

Priority: US19970062524P 19971017 US19980173772 19981016

Family:

Publication number	Publication date	Application number	Application date
US6079084 A	20000627	US19980173772	19981016

Probable Assignee: CIT GROUP BUSINESS CREDIT INC

Assignee(s):(std)**:** NU KOTE INT INC

Assignee(s): NU KOTE INTERNATIONAL INC ; CIT GROUP BUSINESS CREDIT INC ; NU KOTE IMP ; NU KOTE IMP LTD ; NU KOTE INT

Inventor(s):(std)**:** GWYNN RAYMOND L

International class (IPC 8–9): G03G21/00 (Advanced/Invention); G03G21/00 (Core/Invention)

International class (IPC 1–7): A44B17/00 B42F1/00

CPC: G03G21/0029 G03G21/181 G03G2221/1618 G03G2221/183 Y10T24/307 Y10T24/344 Y10T24/3459 Y10T24/44923

European class: G03G21/00B1 G03G21/18C2 S03G221/16C S03G221/18P

US class: 24/295 24/336 24/350 24/563

Classification Explorer

Cited documents: US5365315 A, US5136333 A, US4946065 A, US4908915 A, US4710992 A, US3392668 A, US3231075 A, US2794215 A, US2467604 A, US2306975 A, US1913864 A, GB807721 A,

Forward Citations: USD494997, US9329563, US8422911, US6934488, US6801734, US6564433, US6240605, US2014241773, US2011268470, US2008003013, US2005008392,

Abstract:
Source: US6079084A A method and apparatus for the removal and replacement of a wiper blade assembly in a toner cartridge wherein a first end of the wiper blade includes a projection or "tab" that is captured in a slot formed in the sidewall of the toner cartridge housing. The slot in the sidewall has a forward edge, a rear edge, an upper region, and a lower region. The method includes forming a first cut through the cartridge sidewall from a forward edge of the sidewall to the upper region of the slot. A second cut is made through the sidewall from the forward edge to the lower region of the slot. A waste section of the sidewall defined by the first and second cuts, the sidewall forward edge, and the slot is removed and discarded. The first end of the wiper blade assembly is moved forward, away from slot rear edge, and is pulled upwardly and out of the waste toner hopper region of the cartridge. A replacement wiper blade assembly is operatively positioned in place of the original wiper blade assembly with a tab portion positioned adjacent the edge of the sidewall formerly defining the slot rear edge. The replacement wiper blade assembly is secured to the housing using a special retaining clip. This clip includes a first projection that engages the wiper blade assembly and at least one second projection that engages the cartridge sidewall when the clip is installed.

0) US6317573B – APPARATUS AND METHODS FOR PRINT CARTRIDGE PROTE...

263) Family number: 15733282 (US6317573B) © PatBase

Title: Apparatus and methods for print cartridge protection

Priority: US20000570930 20000515

Family:

Publication number	Publication date	Application number	Application date
US6317573 BA	20011113	US20000570930	20000515

Probable Assignee: XEROX CORP

Assignee(s):(std)**:** XEROX CORP

Assignee(s): BANK ONE NA ADMINISTRATIVE AGENT AS ; JPMORGAN CHASE BANK COLLATERAL AGENT AS

Inventor(s):(std)**:** BAKER DOUGLAS M ; ORICO RICHARD J

International class (IPC 8–9)**:** G03G21/18 (Advanced/Invention); G03G21/18 (Core/Invention)

International class (IPC 1–7)**:** G03G21/16 G03G21/18

CPC: G03G21/1832 G03G2221/1609

European class: G03G21/18C5S S03G221/16B1

US class: 399/111 399/114

Classification Explorer

Cited documents: US6097912 A, US6014535 A, US5974287 A, US5918091 A, US5708924 A, US5307117 A, US4655578 A,

Forward Citations: US8478159, US8447207, US8311446, US8195064, US7983595, US7616907, US6993267, US6859632, US6681089, US2010329735, US2010215403, US2010019113, US2006165434, US2004190936, US2004052546, JP5884261, JP2011138109, DE10303754,

Abstract:
Source: US6317573B Apparatus and method for protecting a print cartridge that eliminates an adhesive strip. The print cartridge protector uses a hook shaped end inserted into a slot defined by the print cartridge to keep the print cartridge protector in engagement with the print cartridge. The opposite end may be held in place by another hook shaped end or a loop inserted in another end of the print cartridge.

264) Family number: 17749844 (US5010365A) © PatBase

Title: ELECTROPHOTOGRAPHIC APPARATUS HAVING POSITIONING MECHANISM FOR DETACHABLE PROCESS CARTRIDGE

Priority: JP19880041844U 19880331

Family:

Publication number	Publication date	Application number	Application date
DE3910350 A1	19891019	DE19893910350	19890330
DE3910350 C2	19920813	DE19893910350	19890330
GB2217656 A1	19891101	GB19890007202	19890330
GB2217656 B2	19910918	GB19890007202	19890330
GB8907202 A0	19890510	GB19890007202	19890330
JP1146243 U1	19891009	JP19880041844U	19880331
US5010365 A	19910423	US19890307863	19890207

Probable Assignee: ALPS ELECTRIC CO LTD

Assignee(s):(std)**:** ALPS ELECTRIC CO LTD

Assignee(s): ALPS ELECTRIC CO LTD TOKIO TOKYO JP ; ALPS ELECTRIC CO

Inventor(s):(std)**:** HATANAKA SUNAO

Inventor(s): HATANAKA SUNAO TAKIZAWA IWATE JP ; SUNAO HATANAKA

International class(IPC 8–9)**:** G03G15/00 G03G21/18 (Advanced/Invention); G03G15/00 G03G21/18 (Core/Invention)

International class(IPC 1–7)**:** G03G15/00 G03G21/00

CPC: G03G21/1647 G03G21/1853 G03G15/757 G03G21/1857 G03G2221/1657 G03G2221/1678 G03G2221/183 G03G2221/1846

European class: G03G15/75F G03G21/18H1V G03G21/18H2 S03G221/16K2 S03G221/16S S03G221/18P S03G221/18P2

US class: 355/211 399/111 399/117

Classification Explorer

Cited documents: US4657369 A, US4609279 A, US4598992 A, US3966316 A, JPS62242984, JPS59184387, JPS59116675, JP62242984 A2, JP59184387 A2, JP59116675 A2, GB1352752 A, EP0232064 A2, DE3807430 A1, DE3624060 A1, DE3522926 A1, DE3246808 A1, DE3124188 C2,

Forward Citations: US8320030, US7957669, US7844197, US7522859, US6078763, US2010110510, US2009169248, US2006029420, EP0833235,

Abstract:
Source: US5010365A An electrophotographic apparatus having a process cartridge for placing a photosensitive drum capable of rotating on a rotational shaft is detachably provided in a housing containing a photosensitive drum driving mechanism and having an opening formed at the top of the housing openable by a cover for detaching and attaching the process cartridge. A positioning mechanism for positioning the rotational shaft of the photosensitive drum is attached through the opening at a predetermined position and is capable of transmitting the drive of the driving mechanism. Thus, the process cartridge can be detached or attached from or to the housing elevationally with respect to the housing and the cartridge can be attached or detached while an operator stands still.

265) Family number: 3877040 (US4713673A) © PatBase

Title: Image forming apparatus in which multiple developing units are supported and moved relative to an image carrier

Priority: JP19850073848 19850408 JP19850075541 19850410

Family:

Publication number	Publication date	Application number	Application date
DE3611790 A1	19861016	DE19863611790	19860408
DE3611790 C2	19891228	DE19863611790	19860408
JP61232469 A2	19861016	JP19850073848	19850408
JP61233758 A2	19861018	JP19850075541	19850410
US4713673 A	19871215	US19860847457	19860403

Probable Assignee: TOSHIBA A CORP OF JAPAN KK

Assignee(s):(std)**:** TOSHIBA CORP ; TOSHIBA KAWASAKI KK ; TOSHIBA KK

Assignee(s): KABUSHIKI KAISHA TOSHIBA ; KABUSHIKI KAISHA TOSHIBA KAWASAKI KANAGAWA JP ; TOSHIBA A CORP OF JAPAN KK

Inventor(s):(std)**:** KESSOKU HIROBUMI ; YUITSUKA HIROSHI

Inventor(s): KESSOKU HIROBUMI YOKOHAMA JP

International class (IPC 8–9): G03G15/01 G03G15/08 (Advanced/Invention); G03G15/01 G03G15/08 (Core/Invention)

International class (IPC 1–7): G03G15/00 G03G15/01 G03G15/06 G03G15/08

CPC: G03G15/0126 G03G15/0896 G03G2215/0177

European class: G03G15/01D8 G03G15/08S S03G215/01S2A

US class: 355/300 355/4 399/227 399/258 D18/43

Classification Explorer

Cited documents: US3987756 A, US3906897 A, JP60123869 A2, JP57111555 A2, DE3541230 A1,

Forward Citations: US8798501, US8244160, US7668485, US7200351, US6072967, US5991580, US5835825, US5761576, US5752141, US5666613, US5585598, US5497220, US5471292, US5331378, US5325151, US5293206, US5258819, US5202739, US4958191, US4939547, US4801972, US2013028635, US2011052264, US2008159788, US2005238375, FR2610119, EP2317404, EP0889375, EP0889375, EP0613060, EP0415773, DE4225403, DE3903273,

Abstract:
Source: US4713673A An image forming apparatus comprises four developing units for developing an electrostatic latent image formed on a photosensitive drum, and a revolving unit for revolving the developing units in parallel relation and selecting one of the developing units for use by stopping to revolve the developing units at a predetermined position. The four developing units are stored individually with developing agents of different types. The revolving unit is supported by a rockable suspension member at a distance from the center of rocking of the member, and can swing toward and away from the drum. The revolving unit is moved toward and away from the drum by a shifting mechanism. A locating member is attached to each developing unit, while a locating pin is provided on a housing of the apparatus. When the revolving unit is brought close to the drum by the shifting mechanism, the relative positions of the drum and the developing unit selected by the revolving unit are determined.

0) US2009169257A – PROCESS CARTRIDGE, IMAGE FORMING APPARATUS AND ...

266) Family number: 43476270 (US2009169257A) © PatBase

Title: PROCESS CARTRIDGE, IMAGE FORMING APPARATUS AND DEVELOPING CARTRIDGE

Priority: JP20070340752 20071228

Family:

Publication number	Publication date	Application number	Application date
JP2009162905 A2	20090723	JP20070340752	20071228
JP5029349 B2	20120919	JP20070340752	20071228
US2009169257 AA	20090702	US20080341052	20081222
US7826767 BB	20101102	US20080341052	20081222

Probable Assignee: BROTHER KOGYO KK

Assignee(s):(std)**:** BROTHER IND LTD

Assignee(s): BROTHER KOGYO KABUSHIKI KAISHA ; BROTHER KOGYO KK

Inventor(s):(std)**:** KAMIMURA NAOYA ; SATO FUMIKAZU

Agent(s): BANNER AND WITCOFF LTD ATTORNEYS FOR CLIENT NO 016689; BANNER AND WITCOFF LTD

International class(IPC 8–9)**:** G03G15/04 G03G21/18 (Advanced/Invention); G03G15/04 G03G21/18 (Core/Invention)

CPC: G03G21/1821

European class: G03G21/18C4C

US class: 399/111 399/113 399/119 399/119P

Classification Explorer

Cited documents: US6751428 BB, US6163666 A, US6101350 A, US5752134 A, US2008310881 AA, US2007058993 AA, US2006029423 AA, JP4052760 A2, JP2007057646 A2, JP2006072284 A2, JP2005242066 A2, JP2005091410 A2, JP2000250310 A2, JP10240026 A2,

Forward Citations: US9274457, US9122236, US8995877, US8958720, US8688010, US8532536, US2013136495, US2012003012, JP5403018, JP2013054052, CN103135426, CN102968019, CN102968019,

Abstract:
Source: US2009169257A A process cartridge includes a developing cartridge including a developer carrier, a fitting part, and a pressed part, and a photosensitive cartridge, to which the developing cartridge is removably mounted. The photosensitive cartridge includes a photosensitive member, a positioning part which is fitted into the fitting part for positioning the developing cartridge, and a pressing part which contacts the pressed part for pressing the developing cartridge toward the photosensitive member, wherein the positioning part and the pressing part are provided longitudinally in an area in a longitudinal direction of the photosensitive member corresponding to an area on the photosensitive member in which a developer image is formed.

0) US3619050A – WEB–HANDLING APPARATUS AND CARTRIDGE AND WEB US...

267) Family number: 111662 (US3619050A) © PatBase

Title: WEB–HANDLING APPARATUS AND CARTRIDGE AND WEB USABLE THEREWITH

Priority: US19690834695 19690619

Family:

Publication number	Publication date	Application number	Application date
BE752302 A1	19701201	BE19700752302	19700619
CA938656 A1	19731218	CA19700083450	19700522
DE2030308 A1	19710107	DE19702030308	19700619
DE2030308 B2	19760729	DE19702030308	19700619
DE2030308 C3	19770317	DE19702030308	19700619
FR2052767 A5	19710409	FR19700022449	19700618
GB1322343 A	19730704	GB19700029887	19700619
GB1322344 A	19730704	GB19700001555	19700619
GB1322345 A	19730704	GB19700001556	19700619
JP49038731 B4	19741019	JP19700052927	19700619
JP49038732 B4	19741019	JP19700052929	19700619
US3619050 A	19711109	US19690834695	19690619

Probable Assignee: EASTMAN KODAK CO

Assignee(s):(std)**:** EASTMAN KODAK CO

Assignee(s): EASTMAN KODAK CY ; EASTMAN KODAK CY 343 STATE STREET ROCHESTER NEW YORK 14650 E U A ; THADDEUS SWANKE

Inventor(s):(std)**:** SWANKE T ; SWANKE THADDEUS

Inventor(s): SWANKE THADDEUS ROCHESTER NY ; T SWANKE ; THADDEUS SWANKE

International class (IPC 8–9): G03G15/00 G03G21/00 (Advanced/Invention); G03G15/00 G03G21/00 (Core/Invention)

International class (IPC 1–7): B41L B65H17/00 B65H19/00 B65H19/18 G03G13/00 G03G15/00 G03G21/00

CPC: G03G15/754

European class: G03G15/75D

US class: 156/502 226/92 242/556 242/562.1 399/116 399/161

Classification Explorer

Cited documents: US3552957 A, US3520604 A, US3507573 A, US3333783 A, US3190199 A, US3117884 A, US2277319 A,

Forward Citations: US7169519, US5918091, US5666595, US5321480, US5119133, US4983146, US4303325, US4215932, US4009958, US3967818, US3879123, US3861613, US3810568, US3771705, US3741640, US3734608, US3680755, US2004081902, JP50074433, JP50074432, JP50072244, JP49044757, EP0874287, EP0010848,

Abstract:
Source: GB1322343A 1322343 Electro–photographic printer EASTMAN KODAK CO 19 June 1970 [19 June 1969] 29887/70 Heading G2H In an electro–photographic machine the photosensitive material is a three layered web having keyhole apertures at each end so that when threaded through the machine it forms an endless band. This endless band is photo–exposed with an original image through apparatus 3 and is developed by apparatus 4. At the image transfer station a shut–feed roller 8 directs copy sheets into contact with the developed image on the band and each sheet is subjected to corona discharge by a device 5 and heat fixing by a device 7 before delivering to a tray 9. The band passes round a tensioning roller 48 before being cleaned by apparatus 6 which is bodily movable towards and away from the band. Charging is effected by a device 2 before re–imaging by the apparatus 3. When the band needs renewal the tensioning roller 43 is slackened and the band drive is reversed. An empty cassette 20 is placed in a box 10 adjacent the band and rollers 80 and 81 are dropped into position to contact the band the speed of the roller 80 being greater linearly than the band. The cleaning apparatus 6 is removed from the band surface and these operations are carried out automatically in dependence on an electrical

control circuit. The contacting roller 80 disconnects the band at each end from fixing means 40 in the machine and causes it to be wound as a web into the cassette 20. A new web is fed to the machine from the box 10 being removed from a cassette therein by the rollers 80 and 81 after automatically typing through the leading keyhole apertures to a tie bar 40 carrying studs which is caused to move around the machine in the operative path of the endless band. The tie bar 40 carries studs to connect both ends of the web and from the band.

0) US2007230997A – IMAGE CARRIER UNIT AND IMAGE FORMING APPARATUS ...

268) Family number: 38526930 (US2007230997A) © PatBase

Title: IMAGE CARRIER UNIT AND IMAGE FORMING APPARATUS

Priority: JP20060095124 20060330

Family:

Publication number	Publication date	Application number	Application date
CN100517126 C	20090722	CN200610143520	20061110
CN101046671 A	20071003	CN200610143520	20061110
JP2007271759 A2	20071018	JP20060095124	20060330
JP4788439 B2	20111005	JP20060095124	20060330
KR100847039 B1	20080717	KR20060110768	20061110
KR20070098438 A	20071005	KR20060110768	20061110
US2007230997 AA	20071004	US20060521451	20060915
US7577378 BB	20090818	US20060521451	20060915

Probable Assignee: FUJI XEROX CO LTD

Assignee(s):(std): FUJI XEROX CO LTD ; FUJITSU XEROX CORP

Assignee(s): FUJI XEROX CO

Inventor(s):(std): MATSUI TOSHIYUKI ; TOSHIYUKI MATSUI

Agent(s): MORGAN LEWIS AND BOCKIUS LLP

International class (IPC 8–9): G03G15/00 G03G15/02 G03G21/16 G03G21/18 (Advanced/Invention); G03G21/18 (Advanced/Non–invention); G03G15/00 G03G15/02 G03G21/16 G03G21/18 (Core/Invention)

CPC: G03G21/1671 G03G15/0216 G03G21/1828 G03G2221/1609 G03G2221/1807

European class: G03G15/02A1 G03G21/18C5 S03G221/16B1 S03G221/18A

US class: 399/111 399/115

Classification Explorer

Cited documents: US6810221 BA, US6681089 BB, US6665507 BA, US6385420 BA, US5752135 A, US5697020 A, US5666608 A, US5465136 A, US2006165434 AA, US2005238385 AA, KR20060009208 A, KR20050104028 A, KR1020060009208, JP9222776 A2, JP85695, JP736257, JP7036257 A2, JP7036257, JP67726, JP6202404 A2, JP6003977 A2, JP36257, JP307715, JP292488, JP234439, JP214661, JP21264, JP201915, JP201914, JP2007009503 A2, JP2005234439 A2, JP2005091708 A2, JP200485695, JP200467726, JP2004307715 A2, JP2004292488 A2, JP200421264, JP2004085695 A2, JP2004067726 A2, JP2004021264 A2, JP2001201915 A2, JP2001201914 A2, JP2001194977 A2, JP2000214661 A2, JP2000181328 A2, JP194977, AU2004202645 BA, AU2004202645 B1,

Forward Citations: US8761635, US8538298, US8326178, US8301058, US8090287, US8086136, US8070187, US7715737, US2012177407, US2012045250, US2011069989, US2010142992, US2010054799, US2009162092, US2008042436, US2007242964, JP5919766, JP5623603, JP5398335, JP2015121683, JP2013214106, JP2013114108, JP2011191427, JP2011095536, JP2010256610, JP2010237715, JP2010079267, JP2009300741, JP2009156970, CN103383533, CN102193471, CN102193471, CN101876806,

Abstract:
Source: US2007230997A An image carrier unit that is removably loaded into a main body of an image forming apparatus includes: an image carrier on which an image is formed; a charge roll that charges the image carrier; a biasing member that causes the charge roll to be pressed against the image carrier; and a separation cover provided with a cover portion that covers the charge roll by a latching portion thereof being caused to latch into a body frame of the image carrier unit and the cover portion being rotated toward the charge roll, and a hook portion disposed on the cover portion, that is inserted between the charge roll and the image carrier and is hooked onto the charge roll when the cover portion is rotated toward the charge roll so as to cause the charge roll to separate from the image carrier.

0) US2008069587A – LOCKING FEATURE FOR USE IN CARTRIDGE INSERTION ...

269) Family number: 41620357 (US2008069587A) © PatBase

Title: LOCKING FEATURE FOR USE IN CARTRIDGE INSERTION GUIDE APPLICATIONS

Priority: US20060522755 20060918

Family:

Publication number	Publication date	Application number	Application date
US2008069587 AA	20080320	US20060522755	20060918
US7756442 BB	20100713	US20060522755	20060918

Probable Assignee: XEROX CORPORAITON

Assignee(s):(std)**:** XEROX CORP

Assignee(s): XEROX CORPORAITON

Inventor(s):(std)**:** BARTLETT MARK T ; KEEFE DAVID L ; KURZ KARL E

Agent(s): JAMES J RALABATE; JAMES J

International class (IPC 8–9)**:** G03G15/02 G03G21/18 (Advanced/Invention); G03G15/02 G03G21/18 (Core/Invention)

CPC: G03G21/1661 G03G2221/1654 G03G2221/1693 G03G2221/1807

European class: G03G21/16 S03G221/16K1 S03G221/16T S03G221/18A

US class: 399/115 399/168 399/170 399/172

Classification Explorer

Cited documents: US7295793 BB, US6735407 BB, US5485253 A, US4914480 A, US2297691 A, JPS58193560, JP58193560 A2, JP2003122092 A2,

Forward Citations: US9483015, US8576265, US2012294645, US2010020155,

Abstract:
Source: US2008069587A A guide is used to protect a corona cartridge during shipping and during insertion into an electrostatic marking apparatus. The guide has dimensions that will permit the cartridge to fit therein and has a locking mechanism that securely holds the cartridge in place during shipment or movement. When the cartridge is to be removed from the guide and inserted into an electrostatic marking system, a handle attached to a latch is used to free the latch from a groove in the guide. The groove in the guide is located between two upwardly protruding ramps having a slidable side and a locking side that abuts the latch and holds it in place until activation when the latch handle frees it from the groove.

0) US2006250428A – PRINTER CONTROLLER FOR CONTROLLING OPERATION OF...

270) Family number: 33535544 (US2006250428A) © PatBase

Title: PRINTER CONTROLLER FOR CONTROLLING OPERATION OF A PAGEWIDTH PRINTHEAD

Priority:

AU1998PP07024 19981109 AU1998PP07025 19981109 US20030636188 20030808
US20030636189 20030808 US19990436747 19991109 US19990436909 19991109
US20030636227 20030808 US20030636207 20030808 US20030636218 20030808
US20030636229 20030808 US20030636211 20030808 US20030636231 20030808
US20030636230 20030808 US20030636190 20030808 US20030659013 20030911
US20030636288 20030808 US20040003481 20041206 US20030636247 20030808
US20040003365 20041206 US20030636267 20030808 US20030636279 20030808
US20030636277 20030808 US20040003362 20041206 US20030659028 20030911
US20030636265 20030808 US20030636268 20030808 US20030659017 20030911
US20030659019 20030911 US20040003364 20041206 US20030636264 20030808
US20060601762 20061120 US20060524911 20060922 US20040992757 20041122
US20060604309 20061127 US20050231856 20050922 US20070706297 20070215
US20070706381 20070215 US20070730387 20070402 US20070737142 20070419
US20060329041 20060111 US20040006734 20041208 US20060478592 20060703
US20050212756 20050829 US20070764729 20070618 US20040992717 20041122
US20050063578 20050224 US20040003595 20041206 US20050185880 20050721
US20040992828 20041122 US20040992716 20041122 US20040006710 20041208
US20040021090 20041227 US20040006719 20041208 US20040006720 20041208
US20040006722 20041208 US20060592985 20061106 US20040975407 20041029
US20040006663 20041208 US20050298634 20051212 US20060640267 20061218
US20050203181 20050815 US20060329042 20060111 US20070829938 20070729
US20070863239 20070927 US20070834637 20070806 US20070872618 20071015
US20070853019 20070911 US20070950255 20071204 US20080015485 20080116
US20080015368 20080116 US20080030797 20080213 US20080050933 20080318
US20070766043 20070620 US20080106330 20080421 US20070775156 20070709
US20070779271 20070717

Family:

Publication number	Publication date	Application number	Application date
CN1138636 C	20040218	CN19998013084	19991109
CN1277678 C	20061004	CN200310113030	19991109
CN1284673 C	20061115	CN200310113029	19991109
CN1326403 A	20011212	CN19998013084	19991109
CN1508013 A	20040630	CN200310113030	19991109
CN1508014 A	20040630	CN200310113029	19991109
US2006250428 AA	20061109	US20060478592	20060703
US2007019021 AA	20070125	US20060524911	20060922
US2007046756 AA	20070301	US20060592985	20061106
US2007064053 AA	20070322	US20060601762	20061120
US2007070362 AA	20070329	US20060604309	20061127
US2007139666 A9	20070621	US20040992828	20041122
US2007146771 AA	20070628	US20070706381	20070215
US2007146783 AA	20070628	US20070706297	20070215
US2007182778 AA	20070809	US20060640267	20061218
US2007188776 AA	20070816	US20070730387	20070402
US2007242311 AA	20071018	US20070764729	20070618
US2007252867 AA	20071101	US20070775156	20070709
US2007257979 AA	20071108	US20070779271	20070717
US2007285691 AA	20071213	US20070737142	20070419
US2008001989 AA	20080103	US20070829938	20070729
US2008013118 AA	20080117	US20070863239	20070927
US2008018688 AA	20080124	US20070834637	20070806
US2008030542 AA	20080207	US20070872618	20071015

US2008043057 AA	20080221	US20070853019	20070911	
US2008084583 AA	20080410	US20070950255	20071204	
US2008123115 AA	20080529	US20080015368	20080116	
US2008123143 AA	20080529	US20080015485	20080116	
US2008130057 AA	20080605	US20080030797	20080213	
US2008137109 AA	20080612	US20040006734	20041208	
US2008158608 AA	20080703	US20080050933	20080318	
US2008186540 AA	20080807	US20070766043	20070620	
US2008192277 AA	20080814	US20080106330	20080421	
US7136195 BB	20061114	US20030636268	20030808	
US7154637 BB	20061226	US20030636231	20030808	
US7164501 BB	20070116	US20040975407	20041029	
US7164505 BB	20070116	US20040003362	20041206	
US7168777 BB	20070130	US20040006710	20041208	
US7177052 BB	20070213	US20040021090	20041227	
US7187468 BB	20070306	US20040992716	20041122	
US7188921 BB	20070313	US20050185880	20050721	
US7193743 BB	20070320	US20040006719	20041208	
US7195329 BB	20070327	US20040006722	20041208	
US7196814 BB	20070327	US20040992757	20041122	
US7206098 BB	20070417	US20040006720	20041208	
US7215443 BB	20070508	US20030636218	20030808	
US7218415 BB	20070515	US20030659028	20030911	
US7245399 BB	20070717	US20050298634	20051212	
US7251051 BB	20070731	US20060329042	20060111	
US7265869 BB	20070904	US20040003364	20041206	
US7265877 BB	20070904	US20040006663	20041208	
US7306307 BB	20071211	US20060601762	20061120	
US7333235 BB	20080219	US20060478592	20060703	
US7336397 BB	20080226	US20070764729	20070618	
US7349125 BB	20080325	US20070737142	20070419	
US7365874 BB	20080429	US20070730387	20070402	
US7372598 BB	20080513	US20060640267	20061218	
US7382488 BB	20080603	US20070706297	20070215	
US7391531 BB	20080624	US20070706381	20070215	
US7400419 BB	20080715	US20060592985	20061106	
US7413273 BB	20080819	US20060524911	20060922	
US7433073 BB	20081007	US20060604309	20061127	
US7456996 BB	20081125	US20070863239	20070927	
US7468808 BB	20081223	US20070779271	20070717	
US7567363 BB	20090728	US20070766043	20070620	
US7639397 BB	20091229	US20070950255	20071204	
US7646511 BB	20100112	US20080015368	20080116	
US7717538 BB	20100518	US20070775156	20070709	
US7784932 BB	20100831	US20070829938	20070729	
US7796300 BB	20100914	US20080106330	20080421	
US7808677 BB	20101005	US20080015485	20080116	
US7817306 BB	20101019	US20080030797	20080213	
US7847972 BB	20101207	US20080050933	20080318	
WO0027640 A1	20000518	WO1999AU00984	19991109	

Probable Assignee: MEMJET TECHNOLOGY LTD

Assignee(s):(std)**:** SILVERBROOK KIA ; SILVERBROOK RES PTY LTD ; LAPSTUN PAUL ; WALMSLEY SIMON ROBERT ; WALMSLEY SIMON R

Assignee(s): ZAMTEC LTD ; SILVERBROOK RESEARCH PTY TLD ; SILVERBROOK RESEARCH PTY LTD ; MEMJET TECHNOLOGY LTD ; SILVERBROOK RESEARCH LTD

Inventor(s):(std)**:** LAPSTUN P ; LAPSTUN PAUL ; OMSLY KIA SILVERBROCK PAUL LAP ; OMSLY KIA SILVERBROOK PAUL LAP ; OMSLY SIMON ROBERT ; SILVERBROCK KIA ; SILVERBROOK K ; SILVERBROOK KIA ; WALMSLEG S R ; WALMSLEY S R ; WALMSLEY SIMON R ; WALMSLEY SIMON ROBERT

Inventor(s): WALMSLEY SIMON ; SIMON ROBERT OMSLY ; SR WALMSLEG ; SR WALMSLEY ; K SILVERBROOK ; KIA SILVERBROCK ; KIA SILVERBROCK PAUL LAPSTUN SIMON ROBERT OMSLY ; KIA SILVERBROOK ; KIA SILVERBROOK PAUL LAPSTUN SIMON ROBERT OMSLY ; P LAPSTUN ; PAUL LAPSTUN ; S R WALMSLEG ; S R WALMSLEY

Agent(s): SILVERBROOK RESEARCH PTY LTD

Designated states: AE AL AM AT AU AZ BA BB BE BF BG BJ BR BY CA CF CG CH CI CM CN CR CU CY CZ DE DK DM EE ES FI FR GA GB GD GE GH GM GN GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX NE NL NO NZ PL PT RO RU SD SE SG SI SK SL SN SZ TD TG TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

International class (IPC 8–9): B41J11/22 B41J2/01 B41J2/015 B41J2/05 B41J2/06 B41J2/07 B41J2/14 B41J2/145 B41J2/16 B41J2/165 B41J2/175 B41J2/205 B41J2/21 B41J2/41 B41J21/00 B41J29/13 B41J29/38 B41J29/39 B41J29/393 B41J29/46 B41J5/30 B65H5/22 B65H83/00 B65H85/00 G06F13/28 G06F15/00 G06F15/167 G06F3/12 G06K15/00 G06K15/02 G06K15/10 G06T5/50 H04H1/413 H04N1/034 H04N1/23 H04N1/34 H04N1/387 H04N1/40 H04N1/403 H04N1/405 H04N1/41 H04N1/46 H04N1/50 H04N1/60 (Advanced/Invention); B41J2/07 B41J2/21 B41J21/00 B41J29/39 B41J29/46 B41J5/30 G06F15/16 H04N1/23 H04N1/387 H04N1/41 (Core/Invention)

International class (IPC 1–7): B41J2/07 B41J2/14 B41J2/165 B41J2/21 B41J21/65 G06F15/167 G06F3/12 G06T5/50

CPC: G06K15/1814 G06K15/1815 G06K15/1817 B41J2/04596 B41J2/0452 B41J2/04528 B41J2/04543 B41J2/04551 B41J2/04563 B41J2/0457 B41J2/0458 B41J2/04586 B41J2/04591 B41J2/155 B41J2/16505 B41J2/16511 B41J2/16585 B41J2/175 B41J2/17566 B41J2/515 B41J11/008 B41J11/42 B41J13/103 B41J29/02 B41J29/13 B41J29/38 B41J2002/17569 B41J2202/17 B41J2202/20 B41J2202/21 G03G15/55 G03G2215/0697 G03G2221/1823 G06F3/1213 G06F3/1214 G06F3/122 G06F3/1247 G06F3/1284 G06K15/00 G06K15/102 G06K2215/0094 H04N1/32561 H04N1/32587 H04N1/32598 H04N1/40 H04N1/41 H04N1/60 H04N1/642 H04N1/3871 G06K15/02 G06F3/1296 G06K15/1852 G06K15/1856 G06K15/1855 G06K15/1857 G03G15/0863

European class: B41J11/00P B41J11/42 B41J13/10B B41J2/045D21 B41J2/045D26 B41J2/045D35 B41J2/045D40 B41J2/045D47 B41J2/045D51 B41J2/045D57 B41J2/045D61 B41J2/045D64 B41J2/045D67 B41J2/155 B41J2/165B B41J2/165B1M B41J2/165L B41J2/175 B41J2/175L B41J2/515 B41J29/02 B41J29/13 B41J29/38 G03G15/55 G06F3/12A2R4 G06F3/12A4M20P G06F3/12A6L G06K15/00 G06K15/02 G06K15/10B H04N1/32K H04N1/32K7D H04N1/32K9 H04N1/387B H04N1/40 H04N1/41 H04N1/60 H04N1/64B L41J2/175L1 L41J202/17 L41J202/20 L41J202/21 S03G215/06C8E S03G221/18E S06F3/12A2P2F S06F3/12A2P2S S06F3/12J S06K215/00D8

US class: 271/255 271/3.03 271/3.05 271/30.3 271/30.5 347/1 347/101 347/101P 347/104 347/104S 347/108 347/108P 347/108S 347/11 347/12 347/13 347/13P 347/14 347/15 347/152 347/15P 347/16 347/16S 347/17 347/19 347/19P 347/1P 347/20 347/22 347/29 347/29P 347/29S 347/3 347/32 347/32P 347/34 347/40 347/40P 347/43 347/47 347/5 347/55 347/58 347/58P 347/6 347/60 347/86 347/9 347/9P 358/1.1 358/1.12 358/1.14 358/1.140P 358/1.15 358/1.150P 358/1.150S 358/1.16 358/1.160P 358/1.160S 358/1.18 358/1.3 358/1.300P 358/1.6 358/1.8 358/1.800P 358/1.9 358/1.900P 358/1.900S 358/11 358/11.2 358/11.6 358/11.8 358/112 358/16 358/19 358/2.1 358/2.100P 358/2.100S 358/2.99 358/2.990P 358/29.9 358/3.01 358/3.06 358/3.060P 358/3.1 358/3.120S 358/3.13 358/3.130P 358/3.16 358/3.21 358/3.27 358/3.28 358/3.3 358/3.32 358/30.1 358/30.6 358/31.3 358/31.6 358/32.1 358/32.7 358/32.8 358/328 358/33.2 358/426.060S 358/426.13 358/426.130S 358/426.14 358/501 358/502 358/502S 358/520 358/529 358/529S 358/534 358/534P 358/534S 358/535P 358/535S 358/536 358/539S 358/540S 358/7.8 382/232 382/239P 382/245P 382/245S 382/302 382/302S 400/352 710/22 713/176S 715/243S

Classification Explorer

Cited documents:

WO9904368 A1, WO9836360 A1, WO9535623 A1, WO19904368, US7898694 BB, US7835029 BB, US7806500 BB, US7744181 BB, US7639397 BB, US7591522 BB, US7571972 BB, US7540602 BB, US7469983 BB, US7468808 BB, US7465013 BB, US7456996 BB, US7407247 BB, US7382488 BB, US7349125 BB, US7245399 BB, US7187468 BB, US7164493 BA, US7092125 BB, US7092119 BA, US7070251 BB, US7046391 BA, US6982799 BB, US6982799 BA, US6967733 BA, US6967728 BA, US6961152 BA, US6947173 BB, US6947173 BA, US6938976 BB, US6935736 BB, US6932453 BB, US6930800 BA, US6918665 BB, US6912067 BB, US6899420 BB, US6883890 BA, US6877834 BB, US6877834 BA, US6859289 BA, US6857726 BB, US6851782 BB, US6843545 BB, US6831755 BA, US6825952 BA, US6820974 BB, US6820966 BA, US6808243 BA, US6798538 BA, US6774913 BA, US6742873 BA, US6731407 BA, US6714320 BA, US6714212 BA, US6687022 BA, US6682168 BB, US6677834 BA, US6665094 BA, US6654144 BA, US6652090 BB, US6652089 BB, US6652057 BB, US6652052 BB, US6650315 BB, US6631986 BB, US6624909 BA, US6614781 BA, US6611347 BA, US6600573 BB, US6600573 BA, US6598964 BB, US6565178 BA, US6563596 BA, US6561618 BA, US6559969 BA, US6559962 BA, US6549666 BA, US6549657 BB, US6547368 BB, US6536867 BA, US6536864 BB, US6533387 BB, US6523929 BB, US6512596 BA, US6498659 BA, US6493112 BA, US6491377 BA, US6491365 BB, US6476926 BA, US6474883 BA, US6473203 BA, US6471314 BB, US6469805 BA, US6462839 BA, US6450605 BA, US6447113 BA, US6431777 BA, US6404919 BA, US6402285 BA, US6398359 BA, US6398332 BA, US6384854 BA, US6382858 BA, US6382761 BA, US6377354 BA, US6343152 BA, US6337747 BA, US6334658 BA, US6330076 BA, US6325479 BA, US6322200 BA, US6322189 BA, US6318828 BA, US6317222 BA, US6315381 BA, US6313847 BA, US6310639 BA, US6308949 BA, US6307962 BA, US6304335 BA, US6293648 BA, US6293644 BA, US6290321 BA, US6283575 BA, US6281979 BA, US6281914 BA, US6270182 BA, US6270178 BA, US6268977 BA, US6267251 BA, US6260940 BA, US6250738 BA, US6247790 BA, US6247788 BA, US6243111 BA, US6234598 BA, US6234111 BA, US6231167 BA, US6231155 BA, US6219153 BA, US6209980 BA, US6196652 BA, US6189991 BA, US6172688 BA, US6172688 B1, US6168270 BA, US6168270 B1, US6168260 BA, US6168260 B1, US6161916 A, US6155664 A, US6149259 A, US6145980 A, US6145065 A, US6141121 A, US6139125 A, US6132122 A, US6126265 A, US6118898 A, US6102510 A, US6097503 A, US6097408 A, US6097407 A, US6092892 A, US6091514 A, US6086387 A, US6079821 A, US6079805 A, US6076910 A, US6070965 A, US6070958 A, US6068420 A, US6068363 A, US6065831 A, US6065824 A, US6055064 A, US6047087 A, US6039433 A, US6031624 A, US6025929 A, US6024429 A, US6019452 A, US6019449 A, US6002847 A, US5999655 A, US5992961 A, US5991515 A, US5988785 A, US5984446 A, US5982395 A, US5974492 A, US5974171 A, US5971520 A, US5970216 A, US5966467 A, US5963714 A, US5963713 A, US5932012 A, US5917952 A, US5916358 A, US5914737 A, US5911526 A, US5909227 A, US5900892 A, US5880751 A, US5870284 A, US5867198 A, US5867193 A, US5867183 A, US5864638 A, US5856836 A, US5854882 A, US5841449 A, US5838340 A, US5825385 A, US5825379 A, US5815178 A, US5815176 A, US5812744 A, US5808635 A, US5805178 A, US5802420 A, US5801739 A, US5798775 A, US5796416 A, US5788388 A, US5784077 A, US5783356 A, US5781205 A, US5774834 A, US5774634 A, US577463 A, US5774136 A, US5760799 A, US5758042 A, US5757394 A, US5754193 A, US5752049 A, US5751920 A, US5751302 A, US5745657 A, US5745249 A, US5740335 A, US5740277 A, US5737097 A, US5736995 A, US5731829 A, US5694126 A, US5686960 A, US5684602 A, US5680222 A, US5666599 A, US5665249 A, US5663750 A, US5631675 A, US5630063 A, US5619622 A, US5604527 A, US5596426 A, US5596423 A, US5594486 A, US5583779 A, US5583547 A, US5579453 A, US5526027 A, US5519419 A, US5517317 A, US5511206 A, US5489991 A, US5483265 A, US5476331 A, US5471163 A, US5469267 A, US5464205 A, US5463703 A, US5428459 A, US5418558 A, US5414452 A, US5408590 A, US5353360 A, US5323853 A, US5302971 A, US5280310 A, US5265315 A, US5109234 A, US5079564 A, US5070345 A, US5049728 A, US5044972 A, US5036337 A, US4947194 A, US4924320 A, US4843481 A, US4779105 A, US4663743 A, US4590362 A, US4583127 A, US4514736 A, US4486739 A, US4477175 A, US4374223 A, US4261039 A, US4246614 A, US4232375 A, US4058672 A, US2018196 A, US2009046309 AA, US2009002739 AA, US2008297850 AA, US2008259102 AA, US2008130057 AA, US2008123143 AA, US2008123115 AA, US2008084583 AA, US2007242311 AA, US2007200887 AA, US2007188776 AA, US2007146783 AA, US2007146771 AA, US2007025627 AA, US2006250428 AA, US2006249588 AA, US2006187251 AA, US2006181558 AA, US2006152541 AA, US2006146102 AA, US2006087708 AA, US2006071956 AA, US2006017945 AA, US2005280839 AA, US2005219572 AA, US2005210179 AA, US2005200682 AA, US2005195269 AA, US2005179956 AA, US2005168762 AA, US2005151779 AA, US2005140721 AA, US2005140719 AA, US2005134627 AA, US2005116973 AA, US2005105813 AA, US2005105138 AA, US2005104910 AA, US2005099465 AA, US2005099443 AA, US2005088699 AA, US2005088470 AA, US2005088467 AA, US2005084171 AA, US2005083662 AA, US2005083553 AA, US2005083550 AA, US2005083549 AA, US2005083389 AA, US2005083388 AA, US2005083362 AA, US2005083358 AA, US2005078161 AA, US2005073712 AA, US2005073700 AA, US2005073699 AA,

US2005073698 AA, US2005073697 AA, US2005063717 AA, US2005062772 AA, US2005062771 AA, US2005057589 AA, US2005046685 AA, US2005027616 AA, US2005009246 AA, US2005008235 AA, US2004239718 AA, US2004233266 AA, US2004155920 AA, US2004135836 AA, US2004100644 AA, US2004091663 AA, US2004091163 AA, US2004090511 AA, US2004090509 AA, US2004090482 AA, US2004085428 AA, US2004085380 AA, US2004070792 AA, US2004070659 AA, US2004061743 AA, US2004051904 AA, US2004051903 AA, US2004051883 AA, US2004051748 AA, US2004046980 AA, US2004046971 AA, US2004046827 AA, US2004046819 AA, US2004046812 AA, US2004046810 AA, US2004042054 AA, US2004042046 AA, US2004042045 AA, US2004042024 AA, US2004041878 AA, US2004041867 AA, US2004041866 AA, US2004041858 AA, US2004041857 AA, US2004036921 AA, US2004036920 AA, US2004036919 AA, US2004036746 AA, US2004036737 AA, US2004027616 AA, US2004027403 AA, US2004012807 AA, US2004008235 AA, US2004004642 AA, US2003214548 AA, US2003202205 AA, US2003197774 AA, US2003193676 AA, US2003189615 AA, US2003156129 AA, US2003138280 AA, US2003137688 AA, US2003103124 AA, US2003090709 AA, US2003086113 AA, US2003085975 AA, US2003081033 AA, US2003063177 AA, US2003043227 AA, US2003035030 AA, US2003007187 AA, US2002191220 AA, US2002158924 AA, US2002145639 AA, US2002135633 AA, US2002114007 AA, US2002076246 AA, US2002067492 AA, US2002057446 AA, US2002051030 AA, US2002036671 AA, US2002001005 AA, US2001043359 AA, JPS602370, JP9322380 A2, JP9150556 A2, JP9138847 A2, JP9066600 A2, JP8256266 A2, JP7172021 A2, JP60002370 A2, JP5238182 A2, JP4199975 A2, JP2001563948 T2, JP2001045303 A2, JP11192755 A2, JP10029349 A2, GB2169856 A1, FR2716593 A1, EP2716593 A1, EP0842777 B1, EP0842777 A2, EP0816090 A2, EP0390202 A2, EP0363943 A2, EP0262801 A2,

Forward Citations: WO03068513, WO03018316, USD692891, USD689868, USD682834, USD669089, USD668668, USD668259, USD643039, USD642179, USD638018, USD637191, USD636776, USD636775, USD631479, USD624547, USD624546, USD624545, USD624544, USD620492, USD619589, USD619588, USD616889, USD610155, USD610154, USD610153, USD610152, USD610151, USD610150, USD610149, USD610148, USD610147, USD610146, USD609711, USD563413, US9685571, US9619663, US9300235, US9141816, US9035172, US8897629, US8860971, US8796061, US8749831, US8721202, US8659771, US8594814, US8493625, US8467099, US8463964, US8437020, US8396294, US8382278, US8377738, US8368640, US8348378, US8294934, US8270023, US8252717, US8251495, US8233197, US8229579, US8225271, US8152263, US8147021, US8127060, US8118380, US8113647, US8090452, US8081584, US8070275, US8062693, US8060222, US8042934, US8028275, US8028272, US8023500, US8020966, US7984420, US7980648, US7979488, US7978372, US7976153, US7973966, US7971950, US7961343, US7959066, US7957011, US7944586, US7936918, US7936480, US7936478, US7933046, US7899070, US7898694, US7890927, US7882197, US7876475, US7876466, US7864361, US7860857, US7857410, US7835029, US7817306, US7806500, US7761923, US7744181, US7739361, US7720944, US7645011, US7639397, US7571972, US7567363, US7558443, US7557949, US7556371, US7540602, US7525677, US7502656, US7471413, US7457001, US7456996, US7445145, US7433073, US7407247, US7382488, US7382475, US7369270, US7283281, US7270391, US7201466, US7173739, US7150510, US7148992, US7145696, US7144107, US7144107, US7139091, US7059704, US7038809, US6992791, US6977751, US6547368, US2016255247, US2016077779, US2014292247, US2013002739, US2012293842, US2011227981, US2011164286, US2011122450, US2011109938, US2011075189, US2010309506, US2010253745, US2010253719, US2010214358, US2010123912, US2010097652, US2010097420, US2010075234, US2010073696, US2010073419, US2010011127, US2010002034, US2009322812, US2009303275, US2009290923, US2009267983, US2009256876, US2009237514, US2009213432, US2009213172, US2009207452, US2009154810, US2009132996, US2009128596, US2009125131, US2009125130, US2009091627, US2009073248, US2009066740, US2009046309, US2009033968, US2009009786, US2009002727, US2008297850, US2008285062, US2008259103, US2008222276, US2008186540, US2008158288, US2008148170, US2008137109, US2008130057, US2008084583, US2008066004, US2008052632, US2008052386, US2008043057, US2008030542, US2008018688, US2008013118, US2007212146, US2007200887, US2007146783, US2007139666, US2007115310, US2007070362, US2007035606, US2006294579, US2006256123, US2006206866, US2006114507, US2006082819, US2005254078, US2005073700, US2004230643, US2004046810, US2003210418, SG152036, JP2004501813, JP2003534172, GB2387817, EP1301351, EP1301351, EP1301350, EP1296834, EP1296834, EP1289766, CN106061742, CN105383193, CN103879151, CN103879151, CN103862879, CN103733208, CN103733208, CN103182864, CN103182864, CN102073235, CN102073235, AU2005200474, AU2005200474, AU2004214600, AU2003202630, AU2003202630, AU2002319010,

Abstract:
Source: US2006250428A A printer controller for controlling operation of a pagewidth printhead is provided. The printer controller comprises: a bus; a data input interface connected to the bus so that the bus can receive compressed and encoded page data from a computer−based machine connected to the data input interface; page data expansion and decoding circuitry connected to the bus and configured to expand and decode the compressed and encoded page data; a printhead interface for communicating print page data to the printhead; and processing circuitry for controlling operation of components of the printer controller.

0) US2015135502A – REAGENT MAGAZINE WITH MOTOR LATCH COUPLER

271) Family number: 59068971 (US2015135502A) © PatBase

Title: REAGENT MAGAZINE WITH MOTOR LATCH COUPLER

Priority: US20130890501P 20131014 US20140512709 20141013

Family:

Publication number	Publication date	Application number	Application date
US2015135502 AA	20150521	US20140512709	20141013
WO15057574 A1	20150423	WO2014US60278	20141013

Probable Assignee: COLDER PRODUCTS CO

Assignee(s):(std)**:** COLDER PROD CO

Assignee(s): COLDER PRODUCTS CO

Inventor(s):(std)**:** JOHNSON ROBERT K ; JOHNSON ROBERT KEITH ; RANKIN WILLIAM J

Agent(s): KOWALCHYK KATHERINE M

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9): B01L3/00 B41J2/175 F16L37/098 G01N35/10 (Advanced/Invention); G03G21/16 (Advanced/Non–invention)

CPC: B41J2/17523 B01L3/527 F16L37/0982 B01L2200/025 B01L2200/04 B01L2200/16 B01L2300/0609 G01N35/1002 G03G15/0865 G03G21/1647 G03G21/1676 Y10T29/49817 B41J2/1752 B41J2/17553 B41J29/38

US class: 285/308 29/426.2 422/554

Classification Explorer

Cited documents: WO12012779 A2, US6649829 BB, US201462037395 P, US2012168305 AA, US2009039002 AA, US2008003140 AA,

Abstract:
Source: US2015135502A A motorized latch assembly includes an electric motor, an eccentric cam attached via gears to a shaft of the motor and a latch plate configured to lock the reagent cartridge to the coupler. The eccentric cam is rotated when the shaft of the motor rotates. When the eccentric cam is rotated so that the eccentric cam presses down upon the latch plate, the latch plate moves a sufficient distance to permit the reagent cartridge to be disconnected from the coupler.

0) US2004076446A – SUPPORT BRACKET/BACKUP SHOW ASSEMBLY FOR WEB–CL...

272) Family number: 30499794 (US2004076446A) © PatBase

Title: SUPPORT BRACKET/BACKUP SHOW ASSEMBLY FOR WEB–CLEANING CARTRIDGE

Priority: US20000738751 20001215

Family:

Publication number	Publication date	Application number	Application date
US2004076446 AA	20040422	US20000738751	20001215
US6901227 BB	20050531	US20000738751	20001215

Probable Assignee: EASTMAN KODAK CO

Assignee(s):(std)**:** NEXPRESS SOLUTIONS LLC

Assignee(s): EASTMAN KODAK CO ; CITICORP NORTH AMERICA INC AGENT AS ; JPMORGAN CHASE BANK NA ADMINISTRATIVE AS ; NEXPRESS SOLUTIONS LLCROCHESTER NEW YORK ; WILMINGTON TRUST NATIONAL ASSOCIATION AGENT AS ; PAKON INC ; BANK OF AMERICA NA AGENT AS ; BARCLAYS BANK PLC ADMINISTRATIVE AGENT AS

Inventor(s):(std)**:** CARRONE MARIA B ; DUNN CAROL K ; ZIEGELMULLER FRANCISCO L ; TAYLOR RANDALL J ; GROSS GEORGE D

International class (IPC 8–9): G03G15/16 G03G21/00 (Advanced/Invention); G03G15/16 G03G21/00 (Core/Invention)

International class (IPC 1–7): G03G21/00

CPC: G03G15/166

European class: G03G15/16E1G1C

US class: 399/101 399/123 399/343 399/345 399/350 399/351 399/99

Classification Explorer

Cited documents: US6453134 BA, US5426485 A, US4866483 A,

Forward Citations: US8774697, US8139981, US8086133, US7796913, US7764899, US7548711, US2013315617, US2010111559, US2010111558, US2009185825, US2007280723, US2007231004,

Abstract:
Source: US2004076446A A cleaning station for removing particulate material from a moving web in an electrostatic printer/copier includes a customer–replaceable web–cleaning cartridge and a support bracket/backup shoe assembly. The latter serves to support the cleaning cartridge for movement between an operative position in which web–cleaning components of the cartridge exert a substantially uniform pressure on the web, and a service position in which the cartridge is sufficiently spaced from the web to facilitate replacement and/or service. Preferably, a bracket that supports the cleaning cartridge is pivotally connected to a backup shoe that is fixed with respect to the web path and exerts a uniform pressure on the rear surface of the web, opposite that contacted by the cleaning cartridge. A quick disconnect feature enables the cartridge–supporting bracket to be de–coupled from the back–up shoe and removed from the instrument.

0) DE202011103822U1 – TONERKARTUSCHE TONER CARTRIDGE (MACHINE TRAN...

273) Family number: 49811497 (DE202011103822U1) © PatBase

Title: Tonerkartusche Toner cartridge (Machine translation)

Priority: DE201120103822U 20110728 DE201220007272U 20120730

Family:

Publication number	Publication date	Application number	Application date
DE202011103822 U1	20111103	DE201120103822U	20110728
DE202012007272 U1	20121031	DE201220007272U	20120730

Probable Assignee: KPV MANFRED KEILBACH GMBH

Assignee(s):(std)**:** KPV MANFRED KEILBACH GMBH

International class (IPC 8–9): G03G15/08 (Advanced/Invention)

CPC: G03G15/0896

European class: G03G15/08S

Classification Explorer

Abstract:
Source: DE202011103822U1 Tonerkartusche (10) fuer Laserdrucker, Kopiergeraete, Faxgeraete oder dergleichen mit – einem Gehaeuse (12) mit zumindest einem Tonervorratsbehaeltnis, – einem an einer Stirnwandung des Gehaeuses (12) angeordneten Funktionsradeinheitgehaeuse (24), in dem eine Funktionsradeinheit (20) drehbar von einer Startposition (5) in eine Endposition (E) gelagert ist, wobei – in dem Gehaeuse (12) zumindest eine Magnetwalze beziehungsweise Tonertransferwalze zum Auftragen des Toners rotierbar gelagert ist, – die Tonerkartusche (10) loesbar rastend in eine Ausnehmung beziehungsweise Aufnahme des Geraets einsetzbar ist und – beim Einsetzen der Tonerkartusche (10) in das Geraet die Funktionsradeinheit (20) automatisch um einen vorgegebenen Winkel (D1) von der Startposition (5) in die Endposition (E) gedreht wird und dadurch eine im Geraet vorhandene Steuereinheit aktiviert wird, die daraufhin den Nullzustand des Geraets und die maximal zulaessige Anzahl von Drucken festlegt, wobei bei Erreichen dieser maximalen Anzahl das Geraet fuer weitere...

Machine translation: Toner cartridge (10) for laser printer, copier, faxes and the like – a housing (12) with at least one Tonervorratsbehaeltnis, – one (24) on an end wall of the housing (12) arranged Funktionsradeinheitgehaeuse in which a Funktionsradeinheit (20) turned from a starting position (5) in an end position (E) is mounted, whereby – in the housing (12) at least one magnetic roller or toner transfer roller for applying the toner is rotatably mounted, – the toner cartridge (10) is solvable locking in a recess or consumption of the unit is used and – when you insert the toner cartridge (10) in this apparatus the Funktionsradeinheit (20) is automatically rotated by a predetermined angle (D1) from the starting position (5) into the end position (E) and by one in the device control unit is activated, which then determines the zero state of the device and the maximum permissible number of prints, and on reaching the maximum number of the device for more...

0) US2007280725A – IMAGE FORMING APPARATUS

274) Family number: 40889364 (US2007280725A) © PatBase

Title: IMAGE FORMING APPARATUS

Priority: JP20060127671 20060501

Family:

Publication number	Publication date	Application number	Application date
JP2007298828 A2	20071115	JP20060127671	20060501
JP4764766 B2	20110907	JP20060127671	20060501
US2007280725 AA	20071206	US20070736881	20070418
US7603053 BB	20091013	US20070736881	20070418

Probable Assignee: RICOH CO LTD

Assignee(s):(std)**:** HATTA HIROTAKA ; HOSOKAWA HIROSHI ; KUWABARA NOBUO ; NAGASHIMA HIROYUKI ; RICOH KK

Assignee(s): RICOH CO LTD ; RICOH COMPANY LTD

Inventor(s):(std)**:** HATTA HIROTAKA ; HOSOKAWA HIROSHI ; KUWABARA NOBUO ; NAGASHIMA HIROYASU ; NAGASHIMA HIROYUKI

Agent(s): OBLON SPIVAK MCCLELLAND MAIER AND NEUSTADT PC; OBLON SPIVAK MCCLELLAND MAIER AND NEUSTADT LLP

International class (IPC 8–9): G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)

CPC: G03G15/0882 G03G2215/0687

European class: G03G15/08H3P S03G215/06C5

US class: 399/103 399/105

Classification Explorer

Cited documents: US7106991 BB, US6118958 A, US6097907 A, US2006275053 AA, US2006115302 AA, US2006062612 AA, US2006062594 AA, US2006018680 AA, US2006008296 AA, US2005271420 AA, US2005238384 AA, US2005226656 AA, US2005191081 AA, US2005158071 AA, US2005025520 AA, US2004096239 AA, JP3402872 B2, JP3402872, JP2006023619 A2,

Forward Citations: US9507291, US9507290, US9170233, US8369736, US8099015, US2011123229, US2010034554, KR101364600, JP6075681, JP5742232, JP5724399, JP2014071241, JP2012150169, JP2012150168, JP2010282232, JP2010039348, CN103660542, CN103660542, CN102073245, CN102073245, AU2009201092,

Abstract:
Source: US2007280725A A development device that has communication port sealing means for sealing a communication port communicating a developer supporter container with a developer container. The development device is advantageous in cost reduction, easy manufacturing, and formation of high−quality images. In the development device which has a developing roller container for containing a developing roller, a developer container for containing a developer, a base member for forming a communication port communicating the developer roller container with the developer container, and a seal member that is adhered to the base member so as to cover the communication port, and which cancels sealing of the communication port by peeling off the seal member from the base member by pulling out the seal member in a direction parallel to an opened surface of the communication port, the base member is composed of a polypropylene resin having a bent section, and the seal member is adhered to the base member by thermal compression bonding.

0) US2003170042A – CONNECTOR, DEVELOPMENT CARTRIDGE, AND IMAGE FOR...

275) Family number: 28899929 (US2003170042A) © PatBase

Title: CONNECTOR, DEVELOPMENT CARTRIDGE, AND IMAGE FORMING APPARATUS

Priority: EP20030003182 20030219 JP20020041139 20020219 JP20020041140 20020219 JP20020042877 20020220 JP20020057178 20020304

Family:

Publication number	Publication date	Application number	Application date
AT391944 E	20080415	AT20030003182T	20030219
CN1249537 C	20060405	CN20031004650	20030219
CN1444113 A	20030924	CN20031004650	20030219
CN1758151 A	20060412	CN200510090839	20030219
CN2673642 Y	20050126	CN20032004366U	20030219
DE60320163 D1	20080521	DE20036020163	20030219
DE60320163 T2	20090520	DE20036020163T	20030219
EP1338931 A1	20030827	EP20030003182	20030219
EP1338931 B1	20080409	EP20030003182	20030219
EP1691455 A1	20060816	EP20060007194	20030219
EP1701224 A1	20060913	EP20060007191	20030219
JP2003241462 A2	20030827	JP20020041139	20020219
JP2003241463 A2	20030827	JP20020041140	20020219
JP2003243104 A2	20030829	JP20020042877	20020220
JP2003257530 A2	20030912	JP20020057178	20020304
US2003170042 AA	20030911	US20030367968	20030219
US6892039 BB	20050510	US20030367968	20030219

Probable Assignee: SEIKO EPSON CORP

Assignee(s):(std)**:** SEIKO EPSON CORP

Inventor(s):(std)**:** AOKI KI ; AOKI KOWASHI ; AOKI TAKESHI ; JUNJI SHIROKOSHI ; KATSUMI OKAMOTO ; KI AOKI ; KOWASHI AOKI ; OKAMOTO KATSUMI ; SHIROKOSHI JUNJI ; TAKESHI OKAMOTO KATSUMI SHIROK ; KOWASHI OKAMOTO KATSUMI SHIROK

Inventor(s): OKAMOTO KATSUMI SHIROKOSHI JUNJI AOKI TAKESHI ; OKAMOTO KATSUMI SHIROKOSHI JUNJI AOKI KOWASHI

Agent(s): HOFFMANN EITLE; SUGHRUE MION PLLC

Designated states: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PT SE SI SK TR

International class (IPC 8–9)**:** G03G15/00 G03G15/01 G03G15/06 G03G15/08 G03G21/00 G03G21/16 G03G21/18 G06K17/00 G06K19/00 G06K19/077 H01R12/16 H01R12/22 H01R13/33 H01R13/631 H01R13/64 H01R13/658 H01R13/66 (Advanced/Invention); H01R13/66 (Advanced/Non–invention); G03G15/00 G03G15/08 G03G21/00 G03G21/16 G06K17/00 G06K19/00 G06K19/077 H01R12/00 H01R13/02 H01R13/64 H01R13/658 H01R13/66 (Core/Invention)

International class (IPC 1–7)**:** B41J2/175 G03G15/00 G03G15/01 G03G15/06 G03G15/08 G03G21/00 G03G21/16 G03G21/18 G06K17/00 G06K19/00 G06K19/077 H01R12/16 H01R12/22 H01R13/33 H01R13/62 H01R13/64 H01R13/658 H01R13/66 H01R24/00

CPC: G03G21/1652 H01R12/83 B41J2/17526 G03G15/0126 G03G21/1885 G03G2215/0177 G03G2221/166 G03G2221/1815 G03G2221/1823 H01R12/714 H01R13/631 H01R13/665 H01R13/6658

European class: B41J2/175C4 G03G15/01D8 G03G21/18L1C1 H01R13/631 H01R23/72B S03G215/01S2A S03G221/16K3 S03G221/18C S03G221/18E T01R13/66D T01R13/66D2 T01R23/68B2

US class: 399/119 399/90 399/90P 439/326 439/630

Classification Explorer

Cited documents: US6349182 BB, US6238248 BA, US6056573 A, US6014533 A, US5980294 A, US5963759 A, US5907748 A, US5697802 A, US4903167 A, US4222622 A, EP0913745 A2, EP0822469 A1, EP0821445 A1, EP0813356 A1, DE4111912 A1,

Forward Citations: WO15165322, WO15137589, WO06062026, USD758482, USD757161, USD743400, US9606498, US9599927, US9513575, US9360835, US9323213, US9256158, US9110402, US9081327, US9069287, US8909071, US8855520, US8744300, US8577228, US8126353, US7885554, US7742717, US7711295, US7570903, US7395016, US7218869, US7076179, US2017087859, US2015037050, US2012301173, US2010221033, US2010189460, US2009196650, US2009067872, US2008267671, US2006291910, US2006210285, US2004223772, JP4110144, JP2008242084, JP2006113521, EP2829923, EP2752716, EP2752716, EP2494413, EP2494413, EP2325701, EP2256559, CN104943389, CN104943389, CN104076672, CN102667640, CN102667640, CN102193475,

Abstract:
Source: US2003170042A The first invention comprises an impact receiving member (41); a first electric contact (43a, 44a) which is disposed on the front side of the impact receiving member; a memory IC substrate (46) which is disposed on and apart from the rear side of the impact receiving member; and a second electric contact (43b, 44b) which is configured by bringing a conductive member extending from the first electric contact into contact with a terminal of the memory IC substrate. The second invention comprises a plurality of contact members; a guide member(s) (42) which is formed with the contact members; an impact receiving member (41) being provided on one surface thereof with said guide member; and a contact protecting member (45) which is disposed on the other surface of the impact receiving member and encompasses a memory IC substrate. The third invention comprises conductive members (43, 44) having connecting terminals relative to an apparatus body−side connector and connecting terminals (43b, 44b) relative to a memory IC substrate, wherein the connecting terminals of the conductive members relative to the memory IC substrate have elasticity. The fourth invention is a connector having contacts in a plurality of lines, wherein among the contacts, a contact at the center side of a substrate is set to have a spring load higher than the other contacts.

0) US6374068B – PART–REPLACEMENT AID TOOL AND IMAGE FORMING APP...

276) Family number: 14081216 (US6374068B) © PatBase

Title: PART–REPLACEMENT AID TOOL AND IMAGE FORMING APPARATUS TO WHICH THE SAME IS ATTACHABLE

Priority: JP19990209488 19990723

Family:

Publication number	Publication date	Application number	Application date
JP2001034023 A2	20010209	JP19990209488	19990723
JP3476387 B2	20031210	JP19990209488	19990723
US6374068 BA	20020416	US20000620911	20000720

Probable Assignee: KYOCERA MITA CORP

Assignee(s):(std)**:** KYOCERA DOCUMENT SOLUTIONS INC ; KYOCERA MITA CORP

Inventor(s):(std)**:** ASHIKARI TSUTOMU ; JIYOUROKU KAZUO ; JOROKU KAZUO ; KAWAMORI YOSHIZO ; KAWAMORI ZENZO ; KAYAMA KIYOMI ; MINAMI TAKEHIRO ; NAKAUE TAKAHISA

International class (IPC 8–9): B41J29/16 G03G15/00 G03G21/16 (Advanced/Invention); B41J29/16 G03G15/00 G03G21/16 (Core/Invention)

International class (IPC 1–7): B41J29/16 G03G15/00

CPC: G03G21/1628 G03G2221/1606 G03G2221/163

European class: G03G21/16 S03G221/16B S03G221/16D

US class: 399/110 399/111 399/262

Classification Explorer

Cited documents: US6185395 BA, US6175704 BA, US5999771 A, US4766455 A, US3888577 A, US3604797 A, JPS63106236, JP63138549 U, JP63106236 A2, JP6242677 A2, JP358651 U, JP354965 U, JP3108276 U, JP3058651 U, JP3054965 U,

Forward Citations: JP2014104464, JP2012018267,

Abstract:
Source: US6374068B An aid tool used for aiding in replacement operation of a part to be replaced in an image forming apparatus. This aid tool includes: a part holding unit for holding a part to be replaced; and a mounting portion for removably mounting the part holding unit on an image forming apparatus. The part holding unit is for example a part housing container for housing a part, and may also serve as a packaging container which houses a new replacing part. The part housing container may include, for example, a main body for receiving the part to be replaced, and a lid for openably closing the main body.

0) US2007237545A – PHOTOSENSITIVE DRUM FOR PRINTER CARTRIDGE AND M...

277) Family number: 39065081 (US2007237545A) © PatBase

Title: PHOTOSENSITIVE DRUM FOR PRINTER CARTRIDGE AND METHOD FOR MOUNTING THE SAME

Priority: KR20060030790 20060405

Family:

Publication number	Publication date	Application number	Application date
AT446531 E	20091115	AT20070001725T	20070126
CN100507736 C	20090701	CN200710000037	20070105
CN101051196 A	20071010	CN200710000037	20070105
DE602007002834 D1	20091203	DE200760002834T	20070126
EP1843216 A1	20071010	EP20070001725	20070126
EP1843216 B1	20091021	EP20070001725	20070126
KR100788037 B1	20071224	KR20060030790	20060405
KR20070099715 A	20071010	KR20060030790	20060405
US2007237545 AA	20071011	US20060520941	20060913
US7676175 BB	20100309	US20060520941	20060913

Probable Assignee: PARK AND OPC CO LTD

Assignee(s):(std): PARK AND OPC CO LTD

Assignee(s): PARK AND 38 OPC CO LTD ; PARK AND OPC CO

Inventor(s):(std): CHO MYUNG LAE ; CHO SEONG JIN ; HAN MICHAEL ; JEON JUN HO ; KIM HAN SHIK ; MICHAEL HAN

Inventor(s): CHO SEONG JIN SINLA APT GA 1203 1292 27 5 ; CHO MYUNG LAE HAN MICHAEL KIM HAN SHIK CHO ; CHO

Agent(s): WAGNER BERNHARD PETER; BLAKELY SOKOLOFF TAYLOR AND ZAFMAN

Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK NL PL PT RO SE SI SK TR YU

International class (IPC 8–9): G03G15/00 G03G15/02 G03G15/04 G03G21/00 (Advanced/Invention); G03G15/00 G03G15/04 (Advanced/Non–invention); G03G15/00 G03G15/04 (Core/Invention)

CPC: F16D1/10 G03G15/751

European class: F16D1/10 G03G15/75B

US class: 399/116 399/117 399/117P 399/159

Classification Explorer

Cited documents: US6381429 BA, US2008279584 AA, US2005238387, JP4024656 A2, JP2304459 A2, JP2006084622 A2, JP10104905 A2, EP0940729 A2, EP0833228 A1, EP0797125 A1,

Forward Citations: US9678471, US9671751, US9658593, US9658592, US9594343, US9477201, US9471025, US9377755, US9348303, US9176468, US8676090, US8676085, US8121521, US7630667, US2014041476, US2012183331, US2010296838, US2008279584, TWI434152, EP3173875, EP2291715, EP2291715,

Abstract:
Source: US2007237545A A photosensitive drum for a printer cartridge, which can be easily mounted on a printer cartridge of which the positions of drum connectors are fixed, is disclosed. The photosensitive drum for a printer cartridge comprises a cylindrical drum having a photosensitive layer on a cylindrical surface thereof; and a pair of rotation shafts which is respectively mounted on the sides of the cylindrical drum for rotating and supporting the cylindrical drum, wherein at least one of the rotation shafts is insert–fitted to the side of the cylindrical drum.

0) US2011229194A – IMAGE FORMING DEVICE

278) Family number: 49609453 (US2011229194A) © PatBase

Title: IMAGE FORMING DEVICE

Priority: JP20100064155 20100319 US20110009096 20110119 US20130934824 20130703

Family:

Publication number	Publication date	Application number	Application date
CN102193373 A	20110921	CN201110063526	20110309
CN102193373 B	20140521	CN201110063526	20110309
JP2011197408 A2	20111006	JP20100064155	20100319
JP5062277 B2	20121031	JP20100064155	20100319
US2011229194 AA	20110922	US20110009096	20110119
US2013294799 AA	20131107	US20130934824	20130703
US8483593 BB	20130709	US20110009096	20110119
US8879952 BB	20141104	US20130934824	20130703

Probable Assignee: BROTHER IND LTD

Assignee(s):(std)**:** BROTHER IND LTD ; HASHIMOTO JUNICHI ; OKABE YASUSHI ; SHIMIZU TAKASHI ; TOMATSU YOSHIYA

Assignee(s): BROTHER INDUSTRIES LTD ; BROTHER KOGYO KABUSHIKI KAISHA ; BROTHER KOGYO KK

Inventor(s):(std)**:** HASHIMOTO JUNICHI ; JUNICHI HASHIMOTO ; OKABE YASUSHI ; SHIMIZU TAKASHI ; TAKASHI SHIMIZU ; TOMATSU YOSHIYA ; YASUSHI OKABE ; YOSHIYA TOMATSU

Agent(s): BANNER AND WITCOFF LTD

International class(IPC 8–9)**:** G03G15/00 G03G15/08 G03G21/16 G03G21/18 (Advanced/Invention)

CPC: G03G21/1661 G03G21/181 G03G21/1853 G03G2221/1684

European class: G03G21/18C2 G03G21/18H1V S03G221/16S2

US class: 399/110 399/110P 399/111 399/111S 399/113 399/113S 399/119 399/119S

Classification Explorer

Cited documents: US8483593 BB, US8208830 BB, US7860433 BB, US7697866 BB, US7663658 BB, US7272339 BB, US7215905 BB, US6453136 BA, US2011229193 AA, US2010021203 AA, US2009252530 AA, US2009003876 AA, US2009003875 AA, US2008260423 AA, US2008253800 AA, US2007201900 AA, US2007071495 AA, US2007036582 AA, US2006245784 AA, US2004175203 AA, US2003185587 AA, JP2010054836 A2, JP2010026299 A2, JP2009031771 A2, JP2009031770 A2, JP2008262088 A2, JP2007232933 A2, JP2007072422 A2, JP2006330481 A2, JP2006308755 A2, JP2006259448 A2, JP2005025080 A2, JP2002277796 A2, CN1892467 A, CN101114145 A,

Forward Citations: US9429907, US9256199, US9164468, US8886075, US8879952, US8879951, US8634743, US8600263, US8521058, US2014334841, US2011311268, US2011229193, US2010247137, JP2011253049,

Abstract:
Source: US2011229194A A holder unit is configured to hold a plurality of photosensitive drums such that the plurality of photosensitive drums are arrayed in a predetermined direction and juxtaposed with each other with a space between neighboring photosensitive drums. A plurality of developing units is held by the holder unit, each is provided in association with each photosensitive drum, and each includes a developing roller displaceable between a contact position where the developing roller is in contact with the photosensitive drum and a spaced position where the developing roller is spaced away from the photosensitive drum. A spacer member has a plurality of retaining portions each in association with each developing unit and configured to retain each developing unit at the spaced position, and a linking portion integral with the retaining portions and configured to connect neighboring retaining portions therethrough in the predetermined direction.

0) US2008253805A – GRID ELECTRODE, IMAGE FORMING APPARATUS INCLUDI...

279) Family number: 42280347 (US2008253805A) © PatBase

Title: GRID ELECTRODE, IMAGE FORMING APPARATUS INCLUDING SAME, AND PROCESS CARTRIDGE INCLUDING SAME

Priority: EP20080154298 20080410 JP20070106153 20070413

Family:

Publication number	Publication date	Application number	Application date
DE602008028086 D1	20131212	DE200860028086T	20080410
EP1980917 A1	20081015	EP20080154298	20080410
EP1980917 B1	20131016	EP20080154298	20080410
JP2008262114 A2	20081030	JP20070106153	20070413
JP5181518 B2	20130410	JP20070106153	20070413
US2008253805 AA	20081016	US20080081161	20080411
US7885578 BB	20110208	US20080081161	20080411

Probable Assignee: RICOH CO LTD

Assignee(s):(std)**:** RICOH CO LTD ; RICOH KK ; YOSHINO KAORU

Assignee(s): RICOH COMPANY LIMITED ; RICOH COMPANY LTD

Inventor(s):(std)**:** YOSHINO KAORU

Inventor(s): YOSHINO KAORU TOKYO

Agent(s): SCHWABE SANDMAIR MARX; SCHWABE – SANDMAIR – MARX; OBLON SPIVAK MCCLELLAND MAIER AND NEUSTADT PC; OBLON SPIVAK MCCLELLAND MAIER AND NEUSTADT LLP

Designated states: AL BA DE FR GB MK RS

International class(IPC 8–9)**:** G03G15/02 (Advanced/Invention); G03G15/02 (Core/Invention)

CPC: G03G15/0291 G03G15/0266 G03G2215/027

European class: G03G15/02C S03G215/02C1

US class: 399/171 399/171P

Classification Explorer

Cited documents: US6963708 BB, US6553198 BA, US6421514 BB, US6091917 A, US5844768 A, US5666604 A, US5526222 A, US5216465 A, US5206784 A, US5079668 A, US5025155 A, US2001046394 AA, JPS63118050, JPS6188282, JP8171257 A2, JP8171257, JP8082978 A2, JP8082978, JP7036259 A2, JP7036259, JP63118050 A2, JP61088282 A2, JP5094076 A2, JP5094076, JP4011551 U, JP4011551 U, JP2289869 A2, JP2289869, JP2267571 A2, JP2007106153 A2, JP2005338797 A2, JP2003122092 A2, JP2003122092, JP2000330361 A2, JP1232369 A2, JP1232369, JP1166356 A2, JP0882978, JP08171257, JP0736259, JP0594076, JP0411551 U, JP02289869, JP01232369,

Forward Citations: US9188899, US9110431, US9042787, US8903272, US8805238, US8761641, US8755717, US8750761, US8693921, US8676091, US8666287, US8649701, US7907869, US2014064811, US2013279939, US2013129387, US2013121729, US2011222901, US2008304866, JP6015091, JP5915965, JP5831146, JP5760582, JP2013225060, JP2013109199, JP2013105045, JP2013101283, JP2013057903, JP2012203364, CN103105760, CN103105759, CN103105759, CN102707600, CN102707600,

Abstract:
Source: US2008253805A A grid electrode, which can be included in a scorotron charger for an image forming apparatus or a process cartridge, includes a thin plate member containing multiple apertures and linear patterns, and fitting members. The multiple apertures are disposed facing a charge wire, and the linear patterns are formed in the longitudinal direction of the grid electrode and disposed at equally−shaped intervals in a lateral direction thereof to cause the fitting member to apply tension in the longitudinal axis of the thin plate member at end portions in the lateral direction of the fitting member. The fitting members engage hooks mounted on the scorotron charger at both ends of the grid electrode in a longitudinal direction of the thin plate member containing the

multiple apertures and linear patterns.

280) Family number: 4871430 (US4544260A) © PatBase

Title: REMOVABLE PROCESSING CARTRIDGE FOR ELECTROSTATOGRAPHIC REPRODUCING APPARATUS

Priority: US19840614203 19840525

Family:

Publication number	Publication date	Application number	Application date
JP60260064 A2	19851223	JP19850105772	19850517
MX159095 A	19890414	MX19850205333	19850517
US4544260 A	19851001	US19840614203	19840525

Probable Assignee: XEROX CORP

Assignee(s):(std)**:** XEROX CORP

Inventor(s):(std)**:** KOLAS JAMES R ; KOLBE JAMES R ; JIEIMUZU AARU KORUBI

Inventor(s): JAMES R KOLAS

International class (IPC 8–9)**:** G03G15/00 G03G21/18 (Advanced/Invention); G03G15/00 G03G21/18 (Core/Invention)

International class (IPC 1–7)**:** G03G15/00

CPC: G03G21/1628 G03G21/1671 G03G21/1842 G03G2221/1615 G03G2221/1654 G03G2221/1687 G03G2221/183

European class: G03G21/18H1 S03G221/16B2 S03G221/16K1 S03G221/16S3 S03G221/18P

US class: 355/14R 355/16 355/3BE 355/3R 399/111

Classification Explorer

Cited documents: US500171 A, US4416536 A, US4412734 A, US4386841 A, US4372669 A, US4335950 A, US4271786 A, US4264199 A, US4236807 A, US4116556 A, US4114998 A, US4087170 A, US4076402 A, US3985436 A, US3976371 A, US3966316 A, US3924944 A, US3647293 A, US3637306 A,

Forward Citations: US9261823, US9046860, US8725042, US7346293, US7321739, US6097912, US6049682, US6014535, US5585892, US4873548, US4786937, US4674858, US4655578, US2015253697, US2007092286, JP61110167, JP3033254, EP0341761, EP0163486, CN104914693,

Abstract:
Source: US4544260A An electrostatographic reproducing apparatus using a removable processing cartridge containing at least one electrostatographic processing unit together with a cartridge mounting means to the main frame of the reproducing apparatus and cartridge positioning means is described. The cartridge positioning means comprises a pair of elastomeric loops adapted to engage a frame member of the reproducing apparatus with a compression spring action to thereby maintain the cartridge in its operational position. The loops are of sufficient size and shape that they may be used as handles to manually extract the cartridge from the reproducing apparatus. In the specific embodiment the elastomeric loops are fastened to the top of a cartridge at one end thereof which engages with a bottom of the upper frame portion of a clam–shell type machine when it is pivoted to the closed position thereby maintaining the cartridge in its operational position.

0) US2011044721A – UNIVERSAL MAGNET ROLLER PRESS APPARATUS, ASSEMB...

281) Family number: 48343408 (US2011044721A) © PatBase

Title: UNIVERSAL MAGNET ROLLER PRESS APPARATUS, ASSEMBLY, AND METHOD

Priority: US20090274617P 20090818 US20090283254P 20091130 US20100806717 20100818

Family:

Publication number	Publication date	Application number	Application date
US2011044721 AA	20110224	US20100806717	20100818
US8528210 BB	20130910	US20100806717	20100818

Probable Assignee: MITSUBISHI KAGAKU IMAGING CORP

Assignee(s):(std)**:** HOLMES DENNY ; MITSUBISHI KAGAKU IMAGING CORP ; OHANYAN TIGRAN

Inventor(s):(std)**:** HOLMES DENNY ; OHANYAN TIGRAN

Agent(s): MITSUBISHI KAGAKU IMAGING CORP

International class (IPC 8–9)**:** B21D53/00 B30B1/18 B30B13/00 B41F1/34 G03G15/08 (Advanced/Invention)

CPC: G03G15/0894 G03G15/0921 G03G2215/00987 G03G2215/0863

European class: G03G15/08R G03G15/09E S03G215/00R S03G215/08B1B

US class: 100/289 100/289S 100/35 100/35S 101/480 29/450 29/895.1 399/109 399/109P

Classification Explorer

Cited documents: US7331288 BB, US6876827 BA, US6463648 BB, US6321048 BA, US6131261 A, US5638754 A, US4763394 A, US3541665 A, US3061914 A,

Forward Citations: US2017090350,

Abstract:
Source: US2011044721A There is provided a universal magnet roller press apparatus, assembly, and method for removing and installing a magnet and a hub of a magnet roller of a toner printer cartridge. The apparatus has a mounting base, a screw drive assembly, an alignment cradle, a front support assembly, a back support assembly, and a first rod stop and a second rod stop. The assembly has the universal magnet roller press apparatus and a plurality of magnet roller adaptors for attached to the magnet roller during removal and installation of the magnet and the hub.

0) EP2365397A1 – CARTRIDGE WITH A TONER AGITATOR AND A PRINTER W...

282) Family number: 49467375 (EP2365397A1) © PatBase

Title: CARTRIDGE WITH A TONER AGITATOR AND A PRINTER WITH SUCH CARTRIDGE

Priority: FR20100051023 20100215

Family:

Publication number	Publication date	Application number	Application date
EP2365397 A1	20110914	EP20110153253	20110203
FR2956490 A1	20110819	FR20100051023	20100215

Probable Assignee: SAGEM COMM

Assignee(s):(std)**:** SAGEM COMM ; SAGEMCOM DOCUMENTS SAS

Assignee(s): SAGEM COMMUNICATIONS SAS

Inventor(s):(std)**:** SVENSSON HENRIC

Inventor(s): HENRIC SVENSSON

Agent(s): CALLON DE LAMARCK JEAN ROBERT; CABINET REGIMBEAU

Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL NO PL PT RO RS SE SI SK SM TR

International class(IPC 8–9)**:** B41J2/455 G03G15/08 G03G15/18 G03G21/18 (Advanced/Invention)

CPC: G03G15/0875 G03G15/0868 G03G2215/085

European class: G03G15/08H3B S03G215/08A5

Classification Explorer

Cited documents: US4566776 A, US2005163536 AA,

Abstract:
The cartridge has a toner mixer (2) movable in a toner reservoir (1). A development roller includes a rotor that rotates with respect to the reservoir, and an actuator of the mixer is movable with respect to the reservoir. The actuator mechanically cooperates with a cam of the rotor and an operating handle (21) of the mixer, such that the rotation of the rotor causes oscillatory movement of the actuator and the mixer.

0) US4943815A – LASER PRINTER WITH LIGHT–EXPOSURE PREVENTION

283) Family number: 3524577 (US4943815A) © PatBase

Title: LASER PRINTER WITH LIGHT–EXPOSURE PREVENTION

Priority: US19890373767 19890629

Family:

Publication number	Publication date	Application number	Application date
DE69022137 D1	19951012	DE19906022137	19900509
DE69022137 T2	19960425	DE19906022137T	19900509
EP0406147 A2	19910102	EP19900480067	19900509
EP0406147 A3	19910424	EP19900480067	19900509
EP0406147 B1	19950906	EP19900480067	19900509
JP2613122 B2	19970521	JP19900170397	19900629
JP3063160 A2	19910319	JP19900170397	19900629
US4943815 A	19900724	US19890373767	19890629

Probable Assignee: LEXMARK INT

Assignee(s):(std)**:** IBM ; LEXMARK INT INC

Assignee(s): MORGAN BANK ; LEXMARK INT ; LEXMARK INT INC GREENWICH CONN US ; IBM INFORMATION PRODUCTS 55 RAILROAD AVENUE GREENWICH CT 06830 A CORP OF DE CORP ; IBM INFORMATION PRODUCTS CORP ; INT BUSINESS MACHINES ARMONK NY 10504 A CORP OF NY CORP ; INT BUSINESS MACHINES CORP ; INTERNATL BUSINESS MACH CORP ; INTERNATL BUSINESS MACH CORP IBM

Inventor(s):(std)**:** ALDRICH CHARLES S ; ALDRICH CHARLES STANLEY ; BAANAADO RII UIRUTSUBATSUCHI ; CHIYAARUZU SUTANREI AARUDORITS ; CRAFT JAMES A ; CRAFT JAMES ALEXANDER ; IIRU DOOSON WAADO SEKANDO ; JIEEMUZU AREKISANDAA KURAFUTO ; JIEEMUZU FUIRITSUPU HAADEN ; KING TERRY L ; KING TERRY LEE ; HARDEN JAMES P ; HARDEN JAMES PHILLIP ; KOMPLIN STEVEN R ; KOMPLIN STEVEN ROBERT ; PURAFURU MOHANRAARU SHIYAA ; ROUSEY WILLIAM S ; ROUSEY WILLIAM STATON ; SUTEIBUN ROBAATO KOOMUPUREIN ; TERII RII KINGU ; UIRIAMU SUTAATON ROOSEI ; WARD II EARL D ; WARD II EARL DAWSON ; SHAH PRAFUL M ; SHAH PRAFUL MOHANLAL ; WILZBACH BERNARD L ; WILZBACH BERNARD LEE

Inventor(s): WILZBACH BERNARD LEE LEXINGTON KENTUCKY 40511 US ; SHAH PRAFUL MOHANLAL LEXINGTON KENTUCKY 40503 US ; WARD II EARL DAWSON LEXINGTON KENTUCKY 40502 US ; ROUSEY WILLIAM STATON LEXINGTON KENTUCKY 40503 US ; KOMPLIN STEVEN ROBERT LEXINGTON KENTUCKY 40515 US ; HARDEN JAMES PHILLIP LEXINGTON KENTUCKY 40503 US ; KING TERRY LEE VERSAILLES KENTUCKY 40383 US ; CRAFT JAMES ALEXANDER LEXINGTON KENTUCKY 40515 US ; CHIYAARUZU SUTANREI AARUDORITSUCHI ; ALDRICH CHARLES STANLEY LEXINGTON KENTUCKY 40503 U ; ALDRICH CHARLES STANLEY LEXINGTON KENTUCKY 40503 US ; ALDRICH CHARLES STANLEY LEXINGTON KENTUCKY...

Designated states: DE FR GB

International class (IPC 8–9): B41J2/44 B41J29/02 B41J29/13 G03G15/00 G03G15/04 G03G21/00 G03G21/16 (Advanced/Invention) ; B41J2/44 B41J29/02 B41J29/12 G03G15/00 G03G15/04 G03G21/00 G03G21/16 (Core/Invention)

International class (IPC 1–7): B41J2/44 B41J29/13 B41J29/387 G01D15/14 G02B26/02 G03G15/00 G03G15/04 G03G21/00 G03G21/16 G06K15/12

CPC: G03G21/1647 G03G21/1628 G03G21/1652 B41J29/02 G03G2221/1636 G03G2221/1654 G03G2221/166 G03G2221/18

European class: B41J29/02 G03G21/16 S03G221/16E S03G221/16K1 S03G221/16K3 S03G221/18

US class: 250/515.1 346/108 347/256 347/263 350/266 355/210 359/227 399/108 D18/36

Classification Explorer

Cited documents:

US4803521 A, US4135721 A, US4100419 A, JPS6378958 U, JPS626743 U, JPS6233061 U, JPS62257874, JP63078958 U1, JP63078958 U, JP62257874 A2, JP62033061 U1, JP62033061 U, JP62006743 U1, JP62006743 U, JP1177758 U1, GB2197258 A1, EP0271720 A1,

Forward Citations: US9566692, US9463557, US8130248, US8041261, US7734224, US7391973, US7286764, US7212221, US7177081, US7068372, US7057819, US7057795, US7054515, US7049164, US7042611, US7027202, US6991953, US6987600, US6956995, US6956878, US6947613, US6934070, US6928207, US6927891, US6922273, US6922272, US6908201, US6872984, US6865346, US6829258, US6829092, US6829077, US6822797, US6813059, US6806997, US6801354, US6800238, US6782205, US6767751, US6764875, US6747781, US6728023, US6714337, US6712480, US6707591, US5953560, US5638161, US5437511, US5394263, US5373352, US5283597, US5276480, US5245365, US5153607, US5136333, US2012255749, US2009027735, US2008193163, US2007279712, US2007024929, US2006103717, EP1916560,

Abstract:
Source: US4943815A When cover (8) of the laser printer (3) is closed, absence of the replaceable cartridge (15) or the shroud assembly (9) will activate both an electrical and a mechanical interlock. A moveable switch actuator (16) on the shroud assembly will be absent if the assembly is omitted and will not find a guide ramp (46) if the cartridge is absent, thereby assuring power to the light source remains off. A shutter (13) also blocks the normal light path and is moved aside by a pin (14) on the cartridge, and therefore blocks light unless a cartridge is installed. Walls (31) on the cartridge surround the shutter during normal use to form a protective light baffle. The laser printhead (2) is fixed within the shroud so that separation requires a necessary electrical cable (72, 74) to be disconnected.

0) US4607939A – REMOVABLE DEVELOPING UNIT FOR AN ELECTROSTATIC ...

284) Family number: 3626715 (US4607939A) © PatBase

Title: REMOVABLE DEVELOPING UNIT FOR AN ELECTROSTATIC RECORDING APPARATUS

Priority: JP19830175763 19830922 JP19830175764 19830922

Family:

Publication number	Publication date	Application number	Application date
DE3434563 A1	19850411	DE19843434563	19840920
DE3434563 C2	19890511	DE19843434563	19840920
JP1765173 C3	19930611	JP19830175764	19830922
JP4055305 B4	19920902	JP19830175764	19830922
JP60067975 A2	19850418	JP19830175763	19830922
JP60067976 A2	19850418	JP19830175764	19830922
US4607939 A	19860826	US19840653932	19840924

Probable Assignee: RICOH KK

Assignee(s):(std)**:** RICOH KK

Assignee(s): RICOH CO ; RICOH CO LTD ; RICOH CO LTD A CORP OF JAPAN ; RICOH CO LTD TOKIO TOKYO JP ; RICOH COMPANY LTD

Inventor(s):(std)**:** SAITOU TAKESHI ; SAITO TAKESHI

Inventor(s): SAITO TAKESHI ICHIKAWA CHIBA JP

International class (IPC 8–9)**:** G03G15/08 G03G21/00 (Advanced/Invention); G03G15/08 G03G21/00 (Core/Invention)

International class (IPC 1–7)**:** G03G15/06 G03G15/08

CPC: G03G15/08 G03G15/0855 G03G15/0865 G03G15/0875 G03G15/0896

European class: G03G15/08 G03G15/08H3 G03G15/08S

US class: 355/14D 355/3DD 355/3R 399/119

Classification Explorer

Cited documents: US4491161 A, US4478512 A, US4435065 A, US4364656 A, JP60026377 A2, JP60021070 A2, JP59198476 A2, JP59072459 A2, JP58025650 A2, JP56080069 A2, DE3323086 A1,

Forward Citations: WO9015366, US7689145, US7542697, US7412191, US7356290, US7289748, US7218880, US7209689, US7209687, US7162188, US7158742, US7130567, US7130558, US7123857, US7110704, US7088945, US7035569, US6937833, US6778786, US6501913, US6115571, US5697008, US5541715, US5517288, US5289243, US5255057, US5121165, US5115275, US5083166, US5063409, US5017962, US4974023, US4967234, US4916490, US2009022527, US2008152380, US2007242982, US2007110480, US2006099006, US2006034643, US2005169673, US2005058472, US2005041999, US2004197120, US2004197119, US2004184835, US2004146320, US2004146319, US2004126134, US2004091287, US2003153860, JP1155069, FR2744259, EP1184738, EP0738936, EP0738936, EP0398458, DE3916377,

Abstract:
Source: US4607939A A removable developing unit of an electrostatic recording apparatus, particularly a multi–color copying apparatus, has a casing with an aperture, at one side to allow contact of a developing sleeve with a photoconductive member when the developing unit is mounted in the copying apparatus. A cover and an automatic closing mechanism is provided so that the aperture is covered when the developing unit is removed from the copying apparatus. The casing includes a toner hopper to which a replaceable toner cartridge is attached. The correct color of replacement toner for the developing unit is ensured by removable tabs or openings on the toner hopper which matches those of the correct color toner cartridge.

0) US2009214255A – IMAGING CARTRIDGE AND IMAGE FORMING APPARATUS

285) Family number: 43651907 (US2009214255A) © PatBase

Title: IMAGING CARTRIDGE AND IMAGE FORMING APPARATUS

Priority: JP20080041417 20080222

Family:

Publication number	Publication date	Application number	Application date
CN101515154 A	20090826	CN200810173068	20081126
JP2009198885 A2	20090903	JP20080041417	20080222
US2009214255 AA	20090827	US20080241891	20080930

Probable Assignee: KONICA MINOLTA BUSINESS TECHNOLOGIES INC

Assignee(s):(std)**:** KONICA MINOLTA BUSINESS TECH

Assignee(s): KONICA MINOLTA BUSINESS TECHNOLOGIES INC

Inventor(s):(std)**:** HIROSHI MIZUNO ; ISAMU KUGIMIYA ; KONDO NOZOMI ; KONDO NOZOMU ; KUGIMIYA ISAMU ; MIZUNO HIROSHI ; NAOTO YOSHIDA ; NOZOMU KONDO ; YOSHIDA NAOTO

Agent(s): MORRISON AND FOERSTER LLP

International class (IPC 8–9)**:** G03G15/00 G03G21/16 G03G21/18 (Advanced/Invention); G03G15/00 G03G21/16 G03G21/18 (Core/Invention)

CPC: G03G21/1846

European class: G03G21/18H1H

US class: 399/111

Classification Explorer

Cited documents: US7457566 BB, US7305202 BB, US7292803 BB, US7274894 BB, US7236718 BB, US7139508 BB, US7136604 BB, US5963759 A, US5832343 A, US5331373 A,

Forward Citations: CN102193367,

Abstract:
Source: US2009214255A The present invention provides an imaging cartridge in which a handle, which is used for mounting the imaging cartridge to either one of two image forming apparatuses in which the attachment/detachment directions of the imaging cartridge are different, does not obstruct the mounting operation of the imaging cartridge to the other image forming apparatus. The imaging cartridge can be attached to or detached from a main body of a first image forming apparatus in a first direction, while can be attached to or detached from a main body of a second image forming apparatus in a second direction that is different from the first direction by 90 degrees. The imaging cartridge includes a pair of handles gripped upon attaching or detaching the imaging cartridge to or from the main body of the first image forming apparatus in the first direction. The handle of the pair of handles, which is positioned at the far side when the imaging cartridge is attached to or detached from the main body of the second image forming apparatus, is made of a movable handle that moves so as not to hinder the attaching or detaching operation.

0) US2010080630A – AGITATING MEMBER AND DEVELOPING CARTRIDGE

286) Family number: 44816896 (US2010080630A)

© PatBase

Title: AGITATING MEMBER AND DEVELOPING CARTRIDGE

Priority: JP20080250539 20080929

Family:

Publication number	Publication date	Application number	Application date
CN101713947 A	20100526	CN200910179559	20090929
CN101713947 B	20130501	CN200910179559	20090929
JP2010079203 A2	20100408	JP20080250539	20080929
JP4586916 B2	20101124	JP20080250539	20080929
US2010080630 AA	20100401	US20090555282	20090908
US8290398 BB	20121016	US20090555282	20090908

Probable Assignee: BROTHER KOGYO KK

Assignee(s):(std)**:** BROTHER IND LTD ; NISHIYAMA HIDESHI

Assignee(s): BROTHER KOGYO KABUSHIKI KAISHA ; BROTHER KOGYO KK

Inventor(s):(std)**:** HIDESHI NISHIYAMA ; NISHIYAMA EIJI ; NISHIYAMA HIDESHI

Agent(s): SCULLY SCOTT MURPHY AND PRESSER PC

International class (IPC 8–9): G03G15/06 G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)

CPC: G03G15/0875 G03G15/0855 G03G15/0865 G03G2215/0852

European class: G03G15/08H3 S03G215/08A5A

US class: 399/107 399/119 399/254 399/254P

Classification Explorer

Cited documents: US7924299 BB, US7529508 BB, US7224925 BB, US6337956 BA, US2006238599 AA, JP2006308688 A2, JP2000258985 A2,

Forward Citations: US8634446,

Abstract:
Source: US2010080630A In order to provide an agitator having a wiper made of a resiliency deformable material, an agitator according to an embodiment of the present invention includes a main body and a resiliently deformable plate–like member. The main body has a placing surface, a first protrusion, and a second protrusion protruding from the placing surface. The resiliently deformable plate–like member has a free end portion including a free end and a supported portion supported to the main body, the supported portion being placed on the placing surface and having a first engaging section engaging the first protrusion and a second engaging section engaging the second protrusion, the supported portion being curved upon resilient deformation thereof as a result of engagement of the first engaging section and the second engaging section with the first protrusion and the second protrusion respectively, a length between the first engaging section and the second engaging section being greater than a linear distance between the first protrusion and the second protrusion.

287) Family number: 42781689 (US2009016768A) © PatBase

Title: ARTICLE OF CONSUMPTION AND IMAGE FORMING APPARATUS HAVING THE SAME

Priority: EP20080158937 20080625 KR20070070230 20070712 US20080137994 20080612 US20120558488 20120726

Family:

Publication number	Publication date	Application number	Application date
CN101344751 A	20090114	CN200810131809	20080624
CN101344751 B	20101215	CN200810131809	20080624
DE602008019398 D1	20121213	DE200860019398T	20080625
EP2015144 A1	20090114	EP20080158937	20080625
EP2015144 B1	20121017	EP20080158937	20080625
JP2009020515 A2	20090129	JP20080174682	20080703
JP5124370 B2	20130123	JP20080174682	20080703
KR20090006660 A	20090115	KR20070070230	20070712
US2009016768 AA	20090115	US20080137994	20080612
US2012301183 AA	20121129	US20120558488	20120726
US8238789 BB	20120807	US20080137994	20080612
US8483596 BB	20130709	US20120558488	20120726

Probable Assignee: S PRINTING SOLUTION CO LTD

Assignee(s):(std)**:** SAMSUNG ELECTRONICS CO LTD ; SEORL KWOANG JOE ; JANG MYOUNG SUB

Assignee(s): S PRINTING SOLUTION CO LTD ; SAMSUNG ELECTRONICS CO ; SAMSUNG ELECTRONICS CO LTD SUWON SI

Inventor(s):(std)**:** JANG MYOUNG SUB ; JOE SEORL KWOANG ; SEORL KWOANG JOE ; SUB JANG MYOUNG

Inventor(s): JANG MYOUNG SUB YEONGTONG GU

Agent(s): PFENNING MEINIG AND PARTNER GBR; WADDINGTON RICHARD; DLA PIPER LLP US; STANZIONE AND KIM LLP

Designated states: AL BA DE FR GB MK NL RS

International class (IPC 8–9): G03G15/00 G03G15/01 G03G15/02 G03G21/16 G03G21/18 (Advanced/Invention); G03G15/00 (Advanced/Non–invention); G03G15/00 G03G15/01 G03G21/16 G03G21/18 (Core/Invention)

CPC: G03G21/1647 G03G21/1633 G03G2221/1609 G03G2221/1654 G03G2221/169 G03G2221/1815

European class: G03G21/16 S03G221/16B1 S03G221/16K1 S03G221/16S4 S03G221/18C

US class: 399/107 399/107P 399/114 399/116

Classification Explorer

Cited documents: US6952545 BB, US6941093 BB, US2006177237 AA, US2005094217 AA, KR2005110224, KR20050110224 A, KR1020050110224, JP4116668 A2, JP3282484 A2, JP3140971 A2, JP2006267668 A2, JP2006215225 A2, JP2006064888 A2, JP2005258307 A2, JP2004038054 A2, JP2000263839 A2, CN1577143 A,

Forward Citations: US9222894, US9170560, US9134695, US9104170, US8879951, US8285176, US2014147152, US2013251396, US2013195505, US2010247145, JP2010230855, CN103226302, CN103226302,

Abstract:
Source: US2009016768A An image forming apparatus having a consumable detachably installed in the main body is disclosed. The image forming apparatus includes a main body having a first opening, a consumable which is detachably installed in the main body, a door mounted on the main body to open and close the first opening, and locking members operable in association with the movement of the door to secure the consumable in place as the door is closed. Possible damages due to the movement of the consumable such as a photosensitive

cartridge during shipping and/or transporting of the image forming apparatus can be prevented by the locking members.

0) US2015037059A – CHIP CONTACT MECHANISM AND DEVELOPER CARTRIDGE ...

288) Family number: 51482797 (US2015037059A) © PatBase

Title: CHIP CONTACT MECHANISM AND DEVELOPER CARTRIDGE

Priority: CN201210042670 20120223 WO2013CN071433 20130206

Family:

Publication number	Publication date	Application number	Application date
CN102540822 A	20120704	CN201210042670	20120223
CN102540822 B	20130918	CN201210042670	20120223
DE212013000075 U1	20141106	DE201321000075U	20130206
ES1135734 UA	20150202	ES20140090015U	20130206
ES1135734 Y1	20150427	ES20140090015U	20130206
JP3196279 U	20150305	JP20140600096U	20130206
PL123343 U1	20150928	PL20130123343U	20130206
US2015037059 AA	20150205	US20130380187	20130206
US9274454 BB	20160301	US20130380187	20130206
WO13123858 A1	20130829	WO2013CN71433	20130206

Probable Assignee: PRINT RITE UNICORN IMAGE PROD

Assignee(s):(std)**:** PRINT RITE UNICOM IMAGE PRODUCTS CO LTD ; PRINT RITE UNICORN IMAGE PROD ; PRINT RITE UNICORN IMAGE PRODUCTS CO LTD ; PRINT RITE UNICORN IMAGE PRODUCTS CO LTD OF ZHUHAI ; PRINT RITE UNICORN IMAGE PRODUCTS CO LTD ZHUHAI

Assignee(s): PRINT RITE UNICOM IMAGE PRODUCTS CO ; PRINT RITE UNICORN IMAGEPRODUCTS CO LTD OF ZHUHAI ; PRINT RITE UNICORN IMAGE PRODUCTS CO

Inventor(s):(std)**:** CONGYU QIU ; QIU CONGYU ; TAN WUGANG ; WUGANG TAN ; XIAOFENG YANG ; YANG XIAOFENG

Agent(s): VALLEJO JUAN PEDRO; LERNER DAVID LITTENBERG KRUMHOLZ AND MENTLIK LLP; INNOPAT INTELLECTUAL PROPERTY CO LTD

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9): G03G15/06 G03G15/08 G03G21/00 G03G21/16 (Advanced/Invention)

CPC: G03G15/0863

US class: 1/1 399/262 399/90

Classification Explorer

Cited documents: US7840154 BB, US6782222 BB, US6588871 BB, US2013343777 AA, US2012321341 AA, US2012106985 AA, US2010007700 AA, US2008018705 AA, US2003215261 AA, US2003091361 AA, US2002025185 AA, JP9179476 A2, JP3774691 B2, JP3461330 B2, JP3173565 B2, JP3173565 A2, CN201194071 Y, CN1410850 A, CN102540822 A, CN101923307 A,

Forward Citations: WO13123858, US9274454, DE212013000075,

Abstract:
Source: US2015037059A Disclosed is a chip contact mechanism for a developer cartridge. The chip contact mechanism comprises a chip holder movably provided on the developer cartridge and a lever for enabling the chip holder to move. The chip holder is provided with a chip installation position. A return member is provided between the chip holder and the cartridge body. Disclosed is also a developer cartridge which comprises the chip contact mechanism.

0) US2008138109A – PROCESS CARTRIDGE

289) Family number: 41910578 (US2008138109A) © PatBase

Title: PROCESS CARTRIDGE

Priority: JP20060332739 20061211 JP20070307230 20071128

Family:

Publication number	Publication date	Application number	Application date
JP2008170965 A2	20080724	JP20070307230	20071128
JP5147371 B2	20130220	JP20070307230	20071128
US2008138109 AA	20080612	US20070951669	20071206
US7720412 BB	20100518	US20070951669	20071206

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK

Assignee(s): CANON INC ; CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** ANAMI OSAMU ; ANAN OSAMU ; HIRAYAMA AKINOBU

Agent(s): FITZPATRICK CELLA HARPER AND SCINTO

International class (IPC 8–9): G03G15/02 G03G21/18 (Advanced/Invention); G03G21/18 (Core/Invention)

CPC: G03G21/1825 G03G21/1821

European class: G03G21/18C4C G03G21/18C4S

US class: 399/111 399/113 399/115 399/176

Classification Explorer

Cited documents: US7099607 BB, US6980759 BB, US5465136 A, US2007092291 AA, US2005276628 AA, JP6273987 A2, JP5188667 A2, JP4043378 A2, JP2900530 B2, JP2900530, JP2006276190 A2, JP2006276190, JP2006259448 A2, JP2006259448, JP200599517, JP2005099517 A2, JP2004341118 A2, JP2004341118, JP2001337511 A2, JP2000181328 A2,

Forward Citations: US9285765, US9188945, US9122235, US9052686, US9014596, US8909092, US8577252, US8559849, US8494409, US8391747, US8160477, US8126357, US8095036, US7903994, US2017139340, US2014072335, US2012213550, US2011229196, US2011142487, US2011026967, US2009297219, US2009297213, US2009297212, US2008286001, JP2014067005,

Abstract:
Source: US2008138109A A process cartridge in which before use, the separation of a predetermined distance between a charging roller and a photosensitive drum can be maintained, and in use, the separation state of the charging roller can be released without increasing the burden of a user. The process cartridge includes a charging roller separation member moveable between the first position to hold the separation of the charging roller from the photosensitive drum and the second position to abut the charging roller on the photosensitive drum. One of a photosensitive member unit and a developing unit includes a hook portion holding the separation member in the first position, and the other includes a hook portion that releases the separation member from the hook portion to move the separation member to the second position when the developing unit is pivoted.

0) US2006245785A – PROCESS CARTRIDGE AND IMAGE FORMING APPARATUS

290) Family number: 33585103 (US2006245785A) © PatBase

Title: PROCESS CARTRIDGE AND IMAGE FORMING APPARATUS

Priority: JP20050130612 20050427 JP20060080696 20060323

Family:

Publication number	Publication date	Application number	Application date
CN100474164 C	20090401	CN200610078944	20060427
CN1854933 A	20061101	CN200610078944	20060427
JP2006330694 A2	20061207	JP20060080696	20060323
JP4280753 B2	20090617	JP20060080696	20060323
KR100824124 B1	20080421	KR20060037418	20060426
KR20060113442 A	20061102	KR20060037418	20060426
US2006245785 AA	20061102	US20060405480	20060418
US7512361 BB	20090331	US20060405480	20060418

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK

Assignee(s): CANON INC ; CANON K K ; CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** NITTANI SUSUMU ; SHIN ARATANI ; SHIN KAWAMURA HIROSHI ARATANI ; SHINTANI SUSUMU ; HIROSHI KAWAMURA ; KAWAMURA HIROSHI

Inventor(s): KAWAMURA HIROSHI ARATANI SHIN ; ARATANI SHIN

Agent(s): FITZPATRICK CELLA HARPER AND SCINTO

International class (IPC 8–9): G03G15/00 G03G15/06 G03G15/08 G03G21/00 G03G21/18 (Advanced/Invention) ; G03G15/06 G03G21/18 (Advanced/Non–invention) ; G03G15/00 G03G15/06 G03G15/08 G03G21/00 G03G21/18 (Core/Invention)

CPC: G03G21/181 G03G21/1825 G03G2221/1861

European class: G03G21/18C2 G03G21/18C4S S03G221/18P3A

US class: 399/111 399/113

Classification Explorer

Cited documents: US7272339 BB, US7142796 BB, US7088939 BB, US7088938 BB, US7072603 BB, US7027756 BB, US7024137 BB, US6980758 BB, US6947686 BB, US6834171 BB, US6681088 BB, US6463234 BB, US6459869 BB, US2006177231 AA, US2006013618 AA, US2005260011 AA, US2005115043 AA, KR100650456 B1, KR100561574 B1, KR100465078 B1, KR100448183 B1, KR100404411 B1, KR100355724 B1, JP200599517, JP200591792, JP2004341118, JP2003195720, JP200206722, JP2002006722 A2, JP2001337511 A2, JP07104637,

Forward Citations: US9625874, US9581958, US9519260, US9507318, US9501034, US9494916, US9465353, US9329567, US9229365, US9141083, US9134688, US9122237, US9037037, US8971760, US8862015, US8831482, US8781360, US8712284, US8688003, US8639160, US8588647, US8588646, US8583007, US8583001, US8565639, US8526841, US8503907, US8472838, US8467702, US8447209, US8442416, US8412076, US8396392, US8369743, US8346127, US8335454, US8301054, US8285173, US8213831, US8213830, US8170447, US8165494, US8139979, US8099018, US8086135, US8055155, US7953340, US7925183, US7899364, US7894733, US7890012, US7869740, US7860433, US7813671, US7792459, US7783229, US7715746, US7587156, US7509071, US7386241, US2016223985, US2014334849, US2013322918, US2011206412, US2011200353, US2011116832, US2011103826, US2010316413, US2010316409, US2010296837, US2010278555, US2010158563, US2010142996, US2009252530, US2009162095, US2009047041, US2009003876, US2009003875, US2008253803, US2008247776, US2008212995, US2008170880, US2008159774, US2008159772, US2008138115, US2008008497, US2007233679, US2007077086, US2006177231, JP5159666, JP2010197503, JP2010128160, JP2010122613, JP2008275888, JP2008262088, EP2605078, EP2605078, CN104880923, CN102768487, CN102768487, CN102053522,

Abstract:
Source: US2006245785A A process cartridge transportable when mounted in a main assembly of an electrophotographic image forming apparatus. The cartridge includes an electrophotographic photosensitive drum, a developing roller for developing an electrostatic latent image on the drum when in contact with the drum, a drum unit supporting the drum, a developing unit supporting the roller and connected with the drum unit for rotation between a contact position in contact with the drum and a separated position, a force receiving portion for receiving, from the main assembly, a force for moving the developing unit from the contact to the separated position, with the cartridge mounted in the main assembly, a separation member for maintaining the developing unit at a position where the developing roller and the drum are separated from each other, and a detection portion to detect the mounting of the separation member when the cartridge mounted in the main assembly.

0) BRPI0504974A – MECANISMO 1/4 DE VOLTA DE CONTROLE DE FLUXO DE ...

291) Family number: 35571935 (BRPI0504974A) © PatBase

Title: mecanismo 1/4 de volta de controle de fluxo de fluido aplicavel em torneiras, misturadores, ducha e em registros em geral Mechanism 1/4 turn of applicable fluid flow control faucets, mixers, showers and records in general (Machine translation)

Priority: BR2005PI04974 20051103

Family:

Publication number	Publication date	Application number	Application date
BRPI0504974 A	20070807	BR2005PI04974	20051103

Probable Assignee: FUNDICAO BUNI LTDA

Assignee(s):(std)**:** FUNDICAO BUNI LTDA

Inventor(s):(std)**:** SANTOS APARECIDO VIEIRA DOS

Inventor(s): APARECIDO VIEIRA DOS SANTOS

International class (IPC 8–9): F16K7/20 (Advanced/Invention); F16K7/00 (Core/Invention)

Classification Explorer

Abstract:
Source: BRPI0504974A • • • • • • • • RESUMO " MECANISMO DE CONTROLE DE FLUXO DE FLUIDO APLICAVEL EM TORNEIRAS E REGISTROS EM GERAL " 5 O qual e constituido pelo cartucho cilindrico tubular (1) montado no corpo de registro ou torneira quaisquer, pela haste de acionamento (6) alojada no cartucho, pela peca inferior (15) que constitui o obliterador, e pela sede de vedacao (10) dotada 10 com abertura transpassante (11) para passagem da agua, dita haste de acionamento (6) apresentando um trecho final (17) de cujo centro projeta–se um pino (18) em tomo do qual a face inferior do referido trecho (17) apresenta–se com duas proeminencias arredondadas (19), 15 diametralmente opostas, e entre essas duas proeminencias arredondadas, duas entrancias abauladas (20), igualmente opostas diametralmente, sendo que no dito pino (18) e passivel de se encaixar um correspondente orificio central (21) previsto na peca inferior (15) que configura o 20 elemento obliterador da sede de vedacao (10), dita peca inferior (15) apresentando–se desenvolvida em um trecho superior cilindrico (22) cuja face superior, em tomo do orificio central (21), apresenta–se com duas proeminencias abauladas (26) diametralmente opostas e entre as duas 25 proeminencias abauladas (26) duas entrancias (27) com laterais arredondas e fundo plano, igualmente opostas diametralmente, tal como previsto na face inferior da haste de acionamento (6). 1/10 01 percent 500 05 " MECANISMO DE CONTROLE DE FLUXO DE FLUIDO APLICAVEL EM TORNEIRAS E REGISTROS EM GERAL " A presente patente de Invencao 5 trata de um mecanismo de controle de fluxo de fluido aplicavel em torneiras e registros em geral, mecanismo este no qual a abertura e o fechamento totais da torneira se efetua com um giro de 90 degrees (apenas 1/4 de volta) na sua haste de acionamento que pode ser movimentada 10 indiferentemente tanto no sentido horario quanto no sentido anti–horario, sendo este fato um melhoramento de grande importancia em relacao a mecanismos para tal finalidade, compreendendo um cartucho cilindrico e tubular, montado no corpo de registro ou torneira 15 quaisquer, e em cuja extremidade inferior encaixa–se uma peca tambem, cilindrica e tubular, que configura a sede de vedacao do mecanismo, e no interior do referido conjunto e prevista a haste de acionamento propriamente dita, formada por duas pecas, a superior mais longa e envolta 20 por aneis de vedacao apropriados e em cuja parte superior se encaixa usual manipulo externo, e a peca inferior, substancialmente mais curta e convenientemente encaixada em um pino central previsto na peca superior, mantida permanentemente tracionada em direcao a esta 25 ultima por acao de mola, sendo que as faces de contato mutuo entre as duas pecas que compoem a referida haste de acionamento do mecanismo apresenta um trecho final cujo centro projeta um pino em tomo do qual a face 2/10 inferior do referido trecho apresenta–se com duas proeminencias arredondadas, diametralmente opostas, e entre essas duas proeminencias arredondadas, duas entrancias abauladas, igualmente opostas diametralmente, 5 responsaveis pela aproximacao ou afastamento da peca inferior em relacao a peca superior da haste de acionamento quando do giro do manipulo externo em apenas 90 degrees (1/4 de volta), determinando consequentemente o afastamento ou a aproximacao da 10 referida peca inferior em relacao a sede de vedacao prevista na extremidade inferior do cartucho, e com isso as posicoes de abertura ou fechamento do registro. Para efeito de ilustracao, seguem em anexo desenhos do presente melhoramento 15 introduzido no mecanismo de controle de fluxo de fluido aplicavel em torneiras e registros em geral, atraves dos quais o mesmo sera melhor visualizado. FIGURA 1: Representa vista em perspectiva explodida do mecanismo, mostrando todas 20 as suas pecas componentes. FIGURA 2: Representa vista em elevacao das pecas componentes do mecanismo tomadas em separado. FIGURA 3: Representa o 25 cartucho, a haste de acionamento e a peca inferior desta mostradas por um angulo de 90 degrees em relacao a figura anterior. FIGURA 4: Representa vista 3/10 em elevacao do corpo do mecanismo. FIGURA 5: Representa vista em corte do corpo do mecanismo segundo um plano indicado pela linha A–A na figura 3. 5 FIGURA 6: Representa vista em corte do corpo do mecanismo segundo um plano indicado pela linha B–B na figura 2. FIGURA 7: Representa vista superior do corpo do mecanismo. 10 FIGURA 8: Representa uma secao do corpo do mecanismo segundo um corte indicado pela linha D–D na figura 4. FIGURA 9: Representa uma secao do corpo do mecanismo segundo um corte indicado 15 pela linha C–C na figura 4. FIGURA 10: Representa o

embolo do mecanismo respectivamente em vista lateral (a), vista superior (B) e em cortes segundo planos indicados pela linha F−F (c) e E−E (d) na vista lateral. 20 FIGURA 11: Representa a sede do mecanismo respectivamente em vista elevada (e), vista superior (f) e em cortes segundo planos indicados pelas linhas H−H (g) e G−G (h) na vista elevada. FIGURA 12: Representa vista 25 geral do mecanismo. FIGURA 13: Representa vista lateral em corte diametral do referido mecanismo, agora com suas pecas devidamente montadas, dito mecanismo 4/10 estando ilustrado em posicao fechada. FIGURA 14: Representa a mesma vista em corte diametral do referido mecanismo, igualmente com suas pecas devidamente montadas, dito 5 mecanismo estando ilustrado agora em posicao aberta, decorrente do giro de 90 degrees do manipulo. Como se infere dessas ilustracoes, o mecanismo de controle de fluxo de fluido aplicavel em torneiras e registros em geral e constituido de 10 um cartucho (1) montado no corpo de um registro ou torneira quaisquer, desenvolvido em trecho superior sextavado (2) ou estriado, seguido de trechos medianos extemamente roscados (3), (3a) e finalizando em trecho cilindrico inferior liso (4), onde e dotado de aberturas 15 laterais diametralmente opostas (5) para passagem da agua, sendo que intemamente dito cartucho desenvolve−se em tres trechos de diametros diferentes. Dito cartucho e transpassado pela haste de acionamento (6) provida de trecho superior 20 estriado (7) ou sextavado, para encaixe do usual manipulo externo da torneira ou do registro, e varios trechos cilindricos de diferentes diametros e os quais delimitam sulcos para alojamento de arruela de trava (8) e aneis o'ring (9). 25 Na extremidade livre do trecho inferior do cartucho esta previsto o encaixe de uma peca que configura a sede de vedacao do mecanismo, desenvolvida em trecho superior cilindrico (10) provido de 5/10 abertura circular transpassante (11), e inferiormente provido de curto flange externo (12), sendo que o diametro externo do trecho superior coincide com o diametro interno do trecho inferior do cartucho, para encaixe justo 5 do primeiro no segundo, dito encaixe sendo limitado pelo encosto do flange na borda inferior do cartucho. Dita peca e ainda provida de ressaltos laterais externos (13) diametralmente opostos dois a dois e coincidentes com respectivos rebaixos diametrais internos (14) previstos na 10 face interna do cartucho, ao longo de todo o trecho interno inferior, ressaltos/rebaixos estes que impedem o giro da sede de vedacao em relacao ao cartucho. A metade inferior da haste de acionamento apresenta−se desenvolvida em uma serie de 15 trechos com formatos e proporcoes determinados, projetados para atuar em conjunto com uma peca inferior ou embolo (15) nela encaixada e que constitui parte integrante da referida haste de acionamento, ditas duas partes sendo mantidas permanentemente tracionadas uma 20 de encontro a outra por acao de mola (16) disposta sobre a sede de vedacao, sendo que as faces confrontantes dessas duas partes apresentam configuracoes especificas para atuar como carnes quando do giro do manipulo de acionamento externo pelo usuario, responsaveis pelo 25 deslocamento longitudinal da parte inferior (embolo) em relacao a parte superior, ora afastando−se, ora aproximando−se da sede de vedacao do mecanismo, constituindo o elemento obliterador propriamente dito do 6/10 mecanismo. As mencionadas configuracoes especificas aplicadas as faces conffontantes das duas partes da haste de acionamento, para atuar como carnes, 5 foram modificadas na presente patente e constituem o objetivo principal da reivindicacao aqui postulada. A haste de acionamento apresenta um trecho final (17) cujo centro projeta um pino (18) em tomo do qual a face inferior do referido trecho 10 (17) apresenta−se com duas proeminencias arredondadas (19) , diametralmente opostas, e entre essas duas proeminencias arredondadas, duas entrancias abauladas (20) , igualmente opostas diametralmente, responsaveis pela aproximacao ou afastamento da peca inferior 15 (embolo) em relacao a peca superior da dita haste de acionamento quando do giro do manipulo externo em apenas 90 degrees (1/4 de volta), determinando consequentemente as posicoes de fechamento (figura 13) ou abertura (figura 14) do registro. 20 No dito pino (18) da haste de acionamento (6) e passivel de se encaixar um correspondente orificio central (21) previsto na peca inferior ou embolo (15) que igualmente integra a referida haste de acionamento e que configura o elemento 25 obliterador da sede de vedacao (10). Dita peca inferior ou embolo (15) tem um prolongamento inferior cilindrico de menor diametro (24) cuja extremidade final apresenta−se em 7/10 forma de calota (25), sendo que ambos os trechos (24) e (25) transpassam a mola (16) disposta sobre a sede de vedacao (10), enquanto que o trecho final em forma de calota (25) e passivel de se alojar perfeitamente na 5 abertura transpassante (11) da sede de vedacao (10) do mecanismo, quando em posicao "fechada". Em tomo do orificio central (21) da referida peca inferior ou embolo (15), a face superior da mesma apresenta−se com duas proeminencias 10 abauladas (26) diametralmente opostas e entre as duas proeminencias abauladas (26) duas entrancias (27) com laterais arredondas e fundo plano, igualmente opostas diametralmente, tal como previsto na face inferior da haste de acionamento (6). 15 Como se infere das figuras 13 e 14, as pecas descritas sao montadas no interior do cartucho (1) de baixo para cima e obedecendo a seguinte sequencia: inicialmente introduz−se a haste de acionamento (6), ja com seus aneis de vedacao, ate que 20 seu trecho superior encoste no retem formado pela diferenca de diametros entre os trechos internos superior e intermediario do referido cartucho. Feito isto introduz−se a peca inferior ou embolo (15) que constitui o elemento obliterador do mecanismo, fazendo−se coincidir seu 25 orificio central (21) com o pino inferior central (18) da haste de acionamento (6), bem como seus ressaltos diametrais externos (23) com os rebaixos diametrais internos (14) previstos no referido cartucho (1). Em 8/10 seguida, introduz−se a mola (16), a qual circunda os trechos cilindrico (24) e em forma de calota (25) da peca inferior ou embolo (15), ficando encostada na face inferior do trecho superior cilindrico da referida peca inferior 5 (embolo). Finalmente encaixa−se a sede de vedacao (10), igualmente fazendo−se coincidir seus ressaltos diametrais externos (13) com os rebaixos diametrais internos (14) previstos no cartucho, dita sede de vedacao exercendo pressao contra a mola (16), a qual mantem 10 permanentemente a peca inferior ou embolo (15) de encontro a haste de acionamento (6). A sede de vedacao (10) e a peca interna ou embolo (15) sao impedidas de girar no interior do cartucho, por os ressaltos previstos nas mesmas 15 estarem devidamente encaixados nos rebaixos internos do cartucho. A haste de acionamento (6) nao pode se deslocar longitudinalmente, mas apenas girar no interior do cartucho. E a peca interna ou embolo (15) 20 que nao pode girar, e forcada pelos carnes a se deslocar longitudinalmente para cima e para baixo, quando do giro da haste em funcao da coincidencia dos trechos proeminentes arredondados (19) e entrancias abauladas (20) da face inferior da haste (6) com os trechos 25 proeminentes abaulados (26) e entrancias (27) da face superior da peca inferior ou embolo (15). Assim sendo o mecanismo encontra−se devidamente montado, conforme ilustrado nas 9/10 figuras 13 e 14. Na figura 13 o mecanismo esta em posicao "fechada". Nessa posicao a face inferior da haste de acionamento (6) e a face

superior da peca inferior 5 ou embolo (15) encontram−se dispostas da seguinte maneira: as proeminencias arredondadas (19) da haste de acionamento coincidem com os trechos proeminentes abaulados (26) da peca inferior ou embolo (15). Nessa posicao a peca inferior (embolo) e "empurrada" para 10 baixo, comprimindo a mola (16), e sendo forcada de encontro a sede de vedacao (10), ficando o trecho inferior de forma de calota (25) devidamente alojado na abertura transpassante (11) da referida sede de vedacao (10), impedindo assim a passagem da agua − mecanismo 15 fechado (ver figura 13). Para abrir o registro ou torneira, basta girar o manipulo externo, e consequentemente a haste de acionamento (6) em 1/4 de volta (90 degrees). Durante esse giro da haste (6) sua face inferior 20 vai se deslocando em relacao a face superior do embolo (15), de tal modo que ao final do giro de 90 degrees, as proeminencias arredondadas (19) da haste (6) passam a coincidir com as entrancias (27) da peca inferior ou embolo (15), assim como as entrancias abauladas (20) da 25 primeira passam a coincidir com as proeminencias abauladas (26) da segunda. Com essa gradativa coincidencia a mola (16) vai deixando de ser comprimida pela peca inferior ou embolo (15), e ao se distender, vai 10/10 agora exercendo pressao sobre a referida peca inferior ou embolo (15), movendo−a para cima, e consequentemente, afastando−a da sede de vedacao (10); com isso, a abertura transpassante (11) da referida sede de vedacao (10) e 5 liberada, permitindo agora a passagem da agua − mecanismo aberto (ver figura 14). Os movimentos da haste de acionamento podem ser realizados tanto no sentido horario como no sentido anti−horario. 5 10 15 20 25 1/2 REIVINDICACAO " MECANISMO DE CONTROLE DE FLUXO DE FLUIDO APLICAVEL EM TORNEIRAS E REGISTROS EM GERAL ", o qual e constituido pelo cartucho cilindrico tubular (1) montado no corpo de registro ou torneira quaisquer, pela haste de acionamento (6) alojada no cartucho e em cuja extremidade superior encaixa−se o usual manipulo externo, a peca inferior ou embolo (15) que constitui o obliterador, e a sede de vedacao (10) dotada com abertura transpassante (11) para passagem da agua, caracterizado por a haste de acionamento (6) apresentar um trecho final (17) de cujo centro projeta−se um pino (18) em torno do qual a face inferior do referido trecho (17) apresenta−se com duas proeminencias arredondadas (19), diametralmente opostas, e entre essas duas proeminencias arredondadas, duas entrancias abauladas (20), igualmente opostas diametralmente, sendo que no dito pino (18) da haste de acionamento (6) e passivel de se encaixar um correspondente orificio central (21) previsto na peca inferior ou embolo (15) que igualmente integra a referida haste de acionamento e que configura o elemento obliterador da sede de vedacao (10), dita peca inferior ou embolo (15) apresentando−se desenvolvida em um trecho superior cilindrico (22) de mesmo diametro que o do trecho final (17) da haste de acionamento e tendo um prolongamento inferior cilindrico de menor diametro (24) cuja extremidade final apresenta−se em forma de calota 2/2 (25), passivel de se alojar perfeitamente na abertura transpassante (11) da sede de vedacao (10) do mecanismo, quando em posicao "fechada", e em tomo do orificio central (21) da referida peca inferior ou embolo (15), a 5 face superior da mesma apresenta−se com duas proeminencias abauladas (26) diametralmente opostas e entre as duas proeminencias abauladas (26) duas entrancias (27) com laterais arredondas e fundo plano, igualmente opostas diametralmente, tal como previsto na 10 face inferior da haste de acionamento (6). raid e−r 9/1 2/6 6−4 S'− −~5 "'4 8−4 t e i \ 5 i rJ− T ¦/7 4/ −L Li lJ7 24−F 25>~ k −4 FIB. 3 o o 3/6 FIB. 4 FIE, 7 A FIE. 6 COR.lt BB Comi D−0 FIE. B jVr CORIE C−C FIE. 9 4/6 FIB. ID 5/6 FIE. 11 6/6 FIB.12 A A_ • 23 M FIB. 13 25 FIB. 14 5 10 15 20 25 1/1 RESUMO " MECANISMO DE CONTROLE DE FLUXO DE FLUIDO APLICAVEL EM TORNEIRAS E REGISTROS EM GERAL " O qual e constituido pelo cartucho cilindrico tubular (1) montado no corpo de registro ou torneira quaisquer, pela haste de acionamento (6) alojada no cartucho, pela peca inferior ou embolo (15) que constitui o obliterador, e pela sede de vedacao (10) dotada com abertura transpassante (11) para passagem da agua, dita haste de acionamento (6) apresentando um trecho final (17) de cujo centro projeta−se um pino (18) em torno do qual a face inferior do referido trecho (17) apresenta−se com duas proeminencias arredondadas (19), diametralmente opostas, e entre essas duas proeminencias arredondadas, duas entrancias abauladas (20), igualmente opostas diametralmente, sendo que no dito pino (18) e passivel de se encaixar um correspondente orificio central (21) previsto na peca inferior ou embolo (15) que configura o elemento obliterador da sede de vedacao (10), dita peca inferior ou embolo (15) apresentando−se desenvolvida em um trecho superior cilindrico (22) cuja face superior, em tomo do orificio central (21), apresenta− se com duas proeminencias abauladas (26) diametralmente opostas e entre as duas proeminencias abauladas (26) duas entrancias (27) com laterais arredondas e fundo plano, igualmente opostas diametralmente, tal como previsto na face inferior da haste de acionamento (6). 5 10 15 20 25 1/11 0:0 W4qy2/−y| " MECANISMO 1/4 DE VOL− TA DE CONTROLE DE FLUXO DE FLUIDO APLICAVEL EM TORNEIRAS, MISTURADORES, DUCHAS E EM RE− GISTROS EM GERAL " A presente patente de Invencao trata de um mecanismo 1/4 de volta de controle de fluxo de fluido aplicavel em torneiras, misturadores, duchas e em registros em geral, mecanismo este no qual a abertura e o fechamento se efetua com um giro de 90 degrees (apenas 1/4 de volta) na sua haste de acionamento que pode ser movi− mentada conforme a montagem do embolo obturador, tan− to no sentido horario quanto no sentido anti−horario, sendo este fato um melhoramento de grande importancia em re− lacao a mecanismos para tal finalidade, compreendendo um cartucho cilindrico e tubular montado no corpo de uma torneira, misturador, ducha ou registro quaisquer, e em cuja extremidade inferior encaixa−se uma peca tambem ci− lindrica e tubular, que configura a sede de vedacao do me− canismo, e no interior do referido conjunto e prevista a haste de acionamento propriamente dita, formada por duas pecas, a superior mais longa e envolta por aneis de veda− cao apropriados e em cuja parte superior se encaixa usual manipulo externo, e a peca inferior, embolo obturador substancialmente mais curta e convenientemente encaixa− da em um pino central previsto na peca superior, mantida permanentemente tracionada em direcao a esta ultima por acao de mola, sendo que as faces de contato mutuo entre as duas pecas que compoem a referida haste de aciona− 2/11 mento do mecanismo apresenta um trecho final cujo cen− tro projeta um pino em tomo do qual a face inferior do re− ferido trecho apresenta−se com duas proeminencias arre− dondadas, diametralmente opostas, e entre essas duas 5 proeminencias arredondadas, diametralmente opostas, e entre essas duas proeminencias arredondadas, duas entran− ces abauladas, igualmente opostas diametralmente, res− ponsaveis pela aproximacao ou afastamento da peca infe− rior em relacao a peca superior da haste de acionamento 10 quando do giro do manipulo externo em apenas 90 degrees (1/4 de volta), determinando consequentemente o afastamento ou a aproximacao da referida peca inferior embolo obtura− dor em relacao a sede de vedacao prevista na extremidade inferior do cartucho, e com isso as posicoes de abertura ou 15 fechamento do

mecanismo. Para efeito de ilustracao, se− guem em anexo desenhos do presente melhoramento in− troduzido no mecanismo de controle de fluxo de fluido aplicavel em torneiras, misturadores, duchas e em regis− 20 tros em geral, atraves dos quais o mesmo sera mais bem visualizado. FIGURA 1: Representa vista em perspectiva explodida do mecanismo, mostrando todas as suas pe− cas componentes. 25 FIGURA 2: Representa vista em elevacao das pecas componentes do mecanismo tomadas em sepa− rado. FIGURA 3: Representa vista em 3/11 elevacao das pecas componentes do mecanismo tomadas em sepa− rado mostradas por um angulo de 90 degrees em relacao a figura anterior. FIGURA 4: Representa vista do corpo do mecanismo. 5 FIGURA 5: Representa vista em corte do corpo do mecanismo segundo um plano indicado pela linha A−A na figura 3. FIGURA 6: Representa vista em corte do corpo do mecanismo segundo um plano indicado pela 10 linha B−B na figura 2. FIGURA 7: Representa vista supe− rior do corpo do mecanismo. FIGURA 8: Representa uma secao do corpo do mecanismo segundo um corte indicado pela linha D− 15 D na figura 4. FIGURA 9: Representa uma secao do corpo do mecanismo segundo um corte indicado pela linha C− C na figura 4. FIGURA 10: Representa o embolo 20 do mecanismo respectivamente em vista frontal (a), vista superior (b) e em cortes segundo planos indicados pela linha F−F (c) e E−E (d) na vista lateral. FIGURA 11: Representa a sede do mecanismo respectivamente em vista frontal (e), vista superior (f) 25 e em cortes segundo planos indicados pelas linhas H−H (g) e G−G (h) na vista frontal. FIGURA 12: Representa vista ge− ral do mecanismo. 4/11 FIGURA 13: Representa vista late− ral em corte diametral do referido mecanismo, agora com suas pe− cas devidamente montadas, dito mecanismo estando ilustrado em posicao fechada. 5 FIGURA 14: Representa a mesma vista em corte diametral do referido mecanismo, igualmente com suas pecas devidamente montadas, dito mecanismo estando ilus− trado agora em posicao aberta, decorrente do giro de 90 degrees do ma− nipulo. 10 FIGURA 15: Representa vista em corte do corpo e mola do mecanismo, e vista em elevacao da haste de acionamento, embolo e sede de vedacao, sendo que o embolo esta montado com as proeminencias arredondadas, opostas as a− berturas laterais do corpo do mecanismo. Assim sendo girando−se 15 a alavanca de acionamento para a direita o embolo se aproxima da sede de vedacao, ocorrendo assim o fechamento do mecanismo. FIGURA 16: Representa vista em corte do corpo e mola do mecanismo, e vista em elevacao da haste de acionamento, embolo e sede de vedacao, sendo que o embolo 20 esta montado com suas proeminencias arredondadas alinhadas com as aberturas laterais do corpo do mecanismo. Assim sendo girando−se a alavanca de acionamento para a direita o embolo se afasta da sede de vedacao, ocorrendo assim a abertura do meca− nismo. 25 Como se infere dessas ilustra− coes, o mecanismo de controle de fluxo de fluido aplicavel em torneiras, misturadores, duchas e em registros em geral e constituido de um cartucho (1) montado no corpo de um 5/11 registro ou torneira quaisquer, desenvolvido em trecho su− perior sextavado (2), seguido de trechos medianos exter− namente roscados (3), (3a) e finalizando em trecho cilin− drico inferior liso (4), onde e dotado de aberturas laterais 5 diametralmente opostas (5) para passagem do fluxo de fluido, sendo que intemamente dito cartucho desenvolve− se em tres trechos de diametros diferentes. Dito cartucho e transpassado pela haste de acionamento (6) provida de trecho superior 10 estriado (7) ou sextavado, para encaixe do usual manipulo externo da torneira ou do registro, e varios trechos cilin− dricos de diferentes diametros e os quais delimitam sulcos para alojamento de arruela de trava (8) e aneis o'ring (9). Na extremidade livre do trecho 15 inferior do cartucho esta previsto o encaixe de uma peca que configura a sede de vedacao do mecanismo, desenvol− vida em trecho superior cilindrico (10) provido de abertura circular transpassante (11), e inferiormente provido de cur− to flange externo (12), sendo que o diametro externo do 20 trecho superior coincide com o diametro interno do trecho do cartucho, para encaixe justo do primeiro no segundo, dito encaixe sendo limitado pelo encosto do flange na bor− da inferior do cartucho. Dita peca e ainda provida de res− saltos laterais externos (13) diametralmente opostos dois a 25 dois e coincidentes com respectivos rebaixos diametrais internos (14) previstos na face interna do cartucho (1), ao longo de todo o trecho interno inferior, ressaltos/rebaixos estes que impedem o giro da sede de vedacao em relacao 5 10 15 20 25 6/11 ao cartucho, e dois ressaltos laterais superiores (28) dia− metralmente opostos que fazem o travamento da sede (10) no corpo (1). A metade inferior da haste de acionamento apresenta−se desenvolvida em uma serie de trechos com formatos e proporcoes determinados, projeta− dos para atuar em conjunto com uma peca inferior ou em− bolo (15) nela encaixada e que constitui parte integrante da referida haste de acionamento, ditas duas partes sendo mantidas permanentemente tracionadas uma de encontro a outra por acao de mola (16) disposta sobre a sede de veda− cao, sendo que as faces confrontantes dessas duas partes apresentam configuracoes especificas para atuar como carnes quando do giro do manipulo de acionamento exter− no pelo usuario, responsaveis pelo acionamento longitudi− nal da parte inferior (embolo) (15) em relacao a parte su− perior, ora afastando−se, ora aproximando−se da sede de vedacao (10) do mecanismo, constituindo o elemento ob− turador propriamente dito do mecanismo. As mencionadas configuracoes especificas aplicadas as faces confrontantes das duas par− tes da haste de acionamento, para atuar como carnes, fo− ram modificadas na presente patente e constituem o obje− tivo principal da reivindicacao aqui postulada. A haste de acionamento apresenta um trecho final (17) cujo centro projeta um pino (18) em tomo do qual a face inferior do referido trecho (17) apresenta−se com duas proeminencias arredondadas 7/11 (19), diametralmente opostas, e entre essas duas proemi− nencias arredondadas, duas entrancias abauladas (20), igualmente opostas diametralmente, responsaveis pela aproximacao ou afastamento da peca inferior (embolo) 5 (15) em relacao a peca superior da dita haste de aciona− mento (6) quando do giro do manipulo externo em apenas 90 degrees (1/4 de volta), determinando consequentemente as po− sicoes de fechamento (figura 13) ou abertura (figura 14) do registro. 10 No dito pino (18) da haste de acionamento (6) e passivel de se encaixar um correspon− dente orificio central (21) previsto na peca inferior ou em− bolo (15) que igualmente integra a referida haste de acio− namento e que configura o elemento obturador da sede de 15 vedacao (10). Dita peca inferior ou embolo (15) tem um prolongamento inferior cilindrico de menor diametro (24) cuja extremidade final apresenta−se em for− ma de cone (25), sendo que ambos os trechos (24) e (25) 20 transpassam a mola (16) disposta sobre a sede de vedacao (10), enquanto que o trecho final em forma de cone (25) e passivel de se alojar perfeitamente na abertura transpas− sante (11) da sede de vedacao (10) do mecanismo, quando em posicao "fechada". 25 Em tomo do orificio central (21) da referida peca inferior ou embolo (15), a face supe− rior da mesma apresenta−se com duas proeminencias abau− ladas (26) diametralmente opostas e entre as duas proe− 8/11 minencias abauladas (26) duas entrancias (27) com laterais arredondas e fundo plano, igualmente opostas diametral− mente, tal como previsto na face inferior

da haste de acio− namento (6). 5 Como se infere das figuras 13 e 14, as pecas descritas sao montadas no interior do cartu− cho (1) de baixo para cima e obedecendo a seguinte se− quencia: inicialmente introduz−se a haste de acionamento (6), ja com seus aneis de vedacao, ate que seu trecho supe− 10 rior encoste no retem formado pela diferenca de diametros entre os trechos internos superior e intermediario do refe− rido cartucho (1). Feito isto se introduz a peca inferior ou embolo (15) que constitui o elemento obturador do meca− nismo, fazendo−se coincidir seu orificio central (21) com o 15 pino inferior central (18) da haste de acionamento (6), bem como seus ressaltos diametrais externos (23) com os re− baixos diametrais internos (14) previstos no referido car− tucho (1). O que difere a abertura, lado esquerdo ou lado direito e a posicao em que e colocado o embolo obturador 20 (15) como se mostra nas figuras 15 e 16. Em seguida, in− troduz−se a mola (16), a qual circunda os trechos cilindrico (24) e em forma de cone (25) da peca inferior ou embolo (15), ficando encostada na face inferior do trecho superior cilindrico da referida peca inferior (embolo) (15). Final− 25 mente encaixa−se a sede de vedacao (10), igualmente fa− zendo−se coincidir seus ressaltos diametrais externos (13) com os rebaixos diametrais internos (14) previstos no car− tucho, dita sede de vedacao exercendo pressao contra a 5 10 15 20 25 9/11 mola (16), a qual mantem permanentemente a peca inferi− or ou embolo (15) de encontro a haste de acionamento (6). A sede de vedacao (10) e a pe− ca interna ou embolo obturador (15) sao impedidas de gi− rar no interior do cartucho (1), por os ressaltos (23) do embolo obturador (15) estarem devidamente encaixados nos rebaixos internos (14) do cartucho (1). A haste de acionamento (6) nao pode se deslocar longitudinalmente, mas apenas girar no interior do cartucho, 90 percent a direita ou 90 percent a esquerda em funcao dos batentes diametrais opostos (29), no inte− rior do cartucho (1), devidamente encaixados na haste de acionamento (6), nos rebaixos diametralmente opostos (30). E a peca interna ou embolo ob− turador (15), que nao pode girar, e forcado pelos carnes a se deslocar longitudinalmente para cima e para baixo, quando do giro da haste em funcao da coincidencia dos trechos proeminentes arredondados (19) e entrancias abau− ladas (20) da face inferior da haste (6) com os trechos pro− eminentes abaulados (26), e entrancias (27) da face supe− rior da peca inferior ou embolo obturador (15). Assim sendo o mecanismo en− contra−se devidamente montado, conforme ilustrado nas figuras 13 e 14. Na figura 13 o mecanismo esta em posicao "fechada". Nessa posicao a face inferior do embolo (15) encontra−se disposta da seguinte maneira: as 5 10 15 20 25 10/11 proeminencias arredondadas (19) da haste de acionamento coincidem com os trechos proeminentes abaulados (26) da peca inferior ou embolo (15). Nessa posicao a peca inferi− or (embolo) (15) e "empurrada" para baixo, comprimindo a mola (16), e sendo forcada de encontro a sede de veda− cao (10), ficando o trecho inferior de forma de cone (25) devidamente alojado na abertura transpassante (11) da re− ferida sede de vedacao (10), impedindo assim a passagem do fluxo de fluido − mecanismo fechado (ver figura 13). Para abrir o registro ou tornei− ra, basta girar o manipulo externo, e consequentemente a haste de acionamento (6) em 1/4 de volta (90 degrees). Durante esse giro da haste (6) sua face inferior vai se deslocando em relacao a face superior do embolo (15), de tal modo que ao final do giro de 90 degrees, as proeminencias arredonda− das (19) da haste (6) passam a coincidir com as entrancias (27) da peca inferior ou embolo (15), assim como as en− trancias abauladas (20) da primeira passam a coincidir com as proeminencias abauladas (26) da segunda. Com essa gradativa coincidencia a mola (16) vai deixando de ser comprimida pela peca inferior ou embolo (15), e ao se distender, vai agora exercendo pressao sobre a referida pe− ca inferior ou embolo (15), movendo−a para cima, e con− sequentemente, afastando−a da sede de vedacao (10); com isso, a abertura transpassante (11) da referida sede de ve− dacao (10) e liberada, permitindo agora a passagem do fluxo de fluido − mecanismo aberto (ver figura 14). Os movimentos da haste de 11/11 acionamento podem ser realizados tanto no sentido horario como no sentido anti−horario, para abertura e fechamento, em funcao da montagem do embolo obturador (15) como mostra as figuras 15 e 16. 1/2 REIVINDICACAO " MECANISMO 1/4 DE VOL− TA DE CONTROLE DE FLUXO DE FLUIDO APLICAVEL EM TORNEIRAS, MISTURADORES, DUCHAS E EM RE− 5 GISTROS EM GERAL ", o qual e constituido pelo cartucho cilindro tubular (1) montado no corpo de registro ou tor− neira quaisquer, pela haste de acionamento (6) alojada no cartucho e em cuja extremidade superior encaixa−se o usu− al manipulo externo, a peca inferior ou embolo (15) que 10 constitui o obturador, e a sede de vedacao (10) para passa− gem de fluxo de fluido, caracterizado por a haste de acio− namento (6) apresentar um trecho final (17) de cujo centro projeta−se um pino (18) em torno do qual a face inferior do referido trecho (17) apresenta−se com duas proeminencias 15 arredondadas (19), diametralmente opostas, e entre essas duas proeminencias arredondadas, duas entrancias abau− ladas (20), igualmente opostas diametralmente, sendo que no dito pino (18) da haste de acionamento (6) e passivel de se encaixar um correspondente orificio central (21) previs− 20 to na peca inferior ou embolo (15) que igualmente integra a referida haste de acionamento e que configura o elemen− to obturador da sede de vedacao (10), dita peca inferior ou embolo (15) apresentando−se desenvolvida em um trecho superior cilindrico (22) de mesmo diametro que o do tre− 25 cho final (17) da haste de acionamento (6) e tendo um pro− longamento inferior cilindrico de menor diametro (24) cu− ja extremidade final apresenta−se em forma de cone (25), passivel de se alojar perfeitamente na abertura transpas− 2/2 sante (11) da sede de vedacao (10) do mecanismo, quando em posicao "fechada"; e em tomo do orificio central (21) da referida peca inferior ou embolo (15), a face superior da mesma apresenta−se com duas proeminencias abauladas 5 (26) diametralmente opostas e entre as duas proeminencias abauladas (26) duas entrancias (27) com laterais arredon− dadas e fundo plano, igualmente opostas diametralmente, tal como previsto na face inferior da haste de acionamento (6). 1/7 2/7 3/7 14 5 CORTE D−D 4/7 CORTE F−F E H 23 21 CORTE E−E Fig. 10 5/7 28 13 CORTEH−H 13 CORTE G−G Fig. 11 7 8 9 9 9 14 16 10 12 11 6 1 3a 24 18 14 25 ON 7/7 Fig. IS Fig. 16 1/2 RESUMO " MECANISMO 1/4 DE VOL− TA DE CONTROLE DE FLUXO DE FLUIDO APLICAVEL EM TORNEIRAS, MISTURADORES, DUCHAS E EM RE− 5 GISTROS EM GERAL " O qual e constituido pelo car− tucho cilindrico tubular (1) montado no corpo de registro ou torneira quaisquer, pela haste de acionamento (6) alo− jada no cartucho, pela peca inferior ou embolo (15) que 10 constitui o obturador, e pela sede de vedacao (10) dotada com abertura transpassante (11) para passagem do fluxo de fluido, dita haste de acionamento (6) apresentando um trecho final (17) de cujo centro projeta−se um pino (18) em tomo do qual a face inferior do referido trecho (17) apre− 15 senta−se com duas proeminencias arredondadas (19), dia− metralmente opostas, e entre essas duas proeminencias ar− redondadas, duas entrancias abauladas (20), igualmente opostas diametralmente, sendo que no dito pino (18) e passivel de se encaixar um correspondente orificio central 20 (21) previsto na peca inferior ou embolo (15) que configu− ra o

elemento obturador da sede de vedacao (10), dita peca inferior ou embolo (15) apresentando−se desenvolvida em um trecho superior cilindrico (22) cuja face superior, em tomo do orificio central (21), apresenta−se com duas 25 proeminencias abauladas (26) diametralmente opostas e entre as duas proeminencias abauladas (26) duas entran− cias (27) com laterais arredondas e fundo plano, igualmen− te opostas diametralmente, tal como previsto na face infe− 2/2 rior da haste de acionamento (6). • • • • • • • • SUMMARY "MECHANISM FOR FLUID FLOW CONTROL APPLICABLE IN TAPS AND RECORDS IN GENERAL" 5 Which is constituted by the tubular cylindrical cartridge (1) mounted on the registration body or any tap, the drive shaft (6) housed in the cartridge, the lower part (15) constituting the obliterating and the seat seal (10) being provided 10 with transpassante opening (11) for passage of water, said drive shaft (6) presenting an end portion (17) whose center protrudes a pin (18) around which the lower face of said section (17) is presented with two rounded prominences (19), 15 diametrically opposite, and between these two rounded prominences two curved indentation (20), also diametrically opposed, and the said pin (18) is likely to fit a corresponding central hole (21) provided on the bottom piece (15) which sets the 20 obliterating element of seat seal (10), said piece lower (15) presenting developed in an upper portion cylindrical (22) whose upper face, about the central hole (21), is presented with two curved prominences (26) diametrically opposed and between the two 25 curved prominences (26) two indentation (27) with rounded sides and flat bottom, also diametrically opposed, as provided in the underside of the drive shaft (6). 1/10 01 percent 500 05 "MECHANISM FOR FLUID FLOW CONTROL APPLICABLE IN TAPS AND RECORDS IN GENERAL" The present invention of Invention 5 is an applicable fluid flow control mechanism in taps and records in general this mechanism in which the opening and closing total tap is carried out with a rotating 90 degrees (only 1/4 turn) in its drive shaft which can be moved 10 indifferently both clockwise as counter−clockwise, which is indeed a great importance for improvement in relation to mechanisms for this purpose, comprising a cylindrical and tubular cartridge mounted in the registration body or tap 15 any, and its bottom fits one also piece, cylindrical and tubular, which configures the sealing seat mechanism, and the interior of said assembly and provided for the drive shaft itself, formed by two parts, the longest and wrapped upper 20 by rings of appropriate sealing and the upper part fits usual handle external and the piece below, substantially shorter and conveniently embedded in a central pin provided on the top piece, kept permanently pulled in direction to this 25 last by spring action, and the mutual contact faces between the two parts that make up the said drive shaft mechanism has a final section whose center projects a pin around which the 2/10 lower face of the said section is presented with two rounded prominences, diametrically opposed, and between these two rounded prominences two curved indentation, also diametrically opposed, 5 responsible for approximation or removal of the lower piece in relation to sin greater than the drive shaft when the external handle turning in only 90 degrees (1/4 turn), thereby determining the distance or the approximation of 10 such sins lower in relation to sealing seat provided in the lower end of the cartridge, and thereby opening or closing positions of the record. By way of illustration, drawings are attached to this improvement 15 introduced in the applicable fluid flow control mechanism in taps and records in general, through which the same will be better displayed. Figure 1: Represents exploded view of the mechanism perspective, showing all 20 of its component parts . Figure 2: Represents view in elevation of the component parts of the mechanism taken separately . Figure 3: Represents the 25 cartridge, the drive shaft and the bottom of this piece shown by an angle of 90 degrees in relation to the previous figure . Figure 4: 3/10 represents view in elevation of the mechanism of the body . Figure 5: Represents sectional view of the mechanism of the body along a plane indicated by line AA in figure 3 . 5 Figure 6: Represents sectional view of the mechanism of the body along a plane indicated by the line BB in figure 2 . Figure 7: represents top view of the mechanism of the body . 10 Figure 8: Represents a section of the mechanism of the body according to a cut indicated by the DD line in Figure 4 . Figure 9: Represents a section of the mechanism of the body according to a cut indicated by 15 CC line in Figure 4 . Figure 10: represents the piston of the mechanism respectively in side view (a), top view (B) and second cutting planes indicated by the line FF (c) and EE (d) in side view . 20 Figure 11:. Represents the headquarters of the mechanism respectively in elevated view (e), top view (f) and plans second cuts indicated by the lines HH (g) and GG (h) at elevated view Figure 12: Represents 25 general view of the mechanism . Figure 13: Represents side view in diametral section of the mechanism, now with its fully assembled parts, said mechanism 4/10 being shown in closed position . Figure 14: Represents the same view in diametrical section of the mechanism, also with their properly assembled parts, said mechanism 5 being shown now in open position, resulting from turning the handle 90 degrees . As shown from these illustrations, the applicable fluid flow control mechanism in taps and records in general and consists of 10 a cartridge (1) mounted on the body of a record or any tap, developed in hexagonal upper reaches (2) or splined, followed by median threaded extremly sections (3), (3a) and ending on smooth lower cylindrical portion (4), where and provided with openings 15 diametrically opposite sides (5) for passage of water, and intemamente said cartridge developed in three sections of different diameters. That said cartridge and pierced by the drive shaft (6) provided with upper reaches 20 spline (7) or hexagonal, to fit the usual external handle tap or record, and several cylindrical sections of different diameters and which delimit grooves to lock washer housing (8) rings and O−ring (9). 25 At the free end of the lower portion of the cartridge is scheduled docking of a piece that sets the seal seat of the mechanism, developed in the upper cylindrical portion (10) provided with 5/10 transpassante circular opening (11), and inferiorly provided with a short outer flange (12), wherein the outside diameter of the upper portion coincides with the internal diameter of the cartridge lower portion for close fitting 5 of the first second, said recess being limited by the flange abutting the bottom edge of the cartridge. Said piece is further provided with external lateral lugs (13) diametrically opposed two by two and coincident with respective internal diametrical recesses (14) provided at the 10 internal face of the cartridge along the entire lower inner portions, protrusions / recesses such that impede turning the sealing seat in relation to the cartridge. The bottom half of the drive shaft presents itself developed in a series of 15 parts with certain shapes and proportions, designed to act together with a bottom piece or piston (15) therein engaged and which forms an integral part of said shank drive, said two parts of which are permanently kept tensioned a 20 against the other by spring action (16) disposed on the seat seal, and the confronting faces of the two parties make specific configurations to act as meat when turning the handle external drive by the User, responsible for 25 longitudinal displacement of the bottom (piston) in relation to the top, now moving away, now approaching the sealing mechanism of thirst, constituting the element itself obliterating the 6/10 mechanism. The above specific

configurations applied conffontantes the faces of the two parts of the drive shaft to act as meats, 5 were modified by this patent and are the main goal of Claim postulated here. The drive shaft has an end portion (17) whose center projects a pin (18) around which the lower face of said section 10 (17) presents with two rounded prominences (19), diametrically opposed, and between these two rounded prominences two curved indentation (20), also diametrically opposed, responsible for approximation or removal of the piece below 15 (plunger) in relation to the upper piece of said rod drive when the external handle turning in only 90 degrees (1/4 turn), thereby determining the closing positions (Figure 13) or opening (Figure 14) record. 20 In the said pin (18) of the drive shaft (6) is liable to fit into a corresponding central hole (21) provided in the lower part or plunger (15) which also includes said drive shaft and configure element 25 obliterating the sealing seat (10). or said piece lower piston (15) has a lower smaller diameter cylindrical extension (24) whose end portion comes in the form of 7/10 cap (25), wherein both sections (24) and (25) pierce the spring (16) disposed on the seat seal (10), whereas the end section shaped calotte (25) is liable to stay perfectly in 5 opening transpassante (11) of the sealing seat (10) of mechanism when in position "closed". about the central orifice (21) of said piece or lower piston (15), the upper face thereof is presented with two prominences 10 bulging (26) diametrically opposite and between the two curved prominences (26) two indentation (27) with rounded sides and flat bottom, also diametrically opposed, as provided in the underside of the drive shaft (6). 15 As can be inferred from Figures 13 and 14, the described parts are mounted within the cartridge (1) upwards and obeying the following sequence: initially introduced into the drive rod (6), since with their sealing rings, until your upper reaches 20 touches the retaining formed by the difference of diameters between the upper inner portions and said intermediate cartridge. When this is done is introduced into the lower part or piston (15) constituting the obliterating element of the mechanism, becoming match its 25th central hole (21) with the lower central pin (18) of the drive shaft (6), as well as its external diametric rebounds (23) with internal diametric recesses (14) provided in said cartridge (1). In 8/10 then introduce the spring (16) which surrounds the cylindrical sections (24) and shaped cap (25) of the lower part or plunger (15) being pressed against the lower face of the upper cylindrical section of said bottom piece 5 (plunger). Finally fits the seat seal (10), equally to match its external diametric rebounds (13) with internal diametric recesses (14) provided in the cartridge, said sealing seat exerting pressure against the spring (16), the 10 which permanently holds the lower part or plunger (15) against the drive shaft (6). The seat seal (10) and the inner piece or piston (15) are prevented from turning inside the cartridge, by the expected bumps in the same 15 click into the print cartridge internal recesses. The drive shaft (6) can not move longitudinally, but only rotate within the cartridge. And the inner piece or piston (15) 20 which can not rotate, and forced the meats to move along up and down when the rod turning in function of the coincidence of the prominent portions rounded (19) and curved indentation (20) stem lower face (6) with the prominent portions 25 bulging (26) and indentation (27) of the upper face of the lower part or plunger (15). Thus the mechanism is properly assembled, as shown in Figures 13 and 14 9/10. In Figure 13 the mechanism is in position "closed". In this position the lower face of the drive shaft (6) and the upper face of the lower part 5 or piston (15) are arranged as follows: the rounded prominences (19) of the drive shaft matching the dished prominent portions (26) the bottom piece or piston (15). In this position the piece below (plunger) and "pushed" to 10 down, compressing the spring (16), and being forced against the seat seal (10), leaving the lower section of the form of cap (25) duly lodged in transpassante opening (11) of said seat seal (10), thereby preventing the passage of water – a mechanism 15 closed (see Figure 13) . To open the record or tap, just turn the outer knob, and consequently the drive shaft (6) in 1/4 turn (90 degrees). During this turning of the rod (6) the lower face 20 will be moving relative to the top face of the piston (15), such that the end of 90 degrees turning, the rounded prominences (19) of the rod (6) are to coincide with the indentation (27) of the lower part or plunger (15) and the curved indentation (20) of the first pass 25 to coincide with the curved prominences (26) of the latter. With this gradual coincidence the spring (16) will no longer being compressed by the lower piece or piston (15), and distend, 10/10 will now exerting pressure on said piece or lower piston (15), moving it above, and thus away from the sealing seat (10); with this, the transpassante opening (11) of said seat seal (10) and 5 released, now allowing the passage of water. – open mechanism (see Figure 14) The drive shaft moves can be performed both clockwise and counter–clockwise. 5 10 15 20 25 Claim 1/2 "MECHANISM FOR FLUID FLOW CONTROL APPLICABLE IN TAPS AND RECORDS IN GENERAL", which is constituted by the tubular cylindrical cartridge (1) mounted on the registration body or any tap by drive shaft (6) housed in the cartridge and whose upper end engages the usual external handle, the lower part or piston (15) constituting the obliterating and the seat seal (10) provided with transpassante opening (11) for the passage of water, characterized in that the drive shaft (6) has an end portion (17) whose center protrudes a pin (18) around which the lower face of said section (17) is presented with two rounded prominences (19), diametrically opposite, and between these two rounded prominences two curved indentation (20), also diametrically opposed, and the said pin (18) of the drive shaft (6) is liable to fit into a corresponding hole central (21) provided in the lower part or plunger (15) which also includes said drive shaft and sets the obliterating element of the sealing seat (10), said lower part or plunger (15) presenting developed at a stretch cylindrical top (22) of the same diameter that the end portion (17) of the drive shaft and having a lower smaller diameter cylindrical extension (24) whose end portion comes in the form of 2/2 hood (25), liable to stay perfectly in transpassante opening (11) of the seat seal (10) of the mechanism, when in the "closed" position, and about the central orifice (21) of said piece or lower piston (15), the fifth upper face the same is presented with two curved prominences (26) diametrically opposed and between the two curved prominences (26) two indentation (27) with rounded sides and flat bottom, also diametrically opposed, as provided for in 10 underside of the drive shaft (6). raid er 9/1 2/6 6–4 S'– – ~ 5 "'4 8–4 tei \ 5 i RJ T | / 7 4 / L Li lJ7 24–F 25 and gt; ~ k –4 FIB. oo 3 3/6 FIB. 4 FIE, the FIE 7. 6 COR.lt BB Comi D–0 FIE. B JVR Corie CC FIE. 9 4/6 FIB. ID 5/6 FIE. 11 6/6 FIB.12 • AA _ 23 F FIB. 13 25 FIB. 14 5 10 15 20 25 1/1 SUMMARY "MECHANISM FOR FLUID FLOW CONTROL APPLICABLE IN TAPS AND RECORDS IN GENERAL" Who is constituted by the tubular cylindrical cartridge (1) mounted on recording body or any tap, the drive shaft (6) housed in the cartridge, the bottom part or piston (15) constituting the obliterating and the seat seal (10) provided with transpassante opening (11) for passage of water, said drive shaft (6) having an end portion (17) whose center protrudes a pin (18) around which the lower face of said section (17) is presented with two rounded prominences (19) diametrically opposed, and between these two rounded prominences two curved indentation (20), also diametrically opposed, and the

said pin (18) is liable to fit into a corresponding central hole (21) provided in the lower part or piston (15) obliterating the element that configures the sealing seat (10), said lower part or plunger (15) presenting developed in an upper cylindrical portion (22) whose top face, about the central orifice (21), presented with two prominences domed (26) diametrically opposed and between the two curved prominences (26) two indentation (27) with rounded sides and flat bottom, also diametrically opposed, as provided in the underside of the drive shaft (6). 10 15 20 25 5 0 1/11: 0 W4qy2 / –y | "MECHANISM 1/4 VOL TA FLUID FLOW CONTROL APPLICABLE IN TAPS, MIXERS, SHOWERS AND RE GISTROS IN GENERAL" The Invention of this patent is a mechanism 1/4 turn fluid flow control applicable in taps, mixers, showers and records in general, this mechanism in which the opening and closing is carried out with a rotating 90 degrees (only 1/4 turn) in its drive shaft which can be movement mented as assembly shutter plunger, tan– to clockwise as counter–clockwise, which is indeed a great importance for improvement in relation to mechanisms for this purpose, comprising a cylindrical and tubular cartridge mounted on the body of a tap, mixer, shower or any record, and whose lower end fits into a piece ci– lindrica also tubular, which configures the seat seal mecha– nism, and the interior of said assembly and provided for the drive shaft itself, formed by two parts, the longest and surrounded by top rings veda– appropriate dog and whose upper fits usual external handle and the lower piece, substantially shorter shutter piston and conveniently in a encaixa– the center pin provided for in piece top, kept permanently pulled in direction to the latter by spring action, and the mutual contact faces between the two parts that make up the said stem aciona– 2/11 ment mechanism has a final section whose cen– tro projects a pin around which the lower face of the injured portion re– presents prominences arre– dondadas with two diametrically opposite and between the two rounded prominences 5, diametrically opposite, and between these two rounded prominences two curved dogs entran– also diametrically opposed, responsible for the approximation or removal of the piece in relation lower than the top piece of the drive shaft 10 when the external handle turning in only 90 degrees (1/4 turn), thereby determining the removal or the approximation of that piece lower plunger shutter in relation to sealing seat provided in the lower end of the cartridge, and thus the opening positions or 15 lock mechanism. To ilustracao effect, followed Guem attached drawings of this improvement in– troduzido the applicable fluid flow control mechanism in taps, mixers, showers and recorded 20 ters in general, through which it will be best viewed. Figure 1: Represents exploded view of the mechanism perspective, showing all its components pe– cas . 25 Figure 2: Represents view in elevation of the component parts of the mechanism taken in separation rado . Figure 3: Represents seen in 3/11 elevation of the component parts of the mechanism taken in separation rado shown by an angle of 90 degrees in relation to the previous figure . Figure 4: Represents view of the mechanism of the body . 5 Figure 5: Represents sectional view of the mechanism of the body along a plane indicated by line AA in figure 3 . Figure 6: Represents sectional view of the mechanism of the body along a plane indicated by the line BB in figure 10 2 . Figure 7: Represents superior view of the mechanism of the body . Figure 8: Represents a section of the mechanism of the body according to a cut indicated by line D–15 D in Figure 4 . Figure 9: Represents a section of the mechanism of the body according to a cut indicated by the C–C line in Figure 4 . Figure 10: Represents the piston 20 of the mechanism respectively in front view (a), top view (b) and in planes according to cut indicated by line FF (c) and EE (d) in side view . Figure 11: Represents the headquarters of the mechanism respectively in front view (e), top view (f) 25 and second cuts plans indicated by the lines HH (g) and GG (h) in the front view . Figure 12:. Represents view gen– eral mechanism 4/11 Figure 13: Represents lateral view in diametrical section of the mechanism, now with their pe– properly mounted cas, said mechanism being shown in a closed position . 5 Figure 14: Represents the same view in diametrical section of the mechanism, also with their properly assembled parts, said mechanism being illustrated auger now in open position, resulting from turning 90 degrees of ma– nipulo 10 Figure 15: Represents sectional view of the body and spring mechanism and elevation view of the drive rod and piston sealing seat, wherein the piston is mounted with rounded prominences the opposite side a– berturas the engine body. So by turning 15 to drive lever to the right the piston approaches the sealing seat, thereby experiencing the lock mechanism. Figure 16: Represents sectional view of the body and spring mechanism, and a view in elevation of the drive rod, piston and sealing seat, and the plunger 20 is mounted with its rounded prominences aligned with the sides of the body openings the mechanism. Thus turning the drive lever to the right the piston moves away from the sealing seat, thereby experiencing the opening of the mechanism. 25 As shown from these illustrated cohesion, the applicable fluid flow control mechanism in taps, mixers, showers and records in general and consists of a cartridge (1) mounted on the body of a 5/11 or register tap any, developed stretch su– perior hexagon (2), followed by external threaded nally median sections (3), (3a) and ending on cilin– stretch flat bottom hydrochloric (4), where and equipped with side vents 5 diametrically opposite (5) for passage of the fluid flow, wherein said cartridge intemamente develops in three sections of different diameters. That said cartridge and pierced by the drive shaft (6) provided superior 10 splined section (7) or hexagonal, to fit the usual external handle tap or record, and several cilin– dricos sections of different diameters and which delimit grooves to lock washer housing (8) rings and O–ring (9). At the free end of the lower portion 15 of the cartridge is scheduled docking of a piece that sets the seal seat of the mechanism, develop life in the upper cylindrical portion (10) provided with circular aperture transpassante (11), and inferiorly provided cur– to the outer flange (12), and the external diameter of the upper reaches 20 coincides with the internal diameter of the cartridge section to just the first docking in the second, said recess being limited by the flange back in the bottom bor– cartridge. Said piece is further provided with re– external lateral heels (13) diametrically opposed two by two and 25 coincide with respective internal diametrical recesses (14) provided on the inner face of the cartridge (1) over the entire lower inner portions, protrusions / recesses these that keep turning the sealing seat in relation 5 10 15 20 25 6/11 to the cartridge, and two upper lateral projections (28) metralmente opposite day– that make the seat lock (10) in the body (1). The bottom half of the drive shaft presents itself developed in a series of stretches with certain shapes and proportions, projected to the work together with a bottom piece or in– cake (15) embedded therein and which forms part of said drive shaft, said two shares being kept permanently tensioned against one another by spring action (16) disposed on the seat of veda– dog, and the confronting faces of the two parties make specific configurations to act as meats when Swivel external drive handle on the User, responsible for the longitudinal drive the bottom (piston) (15) in relation to the upper part, now moving away, now approaching the sealing seat (10) mechanism, constituting the ob– turador element itself mechanism. The above specific configurations applied

the confronting faces of the two parts of the drive shaft to act as meats, Fo– ram modified by this patent and are the main objects tive of Claim postulated here. The drive shaft has an end portion (17) whose center projects a pin (18) around which the lower face of said piece (17) presents two rounded prominences with 7/11 (19) diametrically opposite, and between these two promi– rounded nencias two curved indentation (20), also diametrically opposed, responsible for approximation or removal of the lower piece (piston) 5 (15) in relation to the upper piece of said aciona– ment rod (6) when rotating the external handle in just 90 degrees (1/4 turn), thereby determining the provisions po– closure (Figure 13) or opening (Figure 14) record. 10 In the said pin (18) of the drive shaft (6) is liable to fit a central hole corresponding tooth (21) foreseen in the lower part or in– piston (15) which also includes said stem atio – tioning and that sets the shutter element of the headquarters of seal 15 (10) . or said piece lower piston (15) has a lower smaller diameter cylindrical extension (24) whose end portion comes in forms ma cone (25), wherein both sections (24) and (25) 20 pierce the spring (16) disposed on the seat seal (10), while the final stretch cone–shaped (25) and capable of staying perfectly in the opening transpas– sante (11) of the sealing seat (10) the mechanism when in position "closed". 25 In about the central orifice (21) of said bottom piece, or piston (15), the upper face thereof is presented with two prominences abau– tonnes (26) diametrically opposite and between the two proe– 8 / 11 curved minencias (26) two indentation (27) with rounded sides and flat bottom, also diametrically opposed mind, as provided in the underside of the stem share– tioning (6). 5 As inferred from Figures 13 and 14, the described parts are mounted within the toner cartridge (1) up and down according to the following se– quence initially introduced into the drive rod (6), already with their sealing rings, until your upper 10 rior section touches the retaining formed by the difference of diameters between the upper and intermediate internal passages of the said cartridge (1). When this is done is introduced into the lower part or plunger (15) which forms the shutter member of the mechanism, becoming match its central hole (21) with the lower pin 15 center (18) of the drive shaft (6), as its external diametric rebounds (23) with internal diametric low re– (14) provided in said car– plunger (1). What differs opening, left or right position and in which is placed the plug piston 20 (15) as shown in Figures 15 and 16. Then troduz to in– spring (16) which surrounds the cylindrical portions (24) and cone (25) of the bottom piece or piston (15) being pressed against the underside of the upper reaches of said cylindrical piece bottom (piston) (15). 25 mind finally fits the seat seal (10), also fa– if zendo–match its external diametric rebounds (13) with internal diametric recesses (14) provided for in car– tappet, said sealing seat exerting pressure against 5 10 15 20 25 9/11 spring (16) which constantly keeps the piece or inferi– or piston (15) against the drive shaft (6). The seat seal (10) and the inner pe– or ca shutter piston (15) are prevented from rar GI inside the cartridge (1) by lugs (23) of the plug piston (15) are duly embedded in the internal recesses (14) of the cartridge (1). The drive shaft (6) can not move longitudinally, but only rotate inside the cartridge 90 percent to 90 percent right or left as a function of the diametrically opposite stops (29) inte– rior of the cartridge (1), properly fitted on the drive shaft (6) in diametrically opposed recesses (30). And the inner piece or piston obtained turador (15), which can not rotate, and the meat forced to move along up and down when the rod turning in function of the coincidence of the rounded prominent passages (19) and tonnes abau– indentation (20) of the shaft of the lower face (6) with the eminent pro– portions bulging (26) and indentation (27) of the upper face of the piece less than or shutter piston (15). Thus the mechanism against en– up properly assembled, as shown in Figures 13 and 14. In Figure 13 the mechanism is in position "closed". In this position the lower face of the piston (15) is arranged as follows: the 5 10 15 20 25 10/11 rounded prominences (19) of the drive shaft matching the dished prominent portions (26) of the lower part or plunger (15). In this position the piece inferi– or (piston) (15) and "pushed" down, compressing the spring (16), and being forced against the seat of veda– dog (10), leaving the lower section of a cone shape (25) properly housed in transpassante opening (11) of the wound re–sealing seat (10), thereby preventing the passage of fluid flow – a mechanism closed (see Figure 13) . To open the registration or tornei– ra, simply turn the outer knob, and consequently the drive shaft (6) in 1/4 turn (90 degrees). During this turning of the rod (6) the lower face will moving relative to the top face of the piston (15), such that the end of the swivel 90 degrees, of the rounded prominences (19) of the rod (6) go to coincide with the indentation (27) of the lower part or plunger (15) and the curved en– veneers (20) from the first pass to coincide with the curved prominences (26) of the latter. With this gradual coincidence the spring (16) will no longer being compressed by the lower piece or piston (15), and to slacken, will now exerting pressure on said pe– ca less than or plunger (15) by moving it up and consequently, away from the sealing seat (10); with this, the transpassante opening (11) of said seat of seals should (10) and released, now allowing the passage of fluid flow. – open mechanism (see Figure 14) 11/11 drive shaft movements can be performed both clockwise and counter–clockwise to open and close in shutter plunger assembly function (15) as shown in Figures 15 and 16. 1/2 claim "MECHANISM 1/4 VOL TA FLUID FLOW CONTROL APPLICABLE IN TAPS, MIXERS, SHOWERS AND RE–5 GISTROS IN GENERAL", which is constituted by the tubular cylinder cartridge (1) mounted on the recording body or roasted any neira, the drive shaft (6) housed in the cartridge and whose upper end engages the external usu– al handle, the lower part or plunger (15) which constitutes the shutter 10, and the seat seal (10) for passage of fluid flow, wherein the stem share– tioning (6) submit a final section (17) whose center protruding pin (18) around which the lower face of said piece (17) presents prominences 15 with two rounded (19), diametrically opposite, and between these two rounded prominences two tonnes abau– indentation (20), also diametrically opposed, and in that said pin (18) of the drive shaft (6) is liable to fit into a corresponding central hole (21) laid 20 to the lower part or plunger (15) which also includes said drive shaft and sets the shutter ele– ment sealing seat (10), said lower part or plunger (15) presenting developed in an upper cylindrical portion (22) of the same diameter as the Thr 25 cho end (17) of the drive shaft (6) and having one prolongation pro– lower cylindrical smaller diameter (24) cu– already far end is presented in the form of cone (25), capable of staying perfectly in the opening transpas– 2/2 sante (11) of the sealing seat (10) mechanism, when in position "closed"; and about the central orifice (21) of said piece or lower piston (15), the upper face thereof is presented with two prominences domed 5 (26) diametrically opposite and between the two curved prominences (26) two indentation (27) with side given rounded and flat bottom, also diametrically opposed, as provided in the underside of the drive shaft (6). 1/7 5 2/7 3/7 14 4/7 DD CUT CUT CUT FF 23 21 EE EH Fig. CORTEH 13 10 5/7 28 H 13 GG CUT Fig. 7 8 9 11 9 9 14 16 10 12 11 6 1 24 18 14 25 3a ON 7/7 Fig. IS Fig. 16 1/2 SUMMARY "MECHANISM 1/4 VOL TA FLUID FLOW CONTROL APPLICABLE IN TAPS, MIXERS, SHOWERS AND RE 5 GISTROS IN GENERAL "Who is constituted by car– tubular cylindrical

plunger (1) mounted on the registration body or any tap, the drive shaft (6) allo jada in the cartridge, the bottom piece or piston (15) 10 is the shutter, and the seat seal (10) provided with transpassante opening (11) for passage of the fluid flow, said drive shaft (6) having an end portion (17) whose center protrudes a pin (18) around which the lower face of said piece (17) exhibited 15 sits with two rounded prominences (19) –day opposite metralmente, and between these two prominences ar– redondadas two curved indentation (20), also diametrically opposed, and the said pin (18) is likely to fit a corresponding central hole 20 (21) provided on the bottom piece or piston (15) configured ra shutter element of the sealing seat (10), said piece less than or plunger (15) presenting developed in an upper portion cylindrical (22) whose upper face, about the central hole (21), is presented with two 25 prominences domed (26) diametrically opposed and between the two prominences domed (26) Two entran– stances (27) with rounded sides and flat bottom, equally diametrically opposite you, as provided in the lower 2/2 rior face of the drive shaft (6).

0) US2009220273A – IMAGE FORMING APPARATUS

292) Family number: 43683598 (US2009220273A) © PatBase

Title: IMAGE FORMING APPARATUS

Priority: JP20080050665 20080229 US20090394580 20090227 US20110038952 20110302

Family:

Publication number	Publication date	Application number	Application date
JP2009210631 A2	20090917	JP20080050665	20080229
JP4561846 B2	20101013	JP20080050665	20080229
US2009220273 AA	20090903	US20090394580	20090227
US2011150528 AA	20110623	US20110038952	20110302
US7920807 BB	20110405	US20090394580	20090227
US8126358 BB	20120228	US20110038952	20110302

Probable Assignee: BROTHER IND LTD

Assignee(s):(std)**:** BROTHER IND LTD ; TOMATSU YOSHIYA

Assignee(s): BROTHER KOGYO KABUSHIKI KAISHA ; BROTHER KOGYO KK

Inventor(s):(std)**:** TOMATSU YOSHIYA

Agent(s): BANNER AND WITCOFF LTD ATTORNEYS FOR CLIENT NO 016689; BANNER AND WITCOFF LTD

International class (IPC 8–9)**:** G03G15/01 G03G15/06 G03G15/08 G03G21/18 (Advanced/Invention); G03G15/01 G03G15/08 G03G21/18 (Core/Invention)

CPC: G03G21/1853 G03G2221/1684

European class: G03G21/18H1V S03G221/16S2

US class: 399/110 399/110S 399/112 399/112P 399/113 399/119 399/119P

Classification Explorer

Cited documents: US7769318 BB, US7684728 BB, US7623809 BB, US7555245 BB, US7539439 BB, US7444087 BB, US7181152 BB, US6785492 BB, US6453136 BA, US6311026 BA, US6061537 A, US2010183329 AA, US2008260419 AA, US2008002341 AA, US2007286632 AA, US2007217818 AA, US2007206971 AA, US2007183814 AA, US2007177894 AA, US2007160388 AA, US2007160386 AA, US2007154235 AA, US2007147881 AA, US2007077087 AA, US2007071482 AA, US2007036582 AA, US2007036581 AA, US2006177230 AA, US2005036803 AA, US2005008393 AA, US2004131380 AA, JP8036346 A2, JP62299977 A2, JP2008009262 A2, JP2008003434 A2, JP2007264469 A2, JP2007213025 A2, JP2007213024 A2, JP2007178654 A2, JP2007101635 A2, JP2007072422 A2, JP2007010839 A2, JP2006219295 A2, JP2006201493 A2, JP2004347728 A2, JP2004013030 A2, JP2003316104 A2, JP2003107826 A2, JP2001318506 A2, JP2001147617 A2, JP2000267501 A2, JP11344905 A2, JP11174772 A2, JP11174766 A2, JP10282805 A2,

Forward Citations: US9316999, US9304437, US9086678, US9037039, US9031458, US9014596, US8995876, US8971759, US8948652, US8903282, US8837980, US8768212, US8649705, US8606143, US8565641, US8488993, US8374525, US8270877, US2013188987, US2012308259, US2012251179, US2011211867, US2011188886, US2011164897, US2010272470, US2010166457, JP5910359, JP5899709, JP5862056, JP5793966, JP2014010423, JP2013050496, JP2012252041, JP2012247690, JP2012212073, JP2012037838, JP2012027235, JP2011075659, EP2363751, CN104656387,

Abstract:
Source: US2009220273A An image forming apparatus is provided. The image forming apparatus includes: a main body; a tandem type photosensitive unit, integrally retaining a plurality of photosensitive drums in a parallelly arranged state, mounted in the main body to be movable along the direction of the arrangement of the photosensitive drums; a developer cartridge provided correspondingly to each photosensitive drum, retaining a developing roller for feeding a developer to the corresponding photosensitive drum and detachably mounted on the tandem type photosensitive unit; a translation member provided in the main body to be linearly movable in the direction of the arrangement; and a link member provided correspondingly to each developer cartridge and displaced to a pressing position where a first end portion thereof is opposed to a prescribed portion of each developer cartridge while a second end portion opposite to the first end portion is pressed by the translation

member following linear movement of the translation member so that the first end portion presses the prescribed portion in a direction for separating the developing roller from the photosensitive drum and a releasing position where the translation member is released from pressing the second end portion so that the first end portion is released from pressing the prescribed portion, while each developer cartridge is mounted on the tandem type photosensitive unit.

0) US2014072329A – DEVELOPER ACCOMMODATING UNIT

293) Family number: 55979271 (US2014072329A) © PatBase

Title: DEVELOPER ACCOMMODATING UNIT

Priority: JP20120198090 20120910

Family:

Publication number	Publication date	Application number	Application date
JP2014052570 A2	20140320	JP20120198090	20120910
JP6116162 B2	20170419	JP20120198090	20120910
US2014072329 AA	20140313	US20130017340	20130904
US9146500 BB	20150929	US20130017340	20130904

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK

Assignee(s): CANON INC

Inventor(s):(std)**:** FURUTANI MASAKI ; FURUYA MASAKI ; MATSUZAKI HIROOMI ; MATSUZAKI SUKEOMI ; UESUGI TETSUO ; YASUI KOJIRO

Agent(s): FITZPATRICK CELLA HARPER AND SCINTO

International class (IPC 8–9): G03G15/08 (Advanced/Invention)

CPC: G03G15/0874

US class: 1/1 399/106 399/258 399/262

Classification Explorer

Cited documents: US7412193 BB, US7349657 BB, US7224925 BB, US7155137 BB, US7085516 BB, US7068965 BB, US7016626 BB, US6978100 BB, US6934485 BB, US6931226 BB, US6859629 BB, US6795666 BB, US6792229 BB, US6681088 BB, US6549736 BB, US6405004 BB, US6282389 BA, US6219504 BA, US6205305 BA, US6173145 BA, US6173145 B1, US6173140 BA, US6173140 B1, US6144815 A, US6097906 A, US6011941 A, US5966567 A, US5943529 A, US5075727 A, US4998140 A, US2014079432 AA, US2014072347 AA, US2014072346 AA, US2014072345 AA, US2014072330 AA, US2014064793 AA, US2014029974 AA, US2014016961 AA, US2013343785 AA, US2013336679 AA, US2013322926 AA, US2013308979 AA, US2013308973 AA, US2013164040 AA, US2013164039 AA, US2013136489 AA, US2012099902 AA, US2005053393 AA, JP8314247 A2, JP8314247, JP7044006 A2, JP7044006, JP48078847 U, JP48078847 U, JP4066980 A2, JP4066980, JP3116169 A2, JP3116169, JP2041264 U, JP2041264 U, JP2004094071 A2, JP2004094071, JP2001125351 A2, JP2001125351,

Forward Citations: US9665040, US9599930, US9494890, US9383678, US9354553, US9341983, US9310717, US9304439, US9302801, US9291942, US9207581, US9188906, US9152081,

Abstract:
Source: US2014072329A A developer accommodating unit for accommodating a developer includes: a flexible container, provided with an opening for permitting discharge of the developer, for accommodating the developer; and a frame. The flexible container is provided with a fastening hole for fastening said flexible container in said frame. The frame includes a fixing shaft portion fixed in the fastening hole by being inserted into the fastening hole and includes a retaining portion for preventing the fixing shaft portion from being disengaged from the fastening hole. The fastening hole is locked by fitting the fastening hole around the fixing shaft portion while an edge of the fastening hole rides over the retaining portion by elastic deformation thereof.

0) US2014205303A – IMAGE FORMING APPARATUS

294) Family number: 56945055 (US2014205303A) © PatBase

Title: IMAGE FORMING APPARATUS

Priority: JP20130007373 20130118

Family:

Publication number	Publication date	Application number	Application date
JP2014137550 A2	20140728	JP20130007373	20130118
JP6095376 B2	20170315	JP20130007373	20130118
US2014205303 AA	20140724	US20140159716	20140121
US9229428 BB	20160105	US20140159716	20140121

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK

Assignee(s): CANON INC

Inventor(s):(std)**:** MAEDA MASANORI

Agent(s): FITZPATRICK CELLA HARPER AND SCINTO

International class(IPC 8–9)**:** G03G15/00 G03G21/16 G03G21/18 G03G21/20 (Advanced/Invention)

CPC: G03G21/206 G03G21/1842

US class: 1/1 399/12 399/92

Classification Explorer

Cited documents: US7469112 BB, US7012390 BA, US6909864 BB, US6141512 A, US5878304 A, US5341196 A, US4540268 A, US4462677 A, US2014140719 AA, US2013287426 AA, US2013243491 AA, US2013142538 AA, US2012107009 AA, US2012093528 AA, US2010014885 AA, US2009285588 AA, US2008279580 AA, US2008063425 AA, US2006204271 AA, US2006117771 AA, US2006104657 AA, US2005078976 AA, US2002037173 AA, US2002037173, JP62043669 A2, JP62043669, JP2013120235 A2, JP2013047840 A2, JP2012088481 A2, JP2012088481, JP2012014110 A2, JP2011154316 A2, JP2011133659 A2, JP2010002711 A2, JP2009294592 A2, JP2009294592, JP2007108506 A2, JP2007108506, JP2007057964 A2, JP2006138910 A2, JP2005204192 A2, JP2004101672 A2, JP10003249 A2,

Abstract:
Source: US2014205303A An image forming apparatus includes a mounting portion to which a plurality of kinds of cartridge having different configurations; a fan device for cooling the cartridges mounted to the mounting portion with air flow provided thereby; a changing device for changing a state of the air flow in accordance with the configuration of the cartridge mounted to the mounting portion.

0) DE8803211U1 – MODUL FUER EIN FOTO–ELEKTROSTATISCHES ABBILDGER...

295) Family number: 17573805 (DE8803211U1) © PatBase

Title: Modul fuer ein foto–elektrostatisches Abbildgeraet

Priority: DE19880003211U 19880310 DE19888803211 19880310

Family:

Publication number	Publication date	Application number	Application date
AU198818967 A1	19890210	AU19880018967	19880712
AU582092 B3	19890210	AU19880018967	19880712
DE8803211 U1	19880421	DE19880003211U	19880310
FR2628541 A3	19890915	FR19880006577	19880517
FR2628541 B3	19900209	FR19880006577	19880517
IT214783 U	19900618	IT19880063254U	19880511
IT8863254 U0	19880511	IT19880063254U	19880511

Probable Assignee: FRANZ BUETTNER EGG CH AG

Assignee(s):(std)**:** BUETTNER AG FRANZ ; BUETTNER FRANZ AG

Assignee(s): BUTTNER AG FRANZ ; BUTTNER FRANZ AG ; FRANZ BUETTNER AG EGG CH ; FRANZ BUETTNER EGG CH AG ; FRANZ BUTTNER A G ; FRANZ BUTTNER AG

Inventor(s):(std)**:** ALBERT H VAN D MEER ; MEER ALBERT H VAN D ; MEER ALBERT H VAN DER

Inventor(s): ALBERT H VAN DER MEER

Agent(s): DAVIES COLLISON CAVE; DAVIES COLLISON CAVE PTY LTD

International class(IPC 8–9)**:** G03G15/08 G03G21/18 (Advanced/Invention); G03G15/08 G03G21/18 (Core/Invention)

International class(IPC 1–7)**:** B41J3/21 G03G15/08 G03G15/22

CPC: G03G15/0855 G03G15/0865 G03G15/0886 G03G21/1832 G03G2215/00987 G03G2215/0687 G03G2221/163 G03G2221/1648 G03G2221/1654 G03G2221/183

European class: G03G15/08H3 G03G21/18C5S S03G215/00R S03G215/06C5 S03G221/16D S03G221/16J S03G221/16K1 S03G221/18P

Classification Explorer

Forward Citations: GB2389671, GB2389671, GB2389670, GB2389670, DE8914686, BE1003979,

Abstract:
Source: DE8803211U1 The toner reservoir (2) has in one of its walls a slot (4) which can be covered by a slide cover (10). A toner cartridge may be placed and held on the module (1) which has a discharge opening sealed by a removable film (25). The module (1) is aligned in the introduction position with the opening (4) of the reservoir. Above the opening is a cover (8) having a rectangular slot (9) similar in outline to the opening. Slide slots (13) are formed in each of the two long sides. Two hooks (33) in the two sides of the discharge opening (22) of the cartridge latch into the slots and hold the cartridge in position (21).

0) US2004190934A – IMAGE FORMING APPARATUS

296) Family number: 31004335 (US2004190934A) © PatBase

Title: IMAGE FORMING APPARATUS

Priority: JP20030093509 20030331

Family:

Publication number	Publication date	Application number	Application date
CN100416417 C	20080903	CN200410031623	20040331
CN1534392 A	20041006	CN200410031623	20040331
CN2694323 Y	20050420	CN200420008922U	20040331
HK1068170 A1	20090724	HK20050100275	20050113
HK1068170 A3	20050422	HK20050100275	20050113
JP2004302009 A2	20041028	JP20030093509	20030331
JP4193545 B2	20081210	JP20030093509	20030331
US2004190934 AA	20040930	US20040803990	20040319
US7065311 BB	20060620	US20040803990	20040319

Probable Assignee: BROTHER KOGYO KK

Assignee(s):(std)**:** BROTHER IND LTD

Assignee(s): BROTHER KOGYO K K ; BROTHER KOGYO KABUSHIKI KAISHA ; BROTHER KOGYO KK

Inventor(s):(std)**:** YASUSHI OKABE ; OSAMU OKABE ; OKABE YASUSHI

Inventor(s): OKABE OSAMU

Agent(s): OLIFF AND BERRIDGE PLC

International class (IPC 8–9)**:** B65H1/26 B65H3/00 G03G15/00 G03G21/00 G03G21/16 G03G21/18 (Advanced/Invention); B65H1/26 B65H3/00 G03G15/00 G03G21/00 G03G21/16 G03G21/18 (Core/Invention); G03G (Subclass/Invention)

International class (IPC 1–7)**:** B65H1/26 B65H3/00 G03G15/00 G03G21/18

CPC: G03G2221/1684 G03G21/1821 G03G15/6502 G03G21/1839 G03G2221/1678 G03G2221/1884

European class: G03G15/65B G03G21/16 G03G21/18C4C G03G21/18H S03G221/16S S03G221/18P4

US class: 399/110 399/111 399/111P 399/121 399/124 399/393 399/393S

Classification Explorer

Cited documents: US6895199 BB, US6895199 BA, US6895199 B1, US6876826 BB, US6876826 BA, US6876826 B1, US6738590 BB, US6738590 BA, US6738590 B1, US6665047 BA, US6546217 BB, US6546217 BA, US6546217 B1, US6411789 BA, US6330410 BA, US6208828 BA, US6041203 A, US5983062 A, US5907745 A, US5041872 A, US2004208670 AA, US2003118370 AA, JPB23337978, JP7306603 A2, JP3337978 B2, JP3337978, JP23337978, JP2001347722 A2, JP2000250378 A2,

Forward Citations: US9575452, US9206006, US9104170, US8882103, US8478163, US8441694, US7970312, US7959149, US7817926, US7783230, US7769319, US7693444, US7593667, US7590370, US7444113, US7444100, US2017126920, US2016231687, US2014353902, US2014167348, US2013251396, US2011311269, US2011199656, US2010124028, US2009180802, US2009152803, US2009052941, US2008138111, US2007286638, US2006291931, US2006140669, US2006067716, US2005264853, US2005068591, JP6135305, JP6124130, JP5733081, JP2015004705, JP2014235290, JP2013029634, JP2007086325, EP1930790, CN104090473,

Abstract:
Source: US2004190934A A cassette with cover is made up of a holding portion that contains sheets and a cover portion that serves as a cosmetic plate at the front of a laser printer and covers an opening of a storing portion for a process cartridge. The holding portion is supported at a bottom of a main body such as to move in a front−to−back direction, and the cover portion is separated from the main body along with the cassette portion. Thus, the opening of the storing portion for the process cartridge is opened or closed with the movement of the

cover portion.

0) US2009317127A – IMAGE FORMING APPARATUS HAVING MOVABLE DRAWER D...

297) Family number: 44149565 (US2009317127A) © PatBase

Title: IMAGE FORMING APPARATUS HAVING MOVABLE DRAWER DETACHABLY SUPPORTING A PLURALITY OF PROCESS CARTRIDGES

Priority: JP20080163127 20080623 JP20100204123 20100913 US20090408745 20090323 US20100943197 20101110

Family:

Publication number	Publication date	Application number	Application date
CN101614997 A	20091230	CN200910133402	20090330
CN101614997 B	20110629	CN200910133402	20090330
JP2010002827 A2	20100107	JP20080163127	20080623
JP2010277111 A2	20101209	JP20100204123	20100913
JP4735768 B2	20110727	JP20100204123	20100913
JP4905416 B2	20120328	JP20080163127	20080623
US2009317127 AA	20091224	US20090408745	20090323
US2011058849 AA	20110310	US20100943197	20101110
US7853175 BB	20101214	US20090408745	20090323
US8055152 BB	20111108	US20100943197	20101110

Probable Assignee: BROTHER IND LTD

Assignee(s):(std)**:** BROTHER IND LTD

Assignee(s): BROTHER INDUSTRIES LTD ; BROTHER KOGYO KK ; BROTHER KOGYO KABUSHIKI KAISHA

Inventor(s):(std)**:** ISAO KISHI ; KISHI ISAAKI ; KISHI ISAO

Agent(s): BANNER AND WITCOFF LTD ATTORNEYS FOR CLIENT NO 016689; BANNER AND WITCOFF LTD

International class (IPC 8–9)**:** G03G15/00 G03G15/01 G03G21/00 G03G21/16 G03G21/18 (Advanced/Invention); G03G15/00 G03G21/16 G03G21/18 (Core/Invention)

CPC: G03G21/1638 G03G2221/1603 G03G2221/1684 G03G2221/18

European class: G03G21/16 S03G221/16A S03G221/16S2 S03G221/18

US class: 399/110 399/110P 399/111 399/111S 399/114 399/124 399/124P 399/124S

Classification Explorer

Cited documents: US7907868 BB, US7747190 BB, US7715752 BB, US7706720 BB, US7567769 BB, US5493366 A, US2010226685 AA, US2010080618 AA, US2007160380 AA, US2007071494 AA, US2006228131 AA, JP8234534 A2, JP5257340 A2, JP2010008890 A2, JP2007213018 A2, JP2007121983 A2, JP2006292982 A2, JP2006267668 A2, JP2006184553 A2, JP2002154705 A2, JP2002154674 A2, JP2001029156 A2,

Forward Citations: US9383709, US9256161, US9086675, US8867958, US8862023, US8798497, US8639162, US8639159, US8520046, US8463156, US8437660, US8204404, US2013209137, US2012243903, US2012201569, US2011033201, US2010221037, US2010074650, JP4991951, JP2012014154, CN102298208, CN102298208, CN102269952, CN102269952,

Abstract:
Source: US2009317127A An image forming apparatus capable of easily performing exchange in a process cartridge with a new cartridge and performing removal of a jammed sheet without detachment of a drawer from a casing. The drawer detachably holds a plurality of process cartridges, and is movable in frontward/rearward direction to one of an operable position where each photosensitive drum is in direct confrontation with a conveyer belt, a cartridge exchangeable position where all of the cartridges are positioned out of the casing, and a jammed sheet processing position ahead of the cartridge exchangeable position for removing a jammed sheet. A regulation mechanism is provided for selectively regulating the movement of the drawer dependent on detachment of a rearmost process cartridge from the drawer.

0) US4987446A – PROCESS UNIT CARTRIDGE FOR AN ELECTROPHOTOGRAPH...

298) Family number: 4432663 (US4987446A) © PatBase

Title: PROCESS UNIT CARTRIDGE FOR AN ELECTROPHOTOGRAPHIC APPARATUS

Priority: JP19880316746 19881215 JP19890030521 19890209 JP19890238089 19890913

Family:

Publication number	Publication date	Application number	Application date
DE3941506 A1	19900621	DE19893941506	19891215
DE3941506 C2	19930422	DE19893941506	19891215
GB2227454 A1	19900801	GB19890028297	19891214
GB2227454 B2	19930217	GB19890028297	19891214
GB8928297 A0	19900221	GB19890028297	19891214
JP2289874 A2	19901129	JP19890238089	19890913
JP2898310 B2	19990531	JP19890238089	19890913
US4987446 A	19910122	US19890447818	19891208

Probable Assignee: RICOH KK

Assignee(s):(std): RICOH KK

Assignee(s): RICOH CO ; RICOH CO LTD ; RICOH CO LTD TOKIO TOKYO JP ; RIKOO KK ; RICOH COMPANY LTD

Inventor(s):(std): KASAHARA RIKIO ; KOMADA KENYA ; MOCHIMARU HIDEAKI ; TOMITA MASAHIRO

Inventor(s): RIKIO KASAHARA ; MASAHIRO TOMITA ; KENYA KOMADA ; KASAHARA RIKIO YOKOHAMA KANAGAWA JP ; HIDEAKI MOCHIMARU

International class (IPC 8–9): G03G15/02 G03G15/08 G03G21/00 G03G21/18 (Advanced/Invention); G03G15/02 G03G15/08 G03G21/00 G03G21/18 (Core/Invention)

International class (IPC 1–7): G03G15/00 G03G15/02 G03G15/06 G03G15/08 G03G21/00

CPC: G03G21/1628 G03G21/1647 G03G21/1661 G03G21/1821 G03G15/02 G03G21/007 G03G2221/163 G03G2221/1648 G03G2221/1654 G03G2221/1684 G03G2221/1687 G03G2221/1861 G03G2221/1869

European class: G03G15/02 G03G21/00B8 G03G21/18C4C S03G221/16D S03G221/16J S03G221/16K1 S03G221/16S2 S03G221/16S3 S03G221/18B S03G221/18P3A S03G221/18P3B

US class: 355/200 355/210 399/113

Classification Explorer

Cited documents: US4888620 A, US4876572 A, US4866482 A, US4862212 A, US4752807 A, US4625895 A, US4563076 A, US4556308 A, US3689146 A, JPS60104971, JP60104971 A2, GB2199537 A1, EP0314175 A2, EP0174113 A1, EP0101303 A2, DE3807430 A1, DE3323086 A1, DE2354760 A1,

Forward Citations: WO14017357, USRE36301, US8840784, US8121520, US7986911, US7949283, US7742720, US7675536, US7639965, US7457563, US7162182, US7136609, US7061637, US6985687, US6941094, US6898408, US6801742, US6741825, US6728505, US6674982, US6643489, US6633733, US6608985, US6584295, US6148171, US6118961, US5987278, US5907752, US5907749, US5881341, US5873021, US5854955, US5828928, US5822653, US5734952, US5697038, US5682579, US5671461, US5623328, US5583618, US5555081, US5369479, US5367363, US5331382, US5294960, US5289234, US5276469, US5204713, US5200781, US5184177, US5181070, US2010296836, US2010074649, US2009092413, US2008277345, US2007264045, US2007248377, US2007247511, US2005207781, US2005207780, US2003118367, US2002060804, JP6258875, JP6019243, JP6019241, JP3599959, JP3270123, JP3270122, JP3270120, JP2008176215, JP10073987, GB2273263, FR2675597, EP0576757, DE4400708, DE4400708, DE4317392, DE4317392, DE4139428,

Abstract:
Source: US4987446A A cartridge for use in an electrophotographic apparatus is loaded with various expendable process units which need periodic replacement such as a charger, developing unit, and cleaning unit. At least the

charger and cleaning unit are mounted on the cartridge integrally with each other. The cartridge is held in a body of the apparatus in such a manner as to be rotatable between a replaceable position and a set position.

0) US2014093273A – IMAGE FORMING APPARATUS PROVIDED WITH MECHANISM...

299) Family number: 56139842 (US2014093273A) © PatBase

Title: IMAGE FORMING APPARATUS PROVIDED WITH MECHANISM TO MOVE DEVELOPING ROLLER RELATIVE TO PHOTOSENSITIVE DRUM

Priority: JP20120218493 20120928

Family:

Publication number	Publication date	Application number	Application date
JP2014071363 A2	20140421	JP20120218493	20120928
JP5954086 B2	20160720	JP20120218493	20120928
US2014093273 AA	20140403	US20130032609	20130920
US9141081 BB	20150922	US20130032609	20130920

Probable Assignee: BROTHER IND LTD

Assignee(s):(std)**:** BROTHER IND LTD ; HAYAKAWA ATSUSHI ; KAMIMURA NAOYA ; NAKASHIMA ATSUHISA

Assignee(s): BROTHER KOGYO KK

Inventor(s):(std)**:** HAYAKAWA ATSUSHI ; KAMIMURA NAOYA ; NAKAJIMA ATSUHISA ; NAKASHIMA ATSUHISA

Agent(s): BANNER AND WITCOFF LTD

International class (IPC 8–9)**:** G03G15/08 G03G21/16 G03G21/18 (Advanced/Invention)

CPC: G03G21/18 G03G21/1619 G03G21/1647 G03G21/1671

US class: 1/1 399/111

Classification Explorer

Cited documents: US8126366 BB, US2009190958 AA, US2009169247 AA, JP2009180918 A2, JP2009180918, JP2009162915 A2, JP2009162903 A2, JP2009162903,

Forward Citations: US2016378018,

Abstract:
Source: US2014093273A An image forming apparatus includes a main casing and a cartridge detachably mountable therein. The cartridge includes a photosensitive drum and a developing roller disposed to oppose each other. The main casing includes: a metal frame for supporting the cartridge; a lock member supported to the metal frame and movable about a first axis to allow or restrict movement of the photosensitive drum relative to the metal frame; and a contact–separation member supported to the metal frame and movable about a second axis to allow contact and separation of the developing roller relative to the photosensitive drum. The lock member and the contact–separation member are aligned in an orthogonal direction orthogonal to an axis of the photosensitive drum such that the first axis is not overlapped with the contact–separation member or the second axis is not overlapped with the lock member in an axial direction of the photosensitive drum.

0) WO16129730A1 – COMPACT, UPRIGHT ELECTROPHOTOGRAPHIC APPARATUS ...

300) Family number: 63200537 (WO16129730A1) © PatBase

Title: COMPACT, UPRIGHT ELECTROPHOTOGRAPHIC APPARATUS

Priority: WO2015KR01513 20150214

Family:

Publication number	Publication date	Application number	Application date
KR20160110412 A	20160921	KR20167020823	20150214
WO16129730 A1	20160818	WO2015KR01513	20150214

Probable Assignee: YI JANG HO

Assignee(s):(std)**:** YI JANG HO ; YI JANGHO

Inventor(s):(std)**:** YI JANG HO ; YI JANGHO

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9)**:** G03G15/16 G03G21/12 G03G21/16 G03G21/18 (Advanced/Invention)

CPC: G03G21/1619 G03G21/181 G03G21/1814 G03G21/1609

Classification Explorer

Cited documents: US6496670 BA, US6115571 A, US5799230 A, US2014027012 AA, US2006024094 AA,

Abstract:
An electrophotographic image forming apparatus for forming an image on a recording material includes an upright sheet feeding inlet, an upright sheet discharging outlet, a permanently mounted electrophotographic photosensitive drum, and toner replenishing means for refilling a toner reservoir as needed, rendering the device compact, portable, and inexpensive to maintain.

0) US5794103A – DEVELOPER UNIT MOUNTING/DETACHING DEVICE IN A L...

301) Family number: 11082661 (US5794103A) © PatBase

Title: DEVELOPER UNIT MOUNTING/DETACHING DEVICE IN A LASER BEAM PRINTER FOR REPLACEMENT OF DEVELOPER UNIT WITHOUT OPENING AND CLOSING A COVER

Priority: KR19960003964 19960217

Family:

Publication number	Publication date	Application number	Application date
KR100190166 B1	19990601	KR19970002474	19970128
KR19970061527 A	19970912	KR19970002474	19970128
KR19970062827 A	19970912	KR19960003964	19960217
US5794103 A	19980811	US19970802206	19970218

Probable Assignee: S PRINTING SOLUTION CO LTD

Assignee(s):(std)**:** SAMSUNG ELECTRONICS CO LTD

Assignee(s): SAMSUNG ELECTRONICS CO LTD A CORP OF KOREA ; S PRINTING SOLUTION CO LTD ; SAMSUNG ELECTRONICS CO

Inventor(s):(std)**:** OH KWON JONG ; OH GAUN JONG

International class (IPC 8–9)**:** B41J2/435 G03G21/18 (Advanced/Invention); B41J2/435 G03G15/08 (Advanced/Non–invention); B41J2/435 G03G21/18 (Core/Invention)

International class (IPC 1–7)**:** B41J2/435 G03G15/04

CPC: G03G21/1647 G03G21/1676 G03G21/1846 G03G2215/021 G03G2221/1609 G03G2221/1651

European class: G03G21/18H1H S03G215/02A S03G221/16B1 S03G221/16K

US class: 399/110 399/119

Classification Explorer

Cited documents: US5583612 A, US5565961 A, US5550617 A, US5528342 A, US5379092 A, US5285240 A, US5266998 A, US5066976 A, US4931837 A,

Forward Citations: WO05092005, WO05092005, US8840784, US8672429, US8565645, US8306457, US8032058, US7957669, US7844197, US7522859, US7113724, US7082275, US7082275, US6961528, US6947687, US6834173, US6154623, US2012074821, US2009169248, US2008286003, US2008277345, US2008219700, US2006029420, US2005207782, US2005008395, US2004037587, US2003086723, GB2428024, EP1970777, EP1970777, EP1369750, EP1308794, EP1308794,

Abstract:
Source: US5794103A A developing unit mounting/detaching device for a laser beam printer includes a handle used to lift or draw a developing unit into or out of a space in the printer's main body; a locking mechanism for preventing dislocation of the developing unit from the space; a release button assembly for releasing the locking member; and a contact pressure maintenance device for properly maintaining the contact pressure between a photo conductive drum in the developing unit and the transfer roller of the main body.

302) Family number: 29265682 (US5885737A) © PatBase

Title: Hydroxygallium phthalocyanine compound, production process therefor and electrophotographic photosensitive member using the compound

Priority: EP19970106946 19970425 JP19960108251 19960426 JP19960112847 19960507 JP19960112848 19960507 JP19960112849 19960507 JP19960129288 19960426 US19990228295 19990108 US19970837212 19970422 JP19970106078 19970423

Family:

Publication number	Publication date	Application number	Application date
CN100380236 C	20080409	CN20011021638	19970425
CN1075831 C	20011205	CN19971011270	19970425
CN1176274 A	19980318	CN19971011270	19970425
CN1356597 A	20020703	CN20011021638	19970425
DE69727168 D1	20040219	DE19976027168	19970425
DE69727168 T2	20041118	DE19976027168T	19970425
DE69737774 D1	20070712	DE19976037774	19970425
DE69737774 T2	20080131	DE19976037774T	19970425
EP0803546 A1	19971029	EP19970106946	19970425
EP0803546 B1	20040114	EP19970106946	19970425
EP1081555 A2	20010307	EP20000123659	19970425
EP1081555 A3	20010627	EP20000123659	19970425
EP1081555 B1	20070530	EP20000123659	19970425
HK1003058 A1	20040702	HK19980102269	19980318
JP10067946 A2	19980310	JP19970106078	19970423
JP3026939 B2	20000327	JP19960112849	19960507
JP3061567 B2	20000710	JP19960112848	19960507
JP3112415 B2	20001127	JP19960108251	19960426
JP3119814 B2	20001225	JP19960112847	19960507
JP3639691 B2	20050420	JP19970106078	19970423
JP9290955 A2	19971111	JP19960108251	19960426
JP9295755 A2	19971118	JP19960112848	19960507
JP9295756 A2	19971118	JP19960112849	19960507
JP9297501 A2	19971118	JP19960112847	19960507
KR100233633 B1	19991201	KR19970015749	19970426
KR19970070130 A	19971107	KR19970015749	19970426
US5885737 A	19990323	US19970837212	19970422
US5897250 A	19990427	US19970847470	19970425
US5932722 A	19990803	US19990228295	19990108

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK

Assignee(s): CANON INC ; CANON K K ; CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** HAYASHI KENICHI ; HIRAI KATSUAKI ; KATO KATSUHITO ; KATO KATSUTO ; MASATO TANAKA ; MASAUDO TANAKA ; SAITO NAHO ; SAITOH NAHO ; SAITOU NAHO ; SATO MASAAKI ; TAKEHARA YOSHIFUMI ; TANAKA MASATO ; TANAKA MASAUDO ; UEDA NORIYOSHI ; UEDA NORYOSHI

Designated states: DE FR GB IT

International class (IPC 8–9)**:** B41J11/48 B41J11/70 B41J29/393 B65H3/44 B65H33/04 B65H35/00 B65H37/04 C07D487/22 C07F5/00 C09B67/06 C09B67/50 G03G15/00 G03G21/00 G03G5/05 G03G5/06 G03G5/09 H04N1/00 (Advanced/Invention); C09B47/18 (Advanced/Non–invention);

	B41J11/48 B41J11/70 B65H33/00 B65H37/04 C07D487/00 C09B67/00 G03G15/00 G03G21/00 G03G5/05 G03G5/06 H04N1/00 (Core/Invention)
International class (IPC 1–7):	B41J11/48 B41J11/70 B65H33/04 B65H37/04 C07D487/22 C07F5/00 C09B47/04 C09B47/18 C09B67/06 C09B67/50 G03G15/00 G03G21/00 G03G5/047 G03G5/05 G03G5/06 G03G5/09 H04N1/00
CPC:	C07F5/003 C09B67/0003 C09B67/0026 G03G5/0696 B65H2301/42612 B41J11/48 B41J29/393 B65H3/446 B65H33/04 B65H35/0013 B65H37/04 G03G15/655 G03G2215/00822 G03G2215/00839 G03G2215/00869 G03G2215/00898 G03G2215/00902
European class:	B41J11/48 B41J29/393 B65H3/44C B65H33/04 B65H35/00B1 B65H37/04 C07F5/00B C09B67/00B3 C09B67/00C2 G03G15/65K6 G03G5/06H6 L65H301/42612 L65H342/612 S03G215/00G4G S03G215/00G4G4 S03G215/00G4H S03G215/00G5D S03G215/00G5E
US class:	156/277 399/111 399/116 399/159 399/404 399/407 430/56 430/58.35 430/59 430/78 540/122 540/139 540/140 540/141
Classification Explorer	
Cited documents:	US5756247 A, US5663327 A, US5621501 A, US5567558 A, US5482811 A, US5465949 A, US5463043 A, US5459004 A, US5407766 A, US5390016 A, US5384625 A, US5316279 A, US5302479 A, US5203552 A, US5181705 A, US5096176 A, US5084736 A, US5021837 A, US4586975 A, JP6093203 A2, JP53037423 A2, JP5263007 A2, JP51108847 A2, JP50038543 A2, EP0655655 A1, EP0617091 A2,
Forward Citations:	WO10053477, USRE45207, US9695006, US9459544, US9195154, US9146519, US9141006, US8919768, US8749816, US8617777, US8518615, US8323861, US8113499, US7981581, US7780164, US7762540, US7706015, US7703757, US7673868, US7578497, US7575231, US7552917, US7537209, US7530560, US7489898, US7431273, US7429037, US7426367, US7410156, US7381512, US7380779, US7354036, US7288059, US7264237, US7192020, US7120383, US7120383, US7107006, US7097369, US7050752, US7050752, US6994339, US6986809, US6962453, US6877921, US6860478, US6833227, US6828076, US6773856, US6768006, US6749676, US6671491, US6663704, US6656652, US6647243, US6616135, US6599353, US6474633, US6471429, US6465143, US6447967, US6398214, US6393232, US6335132, US6290220, US6283470, US6270936, US6264194, US6227531, US6219076, US6190811, US5985505, US2016252832, US2015362850, US2015362849, US2015111136, US2014141362, US2014133894, US2012077116, US2010252980, US2010091323, US2009267288, US2009140483, US2009066997, US2009008858, US2008277857, US2008179810, US2008136083, US2008024811, US2007210510, US2007161489, US2007010645, US2006076726, US2006051147, US2006018695, US2006018694, US2006017218, US2006017209, US2005206068, US2005179190, US2005100806, US2005084308, US2005082734, US2005041993, US2004181308, US2004101345, US2004096254, US2004063015, US2003143475, US2003054273, US2003004048, JP2014016609, JP2007334340, JP2006008612, EP1255167, EP1255167, EP1130475, EP1061030, EP1061030, EP0982632, EP0977086, DE102015109397, CN103803322, CN102841399, CN102841399,

Abstract:
Source: US5885737A An electrophotographic photosensitive member having a high sensitivity to long−wavelength light as emitted by a semiconductor laser and causing little change in potential change during repetitive use is formed by using as a charge−generating material a hydroxygallium phthalocyanine having a crystal form characterized by a strongest peak at a Bragg angle (2 theta +/−0.2 deg.) of 28.1 deg. in a CuK alpha characteristic X−ray diffraction pattern. The hydroxygallium phthalocyanine may preferably be produced through a process including treating a halogenated gallium phthalocyanine for conversion into a hydrous hydroxygallium phthalocyanine, freeze−drying the hydrous hydroxygallium phthalocyanine into a low−crystallinity hydroxygallium phthalocyanine, and milling the low−crystallinity hydroxygallium phthalocyanine.

303) Family number: 40763980 (US2007253730A) © PatBase

Title: IMAGE FORMING APPARATUS HAVING MECHANISM FOR REDUCING PRESSING FORCE BETWEEN IMAGE BEARING MEMBER AND TRANSFERRING MEMBER

Priority: JP20060123941 20060427

Family:

Publication number	Publication date	Application number	Application date
CN101063865 A	20071031	CN200710104773	20070426
CN101063865 B	20110615	CN200710104773	20070426
JP2007298545 A2	20071115	JP20060123941	20060427
JP4847200 B2	20111228	JP20060123941	20060427
KR100929056 B1	20091130	KR20070040630	20070426
KR20070105891 A	20071031	KR20070040630	20070426
US2007253730 AA	20071101	US20070738921	20070423
US7702254 BB	20100420	US20070738921	20070423

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK

Assignee(s): CANON INC ; CANON K K ; CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** HIDEYUKI MATSUBARA ; KAZUNARI MATSUBARA HIDEYUKI NI ; KAZUNARI NISHIMOTO ; MATSUBARA HIDEYUKI ; NISHIMOTO KAZUNARI

Inventor(s): MATSUBARA HIDEYUKI NISHIMOTO KAZUNARI

Agent(s): CANON USA INC INTELLECTUAL PROPERTY DIVISION; CANON USA INC; IP DIVISION

International class (IPC 8–9): G03G15/00 G03G15/08 G03G15/16 G03G21/16 G03G21/18 (Advanced/Invention); G03G15/08 G03G15/16 (Advanced/Non–invention); G03G15/00 G03G15/08 G03G15/16 G03G21/16 (Core/Invention)

CPC: G03G21/168 G03G15/1685 G03G2221/1642

European class: G03G15/16F1D G03G21/16 S03G221/16G

US class: 399/108 399/121 399/313

Classification Explorer

Cited documents: US7198155 BB, US6665507 BA, US3357325 A, US2006280520 AA, US2005169664 AA, US2005097950 AA, US2004190958 AA, US2003209464 AA, KR100341733 B1, JP7015224 A2, JP2039169 A2, JP2006113283 A2, JP2004163709 A2, JP2004163708 A2, JP2004078212 A2, JP2003327293 A2, JP2003076117 A2, JP200113762, JP2001013762 A2, JP1195532, JP1124452, JP11095532 A2, JP11024452 A2, JP11015239 A2, JP10142969 A2, JP10142969,

Forward Citations: US9354556, US9249868, US9176456, US2015043940, US2015018169, JP5708420, JP5355679, JP2015018056, JP2013134461, JP2013076885,

Abstract:
Source: US2007253730A An image forming apparatus includes a photosensitive member and a transfer roller that are brought into pressure contact with each other by a force of a transfer spring to define a nip section therebetween. The transfer roller is movable between a first position at which the transfer roller is in pressure contact with the photosensitive member and a second position at which the pressure is eliminated or reduced. When the transfer roller is pushed to the second position, the transfer roller is latched at the second position and the apparatus can be carried in this state. When the apparatus is activated and the photosensitive member is driven, the transfer roller is unlatched and is returned to the first position by the force of the transfer spring, so that the nip section is formed again between the transfer roller and the image bearing member and an image forming process is enabled.

0) US2017184998A – DEVELOPING CARTRIDGE

304) Family number: 66206576 (US2017184998A) © PatBase

Title: DEVELOPING CARTRIDGE

Priority: JP20150254200 20151225

Family:

Publication number	Publication date	Application number	Application date
CN106919030 A	20170704	CN201611174191	20161219
US2017184998 AA	20170629	US20160280558	20160929
WO17110141 A1	20170629	WO2016JP75013	20160826

Probable Assignee: BROTHER IND LTD

Assignee(s):(std)**:** BROTHER IND LTD

Assignee(s): BROTHER KOGYO KK

Inventor(s):(std)**:** ITABASHI NAO

Designated states: AE AG AM AO AU AZ BA BB BF BH BJ BN BR BW BY BZ CA CF CG CI CL CM CN CO CR CU DM DO DZ EC EG GA GD GE GH GM GN GQ GT GW HN ID IL IN IR KE KG KM KN KP KR KZ LA LC LK LR LS LY MA MD ME MG ML MN MR MW MX MY MZ NA NE NG NI NZ OM PA PE PG PH QA RU RW SA SC SD SG SL SN ST SV SY SZ TD TG TH TJ TM TN TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9): G03G15/00 G03G15/04 G03G15/08 G03G21/16 G03G21/18 (Advanced/Invention)

CPC: G03G15/0865 G03G21/1652

Classification Explorer

Abstract:
Source: US2017184998A A developing cartridge may include: a casing for accommodating developer therein; a developing roller rotatable about an axis extending in a first direction and positioned at one side of the casing in a second direction; a storage medium having an electric contact surface; and a holder movable relative to the casing in the second direction with the electric contact surface between a first position and a second position, the holder having an outer surface at which the electric contact surface is positioned.

0) US5343223A – IMAGE FORMING APPARATUS

305) Family number: 3380039 (US5343223A) © PatBase

Title: Image forming apparatus

Priority: JP19900319598 19901123 JP19900319599 19901123 JP19900319600 19901123 JP19900319603 19901123

Family:

Publication number	Publication date	Application number	Application date
DE69116652 D1	19960307	DE19916016652	19911119
DE69116652 T2	19960905	DE19916016652T	19911119
EP0487040 A2	19920527	EP19910119746	19911119
EP0487040 A3	19930616	EP19910119746	19911119
EP0487040 B1	19960124	EP19910119746	19911119
JP4189227 A2	19920707	JP19900319599	19901123
JP4190251 A2	19920708	JP19900319600	19901123
JP4190257 A2	19920708	JP19900319598	19901123
JP4191223 A2	19920709	JP19900319603	19901123
US5343223 A	19940830	US19910795011	19911120

Probable Assignee: MINOLTA CAMERA KK

Assignee(s):(std): MINOLTA CAMERA KK

Assignee(s): MINOLTA CAMERA A CORP OF JAPAN KK ; MINOLTA CAMERA CO LTD ; MINOLTA CAMERA K K ; MINOLTA CAMERA K K OSAKA JP ; MINOLTA CAMERA KABUSHIKI KAISHA

Inventor(s):(std): EGUCHI TATSUYA ; EGUCHI TATSUYA C O MINOLTA CAM ; HARA KAZUYOSHI ; HARA KAZUYOSHI C O MINOLTA CAM ; HASEGAWA HIROSHI ; HATAMA KATSUYUKI ; IKEGAWA AKIHITO ; IKEGAWA AKIHITO C O MINOLTA CA ; HASEGAWA HIROFUMI ; HASEGAWA HIROFUMI C O MINOLTA ; MATSUURA YASUHIRO ; MATSUURA YASUHIRO C O MINOLTA ; MIZUNO HIROSHI ; MIZUNO HIROSHI C O MINOLTA CAM ; OGAWA TAKAYUKI ; OGAWA TAKAYUKI C O MINOLTA CAM ; SEKINO HITOSHI ; SEKINO HITOSHI C O MINOLTA CAM ; TAIMA KATSUYUKI ; TAIMA KATSUYUKI C O MINOLTA CA ; TAMADA NORIO ; TAMADA NORIO C O MINOLTA CAMER ; TOHYAMA YOSHIO ; TOHYAMA YOSHIO C O MINOLTA CAM ; TOYAMA YOSHIO ; YOSHIDA SATOSHI ; YOSHIDA SATOSHI C O MINOLTA CA

Inventor(s): YOSHIDA SATOSHI C O MINOLTA CAMERA K K ; TOHYAMA YOSHIO C O MINOLTA CAMERA K K ; TAMADA NORIO C O MINOLTA CAMERA K K ; TAIMA KATSUYUKI C O MINOLTA CAMERA K K ; SEKINO HITOSHI C O MINOLTA CAMERA K K ; OGAWA TAKAYUKI C O MINOLTA CAMERA K K ; MIZUNO HIROSHI C O MINOLTA CAMERA K K ; MATSUURA YASUHIRO C O MINOLTA CAMERA K K ; HASEGAWA HIROFUMI C O MINOLTA CAMERA K K ; IKEGAWA AKIHITO C O MINOLTA CAMERA K K ; HARA KAZUYOSHI C O MINOLTA CAMERA K K ; EGUCHI TATSUYA C O MINOLTA CAMERA K K

Designated states: DE FR GB

International class (IPC 8–9): B41J13/00 B65H1/26 B65H29/20 B65H3/06 G03G15/00 (Advanced/Invention); B41J13/00 B65H1/26 B65H29/20 B65H3/06 G03G15/00 (Core/Invention)

International class (IPC 1–7): B41J13/00 B41J24/435 B65H1/26 B65H29/20 B65H3/06 G03G15/00 H04N1/21

CPC: G03G15/65 G03G15/6552 G03G2215/00316 G03G2215/00383 G03G2215/00421 G03G2215/00447 G03G2215/00472 G03G2215/00544

European class: G03G15/65 G03G15/65L S03G215/00F2M S03G215/00G1C1 S03G215/00G1K1 S03G215/00G2A S03G215/00G2B2B S03G215/00G3B

US class: 346/108 347/134 347/139

Classification Explorer

Cited documents: US5047803 A, US5002266 A, US5001516 A, US4965640 A, US4928129 A, US4873548 A, US4740817 A, US4681422 A, US4348101 A, US4344713 A, US3153534 A,

JP63193157 A2, JP61269169 A2, JP61269169, JP61235854 A2, JP61235853 A2, JP61235853, EP0346934 A2, EP0340969 A1, EP0331324 A2, EP0180474 A2,

Forward Citations: US8121520, US7949283, US7742720, US7457563, US7245850, US7231167, US7224923, US7218878, US6873810, US6786665, US6676318, US6659668, US6511241, US5984297, US5845176, US5621451, US2016274485, US2010296836, US2007264045, US2006056878, US2006056877, US2006056876, US2005135837, US2004126132, DE4317392,

Abstract:
Source: US5343223A An image forming apparatus having a sheet storing unit for storing sheets therein along a bottom of a body of the apparatus, a sheet feeding mechanism for feeding the sheets stored in the sheet storing unit one by one toward a rear side of the body, a sheet path for leading each sheet fed by the sheet feeding mechanism upward, an image forming unit for forming an image on the sheet traveling in the sheet path, and a sheet ejecting unit for ejecting the image−formed sheet toward a front side of the body onto a sheet receiving portion disposed on an upper side of the body. The image forming unit is made as a cartridge containing a photosensitive member, a developing device, a transferring device and a cleaner. The cartridge is mounted in a holder which is movable between a cartridge exchange position and a set position.

0) US2015093150A – ROTATIONAL FORCE DRIVING ASSEMBLY AND PROCESS C...

306) Family number: 57638048 (US2015093150A) © PatBase

Title: ROTATIONAL FORCE DRIVING ASSEMBLY AND PROCESS CARTRIDGE

Priority: CN201310460347 20130929 CN201410359975 20140725 CN201420313988U 20140612 CN201420363432U 20140702 CN201410642209 20141113 CN201510012016 20150110 CN201510243037 20150513 CN201510746337 20151104 US20140496379 20140925 CN201610179379 20141113 CN201610762288 20130929 CN201610754245 20130929 CN201610756784 20130929 CN201610754349 20130929 US20160015241 20160204 WO2014CN084677 20140819 WO2015CN096280 20151203 WO2015CN092715 20151023 WO2015CN084489 20150720

Family:

Publication number	Publication date	Application number	Application date
CN104516224 A	20150415	CN201310460347	20130929
CN105334711 A	20160217	CN201410359975	20140725
CN105589318 A	20160518	CN201410642209	20141113
CN105700305 A	20160622	CN201610179379	20141113
CN105824225 A	20160803	CN201510012016	20150110
CN106125524 A	20161116	CN201610762288	20130929
CN106125532 A	20161116	CN201610754245	20130929
CN106125533 A	20161116	CN201610756784	20130929
CN106154794 A	20161123	CN201510746337	20151104
CN106154795 A	20161123	CN201510876053	20151202
CN106200297 A	20161207	CN201610754349	20130929
CN106773584 A	20170531	CN201710155991	20151104
CN203894537 U	20141022	CN201420313988U	20140612
CN204009372 U	20141210	CN201420363432U	20140702
CN205539952 U	20160831	CN201620021096U	20160108
CN205608398 U	20160928	CN201520877958U	20151104
EP3029527 A1	20160608	EP20140847263	20140819
EP3029527 A4	20160921	EP20140847263	20140819
EP3153933 A1	20170412	EP20150825452	20150720
EP3153933 A4	20170628	EP20150825452	20150720
JP2016533536 T2	20161027	JP20160544702T	20140819
JP6128405 B2	20170517	JP20160544702T	20140819
US2015093150 AA	20150402	US20140496379	20140925
US2016154376 AA	20160602	US20160015241	20160204
US9280121 BB	20160308	US20140496379	20140925
WO15043043 A1	20150402	WO2013CN86551	20131105
WO15043339 A1	20150402	WO2014CN084677	20140819
WO16011925 A1	20160128	WO2015CN084489	20150720
WO16074559 A1	20160519	WO2015CN092715	20151023
WO16180008 A1	20161117	WO2015CN096280	20151203

Probable Assignee: APEX TECHNOLOGY CO LTD

Assignee(s):(std)**:** APEX TECH CO LTD ; APEX TECHNOLOGY CO LTD ; ZHUHAI AIPAIKE TECHNOLOGY CO LTD ; ZHUHAI APEXMIC TECH CO LTD ; ZHUHAI SEINE TECHNOLOGY CO LTD ; ZHUHAI KINGWAY REAL ESTATE CO LTD ; XIAO HONGBIAO ; ZHUHAI KAIWEI HOUSE PURCHASING CO LTD

Assignee(s): ZHUHAI KAIWEI HOUSE PURCHASING CO ; ZHUHAI AIPAIKE TECHNOLOGY CO ; ZHUHAI SEINE TECHNOLOGY CO ; ZHUHAI KINGWAY REAL ESTATE CO ; ZHUHAI APEXMIC TECHNOLOGY CO ; NINESTAR CORP ; CHU HAI YI PARKER TECHNOLOGY CO LTD ; PRINT ZHUHAI SEINE TECHNOLOGY CO LTD ; APEX TECHNOLOGY CO

Inventor(s):(std)**:** CAO HUI ; CAO JIANXIN ; CHEN DE ; CHIEN DE ; DAI SHUCHUN ; DING GEMING ; DING WENYI ; LIU JINLIAN ; LUO QIN ; MA HAILONG ; WANG CHAO ; XIAO HONGBIAO ; YANG MIAOLING ; ZENG LIKUN

Agent(s): SUN YIMING; YAGI TOSHIYASU; TROUTMAN SANDERS LLP; SHENZHEN BAIRUI PATENT AND TRADMARK OFFICE; SHENZHEN BAIRUI PATENT AND TRADEMARK OFFICE; LEADER PATENT AND TRADEMARK FIRM

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9): F16D1/10 F16D3/04 F16D3/10 F16D3/16 F16D3/18 F16D3/205 G03G15/00 G03G21/16 G03G21/18 (Advanced/Invention)

CPC: F16D3/18 G03G21/1857 G03G21/18 F16D3/04 F16D3/10 F16D3/16 F16D3/2052 F16D3/265 G03G15/757 G03G21/1853 G03G21/186 G03G2221/1657 G03G21/1647

US class: 1/1 399/111 399/167

Classification Explorer

Cited documents: WO16011925 A1, WO12113299 A1, WO11091639 A1, US7869735 BB, US2015093150 AA, US2013136492 AA, US2013064569 AA, US2012275824 AA, US2012183331 AA, US2011255900 AA, US2011217073 AA, US2010028050 AA, US2009175652 AA, US2008304865 AA, US2002085858 AA, JP2010079284 A2, JP2009169035 A2, JP2009134284 A2, JP2009134284, JP2007101770 A2, JP2007101770, JP2004076855 A2, CN204807923 U, CN204044516 U, CN203930340 U, CN203573085 U, CN202886848 U, CN202710923 U, CN202661778 U, CN202421744 U, CN201532527 U, CN201434968 Y, CN104267589 A, CN104035311 A, CN103809420 A, CN103713501 A, CN103439871 A, CN102109806 A, CN102096352 A, CN102053528 A, CN101907858 A, CN101819400 A, CN101583910 A,

Forward Citations: WO17012394, WO15169205, US2016154376,

Abstract:
Source: US2015093150A The present invention relates to a rotational force driving assembly and a process cartridge used for being engaged with a rotational force driving head inside an electrophotographic image forming device so as to transmit rotary driving force, comprising a photosensitive member hub, a rotational force receiving component, a side plate, and an axis offset adjusting mechanism of the rotational force receiving component, wherein the axis offset adjusting mechanism can slide relative to the side plate; the axis offset adjusting mechanism of the rotational force receiving component is connected with the rotational force receiving component; when the rotational force driving assembly is not installed into the electrophotographic image forming device, and thus is not subjected to external force, the axis offset adjusting mechanism enables the axis of the rotational force receiving component to make parallel offset relative to the axis of the photosensitive member hub; and after the electrophotographic image forming device is arranged in the rotational force driving assembly and is installed in place, the axis offset adjusting mechanism is subjected to the external force to move relative to the side plate, so that the axis of the rotational force receiving component is coincident with the axis of the photosensitive member hub, the rotational force receiving component extends out along the axial direction of the photosensitive member hub to be engaged with the rotational force driving head, and the driving assembly does not interfere with the rotational force driving head.

0) US5300979A – CLAMSHELL TYPE IMAGE FORMING APPARATUS

307) Family number: 11520396 (US5300979A) © PatBase

Title: CLAMSHELL TYPE IMAGE FORMING APPARATUS

Priority: JP19900280513 19901017 JP19900280739 19901018 US19910772697 19911007 US19930022779 19930223

Family:

Publication number	Publication date	Application number	Application date
JP2957677 B2	19991006	JP19900280739	19901018
JP4153664 A2	19920527	JP19900280513	19901017
JP4155353 A2	19920528	JP19900280739	19901018
US5300979 A	19940405	US19930022779	19930223

Probable Assignee: SANYO ELECTRIC CO

Assignee(s):(std)**:** SANYO ELECTRIC CO

Assignee(s): SANYO ELECTRIC CO LTD ; SANYO DENKI KK

Inventor(s):(std)**:** HIROSE SATOSHI ; HIROSE SOJI ; HORIUCHI TATSUHITO ; HORIUCHI TATSUTO ; KUMIDA MINORU ; KUMITA MINORU ; MIYAI KIYOSHI ; TSUKAGOSHI YUKIO ; TSUKAKOSHI YUKIO

Inventor(s): MYAI KYOSHI

International class (IPC 8–9)**:** G03G15/00 G03G15/08 G03G21/16 (Advanced/Invention); G03G15/00 G03G15/08 G03G21/16 (Core/Invention)

International class (IPC 1–7)**:** G03G15/00 G03G15/06 G03G15/08 G03G21/16

CPC: G03G21/1628 G03G21/1817 G03G21/1828 G03G2221/1687 G03G2221/183

European class: G03G21/16 G03G21/18C4 G03G21/18C5 S03G221/16S3 S03G221/18P

US class: 355/200 355/210 355/245 399/111 399/125

Classification Explorer

Cited documents: US5089849 A, US4989037 A, US4896193 A, US4862212 A, US4862209 A, US4702587 A, US4598993 A, US4588280 A, US4339196 A, US4114998 A, JPS61198171, JPS6076771, JP61198171 A2, JP60076771 A2,

Forward Citations: US9229365, US9141075, US8792807, US8396393, US8200117, US8086139, US7869742, US7561827, US7330679, US7133626, US7133626, US6167222, US5787323, US5774768, US5485244, US5412490, US2013038667, US2011097109, US2008253798, US2007217818, US2007147888, US2006159486, US2005031371, EP1837713, EP1804136, EP1505458,

Abstract:
Source: US5300979A A clamshell type image forming apparatus, in which a process cartridge included in an upper structure is supported pivotably to a fixed position and a dismounting position against the upper structure, a developing unit included in a lower structure is supported thereon pivotably to a position just opposing to an image holding medium and a position spaced therefrom, and a plate spring which urges the developing unit toward a position spaced from the image holding medium is disposed on the lower structure side, and a plate spring which urges the developing unit toward a position just opposing to the image holding medium is disposed on the upper structure side, thereby inconveniences produced by providing the process cartridge on the upper structure are solved, and by reducing a collision between the developing unit and the image holding medium due to the open–and–close operation of the upper structure, it is possible to prevent a damage of the process cartridge including the image holding medium.

0) US2006221168A – IMAGE FORMING APPARATUS

308) Family number: 33433304 (US2006221168A) © PatBase

Title: IMAGE FORMING APPARATUS

Priority: JP20050088418 20050325 JP20060024572 20060201

Family:

Publication number	Publication date	Application number	Application date
JP2006301590 A2	20061102	JP20060024572	20060201
JP4865342 B2	20120201	JP20060024572	20060201
US2006221168 AA	20061005	US20060376298	20060316
US7454156 BB	20081118	US20060376298	20060316

Probable Assignee: CANON KK

Assignee(s):(std): CANON KK

Assignee(s): CANON INC ; CANON KABUSHIKI KAISHA

Inventor(s):(std): WAKIYAMA EIJI

Agent(s): FITZPATRICK CELLA HARPER AND SCINTO

International class (IPC 8–9): B41J29/13 G03G15/00 G03G21/16 H04N1/00 (Advanced/Invention); B41J29/12 G03G15/00 G03G21/16 H04N1/00 (Core/Invention)

CPC: B41J13/106

European class: B41J13/10C

US class: 347/108 399/111 399/114

Classification Explorer

Cited documents: US7341387 BB, US7203448 BB, US7006776 BB, US6973279 BB, US6125251 A, JP8016062 A2, JP2000112195 A2, JP2000039827 A2, JP11296048 A2,

Forward Citations: US9579033, US9457595, US9250608, US9113003, US8585201, US2016183820, US2015050042, US2014376014, US2012001993,

Abstract:
Source: US2006221168A An image forming apparatus includes a first opening and closing device provided in an apparatus body and openable and closable with respect to the apparatus body, an operating member operable by a user to open the first opening and closing device, a first recess for receiving the hand of the user and to permit the hand to contact and operate the operating member to open the first opening and closing device, and a second recess for receiving the hand of the user and to permit the hand to contact and operate the operating member to open the first opening and closing device when the hand of the user is inserted thereinto. The second recess is located at a position different from the first recess.

0) US2011222905A – IMAGE FORMING CARTRIDGE AND IMAGE FORMING DEVIC...

309) Family number: 49578539 (US2011222905A) © PatBase

Title: IMAGE FORMING CARTRIDGE AND IMAGE FORMING DEVICE

Priority: JP20100056395 20100312

Family:

Publication number	Publication date	Application number	Application date
CN102193471 A	20110921	CN201010519139	20101018
CN102193471 B	20150715	CN201010519139	20101018
JP2011191427 A2	20110929	JP20100056395	20100312
US2011222905 AA	20110915	US20100876362	20100907
US8422912 BB	20130416	US20100876362	20100907

Probable Assignee: FUJI XEROX CO LTD

Assignee(s):(std)**:** FUJI XEROX CO LTD ; IIKURA KAZUAKI ; WATANABE KAORU

Assignee(s): FUJI XEROX CO

Inventor(s):(std)**:** IIKURA KAZUAKI ; KAORU WATANABE ; KAZUAKI IIKURA ; WATANABE KAORU ; WATANABE KUNYA

Agent(s): SUENARI MIKIO; SUGHRUE MION PLLC

International class (IPC 8–9)**:** G03G15/00 G03G15/02 G03G21/18 (Advanced/Invention)

CPC: G03G21/181

European class: G03G21/18C2

US class: 399/102 399/106 399/114 399/114P 399/172

Classification Explorer

Cited documents: US5666608 A, US5243384 A, US2011103830 AA, US2010054799 AA, US2004126135 AA, JP3103871 A2, JP2011095536 A2, JP2010256610 A2, JP2010079267 A2, JP2008170960 A2, JP2007271759 A2, JP2005037462 A2, JP2004280012 A2, JP2002311688 A2, JP2002258719 A2, JP2001282079 A2, JP2000181328 A2, CN1073534 A, CN101667004 A, CN101236389 A, CN101046671 A,

Forward Citations: JP5623603, JP2013214106, EP2597526,

Abstract:
Source: US2011222905A An image forming cartridge includes a photoconductor; a charger with a charging member contactable with the photoconductor; a case that accommodates the photoconductor and the charger; a cover which is detachably attached to the case and covers at least a part of the photoconductor; and a separating member which is located, on the cover, between a region other than the region of the photoconductor where an image is formed and the charger and separated them from each other.

0) JP59206849A – TONER CARTRIDGE

310) Family number: 7410657 (JP59206849A) © PatBase

Title: TONER CARTRIDGE

Priority: JP19830082409 19830510

Family:

Publication number	Publication date	Application number	Application date
JP1792051 C3	19931014	JP19830082409	19830510
JP5000710 B4	19930106	JP19830082409	19830510
JP59206849 A2	19841122	JP19830082409	19830510

Probable Assignee: FUJITSU LTD

Assignee(s):(std)**:** FUJITSU LTD

Assignee(s): FUJITSU KK

Inventor(s):(std)**:** NAKATANI SHIGEHIRO

International class (IPC 8–9)**:** B41J27/16 G03G15/08 (Advanced/Invention); B41J27/00 G03G15/08 (Core/Invention)

International class (IPC 1–7)**:** B41J27/00 G03G15/08

CPC: G03G15/0874 G03G15/0872 G03G2215/0665 G03G2215/0675

European class: G03G15/08H3C1 S03G215/06C1A S03G215/06C1C

Classification Explorer

Cited documents: JP58045546 U1, JP58045546 U,

Forward Citations: US7260346, US7215906, JP6195067, JP2658789,

Abstract:
Source: JP59206849A PURPOSE:To prevent a toner adhered around a toner cartridge from being dispersed to the periphery by connecting an expansible toner cartridge storing bag for storing a case constituting the toner cartridge to one end part to be a holding part of the case. CONSTITUTION:When a new toner cartridge is to be replaced, an opening part of the toner cartridge storing bag 37 is pulled out from a stored part, fitted to an insertion port 8 of the toner cartridge and then fixed with a metallic clip 38. Subsequently, a handle 36 is held over the toner cartridge storing bag 37 and rotated by 180 deg. and the toner cartridge 31 is pulled out in the G direction. Then, the clip 38 is taken out from the toner cartridge storing bag 37. The opening end part of the toner cartridge storing bag 37 is bound by a metallic clip 39 to store the used toner cartridge 31 in the toner cartridge storing bag 37. Thus, speedy processing is attained without dispersing the toner adhered around the toner cartridge to the periphery by the attached toner cartridge storing bag.

0) US5155537A – SHEET FEEDING APPARATUS WITH A PLURALITY OF EAS...

311) Family number: 4836895 (US5155537A) © PatBase

Title: SHEET FEEDING APPARATUS WITH A PLURALITY OF EASILY LOADED CASSETTES

Priority: JP19880296736 19881122 JP19880317701 19881216 JP19890013543 19890123

Family:

Publication number	Publication date	Application number	Application date
DE68917091 D1	19940901	DE19896017091	19891121
DE68917091 T2	19941124	DE19896017091T	19891121
EP0370484 A2	19900530	EP19890121553	19891121
EP0370484 A3	19901010	EP19890121553	19891121
EP0370484 B1	19940727	EP19890121553	19891121
JP2144337 A2	19900604	JP19880296736	19881122
JP2163235 A2	19900622	JP19880317701	19881216
JP2193827 A2	19900731	JP19890013543	19890123
JP2542064 B2	19961009	JP19880296736	19881122
JP2584852 B2	19970226	JP19880317701	19881216
JP2666995 B2	19971022	JP19890013543	19890123
US5155537 A	19921013	US19890439579	19891121

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK

Assignee(s): CANON INC ; CANON K K ; CANON K K TOKIO TOKYO JP ; CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** HAYAKAWA YASUYOSHI ; ISOBE HIRONOBU ; ISOBE HIROYUKI ; KOMATSU TERUO ; KUBOTA ATSUSHI

Inventor(s): KUBOTA ATSUSHI MACHIDA SHI TOKYO JP ; KOMATSU TERUO YOKOHAMA SHI KANAGAWA KEN JP ; ISOBE HIRONOBU YOKOHAMA SHI KANAGAWA KEN JP ; HAYAKAWA YASUYOSHI YOKOHAMA SHI KANAGAWA KEN JP

Designated states: DE FR GB IT

International class (IPC 8–9)**:** B65H1/00 B65H1/04 B65H1/26 B65H3/00 B65H3/44 B65H3/68 B65H5/26 B65H5/36 B65H7/00 B65H7/02 G03G15/00 G03G21/00 (Advanced/Invention); B65H1/00 B65H1/26 B65H3/00 B65H3/44 B65H3/66 B65H5/26 B65H5/36 B65H7/02 G03G15/00 G03G21/00 (Core/Invention)

International class (IPC 1–7)**:** B41J13/00 B65H1/00 B65H1/04 B65H1/26 B65H3/00 B65H3/44 B65H3/68 B65H5/26 B65H5/36 B65H7/02 G03G15/00

CPC: B65H1/04 B65H1/266 B65H7/00 B65H2511/51 B65H2513/40 B65H2513/512 B65H2513/514 B65H2551/20 G03G15/6508 G03G2215/00383 G03G2215/0054 G03G2215/00544 G03G2215/00556 G03G2215/00713 G03G2215/00784

European class: B65H1/04 B65H1/26D B65H7/00 G03G15/65B4 L65H511/510 L65H513/400 L65H513/512 L65H513/514 L65H551/200 S03G215/00G1C1 S03G215/00G3A S03G215/00G3B S03G215/00G3D S03G215/00G3R6 S03G215/00G3S16

US class: 271/9.02 271/9.13 355/309 399/391

Classification Explorer

Cited documents: US4966356 A, US4958822 A, US4941002 A, US4605215 A, JP61086335 A2, JP61086335, JP59004534 A2, JP1098529 A2, GB2216501 A1, GB2086359 A1, EP0256859 A2,

Forward Citations: US9126789, US9033331, US8424863, US8235376, US8020848, US7613420, US7391989, US7226050, US7216863, US6973285, US6819173, US6733007, US6581922, US6382616, US6325371, US6318718, US6302606, US6293541, US6206369, US6089560, US5991556, US5787323, US5785308, US5758249, US5641154, US5579098, US5501444, US5348284, US5313257, US5294106, US5240238, US2015021847, US2015001793, US2012002223, US2011298171, US2009148211, US2008174065, US2008159778, US2006188305, US2005248085,

US2005105932, US2003185612, US2002155821, JP8020447, JP5861816, JP5278898, JP4333201, JP3667981, JP3338731, JP3197522, JP2872852, JP2013050602, JP2006256771, JP2004317998, JP11286344, JP11100150, GB2299804, GB2299804, GB2260760, EP0899227, EP0860747, EP0860747, EP0776844, EP0566299, EP0566299, EP0532281, DE4201919, DE19614419, DE19614419, CN102862834,

Abstract:
Source: US5155537A The present invention provides a sheet feeding apparatus comprising: a first sheet accommodating means shiftable in a predetermined position from a sheet supply position for supplying a sheet, a first sheet supply means for feeding out the sheet from the first sheet accommodating means positioned in the sheet supply position, a feeding means for feeding the sheet fed out by the first sheet supply means, a second sheet accommodating means for accommodating sheets, a second sheet supply means for feeding out the sheet from the second sheet accommodating means, a guide means movable between a first position intersecting a moving path of the first sheet accommodating means and where guiding the sheet fed out by the second sheet supply means to the feeding means and a second position where not guiding the sheet, a detecting means for detecting the passage of the sheet through the guide means and for emitting a detection signal, and an inhibiting means for inhibiting the movement of the first sheet accommodating means in response to the detection signal from the detecting means.

0) US2015125181A – IMAGE FORMING APPARATUS

312) Family number: 59140086 (US2015125181A) © PatBase

Title: IMAGE FORMING APPARATUS

Priority: JP20130229749 20131105 US20140532434 20141104 US20160145188 20160503

Family:

Publication number	Publication date	Application number	Application date
CN104614958 A	20150513	CN201410616065	20141105
JP2015090402 A2	20150511	JP20130229749	20131105
US2015125181 AA	20150507	US20140532434	20141104
US2016246217 AA	20160825	US20160145188	20160503
US9354556 BB	20160531	US20140532434	20141104
US9588466 BB	20170307	US20160145188	20160503

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON INC ; CANON KK

Inventor(s):(std)**:** KOKUNI ATSUSHI ; OGUNI ATSUSHI

Agent(s): CANON USA INC IP DIVISION

International class (IPC 8–9)**:** G03G15/00 G03G15/01 G03G15/16 G03G21/16 G03G21/18 (Advanced/Invention); G03G21/16 G03G21/18 (Advanced/Non–invention)

CPC: G03G21/1671 G03G21/181 G03G21/1821 G03G15/0136 G03G15/161 G03G15/1605 G03G15/16

US class: 1/1 399/121 399/318

Classification Explorer

Cited documents: US9354556 BB, US2013223879 AA, US2012195627 AA, JP4847200 B2, JP2011180215 A2, JP2010262215 A2, JP2001117467 A2, JP2000320537 A2, CN1469208 A, CN102193472 A,

Forward Citations: US9588466, US9459563, US2016252878,

Abstract:
Source: US2015125181A An image forming apparatus includes an image carrying member; a transfer unit that includes a transfer member, first and second separating portions configured to separate ends of the transfer member that are on one side and on another side, respectively, from the image carrying member; an engaging unit that includes first and second engaging portions configured to engage with the first and second separating portions, respectively, the engaging unit being configured to separate the transfer member from the image carrying member when the first engaging portion engages with the first separating portion and the second engaging portion engages with the second separating portion; and a regulating member configured to regulate a movement of the engaging unit. The engaging unit is moved by the regulating member from the one side toward the other side or from the other side toward the one side.

313) Family number: 3406070 (US4916490A) © PatBase

Title: Image forming apparatus comprising a plurality of developing devices

Priority: JP19840254723 19841201 JP19840259814 19841208 US19850802537 19851127 JP19850042390 19850304

Family:

Publication number	Publication date	Application number	Application date
JP1616528 C3	19910830	JP19840254723	19841201
JP2043186 B4	19900927	JP19840254723	19841201
JP61137172 A2	19860624	JP19840254723	19841201
JP61137176 A2	19860624	JP19840259814	19841208
JP61201273 A2	19860905	JP19850042390	19850304
US4916490 A	19900410	US19890294641	19890109

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK

Assignee(s): CANON INC ; CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** TANAKA HIDETOSHI ; TOHYAMA YOSHIKUNI ; TOYAMA YOSHIKUNI

International class (IPC 8–9)**:** G03G15/01 G03G15/08 G03G21/00 (Advanced/Invention); G03G15/01 G03G15/08 G03G21/00 (Core/Invention)

International class (IPC 1–7)**:** G03G15/01 G03G15/08

CPC: G03G15/0126 G03G15/0896

European class: G03G15/01D8 G03G15/08S

US class: 355/245 355/260 399/119 399/223

Classification Explorer

Cited documents: US4619514 A, US4607939 A, US4595277 A, US4583832 A, US4579443 A, US4523834 A, US4460267 A, US3960445 A, US3834806 A, JP60229045 A2, JP59101260 A2, JP57104951 A2, JP57076557 A2, JP56133744 A2,

Forward Citations: USRE35528, US8634743, US7965952, US7817941, US7676178, US7327975, US7277661, US7116920, US7116920, US6889013, US6295429, US6072969, US6032002, US5950049, US5940657, US5268720, US5162852, US5121165, US5105218, US5079589, US4901113, US4814821, US2010247137, US2010232816, US2008199228, US2008187331, US2007297827, US2005196195, US2004253008, US2004170448, US2004008997, JP6143156, JP5350194, JP2011112705, JP2008158518, EP0794472, EP0794471, EP0794470, EP0503543, EP0503543,

Abstract:
Source: US4916490A An image forming apparatus including at least first and second developing devices for developing latent images formed on an image bearing member. The first and second developing devices contain developers of different colors, respectively. The second developing device contains a developer of a predetermined color and is fixedly mounted in the image forming apparatus. The first developing device contains a developer of a color other than the predetermined color and is detachably mountable in the image forming apparatus. Only the first developing device is exchangeable.

0) US2012312909A – FILM CARTRIDGE AND HEATING APPARATUS USING THE ...

314) Family number: 52545154 (US2012312909A) © PatBase

Title: FILM CARTRIDGE AND HEATING APPARATUS USING THE SAME

Priority: JP20110127091 20110607

Family:

Publication number	Publication date	Application number	Application date
JP2012252298 A2	20121220	JP20110127091	20110607
JP5804782 B2	20151104	JP20110127091	20110607
US2012312909 AA	20121213	US20120489758	20120606
US8942614 BB	20150127	US20120489758	20120606

Probable Assignee: CANON KK

Assignee(s):(std): CANON KK ; NISHIHIRO SHINGO

Assignee(s): CANON INC ; CANON KABUSHIKI KAISHA

Inventor(s):(std): NISHIHIRO SHINGO

Agent(s): CHIKASHIMA KAZUO; FITZPATRICK CELLA HARPER AND SCINTO

International class (IPC 8–9): B41J29/00 G03G15/00 G03G15/20 G11B23/087 (Advanced/Invention)

CPC: G03G15/6585 G03G2215/00805

US class: 242/347.2 399/341

Classification Explorer

Cited documents: US7783242 BB, US5262834 A, US4469292 A, US3701495 A, US3482681 A, US2012003346 AA, US2007147917 AA, JP63270175, JP61164872 A2, JP61164872, JP2106347 U, JP2106347 U, JP2007086747 A2, JP2004264437 A2, JP2004264437, JP2000272185 A2, JP2000272185, JP02106347 U,

Forward Citations: US8649721, US2012269542,

Abstract:
Source: US2012312909A A cartridge detachably mountable to a heating apparatus includes: a film; a supporting member for unwindably supporting the film; a winding–up member for winding up the film; a first container accommodating the supporting member and having a first opening; and a second container accommodating the winding–up member and having a second opening. The film is unwindable from the supporting member to the winding–up member through the first opening and the second opening. The first container and the second container are connected with each other so that the first container and the second container cover at least one side of the film, and the first container and the second container are disconnectable from each other to expose the film between the first opening and the second opening.

0) US6397026B – APPARATUS AND METHODS FOR INCREASING BIAS FORCE...

315) Family number: 23199939 (US6397026B) © PatBase

Title: Apparatus and methods for increasing bias force on opposing photosensitive member and developing means

Priority: US20000669081 20000925

Family:

Publication number	Publication date	Application number	Application date
US6397026 BA	20020528	US20000669081	20000925

Probable Assignee: LEXMARK INT INC

Assignee(s):(std)**:** LEXMARK INT INC

Assignee(s): LEXMARK INTERNATIONAL INC ; LEXMARK INT

Inventor(s):(std)**:** BUXTON PATRICK ANDREW ; CANTER GEOFFREY KYLE ; DIGIROLAMO MARTIN VICTOR ; DIXON MICHAEL JOHN ; FOSTER MARK DUANE ; HAZEN KRISTOFFER ALAN ; KRAL DONALD THOMAS ; LURTON JAMES CARO ; SEEVERS KENNETH DANIEL ; SOTO ROBERT FRANCIS

International class (IPC 8–9): G03G21/18 (Advanced/Invention); G03G21/18 (Core/Invention)

International class (IPC 1–7): G03G15/00

CPC: G03G21/1825 G03G2221/1861

European class: G03G21/18C4S S03G221/18P3A

US class: 399/111 399/113

Classification Explorer

Cited documents: US5749027 A,

Forward Citations: WO05092005, WO05092005, US9268300, US8626024, US7437094, US7233760, US7139510, US7082275, US7082275, US6678489, US2013216264, US2010040392, US2007036580, US2006165433, US2006127137, US2005207782, US2005147430, GB2428024,

Abstract:
Source: US6397026B Methods and apparatus for increasing the bias force between a developer half and a cleaner half of a process cartridge are disclosed. One or more springs are interposed between the cleaner half and the developer half of the process cartridge. These springs are of sufficient strength to maintain a constant separation between the developer and the photosensitive member of the process cartridge. Sources of force other than springs, such as weights or elastic members may also be employed to provide and increase the bias force urging the developer and photosensitive member together.

316) Family number: 56139845 (US2014093279A) © PatBase

Title: IMAGE FORMING APPARATUS FOR MAINTAINING POSITIONS OF PHOTOSENSITIVE DRUMS RELATIVE TO CASING

Priority: JP20120218492 20120928

Family:

Publication number	Publication date	Application number	Application date
JP2014071362 A2	20140421	JP20120218492	20120928
JP5892022 B2	20160323	JP20120218492	20120928
US2014093279 AA	20140403	US20130032988	20130920
US9116502 BB	20150825	US20130032988	20130920

Probable Assignee: BROTHER IND LTD

Assignee(s):(std): BROTHER IND LTD ; HAYAKAWA ATSUSHI ; KAMIMURA NAOYA ; NAKASHIMA ATSUHISA

Assignee(s): BROTHER KOGYO KK

Inventor(s):(std): HAYAKAWA ATSUSHI ; KAMIMURA NAOYA ; NAKAJIMA ATSUHISA ; NAKASHIMA ATSUHISA

Agent(s): BANNER AND WITCOFF LTD

International class (IPC 8–9): G03G15/00 G03G21/16 G03G21/18 (Advanced/Invention)

CPC: G03G21/1676 G03G21/1821 G03G21/1842

US class: 1/1 399/117

Classification Explorer

Cited documents: US8126366 BB, US7957670 BB, US7937020 BB, US7899360 BB, US7826773 BB, US7715752 BB, US7706716 BB, US6721521 BB, US6708011 BB, US5765082 A, US3638112 A, US2014086622 AA, US2012275822 AA, US2012114376 AA, US2011164897 AA, US2011013935 AA, US2010209139 AA, US2010111562 AA, US2010080615 AA, US2010080615, US2009169247 AA, US2008159774 AA, US2008075502 AA, US2007286632 AA, US2007280733 AA, US2007280730 AA, US2007177899 AA, US2007160384 AA, US2007110473 AA, US2006045566 AA, US2006045566, US2003161656 AA, US2003142991 AA, US2003142991, US2001019418 AA, US0142991, US0080615, US0045566, JP9281770 A2, JP8305184 A2, JP2011215406 A2, JP2011065030 A2, JP2010107890 A2, JP2010102285 A2, JP2010102285, JP2009162915 A2, JP2008065122 A2, JP2007213033 A2, JP2007213023 A2, JP2007140041 A2, JP200671808, JP2006184901 A2, JP2006071808 A2, JP2006071808, JP2003316233 A2, JP2003195691 A2, JP2003195691, JP2003015378 A2, JP2001249517 A2, JP2000181329 A2, JP11084799 A2, EP1816527 A2, EP1058161 A1,

Forward Citations: US9506535, US9477202, US9367026, US8873998, US2016091857, US2014093274, US2014086622,

Abstract:
Source: US2014093279A An image forming apparatus includes a cartridge and a casing. The cartridge includes a photosensitive drum, a developing roller, a developing frame, and a drum frame. The developing frame is movable between a contact position and a separated position. A separating member provided on the drum frame acts on the developing frame, so that a reaction force is exerted in a reaction force direction. The casing includes a positioning member, an urging member, and a separation pressing member. The positioning member has a first surface and a second surface. The urging member is configured to urge an end portion of the photosensitive drum toward the positioning member in an urging direction. The first surface is configured to support the end portion at a position downstream of the urging direction. The second surface is configured to support the end portion at a portion downstream of the reaction force direction.

0) US5358230A – SHEET SUPPLYING APPARATUS

317) Family number: 29347641 (US5358230A) © PatBase

Title: Sheet supplying apparatus

Priority: JP19920131888 19920424 JP19920222224 19920730

Family:

Publication number	Publication date	Application number	Application date
DE69319650 D1	19980820	DE19936019650	19930422
DE69319650 T2	19990121	DE19936019650T	19930422
EP0567112 A1	19931027	EP19930106541	19930422
EP0567112 B1	19980715	EP19930106541	19930422
JP3081069 B2	20000828	JP19920222224	19920730
JP5301644 A2	19931116	JP19920131888	19920424
JP6048588 A2	19940222	JP19920222224	19920730
US5358230 A	19941025	US19930049360	19930421

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK

Assignee(s): CANON INC ; CANON K K TOKIO TOKYO JP ; CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** ANDO MASAO C O CANON KABUSHIKI ; IKEMORI IKUO C O CANON KABUSHI ; INOUE HIROYUKI C O CANON KABUS ; INOUE RYUKICHI C O CANON KABUS ; YOKOI KATSUYUKI C O CANON KABU ; YOKOI KATSUYUKI ; ISHII HIROYUKI ; INOUE RYUKICHI ; INOUE HIROYUKI ; IKEMORI IKUO ; ANDO MASAO ; ISHII HIROYUKI C O CANON KABUS

Inventor(s): ISHII HIROYUKI C O CANON KABUSHIKI KAISH TOKYO 146 ; YOKOI KATSUYUKI C O CANON KABUSHIKI KAISHA TOKYO 1 ; YOKOI KATSUYUKI C O CANON KABUSHIKI KAISHA... ; ISHII HIROYUKI C O CANON KABUSHIKI KAISH TOKYO... ; INOUE RYUKICHI C O CANON KABUSHIKI KAISH TOKYO... ; INOUE HIROYUKI C O CANON KABUSHIKI KAISH TOKYO... ; IKEMORI IKUO C O CANON KABUSHIKI KAISHA TOKYO... ; INOUE RYUKICHI C O CANON KABUSHIKI KAISH TOKYO 146 ; INOUE HIROYUKI C O CANON KABUSHIKI KAISH TOKYO 146 ; IKEMORI IKUO C O CANON KABUSHIKI KAISHA TOKYO 146 ; ANDO MASAO C O CANON KABUSHIKI KAISHA TOKYO 146 JP

Designated states: DE FR GB IT

International class (IPC 8–9): B65H1/12 B65H1/14 B65H1/24 B65H3/06 G03G15/00 (Advanced/Invention); B65H1/08 B65H1/12 B65H1/14 B65H3/06 G03G15/00 (Core/Invention)

International class (IPC 1–7): B65H1/12 B65H1/14 B65H1/24 B65H3/06 G03G15/00

CPC: B65H1/12 B65H3/0638 B65H3/0669

European class: B65H1/12 B65H3/06G B65H3/06M

US class: 271/114 271/118 271/119 271/121 271/127 347/104

Classification Explorer

Cited documents: US5253854 A, US5223858 A, US5219155 A, US5201873 A, US5055756 A, US4717139 A, JP62191337 A2, JP61238626 A2, JP5895931 U, JP58183535 A2, JP57189945 A2, JP466425, JP4159928, JP2193830 A2, EP0464815 A1, EP0464785 A2,

Forward Citations: WO11044693, WO08006138, WO02087891, US9206002, US9156639, US9139387, US8882101, US8867980, US8833754, US8752823, US8727335, US8588673, US8276474, US8132807, US7815381, US7712736, US7631862, US7594652, US7594649, US7481423, US7481422, US7472905, US7448623, US7305208, US7195238, US7128317, US7128317, US7001017, US6985266, US6896253, US6830398, US6793425, US6769680, US6658229, US6654133, US6626595, US6540221, US6502816, US6493534, US6485015, US6382621, US6375183, US6357740, US6354584, US6349931, US6296245, US6293537, US6260840, US6224052, US6131899, US6105954, US6095515, US6089562, US6073925, US6070867, US6056285, US6055407, US6045220, US6042103, US6032949, US6000689, US5984297, US5934664, US5927702, US5909872, US5895038,

US5887987, US5863036, US5847719, US5818487, US5725208, US5711519, US5550652, US2015042033, US2011089630, US2011070008, US2010225053, US2010189486, US2009047053, US2008257100, US2008190242, US2008179817, US2007108696, US2007001376, US2006070536, US2006067750, US2006017214, US2006012108, US2005280206, US2005052832, US2005035536, US2003143011, US2003122913, US2002167124, US2002158399, JP7168957, JP5873786, JP4289240, JP3972201, JP3591214, JP2597471, JP2014088251, JP2008189445, JP2006021920, JP2004307105, JP10297774, EP2489017, EP2043933, EP2043933, EP1053961, EP1053961, EP0994052, EP0994052, EP0994051, EP0994051, EP0832833, EP0832833, EP0761581, EP0761581,

Abstract:
Source: US5358230A The present invention provides a sheet supplying apparatus with a sheet support for supporting a sheet and shiftable between a supply position and a waiting position, a supply roller for feeding out the sheet from the sheet support means at the supply position, a biasing device for biasing the sheet support means from the waiting position toward the supply position, a shifting device for shifting the sheet supporting means from the supply position to the waiting position in adherence with a biasing force of the biasing device means, and a regulating apparatus for regulating the shifting of the sheet support means with a force weaker than the biasing device force of the biasing device, when the sheet support means shifted to the waiting position by the shifting device is shifted from the waiting position to the supply position by the biasing device.

318) Family number: 17130898 (US5333036A) © PatBase

Title: MOUNTING MECHANISM OF PROCESS CARTRIDGE FOR IMAGE FORMING APPARATUS

Priority: JP19920058640U 19920728

Family:

Publication number	Publication date	Application number	Application date
JP2576538 Y2	19980716	JP19920058640U	19920728
JP6015061 U1	19940225	JP19920058640U	19920728
US5333036 A	19940726	US19930063978	19930520

Probable Assignee: BROTHER KOGYO KK

Assignee(s):(std)**:** BROTHER IND LTD

Assignee(s): BROTHER KOGYO KABUSHIKI KAISHA ; BROTHER KOGYO KK

Inventor(s):(std)**:** KOGA YUJI

Agent(s): ITAYA YASUO

International class (IPC 8–9)**:** G03G15/00 G03G21/16 G03G21/18 (Advanced/Invention); G03G15/00 G03G21/16 G03G21/18 (Core/Invention)

International class (IPC 1–7)**:** G03G15/00 G03G21/16

CPC: G03G21/1628 G03G21/1853 G03G2221/1654 G03G2221/1687 G03G2221/183

European class: G03G21/18H1V S03G221/16K1 S03G221/16S3 S03G221/18P

US class: 355/200 355/210 399/111 399/125

Classification Explorer

Cited documents: US5095335 A, US4873548 A, US4634264 A, JP3061957 A2, JP3061957, JP3033872 A2, JP3033872, JP3006642 U,

Forward Citations: US7937020, US7894747, US7715753, US7715752, US6219508, US6167222, US6081676, US6038417, US5978626, US5787323, US5678139, US5642187, US2010232092, US2010209139, US2010183352, US2008304860, US2007160384, KR101445469, EP1816527, CN101844458,

Abstract:
Source: US5333036A An electrophotographic apparatus comprises a cartridge holder for holding a process cartridge, an member for outwardly biasing the process cartridge, and a guide member for guiding the process cartridge into a specified position during the process of closing the upper unit. The operation of removing the process cartridge is made easier by biasing of the process cartridge by means of the urging member toward the position of the opening of the process cartridge. Mounting the process cartridge is also made securely by guiding the process cartridge into a specified position by means of the guide member.

319) Family number: 3496998 (US4937628A) © PatBase

Title: APPARATUS FOR STORING AND DISPENSING PARTICULATE MATERIAL

Priority: US19890334646 19890407

Family:

Publication number	Publication date	Application number	Application date
JP2287476 A2	19901127	JP19900087344	19900331
JP3247689 B2	20020121	JP19900087344	19900331
US4937628 A	19900626	US19890334646	19890407

Probable Assignee: XEROX CORP

Assignee(s):(std): XEROX CORP

Assignee(s): XEROX STAMFORD CT A CORP OF NY CORP ; BANK ONE NA ADMINISTRATIVE AGENT AS ; BANK ONE NA AS ADMINISTRATIVE AGENT ; JPMORGAN CHASE BANK AS COLLATERAL AGENT ; JPMORGAN CHASE BANK COLLATERAL AGENT AS

Inventor(s):(std): DONARUDO AARU FUESU ; KARAI PII PUREMUNAA ; RICHIYAADO SHII DOREI JIYUNIA ; SUTEIIBUN DEI SHIPARA ; PREMNATH KARAI P ; FESS DONALD R ; DRAY JR RICHARD C ; CIPOLLA STEPHEN D

International class (IPC 8–9): G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)

International class (IPC 1–7): A61K31/4545 A61P25/28 G03G15/08

CPC: Y10S222/01 G03G2215/0665 G03G2215/067 G03G2215/0675 G03G2215/0685 G03G15/0886 G03G15/0868 G03G15/0872

European class: G03G15/08H3B S03G215/06C1A S03G215/06C1A2 S03G215/06C1C S03G215/06C4

US class: 141/364 222/DIG.1 355/260 399/106 399/262 D18/43

Classification Explorer

Cited documents: US4650070 A, US4491161 A, US4478512 A, US4065335 A, US4062385 A, US3999654 A, US3618826 A, US3539077 A, US3501065 A, US3385500 A, US3339807 A, JPS5818658, JP58018658 A2,

Forward Citations: WO15039508, USRE36920, USD763350, US9690232, US9429874, US9333777, US9333776, US9046820, US9014595, US8989636, US8909094, US8879948, US8639163, US8639156, US8577250, US8554107, US8538288, US8376172, US7925191, US7920811, US7881633, US7780040, US7711294, US7634218, US7257363, US6807391, US6553202, US6438345, US6438328, US6292644, US6185401, US6088556, US5895143, US5884136, US5881782, US5848338, US5846371, US5836358, US5835822, US5809983, US5799712, US5797073, US5771427, US5761585, US5742877, US5734953, US5722020, US5697022, US5697014, US5678725, US5678147, US5659860, US5630198, US5629759, US5608501, US5592980, US5574549, US5568237, US5564607, US5515143, US5506665, US5426492, US5345297, US5331382, US5313993, US5303008, US5296900, US5268722, US5266998, US5261568, US5150807, US5079590, US5077584, US5057872, US2013011159, US2012321341, US2011280611, US2010054819, US2009238608, US2009224709, US2009212054, US2009087216, US2008260421, US2007065196, US2007065184, US2006201971, US2004151517, JP2014021285, JP2002082519, EP2418546, EP2388656, EP0821286, EP0821286, EP0736814, EP0689104, EP0682297, EP0682297, CN103472698, CN103472698, CN102346406, CN102253621, AU2008216961,

Abstract:
Source: US4937628A Apparatus for storing and dispensing particulate material comprising a container defining a chamber for storing particulate material having an opening in the surface for dispensing particulate material which may be closed and sealed. The opening has a frame member attached to the container enclosing the opening which has two spaced parallel rails one each on a side of the opening and a movable door member larger than the opening with two parallel tracks spaced to enable them to slide in the rails to move said door between a closed position to cover the opening and an open position to open the door and between the door frame member and the door a compressible micro−cellular open celled foam seal having a low compression set, a low surface energy surface and a thickness in the uncompressed state greater than the distance between the door frame and

the door when the door is in the closd position the foam being compressed on sealing the space between the door frame and the door when the door is in the closed position to prevent particulate material from escaping from the container.

0) US2011274460A – DEVICES AND METHODS FOR REMANUFACTURING PRINTER...

320) Family number: 49910015 (US2011274460A) © PatBase

Title: DEVICES AND METHODS FOR REMANUFACTURING PRINTER CARTRIDGES

Priority: US20100343961P 20100505 US20110068183 20110504

Family:

Publication number	Publication date	Application number	Application date
US2011274460 AA	20111110	US20110068183	20110504
US8543032 BB	20130924	US20110068183	20110504

Probable Assignee: MITSUBISHI KAGAKU IMAGING CORP

Assignee(s):(std)**:** HOLMES DENNY ; MITSUBISHI KAGAKU IMAGING CORP ; OHANYAN TIGRAN ; SILVA GARY

Inventor(s):(std)**:** HOLMES DENNY ; OHANYAN TIGRAN ; SILVA GARY

International class (IPC 8–9)**:** B25F1/00 G03G15/00 (Advanced/Invention)

CPC: G03G15/757 G03G21/181 G03G21/1821

European class: G03G15/75F G03G21/18C2 G03G21/18C4C

US class: 399/109 399/109P 7/138 7/138S

Classification Explorer

Cited documents: US8249483 BB, US8121521 BB, US6490426 BA, US2010067943 AA, US2009208244 AA, US2009060566 AA, US2008112725 AA, US2008112724 AA,

Forward Citations: US9046868, US8249483, US2014348532, US2010142991, CN103913977,

Abstract:
Source: US2011274460A There is provided a device and method for remanufacturing a printer cartridge. The printer cartridge has an organic photoconductor (OPC) drum having a drum axle and a hub assembly attached to the drum axle, and the hub assembly is in a locked position in the printer cartridge. The device has a first portion having an end configured to engage the hub assembly and unlock and lock the hub assembly. The device further has a second portion connected to the first portion, the second portion having an end configured to extract the hub assembly from the printer cartridge when the hub assembly is in an unlocked position.

0) BE1006519A – MANUFACTURING PROCESS FOR A PRINTER CARTRIDGE ...

321) Family number: 8866154 (BE1006519A) © PatBase

Title:	Manufacturing process for a printer cartridge
Priority:	BE19940000422 19940425

Family:

Publication number	Publication date	Application number	Application date
BE1006519 AG	19941004	BE19940000422	19940425

Probable Assignee:	DATAPRODUCTS TECH LTD
Assignee(s):(std):	DATAPRODUCTS TECH LTD
Assignee(s):	DATAPRODUCTS TECHNOLOGIES LIMITED
Inventor(s):(std):	BRENDAN COYLE ; COYLE BRENDAN ; DOYLE JOHN ; GEORGE RYAN ; JOHN DOYLE ; RYAN GEORGE
International class (IPC 8–9):	G03G21/18 (Advanced/Invention); G03G21/18 (Core/Invention)
International class (IPC 1–7):	G03G15/08 G03G21/00
CPC:	G03G21/181 G03G2215/00995
European class:	G03G21/18C2 S03G215/00R1A

Classification Explorer

Abstract:
A printer cartridge is dismantled in a cleaning chamber 1 comprising acompressed air intake pipe 10, an air outlet pipe 15 leading to an evacuationpipe 16, a work area 12 partially covered by a transparent film 14 and asuction air intake pipe 25. The print quality of a photoconductive roller istested at an inspection station 3. A magnetic roller 40 is covered and atoner compartment 45 is filled then sealed on a support 60 comprising a lever64 using a blade 70. The cartridge is then re–assembled.

0) US5095335A – COPIER WITH RETRACTABLE CHARGING UNIT TO PREVEN...

322) Family number: 15224345 (US5095335A) © PatBase

Title: COPIER WITH RETRACTABLE CHARGING UNIT TO PREVENT DAMAGE TO DRUM WHEN REMOVING PROCESS CARTRIDGE

Priority: JP19890240728 19890919 JP19890265787 19891012

Family:

Publication number	Publication date	Application number	Application date
JP2749144 B2	19980513	JP19890240728	19890919
JP3103871 A2	19910430	JP19890240728	19890919
JP3103871 K1	19910430	JP19890240728	19890919
JP3126979 A2	19910530	JP19890265787	19891012
US5095335 A	19920310	US19900584918	19900918

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK

Assignee(s): KYANON KK ; CANON INC ; CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** HIBI TAKASHI ; HOSHIKA NORIHISA ; KINOSHITA MASAHIDE ; SHOJI TAKEO ; WATANABE KAZUFUMI ; WATANABE KAZUSHI

International class (IPC 8–9)**:** G03G15/00 G03G15/02 G03G21/00 G03G21/16 G03G21/18 (Advanced/Invention); G03G15/00 G03G15/02 G03G21/00 G03G21/16 G03G21/18 (Core/Invention)

International class (IPC 1–7)**:** G03G15/00 G03G15/02 G03G21/00 G03G21/18

CPC: G03G21/1628 G03G21/1814 G03G15/0216 G03G21/185 G03G2221/1609 G03G2221/1651 G03G2221/1654 G03G2221/166 G03G2221/1693 G03G2221/183

European class: G03G15/02A1 G03G21/18C3 G03G21/18H1P S03G221/16B1 S03G221/16K S03G221/16K1 S03G221/16K3 S03G221/16T S03G221/18P

US class: 355/210 355/219 399/111

Classification Explorer

Cited documents: US4896193 A, US4851960 A, JPS63292166, JPS5882285, JPS58140759, JP64034667 B4, JP63292166 A2, JP63208876 A2, JP63138553 U1, JP63092353 U1, JP62143083 A2, JP58140759 A2, JP58082285 A2, JP56114978 A2,

Forward Citations: WO05092005, WO05092005, US9046860, US8725042, US8644731, US7920806, US7660545, US7630661, US7489885, US7403733, US7274896, US7248814, US7231161, US7215904, US7181147, US7092655, US7082275, US7082275, US7068955, US6999696, US6970661, US6957023, US6925267, US6922539, US6912366, US6898392, US6885838, US6836639, US6834175, US6832056, US6810221, US6782213, US6754454, US6738589, US6718144, US6704525, US6701106, US6697578, US6658224, US6654566, US6621989, US6615001, US6591070, US6571070, US6501927, US6501926, US6477336, US6408143, US6400914, US6397018, US6397017, US6377759, US6349188, US6330409, US6330402, US6324363, US6311030, US6301456, US6253044, US6240266, US6226478, US6175706, US6144398, US6128454, US6118960, US6101354, US6097908, US6029032, US6016413, US5974287, US5926672, US5903803, US5845177, US5835818, US5828929, US5828928, US5752135, US5682574, US5669042, US5666608, US5659847, US5638161, US5638158, US5623328, US5602623, US5589918, US5583613, US5565961, US5532799, US5526097, US5510878, US5506745, US5485344, US5483323, US5465136, US5450159, US5440375, US5404198, US5367364, US5365315, US5345294, US5333036, US5291249, US5262827, US5157416, US2012207513, US2011211863, US2009074453, US2009074452, US2008063429, US2008056754, US2007104511, US2007104510, US2006198654, US2006008287, US2005207782, US2005196185, US2005175366, US2004213596, US2004136740, US2004120729, US2004086300, US2004062559, US2003175039, JP8006335, JP3023402, JP2012063515, JP2011191427, JP2008040225, GB2428024, EP0747779, EP0652492, EP0636953, EP0636953, EP0515164,

Abstract:
Source: US5095335A An image forming apparatus includes a cartridge detachably mountable to the image forming apparatus, the cartridge including a movable image bearing member; a charging member having a contact member for contacting to the image bearing member in the cartridge to charge the image bearing member, the contact member is mounted in the image bearing member; a supporting member for supporting the contact member for movement between a first position where the contact member is contacted to the image bearing member and a second position where the contact member is away from the image bearing member; a member actable on the supporting member in accordance with mounting or dismounting of the cartridge relative to the image forming apparatus; wherein upon dismounting of the cartridge, the contact member is moved from the first position to the second position.

0) US2013177333A – IMAGE FORMING DEVICE, PROCESS CARTRIDGE ENGAGED...

323) Family number: 47884519 (US2013177333A) © PatBase

Title: IMAGE FORMING DEVICE, PROCESS CARTRIDGE ENGAGED WITH THE SAME AND METHOD FOR FIRMLY POSITIONING PROCESS CARTRIDGE IN IMAGE FORMING DEVICE

Priority: CN201010234519 20100722 WO2011CN77304 20110719

Family:

Publication number	Publication date	Application number	Application date
CN101916056 A	20101215	CN201010234519	20100722
CN101916056 B	20141105	CN201010234519	20100722
US2013177333 AA	20130711	US20110641025	20110719
US9052687 BB	20150609	US20110641025	20110719
WO12010076 A1	20120126	WO2011CN77304	20110719

Probable Assignee: ZHUHAI SAINA TECHNOLOGY CO LTD

Assignee(s):(std)**:** WU LIANJUN ; ZHUHAI SAINA TECHNOLOGY CO LTD ; ZHUHAI SEINE TECHNOLOGY LTD

Assignee(s): ZHUHAI SEINE TECHNOLOGY LIMITED ; ZHUHAI SAINA TECHNOLOGY CO

Inventor(s):(std)**:** LIANJUN WU ; WU LIANJUN

Agent(s): DEMIAN K; JACKSON IPG PLLC; SHENZHEN BAIRUI PATENT AND TRADEMARK OFFICE

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9): G03G15/00 G03G15/08 G03G21/16 G03G21/18 (Advanced/Invention)

CPC: G03G21/1842 G03G21/1853 G03G21/1864 G03G21/185

European class: G03G21/18H1V G03G21/18H2P

US class: 1/1 399/111

Classification Explorer

Cited documents: US7395008 BB, US7266327 BB, US7242889 BB, US6876826 BB, US6366749 BA, US5500714 A, US5369474 A, US5128715 A, US5066976 A, US2011211866 AA, US2010054798 AA, US2006285880 AA, US2006159486 AA, US2006140674 AA, US2006078352 AA, US2005276629 AA, US2004165910 AA, US2004009008 AA, JP2003337520 A2, JP2000056656 A2, CN201820073 U, CN201527543 U, CN1740920 A, CN1707368 A, CN101916056 A, CN101694567 A,

Forward Citations: WO12010076, CN102566357, CN102566357,

Abstract:
Source: US2013177333A The invention provides an image forming device, a process cartridge engaged with the same and a method for firmly positioning the process cartridge in the image forming device. The image forming device, comprising a main frame and a main frame driving gear, wherein a guide rail is respectively arranged on the left and right sides of the inside of said main frame; an installation section is arranged at the tail end of each guide rail; and said installation section and said guide rail approximately form a barb. Lugs formed at both ends of a housing of the process cartridge are driven by a radial component of driving force of the image forming device to the process cartridge to always closely lean against the walls of the installation sections at the tail ends of the guide rails when the process cartridge is in the operating state in the image forming device.

0) WO14010129A1 – PROCESS CARTRIDGE AND IMAGE–FORMING DEVICE CAR...

324) Family number: 55627954 (WO14010129A1) © PatBase

Title: PROCESS CARTRIDGE AND IMAGE–FORMING DEVICE

Priority: JP20120154150 20120709 WO2012JP80841 20121129

Family:

Publication number	Publication date	Application number	Application date
CN104412173 A	20150311	CN201280074389	20121129
JP2014016498 A2	20140130	JP20120154150	20120709
JP5861581 B2	20160216	JP20120154150	20120709
WO14010129 A1	20140116	WO2012JP80841	20121129

Probable Assignee: BROTHER IND LTD

Assignee(s):(std)**:** BROTHER IND LTD ; FUJII YASUMASA ; MORI HIROKI

Assignee(s): BROTHER KOGYO KK

Inventor(s):(std)**:** FUJII YASUMASA ; MORI HIROKI

Agent(s): KITAZAWA KAZUHIRO ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9): G03G15/08 G03G21/18 (Advanced/Invention)

CPC: G03G21/1821 G03G21/1835 G03G21/1647 G03G21/1676

Classification Explorer

Cited documents: WO12090907 A1, WO12090907, JP2010107699 A2, JP2010107699, JP2010102285 A2, JP2010102285, JP2007102152 A2, JP2007102152, JP2005049524 A2, JP2005049524,

Abstract:
A developing cartridge (19) that is attachable to and detachable from a drum cartridge (18) having a photosensitive drum (20) is provided with a filling part (85) for filling a toner, the filling part (85) being provided so as to protrude toward the right side. By pressing the filling part (85) with a lock lever (65) of the drum cartridge (18), the developing cartridge (19) is moved from an attached position in which same is attached to the drum cartridge (18) to a detachable position in which same is detachable from the drum cartridge (18).

0) US2005069347A – IMAGE FORMING APPARATUS

325) Family number: 31780457 (US2005069347A) © PatBase

Title: IMAGE FORMING APPARATUS

Priority: JP20030340899 20030930

Family:

Publication number	Publication date	Application number	Application date
JP2005107189 A2	20050421	JP20030340899	20030930
JP4374970 B2	20091202	JP20030340899	20030930
US2005069347 AA	20050331	US20040953950	20040930
US7177575 BB	20070213	US20040953950	20040930

Probable Assignee: BROTHER KOGYO KK

Assignee(s):(std)**:** BROTHER IND LTD

Assignee(s): BROTHER KOGYO KABUSHIKI KAISHA ; BROTHER KOGYO KK

Inventor(s):(std)**:** OKABE YASUSHI

Agent(s): OLIFF AND BERRIDGE PLC

International class(IPC 8–9)**:** G03G15/01 G03G15/08 (Advanced/Invention); G03G15/01 G03G15/08 (Core/Invention)

International class(IPC 1–7)**:** G03G15/01 G03G15/08

CPC: G03G15/0121 G03G15/0896 G03G2215/0634

European class: G03G15/01D6 G03G15/08S S03G215/06B

US class: 399/119 399/228 399/228P 399/234

Classification Explorer

Cited documents: US6694118 BB, US6535708 BB, US6522850 BB, US5598255 A, US2003053824 AA, US2003007808 AA, JP9179475 A2, JP61515561, JP611515561, JP61151556 A2, JP4001669 A2, JP2003021944 A2, JP2002023448 A2, JP2001154454 A2,

Forward Citations: US9625874, US9442456, US9037037, US8781360, US8768207, US8676092, US8417147, US8412076, US8396392, US8346133, US8346124, US8213825, US8135310, US8099018, US8050592, US7986906, US7970314, US7907868, US7881637, US7792464, US7787805, US7761025, US7555245, US7444103, US2011217080, US2011123221, US2010316413, US2010290813, US2010284707, US2009232555, US2009022521, US2007183814, US2007166070, US2007077093, US2007077086, US2007071494, US2007036591, JP4661507, JP2011070233, JP2007121983, JP2007101637, JP2006227504,

Abstract:
Source: US2005069347A An image forming apparatus includes a main body; a photosensitive member on which a latent image is formed; a cartridge detachably attached to the main body and accommodates a developing agent therein; a developing roller provided at the cartridge, the developing roller being movable between a first position where the latent image is developed and a second position where development is not performed; a support shaft that rotatably supports the developing roller; and a separation member that moves the developing roller from the first position to the second position by engagement with the support shaft.

0) US2009226212A – IMAGE–FORMING DEVICE

326) Family number: 43708297 (US2009226212A) © PatBase

Title: IMAGE–FORMING DEVICE

Priority: CN200910126454 20090305 JP20080055014 20080305 JP20080055015 20080305

Family:

Publication number	Publication date	Application number	Application date
CN101526776 A	20090909	CN200910126454	20090305
CN101526776 B	20121003	CN200910126454	20090305
CN102789153 A	20121121	CN201210273929	20090305
CN102789153 B	20150422	CN201210273929	20090305
JP2009210900 A2	20090917	JP20080055014	20080305
JP2009210901 A2	20090917	JP20080055015	20080305
JP4569644 B2	20101027	JP20080055014	20080305
JP4569645 B2	20101027	JP20080055015	20080305
US2009226212 AA	20090910	US20090398557	20090305
US8155559 BB	20120410	US20090398557	20090305

Probable Assignee: BROTHER KOGYO KK

Assignee(s):(std)**:** BROTHER IND LTD ; HAYAKAWA SHIGEKI

Assignee(s): BROTHER INDUSTRIES LTD ; BROTHER KOGYO KABUSHIKI KAISHA ; BROTHER KOGYO KK

Inventor(s):(std)**:** HAYAKAWA SHIGEKI ; SHIGEKI HAYAKAWA

Agent(s): SCULLY SCOTT MURPHY AND PRESSER PC

International class(IPC 8–9)**:** G03G15/00 G03G15/01 G03G15/08 G03G15/16 G03G21/00 G03G21/16 (Advanced/Invention); G03G15/00 G03G15/16 G03G21/00 G03G21/16 (Core/Invention)

CPC: G03G21/168 G03G21/1642 G03G15/6529 G03G2221/1642

European class: G03G15/65F G03G21/16 S03G221/16G

US class: 399/121 399/124 399/124P 399/303

Classification Explorer

Cited documents: US6999709 BB, US6115568 A, US2007048010 AA, US2007048005 AA, JP2007101728 A2, JP2007057952 A2, JP2007055774 A2, JP10301464 A2, CN1920693 A, CN1920681,

Forward Citations: US9026005, US8843031, US2014029978, US2013195506,

Abstract:
Source: US2009226212A An image–forming device includes a body frame having a first contacting part and a second contacting part; and a belt unit detachably mounted in the body frame. The belt unit includes a belt unit main frame, a first roller, a second roller, a belt, a belt unit side frame, a handle part, a first contacted part, and a second contacted part. The belt unit side frame is attached to the belt unit main frame. The handle part is disposed at the belt unit main frame. The first contacted part is provided on the handle part to contact the first contacting part. The second contacted part is provided on one of the belt unit main frame and the belt unit side frame to contact the second contacting part. The second contacted part is closer to the second roller than the first roller.

0) WO16019693A1 – PROCESS CARTRIDGE CARTOUCHE DE TRAITEMENT

327) Family number: 61622860 (WO16019693A1) © PatBase

Title: PROCESS CARTRIDGE

Priority: CN201410381099 20140805 WO2014CN095586 20141230

Family:

Publication number	Publication date	Application number	Application date
CN105319933 A	20160210	CN201410381099	20140805
DE212014000227 U1	20160901	DE201421000227U	20141230
GB201701914 A0	20170322	GB20170001914	20141230
GB2542547 A1	20170322	GB20170001914	20141230
WO16019693 A1	20160211	WO2014CN095586	20141230

Probable Assignee: JIANGXI LEIBOTAI ELECTRONIC TECHNOLOGY CO LTD

Assignee(s):(std)**:** JIANGXI LEIBOTAI E TECH CO LTD ; JIANGXI LEIBOTAI ELECTRONIC TECH CO LTD ; JIANGXI LEIBOTAI ELECTRONIC TECHNOLOGY CO LTD

Assignee(s): JIANGXI LEIBOTAI ELECTRONIC TECHNOLOGY CO ; JIANGXI LEIBOTAI E TECH CO ; JIANGXI LEIBOTAI ELECTRONIC TECHNOLOGIES CO ; JIANGXI RADIUM BO TITANIUM ELECTRONIC TECHNOLOGY CO LTD

Inventor(s):(std)**:** HU LIANGLIANG ; LIANGLIANG HU ; MINGSHENG ZHAO ; ZHAO MINGSHENG

Agent(s): CN KNOWHOW INTELLECTUAL PROPERTY AGENT LTD

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9): G03G21/18 (Advanced/Invention)

CPC: G03G21/186

Classification Explorer

Cited documents: US5446525 A, CN204044516 U, CN102385300 A, CN102141766 A, CN101470399 A,

Abstract:
A process cartridge, comprising a cartridge body (10), a photosensitive drum drive assembly (20) and a control mechanism (30); the control mechanism (30) comprises a press lever (33) capable of being pressed by mounting rails (101, 102) of an imaging device, and further comprises a lifting piece (32) cooperating with the mounting rails (101, 102) to lift up the process cartridge and force the rails to press the press lever (33), and a force–bearing portion (12) driving, due to the pressing of a door, the process cartridge to rotate such that the mounting rails (101, 102) stop pressing the press lever (33). The extension and retraction of a power receiving portion (24) is triggered by the pressing of the door of the imaging device, and the trigger action is necessarily completed when a user is opening or closing the door during the use of the process cartridge, without requiring any additional operation of the user, thus according with user habits and ensuring precise control. The process cartridge does not create interference during the assembly and disassembly processes.

0) US2008121169A – USAGE INDICATOR FOR A CARTRIDGE

328) Family number: 33174390 (US2008121169A) © PatBase

Title: USAGE INDICATOR FOR A CARTRIDGE

Priority: AU20050900283 20050125 WO2006AU00076 20060125

Family:

Publication number	Publication date	Application number	Application date
EP1842106 A1	20071010	EP20060704776	20060125
EP1842106 A4	20090805	EP20060704776	20060125
US2008121169 AA	20080529	US20060795983	20060125
WO06079158 A1	20060803	WO2006AU00076	20060125

Probable Assignee: GCC IP PTY LTD

Assignee(s):(std)**:** GCC IP PTY LTD ; TSUI SAMUEL

Assignee(s): GCC IP PTY LIMITED

Inventor(s):(std)**:** TSUI SAMUEL

Agent(s): BERENATO WHITE AND STAVISH LLC

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LC LI LK LR LS LT LU LV LY MA MC MD MG MK ML MN MR MW MX MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RU SC SD SE SG SI SK SL SM SN SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

International class (IPC 8–9): G01D21/00 G03G15/00 G03G21/18 (Advanced/Invention); G01D21/00 G03G15/00 G03G21/18 (Core/Invention)

CPC: G03G21/1896 G03G2221/1892

European class: G03G21/18L2 S03G221/18P5

US class: 116/208

Classification Explorer

Cited documents: US7248816 BB, US5589918 A, US5113220 A, US2004208675 AA, JP3279965 A2, JP2003316227 A2, JP2003107976 A2, JP2000221781 A2,

Forward Citations: US9696655, US9606502, EP2871532,

Abstract:
Source: US2008121169A A usage indicator 12 for a process cartridge 10 comprising a reflective tab 18; a shutter 26 connected to a rotatable mounting platform 20; and engaging means 38 attached to the rotatable mounting platform 20. In its initial state, the shutter 26 covers the reflective tab 18 in such a manner as to prevent the reflective tab 18 from reflecting light emitted by an external light sensing system. At the same time, the engaging means 38 engages a gear in a gear train 14 of the process cartridge 10. During first operation of the gear train 14 the gear train 14 engages the engaging means 38 to rotate the rotatable mounting platform 20 and thereby uncover at least a portion of the reflective tab 18 able to reflect light emitted by the external light sensing system. The rotation of the mounting platform 20 continues until the engaging means 38 no longer engages the gear train 14.

0) US2008252946A – IMAGE FORMING APPARATUS

329) Family number: 42379502 (US2008252946A) © PatBase

Title: IMAGE FORMING APPARATUS

Priority: CN200810005690 20080215 KR20070037144 20070416 US20130048900 20131008 US20080970013 20080107 US20150799118 20150714

Family:

Publication number	Publication date	Application number	Application date
CN101291382 A	20081022	CN200810005690	20080215
CN103561191 A	20140205	CN201310418569	20080215
CN103561191 B	20170412	CN201310418569	20080215
EP1983735 A1	20081022	EP20080101355	20080207
KR101398932 B1	20140526	KR20070037144	20070416
KR20080093329 A	20081021	KR20070037144	20070416
US2008252946 AA	20081016	US20080970013	20080107
US2015319321 AA	20151105	US20150799118	20150714
US8036569 BB	20111011	US20080970013	20080107

Probable Assignee: S PRINTING SOLUTION CO LTD

Assignee(s):(std)**:** SAMSUNG ELECTRONICS CO LTD

Assignee(s): S PRINTING SOLUTION CO LTD ; SAMSUNG ELECTRONICS CO

Inventor(s):(std)**:** KANG KWAN HO ; KWAN HO KANG

Agent(s): WADDINGTON RICHARD; STEIN MCEWEN AND BUI LLP; STAAS AND HALSEY LLP

Designated states: AL BA DE FR GB MK NL RS

International class(IPC 8–9)**:** G03G15/00 H04N1/00 H04N1/04 H04N1/10 (Advanced/Invention); G03G15/00 (Advanced/Non–invention); G03G15/00 H04N1/04 (Core/Invention)

CPC: H04N1/00535 H04N1/00543 H04N1/00557 H04N2201/0081 H04N2201/0082 H04N2201/0091 H04N1/00551 H04N1/00559

European class: H04N1/00E2D H04N1/00E4 H04N1/00E8 T04N201/00J2 T04N201/00J3 T04N201/00J8

US class: 358/474 358/494 358/494P 399/107 399/125 399/379 399/380

Classification Explorer

Cited documents: US8876079 BB, US8036569 BB, US7894738 BB, US7798407 BB, US7773903 BB, US7728824 BB, US7551332 BB, US7405847 BB, US7057756 BB, US6177739 BA, US6177739 B1, US5907413 A, US5532826 A, US5382998 A, US5006934 A, US4994988 A, US4873579 A, US4831457 A, US4616269 A, US2008199201 AA, US2008044197 AA, US2007285741 AA, US2007228644 AA, US2006291896 AA, US2006268027 AA, US2006246866 AA, US2006108210 AA, US2006093210 AA, US2006085946 AA, US2006083542 AA, US2005185228 AA, US2005134726 AA, US2003039481 AA, JP2006199458 A2, JP2005070816 A2, JP2001320550 A2, JP11215278 A2, EP1748637 A1, CN1921541 A,

Forward Citations: USD767570, US2015319321, CN104125369, CN103217433, CN103217432,

Abstract:
Source: US2008252946A An image forming apparatus has a substantially planar top surface includes a first body including a scanner and an operation panel disposed on one side of the scanner, and in which a top surface of the scanner and a top surface of the operation panel are in a same plane; and a second body disposed below the first body, to support the first body so that the first body rotates between open and closed positions.

0) US2009179678A – SPREAD SPECTRUM CLOCK INTEROPERABILITY CONTROL ...

330) Family number: 43507194 (US2009179678A) © PatBase

Title: SPREAD SPECTRUM CLOCK INTEROPERABILITY CONTROL AND INSPECTION CIRCUIT

Priority: US20080013062 20080111

Family:

Publication number	Publication date	Application number	Application date
US2009179678 AA	20090716	US20080013062	20080111
US7970042 BB	20110628	US20080013062	20080111

Probable Assignee: LEXMARK INT INC

Assignee(s):(std)**:** HARDIN KEITH BRYAN ; LEXMARK INT INC ; OGLESBEE ROBERT AARON

Assignee(s): LEXMARK INTERNATIONAL INC ; LEXMARK INT

Inventor(s):(std)**:** HARDIN KEITH BRYAN ; OGLESBEE ROBERT AARON

Agent(s): LEXMARK INT INC INTELLECTUAL PROPERTY LAW DEPARTMENT; JOHN VICTOR; JUSTIN M

International class (IPC 8–9)**:** H03K5/01 H04B1/00 (Advanced/Invention); H03D3/24 (Advanced/Non–invention); H03K5/01 (Core/Invention)

CPC: H03K3/84 B41J2/17546 G06F21/725 G06F2221/2129 H03K5/082

European class: B41J2/175C7E G03G21/20 G06F21/72A H03K3/84 H03K5/08B S06F221/2129

US class: 327/165 327/165P 327/292 327/292S 375/140 375/147 375/149

Classification Explorer

Cited documents: US7558348 BA, US6980581 BA, US6658043 BB, US6658043 B1, US6404834 BA, US6292507 BA, US6167103 A, US6131013 A, US5872807 A, US5867524 A, US5631920 A, US5533046 A, US5491458 A, US5488627 A, US2009089842 AA, US2008107154 AA, US2008063130 AA, US2006056491 AA, US2005010269 AA, US2004213324 AA, US2003081653 AA,

Forward Citations: US8866468, US8669796, US8378722, US8006154, US2012194169, US2011204940, US2010097102,

Abstract:
Source: US2009179678A A spread spectrum clock generator (SSCG) control and inspection circuit provides a system and method for inspecting and controlling an external SSCG, and for verifying the modulation profile waveform of an external SSCG. An electronic circuit is included that can check for the presence of an optimal SSCG modulation profile in product subsystems, and in attached modular systems, including electronic plug–in features such as internal network adapters and cartridges. In one mode of the invention, an electronic circuit ensures continued radiated emissions compliance for field replaceable units or consumable parts within a product, such as a printer, a scanner, or a combination (or all–in–one) printer/scanner. In another mode of the invention, an electronic circuit may also act as a secondary security device for consumable products, such as toner cartridges or ink jet cartridges. In yet another mode of the invention, an electronic circuit may also adjust the attached SSCG clock.

0) US2016216684A – IMAGE FORMING APPARATUS

331) Family number: 62990753 (US2016216684A) © PatBase

Title: IMAGE FORMING APPARATUS

Priority: JP20150010099 20150122

Family:

Publication number	Publication date	Application number	Application date
CN105824222 A	20160803	CN201610035316	20160120
JP2016133762 A2	20160725	JP20150010099	20150122
US2016216684 AA	20160728	US20160002548	20160121
US9442458 BB	20160913	US20160002548	20160121

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON INC ; CANON KK

Inventor(s):(std)**:** KATAYAMA HIROMASA ; KOBAYASHI TAKAHIRO

Agent(s): CHIKASHIMA KAZUO; FITZPATRICK CELLA HARPER AND SCINTO

International class (IPC 8–9)**:** G03G15/00 G03G21/16 G03G21/18 (Advanced/Invention)

CPC: G03G21/1647 G03G21/1821 G03G2215/0132

US class: 1/1 399/110

Classification Explorer

Cited documents: US8837982 BB, US8509651 BB, US8478161 BB, US8412070 BB, US8290396 BB, US2014348540 AA, JP2012063391 A2, JP2010271408 A2,

Abstract:
Source: US2016216684A An image forming apparatus includes a mounting portion where an image forming unit, detachably mountable to the image forming apparatus, for forming an image is mounted; an inserting opening for permitting insertion of the image forming unit into the mounting portion; a cover portion for opening and closing the inserting opening; a locking portion capable of being elastically displaced between a locking position where the image forming unit is locked at an image formable mounting position and a releasing position where locking is released; and a limiting mechanism for limiting movement of the locking portion by moving to a first position where the movement of the locking portion to the releasing position is prevented when the cover portion is closed and by moving to a second position where the movement of the locking portion to the releasing position is permitted when the cover portion is opened.

0) ES2364224T – CARTUCHO DE TINTA INK (MACHINE TRANSLATION)

332) Family number: 46233894 (ES2364224T) © PatBase

Title: CARTUCHO DE TINTA INK (Machine translation)

Priority: JP20020341826 20021126

Family:

Publication number	Publication date	Application number	Application date
ES2364224 T3	20110829	ES20090010874T	20030905
TH21728 B	20070411	TH20031003233	20030829
TH65118 A	20041124	TH20031003233	20030829

Assignee(s):(std)**:** SEIKO EPSON CORP

Inventor(s):(std)**:** AOKI KAZUAKI ; HARADA KAZUMASA ; HASHII KAZUHIRO ; SAKAI YASUTO ; SHINADA SATOSHI

International class (IPC 8–9): B41J2/175 (Advanced/Invention); B41J2/175 (Core/Invention)

International class (IPC 1–7): B41J2/175

Classification Explorer

Abstract:
Source: ES2364224T Un cartucho de tinta adaptado para insertarse en un aparato de grabacion, comprendiendo el cartucho de tinta: una pared superior, una pared inferior (3; 103), una pared delantera (7; 107) que se cruza con la pared inferior, una pared trasera (8; 108) que se cruza con la pared inferior y orientada hacia la pared delantera, un primer lado y un segundo lado orientado hacia el primer lado, en el que una distancia entre el primer y segundo lado define el grosor del cartucho de tinta; un puerto de suministro de tinta (4; 104) dispuesto sobre la pared inferior en una posicion desplazada mas cerca de la pared delantera que de la pared trasera; una primera parte proyectora (12; 112) localizada mas ceca de la pared inferior que de la pared superior; una placa base (15, 115) fijada sobre la primer parte proyectora y siendo paralela a la pared trasera; una pluralidad de electrodos (14; 114) formados sobre la placa base; una unidad de memoria (18) conectada al manos a algunos de la pluralidad de electrodos y montada sobre la placa base; y en la que la primera parte proyectora tiene superficies laterales planas (12b, c; 112a, b) que se proyectan desde la pared trasera y que son paralelas al primer y segundo lado, caracterizada porque la primera parte proyectora esta dispuesta sobre la pared trasera y la distancia entre las superficies laterales planas en la direccion del grosor es mas pequena que el grosor del cartucho de tinta, de manera que las superficies laterales planas estan localizadas cercanas al respectivo extremo de la placa base en la direccion del grosor del cartucho de tinta, y una de las superficies laterales planas esta sustancialmente alineada con el primer lado.

Machine translation: An ink cartridge adapted to be inserted in a recording apparatus, the ink cartridge comprising: a top wall, a bottom wall (3, 103), a front wall (7, 107) which intersects with the wall bottom, a rear wall (8, 108) which intersects with the bottom wall and facing the front wall, a first side and a second side facing the first side, wherein a distance between the first and second sides defines the thickness of the ink cartridge, an ink supply port (4; 104) disposed on the bottom wall at a position displaced closer to the front wall of the rear wall, a first projecting part (12, 112) located more mint the bottom wall of the upper wall, a base plate (15, 115) fixed on the first projecting portion and being parallel to the rear wall, a plurality of electrodes (14, 114) formed on the base plate, a unit memory (18) connected to the hands to some of the plurality of electrodes mounted on the base plate, and wherein the first projecting part having flat side surfaces (12b, c, 112a, b) projecting from the rear wall and which are parallel to the first and second side, wherein the first projecting portion is disposed on the rear wall and the distance between the flat side surfaces in the direction of thickness is smaller than the thickness of the ink cartridge, so that the surfaces flat side are located near the respective end of the base plate in the direction of thickness of the ink cartridge, and a planar side surfaces is substantially aligned with the first side.

0) US2008107445A – IMAGE FORMING APPARATUS

333) Family number: 41785563 (US2008107445A) © PatBase

Title: IMAGE FORMING APPARATUS

Priority: JP20060301455 20061107

Family:

Publication number	Publication date	Application number	Application date
CN101178555 A	20080514	CN200710169806	20071107
CN101178555 B	20100728	CN200710169806	20071107
JP2008116798 A2	20080522	JP20060301455	20061107
JP4928226 B2	20120509	JP20060301455	20061107
US2008107445 AA	20080508	US20070931712	20071031
US7609996 BB	20091027	US20070931712	20071031

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK

Assignee(s): CANON INC ; CANON K K ; CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** YAMAGUCHI YOSHIMASU ; YOSHIMASU YAMAGUCHI

Agent(s): FITZPATRICK CELLA HARPER AND SCINTO

International class (IPC 8–9): G03G15/00 G03G21/16 G03G21/18 (Advanced/Invention); G03G21/16 G03G21/18 (Core/Invention)

CPC: G03G21/1853 G03G21/1864 G03G2215/0119

European class: G03G21/18H1V G03G21/18H2P S03G215/01P3

US class: 399/111

Classification Explorer

Cited documents: US7187996 BB, US7187886 BB, US6453135 BA, US5828929 A, US5508795 A, US2006159486 AA, US2006127129 AA, US2006067733 AA, US2006045566 AA, JP200658649, JP2006119219 A2, JP2006119219, JP2006098492 A2, JP2006058649 A2, JP2005164986 A2, JP2005164986, JP2005141057 A2, JP2005141057, JP2001188437 A2, JP2001188437, JP2001142378 A2, JP2001142378, JP2001109358 A2, JP2001109358, JP2000181329 A2, JP2000181329, JP11231591 A2, JP11231591, JP11174940 A2, JP0637851 U,

Forward Citations: US9370130, US9342042, US9098056, US8358923, US8170407, US2011097070, JP5807449, JP2013047718, JP2011095548, CN102791099,

Abstract:
Source: US2008107445A An image forming apparatus comprises: an image forming unit which has an image bearing member and which is detachably attachable to the image forming apparatus; a guide section for guiding an insertion operation of the image forming unit; a movable locking member for locking the attached image forming unit from moving along a guide direction; a moving member which moves when the moving member comes into contact with the image forming unit which is guided and inserted by the guide section; and a locking member moving portion which starts moving the locking member when a moving amount of the moving member becomes great.

0) JP6149047A – TONER FEEDING DEVICE FOR TONER CARTRIDGE

334) Family number: 11251346 (JP6149047A) © PatBase

Title: TONER FEEDING DEVICE FOR TONER CARTRIDGE

Priority: JP19920299625 19921110

Family:

Publication number	Publication date	Application number	Application date
JP6149047 A2	19940527	JP19920299625	19921110

Probable Assignee: FUJI XEROX CO LTD

Assignee(s):(std)**:** FUJI XEROX CO LTD

Inventor(s):(std)**:** CHIBA SATOSHI ; KAWAGUCHI MASATAKE ; KOMIYA SATORU

International class (IPC 8–9)**:** G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)

International class (IPC 1–7)**:** G03G15/08

Classification Explorer

Forward Citations: USRE45513, USRE42312, USRE41779, USRE40058, USRE40021, US8396398, US8244163, US8160461, US8126375, US8121525, US8068770, US8050597, US7991334, US7962069, US7917055, US7894753, US7853184, US7853183, US7840167, US7835675, US7826777, US7822371, US7796914, US7747202, US7720417, US7706699, US7702262, US7676186, US7400848, TWI332606, JP9106159, JP4672889, JP3907300, JP3339272, JP3285573, JP2010020343, JP2002268357, JP2001228693, JP11223990, EP1408378,

Abstract:
Source: JP6149047A PURPOSE: To prevent toner from dripping down from the vicinity of a toner feeding opening when the toner cartridge 3 is detached by having a shutter provided on the toner feeding opening of the toner cartridge open and close linked with the attachment to and detachment from a holder of a toner box of the toner cartridge. CONSTITUTION: This is the toner feeding device for the toner cartridge where the toner cartridge 3 provided with the toner feeding opening 6 on its periphery in the edge part in the longitudinal direction and the shutter 7 which is provided on this toner feeding opening 6 and can be opened or closed by being slid in the longitudinal direction is loaded in the longitudinal direction to be attachable to the holder part 4 of the toner box 1 which can be rotated through a hinge where a supporting axis is made vertical in a copying machine main body 2. Furthermore, it is constituted by having a hook 8 and a stopper 9 opening and closing the shutter 7 by being abutted to the shutter 7 by the attachment action of the toner cartridge 3 to the holder 4 of the toner box 1.

0) US2004107850A – ATTACHABLE WALL OR SURFACE PUSH BUTTON MARKING ...

335) Family number: 30650549 (US2004107850A) © PatBase

Title:	ATTACHABLE WALL OR SURFACE PUSH BUTTON MARKING DEVICE
Priority:	US20020315256 20021210

Family:

Publication number	Publication date	Application number	Application date
US2004107850 AA	20040610	US20020315256	20021210

Probable Assignee:	HUGHES ANTHONY SHANE
Assignee(s):(std)**:**	HUGHES ANTHONY SHANE
Inventor(s):(std)**:**	HUGHES ANTHONY SHANE
International class (IPC 8–9)**:**	B41F31/00 B41K1/02 B41K1/38 (Advanced/Invention); B41F31/00 B41K1/00 (Core/Invention)
International class (IPC 1–7)**:**	B41F31/00 B41K1/38
CPC:	B41K1/02
European class:	B41K1/02
US class:	101/327

Classification Explorer

Cited documents:	US5317253 A, US4700489 A, US2600857 A, US2002135347 AA,
Forward Citations:	WO12107922, US7278223, US7212014, US2005200368,

Abstract:
Source: US2004107850A A marking assembly for use with any stud sensor or a surface of other objects, which the person wishes to make a mark on. In the assembly embodiment, an upper and lower housing which houses two wire wound springs, two plastic pivot levers, two plastic link levers, a cartridge holder which is used to hold either and ink cartridge which can be washable ink or permanent ink or it can hold a chalk, toner, or powdered lead cartridge which is refillable by the user. Located on the outside of the upper housing is a button which is connected to a metal clock spring also to be located on the upper housing at which all are connected to the upper housing by metal pins running through aligned holes in the button, the upper housing, and the two plastic push levers which were mentioned above. The assembly also has a plastic cap which fits onto the top top and that us used to cover the cartridge holder and all or the inside components.

0) DE3428016A1 – DEFLECTING ARRANGEMENT ABLENKANORDNUNG

336) Family number: 4708861 (DE3428016A1) © PatBase

Title: Deflecting arrangement

Priority: DE19843428016 19840728 DE19853504928 19850213 DE19853506619 19850226

Family:

Publication number	Publication date	Application number	Application date
DE3428016 A1	19860424	DE19843428016	19840728
DE3504928 A1	19871112	DE19853504928	19850213
DE3506619 A1	19870115	DE19853506619	19850226

Probable Assignee: KOLLER ROMAN

Assignee(s):(std)**:** KOLLER ROMAN

Inventor(s):(std)**:** KOLLER ROMAN

International class (IPC 8–9)**:** A47F3/08 H04N1/16 (Advanced/Invention); A47F3/00 H04N1/12 (Core/Invention)

International class (IPC 1–7)**:** A47F3/08 G02B26/10 H04N1/04 H04N1/29

CPC: H04N1/16 A47F3/08

European class: A47F3/08 H04N1/16

Classification Explorer

Cited documents: DE1946203, AT134532 B,

Forward Citations: WO03084372, DE10215562, DE10215562, DE102005048500,

Abstract:
Source: DE3428016A1 The invention relates to a deflecting arrangement for scanning, display and printing devices. The characteristic feature is the coincidence evaluation of the agreement between a helical line, whose points describe a rotating cylinder wall, and a selection line extending along this cylinder wall. In a special embodiment, this line is a point (for application as a length–measuring system) or a surface for application as a scanning system for relief images. The following exemplary embodiments are described in the present invention: electronic image scanning and generation suitable for very high pixel frequency, using the electrostatic and optoelectronic principle; capacitive scanning arrangements suitable for stored preserves and relief images, in particular coins; special advancing system, especially for comparing images (banknotes and signatures). A special arrangement for scanning fractions of pF is likewise described, as well as an arrangement for image correction in automatic copiers. Special applications of the invention are, in addition, phase–angle sensors which can be coded by a capacitive pattern or by a resistance track in accordance with an arbitrary function.

0) US5402207A – LONG–LIFE AND IMPROVED PHOTORECEPTOR DRUM GEAR ...

337) Family number: 11847904 (US5402207A) © PatBase

Title: Long–life and improved photoreceptor drum gear

Priority: US19930175568 19931230

Family:

Publication number	Publication date	Application number	Application date
US5402207 A	19950328	US19930175568	19931230

Probable Assignee: MICHLIN STEVEN B

Assignee(s): MICHLIN STEVEN B

Inventor(s):(std)**:** MICHLIN STEVEN B

International class (IPC 8–9): G03G15/00 (Advanced/Invention)

International class (IPC 1–7): G03G15/00 G03G21/00

CPC: G03G15/751 G03G15/757

European class: G03G15/75B G03G15/75F

US class: 355/200 399/117

Classification Explorer

Cited documents: US5142322 A, US5132728 A, US5019861 A, US4975744 A, US4951599 A, US4839690 A,

Forward Citations: US9612573, US9046860, US8977160, US8818241, US8725042, US8472841, US8244163, US8050597, US7747189, US7664426, US7330680, US6501927, US6501926, US6490426, US6336018, US6266503, US6240266, US6226478, US6104896, US5899603, US5752136, US5749028, US5669046, US5655182, US5634175, US5537189, US5536218, US2017003640, US2014061178, US2013170871, US2013064573, US2011229199, US2011211863, US2010189470, US2009162093, US2008124133, US2007009286, US2006227387, US2006159485, US2004190937, GB2397136, EP2657777, EP2230556,

Abstract:
Source: US5402207A In one embodiment of the invention, the bore in the plastic bushing of a plastic gear attached to a photoreceptor drum in a toner cartridge is enlarged. A metal bushing is inserted within the plastic bushing and allows the gear to rotate around the drum shaft without wearing as quickly. The metal bushing, by pressing against the metal spring–clip contact, ensures the electrical ground connection between the drum and stationary drum shaft. In a second embodiment, the entire gear is manufactured from metal. A conductive joining material, metal prongs, or knurls on the outer surface of the metal bushing contact or scratch into the inner wall of the drum and provide the electrical ground connection between the inner wall of the photoreceptor drum and the drum shaft. On the nonconductive gear side of the drum, the hole in the cartridge wall which receives the gear shaft is lined with a bushing to prevent wear. A gear aligner device which extends into the gear shaft may be alternatively used at this location to align the gear correctly and prevent deforming of the hole in the cartridge wall.

0) US4775781A – COUNTER RESET ARRANGEMENT

338) Family number: 22358854 (US4775781A) © PatBase

Title: Counter reset arrangement

Priority: JP19860112972 19860516 JP19860130615 19860604

Family:

Publication number	Publication date	Application number	Application date
DE3715709 A1	19871119	DE19873715709	19870512
DE3715709 C2	19910214	DE19873715709	19870512
GB2191149 A1	19871209	GB19870010707	19870506
GB2191149 B2	19901219	GB19870010707	19870506
GB8710707 A0	19870610	GB19870010707	19870506
JP1889709 C3	19941207	JP19860130615	19860604
JP1907762 C3	19950224	JP19860112972	19860516
JP6014203 B4	19940223	JP19860130615	19860604
JP6025879 B4	19940406	JP19860112972	19860516
JP62269188 A2	19871121	JP19860112972	19860516
JP62286068 A2	19871211	JP19860130615	19860604
US4775781 A	19881004	US19870049160	19870513

Probable Assignee: SHARP KK

Assignee(s):(std)**:** SHARP KK

Assignee(s): SHARP CORP ; SHARP K K ; SHARP K K OSAKA JP ; SHARP KABUSHIKI KAISHA

Inventor(s):(std)**:** FUKUNAGA TAKAHIRO ; YOSHIURA SHOICHIRO

Inventor(s): YOSHIURA SHOICHIRO YAMATOKORIYAMA NARA JP ; FUKUNAGA TAKAHIRO NARA JP ; SHOICHIRO YOSHIURA ; TAKAHIRO FUKUNAGA

International class (IPC 8–9): G03G15/00 G03G21/00 G03G21/02 G03G21/18 G06M1/28 G06M3/02 (Advanced/Invention); G03G15/00 G03G21/00 G03G21/02 G03G21/18 G06M1/00 G06M3/00 (Core/Invention)

International class (IPC 1–7): G03G15/00 G03G21/00 G06M3/02

CPC: G03G21/1875 G03G2221/1651 G03G2221/1663 G03G2221/183

European class: G03G21/18L S03G221/16K S03G221/16L S03G221/18P

US class: 235/144E 355/14CU 399/111

Classification Explorer

Cited documents: US4585327 A, JP62079250 U1, JP62079250 U, JP61112972 A2, JP60159469 U1, JP60159469 U, JP60136757 A2, JP59176059 U1, JP59176059 U, DE3417664 A1,

Forward Citations: US5001733, JP5703606, JP2012008483, EP0349003, DE4221843, DE4010089,

Abstract:
Source: US4775781A A counter reset arrangement employed in an image forming apparatus such as a photocopier which is provided with a cartridge removably mounted in a main body of the apparatus and internally accommodating at least a photoreceptor and a cleaning unit integrally, and a resettable counter securely mounted in the main body of the apparatus to detect a remaining service life of the cartridge. The counter reset arrangement includes a reset member movably disposed in the cartridge and having a first protruding portion pressed against at a first position when mounting the cartridge, by a cabinet provided in the apparatus and a second protruding portion formed to press against a reset pin disposed on the counter to reset it. The counter reset arrangement further includes a first plate−like member disposed inside the cartridge to bias the reset member towards its second position where the first protruding portion is kept out of contact with the cabinet, so that the reset member is shifted to its second position after the counter has been reset by the second protruding portion through movement of the reset member caused by the cabinet and a second plate−like member also disposed inside the cartridge to bias the reset member against the first plate−like member towards its first position so that the reset member can be returned to the first position.

0) US2014294439A – IMAGE FORMING DEVICE INCLUDING MECHANISM FOR MO...

339) Family number: 57486541 (US2014294439A) © PatBase

Title: IMAGE FORMING DEVICE INCLUDING MECHANISM FOR MOVING DEVELOPER CARTRIDGE

Priority: JP20130069296 20130328

Family:

Publication number	Publication date	Application number	Application date
JP2014191314 A2	20141006	JP20130069296	20130328
JP5920269 B2	20160518	JP20130069296	20130328
US2014294439 AA	20141002	US20140225747	20140326
US9122233 BB	20150901	US20140225747	20140326

Probable Assignee: BROTHER IND LTD

Assignee(s):(std)**:** BROTHER IND LTD ; KAWAHARA EIJI

Assignee(s): BROTHER KOGYO KK

Inventor(s):(std)**:** KAWAHARA EIJI ; KAWAHARA HIDEFUMI

Agent(s): BANNER AND WITCOFF LTD

International class(IPC 8–9)**:** G03G15/01 G03G15/08 G03G21/16 G03G21/18 (Advanced/Invention)

CPC: G03G21/1676 G03G21/1623 G03G2221/1684

US class: 1/1 399/119

Classification Explorer

Cited documents: US8311451 BB, US8204405 BB, US2013022369 AA, US2012237256 AA, US2010021203 AA, US2009123191 AA, JP2012194395 A2, JP201072307, JP2010072307 A2, JP2010026299 A2, JP2009116282 A2, JP2009116282,

Forward Citations: US9395682, US2015277357,

Abstract:
Source: US2014294439A An image forming device includes a main body, a plurality of developer cartridges, a drawer, and an ejecting mechanism. The drawer is movable relative to the main body. The plurality of developer cartridges are juxtaposed in a predetermined direction and detachably attached to the drawer. Each developer cartridge includes a developing roller whose rotational axis extends in an axial direction orthogonal to the predetermined direction. The ejecting mechanism moves at least one developer cartridge from an attached position in a moving direction relative to the drawer. The moving direction intersects the predetermined direction and is orthogonal to the axial direction. The ejecting mechanism includes an operating part and an actuating part. The actuating part moves the at least one developer cartridge from the attached position in the moving direction in response to the operating part receiving an operating force.

0) US5937238A – SLOTTED CLIP FOR USE IN THE REASSEMBLY OF PRINT...

340) Family number: 11670888 (US5937238A) © PatBase

Title:	Slotted clip for use in the reassembly of printer toner cartridges
Priority:	US19960032351P 19961204 US19970984341 19971203

Family:

Publication number	Publication date	Application number	Application date
US5937238 A	19990810	US19970984341	19971203

Probable Assignee:	NASHUA CORP
Assignee(s):(std):	NASHUA CORP
Assignee(s):	BANK OF AMERICA NA ; BANK OF NEW YORK MELLON ; CENVEO CORP
Inventor(s):(std):	JEAN JR JOSEPH ; PELLETIER THOMAS ; TREMBLAY ROGER
International class (IPC 8–9):	G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)
International class (IPC 1–7):	G03G15/00
CPC:	G03G15/0894 G03G2215/00987
European class:	G03G15/08R S03G215/00R
US class:	399/109
Classification Explorer	
Cited documents:	US5531846 A, US5525183 A, US5267003 A,
Forward Citations:	WO07143954, WO03077039, WO03077039, US8611781, US7831171, US6952544, US6934488, US6801734, US6788908, US6754460, US6240605, US2012033990, US2009245856, US2008003013, US2005008392, US2004131382, US2003170045, EP1220050, EP1220050,

Abstract:
Source: US5937238A Methods of recycling printer cartridges use special rail–type clips for reassembly of complementary halves of a printer cartridge, the clips comprising cutouts or gaps spaced along the length thereof which accommodate protrusions near the edges being joined. The invention allows for recovering these cartridges and avoiding the cost of discarding a fairly costly machine element while additionally avoiding the processing costs for rendering the cartridge into inert, non–polluting waste.

0) US2002127028A – IMAGE FORMING APPARATUS

341) Family number: 28296994 (US2002127028A) © PatBase

Title: IMAGE FORMING APPARATUS

Priority: EP20020004938 20020305 JP20010061400 20010306

Family:

Publication number	Publication date	Application number	Application date
CN1172220 C	20041020	CN20021006840	20020306
CN1374568 A	20021016	CN20021006840	20020306
DE60240182 D1	20110714	DE20026040182	20020305
EP1239336 A2	20020911	EP20020004938	20020305
EP1239336 A3	20060405	EP20020004938	20020305
EP1239336 B1	20110601	EP20020004938	20020305
JP2002258565 A2	20020911	JP20010061400	20010306
US2002127028 AA	20020912	US20020084429	20020228
US6757504 BB	20040629	US20020084429	20020228

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANNON K K ; CANNON KK ; CANON KK

Assignee(s): CANON INC ; CANON K K ; CANON KABUSHIKI KAISHA ; CANON KABUSHIKI KAISHA AB

Inventor(s):(std)**:** AMANO KIYOSHI ; KIYOSHI AMANO

Inventor(s): AMANO KIYOSHI C O CANON KABUSHIKI KAISHA

Agent(s): TBK

Designated states: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR

International class (IPC 8–9): G03G15/00 G03G21/00 G03G21/16 H05K5/03 (Advanced/Invention); G03G15/00 G03G21/00 G03G21/16 H05K5/03 (Core/Invention)

International class (IPC 1–7): G03G15/00 G03G15/02 G03G21/00 G03G21/16 H05K5/03

CPC: G03G21/1633 G03G15/5004 G03G2221/166 G03G2221/169 G03G2221/183

European class: G03G15/50B G03G21/16 S03G221/16K3 S03G221/16S4 S03G221/18P

US class: 399/107 399/107S 399/88 399/88P 399/90

Classification Explorer

Cited documents: US6032004 A, US5657132 A, JPS63267958, JPS63168445 U, JP9167536 A2, JP8152756 A2, JP7299928 A2, JP63267958 A2, JP63168445 U1, JP4132289 A2, JP2002023438 A2, JP2000137419 A2,

Forward Citations: US8303057, US7961206, US7734211, US7511238, US7333745, US7004397, US6885835, US2009113805, US2008158602, US2007229570, US2007003310, US2005031368, US2004105695, US2003201323, KR101085921, JP2006154552, CN104090473, CN102849480, CN102849480, CN102779372, CN102779372, CN102207701, CN102207701,

Abstract:
Source: US2002127028A The image forming apparatus has an interface portion for processing image information, power supply device for supplying power to the interface portion, an opening/closing member capable of opening or closing relative to a main body of the apparatus, and a cover capable of opening the interface portion. In the image forming apparatus, supply of the power from the power supply device to the interface portion is interrupted in an open state of the opening/closing member, and opening of the cover is prohibited in a close state of the opening/closing member.

0) JP7044006A – TONER CARTRIDGE

342) Family number: 11947415 (JP7044006A) © PatBase

Title: TONER CARTRIDGE

Priority: JP19930208819 19930731

Family:

Publication number	Publication date	Application number	Application date
JP7044006 A2	19950214	JP19930208819	19930731

Probable Assignee: KAO CORP

Assignee(s):(std)**:** KAO CORP

Inventor(s):(std)**:** NISHIKAWA HIDEYO ; YASUDA SHINICHIRO

International class (IPC 8–9)**:** G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)

International class (IPC 1–7)**:** G03G15/08

Classification Explorer

Forward Citations: WO14038495, WO13012086, WO13008953, US9665040, US9599930, US9529304, US9494890, US9405224, US9304439, US9201393, US2014072347, JP6116162, JP6066841, JP5420026, JP2014067002, JP2014052570, JP2014032427, JP2014032426, JP2014032425, JP2013114027, JP2013114026, JP2013037347, JP2013037345, JP2009282259, CN103688224, CN103676556, CN103649847,

Abstract:
Source: JP7044006A PURPOSE:To unseal a toner cartridge without necessitating complicated constitution nor troublesome unsealing action and without scattering toner, to simplify and miniaturize structure by opening a toner discharge port by separating the opposed inner surfaces of a toner container itself. CONSTITUTION:The toner discharge port where the inner surfaces 2a and 2b of the toner container 2 are mutually bonded is arranged above toner supply port 20. The hook 3b of an unsealing member 3 is hooked on a hook 23 attached to a side wall being the fixed side of a housing chamber 21, and the hook 4b of the other unsealing member 4 is hooked on a hook 25 attached to the opening/closing door 24 of the housing chamber 21. Next, the opening/closing door 24 of the housing chamber 21 is rotated with a hinge shaft 24a as center and closed. Since a space between both hooks 23 and 25 attached to the housing chamber 21 is extended, both unsealing members 3 and 4 are drawn apart from each other and the inner surfaces 2a and 2b of the container 2 are mutually separated, the toner discharge port is opened and the toner 5 in the container 2 is supplied to a developing device from the toner supply port 20.

0) JP8123179A – DEVELOPING DEVICE PROVIDED WITH TONER CONTAINER...

343) Family number: 13450467 (JP8123179A) © PatBase

Title: DEVELOPING DEVICE PROVIDED WITH TONER CONTAINER OF SCATTERING PREVENTION AND CLEANING TYPE

Priority: JP19940287560 19941027

Family:

Publication number	Publication date	Application number	Application date
JP8123179 A2	19960517	JP19940287560	19941027

Probable Assignee: RICOH KK

Assignee(s):(std)**:** RICOH KK

Assignee(s): ROCOH COMPANY LTD ; RICOH CO LTD

Inventor(s):(std)**:** YOSHIZAWA HIDEO

International class (IPC 8–9): G03G15/00 G03G15/08 G03G21/10 (Advanced/Invention); G03G15/00 G03G15/08 G03G21/10 (Core/Invention)

International class (IPC 1–7): G03G15/00 G03G15/08 G03G21/10

Classification Explorer

Forward Citations: JP2014041256,

Abstract:
Source: JP8123179A PURPOSE: To improve the operability, to save the space, to prevent the toner from scattering at the time of attaching/detaching a toner cartridge and to enable cleaning the toner cartridge. CONSTITUTION: The toner container 1 disposed in the developing device is consisting of the toner cartridge 2 for pack–containing the toner and the toner hopper 3 for containing the toner in the toner cartridge 2, and the toner cartridge 2 is composed of such as the base material 14 in a flat plate shape and the toner bag 15. The toner cartridge 2 is guided by the guide part 39 on the top surface of the box shape hopper part 21 of the toner hopper 3, pinched in–between the pressure roller 22 and the the driven roller 23, and the toner bag 15 is cut–opened by the cutter 25. The cutter 25 is moved in either direction butting to or apart from the base material 14 by the turning of the base material 14 and the lever shape member 31 of the turning mechanism part 24. While, by the gear wheel 29 of the pressure roller 22 engaged with the caterpillar hole 18 of the base material 14, the cleaning roller 26 is rotated through the drive mechanism 27. The rear surface of the base material 14 and the toner bag 15 is cleaned by the cleaning roller 26.

0) US6219510B – CHARGING MEMBER EMPLOYING LAYERS FORMED WITH AQ...

344) Family number: 15029491 (US6219510B) © PatBase

Title: CHARGING MEMBER EMPLOYING LAYERS FORMED WITH AQUEOUS RESIN

Priority: JP19980062196 19980226 JP19990049132 19990225 JP19990049135 19990225

Family:

Publication number	Publication date	Application number	Application date
DE69919246 D1	20040916	DE19996019246	19990225
DE69919246 T2	20050825	DE19996019246T	19990225
EP0939348 A2	19990901	EP19990103688	19990225
EP0939348 A3	20001102	EP19990103688	19990225
EP0939348 B1	20040811	EP19990103688	19990225
JP11316486 A2	19991116	JP19990049132	19990225
JP11316487 A2	19991116	JP19990049135	19990225
US6219510 BA	20010417	US19990258295	19990226

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK

Assignee(s): CANON INC ; CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** ANDO ATSUTOSHI ; ONIMURA TADASHI ; SUNAHARA MASARU ; SUNAHARA SATOSHI ; SUWA KOICHI ; SUWA KOUICHI

Designated states: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

International class (IPC 8–9)**:** F16C13/00 G03G15/02 G03G15/16 (Advanced/Invention); F16C13/00 G03G15/02 G03G15/16 (Core/Invention)

International class (IPC 1–7)**:** F16C13/00 G03G15/02 G03G15/16

CPC: Y10T29/49563 G03G15/0233

European class: G03G15/02A1D

US class: 29/895.32 399/176

Classification Explorer

Cited documents: US6020054 A, US5822658 A, US5761581 A, US5576805 A, US5187849 A, US5089851 A, JP9146340, JP8272197 A2, JP8211699 A2, JP7209961 A2, JP7119733, JP10010834, EP0720069 A2,

Forward Citations: WO11074610, US9535354, US7341813, US6802123, US2009232564, US2009176637, US2004224245, US2003213126, JP2015184472, JP2008116639, JP2007001222, JP2002156824, EP1376245, EP1376245,

Abstract:
Source: US6219510B A charging member includes an electroconductive base for being supplied with a voltage; a first resin layer; a second resin layer; wherein said first and second resin layers are produced by applying and drying paint–like material including resin material dispersed in aqueous material.

0) US5041872A – IMAGE FORMING APPARATUS USING A PHOTOSENSITIVE ...

345) Family number: 29801686 (US5041872A) © PatBase

Title: IMAGE FORMING APPARATUS USING A PHOTOSENSITIVE DRUM SELECTIVELY PIVOTING WITH AN UPPER PART OF THE HOUSING

Priority: JP19880119480U 19880912 JP19880285888 19881114 JP19880285888U 19881114 JP19890069284 19890323 JP19890069284U 19890323 JP19890122863U 19890518 JP19890122863 19890518

Family:

Publication number	Publication date	Application number	Application date
JP2788285 B2	19980820	JP19890122863	19890518
JP3007960 A2	19910116	JP19890122863	19890518
US5041872 A	19910820	US19890403709	19890906

Probable Assignee: RICOH KK

Assignee(s):(std)**:** RICOH KK

Assignee(s): RIKOO KK ; RICOH CO LTD ; RICOH COMPANY LTD

Inventor(s):(std)**:** AOKI HIDEO ; NUKAYA YASUYUKI

International class (IPC 8–9): G03G15/00 G03G15/16 G03G21/00 G03G21/16 (Advanced/Invention); G03G15/00 G03G15/16 G03G21/00 G03G21/16 (Core/Invention)

International class (IPC 1–7): G01D15/06 G03G15/00 G03G21/00 G03G21/16 H04N1/23

CPC: G03G21/1647 G03G21/1628 G03G2221/1606 G03G2221/1651 G03G2221/1654 G03G2221/1684 G03G2221/1687

European class: G03G21/16 S03G221/16B S03G221/16K S03G221/16K1 S03G221/16S2 S03G221/16S3 S03G221/18B

US class: 346/160.1 347/138 355/200 355/210 358/300 399/107 399/110

Classification Explorer

Cited documents: US4873548 A, US4862212 A, US4796037 A, US4760424 A, US4702587 A, US4642661 A, US4634264 A, US4588280 A, US4575221 A, US4386841 A, JPS62238582, JPS6095552, JPS6048067, JPS60217371, JPS60140264, JPS60104958, JPS59127073, JP62238582 A2, JP60217371 A2, JP60140264 A2, JP60104958 A2, JP60095552 A2, JP60048067 A2, JP59127073 A2,

Forward Citations: WO0103939, US9285760, US9213302, US8953978, US8608394, US8521064, US8095039, US7704001, US7643772, US7424249, US7382999, US7349648, US7162182, US7136609, US7065311, US7006776, US6571073, US6547288, US6456365, US6084622, US5930564, US5845110, US5828928, US5802427, US5787326, US5678139, US5587769, US5548379, US5528342, US5452098, US5418601, US5406807, US5323210, US5262824, US5155506, US5126789, US2014376959, US2013164025, US2012263498, US2011123246, US2008240780, US2008199211, US2007147882, US2007065174, US2006104665, US2006072929, US2005207781, US2005207780, US2004190934, US2002181969, US2002150404, JP8006335, JP3023402, JP2007065125, FR2796001, EP1218200, EP0877305, EP0877305, EP0689106, EP0689106, EP0622699, EP0622699, EP0533484, DE4434535, DE4220732,

Abstract:
Source: US5041872A The photosensitive drum unit of an image forming apparatus is selectively coupled to the upper cover. The user can elect to have the drum unit pivot up with the upper cover or stay in the main housing independently of movement of the upper cover. The same operation that controls whether the drum unit moves with the upper cover can control whether a kit holder stays in place in the main housing or pivots up to make it easier to change kit components such as a toner container.

346) Family number: 13885564 (US6285836B) © PatBase

Title: Process cartridge and process cartridge identification mechanism

Priority: JP19990131726 19990512

Family:

Publication number	Publication date	Application number	Application date
JP2000321837 A2	20001124	JP19990131726	19990512
US6285836 BA	20010904	US20000520192	20000307

Probable Assignee: FUJI XEROX CO LTD

Assignee(s):(std): FUJI XEROX CO LTD

Assignee(s): FUJI XEROX CO

Inventor(s):(std): KUBOTA YASUHIKO

International class (IPC 8–9): G03G15/00 G03G21/18 (Advanced/Invention); G03G15/00 G03G21/18 (Core/Invention)

International class (IPC 1–7): G03G15/00

CPC: G03G21/1896

European class: G03G21/18L2

US class: 399/12

Classification Explorer

Cited documents: US5970273 A, US5761566 A, US5666586 A, US5075724 A, US4978995 A, US4963939 A, US4949123 A, US4803521 A, JP9185311 A2, JP8095468 A2, JP7152307 A2,

Forward Citations: WO14051156, US7466931, US7212750, US2017060083, US2006269299, US2005105922, KR20150058418, KR101721978, JP4524694, JP2009075274,

Abstract:
Source: US6285836B The low–cost, space–saving process cartridge identification mechanism identifies many types of process cartridge without requiring a new electrical logic circuit. Even if a pressing piece goes into a detection portion, switches are not turned on and hence a mounted process cartridge is not detected as long as the pressing piece does not push down a manipulation lever. Identification pieces are provided in an identification unit separately from the pressing piece. In this manner, a mechanism for mechanically identifying a process cartridge based on whether the identification pieces are interfered with by the interference pieces irrespective of turning–on/off of the switches. As a result, by combining combinations of the pressing piece and the manipulation lever and combinations of the identification piece and the interference piece, many combinations of an image forming apparatus and a process cartridge can be obtained at a low cost with space saving without requiring a new electrical logic circuit.

0) US5018560A – DEVELOPER SUPPLYING STRUCTURE FOR A DEVELOPING ...

347) Family number: 17031923 (US5018560A) © PatBase

Title: DEVELOPER SUPPLYING STRUCTURE FOR A DEVELOPING DEVICE

Priority: JP19890013789U 19890207

Family:

Publication number	Publication date	Application number	Application date
JP2102733 Y	19970224	JP19890013789U	19890207
JP2104366 U1	19900820	JP19890013789U	19890207
JP7020681 Y2	19950515	JP19890013789U	19890207
US5018560 A	19910528	US19900473839	19900201

Probable Assignee: SHARP KK

Assignee(s):(std)**:** SHARP KK

Assignee(s): SHARP KABUSHIKI KAISHA

Inventor(s):(std)**:** TSUKAMOTO KIMIHIDE

International class (IPC 8–9)**:** G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)

International class (IPC 1–7)**:** B65B1/04 G03G15/06 G03G15/08

CPC: G03G15/0882 G03G15/0875

European class: G03G15/08H3P

US class: 141/320 141/364 355/260 399/258

Classification Explorer

Cited documents: US4895104 A, US4799608 A, US4778086 A, US4650070 A, US4062385 A, JP63243978 A2, JP63125869 U1, JP63125869 U,

Forward Citations: US7409180, US6721525, US6668145, US6272298, US6144828, US5974286, US5729794, US5689773, US5520229, US5513679, US5475479, US5434656, US5425481, US5404212, US5351728, US5337125, US5249020, US5221945, US5207353, US5206619, US5177540, US5144992, US5142335, US5121845, US2006257172,

Abstract:
Source: US5018560A A developer supplying structure of a developing device includes a device body formed with an opening through which a developer is dispersed; a lid for the opening; a developer cartridge formed with an outlet corresponding to the opening of the device body, and detachably mounted on the device body; and a seal member folded in two portions in which one portion seals the opening of the developer cartridge and the other portion is left free as a flap; the seal member being torn off from the opening of the developer cartridge by pulling the flap; a sliding member provided between the two portions and sliding the lid interlocking with pulling the flap; and a pair of projections laterally formed in the lid and a pair of claws coming in contact with the projections and moving the lid in the direction to expose the opening of the device body.

348) Family number: 14609561 (JP4338990A) © PatBase

Title: ERRONEOUS MOUNTING PREVENTING MECHANISM FOR TONER CARTRIDGE

Priority: JP19910014452 19910205

Family:

Publication number	Publication date	Application number	Application date
JP4338990 A2	19921126	JP19910014452	19910205

Probable Assignee: KONISHIROKU PHOTO IND

Assignee(s):(std)**:** KONISHIROKU PHOTO IND

Assignee(s): KONICA CORP

Inventor(s):(std)**:** YOSHINO KIMIHIRO

International class (IPC 8–9): G03G15/01 G03G15/08 (Advanced/Invention); G03G15/01 G03G15/08 (Core/Invention)

International class (IPC 1–7): G03G15/01 G03G15/08

Classification Explorer

Forward Citations: US6778786, US5666586, KR20140146189, JP3389483, JP2013174652, JP2008292596, JP2008020617, JP11160977, EP1118042,

Abstract:
Source: JP4338990A PURPOSE: To prevent the erroneous setting of a toner cartridge to a toner replenishing hopper by identifying the toner cartridge at every toner colors and destinations without changing the shape of the toner cartridge. CONSTITUTION: All toner cartridges 10 are composed of common members, and a bar code 15 capable of identifying the toner cartridge at every toner colors and destinations, is attached to a flange 12. When the specified toner cartridge 10 is set to the toner replenishing hopper 3, a sensor 16 provided on the side of the hopper 3 reads the bar codes, and the match of the bar code 15 is detected, energizing of a solenoid 25 is attained and a hook 23 engaged with a hopper sliding cover 20 for clogging the replenishing port 3b of the side of the hopper 3 is removed. Then, the hopper sliding cover 20 and a sliding cover 13 are moved and the replenishing part 3b and the opening part 12c of the toner cartridge 10 are opened, to supply toner. When the different cartridge 10 is set, the erroneous setting is detected by the sensor 16, and the solenoid 25 is not energized, so that the hopper sliding cover 20 can not be moved and the erroneous setting is recognized.

349) Family number: 29243170 (US6175704B) © PatBase

Title: Electrophotographic printer using replaceable photosensitive belt cartridge

Priority: JP19980161498 19980527 JP19980172111 19980605

Family:

Publication number	Publication date	Application number	Application date
JP11352837 A2	19991224	JP19980172111	19980605
JP3022841 B2	20000321	JP19980172111	19980605
US6175704 BA	20010116	US19990318414	19990525

Probable Assignee: FUJI XEROX CO LTD

Assignee(s):(std)**:** NEC CORP ; NEC NIIGATA LTD

Assignee(s): FUJI XEROX CO LTD ; NEC A CORP OF JAPAN CORP

Inventor(s):(std)**:** YAMAMOTO KAZUOKI

International class (IPC 8–9)**:** G03G15/00 G03G21/00 G03G21/16 (Advanced/Invention); G03G21/00 G03G21/16 (Core/Invention)

International class (IPC 1–7)**:** G03G15/02 G03G21/00 G03G21/16

CPC: G03G15/754

European class: G03G15/75D

US class: 399/116 399/162

Classification Explorer

Cited documents: US6014535 A, US5978625 A, US5708924 A, US5417322 A, US5400121 A, US5243384 A, US5173733 A, US5034779 A, US4811839 A, US4766455 A, US4655578 A, US3888577 A, JP9281850 A2, JP9281848 A2, JP9281847 A2, JP8241014 A2, JP8231026 A2, JP8123294 A2, JP63148966 A2, JP61145567 A2, JP57064255 A2, JP55060979 A2, JP5257340 A2, JP5069769 A2, JP2234171 A2, JP2104372 A2, JP2066589 A2, JP1503338 T2, JP11237809 A2, JP11052815 A2, JP1038608 A2, JP1038607 A2, JP10143045 A2,

Forward Citations: US9651898, US8457521, US8452207, US7450883, US7336917, US7295794, US6640068, US6393236, US6374068, US2012033992, US2012033991, US2008118269, US2006204278, US2003231898, JP2005157356,

Abstract:
Source: US6175704B An electrophotographic printer performs printing using a photosensitive belt wound around a belt support member. A belt cartridge is used for installation and replacement (or removal) of the photosensitive belt. Herein, the belt cartridge is constructed by an inner case and an outer case, between which the photosensitive belt being installed is held. The inner case is used to support the photosensitive belt, while the outer case is used for dust protection and light shield for the photosensitive belt and is normally stored in a storage which is provided inside or outside of a main body of the printer. At a removal mode, the outer case is inserted into the main body to be fitted to the belt support member, wherein tension applied to the photosensitive belt wound around the belt support member is released. Then, the outer case is pulled out from the main body together with the photosensitive belt. At an installation mode, the belt cartridge is inserted into the main body, wherein the outer case is fitted to the belt support member together with the photosensitive belt while the inner case remains substantially outside of the main body by being interfered by the belt support member. Then, tension is applied to the photosensitive belt wound around the belt support member. Thereafter, only the outer case is pulled out from the main body while the photosensitive belt remains inside of the main body by being installed into the belt support member.

0) US2016317417A – TRANSFER MAKEUP PROCESS AND RELATED DEVICE

350) Family number: 59634421 (US2016317417A) © PatBase

Title: TRANSFER MAKEUP PROCESS AND RELATED DEVICE

Priority: FR20130063638 20131227 WO2014IB67136 20141119 WO2014IB67136 20141219

Family:

Publication number	Publication date	Application number	Application date
CN106029388 A	20161012	CN201480076052	20141219
EP3086946 A2	20161102	EP20140833255	20141219
FR3015927 A1	20150703	FR20130063638	20131227
JP2017501815 T2	20170119	JP20160543057T	20141219
KR20160103057 A	20160831	KR20167020054	20141219
US2016317417 AA	20161103	US20140108303	20141119
WO15097618 A2	20150702	WO2014IB67136	20141219
WO15097618 A3	20151112	WO2014IB67136	20141219

Probable Assignee: OREAL

Assignee(s):(std)**:** OREAL

Assignee(s): L OREAL

Inventor(s):(std)**:** GIRON FRANCK ; SAMAIN HENRI

Inventor(s): FRANCK GIRON ; HENRI SAMAIN

Agent(s): NONY; CABINET NONY; TANTY FRANCOIS

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9): A45D40/30 A45D44/02 A61K8/34 A61K8/46 A61K8/49 A61K8/60 A61Q19/04 B41J2/005 B41J2/01 B41J3/407 B41M1/26 C09D11/328 C09D11/40 (Advanced/Invention)

CPC: B41J2002/012 B41J3/407 B41J3/4073 A45D44/005 B41J2/01 A45D2044/007 A61K8/602 A61Q19/04 A61K8/345 A61K8/4913 A61K8/4946 A61K8/466 C09D11/40 C09D11/328 A45D40/30 A61K2800/87 A61K2800/43 B41J2/0057

US class: 132/200

Classification Explorer

Cited documents: WO03033270 A1, US6312124 BA, US2011141188 AA, US2010031834 AA, US2007144364 AA, FR2905630 A1,

Abstract:
Source: US2016317417A The present invention relates to a printer containing at least one cosmetic ink and designed to allow the formation of a coat of cosmetic ink on a non−flat transfer surface defined by a substrate and intended to transfer the coat of ink by contact onto human keratin materials.

0) JP61170760A – ATTACHING AND DETACHING MECHANISM OF TONER CART...

351) Family number: 8687627 (JP61170760A) © PatBase

Title: ATTACHING AND DETACHING MECHANISM OF TONER CARTRIDGE

Priority: JP19850011631 19850124

Family:

Publication number	Publication date	Application number	Application date
JP1965352 C3	19950825	JP19850011631	19850124
JP6095245 B4	19941124	JP19850011631	19850124
JP61170760 A2	19860801	JP19850011631	19850124

Probable Assignee: MITA INDUSTRIAL CO LTD

Assignee(s):(std)**:** MITA INDUSTRIAL CO LTD

Assignee(s): MITA IND CO LTD

Inventor(s):(std)**:** NIBU TORU

International class (IPC 8–9)**:** G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)

International class (IPC 1–7)**:** G03G15/08

CPC: G03G15/0875 G03G15/0855 G03G15/0865

European class: G03G15/08H3

Classification Explorer

Cited documents: JP59141345 U1, JP59141345 U1, JP59141345 U, JP59086073 A2, JP59086073, JP59057262 A2, JP59057262, JP59018967 A2, JP59018967, JP58162152 U1, JP58162151 U1, JP58162151 U, JP57082338 U1, JP57082338 U1, JP57082338 U, JP57038673 Y2, JP57038673 U1, JP57038673 U, JP57038673, JP56064043 U1, JP56064043 U1, JP56064043 U,

Forward Citations: US6215974, US5802435, US5610692, US5175588, US4870463, JP1110490, EP0702281, EP0470675, EP0418824, EP0285249,

Abstract:
Source: JP61170760A PURPOSE:To prevent a toner from scattering and leaking by constituting a titled mechanism so that the other end part of a toner cartridge is detached from a cartridge holding member and made to ascend by an energizing force of a lifting member, when the cartridge holding member has been moved against the energizing force. CONSTITUTION:When detaching a toner cartridge 12, a projecting part 142 of a slider 14 comes out of a window part 153 of a holding lever 15 by ringing an operating piece 152 of the holding lever 15 to a turning operation to the outside, also an engagement of a cartridge holding claw 151 with a projecting piece 121 is detached, and by an energizing force of a spring 17, which has been given to a slider 14, the other end part side of the toner cartridge 12 is brought to a jump operation upward instantaneously together with the slider 14. By this operation accompanied by a vibration, a toner adhering and remaining on the inside wall surface of the toner cartridge 12 is dropped into a toner hopper 9. In this way, when removing the toner cartridge 12, the toner is prevented from scattering and leaking to other part than the toner hopper 9.

0) FR2943945A – CARTOUCHE D'ENCRE ET APPAREIL D'ENREGISTREMENT ...

352) Family number: 47099436 (FR2943945A) © PatBase

Title: CARTOUCHE D'ENCRE ET APPAREIL D'ENREGISTREMENT INK CARTRIDGE AND RECORDING APPARATUS (Machine translation)

Priority: FR20050011415 20051109 FR20090054553 20090702 JP20020341826 20021126 JP20030076890 20030320 JP20030076891 20030320 JP20030128049 20030506 JP20030204804 20030731 US20030649806 20030826

Family:

Publication number	Publication date	Application number	Application date
FR2943945 A1	20101008	FR20090054553	20090702

Probable Assignee: SEIKO EPSON CORP

Assignee(s):(std)**:** SEIKO EPSON CORP

Inventor(s):(std)**:** AOKI KAZUAKI ; HARADA KAZUMASA ; HASHII KAZUHIRO ; SAKAI YASUTO ; SHINADA SATOSHI

Inventor(s): YASUTO SAKAI ; SATOSHI SHINADA ; KAZUAKI AOKI ; KAZUHIRO HASHII ; KAZUMASA HARADA

Agent(s): CABINET BEAU DE LOMENIE

International class (IPC 8–9): B41J2/175 (Advanced/Invention); B41J2/175 (Core/Invention)

CPC: B41J2/17503 B41J2/1752 B41J2/17526 B41J2/1753 B41J2/17546 B41J2/1755 B41J2/17553

European class: B41J2/175C B41J2/175C3 B41J2/175C4 B41J2/175C4A B41J2/175C7E B41J2/175C7M B41J2/175C8

Classification Explorer

Abstract:
Source: FR2943945A L'invention porte sur une cartouche d'encre (1) destinee a etre montee dans un appareil d'enregistrement jet d'encre. L'invention se caracterise en ce que la cartouche d'encre comprend: – une paroi de dessus, une paroi de dessous (3), une paroi avant (7), une paroi arriere (8); – un orifice d'amenee d'encre (4) situe dans la paroi de dessous, cet orifice d'amenee d'encre etant situe plus pres de la paroi avant que de la paroi arriere, ledit orifice d'amenee d'encre presentant un axe; – une partie saillante de positionnement (12) s'etendant depuis la paroi arriere tout en etant disposee plus pres de la paroi de dessous que de la paroi de dessus, la partie saillante de positionnement ayant une surface (13) qui est parallele a l'axe, la largeur de la partie saillante de positionnement etant inferieure a celle de la cartouche d'encre, et la partie saillante de positionnement (12) etant formee a un emplacement decale dans le sens de la largeur de la cartouche d'encre; – une plaque de circuit (15) fixee sur la surface (13) de la partie saillante de positionnement (12); et – une pluralite d'electrodes (14) formees sur la plaque de circuit (15). The invention provides an ink cartridge (1) be destiny has montee in an inkjet recording device. The invention is characterized in that the ink cartridge comprises: – a top wall, a bottom wall (3), a front wall (7), a rear wall (8); – an ink supply port (4) located in the bottom wall, the ink supply port being located closer to the front wall than the rear wall, said orifice FEED d Ink presenting an axis; – a positioning protrusion (12) extending from the rear wall while being disposed closer to the bottom wall than to the top wall, the projecting portion having a positioning surface (13) which is parallel to the axis, the width of the projecting part positioning is smaller than that of the ink cartridge, and the positioning protrusion (12) being formed at a location offset in the widthwise direction of the cartridge ink; – a circuit board (15) fixed on the surface (13) of the positioning protrusion (12); and – a plurality of electrodes (14) formed on the circuit board (15) .

0) CN2604708Y – POWDERED INK DRUM FOR DUPLICATOR

353) Family number: 30387173 (CN2604708Y) © PatBase

Title: Powdered ink drum for duplicator

Priority: CN20032029361U 20030312

Family:

Publication number	Publication date	Application number	Application date
CN2604708 Y	20040225	CN20032029361U	20030312

Probable Assignee: SHANGHAI YECHENG PLASTIC AND RUB

Assignee(s):(std)**:** SHANGHAI YECHENG PLASTIC AND RUB

Assignee(s): SHANGHAI YECHENG PLASTIC AND RUBBER PRODUCTS CO

Inventor(s):(std)**:** XU ZHIPING ; ZHU MINJIE

Inventor(s): MINJIE ZHU ; ZHIPING XU

International class (IPC 8–9): G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)

International class (IPC 1–7): G03G15/08

Classification Explorer

Abstract:
Source: CN2604708Y The utility model discloses a duplicating machine toner cartridge. The existing duplicating machine is provided with problems, for instance, bad toner dispersity and shake noise in the cartridge. The main characteristic of the utility model is that the duplicating machine toner cartridge comprises an end cover of a revolver, a cartridge whose end forms a fixed junction with the end cover, an agitator which is positioned in the cartridge and whose end forms a fixed conjunction with the revolver on the end cover, and a hand lever end cover forming a fixed conjunction with the other end of the cartridge. A bracket is positioned on the middle of the hand lever end cover, and a rubbing board is positioned between the bracket on the hand lever end cover and the other end of the agitator. One end of the rubbing board forms a fixed conjunction with the other end of the agitator, and the other end of the rubbing board forms a rotating conjunction with the bracket on the hand lever end cover. The duplicating machine toner cartridge of the utility model is characterized in good toner dispersity and quietness in working. So the duplicating machine toner cartridge is applicable for office.

354) Family number: 41848789 (US2008124117A) © PatBase

Title: PROCESS CARTRIDGE AND IMAGE FORMING APPARATUS FOR EFFECTIVELY CLEANING A CHARGING ROLLER

Priority: JP20060300700 20061106

Family:

Publication number	Publication date	Application number	Application date
CN101178573 A	20080514	CN200710185065	20071106
CN101178573 B	20100602	CN200710185065	20071106
JP2008116752 A2	20080522	JP20060300700	20061106
US2008124117 AA	20080529	US20070935106	20071105
US7949281 BB	20110524	US20070935106	20071105

Probable Assignee: RICOH CO LTD

Assignee(s):(std)**:** AMEMIYA KEN ; HOZUMI YOSHIKI ; MURAISHI TAKAYA ; ONO HIROSHI ; RICOH CO LTD ; SAMPE ATSUSHI ; SHINTANI TAKESHI ; RICOH KK

Assignee(s): RICOH COMPANY LIMITED ; RICOH K K ; RICOH COMPANY LTD

Inventor(s):(std)**:** AMAMIYA MASARU ; AMEMIYA KEN ; ATSUSHI SAMPE ; HIROSHI ONO ; HOZUMI KOUKI ; HOZUMI YOSHIKI ; KEN AMEMIYA ; MURAISHI TAKAYA ; ONO HIROSHI ; SAMPE ATSUSHI ; SANPEI ATSUSHI ; SHINTANI TAKASHI ; SHINTANI TAKESHI ; TAKAYA MURAISHI ; TAKESHI SHINTANI ; YOSHIKI HOZUMI

Agent(s): OBLON SPIVAK MCCLELLAND MAIER AND NEUSTADT PC; OBLON SPIVAK MCCLELLAND MAIER AND NEUSTADT LLP

International class (IPC 8–9): G03G15/02 G03G21/00 G03G21/18 (Advanced/Invention); G03G15/02 G03G21/00 (Core/Invention)

CPC: G03G15/0225

European class: G03G15/02A1C

US class: 399/100 399/100P

Classification Explorer

Cited documents: US7715750 BB, US7266324 BB, US7263308 BB, US7218877 BB, US7155146 BB, US7139504 BB, US7062194 BB, US6873809 BB, US6807390 BB, US6757505 BB, US6628912 BB, US6088551 A, US5978616 A, US5878317 A, US5678134 A, US5638158 A, US2007104513 AA, US2007059035 AA, US2006133834 AA, US2006115292 AA, US2006115286 AA, US2006078353 AA, US2006018680 AA, US2006008296 AA, US2005271420 AA, US2005191081 AA, US2005169663 AA, JP7281510 A2, JP2006017882 A2, JP2006003593 A2, JP2005227411 A2, JP2005221981 A2, JP2005070750 A2, JP2004102182 A2, JP2003280264 A2, JP2003066807 A2, JP2002196568 A2, JP11161126 A2,

Forward Citations: US8934808, US8682208, US8078075, US7894741, US7756439, US2010278553, US2010215388, US2010061744, US2009060554, US2008292354, JP2016014825, JP2013250442,

Abstract:
Source: US2008124117A An image forming apparatus includes a charging roller that continuously rotates and uniformly charges a photoconductor for forming an electrostatic latent image thereon, a cleaning roller that contacts a peripheral surface of the charging roller and cleans the charging roller while being driven by rotation of the charging roller, wherein a peripheral surface of the cleaning roller is formed of a melamine resin foam, and a cleaning roller shifting unit that causes the cleaning roller to contact the charging roller for a predetermined time at predetermined intervals of image formation while movably holding the cleaning roller.

0) JP2009115889A – TONER CARTRIDGE AND IMAGE FORMING DEVICE USING ...

355) Family number: 43397096 (JP2009115889A) © PatBase

Title: TONER CARTRIDGE AND IMAGE FORMING DEVICE USING THE SAME

Priority: JP20070285919 20071102

Family:

Publication number	Publication date	Application number	Application date
JP2009115889 A2	20090528	JP20070285919	20071102

Probable Assignee: SHARP KK

Assignee(s):(std)**:** SHARP KK

Assignee(s): SHARP CORP ; SHARP KABUSHIKI KAISHA

Inventor(s):(std)**:** KOYAMA KAZUYA ; TANIZAWA HIROSHI

Agent(s): MIYAO AKISHIGE; KANDA MASAYOSHI; FUJIMOTO EISUKE

International class (IPC 8–9): G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)

Classification Explorer

Forward Citations: JP4842356, JP2011064826,

Abstract:
Source: JP2009115889A PROBLEM TO BE SOLVED: To provide a toner cartridge separating the toner coagulated in the toner cartridge into particles and discharging the toner particles stably and to provide an image forming device using the same. SOLUTION: This toner cartridge 200 includes a toner storing part 201 and a toner discharge mechanism part 201a provided with a toner discharge port 204 and a toner conveyance screw 202 and can be attached or detached to/from a device provided with a toner supply pipe 105. The toner discharge mechanism part includes: a sealing member 207 for closing the toner discharge port 204, a seal removing lever 203b connected with the sealing member 207, and a conveyance shaft coupling 203 provided at a tip of a shaft of the toner conveyance screw 202, connected with one end part in the direction of axial line of the toner conveyance screw 202, and engaged with the seal removing lever 206b.

0) CN206162059U – DEVELOPING DEVICE AND AN IMAGE FORMING APPARATU...

356) Family number: 65673064 (CN206162059U) © PatBase

Title: Developing device and an image forming apparatus (Machine translation)

Priority: CN201621037708U 20160905

Family:

Publication number	Publication date	Application number	Application date
CN206162059 U	20170510	CN201621037708U	20160905

Probable Assignee: TOSHIBA CORP

Assignee(s):(std)**:** TOSHIBA CORP ; TOSHIBA TEC CORP

International class (IPC 8–9): G03G15/09 (Advanced/Invention)

Classification Explorer

Abstract:
Source: CN206162059U The utility model provides a developing device and an image forming apparatus, the developing device comprising: toner cartridge mounted on the developing device side; The toner cartridge, the toner stored in the toner cartridge toner supplement, comprising a closed box body, the box body is provided on the side of the toner discharged inside an opening, said opening is provided along the cartridge body sliding closing the opening of the shutter, the shutter sliding engagement with said opening on both sides of the inner surface of the shutter are provided with limiting movement of the locking lever portions; The unlocking portion, including setting on the toner cartridge and the toner cartridge opening corresponding to the side edges of the magnet, the magnet by a magnetic force the lock change lever portion of the locked state. In the utility model, regardless of the toner cartridge that the face, there is always a lock lever is in the locked state, only in the adsorption of the magnet will be lifted, therefore, can greatly improve the security of the toner cartridge.

0) JP5249820A – LOCKING MECHANISM FOR DRIVING PART OF TONER REP...

357) Family number: 10480991 (JP5249820A) © PatBase

Title: LOCKING MECHANISM FOR DRIVING PART OF TONER REPLENISHING CARTRIDGE

Priority: JP19920050114 19920309

Family:

Publication number	Publication date	Application number	Application date
JP3108503 B2	20001113	JP19920050114	19920309
JP5249820 A2	19930928	JP19920050114	19920309

Probable Assignee: RICOH KK

Assignee(s):(std): RICOH KK

Assignee(s): ROCOH COMPANY LTD ; RICOH CO LTD

Inventor(s):(std): ISHIKAWA KAZUMASA

International class (IPC 8–9): G03G15/08 G03G21/00 G03G21/10 (Advanced/Invention); G03G15/08 G03G21/00 G03G21/10 (Core/Invention)

International class (IPC 1–7): G03G15/08 G03G21/00

Classification Explorer

Forward Citations: US7062205, JP4898501, JP2010054823, JP2008003563, EP1434110,

Abstract:
Source: JP5249820A PURPOSE:To prevent toner leaking or toner clogging due to carrying operation of the toner by locking a toner carrying screw so as to stop its rotating before the toner replenishing cartridge is set to the device main body, after it is unloaded, or in loading or unloading. CONSTITUTION:Because a lock lever part 31 is not pushed up in the direction of the arrow F by a lock lever pushing up part 35 before the toner replenishing cartridge is loaded to the device main body or after it is unloaded, the lock lever part 31 is rotated in the direction of the arrow E with a rotational shaft, 32 as the center by energizing force of a spring 34. Thus, the rotation of the toner carrying screw 23 is locked by a projection 30 fixed to a lock lever part 31 being engaged to a chamfer 29 of a restraining plate 28 which is integrated with a screw driving gear 27. When the toner replenishing cartridge is loaded to the main body, the lock lever part 31 is pushed up in the direction of the arrow F by the lock lever pushing up part 35 and the locked state is released by the projection 30 of the lock lever part 31 being disengaged from the chamfer 29 of the retraining plate 28.

0) JP2016166981A – IMAGE FORMING APPARATUS

358) Family number: 63672504 (JP2016166981A) © PatBase

Title: IMAGE FORMING APPARATUS

Priority: JP20150046695 20150310

Family:

Publication number	Publication date	Application number	Application date
JP2016166981 A2	20160915	JP20150046695	20150310

Probable Assignee: FUJI XEROX CO LTD

Assignee(s):(std)**:** FUJI XEROX CO LTD

Inventor(s):(std)**:** IIKURA KAZUAKI ; MIYAWAKI SATOSHI ; SAITO KAZUHIRO ; WATANABE KUNYA ; YUAN LEI

Agent(s): MIKAMI MUSUBU; YAMADA MASAKI

International class (IPC 8–9): G03G15/08 G03G21/16 G03G21/18 (Advanced/Invention)

Classification Explorer

Abstract:
Source: JP2016166981A PROBLEM TO BE SOLVED: To provide an image forming apparatus comprising a process cartridge and a toner cartridge, where an operation to remove the process cartridge cannot be performed until the toner cartridge is removed.SOLUTION: An image forming apparatus comprises: a printer body 11 that transfers and fixes a toner image to a sheet to form an image on the sheet; a process cartridge 2 that includes a rotary lever 29, is removably attached to the printer body 11 in an attitude where the rotary lever 29 is arranged in a direction of removal, and forms a toner image and causes the printer body 11 to transfer the toner image onto the sheet P; and a toner cartridge 3 that is removably attached to the printer body 11 at a position where an operation of the rotary lever 29 cannot be performed, stores a toner, and supplies the toner to the process cartridge 2.SELECTED DRAWING: Figure 2

0) JP62198884A – TONER REPLENISHING DEVICE

359) Family number: 8786651 (JP62198884A) © PatBase

Title: TONER REPLENISHING DEVICE

Priority: JP19860039292 19860226

Family:

Publication number	Publication date	Application number	Application date
JP62198884 A2	19870902	JP19860039292	19860226

Probable Assignee: RICOH KK

Assignee(s):(std)**:** RICOH KK

Assignee(s): RICOH CO LTD

Inventor(s):(std)**:** ARAI KOKI

International class (IPC 8–9)**:** G03G15/08 H02M7/537 H02M7/5383 (Advanced/Invention); G03G15/08 H02M7/537 H02M7/5383 (Core/Invention)

International class (IPC 1–7)**:** G03G15/08

CPC: G03G15/0886 G03G15/0872 G03G2215/0665 G03G2215/0675

European class: G03G15/08H3C1 S03G215/06C1A S03G215/06C1C

Classification Explorer

Forward Citations: WO06090901, US8000614, EP3112947, EP3112946, EP3112945,

Abstract:
Source: JP62198884A PURPOSE:To improve the operability at the time of attaching and detaching a toner cartridge, by making an opening part of the toner cartridge coincide automatically with an opening part of a cartridge casing. CONSTITUTION:At the time of inserting a toner cartridge and aligning its aperture, first of all, a toner cartridge 7 is inserted into a cartridge casing 17, and a lever 31 is laid down in the direction as indicated with an arrow. A cartridge stopper 29 is pressed against the outer, peripheral surface of a grip part 13 of the toner cartridge 7, a light shielding part 36 operates a photoelectric sensor 34, and the cartridge casing 17 is turned in the direction as indicated with an arrow together with the toner cartridge 7 by a driving source. The stopper 29 is engaged to a notch 25 and obstructs turning of the cartridge 7. The casing 17 is turned continuously, and at a part where the aperture 8 of the cartridge 8 and the aperture 19 of the casing 17 have been aligned, a casing positioning shaft 30 drops down in a notch 27, a sensor 35 is operated and the rotation of the casing 17 stops.

0) US2013259516A – IMAGE FORMING APPARATUS WITH PROCESS CARTRIDGE ...

360) Family number: 54908217 (US2013259516A) © PatBase

Title: IMAGE FORMING APPARATUS WITH PROCESS CARTRIDGE CAPABLE OF MINIMIZING DAMAGE TO A WRITING DEVICE

Priority: JP20120079079 20120330 JP20120226917 20121012

Family:

Publication number	Publication date	Application number	Application date
JP2013228665 A2	20131107	JP20120226917	20121012
US2013259516 AA	20131003	US20130779955	20130228

Probable Assignee: RICOH CO LTD

Assignee(s):(std)**:** IKEDA TAMOTSU ; RICOH CO LTD ; RICOH KK ; TAKANO KUNIYORI

Inventor(s):(std)**:** IKEDA TAMOTSU ; TAKANO KUNIKAZU ; TAKANO KUNIYORI

International class (IPC 8–9)**:** B41J2/44 B41J2/45 B41J2/455 G03G15/00 G03G21/18 (Advanced/Invention)

CPC: G03G15/22 G03G15/04054 G03G21/1666 G03G21/1853

US class: 399/110 399/111

Classification Explorer

Cited documents: US8737871 BB, US8688000 BB, US8452213 BB, US8265501 BB, US5262827 A, JP4166851 A2, JP2002268505 A2,

Abstract:
Source: US2013259516A An image forming apparatus includes a detachable latent image bearer, a casing including a cover opened and closed when the latent image bearer is detached and attached thereto, an LED array head opposed to the latent image bearer, and a rotation mechanism to rotate the LED array head in synchrony with either insertion and removal operation of the latent image bearer or opening operation of the cover.

0) FR1324568A – STYLO A BILLE A CARTOUCHE COMMANDEE PAR UN BOUT...

361) Family number: 23035915 (FR1324568A) © PatBase

Title: STYLO A BILLE A CARTOUCHE COMMANDEE PAR UN BOUTON–POUSSOIR COOPERANT AVEC UN COMMUTATEUR COMPOSE BALL PEN CARTRIDGE OPERATED BY COOPERATING WITH PUSH BUTTON SWITCH COMPOUND (Machine translation)

Priority: FR19620897568 19620515

Family:

Publication number	Publication date	Application number	Application date
FR1324568 A	19630419	FR19620897568	19620515

Inventor(s):(std): LAMY CARL JOSEF

International class (IPC 8–9): B43K24/08 (Advanced/Invention); B43K24/00 (Core/Invention)

International class (IPC 1–7): B43K7/12

CPC: B43K24/084

European class: B43K24/08C

Classification Explorer

Abstract:
Source: FR1324568A [Source: Claim 1] 1. La douille de guidage 20a porte a l'extremite inferieure des cames axiales 20b, presentant une face en bout plane 20c biseautee aux deux extremites pour son raccordement avec des encoches 21a. Bien entendu, on peut remplacer les encoches 21a par des fentes relativement longues similaires a celles qui ont ete decrites pour le mode de realisation que montre la figure 1. Pendant la mise en place de la cartouche 16, son doigt lateral de butee 22 touche d'abord en un point quelconque l'extremite anterieure de la douille 20a, c'est–a–dire qu'il vient en prise avec l'une des encoches 21a ou s'appuie contre la face en bout 20c d'une came. Il est egalement possible que la mise en place de la cartouche fasse quelque peu tourner la douille 20a sous l'action du doigt de butee presentant lateralement des rampes inclinees, de sorte que ce doigt peut alors glisser dans une des encoches. De cette maniere la douille occupe donc deja la position correcte par rapport au dispositif de commutation prevu dans la partie superieure du fut, mais cette position peut egalement s'etablir au moment de la premiere manoeuvre du commutateur. Les man uvres ulterieures de ce dispositif n'engendrent aucun couple de rotation agissant sur la douille de guidage, etant donne que la cartouche 16 est tres librement engagee dans cette douille 20a. Etant donne que la position correcte de la douille est etablie automatiquement dans ces conditions, il est alors possible de diviser au besoin le fut 1 du stylo a bille dans le sens transversal, et d'assembler les elements par vissage. En effet, il n'est alors plus indispensable que les elements du fut occupent des positions angulaires relatives bien determinees grace a l'etablissement automatique de la position correcte de la douille. De meme la fabrication de la cartouche n'impose plus une position determinee des nervures d'accouplement 18 par rapport au doigt de butee lateral 22, ce qui simplifie considerablement le montage, a l'extremite posterieure de la cartouche 16, de. l'embout de guidage 17 portant les nervures d'accouplement 18. Ainsi qu'il vient d'etre indique, la douille de guidage 20a doit etre librement mobile en rotation a l'interieur du fut du stylo a bille, ce qui n'exclut cependant pas que la douille de guidage puisse etre montee a friction de facon a etre guidee sans jeu. D'autre part, la douille 20a peut etre fendue longitudinalement pour presenter des languettes elastiques, et sa partie inferieure formant les cames axiales 20b peut etre renforcee de facon qu'elle soit legerement coincee dans le fut 1 du stylo a bille, sans cependant etre bloquee en rotation. Cette conception peut contribuer a ce que l'orientation angulaire correcte de la douille de guidage soit obtenue avec certitude pendant le montage, meme si la cartouche touche la surface interieure de la douille a cause d'un faible ecart des proportions. RESUME 1. Ce stylo a bille, comprenant un commutateur a bouton–poussoir divise transversalement et au milieu en deux pistons a cames bloques en rotation l'un par rapport a l'autre, est caracterise par le fait que les deux pistons, bloques en rotation a l'inte– rieur du fut, sont chacun sollicites par un ressort les serrant l'un contre l'autre pour former d'une maniere connue en soi les etranglements destines au passage des cames de commutation, et que les cames du piston superieur ne presentent aucune position d'encliquetage pour le commutateur, tandis que la partie anterieure du fut du stylo a bille contient une glissiere presentant des rainures longitudinales dont le nombre est egal a la moitie des fentes de commutation du piston superieur, et avec laquelle coopere au moins un doigt de butee lateral solidaire de la partie anterieure de la cartouche, de facon que ce doigt de butee vienne s'appliquer contre la face inferieure de la glissiere lorsque la cartouche occupe la position permettant d'ecrire. [Source: Claim 1] 1. 20a the guide sleeve carries at the lower end of the axial cams 20b, presenting a flat end face 20c chamfered at both ends for its connection with notches 21a. Of course, we can replace the slots 21a by relatively long slits similar to those which were described for the embodiment shown in Figure 1. During the introduction of the cartridge 16, its lateral finger touch of butee 22 first at any point the anterior extremity of the sleeve 20a, that is to say, it engages one of the notches 21a or leans against the front end 20c of a cam. It is also possible that the establishment of the cartridge to make some turn the sleeve 20a under the action of finger butee presenting laterally inclined ramps, so that the finger can then slip into one of the slots. In this way the

socket so already occupies the correct position relative to the planned switching device in the upper part of the barrel, but this position can also establish themselves at the time of the first operation of the switch. The maneuvers SUBSEQUENT of this device generates no torque acting on the guide sleeve, given that the cartridge 16 is very freely instituted in the socket 20a. Given that the correct position of the socket is established automatically under these conditions, it is possible to divide the necessary 1 was the ballpoint pen in the transverse direction, and assemble by screwing Elements. Indeed, it is no longer essential that the Elements was well occupy angular positions determined relative thanks to the automatic correct position of the socket establishment. Similarly the manufacture of the cartridge no longer requires a determined position of the coupling ribs 18 relative to the lateral finger butee 22, which simplifies greatly the assembly, at the tip posterior of the cartridge 16, of. the guide tip 17 carrying the coupling ribs 18. As has just been said, the guide sleeve 20a must be freely movable in rotation on the inside of was the ballpoint pen, which n ' however not exclude that the guide sleeve can be montee a friction way to be guided without play. on the other hand, the sleeve 20a may be split longitudinally to present the elastic tongues, and its lower portion 20b axial cams can be of reinforced way it is held gently in was one of the ballpoint pen, without however be blocked in rotation. This design can contribute to what the correct angular orientation of the guide sleeve is achieved with certainty during installation, even if the cartridge touches the inner surface of the socket because of a small gap proportions. SUMMARY 1. The ballpoint pen, comprising a switch has pushbutton divided transversely in the middle and two pistons cams blocked in rotation with respect to one another, is characterized in that the two pistons, in blocks rotation in the interior of the barrel are each spring biased squeezing them against each other to form in a manner known per se the constrictions for the passage of the switching cams, and that the cams of the piston Higher exhibit no detent position for the switch, while the front part of was the ballpoint pen contains a chute presenting longitudinal grooves whose number is equal to half the switching slots of the upper piston and with which cooperates at least one finger of butee lateral integral with the front part of the cartridge of way that butee finger comes to rest against the underside of the chute when the cartridge is in the position to write to.

0) CN206292543U – TONER CARTRIDGE GEAR ANTI–OFF COVER (MACHINE ...

362) Family number: 66241833 (CN206292543U) © PatBase

Title: Toner cartridge gear anti–off cover (Machine translation)

Priority: CN201621439045U 20161226

Family:

Publication number	Publication date	Application number	Application date
CN206292543 U	20170630	CN201621439045U	20161226

Probable Assignee: ZHUHAI POLYCOM SUPPLIES LTD

Assignee(s): ZHUHAI POLYCOM SUPPLIES LTD

International class (IPC 8–9): G03G15/08 G03G21/16 (Advanced/Invention)

Classification Explorer

Abstract:
Source: CN206292543U The utility model relates to a cartridge includes a photosensitive drum gear cover, anti–off lever is fitted tank, fitted groove hole, flour gear set, lever gear fitted tank and induction groove, fitted tank fitted fixed photosensitive drum photosensitive drum, lever hole embedded mounted gear lever, the photosensitive drum through the gear set and the gear lever coupling, drive lever gear rotates, the gear lever and lever coupled to the gear lever gear lever gear is fitted in the groove, the lever gear drive gear rotates, the powder out of the powder out of the powder gear set gear set is fitted in the groove, the groove embedded with induction sensing device, lever hole near the powder gearset fitted tank side is provided with anti–off film. The utility model toner cartridges gear cover anti–off, through the hole in the toggle lever clamp 1mm thick anti–off film, anti–off effect, ensure the normal work of each toner cartridge 281 gear transmission, simple structure, low cost.

0) JP58059462A – IMAGE RECORDING DEVICE

363) Family number: 3005012 (JP58059462A) © PatBase

Title: IMAGE RECORDING DEVICE

Priority: JP19810158296 19811005

Family:

Publication number	Publication date	Application number	Application date
DE3236854 A1	19830421	DE19823236854	19821005
JP58059462 A2	19830408	JP19810158296	19811005

Probable Assignee: RICOH KK

Assignee(s):(std)**:** RICOH KK

Assignee(s): RICOH CO ; RICOH CO LTD

Inventor(s):(std)**:** KOMADA KENYA

International class (IPC 8–9)**:** G03G15/00 G03G15/06 G03G15/22 G03G21/00 G03G21/16 (Advanced/Invention); G03G15/00 G03G15/06 G03G21/00 G03G21/16 (Core/Invention)

International class (IPC 1–7)**:** G03G15/00 G03G15/06 G03G15/22 G03G21/00

CPC: G03G21/1671 G03G2221/1615 G03G2221/163 G03G2221/1654 G03G2221/18

European class: G03G21/16 S03G221/16B2 S03G221/16D S03G221/16K1 S03G221/18 S03G221/18B

Classification Explorer

Forward Citations: US7957672, US6445895, US6064843, US6016412, US5745823, US5734949, JP61226759, JP61226757, JP5019541, EP1748321, EP0520802, EP0520802, DE3716801, DE3624060, DE3249821,

Abstract:
Source: JP58059462A PURPOSE:To secure the accuracy of a position at the time of attaching and detaching a photoreceptor, by having constitution in which a belt unit of the photoreceptor converted to in a cassette and a developing unit are unified by clamp to fit in on a main body. CONSTITUTION:When the restraint by a pin of a tension lever 29 is released, a tension roller 23 is pushed by a spring 32 and a belt 2 of the photoreceptor is stretched. When a belt unit 1 is pushed into a main body of a copying machine while putting a guide pin 31 along a rail 35, a crank pin 36 is engaged to a blanket 37 and a correct position is determined. A developing unit 6 is fitted to the main body by engaging a channel 38 to a pivot 39 and rotating a crank lever 40 and pushing a crank pin 42 by a crank spring 41. When a belt unit made in a cassette is fitted to the main body by such a way, as the belt unit is made in one body with the developing unit by a clamp means, the accuracy of a position at the time of attaching and detaching a photoreceptor is secured easily.

0) JP7230207A – TONER REPLENISHING DEVICE

364) Family number: 12772222 (JP7230207A) © PatBase

Title: TONER REPLENISHING DEVICE

Priority: JP19940020077 19940217

Family:

Publication number	Publication date	Application number	Application date
JP7230207 A2	19950829	JP19940020077	19940217

Probable Assignee: RICOH KK

Assignee(s):(std)**:** RICOH KK

Assignee(s): ROCOH COMPANY LTD ; RICOH CO LTD

Inventor(s):(std)**:** ISHII HIROSHI

International class (IPC 8–9)**:** G03G15/08 G03G21/00 (Advanced/Invention); G03G15/08 G03G21/00 (Core/Invention)

International class (IPC 1–7)**:** G03G15/08 G03G21/00

Classification Explorer

Forward Citations: US6058278,

Abstract:
Source: JP7230207A PURPOSE:To recognize the frequency of toner replenishment and the life of a developing unit by the number of times of using take up levers each of which takes up a seal used for sealing a toner cartridge. CONSTITUTION:The toner cartridge 17 is provided with a seal take up shaft 18 to which one end of the seal for sealing is fixed, and the developing unit 4 is provided with such a particular number of the take up levers 19 as corresponding to the frequencies of toner replenishment, which meets the life of the developing unit 4. By turning the take up lever 19 mounted on the seal take up shaft 18, the seal on the toner cartridge 17 is taken up by the seal take up shaft 18, and the unit is replenished with toner 27. However, by inhibiting the recovery of the take up lever 19 from the seal take up shaft 18, the number of the remaining take up levers 19 of the developing unit 4 is detected by a lever–detecting means, and the result of the detection is displayed. Thus, a user can find the condition under which the developing unit 4 is replenished with the toner and the process in which the developing unit 4 reaches the end of its life.

0) JP1223483A – TONER REPLENISHING DEVICE

365) Family number: 15087068 (JP1223483A) © PatBase

Title: TONER REPLENISHING DEVICE

Priority: JP19880048685 19880303

Family:

Publication number	Publication date	Application number	Application date
JP1223483 A2	19890906	JP19880048685	19880303
JP2701291 B2	19980121	JP19880048685	19880303

Probable Assignee: FUJI XEROX CO LTD

Assignee(s):(std)**:** FUJI XEROX CO LTD

Inventor(s):(std)**:** MORI IKUO

International class (IPC 8–9): G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)

International class (IPC 1–7): G03G15/08

CPC: G03G15/0886 G03G15/0855 G03G15/0865 G03G15/0875 G03G2215/0678 G03G2215/068

European class: G03G15/08H3 S03G215/06C1D S03G215/06C2

Classification Explorer

Forward Citations: US5520229, US5513679, US5475479, US5351728, US5263517, JP5011606, EP0841597, EP0840177, EP0675416, EP0655663, EP0514168,

Abstract:
Source: JP1223483A PURPOSE:To eliminate the need of a complicated locking member at a hopper side and to prevent toner from scattering by providing a toner cartridge with a member which performs fixing function with respect to the toner hopper. CONSTITUTION:When a slide lid 10 loaded on the toner cartridge 1 and the slide lid 50 of the toner hopper 40 are interlocked and moved, the following operation is performed so that the cartridge 1 is fixed with respect to the hopper 40. A front edge inserting part 6 and a rear edge projecting part 8 are provided on the lower front and the lower back parts of the lower frame 5 of the cartridge 1, and the inserting part 6 is inserted into the lower part of a front edge guide 45a and is engaged with a locking pin 47. Besides, the projecting part 8 is locked in a latch 46 which projects at the edging part of a guide 45b, and fixes the cartridge 1. Thus when the lid 10 is slid in the lower part of a guide 45b when the lids 10 and 50 are opened and toner is replenished, the frame 5 is surely supported by the guide. When toner replenishing is finished and the lid 10 is returned to an original position and an opening part is shut, locking function by the lid is cancelled, and the emptied cartridge 1 can be easily removed only by removing the projecting part 8 from the latch 46.

0) US6082854A – MODULAR INK–JET HARD COPY APPARATUS AND METHODO...

366) Family number: 15583030 (US6082854A) © PatBase

Title: Modular ink–jet hard copy apparatus and methodology

Priority: US19980039735 19980316 US19980039735 19980316 US20000568448 20000510 US20000568112 20000510 US20000568277 20000510 WO1999US05527 19990312

Family:

Publication number	Publication date	Application number	Application date
AU199930035 A1	19991011	AU19990030035	19990312
BRPI9908943 A	20001114	BR1999PI08943	19990312
DE69929039 D1	20060126	DE19996029039T	19990312
DE69929039 T2	20060803	DE19996029039T	19990312
EP1062096 A1	20001227	EP19990911384	19990312
EP1062096 B1	20051221	EP19990911384	19990312
ES2251185 T3	20060416	ES19990911384T	19990312
IN00003CA1999 A	20060217	IN1999CA00003	19990101
IN206450 B	20070427	IN1999CA00003	19990101
JP2002506758 T2	20020305	JP20000536571T	19990312
JP4121705 B2	20080723	JP20000536571T	19990312
KR20010041830 A	20010525	KR20007010117	20000914
RU2000125902 A	20021110	RU20000125902	19990312
RU2207958 C2	20030710	RU20000125902	19990312
TW427945 B	20010401	TW19980119968	19981202
US6082854 A	20000704	US19980039735	19980316
US6234626 BA	20010522	US20000568448	20000510
US6257717 BA	20010710	US20000568112	20000510
US6264322 BA	20010724	US20000568277	20000510
WO9947355 A1	19990923	WO1999US05527	19990312

Probable Assignee: HEWLETT PACKARD DEVELOPMENT CO

Assignee(s):(std): HEWLETT PACKARD CO ; KH JULETT PAKKARD KOMPANI ; HEWLETT PACKARD DEVELOPMENT CO

Assignee(s): KH'JULETT–PAKKARD KOMPANI ; HP INC ; HEWLETT PACKARD COMPANY ; HEWLETT PACKARD DEVELOPMENT CO L P ; HEWLETT PACKARD CO N D GES D STAATES DELAWARE PA ; HEWLETT PACKARD CO N D GES D STAATES DELAWARE PALO ALTO

Inventor(s):(std): AXTELL JAMES P ; AXTELL P ; BENDZHAMIN TRUDI L ; BENJAMIN L ; BENJAMIN TRUDY L ; EHKSTELL DZHEJMS P ; KENT BLAIR M ; KENT BLEHJR M ; KENT M ; LOUEH DEHVID DZH ; LOWE DAVID J ; LOWE J ; SEU D ; SEU PRESTON D

Inventor(s): TRUDY L BENJAMIN ; TRUDY L BENJAMINN ; PRESTON D SEU ; JAMES P AXTELL ; BLAIR M KENT ; DAVID J LOWE

Agent(s): FURUYA SATOSHI; MIZOBE TAKAHIKO

Designated states: AL AM AT AU AZ BA BB BE BF BG BJ BR BY CA CF CG CH CI CM CN CU CY CZ DE DK EE ES FI FR GA GB GE GH GM GN GR GW HR HU ID IE IL IS IT JP KE KG KP KR KZ LC LK LR LS LT LU LV MC MD MG MK ML MN MR MW MX NE NL NO NZ PL PT RO RU SD SE SG SI SK SL SN SZ TD TG TJ TM TR TT UA UG UZ VN YU ZW

International class (IPC 8–9): B41J2/005 B41J2/01 B41J2/165 B41J2/175 B41J25/34 B41J29/00 (Advanced/Invention); B41J2/01 B41J29/00 (Advanced/Non–invention); B41J2/01 B41J2/165 B41J2/175 B41J25/00 B41J29/00 (Core/Invention)

International class (IPC 1–7): B41J2/005 B41J2/01 B41J2/175 B41J21/175 B41J25/34 B41J29/00 G06K15/04

CPC: B41J2/16517 B41J2/175 B41J25/34

European class: B41J2/165C B41J2/175 B41J25/34

US class: 347/108 347/85 347/86

Classification Explorer

Cited documents: US5929883 A, US5798777 A, US5689291 A, US5650811 A, US5614930 A, US5576741 A, US5539436 A, US5519422 A, US5506611 A, US5463415 A, US5455609 A, US5455608 A, US5448818 A, US5448270 A, US5440331 A, US5409134 A, US5409062 A, US5408746 A, US5396277 A, US5369429 A, US5359353 A, US5325119 A, US5289211 A, US5245365 A, US5151715 A, US5151714 A, US5146243 A, US5138344 A, US5115250 A, US5103244 A, US5067832 A, US5027134 A, US4992802 A, US4968998 A, US4853717 A, US4847631 A, US4831389 A, US4809015 A, US4800398 A, US4789874 A, US4709246 A, US4567494 A, US4436439 A, US4329698 A, US4277790 A, JP60085964 A2, JP59167264 A2, JP54013338 A2, JP11192697, GB2221426 A1, EP0863013 A2, EP0813974 A2, EP0764538 A2, EP0724959 A1, EP0664218 A2, EP0419876 A1, EP0401944 A1,

Forward Citations: WO16053814, WO11058953, WO03089246, USD605223, US9427973, US8894192, US8864290, US8807703, US8764164, US8628260, US8550597, US8544988, US8534806, US8412068, US8240820, US8235508, US8235499, US8147045, US8147027, US8066354, US8025391, US7923057, US7918546, US7891789, US7878624, US7857413, US7798609, US7794071, US7775629, US7758164, US7731353, US7681986, US7674082, US7637587, US7637580, US7625063, US7611217, US7594507, US7556334, US7544723, US7461928, US7460267, US7448739, US7448735, US7445330, US7438399, US7413272, US7404623, US7384134, US7322673, US7118192, US7063409, US6846063, US6799842, US6769764, US6565173, US6490504, US6375314, US6145980, US2012218348, US2012044305, US2011052248, US2010277546, US2010150637, US2009273627, US2009257806, US2009109250, US2009066767, US2009058941, US2009058918, US2009002418, US2008316286, US2008316283, US2008309715, US2008303881, US2008303878, US2008259101, US2008252699, US2008206017, US2008204501, US2008186354, US2008186344, US2008043060, US2008024581, US2008024580, US2008024552, US2008024532, US2008018677, US2007263026, US2007256709, US2007252863, US2007222817, US2007182775, US2007126825, US2007126824, US2007126818, US2007076040, US2007070132, US2007070109, US2007070107, US2007070099, US2007068560, US2007042113, US2007024664, US2007015848, US2007015847, US2007014933, US2006292291, US2006274123, US2006187504, US2006185587, US2006164474, US2006159843, US2006156975, US2006134939, US2006109296, US2006109290, US2006093751, US2006092219, US2006092218, US2006092207, US2006092204, US2006092199, US2005255253, US2005253917, US2005157051, US2005083384, US2004212665, TWI402637, KR20120100966, KR100644685, JP2011048260, JP2007144905, EP2105159, EP1803578, EP1803578, EP1695831, EP1547779, EP1318019, EP1318019, CN102649356, CN102649356, CN102602147, CN102320194,

Abstract:
Source: US6082854A The present invention provides ink–jet writing engine modules for use with a compatible hard copy engine module, a hard copy apparatus based thereon, and methods of manufacturing, operation, and use. Fluidic and electronic partitioning for ink–jet hard copy apparatus is redefined. Modular separation of a hard copy engine from a writing engine allows a replaceable writing module containing all of the key elements of the ink–jet writing system based on writing system technology requirements, particularly for those most likely to age or fail as a result of time, frequency of use, or end–user actions. The writing engine subsystem includes: one or more printing modules having print head elements with concomitant ink manifold components and ink flow and pressure regulation mechanisms; one or more ink containers–either permanent, refillable, or replaceable; one or more ink formulations; one or more ink delivery means, such as tubes and valves fluidically coupling the ink containers to the ink manifolds; service station components; and a framework to retain the elements in a unitary module, insertable cassette–like manner. The present invention further provides a hard copy engine compatible with such a writing engine. The hard copy engine does not contain any components requiring direct contact with ink. Ink–wetted components are predisposed to ink–jet technological changes without affecting the electrical interface and the mechanical interface between the writing engine and the hard copy engine.

0) JP4134380A – IMAGE FORMING DEVICE

367) Family number: 7833771 (JP4134380A) © PatBase

Title: IMAGE FORMING DEVICE

Priority: JP19900256259 19900926

Family:

Publication number	Publication date	Application number	Application date
JP4134380 A2	19920508	JP19900256259	19900926

Probable Assignee: TOSHIBA CORP

Assignee(s):(std)**:** TOSHIBA CORP

Inventor(s):(std)**:** HASEGAWA KAZUNORI

International class (IPC 8–9)**:** G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)

International class (IPC 1–7)**:** G03G15/08

Classification Explorer

Forward Citations: US6324350,

Abstract:
Source: JP4134380A PURPOSE: To prevent an unproper developer from being used by confirming a fact that the quality, type, sales origin of a developer are proper, and then, supplying it, when the developer is supplied. CONSTITUTION: When a toner cartridge 43 is exchanged, only the toner cartridge 43 is attached to an attaching part 46, and a lever 57a is turned and locked, to that a logo sheet 47 is read out by a detecting means 48. At this time, a CCD controller can easily discriminate whether the toner cartridge 43 is produced by a proper producing maker or not, and further, whether the type and color of toner housed in the toner cartridge 43 is proper or not. When the toner cartridge 43 and the toner housed therein are not proper, the exchange of the toner cartridge 43 is immediately displayed. Thus, the erroneous supplying of the toner, that is, the toner is used for the different type of a machine, or the color is mistaken, is prevented.

0) JP7230206A – TONER REPLENISHING DEVICE

368) Family number: 12772219 (JP7230206A) © PatBase

Title: TONER REPLENISHING DEVICE

Priority: JP19940020076 19940217

Family:

Publication number	Publication date	Application number	Application date
JP7230206 A2	19950829	JP19940020076	19940217

Probable Assignee: RICOH KK

Assignee(s):(std)**:** RICOH KK

Assignee(s): ROCOH COMPANY LTD ; RICOH CO LTD

Inventor(s):(std)**:** ISHII HIROSHI

International class (IPC 8–9): G03G15/08 G03G21/00 (Advanced/Invention); G03G15/08 G03G21/00 (Core/Invention)

International class (IPC 1–7): G03G15/08 G03G21/00

Classification Explorer

Abstract:
Source: JP7230206A PURPOSE:To recognize the frequency of toner replenishment and the life of a developing unit by the number of times of using take up levers each of which takes up a seal used for sealing a toner cartridge. CONSTITUTION:The toner cartridge 17 is provided with a seal take up shaft 18 to which one end of the seal for sealing is fixed, and the developing unit 4 is provided with such a number of the take up levers 19 as corresponding to the frequencies of toner replenishment, which meets the life of the developing unit 4. By turning the take up lever 19 mounted on the seal take up shaft 18, the seal on the toner cartridge 17 is taken up by the seal take up shaft 18, and the unit is replenished with toner 31. However, by inhibiting the recovery of the take up lever 19 from the seal–winding shaft 18, a user can find that the frequencies of replenish of the toner 31 to the developing unit 4 has reached a limit frequency at the point of time that the take up levers 19 provided on the developing unit 4 become deficient. The take up levers 19 are integrated with a part of the developing unit 4, and they are separated from the unit by being broken off when used.

0) JP11316493A – TONER CONTAINER AND IMAGE FORMING DEVICE

369) Family number: 13426824 (JP11316493A) © PatBase

Title: TONER CONTAINER AND IMAGE FORMING DEVICE

Priority: JP19980136070 19980430

Family:

Publication number	Publication date	Application number	Application date
JP11316493 A2	19991116	JP19980136070	19980430
JP3904327 B2	20070411	JP19980136070	19980430

Probable Assignee: RICOH KK

Assignee(s):(std)**:** RICOH KK

Assignee(s): ROCOH COMPANY LTD ; RICOH CO LTD ; RICOH COMPANY LTD

Inventor(s):(std)**:** HATORI SATOSHI

International class (IPC 8–9): G03G15/01 G03G15/08 (Advanced/Invention); G03G15/01 G03G15/08 (Core/Invention)

International class (IPC 1–7): G03G15/01 G03G15/08

Classification Explorer

Forward Citations: JP5401829, JP2009282259, JP2007298543,

Abstract:
Source: JP11316493A PROBLEM TO BE SOLVED: To satisfactorily fill a toner container with a toner, without causing cost increase movably providing an aggregating member for aggregating a part of replenishing toner on a discharge port with turning at a position, where it does not prevent the toner container from being filled with the toner from a filling port. SOLUTION: In a toner cartridge 241K, a partition member 245K is fixed on a supporting shaft 245aK supported so as to be rockable in the casing of the cartridge 241K, whereby it can rock around an axial line 0. When an operator rotates the lever of the cartridge 241K, the member 245K is rotated together with the lever. In the case of filling the cartridge with the toner, the member 245K is positioned at the position, where it does not prevent the toner–filling operation from the filling port for toner–filling by the operator. Therefore, the member 245K functions as a shutter for preventing the outflow of the toner from the discharge port.

0) JP2000172058A – IMAGE FORMING DEVICE AND DEVELOPER CONTAINER

370) Family number: 14024581 (JP2000172058A) © PatBase

Title: IMAGE FORMING DEVICE AND DEVELOPER CONTAINER

Priority: JP19980347455 19981207

Family:

Publication number	Publication date	Application number	Application date
JP2000172058 A2	20000623	JP19980347455	19981207
JP3774582 B2	20060517	JP19980347455	19981207

Probable Assignee: RICOH KK

Assignee(s):(std)**:** RICOH KK

Assignee(s): ROCOH COMPANY LTD ; RICOH CO LTD ; RICOH COMPANY LTD

Inventor(s):(std)**:** HASEGAWA MAKOTO ; ISHIKAWA TOMOJI ; KURENUMA TAKEROU ; YOSHIOKA OSAMU

International class (IPC 8–9): G03G15/01 G03G15/08 (Advanced/Invention); G03G15/01 G03G15/08 (Core/Invention)

International class (IPC 1–7): G03G15/01 G03G15/08

Classification Explorer

Forward Citations: US8498546, US8396398, US8280264, US8195070, US8121525, US8005406, US7840167, US7835673, US7747202, US7720416, US7697870, US7519317, US7480476, US7466945, US7398038, US7321744, US7313349, US7127197, US7127197, US6999700, US6978107, US6917778, EP1835358, EP1835358,

Abstract:
Source: JP2000172058A PROBLEM TO BE SOLVED: To prevent a fixed container part of a developer container attached on a supporting body in the company with the rotation of rotary container part, in the reset direction opposite to the direction when it is attached. SOLUTION: Relating to this developer container, at least, the fixed container part 46B is prevented from turning in the reset direction, in a state of setting the fixed container part 46B of toner cartridges 46K, 46Y, 46M and 46C, with regard to toner cartridge guides 51K, 51Y, 51M and 51C by providing the container locking means consisting of a locking lever 740 disposed on the fixed container part 46B on toner cartridges 46K, 46Y, 46M and 46C, and a recessed part 51c that the locking lever 740 is engaged therewith, disposed on toner cartridge guides 51K, 51Y, 51M and 51C. In such a manner, when rotary container part 46A of toner cartridge guide 51K, 51Y, 51M and 51C is respectively rotated, the fixed container part 46B being respectively set on the toner cartridges 51K, 51Y, 51M and 51C is prevented from being rotated in the company with the rotation of the rotary container part 46A.

0) US5066976A – IMAGE FORMING APPARATUS HAVING A PRINT CARTRIDG...

371) Family number: 4851344 (US5066976A) © PatBase

Title: IMAGE FORMING APPARATUS HAVING A PRINT CARTRIDGE

Priority: JP19900069203 19900319

Family:

Publication number	Publication date	Application number	Application date
JP2555753 B2	19961120	JP19900069203	19900319
JP3269440 A2	19911202	JP19900069203	19900319
US5066976 A	19911119	US19910672977	19910314

Probable Assignee: FUJI XEROX CO LTD

Assignee(s):(std): FUJI XEROX CO LTD

Assignee(s): FUJI XEROX CO LTD 3 5 AKASAKA 3 CHOME MINATO KU TOKYO JAPAN A CORP OF JAPAN ; FUJI XEROX CO

Inventor(s):(std): FURUYAMA TETSUYA ; KANAGAWA TAKASHI ; SHIINO YUTAKA

International class (IPC 8–9): E05B65/44 G03G15/00 G03G21/18 (Advanced/Invention); E05B65/44 G03G15/00 G03G21/18 (Core/Invention)

International class (IPC 1–7): E05B65/44 G03G15/00

CPC: G03G21/1647 G03G21/1661 G03G21/185 G03G2221/1654 G03G2221/1846

European class: G03G21/18H1P S03G221/16K1 S03G221/18P2

US class: 355/200 355/211 399/111

Classification Explorer

Cited documents: US4969010 A, US4952989 A, US4708455 A, US4668072 A, US4616920 A, JPS6336343 U, JPS63213855, JPS6265049, JPS62178281, JPS608855, JPS6063550, JPS603851 U, JPS6021745 U, JPS5961859, JPS5961847, JPS5951965 U, JPS58111763 U, JPS57160150 U, JPS57150174 U, JPS5687056, JPS5657355 U, JP63213855 A2, JP63036343 U1, JP62178281 A2, JP62065049 A2, JP60063550 A2, JP60021745 U1, JP60008855 A2, JP60003851 U1, JP59061859 A2, JP59061847 A2, JP59051965 U1, JP58111763 U1, JP57160150 U1, JP57150174 U1, JP56087056 A2, JP56057355 U1, JP1237671 A2,

Forward Citations: US9411303, US9317004, US9291992, US9285758, US9280087, US9261851, US9229367, US9164425, US9152083, US9052687, US6961528, US6947687, US6834173, US6535705, US6078763, US5911096, US5794103, US5583612, US5341200, US2015139698, US2013177333, US2005008395, US2004037587, EP1369750, EP1308794, EP1308794,

Abstract:
Source: US5066976A An image forming apparatus comprises an apparatus body having a guide rail and a print cartridge movable along the guide rail, in which the guide rail has an engaging portion, the print cartridge includes a holder member and a cover for covering the holder member, the cover having a notched portion and the holder member having an engagement portion which is adapted to be pushed so as to be engaged with the engaging portion of the guide rail, the holder member having an operating portion which is responsive to the engagement of the engagement portion with the engaging portion so as to be moved into and out of the cover through said notched portion of the cover. Since the print cartridge slides along the guide rail provided on the apparatus body, and therefore the print cartridge can be easily attached to and detached from the apparatus body. And besides, when the print cartridge is pushed into the predetermined position in the apparatus body, the engagement portion of the holder member is engaged with the engaging portion of the guide rail so that the print cartridge is prevented from withdrawing from the apparatus body due to vibration or the like during the operation.

0) JP7191591A – TONER RECOVERING DEVICE IN IMAGE FORMING DEVICE...

372) Family number: 12642394 (JP7191591A) © PatBase

Title: TONER RECOVERING DEVICE IN IMAGE FORMING DEVICE

Priority: JP19930347989 19931224

Family:

Publication number	Publication date	Application number	Application date
JP7191591 A2	19950728	JP19930347989	19931224

Probable Assignee: CANON KK

Assignee(s):(std): CANON KK

Assignee(s): CANON INC ; CANON KABUSHIKI KAISHA

Inventor(s):(std): HASHIMOTO KOJI

International class (IPC 8–9): G03G15/08 G03G21/10 (Advanced/Invention); G03G15/08 G03G21/10 (Core/Invention)

International class (IPC 1–7): G03G15/08 G03G21/10

Classification Explorer

Forward Citations: US7792470, JP2006139110,

Abstract:
Source: JP7191591A PURPOSE:To prevent the occurrence of the scattering of toner at the time of opening a shutter because it is provided on the discharge port of waste toner and can be directly opened/closed by a hand as well and moreover, at the time of starting and completing the discharge of the waste toner into a waste toner housing case and attaching/detaching it as well, in a cartridge at least including a cleaning device removing the toner remaining on an image carrier and sending it to the outside. CONSTITUTION:The shutter 3 is provided in a discharge cylinder 20 and a waste toner carrying screw 11 is advanced into the shutter 3. A waste toner discharge port 13 is provided on the shutter 3 and closed by a scattering preventing sidewall 17. A shutter releasing member 4 is provided on the shutter 3 and a toner scattering preventing external wall 5 is provided outside the discharge cylinder 20. The waste toner housing case 2 is attached to the cartridge 1 by the wall 5 and when a waste toner protective cover 6 is lowered, a lever 7 pushes the shutter releasing member 4 to turn/open the shutter 3. Since the shutter 3 is not directly touched by the hand, the toner is never erroneously scattered.

0) JP7199620A – TONER CARTRIDGE AND DEVELOPING DEVICE

373) Family number: 12679494 (JP7199620A) © PatBase

Title: TONER CARTRIDGE AND DEVELOPING DEVICE

Priority: JP19930335533 19931228 JP20020033502 20020212

Family:

Publication number	Publication date	Application number	Application date
JP2002251062 A2	20020906	JP20020033502	20020212
JP3323616 B2	20020909	JP19930335533	19931228
JP7199620 A2	19950804	JP19930335533	19931228

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK

Assignee(s): CANON INC ; CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** BAN YUTAKA ; KANAMORI AKITO ; KOMATA KAZUHIKO ; MIYANO KAZUYUKI

International class (IPC 8–9): B65D83/06 G03G15/08 (Advanced/Invention); B65D83/06 G03G15/08 (Core/Invention)

International class (IPC 1–7): B65D83/06 G03G15/08

CPC: G03G15/0886 G03G15/0868 G03G2215/067

European class: S03G215/06C1A2

Classification Explorer

Cited documents: JP6219668 U, JP5346040, JP4240876, JP245561 U, JP2146665 U,

Forward Citations: WO07054016, US9116468, US8649711, US8467707, US8131189, US7957679, US7796923, US7773919, US7764909, US7676186, US7400848, US7242893, US6934492, TWI427445, JP4898501, JP4738518, JP4280745, JP3680479, JP2011064844, JP2008003563, JP2006178438, JP10240008, EP2691817, EP2691817, EP2028559, CN103562800,

Abstract:
Source: JP7199620A PURPOSE:To prevent a toner cartridge from being rotated along with an agitating member in accordance with the rotation of the agitating member when it is in using by providing a locking means for preventing a cylinder from being rotated in an agitating member rotating direction. CONSTITUTION:When the toner cartridge C inserted in a cartridge inserting part 5e is rotated in an inserting direction, flange projections 13a1 and 14a1 for closing a shutter are engaged with a shutter member 20, and then, the cartridge C and the shutter member 20 are rotated together. This rotation is controlled when flange projections 13a2 and 14a2 abut on a stepped part 27 installed on the cartridge inserting part 5e. At this time, the opening parts of a toner replenishing container 12 and the shutter member 20 face in a nearly horizontal direction so as to communicate with the opening part of a developing device. When the toner replenishing container 12 is rotated up to a rotation control position in such a way, a movable lever is elastically deformed, and a locking projection gets over the end part of a calyx part 25 installed on the cartridge inserting part 5e, then, it is automatically engaged with the end part so as to lock the cylinder.

0) JP7199760A – ELECTROPHOTOGRAPHIC RECORDER

374) Family number: 12679962 (JP7199760A) © PatBase

Title: ELECTROPHOTOGRAPHIC RECORDER

Priority: JP19930334979 19931228

Family:

Publication number	Publication date	Application number	Application date
JP7199760 A2	19950804	JP19930334979	19931228

Probable Assignee: RICOH KK

Assignee(s):(std)**:** RICOH KK

Assignee(s): ROCOH COMPANY LTD ; RICOH CO LTD

Inventor(s):(std)**:** HISAMA KAZUNAGA

International class (IPC 8–9)**:** G03G21/10 (Advanced/Invention); G03G21/10 (Core/Invention)

International class (IPC 1–7)**:** G03G21/10

Classification Explorer

Forward Citations: JP5633586, JP2013077037, JP2009237062,

Abstract:
Source: JP7199760A PURPOSE:To prevent a cleaning blade from being deteriorated so as to increase durability by setting a discharged toner cartridge on a photoreceptor belt in the case of image formation operation and temporarily separating the discharged toner cartridge from the photoreceptor belt in the case where the image formation operation is finished. CONSTITUTION:The cleaning blade 16 of the discharge toner cartridge 9 abuts on the photoreceptor belt 1 in a discharge toner collecting condition, and performs cleaning to remove discharge toner on the photoreceptor belt 1. When an eject paper sensor detects the completion of copying operation, discharge toner cartridge separating operation is performed. A trapezoid lever 20 is pushed out by a cam 19 set on the rotary shaft of a motor 18. A fixed shaft 21 is fixed on the cartridge 9 so as to get on the lever 20 to be separated from the photoreceptor 1. A signal is transmitted from a controlling circuit 25 to the motor 18 so as to rotate the cam 19 in the case the operation is finished, so that the lever 20 is returned by a tension spring 22, and the cartridge 9 is set on the photoreceptor belt 1.

0) JP8297403A – TONER CARTRIDGE FOR IMAGE FORMING DEVICE

375) Family number: 13993114 (JP8297403A) © PatBase

Title: TONER CARTRIDGE FOR IMAGE FORMING DEVICE

Priority: JP19950101506 19950425

Family:

Publication number	Publication date	Application number	Application date
JP8297403 A2	19961112	JP19950101506	19950425

Probable Assignee: MITA INDUSTRIAL CO LTD

Assignee(s):(std)**:** MITA INDUSTRIAL CO LTD

Assignee(s): MITA IND CO LTD

Inventor(s):(std)**:** ICHIMARU TSUKASA ; OKADA MITSUHARU ; TAKEROKU KAZUO

International class (IPC 8–9)**:** G03G15/08 G03G21/16 (Advanced/Invention); G03G15/08 G03G21/16 (Core/Invention)

International class (IPC 1–7)**:** G03G15/08 G03G21/16

Classification Explorer

Forward Citations: US7676186, US7400848, US7062205,

Abstract:
Source: JP8297403A PURPOSE: To easily open/close a shutter member with a simple constitution by moving the shutter member in a direction for opening a toner discharging port by means of a driving lever mechanism. CONSTITUTION: The driving lever mechanism 52 for opening/closing the shutter member of a toner cartridge is provided on an attachment board 51 attached on the upper surface of a hopper 24. The mechanism 52 is provided with a working lever 53 arranged on the upper surface of the board 51, and an operating lever 54 arranged on the lower surface of the board 51. The lever 53 has an engagement groove 55 engaged with the shutter member and is turnably connected to the operating lever 54 through a connecting shaft 56. An engagement shaft 57 is fixed on the trailing end of the lever 53. A guide hole 58 by which the shaft 56 is engaged with the shaft 57 and the shafts 56 and 57 are guided in a moving direction is formed on the board 51. The shutter member is moved by operating the mechanism 52, so that the toner discharging port of a container main body is opened so as to perform toner replenishment.

0) US4814823A – IMAGE FORMING APPARATUS

376) Family number: 28851850 (US4814823A) © PatBase

Title: Image forming apparatus

Priority: JP19840085650 19840427 US19850727859 19850426 US19860915524 19861006 US19880168574 19880307 US19860916103 19861007 US19870029354 19870323 US19900498906 19900326 US19880243481 19880912

Family:

Publication number	Publication date	Application number	Application date
DE3564874 D1	19881013	DE19853564874	19850426
EP0159721 A1	19851030	EP19850105143	19850426
EP0159721 B1	19880907	EP19850105143	19850426
JP60230168 A2	19851115	JP19840085650	19840427
KR900005648 B1	19900801	KR19850002842	19850426
US4814823 A	19890321	US19870029354	19870323
US4857954 A	19890815	US19880168573	19880307
US4931837 A	19900605	US19890309912	19890214
US4956673 A	19900911	US19880243481	19880912
US5153646 A	19921006	US19900498906	19900326

Probable Assignee: TOSHIBA KK

Assignee(s):(std)**:** TOSHIBA CORP ; TOSHIBA KK

Assignee(s): KABUSHIKI KAISHA TOSHIBA

Inventor(s):(std)**:** IDE FUMITO ; IDE FUMITO C O PATENT DIVISION ; ISHI AKIHIKO ; MITSUHAYASHI TAKESHI ; NAKAZIMA MUNJO ; SANBAYASHI TAKESHI ; SANBAYASHI TAKESHI C O PATENT ; AKIYAMA YASUHISA ; AMAYA MIKIKO ; HAMANAKA OSAMU ; HAMANAKA OSAMU C O PATENT DIVI ; ABUYAMA YASUO ; ABUYAMA YASUO C O PATENT DIVIS ; SATO GUNIHIKO

Inventor(s): ABUYAMA YASUO C O PATENT DIVISION ; HAMANAKA OSAMU C O PATENT DIVISION ; SANBAYASHI TAKESHI C O PATENT DIVISION

Designated states: DE FR GB NL

International class (IPC 8–9): G03G15/01 G03G15/09 G03G21/00 (Advanced/Invention); G03G15/01 G03G15/09 G03G21/00 (Core/Invention)

International class (IPC 1–7): G03G15/00 G03G15/01 G03G15/06 G03G15/09 G03G21/00

CPC: G03G15/0126 G03G15/09

European class: G03G15/01D8 G03G15/09

US class: 118/645 118/657 355/14D 355/245 355/251 355/260 355/326 355/4 399/119 399/13 399/223 399/226 399/229 399/28 399/284

Classification Explorer

Cited documents: US4956673 A, US4814823 A, US4619514 A, US4591261 A, US4579443 A, US4511239 A, US4465356 A, US4460267 A, US4422405 A, US4408862 A, US4385829 A, US4373468 A, US4351604 A, US4264185 A, US4232961 A, US4165165 A, US4155638 A, US4097139 A, US4090787 A, US4077358 A, US3998537 A, US3987756 A, US3981576 A, US3976371 A, US3970042 A, US3960445 A, US3924944 A, US3841751 A,

Forward Citations: US9291989, US9280084, US7587150, US7272329, US7242872, US7236729, US7236710, US7013104, US6384940, US6088554, US6029018, US5794103, US5508792, US5426492, US5331381, US5321475, US5300991, US5257083, US5204713, US5172168, US5161084, US5153646, US5049930, US4958192, US4949124, US4897697, US4896193, US4891671, US4884096, US2015248074, US2006216050, US2006013600, US2005201764, US2005180765, JP61081662, EP0672962, EP0672962, EP0295187, DE3936236, DE3810211, DE3806559, DE3803489, DE3744328, DE3733665, DE3704993, DE3644355, DE3638869,

Abstract:
Source: US4814823A An image−forming apparatus is provided with a photosensitive drum rotatably located in a housing, and a developing device for developing the latent image formed on the surface of the photosensitive drum. A first developing unit of the developing device develops the latent image by a first red developing agent. A second developing unit develops the latent image by a second black developing agent. The first and second developing units are alernatively driven by a switch provided on a control panel which is located on the housing. A copy mode for black is automatically established when the power is turned on or if no operation is performed for a prescribed time after a foregoing copying operation, in a mode for any other color than black, is ended.

0) EP2058136B1 – METHOD OF PACKING A DEVICE COMPRISING A HOUSING...

377) Family number: 43225077 (EP2058136B1) © PatBase

Title: Method of packing a device comprising a housing in which a removable element is set and device packed according to this method

Priority: FR20070007839 20071108

Family:

Publication number	Publication date	Application number	Application date
AT468229 E	20100615	AT20080291027T	20081105
DE602008001301 D1	20100701	DE200860001301T	20081105
EP2058136 A1	20090513	EP20080291027	20081105
EP2058136 B1	20100519	EP20080291027	20081105
ES2342234 T3	20100702	ES20080291027T	20081105
FR2923463 A1	20090515	FR20070007839	20071108
FR2923463 B1	20091204	FR20070007839	20071108

Probable Assignee: SAGEM COMMUNICATIONS SAS

Assignee(s):(std)**:** SAGEM COMM

Assignee(s): SAGEM COMMUNICATIONS ; SAGEM COMMUNICATIONS SAS ; SAGEM COMMUNICATIONS SOCIETE ANONYME

Inventor(s):(std)**:** PASCUAL BERTRAND

Inventor(s): BERTRAND PASCUAL

Agent(s): BEAUDOUIN LAFON EMMANUEL; CABINET BOETTCHER

Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK TR

International class(IPC 8–9)**:** B41J29/00 B65B25/00 (Advanced/Invention); B41J29/00 B65B25/00 (Core/Invention)

CPC: B41J29/00 B65D85/68 B65D2585/689

European class: B41J29/00 B65D85/68 L65D585/68Y7

Classification Explorer

Cited documents: US5669496 A, US4811840 A, US2960217 A, US1852832 A, JP1192626 A2, EP0488094 A1,

Abstract:
The method involves fixing ends of adhesive tapes (18, 19) to cleats (14, 16), respectively. A front pilot door (9) is closed by passing ends (21, 22) of the tapes outside a device (1) via an interstice located between a main body (2) of the device and an upper edge (23) of the pilot door, where the edge is moved away from the body when opening the pilot door. The ends (21, 22) of the tapes are hooked to an external face of the door such that the tapes are drawn from the cleats towards an exterior of an internal housing when the door is opened without unhooking the ends (21, 22). An independent claim is also included for a packed device comprising a main body.

0) US2014376971A – DEVELOPER CONTAINER, PROCESS CARTRIDGE AND IMAG...

378) Family number: 58128245 (US2014376971A) © PatBase

Title: DEVELOPER CONTAINER, PROCESS CARTRIDGE AND IMAGE FORMING APPARATUS

Priority: JP20130131887 20130624

Family:

Publication number	Publication date	Application number	Application date
JP2015007663 A2	20150115	JP20130131887	20130624
US2014376971 AA	20141225	US20140311779	20140623
US9195210 BB	20151124	US20140311779	20140623

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK

Assignee(s): CANON INC

Inventor(s):(std)**:** TANAKA HIROYUKI

Agent(s): SERA KAZUNOBU; KAWAGUCHI YOSHIYUKI; WAKUTA JUN ICHI; FITZPATRICK CELLA HARPER AND SCINTO

International class (IPC 8–9)**:** G03G15/08 G03G21/16 G03G21/18 (Advanced/Invention)

CPC: G03G21/18 G03G21/1676 G03G15/0886

US class: 1/1 399/260

Classification Explorer

Cited documents: US2014348547 AA, US2011052266 AA, JP2002072653 A2, JP2000221766 A2,

Forward Citations: US2017075256,

Abstract:
Source: US2014376971A A developer container includes: a developer accommodating chamber provided with an opening; a first shutter, including a first portion–to–be–urged, movable between a closing position and an opening position; a second shutter, including a second portion–to–be–urged and being provided outside the first shutter with respect to the opening, movable between a closing position and an opening position; and a partitioning portion provided so as to block between the first and second portions–to–be–urged along moving ranges of the first and second portions–to–be–urged. Movement distances, when the first and second shutters are moved simultaneously from the closing positions, of the first and second shutters from the closing positions to the opening positions are different from each other so that after one of said first and second shutters reaches the opening position, the other shutter is moved to the opening position.

0) US5564690A – SHEET SUPPLY APPARATUS

379) Family number: 9466409 (US5564690A) © PatBase

Title: Sheet supply apparatus

Priority: JP19920189971 19920624 JP19920193112 19920626 US19950483550 19950607 US19930079894 19930622

Family:

Publication number	Publication date	Application number	Application date
DE69321771 D1	19981203	DE19936021771	19930623
DE69321771 T2	19990506	DE19936021771T	19930623
EP0575996 A1	19931229	EP19930110050	19930623
EP0575996 B1	19981028	EP19930110050	19930623
JP2916044 B2	19990705	JP19920193112	19920626
JP3193776 B2	20010730	JP19920189971	19920624
JP6009070 A2	19940118	JP19920193112	19920626
JP6009077 A2	19940118	JP19920189971	19920624
US5564690 A	19961015	US19950483550	19950607

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK

Assignee(s): KYANON KK ; CANON INC ; CANON K K ; CANON K K TOKIO TOKYO JP ; CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** OSHIDA HARUHISA

Inventor(s): OSHIDA HARUHISA OHTA KU TOKYO 146 JP

Designated states: DE FR GB

International class (IPC 8–9)**:** B65H1/12 B65H1/14 B65H1/24 B65H1/26 G03G15/00 (Advanced/Invention); B65H1/08 B65H1/12 B65H1/14 B65H1/26 G03G15/00 (Core/Invention)

International class (IPC 1–7)**:** B65H1/12 B65H1/14 B65H1/24 B65H1/26 G03G15/00

CPC: B65H1/12

European class: B65H1/12

US class: 271/127 271/157 271/160 271/164

Classification Explorer

Cited documents: US5222725 A, US5078380 A, US4280692 A, US4269407 A, JP52053255 A2, JP52053225 A2, JP44026054, JP4260542 A2, JP2295828 A2, JP2295828, GBA2019366, GB2019366 A1, DE2929117 A1,

Forward Citations: US9670015, US9637331, US8910933, US8500117, US8251364, US7926805, US7819398, US7708265, US7540493, US7510181, US7448613, US7165766, US6408147, US6231042, US6129348, US5775687, US5713568, US2016214811, US2014353907, US2013154184, US2012248692, US2011140353, US2010059930, US2009243206, US2009057988, US2008048384, US2007200284, US2007001370, US2006244197, US2006071404, JP5843811, JP2015009933, JP2008174331, FR2726222, EP2612830, EP0709321, EP0675414,

Abstract:
Source: US5564690A The present invention provides a sheet supplying apparatus including a sheet cassette removably mountable to the sheet supply apparatus and having a rockable sheet support plate for supporting sheets, and a biasing device for biasing the sheet support plate toward a sheet supply device of the sheet supplying apparatus for feeding out the sheets; a locking device for locking the sheet support plate at a position spaced apart from the sheet supply device in opposition to a biasing force of the biasing means; a releasing device for releasing a locking condition of the locking device when the sheet cassette is mounted to the sheet supplying apparatus; and a buffer device for reducing a shifting speed of the sheet support plate effected by the biasing device when the locking condition of the locking device is released by the releasing device. The present invention further provides an image forming apparatus including such sheet supplying apparatus.

0) JP4038302B – JIG FOR DETACHING DEVELOPER STORING CONTAINER

380) Family number: 13867325 (JP4038302B) © PatBase

Title: JIG FOR DETACHING DEVELOPER STORING CONTAINER

Priority: JP19990122026 19990428

Family:

Publication number	Publication date	Application number	Application date
JP2000315008 A2	20001114	JP19990122026	19990428
JP4038302 B2	20080123	JP19990122026	19990428

Probable Assignee: RICOH KK

Assignee(s):(std)**:** RICOH KK

Assignee(s): ROCOH COMPANY LTD ; RICOH CO LTD ; RICOH COMPANY LTD

Inventor(s):(std)**:** YOSHIOKA OSAMU

International class (IPC 8–9): G03G15/01 G03G15/08 (Advanced/Invention); G03G15/01 G03G15/08 (Core/Invention)

International class (IPC 1–7): G03G15/01 G03G15/08

Classification Explorer

Abstract:
Source: JP4038302B PROBLEM TO BE SOLVED: To improve operability and to prevent the deterioration of the operability caused by the reduction of the lock lever handling part of a developer storing container associated with the miniaturization of equipment by performing the release of lock at the time of exchanging the developer storing container through one action in the lock mechanism of the developer storing container used in a developing device. SOLUTION: By attaching a jig for detaching a toner cartridge 500 to a toner cartridge 46k and rotating it counterclockwise by a specified angle, an inclination part 513 gets into the inside of a lock lever 461 and presses up the top pawl part 461a of the lever 461, so that lock by the engagement of the pawl part 461a and the groove 421 of a case 421 is released. By rotating the jig 500 counterclockwise further, the toner cartridge 46k is rotated to a release position in a state where the inclination part 513 still presses up the lever 461.

0) FR2778141B – DISPOSITIF D'IMPRESSION THERMIQUE ET CARTOUCHES...

381) Family number: 14347392 (FR2778141B) © PatBase

Title: DISPOSITIF D'IMPRESSION THERMIQUE ET CARTOUCHES DE CONSOMMABLE POUR LEDIT DISPOSITIF

Priority: FR19980005518 19980430

Family:

Publication number	Publication date	Application number	Application date
FR2778141 A1	19991105	FR19980005518	19980430
FR2778141 B1	20000609	FR19980005518	19980430

Probable Assignee: SAGEM

Assignee(s):(std)**:** SAGEM

Assignee(s): SAGEM SA

Inventor(s):(std)**:** AUFFRAY JEAN PAUL ; CHEVROLLIER GUY

Inventor(s): GUY CHEVROLLIER ; JEAN PAUL AUFFRAY

Agent(s): CABINET BLOCH AND BONNETAT; GEVERS AND ORES

International class (IPC 8–9)**:** B41J17/36 B41J32/00 B41J35/28 (Advanced/Invention); B41J17/36 B41J32/00 B41J35/28 (Core/Invention)

International class (IPC 1–7)**:** B41J2/325 B41J32/00

CPC: B41J17/36 B41J32/00 B41J35/28

European class: B41J17/36 B41J32/00 B41J35/28

Classification Explorer

Cited documents: US5318370 A, US5220352 A, US4869606 A, US4702631 A, EP0751004 A1, EP0648609 A2, EP0479165 A1,

Forward Citations: USD775274, USD763350, USD753585, US9333777, US9333776,

Abstract:
The printer has a thermal print head (1), a housing that accepts a thermal print ribbon cartridge (10) or a cartridge of thermal printing paper (2). The printer has a drive to carry either thermal paper or the thermal print ribbon beneath the print head. The ribbon or paper cartridge is held in place by a clip. The printer can read a memory integrated into the cartridge that is inserted.

0) FR2995010B – AGENCEMENT POUR CARTOUCHE DE STOCKAGE SOUS FORM...

382) Family number: 55971599 (FR2995010B) © PatBase

Title: AGENCEMENT POUR CARTOUCHE DE STOCKAGE SOUS FORME SOLIDE DE REDUCTEUR GAZEUX POUR LA REDUCTION CATALYTIQUE SELECTIVE DES OXYDES D'AZOTE

Priority: FR20120058338 20120906

Family:

Publication number	Publication date	Application number	Application date
FR2995010 A1	20140307	FR20120058338	20120906
FR2995010 B1	20140829	FR20120058338	20120906

Probable Assignee: PEUGEOT CITROEN AUTOMOBILES SA

Assignee(s):(std)**:** PEUGEOT CITROEN AUTOMOBILES SA

Inventor(s):(std)**:** ARTAULT MATHIEU ; DUBOIS VINCENT ; JUMEL GUILLAUME

Inventor(s): MATHIEU ARTAULT ; VINCENT DUBOIS ; GUILLAUME JUMEL

Agent(s): PEUGEOT CITROEN AUTOMOBILES SA

International class (IPC 8–9): F01N3/08 F01N3/20 (Advanced/Invention)

CPC: F01N2450/30 F01N2610/02 F01N2610/06 F01N2610/1406 F01N2900/1814 F01N3/24

Classification Explorer

Cited documents: WO03018177 A1, FR2957630 A1,

Abstract:
Source: FR2995010A L'invention a pour objet un agencement comprenant – un support (1) pour cartouche (2) de stockage sous forme solide de reducteur gazeux pour la reduction catalytique selective des oxydes d'azote, cooperant avec – des moyens de raccordement fluidique (3) entre l'ouverture d'alimentation en gaz de la cartouche et une conduite d'amenee du reducteur gazeux destines a etre disposes en regard de ladite ouverture. Ledit support comprend un moyen d'aimantation (4) capable de ne porter que des composes conducteurs d'un poids inferieur ou egal a un poids seuil inferieur a celui d'une cartouche pleine et qui est dispose au voisinage desdits moyens de raccordement fluidique (3), de facon a ce qu'une cartouche vide ou partiellement vide approchee de sa position de raccordement soit attiree et portee par ledit moyen d'aimantation, empechant son raccordement effectif. The arrangement has a fluidic connection unit (3) located between an gas supply opening of a cartridge (2) and a drain pipe of a gas reducer that is to be placed in relation to the opening. A support (1) includes a magnetization unit (4) conducting compounds of a weight that is lower or equal to a weight threshold value, which is lower than that of the full cartridge. The support is placed adjacent to the fluidic connection unit such that an empty or partially empty cartridge is drawn from a connection position and supported by the magnetization unit. An independent claim is also included for a method for assembling a cartridge.

0) JP8123171A – DEVELOPER REFILLING CARTRIDGE

383) Family number: 13450452 (JP8123171A) © PatBase

Title: DEVELOPER REFILLING CARTRIDGE

Priority: JP19940256382 19941021

Family:

Publication number	Publication date	Application number	Application date
JP2983440 B2	19991129	JP19940256382	19941021
JP8123171 A2	19960517	JP19940256382	19941021

Probable Assignee: OKI DATA KK

Assignee(s):(std)**:** OKI DATA KK

Assignee(s): OKI DEETA KK

Inventor(s):(std)**:** KOYAMA TATSUYA ; UMEZAWA YOICHI

International class (IPC 8–9)**:** G03G15/08 G03G21/16 (Advanced/Invention); G03G15/08 G03G21/16 (Core/Invention)

International class (IPC 1–7)**:** G03G15/08 G03G21/16

Classification Explorer

Forward Citations: US7065313,

Abstract:
Source: JP8123171A PURPOSE: To provide a developer refilling cartridge for refilling a developer into a used developer cartridge. CONSTITUTION: A breaking part broken by pressing against one end part of a lever 9 is provided on the lever 9 composed of a pair of one end parts 7a and 7b which are freely attached to/detached from a toner supplying port 4 formed on a developer cartridge 1 housing toner and projected from the toner supplying port 4, at the time of attaching to the toner supplying port, 4 and a pair of the other end parts 8b which are integrally formed with one end parts 7a and 7b and inserted into the developer cartridge in a direction nearly perpendicular to an opening part, and a developer bag 12 broken simultaneously with the breaking of the breaking part is attached to the lever 9 and the breaking part, in a state where the toner is housed inside.

0) JP9081000A – IMAGE FORMING DEVICE

384) Family number: 14388334 (JP9081000A) © PatBase

Title: IMAGE FORMING DEVICE

Priority: JP19950255814 19950908

Family:

Publication number	Publication date	Application number	Application date
JP9081000 A2	19970328	JP19950255814	19950908

Probable Assignee: RICOH KK

Assignee(s):(std)**:** RICOH KK

Assignee(s): ROCOH COMPANY LTD ; RICOH CO LTD

Inventor(s):(std)**:** ISHII HIROSHI ; IWATA NAOTAKA ; SUGINO YOICHIRO

International class (IPC 8–9)**:** G03G15/08 G03G21/10 G03G21/16 (Advanced/Invention); G03G15/08 G03G21/10 G03G21/16 (Core/Invention)

International class (IPC 1–7)**:** G03G15/08 G03G21/10 G03G21/16

Classification Explorer

Forward Citations: WO06046466, US8478163, KR100872609, JP5517052, JP2011197073, JP2008145936,

Abstract:
Source: JP9081000A PROBLEM TO BE SOLVED: To improve the degree of freedom at a place where a recycled toner transfer device is installed by fixing the toner transfer tube of the recycled toner transfer device to an image forming case for making a cartridge and a developing unit attachable/detachable. SOLUTION: The recycled toner transfer device 21 is provided with the toner transfer tube 27 having an angular cross–section and a toner carrying coil member inserted/provided in the toner transfer tube 27 and fixed so that the tube 27 comes into contact with the front surface part 20A of the image forming case 20. This case 20 is supported to be freely insertible to/removable from an image forming device body 1 by guiding rails 22 and 23 and the cartridge 10 and the developing unit 6 are loaded in the image forming case 20 after being pulled out from above. When a pressure lever 34 provided in the case 20 is pivoted, the developing unit 6 is moved to the side of the cartridge 10, to be set at an image forming position. Therefore, a fault that the recycled toner transfer device 21 is exchanged simultaneously with the exchange of a cleaning device in the cartridge 10 is prevented.

0) JP4250475A – DEVELOPING UNIT AND ITS TONER CARTRIDGE

385) Family number: 29205075 (JP4250475A) © PatBase

Title: DEVELOPING UNIT AND ITS TONER CARTRIDGE

Priority: JP19910001413 19910110

Family:

Publication number	Publication date	Application number	Application date
JP3005301 B2	20000131	JP19910001413	19910110
JP4250475 A2	19920907	JP19910001413	19910110

Probable Assignee: RICOH KK

Assignee(s):(std): RICOH KK

Assignee(s): ROCOH COMPANY LTD ; RICOH CO LTD

Inventor(s):(std): YAJIMA SETSUO

International class (IPC 8–9): G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)

International class (IPC 1–7): G03G15/08

Classification Explorer

Abstract:
Source: JP4250475A PURPOSE: To offer a developing unit where the exchanging operation of a toner cartridge is surely and easily performed and the toner cartridge. CONSTITUTION: Two pins 20 formed at both side ends in the longitudinal direction of the toner cartridge 11 are guided along an inclined guide 23 formed in a unit main body 10 to a holding position by a holding part 22. A latch lever 21 is engaged with an engaging pawl in a state where the pin 20 is held by the holding part 22, and the toner cartridge 11 is fixed in the main body 10. Meanwhile, the latch lever 21 is operated so as to be disengaged from the engaging pawl, and the cartridge 11 is rotated in a detaching direction centering around the two pins 20.

0) EP2662218B1 – TINTENKARTUSCHE FUER KOMPAKTE TINTENSTRAHLDRUCK...

386) Family number: 55129404 (EP2662218B1) © PatBase

Title: TINTENKARTUSCHE FUER KOMPAKTE TINTENSTRAHLDRUCKER INK CARTRIDGE FOR COMPACT INK JET PRINTERS

Priority: EP20120003570 20120508

Family:

Publication number	Publication date	Application number	Application date
DE502012000867 D1	20140807	DE201250000867T	20120508
EP2662218 A1	20131113	EP20120003570	20120508
EP2662218 B1	20140618	EP20120003570	20120508

Probable Assignee: WEBER HANS JOACHIM

Assignee(s):(std)**:** WEBER HANS JOACHIM

Inventor(s):(std)**:** WEBER HANS JOACHIM

Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL NO PL PT RO RS SE SI SK SM TR

International class (IPC 8–9)**:** B41J2/175 (Advanced/Invention)

CPC: B41J2/1752 B41J2/17553 B41J2002/17516

Classification Explorer

Cited documents: WO03068514 A1, US2011096127 AA, US2010245468 AA, US2003067522 AA, EP1541357 A1, EP1510346 A2, EP1348558 A1,

Abstract:
Source: EP2662218A1 Ein Tintenstrahldrucksystem und hierzu passende Tintenkartuschen (10, 20) sind derart gestaltet, dass die Tintenkartuschen (10, 20) in platzsparender Weise in dem Gehaeuse peripher (310), insbesondere in einer Gehaeusewand oder einem Gehaeusedeckel angeordnet werden koennen. The ink cartridge (10) has housing (310) provided with a normalized form factor of 0.52 in particularly 0.44. A volume and surface of the housing of the cartridge are described. The housing includes two flat housing walls that run parallel to each other. A constant or varying distance between outer surfaces of the housing walls is ranged about 2.34 to 25 mm, where the outermost surfaces of the housing walls include size from 150 to 1200 square cm. A mechanical holding element is releasably supported in the housing. An independent claim is also included for a set of housings for an inkjet printing system or a portable computer.

0) CN106904043A – ONE POLYHYDRIC PAINTINGS BOX (MACHINE TRANSLA...

387) Family number: 66228702 (CN106904043A) © PatBase

Title: One polyhydric paintings box (Machine translation)

Priority: CN201710164958 20170320

Family:

Publication number	Publication date	Application number	Application date
CN106904043 A	20170630	CN201710164958	20170320

Probable Assignee: ZHENGZHOU INST OF LIGHT IND ISTON ACADEMY OF FINE ARTS

Assignee(s): ZHENGZHOU INST OF LIGHT IND ISTON ACADEMY OF FINE ARTS

International class (IPC 8–9): B44D3/00 B44D3/18 (Advanced/Invention)

Classification Explorer

Abstract:
Source: CN106904043A The present invention provides a pluralistic paintings case, belong to a drawing tools, including drawing box body, and the toner cartridge telescopic frame, telescopic frame with painted box body active connections, painted box body by a box, cover and two support rods, one end of the box body and the box cover at one end by a hinge, the lid inwardly recessed to form the outer surface of the drawing board, drawing board at one end and the other end provided with retaining clips, Sketchpad 3 corners are provided with a fixed bar, the hinged end of the clip away from the lid, the box body outer wall is provided with a card block, block the card with the toner cartridge outer wall is provided with a card slot, the housing interior is divided into a first partition toner cartridge placement area and tool placement area, toner cartridge, toner cartridge toner cartridge matches the shape placement region is hinged end, the tool is placed away from the box area is provided with at least two second partitions, the inner surface of the lid away from the hinge end with a lid, the lid of the toner cartridge corresponding to the position and the shape matching. The painted box structure reasonable and easy to use, full–featured, easy to carry.

388) Family number: 7429050 (JP3220577A) © PatBase

Title: METHOD AND DEVICE FOR REPLENISHING TONER FOR IMAGE FORMING DEVICE

Priority: JP19900014787 19900126

Family:

Publication number	Publication date	Application number	Application date
JP3220577 A2	19910927	JP19900014787	19900126

Probable Assignee: FUJI XEROX CO LTD

Assignee(s):(std)**:** FUJI XEROX CO LTD

Inventor(s):(std)**:** FURUKAWA MASAMITSU ; TAMURA TORU ; YUKITA AKIRA

International class (IPC 8–9)**:** G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)

International class (IPC 1–7)**:** G03G15/08

Classification Explorer

Forward Citations: US7778556, US7650087, US7536122,

Abstract:
Source: JP3220577A PURPOSE: To facilitate operavility at the time of replenishing toner by providing an operation lever for opening/closing a cap at the time of replenishing the toner so that it is slidable on the almost center part of the upper wall of a toner box. CONSTITUTION: When the operation lever 66 is moved by the approximate length of an opening part 2, a movable member 60 moves by approximately twice as long as the length of the opening part 2. Then, the sealing film 3 is completely peeled off from a temporary fixing part and followed by a cap member 4, which moves to an opening position in a container recessed part 72. On the other hand, a box side cap member 50 also moves into the container recessed part 72, and a toner receipting port 6 is completely opened. During this period, toner in a toner cartridge is gradually supplied into the toner box 5 through a part communicating the opening part 2 on this toner cartridge side with this toner reception port 6. Toner replenishment can be thus facilitated.

0) JP2000349942A – COMMUNICATION TERMINAL DEVICE

389) Family number: 12076202 (JP2000349942A) © PatBase

Title: COMMUNICATION TERMINAL DEVICE

Priority: JP19990154626 19990602

Family:

Publication number	Publication date	Application number	Application date
CN1276673 A	20001213	CN20001008703	20000530
CN1293741 C	20070103	CN20001008703	20000530
DE10027366 A1	20010118	DE20001027366	20000602
DE10027366 B4	20060706	DE20001027366	20000602
JP2000349942 A2	20001215	JP19990154626	19990602

Probable Assignee: RICOH KK

Assignee(s):(std): RICOH KK

Assignee(s): ROCOH COMPANY LTD ; RICOH CO ; RICOH CO LTD

Inventor(s):(std): KAZUYA TAKAHASHI ; TAKAHASHI KAZUYA

International class (IPC 8–9): H04N1/00 (Advanced/Invention); H04M1/2745 (Advanced/Non–invention); H04N1/00 (Core/Invention); H04M1/274 (Core/Non–invention)

International class (IPC 1–7): H04N1/00

CPC: H04M1/2745 H04N1/00352 H04N1/00384 H04N1/00397 H04N1/00405 H04N1/00408 H04N1/00466 H04N1/00488

European class: H04N1/00D2 H04N1/00D2K H04N1/00D2S H04N1/00D3 H04N1/00D3D H04N1/00D3D6 H04N1/00D3S

Classification Explorer

Cited documents: US5513253 A, JP8167949 A2, EP0864933 A1,

Abstract:
Source: JP2000349942A PROBLEM TO BE SOLVED: To improve operability by setting volume of a voice generated in response to a selected processing operation and adjusting the volume generation, when the processing operation corresponding to the volume is performed. SOLUTION: A display D01 is shown on an indicator, and volume adjustment is selected by a (?) key or a (–) key as to the volume of an item to be performed among an 'on–hook mode', a 'FAX transmission mode' and a 'FAX reception mode'. In display D02, the selection item 'on–hook mode' is selected, and the volume adjustment of the 'on–hook mode' is performed. A volume set position, corresponding to a volume setting position when a (Yes) key is pressed down, is made to correspond to the selected volume adjustment item and stored. Thus, a line signal to be outputted from a loudspeaker is outputted with stored new set volume in a subsequent 'on–hook mode'.

0) FR2892781A – ENGAGEMENT DEVICE FOR A PIGNON COMPRISES A BRAC...

390) Family number: 34462114 (FR2892781A) © PatBase

Title: ENGAGEMENT DEVICE FOR A PIGNON COMPRISES A BRACKET PLACED BETWEEN THE CARTRIDGE AND ITS SEATING TO FIX THE CARTRIDGE IN THE HUB

Priority: FR20050053311 20051102

Family:

Publication number	Publication date	Application number	Application date
FR2892781 A3	20070504	FR20050053311	20051102

Probable Assignee: RENAULT SAS

Assignee(s):(std)**:** RENAULT SAS ; RENAULT SAS SOC PAR ACTIONS SI

Assignee(s): RENAULT SAS SOC PAR ACTIONS SIMPLIFIEE ; RENAULT SAS SOCIETE PAR ACTIONS SIMPLIFIEE

Inventor(s):(std)**:** JACQUART ERIC

International class (IPC 8–9)**:** F16D23/04 (Advanced/Invention); F16D23/02 (Core/Invention)

CPC: F16D23/06

European class: F16D23/06

Classification Explorer

Cited documents: EP1408250, EP1184585, DE19941794, DE10231602,

Forward Citations: DE102012015746, DE102010022887,

Abstract:
The engagement device for an idle pignon comprises a bracket (38) placed between the cartridge (32) and its seating (30) to fix the cartridge in the hub (16).

0) WO07143954A1 – PROCESS CARTRIDGE CARTOUCHE DE TRAITEMENT

391) Family number: 34948196 (WO07143954A1) © PatBase

Title: PROCESS CARTRIDGE

Priority: CN200620060239U 20060609

Family:

Publication number	Publication date	Application number	Application date
CN2924593 Y	20070718	CN200620060239U	20060609
WO07143954 A1	20071221	WO2007CN70093	20070607

Probable Assignee: ZHUHAI TIANWEI TECH DEV CO LTD

Assignee(s):(std)**:** PRINT RITE TECHNOLOGY DEV CO L ; ZHANG WEN AN ; ZHOU HONGHUI ; ZHUHAI TIANWEI TECH DEV CO LTD

Assignee(s): ZHUHAI TIANWEI TECHNOLOGY DEVELOPMENT CO LTD ; ZHUHAI TIANWEI TECHNOLOGY DEVELOPMENT CO ; PRINT RITE TECHNOLOGY DEVELOPMENT CO ; PRINT RITE TECHNOLOGY DEVELOPMENT CO LTD OF ZHUHAI

Inventor(s):(std)**:** ZHANG WEN AN ; ZHOU HONGHUI ; ZHOU HONGHUI ZHANG

Inventor(s): HONGHUI ZHANG ZHOU

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD MG MK ML MN MR MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9): F16B5/06 G03G15/08 (Advanced/Invention); F16B5/06 G03G15/08 (Core/Invention)

CPC: G03G21/1821 G03G2221/1853

European class: G03G21/18C4C S03G221/18P3

Classification Explorer

Cited documents: US5937238 A, JP9319206 A2, FR2618861 A1, EP1426520 A1, EP0458517 A1, CN2603953 Y,

Abstract:
A process cartridge includes a developing container (113) and a toner container (114). The developing container (113) is provided with a toner receiving port (22) formed by a first flange portion (21). The toner container (113) is provided with a toner feeding port (32) formed by a second flange portion (31). In addition, at least one gripping protrusion (35) is provided on a side wall of the toner container (114) which is perpendicular to one long edge of the second flange portion (31). One long edge of the first flange portion (21) is inserted into the gripping protrusion (35), while the other long edge of the first flange portion (21) is fixed with the other edge of the second flange portion (31) by means of at least one clamp (4).

0) JP8305148A – TONER CARTRIDGE AND DEVELOPING DEVICE

392) Family number: 14032803 (JP8305148A) © PatBase

Title: TONER CARTRIDGE AND DEVELOPING DEVICE

Priority: JP19950114950 19950512

Family:

Publication number	Publication date	Application number	Application date
JP8305148 A2	19961122	JP19950114950	19950512

Probable Assignee: MITA INDUSTRIAL CO LTD

Assignee(s):(std)**:** MITA INDUSTRIAL CO LTD

Assignee(s): MITA IND CO LTD

Inventor(s):(std)**:** JIYOUROKU KAZUO

International class (IPC 8–9)**:** G03G15/08 G03G21/16 (Advanced/Invention); G03G15/08 G03G21/16 (Core/Invention)

International class (IPC 1–7)**:** G03G15/08 G03G21/16

Classification Explorer

Forward Citations: WO08004566, US8787803, US8750753, US8121518, US7783234, US7711294, JP3913349, JP2012098501, JP2012037837, JP2011022616, JP2008083549, JP2006343359, JP2005345874, JP11198511,

Abstract:
Source: JP8305148A PURPOSE: To reduce the scattering of toner from a cartridge as for as possible. CONSTITUTION: The toner cartridge 35 is of a cylindrical one detachably attached to a developing unit 12 for developing an electrostatic latent image with the toner and provided with an inner cylinder member 41, an outer cylinder member 42, a locking pawl 55 and an attaching groove 52. The inner cylinder member 41 houses the toner inside and an opening 43 is formed in the periphery of the member 41. The outer cylinder member 42 is arranged to enable a relative rotation on the outer peripheral side of the inner cylinder member 41 and a periphery 44 capable of facing the opening 43 is formed in the periphery of the member 42. The locking pawl 55 is of a hook–like member and projected outward on the periphery of the inner cylinder member 41, the top end is locked to the inner periphery of the outer cylinder member 42 and the locking is released at the time of attaching. The attaching groove 52 is formed like a U– shape and arranged in the end surface of the inner cylinder member 41 and guides it, to attach it to the developing unit 12 in a radial direction.

0) JP2007219268A – IMAGE FORMING APPARATUS

393) Family number: 37218270 (JP2007219268A) © PatBase

Title: IMAGE FORMING APPARATUS

Priority: JP20060040939 20060217

Family:

Publication number	Publication date	Application number	Application date
JP2007219268 A2	20070830	JP20060040939	20060217

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK

Assignee(s): CANON INC ; CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** YASUI KOUJIRO

International class (IPC 8–9): G03G21/18 (Advanced/Invention); G03G21/18 (Core/Invention)

Classification Explorer

Forward Citations: US8238785,

Abstract:
Source: JP2007219268A PROBLEM TO BE SOLVED: To provide an image forming apparatus which is low−cost and superior in operability and where a process cartridge and a developer cartridge are attachable and detachable. SOLUTION: The image forming apparatus is such that the process cartridge 1 attached to and detached from a printer main body alone and the toner cartridge 2 supplying a developer to the process cartridge are attachable and detachable. When the process cartridge 1 loaded in the printer main body is taken out, a lock lever 30 of a cartridge same−time attachment/detachment preventing mechanism locks the other toner cartridge to prevent it from being drawn out together. Operations during the period are performed extremely smoothly and naturally, so the image forming apparatus has superior usability.

0) JP2009080477A – TONER CARTRIDGE ATTACHING/REMOVING STRUCTURE

394) Family number: 43269125 (JP2009080477A) © PatBase

Title: TONER CARTRIDGE ATTACHING/REMOVING STRUCTURE

Priority: JP20070229756 20070905 JP20080222081 20080829

Family:

Publication number	Publication date	Application number	Application date
JP2009080477 A2	20090416	JP20080222081	20080829

Probable Assignee: KYOCERA MITA CORP

Assignee(s):(std)**:** KYOCERA DOCUMENT SOLUTIONS INC ; KYOCERA MITA CORP

Inventor(s):(std)**:** INADA TERUHIKO ; ITO SHINJI

International class (IPC 8–9)**:** B65D83/06 G03G15/08 G03G21/16 (Advanced/Invention); B65D83/06 G03G15/08 G03G21/16 (Core/Invention)

Classification Explorer

Forward Citations: US9535371, US9285708, US9244426, US9207578, US9176426, US8958725, US8712295, KR20160052490, KR20160052489, KR20130096173, JP5904823, JP5722277, JP5024491, JP2015102832, JP2013250428, JP2013250364, JP2013182075, JP2013171200, JP2012058412, JP2010054994, EP3055738,

Abstract:
Source: JP2009080477A PROBLEM TO BE SOLVED: To provide a toner cartridge attaching/removing structure to remove a toner cartridge with one lever operation. SOLUTION: When attaching the toner cartridge of a printer at a first rotating position of an operation lever 66 and at a first slide position of a lock member 114, a lock part locks an engagement part, and at a third rotation position of the operation lever 66, the lock member 114 makes the lock part release locking of the engagement part by a slide means to slide from the first slide position to a second slide position. The slide means is equipped with a cam member 50, which moves the lock member 114 to the second slide position at a third rotation position of the operation lever 66.

395) Family number: 44888201 (JP2010072275A) © PatBase

Title: TONER CONVEYING DEVICE AND IMAGE FORMING APPARATUS USING THE SAME

Priority: JP20080238976 20080918

Family:

Publication number	Publication date	Application number	Application date
JP2010072275 A2	20100402	JP20080238976	20080918

Probable Assignee: SHARP KK

Assignee(s):(std)**:** SHARP KK

Assignee(s): SHARP CORP ; SHARP KABUSHIKI KAISHA

Inventor(s):(std)**:** KUBOTA HIROSHI ; MIHARA KOICHI ; OGOSHI TOSHIHIDE

Agent(s): MIYAO AKISHIGE; KANDA MASAYOSHI; FUJIMOTO EISUKE

International class (IPC 8–9): G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)

Classification Explorer

Forward Citations: JP2015152683,

Abstract:
Source: JP2010072275A PROBLEM TO BE SOLVED: To provide a toner conveying device that suppresses toner leak and smoothly moves a shutter member, and to provide an image forming apparatus using the same. SOLUTION: The toner conveying device 105 includes: a toner inlet 105b for charging toner supplied from a toner cartridge 20, and a toner outlet 105c for discharging the supplied toner toward the developing device 102; a lever 105e that is operated in contact with the developing device 102; a shutter member 105d that opens/closes the toner outlet 105c in cooperation with the lever 105e; and a guide member 106 that guides the shutter member 105d. In the toner conveying device 105, the guide member 106 is swingable in the direction in which the developing device 102 is attached or detached.

0) JP6003953A – TONER REPLENISHING UNIT FOR DRY IMAGE FORMING D...

396) Family number: 10779617 (JP6003953A) © PatBase

Title: TONER REPLENISHING UNIT FOR DRY IMAGE FORMING DEVICE

Priority: JP19920159592 19920618

Family:

Publication number	Publication date	Application number	Application date
JP6003953 A2	19940114	JP19920159592	19920618

Probable Assignee: RICOH KK

Assignee(s):(std)**:** RICOH KK

Assignee(s): ROCOH COMPANY LTD ; RICOH CO LTD

Inventor(s):(std)**:** IKESUE MASUMI

International class (IPC 8–9): G03G15/00 G03G15/08 (Advanced/Invention); G03G15/00 G03G15/08 (Core/Invention)

International class (IPC 1–7): G03G15/00 G03G15/08

Classification Explorer

Abstract:
Source: JP6003953A PURPOSE: To effectively make use of an idle space in an image forming device by constituting a toner replenishing unit for dry image forming device of a movable container filled with plural capsules containing toner and capable of easily being destroyed and a replenishing device supporting the container and provided with a reciprocated pressurizing means. CONSTITUTION: A toner cartridge 1 set in such a manner that a male screwlike attaching part 6 is engaged with the cartridge attaching part 11 of a toner replenishing device 10 formed like a female screw is intermittently pressed by reciprocative turning around the driving shaft 13 of a pressurizing lever 12 disposed/fixed on the outer periphery of the attaching part 11. Thus, part of the capsule 5 located in a lower part in the case 1 is destroyed, and the toner flows out of the broken capsule and is dropped downward. Therefore, only a very small amt. of toner in the capsule destroyed by the lower part of the container 1 can be supplied without rotating the container 1.

0) JP6035321A – ELECTROPHOTOGRAPHIC RECORDER

397) Family number: 10898838 (JP6035321A) © PatBase

Title: ELECTROPHOTOGRAPHIC RECORDER

Priority: JP19920213296 19920717

Family:

Publication number	Publication date	Application number	Application date
JP6035321 A2	19940210	JP19920213296	19920717

Probable Assignee: RICOH KK

Assignee(s):(std)**:** RICOH KK

Assignee(s): ROCOH COMPANY LTD ; RICOH CO LTD

Inventor(s):(std)**:** MATSUMAE IWAO ; MIYAMOTO MASAYOSHI ; MOTOHASHI TAKESHI ; TAMIYA TAKAHIRO ; TANAKA YOSHIAKI ; TANZAWA ATSUSHI

International class (IPC 8–9): G03G15/00 G03G15/08 (Advanced/Invention); G03G15/00 G03G15/08 (Core/Invention)

International class (IPC 1–7): G03G15/00 G03G15/08

CPC: G03G15/0886 G03G15/0872 G03G2215/067

European class: S03G215/06C1A2

Classification Explorer

Forward Citations: WO06093362, WO06052028, WO06046466, US9690231, US9658568, US9612571, US9494891, US9483017, US9366993, US9348306, US9239565, US9201340, US9146532, US9122232, US8862035, US8862034, US8792804, US8737876, US8693926, US8606140, US8554116, US8509658, US8478163, US8472848, US8463164, US8369753, US8320801, US8295743, US8254807, US8190068, US7991333, US7925182, US7848685, US7742724, US6526243, US6456810, US6438345, US6185401, US2016313674, US2016109827, US2013302067, RU2472200, JP5144939, JP2011175303, JP2008191578, JP2008076887, EP2816422, EP1927897, EP1437632, EP0905577, AU2010246543,

Abstract:
Source: JP6035321A PURPOSE:To improve operability when the toner replenishing is carried out by opening a shutter of a toner cartridge after the toner cartridge is attached to a developing device. CONSTITUTION:The shutter is provided to freely rotate and seal an opening 46 in the toner cartridge 31, while an inputting gear 63 is provided on one edge of the shutter, an idler gear 61 engaged with the inputting gear 63 and a rotating member 60 which is engaged with the idler gear 61 are provided. The rotating member 60 is provided to freely rotate on one edge of an agitator shaft 50 of the toner cartridge 31 and one end of an energizing member 64 energizing in the direction to close the shutter is hooked onto the rotational member 60. On the other hand, an actuating protrusion 68 is provided in a top construction body 10b to be engaged with the rotational member 60 when being closed and to rotate the rotational member 60 against the energizing member 64. Then, after the toner cartridge 31 is attached to the developing device 13, the shutter is opened or closed in a motion linked with the opening/closing action of the top construction body 10b of the device main body.

0) JP11109752A – IMAGE FORMING DEVICE

398) Family number: 12774605 (JP11109752A) © PatBase

Title: IMAGE FORMING DEVICE

Priority: JP19970281491 19970929

Family:

Publication number	Publication date	Application number	Application date
JP11109752 A2	19990423	JP19970281491	19970929

Probable Assignee: RICOH KK

Assignee(s):(std)**:** RICOH KK

Assignee(s): ROCOH COMPANY LTD ; RICOH CO LTD

Inventor(s):(std)**:** AOKI HIDEO

International class (IPC 8–9)**:** G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)

International class (IPC 1–7)**:** G03G15/08

Classification Explorer

Forward Citations: US9671742, US9599949, US9176467, US8909070, US8744287, US2012275824, JP5870538, JP2013041046,

Abstract:
Source: JP11109752A PROBLEM TO BE SOLVED: To provide an image forming device capable of preventing toner from being leaked or scattered because of attachment/detachment other than ordinary toner end as an image forming device equipped with a developing unit having a developing device and attached to/detached from a device body and a toner cartridge unit having a toner storage part and constituted to be attached to/detached from the developing unit. SOLUTION: A cartridge lock means having a lock lever 114 provided to be rocked with a fixed point O1 as center and a solenoid 115 is provided in a processing unit 30. When the toner cartridge unit 40 is attached to the processing unit 30, it is locked in the unit 30.

0) CN206292539U – THE TONER CARTRIDGE OF THE CHARGING ROLLER AND ...

399) Family number: 66241798 (CN206292539U) © PatBase

Title: The toner cartridge of the charging roller and the photosensitive drum separation off prevention member thereof using a toner cartridge (Machine translation)

Priority: CN201621439044U 20161226

Family:

Publication number	Publication date	Application number	Application date
CN206292539 U	20170630	CN201621439044U	20161226

Probable Assignee: ZHUHAI POLYCOM SUPPLIES LTD

Assignee(s): ZHUHAI POLYCOM SUPPLIES LTD

International class (IPC 8–9): G03G15/02 G03G15/08 (Advanced/Invention)

Classification Explorer

Abstract:
Source: CN206292539U The utility model relates to a cartridge with the photosensitive drum charging roller separating member and the use of its anti–off, anti–off separation member comprises a toner cartridge integrally formed straight shank, separation, the separated crank crank provided on the toner charging roller and the photosensitive drum separation of anti–off member, and the other end of the separation The crank includes a charging roll concave drag and anti–decoupling, the charging roller concave drag and the straight shank fixed connection, said retaining hook is provided on the charging roller concave drag away from the straight shank of the outermost end, the charging roller drag and the anti–off hook recess constituting the toner charging roller and the photosensitive drum separation off prevention member anti–off support groove. The utility model toner charging roller and the photosensitive drum separation, separated off by anti–off prevention member hooked crank charging roller, a charging roller and the photosensitive drum, can effectively prevent anti–separation member structure is simple, good anti–off effect, replacement, and low cost.

0) JP5119612A – DEVELOPING DEVICE

400) Family number: 10081977 (JP5119612A) © PatBase

Title: DEVELOPING DEVICE

Priority: JP19910309752 19911029

Family:

Publication number	Publication date	Application number	Application date
JP5119612 A2	19930518	JP19910309752	19911029

Probable Assignee: MITA INDUSTRIAL CO LTD

Assignee(s):(std)**:** MITA INDUSTRIAL CO LTD

Assignee(s): MITA IND CO LTD

Inventor(s):(std)**:** MATSUDA TOMIYASU ; MASUI YUICHI ; IRIE ATSUHIKO

International class (IPC 8–9)**:** G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)

International class (IPC 1–7)**:** G03G15/08

Classification Explorer

Abstract:
Source: JP5119612A PURPOSE: To obtain a developing device for simply protecting the high potential of an electret sleeve. CONSTITUTION: A sealing member 6 is integrally constituted of the sides of a sleeve seal 62 covering the exposing part of the electret sleeve 2, and a cartridge seal 64 covering the opening part of a toner cartridge 4, and a seal hole 6c is provided on the side of the cartridge seal 64. Simultaneously one end of the seal 64 is attached to the top end of the rotary lever 5 of the toner cartridge 4, on the side of the sleeve seal 62, it is folded to doubly cover the exposing part of the electret sleeve 2. and the other end 6b of the seal 64, is fixed on the top end 1c of the opening part 1a of the side part of a housing 1. The lever 5 is rotated, so that the sealing member 6 is moved, the opening part 4a of the toner cartridge is released by the seal hole 6c, and simultaneously, the opening part 1a of the side part of the housing is released by the sleeve seal 62, as well. The high potential of the electret sleeve is protected by the sealing member, and besides, an operation is easy because the sleeve seal and the cartridge seal are integrally formed.

0) JP8095466A – IMAGING CARTRIDGE ROCKING DEVICE IN IMAGE FORMI...

401) Family number: 13393685 (JP8095466A) © PatBase

Title: IMAGING CARTRIDGE ROCKING DEVICE IN IMAGE FORMING DEVICE

Priority: JP19940231217 19940927

Family:

Publication number	Publication date	Application number	Application date
JP8095466 A2	19960412	JP19940231217	19940927

Probable Assignee: MINOLTA CO LTD

Assignee(s):(std)**:** KONICA MINOLTA HOLDINGS INC ; MINOLTA CO LTD

Inventor(s):(std)**:** TAKESUE YASUTSUGU

International class (IPC 8–9)**:** G03G21/18 (Advanced/Invention); G03G21/18 (Core/Invention)

International class (IPC 1–7)**:** G03G21/18

Classification Explorer

Abstract:
Source: JP8095466A PURPOSE: To stir toner inside and to easily make it uniform by rocking both side parts of an imaging cartridge attached to the main body of an image forming devicl with a holding mechanism. CONSTITUTION: The holding mechanism C holds the imaging cartridge B disposed detachably in the device main body A. The holding mechanism C is composed of a first lever C1 whose base end is fixed on the left inner wall of the main body A, to be freely turnably by a supporting point C10 and free end side is provided with a formed oblong hole C15 and supported on the supporting point C10 to be freely rockably around it as the center and a second lever whose base end is fixed on the right inner wall of the main body A, to be freely turnably by a supporting point and free end side is supported to be freely rockably around this supporting point as the center. Both levers C1... are always rocked and energized upward and then, the left part engaging part B7 of the cartridge B is freely turnably engaged with the oblong hole C15 of the first lever C1 and the top surface is pressed by the closing operation of an upper cover A2, to simultaneously and differently rock the lever C1, etc.

0) JP8146738A – POWDER REPLENISHING CARTRIDGE

402) Family number: 13508426 (JP8146738A) © PatBase

Title: POWDER REPLENISHING CARTRIDGE

Priority: JP19940286376 19941121

Family:

Publication number	Publication date	Application number	Application date
JP8146738 A2	19960607	JP19940286376	19941121

Probable Assignee: CASIO ELECTRONICS MFG CO

Assignee(s):(std): CASIO COMPUTER CO LTD ; CASIO ELECTRONICS MFG CO

Assignee(s): CASIO COMPUT CO LTD ; CASIO ELECTRON MFG CO LTD

Inventor(s):(std): TAKASHIKA MORIMICHI

International class (IPC 8–9): G03G15/08 G03G21/16 (Advanced/Invention); G03G15/08 G03G21/16 (Core/Invention)

International class (IPC 1–7): G03G15/08 G03G21/16

Classification Explorer

Abstract:
Source: JP8146738A PURPOSE: To provide a powder replenishing cartridge preventing the scattering or the transfer to other places of the residual powder of a used cartridge to be unloaded when the opening completion of a new powder replenishing cartridge is confirmed and also after the opening completion. CONSTITUTION: The toner replenishing cartridge 10 houses toner 17 at the inside of a container main body 11 and is positioned and fixed by fitting a fitting part 11b in the slide groove of a developing part. The sealing part 12a of sealing tape 12 seals a lower aperture 11a, and the end part of an extended part 12b folded back is locked at an opening operation lever 15. One end of an engaging member 13 is engaged to the inside of a folded back part to slide freely and the other end is locked at a tension spring 14 and is pressed upward. The opening operation lever 15 raises with a hook body 15a by a pulling–up operation against the energying force of the tension spring 14 and pulls out a sealing member 12 and opens the sealing of the aperture 11a made by the sealing part 12a. When the hook body 15a ascends to a hole 16b, the tip stretches so as to release bending, and the descent of the opening operation lever 15 is allowed.

0) JP8254888A – IMAGE FORMING DEVICE, PROCESS CARTRIDGE, DEVELO...

403) Family number: 13838730 (JP8254888A) © PatBase

Title: IMAGE FORMING DEVICE, PROCESS CARTRIDGE, DEVELOPING DEVICE AND DEVELOPER REPLENISHMENT CONTAINER

Priority: JP19950086535 19950316

Family:

Publication number	Publication date	Application number	Application date
JP8254888 A2	19961001	JP19950086535	19950316

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK

Assignee(s): CANON INC ; CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** KOBAYASHI KAZUNORI ; MATSUZAKI SUKEOMI

International class (IPC 8–9)**:** G03G15/08 G03G21/16 G03G21/18 (Advanced/Invention); G03G15/08 G03G21/16 G03G21/18 (Core/Invention)

International class (IPC 1–7)**:** G03G15/08 G03G21/16 G03G21/18

Classification Explorer

Abstract:
Source: JP8254888A PURPOSE: To improve operability of a toner seal of a developer replenishment container, at the time of attaching the developer replenishment container to a process cartridge. CONSTITUTION: The toner seal 9 for sealing an opening part 8b of the developer replenishment container 8 is provided with a hooking part 9a. When the toner seal take–up device 10 is set to the process cartridge and the developer replenishment container 8 is attached to the process cartridge, the hooking part 9a is engaged to a gear 10a of the toner seal take–up device 10, and the toner seal 9 is automatically stripped off by driving the take–up device 10.

0) US5871292A – COOPERATING MECHANICAL SUB–ASSEMBLIES FOR A DRU...

404) Family number: 23969453 (US5871292A) © PatBase

Title: Cooperating mechanical sub–assemblies for a drum–based wide format digital color print engine

Priority: US19960711796 19960910 US19980042769 19980317

Family:

Publication number	Publication date	Application number	Application date
US5871292 A	19990216	US19960711796	19960910
US6461064 BA	20021008	US19980042769	19980317

Probable Assignee: MACDERMID ACUMEN INC

Assignee(s):(std)**:** LASERMASTER CORP

Assignee(s): MACDERMID ACUMEN INC ; LEONARD BENJAMIN PATRICK ; ANDERSON KERRY RAY ; BLOOM GREGG MICHAEL ; COLORSPAN CORP ; HANSON MICHAEL DAVID ; HEWLETT PACKARD DEVELOPMENT CO ; HEWLETT PACKARD DEVELOPMENT CO LP

Inventor(s):(std)**:** ANDERSON KERRY RAY ; BLOOM GREGG MICHAEL ; HANSON MICHAEL DAVID ; LEONARD BENJAMIN PATRICK ; LAUMEYER ROBERT ANTHONY ; JOHNSON NEILL ARTHUR KELSO

International class (IPC 8–9)**:** B41J11/42 B41J19/20 (Advanced/Invention)

International class (IPC 1–7)**:** B41J19/00 B41J19/20 B41J23/00

CPC: B41J11/42 B41J19/16 B41J19/20 B41J19/202

European class: B41J11/42 B41J19/16 B41J19/20 B41J19/20B

US class: 347/33 347/37 347/50 400/175 400/320 400/328 400/352

Classification Explorer

Cited documents: US5801725 A, US5644347 A, US5585826 A, US5486854 A, US5455608 A, US5440331 A, US5402156 A, US5276466 A, US5276459 A, US5237338 A, US5212502 A, US5026186 A, US4827282 A, US4626117 A, US4613245 A, US4538160 A, JP6191060 A2,

Forward Citations: WO0211987, WO0156804, USD653284, USD652446, US9527307, US9487010, US8774549, US8567936, US8523318, US8517508, US8231202, US8033637, US7891892, US7770518, US7570494, US7431421, US7300133, US7264328, US7237870, US7204571, US7052125, US7052110, US7021735, US6997627, US6935738, US6789876, US6733106, US6692107, US6637958, US6493018, US6343848, US6154232, US6149262, US6102523, US6074112, US2014203163, US2013083245, US2013070019, US2012113199, US2011001780, US2010259589, US2008204505, US2007268326, US2006250451, US2006238561, US2006209152, US2006066657, US2005280678, US2005275677, US2005151765, US2005140724, US2004246297, US2004213618, US2004213617, US2004213616, US2004080563, US2004036738, US2003007023, JP2015058625, GB2379191, GB2379191,

Abstract:
Source: US5871292A This invention relates to an improved wide format color digital print engine, and in particular to a cooperating group of print engine sub–assemblies comprising a sealable enclosure defining electronics and printing sub–spaces within the enclosure and supporting two critical alignment plates which alone control alignment of all major sub–assemblies of the print engine and which provide accurate attachment points for a carriage drive and rail sub–assembly, a motor and drum mounted to rotate within a printing bay, and mounting points for a service station for cleaning and storing a plurality of marking elements associated with replaceable ink emitting cartridges. The subassemblies cooperate to generate high quality colored images as a drum–based large format digital ink jet print engine. In particular, the present invention provides a highly manufacturable print engine benefiting from a discrete few controlled mounting locations so that accurate mounting of the cooperating sub–assemblies allow a very stable carriage assembly for driving said carriage laterally with respect to a printing medium coupled to the exterior of a drum spinning within a printing bay and controlled by print head electronics utilizing a timing sequence from the rotating drum and lead screw for driving the carriage assembly.

0) JP2007219226A – IMAGE FORMING APPARATUS

405) Family number: 37218523 (JP2007219226A) © PatBase

Title: IMAGE FORMING APPARATUS

Priority: JP20060040489 20060217

Family:

Publication number	Publication date	Application number	Application date
JP2007219226 A2	20070830	JP20060040489	20060217

Probable Assignee: SEIKO EPSON CORP

Assignee(s):(std)**:** SEIKO EPSON CORP

Inventor(s):(std)**:** INUI MASAHARU ; NARITA TAKAMI ; OKAMOTO KATSUMI

International class (IPC 8–9)**:** G03G15/01 G03G15/08 G03G21/16 (Advanced/Invention); G03G15/01 G03G15/08 G03G21/16 (Core/Invention)

Classification Explorer

Abstract:
Source: JP2007219226A PROBLEM TO BE SOLVED: To provide an image forming apparatus capable of preventing a worker, a document or the like from getting dirty by dirt on the outer surface of a detached cartridge by cleaning the outer surface of the cartridge simultaneously with the replacement work of the cartridge, and completing toner replenishing work by easily performing the replacement work of the cartridge without requiring skill or excessive caution. SOLUTION: In the image forming apparatus, a developing cartridge 14 faces to a photoreceptor drum so as to develop an electrostatic latent image on the surface of the photoreceptor drum with stored toner, and a toner image is transferred and fixed on recording paper. In the apparatus, a cleaning pad 50 press–contacting and scraping the upper surface of the developing cartridge pulled out in replacement is disposed on a lever member 43 turned while engaged with an engaging part 42c at the edge of a lever member 42 inhibiting or allowing the replacement of the developing cartridge by turning between a lock position on the front of a replacing port and an unlock position on the outside of the periphery.

0) JP2013076885A – IMAGE FORMING APPARATUS AND PROCESS CARTRIDGE

406) Family number: 54065370 (JP2013076885A) © PatBase

Title: IMAGE FORMING APPARATUS AND PROCESS CARTRIDGE

Priority: JP20110217292 20110930

Family:

Publication number	Publication date	Application number	Application date
JP2013076885 A2	20130425	JP20110217292	20110930
JP5708420 B2	20150430	JP20110217292	20110930

Probable Assignee: BROTHER IND LTD

Assignee(s):(std)**:** BROTHER IND LTD

Assignee(s): BROTHER KOGYO KK

Inventor(s):(std)**:** MORI NORITAKA

International class (IPC 8–9): G03G15/00 G03G15/16 (Advanced/Invention)

Classification Explorer

Cited documents: JP8030177 A2, JP8030177, JP3160963 U, JP3160963 U, JP2007328097 A2, JP2007328097, JP2007298545 A2, JP2007298545, JP2006119468 A2, JP2006119468, JP10142969 A2, JP10142969,

Abstract:
Source: JP2013076885A PROBLEM TO BE SOLVED: To provide an image forming apparatus and a process cartridge, in which the press−contact of an electrostatic latent image carrier such as a photoreceptor drum with an endless belt can be inhibited in shipment and the press−contact can be automatically allowed, when a toner cartridge is attached in installation.SOLUTION: When a drum cartridge 3F is attached to a belt unit 10 in such a state that a lever 30 is arranged in an inhibition position shown by (A), the lever 30 presses a transfer roller 12E downward against the energizing force of a spring 12G, so that the transfer roller 12E is separated from a transfer conveyance belt 12C, not to come into press−contact with a photoreceptor drum 3A. When a developing cartridge 3P is attached to the drum cartridge 3F, the lever 30 is arranged in an allowable position shown by (B), not to disturb the operation of the transfer roller 12E according to the energizing force of the spring 12G.

0) JP2015129852A – IMAGE FORMING APPARATUS

407) Family number: 59989099 (JP2015129852A) © PatBase

Title: IMAGE FORMING APPARATUS

Priority: JP20140001235 20140107

Family:

Publication number	Publication date	Application number	Application date
JP2015129852 A2	20150716	JP20140001235	20140107

Probable Assignee: CASIO ELECTRONICS CO LTD

Assignee(s):(std): CASIO COMPUTER CO LTD ; CASIO ELECTRONICS CO LTD

Assignee(s): CASIO COMPUT CO LTD

Inventor(s):(std): SAIKAWA SHIZUKA

Agent(s): OSUGA YOSHIYUKI

International class (IPC 8–9): G03G21/16 G03G21/18 (Advanced/Invention)

Classification Explorer

Abstract:
Source: JP2015129852A PROBLEM TO BE SOLVED: To provide an image forming apparatus having a lock/unlock mechanism for locking a multiple kinds of internal devices to a mount section or unlocking them from the mount section in one operation in attaching/detaching the multiple kinds of internal devices to the mount section.SOLUTION: A lock/unlock mechanism 45 of an image forming apparatus 1 includes: a first lock lever 46 arranged in each of a plurality of toner cartridge 20; a second lock lever 52 arranged in a fixing unit 6; a third lock lever 69 arranged in each of a plurality of image forming units 9; a unit front cover 50 which holds a plurality of image forming units 9; an upper rack 71 which is engaged with the first and second lock levers and locks/unlocks the toner cartridge and the fixing unit to/from a mount position; a lower rack 77 which is engaged with the third lock lever and locks/unlocks the image forming unit to/from the mount position; a rotation knob 59; a pinion 73 fixed to a rotation shaft of the rotation knob and engaged with the upper rack; and a twin gear 74 having one gear engaged with the pinion and the other gear engaged with the lower rack 77.

0) JP55089871A – DEVELOPER CARTRIDGE

408) Family number: 6778370 (JP55089871A) © PatBase

Title: DEVELOPER CARTRIDGE

Priority: JP19780165864 19781227

Family:

Publication number	Publication date	Application number	Application date
JP55089871 A2	19800707	JP19780165864	19781227

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK

Inventor(s):(std)**:** MORIKAWA TERUO ; MURATA SHINJI ; TORIKAI AKIYOSHI

International class (IPC 8–9)**:** G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)

International class (IPC 1–7)**:** G03G15/08

Classification Explorer

Abstract:
Source: JP55089871A PURPOSE:To realize easy attaching and detaching and prevent scattering of developer, by providing developer bag, inserting means, blocking means, hooking means, and sealing means. CONSTITUTION:A developer cartridge 1 consists of a developer bag 3 having a replenishing toner 2 and to one end of this bag, a socket 4 which is fitted to one end of this bag and inserted to a hopper 8 of a developing device when replacing the cartridge, a blocking means 6 to block the toner 2 within the bag by joining the developer bag 3 along the opening part 4a of the socket 4, and a hooking part 7 provided on the other end of the developer bag 3. When replacing the cartridge 1, the hooking part 7 of the developer bag 3 is detached from a hanging piece 10, and blocking members 6a, 6b are engaged with each other to close the opening of the bag. Then, by detaching the socket 4 from the hopper 8, a new cartridge is fitted. Thus, the cartridge can be replaced easily, and scattering of the toner when replacing may be prevented by the blocking members.

0) US6560425B – SHUTTER DEVICE FOR A PHOTOSENSITIVE ROTARY DRUM...

409) Family number: 28527342 (US6560425B) © PatBase

Title: Shutter device for a photosensitive rotary drum on the process cartridge

Priority: US20020166011 20020611

Family:

Publication number	Publication date	Application number	Application date
US6560425 BA	20030506	US20020166011	20020611

Probable Assignee: MONITEK ELECTRONICS LTD

Assignee(s):(std)**:** MONITEK ELECTRONICS LTD

Assignee(s): MONITEK ELECTRONICS LIMITED

Inventor(s):(std)**:** LAW YIU CHEONG ; LUI PUI KUONG

International class (IPC 8–9)**:** G03G21/18 (Advanced/Invention); G03G21/18 (Core/Invention)

International class (IPC 1–7)**:** G03G21/18

CPC: G03G21/1832 G03G2221/1609

European class: G03G21/18C5S S03G221/16B1

US class: 399/111 399/114

Classification Explorer

Cited documents: US5825472 A, US5729796 A,

Forward Citations: US8254806, US7512362, US7286787, US6983114, US2010061760, US2007003320, US2006093400, US2004081483,

Abstract:
Source: US6560425B A shutter device for protecting a photosensitive rotary drum includes a drum cover, at least one torsion spring, a press button, and a compression spring. The drum cover has a fixed end pivotally connected to a predetermined location of a process cartridge, a free end shielded on an exposed portion of said drum and an inside surface formed with a hook, and the torsion spring is arranged on said fixed end of the drum cover. The press button is received in a room of a side of the process cartridge, and the compression spring is positioned between a protruded rod formed inside said press button and a sleeve disposed on said room. Furthermore, the present invention has a better protection for the photosensitive rotary drum, and in the meanwhile, can be as a switch of an exposure window of the process cartridge.

0) US6052548A – BELT AND CARTRIDGE ARRANGEMENT FOR STORING AND ...

410) Family number: 29170375 (US6052548A) © PatBase

Title: Belt and cartridge arrangement for storing and replacing a photosensitive belt

Priority: JP19980054126 19980220

Family:

Publication number	Publication date	Application number	Application date
JP11237809 A2	19990831	JP19980054126	19980220
JP3001495 B2	20000124	JP19980054126	19980220
US6052548 A	20000418	US19990251659	19990217

Probable Assignee: FUJI XEROX CO LTD

Assignee(s):(std)**:** NEC CORP ; NEC NIIGATA LTD

Assignee(s): FUJI XEROX CO LTD

Inventor(s):(std)**:** YAMAMOTO KAZUOKI

International class (IPC 8–9)**:** G03G15/00 G03G21/00 G03G21/16 (Advanced/Invention); G03G15/00 G03G21/00 G03G21/16 (Core/Invention)

International class (IPC 1–7)**:** G03G15/00 G03G15/02 G03G21/00 G03G21/16

CPC: G03G15/754 G03G2221/1615

European class: G03G15/75D S03G221/16B2

US class: 399/107 399/110 399/116 399/162

Classification Explorer

Cited documents: US5708924 A, US5417322 A, US4198155 A,

Forward Citations: US8453309, US7532841, US7310488, US6393236, US6363600, US6295427, US6175704, US2010095503, US2007206972, US2005095029,

Abstract:
Source: US6052548A A flexible, endless photosensitive belt is supported in a printer to form a predetermined traveling trace. This photosensitive belt includes a plurality of belt holes formed in an end portion in a widthwise direction of the photosensitive belt.

0) JP2001318519A – TONER CARTRIDGE

411) Family number: 15897751 (JP2001318519A) © PatBase

Title: TONER CARTRIDGE

Priority: JP20000140276 20000512

Family:

Publication number	Publication date	Application number	Application date
JP2001318519 A2	20011116	JP20000140276	20000512
JP4360004 B2	20091111	JP20000140276	20000512

Probable Assignee: FUNAI ELECTRIC CO

Assignee(s):(std)**:** FUNAI ELECTRIC CO

Assignee(s): FUNAI ELECTRIC CO LTD

Inventor(s):(std)**:** ICHIHARA KAZUO ; MORINAKA KOJI

International class (IPC 8–9)**:** G03G15/08 G03G21/00 G03G21/18 (Advanced/Invention); G03G15/08 G03G21/00 G03G21/18 (Core/Invention)

International class (IPC 1–7)**:** G03G15/08 G03G21/00 G03G21/18

Classification Explorer

Cited documents: JP7261549, JP7072719, JP62094873, JP61196273,

Abstract:
Source: JP2001318519A PROBLEM TO BE SOLVED: To provide a toner cartridge capable of preventing residual toner from being leaked from a toner storing container. SOLUTION: This toner cartridge is provided with a friction gear 14 meshed with a gear 12, a lever 15 having a pin internally fit in the gear 14 and a cam groove 15a opening on an opposite side of the pin and rotatably attached to the rotary shaft of a developing roller, a holding member 17 having a pin 17b engaged in the cam groove 15a and a cam groove 16a formed on a housing H and a pin 17c engaged in a cam groove 16b formed on the housing H and holding a doctor blade 43, and a helical spring S attached to the holding member 17 and the housing H. The blade 43 abuts on the surface of the developing roller 4 at the time of rotating a photoreceptor drum 1, and it closes the aperture 41a of the toner storing container 41 at the time of stopping the drum 1.

0) JP2001318571A – TONER CARTRIDGE

412) Family number: 15897820 (JP2001318571A) © PatBase

Title: TONER CARTRIDGE

Priority: JP20000135339 20000509

Family:

Publication number	Publication date	Application number	Application date
JP2001318571 A2	20011116	JP20000135339	20000509

Probable Assignee: FUNAI ELECTRIC CO

Assignee(s):(std): FUNAI ELECTRIC CO

Assignee(s): FUNAI ELECTRIC CO LTD

Inventor(s):(std): ICHIHARA KAZUO ; MORINAKA KOJI

International class (IPC 8–9): G03G15/08 G03G21/00 G03G21/10 G03G21/18 (Advanced/Invention); G03G15/08 G03G21/00 G03G21/10 G03G21/18 (Core/Invention)

International class (IPC 1–7): G03G15/08 G03G21/00 G03G21/10 G03G21/18

Classification Explorer

Abstract:
Source: JP2001318571A PROBLEM TO BE SOLVED: To provide a toner cartridge capable of preventing the leak of residual toner from a residual toner storing part. SOLUTION: This toner cartridge is equipped with an annular friction gear 14 engaged with a small gear 13 provided on a photoreceptor drum 1, a lever 15 having a pin fit into the gear 14 and a pin 15a projecting to an opposite side of the former pin and rotatably attached to a rotary shaft 11, a holding member 16 having a slot 16c engaged with the shaft 11 and a slot 16d engaged with the pin 15a and holding a cleaning blade 7, and a coil spring 17 attached to the member 16 and a housing H. When the drum 1 is rotated, the blade 7 is allowed to abut on the surface of the drum 1, and when the drum 1 is stopped, the blade 7 is allowed to close the aperture 8c of the residual toner storing part 8.

0) BRPI0504577A – INSTRUMENTO CIRURGICO INCORPORANDO UM MECANISMO...

413) Family number: 34729164 (BRPI0504577A) © PatBase

Title: INSTRUMENTO CIRURGICO INCORPORANDO UM MECANISMO DE TRAVAMENTO DE ARTICULACAO ELETRICAMENTE ACIONADO SURGICAL INSTRUMENT INCORPORATING A LOCKING MECHANISM articulation ELECTRICALLY DRIVEN (Machine translation)

Priority: BR2005PI04577 20050823

Family:

Publication number	Publication date	Application number	Application date
BRPI0504577 A	20070427	BR2005PI04577	20050823

Probable Assignee: JOHNSON AND JOHNSON

Assignee(s):(std)**:** JOHNSON AND JOHNSON

Inventor(s):(std)**:** FREDERICK E SHELTON IV ; SHELTON FREDERICK E IV

International class (IPC 8–9): A61B1/008 (Advanced/Invention); A61B1/008 (Core/Invention)

Classification Explorer

Abstract:
Source: BRPI0504577A • • V J– • • # # # ss»# ## ? ss • . • • V • • e • • j # # c •« „ j# •••«'" " • • i • e ~ • ss • • • • ss . • – ss –i • • RESUMO Patente de Invencao: "INSTRUMENTO CIRURGICO INCORPORANDO UM MECANISMO DE TRAVAMENTO DE ARTICULACAO ELETRICAMENTE ACIONADO". 5 A presente invencao refere–se a um instrumento cirurgico parti– cularmente adequado para uso endoscopico que articula um executor de extremidade incluindo um mecanismo de articulacao em um eixo alongado que incorpora um atuador de mecanismo de travamento de articulacao de polimero acionado eletricamente (EAP). Dessa maneira, opcoes adicionais 10 para articulacao tornam–se possiveis, especialmente essas que sao ativa– mente energizadas e de outra forma dissipariam o calor e forca se requerido para manter a posicao. Alternativamente, um mecanismo de articulacao me– canicamente acionado pode ser projetado com resistencia reduzida, e assim tamanho, desde que o mecanismo de travamento de articulacao de EAP a– 15 jude na prevencao do retorno depois da articulacao. Versoes de um meca– nismo de travamento de articulacao de EAP travam uma junta de articulacao articulada e outros travam uma junta de articulacao de gargalo flexivel. V J– • • • • # # # ss "# ##? ss •. V • • • • • • j and c # # • "" j # ••• " " • • i • e ~ ss • • • • • ss. • – ss –i • • SUMMARY Patent Invention:. "CIRURGICO INSTRUMENT INCORPORATING A joint LOCKING MECHANISM ELECTRICALLY powered" 5 The present invention relates to a surgical instrument par– ticularly suited to endoscopic use articulates an end performer including an articulation mechanism in an elongate shaft that incorporates an articulation locking mechanism actuator electrically actuated polymer (AND AP). Thus, additional options 10 for articulation become possible, especially those that are actively energized and otherwise dissipate heat and force is required to keep the position. Alternatively, an articulation mechanism actuated mechanically can be designed with reduced strength, and thus size, since the articulation locking mechanism EAP a– 15 Jude in preventing return after articulation. Versions of a mechanism for EAP articulation locking catch an articulated joint articulation and other wage a joint articulation of flexible neck.

0) CN201600558U – LASER PRINTER TONER CARTRIDGES (MACHINE TRANS...

414) Family number: 47090833 (CN201600558U) © PatBase

Title: Laser printer toner cartridges (Machine translation)

Priority: CN201020301301U 20100122

Family:

Publication number	Publication date	Application number	Application date
CN201600558 U	20101006	CN201020301301U	20100122

Probable Assignee: PRINT RITE UNICORN IMAGE PRODUCTS CO LTD

Assignee(s):(std)**:** PRINT RITE UNICORN IMAGE PRODUCTS CO LTD

International class (IPC 8–9)**:** G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)

Classification Explorer

Abstract:
Source: CN201600558U The utility model is a laser printer toner cartridges, including the stirring rack. Stirring Stand axial end with a touch–dial the ends of the lever fixed connection. Stirring Stand along the axial direction, touch dial located on the side facing away from the tip on the cartridge lever. Touch dial ends with stirring maintaining a predetermined distance between the rack axis in the radial direction of the stirring rack. Stirring Stand along the axial direction on the outer ends of touch dial settings on the cartridge axial perpendicular to the axial direction of the support shaft stirred frame. Support shaft sleeve with a torsion spring and a rotatable reflector. One end of the torsion spring is fixed to the cartridge, and the other end is fixed to the reflector plate. The supporting shaft diameter up mirror with respect to the axis of the support shaft in an outer end portion can be intermittently into touch dial rotation rail ends. The reflective surface of the mirror reflector with touch dial contact surface of the contact tip to keep his back to the state. The cartridge can stabilize the amount of toner monitoring bunker.

0) RU2014140460A – SHOOTING REMOTE CARTRIDGE STUN GUNS (OPTIONS), ...

415) Family number: 62181269 (RU2014140460A) © PatBase

Title: SHOOTING REMOTE CARTRIDGE stun guns (OPTIONS), tips on stun weapons to use versions of the cartridge (Machine translation)

Priority: RU20140140460 20141008

Family:

Publication number	Publication date	Application number	Application date
RU2014140460 A	20160427	RU20140140460	20141008

Probable Assignee: KLOCHKOV KONSTANTIN DMITRIEVICH

Assignee(s): KLOCHKOV KONSTANTIN DMITRIEVICH ; LADYAGIN YURIY OLEGOVICH ; OFFICE MICHAEL DAVIDOVICH ; STOLYAREVSKIY IRINA

International class (IPC 8–9): F41B15/04 (Advanced/Invention)

Classification Explorer

Abstract:
Source: RU2014140460A 1. Shooting cartridge remote stun weapons containing power body, the outer shell body, laying electrical pathway with probes throwing pyroelectric charge conductors with electric spark initiation and the protective insulating layer initiating electrodes pyroelectric charge, as well as an element of the cartridge attachment to the electroshock weapon characterized in that in the power enclosure made of electrically insulating material, preferably polymer set loaded spring force the movable member puncture insulating protective layer of initiating at least one pyroelectric charge electrodes sear that interacts with the element of the puncture, and the shutter slider exiting the projection on the outer forming the outer housing shell and interacts with the sear and the drive engine to stun oruzhii.2. Nozzle for stun gun comprising a housing with a lock mounting arms, characterized in that the cavity of the housing made of insulating material, preferably a polymer, is located fixed in the cavity firing conductive toner by the electric initiation and ejector cartridge loaded force of the spring, is located in nozzle housing user–driven pusher finger hand weapons and interacting with the lock–latch of the cartridge inside the housing and at the same time interacting with the trigger engine firing electrical conductors cartridge electric–initiation after the destruction of the protective layer of an electrically initiating throwing pyroelectric charge electrodes fixed to stun

0) JP4208958A – IMAGE FORMING DEVICE

416) Family number: 7983615 (JP4208958A) © PatBase

Title: IMAGE FORMING DEVICE

Priority: JP19900340529 19901130

Family:

Publication number	Publication date	Application number	Application date
JP4208958 A2	19920730	JP19900340529	19901130

Probable Assignee: TOSHIBA INTELLIGENT TECH

Assignee(s):(std)**:** TOSHIBA CORP ; TOSHIBA INTELLIGENT TECH

Assignee(s): TOSHIBA INTELIGENT TECHNOL LTD

Inventor(s):(std)**:** HIGURE NAOTO ; ISHIDA TAKAO

International class (IPC 8–9)**:** G03G15/08 G03G21/00 G03G21/10 (Advanced/Invention); G03G15/08 G03G21/00 G03G21/10 (Core/Invention)

International class (IPC 1–7)**:** G03G15/08 G03G21/00

Classification Explorer

Forward Citations: US7197263, JP6059603, JP4116868, JP3611266, JP2570989, JP10090989,

Abstract:
Source: JP4208958A PURPOSE:To exchange a supplying means and a storing means by taking a time only once by integrating the supplying means and the storing means for developer already used and making them attachable/detachable with respect to a cleaning means and a developing means. CONSTITUTION:A cartridge system kit 60 is inserted and loaded in a toner supply port 23a at the upper part of a developing unit 23. At the same time, the toner discharge port 23b of the unit 23 is inserted in the discharged toner receiving port 60c of the kit 60. Namely, since the kit 60 is constituted of a toner storage part 60a for supply functioning as the cylindrical supplying means where toner to be supplied is stored and a box–like discharged toner storing part 60b functioning as the storing means integrated with the supplying means and both of the means are perfectly partitioned, the toner to be supplied and the discharged toner are not mixed. Furthermore, the discharged toner in the storing part 60b is stirred by a stirring lever, so that the storing efficiency of the developer is enhanced.

0) US4926219A – IMPROVED PAPER HANDLING MECHANISM IN CONJUNCTIO...

417) Family number: 15149256 (US4926219A) © PatBase

Title: IMPROVED PAPER HANDLING MECHANISM IN CONJUNCTION WITH IMAGE FORMING APPARATUS SUCH AS LASER PRINTERS

Priority: JP19870243899 19870930 JP19870311059 19871210 JP19880240675 19880928 JP19880116812 19880516 JP19880240676 19880928

Family:

Publication number	Publication date	Application number	Application date
JP1250966 A2	19891005	JP19880240676	19880928
JP2050168 A2	19900220	JP19880240675	19880928
JP2724598 B2	19980309	JP19880240676	19880928
US4926219 A	19900515	US19880251394	19880930

Probable Assignee: RICOH KK

Assignee(s):(std)**:** RICOH KK

Assignee(s): RIKOO KK ; RICOH CO LTD ; RICOH COMPANY LTD

Inventor(s):(std)**:** HIRASAWA JUNICHI ; IIDA TORU ; KODAMA YUTAKA ; SATO YUICHI

International class (IPC 8–9)**:** G03G15/00 G03G15/16 G03G21/00 G03G21/06 G03G21/16 G03G21/18 (Advanced/Invention); G03G15/00 G03G15/16 G03G21/00 G03G21/06 G03G21/16 G03G21/18 (Core/Invention)

International class (IPC 1–7)**:** G03G15/00 G03G15/16 G03G21/00 G03G21/18

CPC: G03G21/1623 G03G21/1647 G03G21/168 G03G21/1814 G03G15/165 G03G21/1821 G03G2221/1642 G03G2221/1654 G03G2221/1657 G03G2221/166 G03G2221/1684 G03G2221/1693 G03G2221/1869

European class: G03G15/16E1G G03G21/18C3 G03G21/18C4C S03G221/16G S03G221/16K1 S03G221/16K2 S03G221/16K3 S03G221/16S2 S03G221/16T S03G221/18P3B

US class: 355/200 355/309 399/113 399/121 399/316 399/90

Classification Explorer

Cited documents: US4809033 A, US4685792 A, US4478506 A, US4464042 A, US4386838 A, JP58181074 A2, JP57007043 B4,

Forward Citations: US9400483, US9188941, US8837981, US8606145, US8570352, US8340549, US8087575, US7986911, US7675536, US7664445, US7639965, US7298991, US7162182, US7136609, US7127195, US6198903, US5227841, US5221943, US5138396, US5041871, US5005053, US2012250057, US2011158678, US2009190955, US2008056780, US2007248377, US2007247511, US2007036584, US2005281584, US2005207781, US2005207780, JP9190094, JP3623489, JP3515262, JP2006078575, JP2004004864, JP2003323016, EP1367460, EP0871091, EP0871091,

Abstract:
Source: US4926219A An image forming apparatus having an image forming case which is removably mounted on a body of the apparatus and loaded with a photoconductive drum, developing unit and a cleaning unit integrally therewith. A transfer charger unit and a register roller unit are each removably mounted on the image forming case by a holder. The holders of the transfer charger unit and register roller unit are individually accurately positioned relative to the case by a positioning mechanism when mounted on the case. The transfer charger unit is surely grounded when mounted on the case. An upper and a lower guide plate are interposed between the register roller unit and the photoconductive element for guiding a paper sheet. Opposite edges of each guide plate are individually disposed at predetermined positions.

0) JP6019301A – TONER CARTRIDGE FOR DEVELOPING DEVICE

418) Family number: 10851107 (JP6019301A) © PatBase

Title: TONER CARTRIDGE FOR DEVELOPING DEVICE

Priority: JP19920200590 19920703

Family:

Publication number	Publication date	Application number	Application date
JP6019301 A2	19940128	JP19920200590	19920703

Probable Assignee: RICOH KK

Assignee(s):(std)**:** RICOH KK

Assignee(s): ROCOH COMPANY LTD ; RICOH CO LTD

Inventor(s):(std)**:** AOKI HIDEO

International class (IPC 8–9)**:** G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)

International class (IPC 1–7)**:** G03G15/08

Classification Explorer

Forward Citations: JP2861975, JP10135706,

Abstract:
Source: JP6019301A PURPOSE: To shorten a distance for pulling a film sheet which closes an aperture for supplying toner in the case of peeling the film sheet and to make space required for pulling it small. CONSTITUTION: The sticking side sheet part 40a of the endless film sheet 40 is stuck to a toner cartridge 31 so as to close the aperture 31b for supplying the toner. In the case of supplying the toner, the cartridge 31 is attached to a developing device main body, and then the film sheet 40 is pulled by the length L of the sheet part 40a by hooking a finger at finger hook part 40b. While a non−sticking side sheet part 40c is fed to the sheet part 40a, the film sheet 40 is peeled to open the aperture 31b.

0) KR20060031265A – IMAGE FORMING APPARATUS

419) Family number: 33642624 (KR20060031265A) © PatBase

Title: IMAGE FORMING APPARATUS

Priority: KR20040080232 20041008

Family:

Publication number	Publication date	Application number	Application date
KR20060031265 A	20060412	KR20040080232	20041008

Probable Assignee: SAMSUNG ELECTRONICS CO LTD

Assignee(s):(std)**:** SAMSUNG ELECTRONICS CO LTD

Assignee(s): SAMSUNG ELECTRONICS CO

Inventor(s):(std)**:** YOUN CHANG MIN

International class (IPC 8–9)**:** G03G15/00 G03G15/06 (Advanced/Invention); G03G15/00 G03G15/06 (Advanced/Non–invention); G03G15/00 G03G15/06 (Core/Invention)

CPC: G03G15/00 G03G15/06

Classification Explorer

Abstract:
Source: KR20060031265A An image forming apparatus according to the present invention, an image forming apparatus main body of the image forming apparatus main body and is detachable with respect to the printing medium, a developer to form a toner image; wherein the toner image is transferred to the print medium unit applying heat and pressure to a fixing unit for fixing the toner image; and works in conjunction with the removal of the developing unit fixing unit of print medium enters the door for opening and closing the shutter unit; includes. With this structure, when the developing unit is an image forming apparatus main body fixing unit enters when the separation from the print medium is closed by the shutter unit fixing unit of the image by the high temperature, so there is no concern of. Byopening and closing the shutter, fixing unit, a lever, a developing unit, cartridge, an image forming the printer.

0) JP2012194315A – TONER SUPPLY DEVICE AND IMAGE FORMING DEVICE

420) Family number: 52201502 (JP2012194315A) © PatBase

Title: TONER SUPPLY DEVICE AND IMAGE FORMING DEVICE

Priority: JP20110057628 20110316

Family:

Publication number	Publication date	Application number	Application date
JP2012194315 A2	20121011	JP20110057628	20110316
JP5626051 B2	20141119	JP20110057628	20110316

Probable Assignee: KONICA MINOLTA BUSINESS TECH

Assignee(s):(std): KONICA MINOLTA BUSINESS TECH ; KONICA MINOLTA BUSINESS TECH INC

Assignee(s): KONICA MINOLTA BUSINESS TECHNOLOGIES INC

Inventor(s):(std): HASHIMOTO TAKESHI ; KAWAI MASAFUMI

Agent(s): COSMOS PATENT OFFICE

International class (IPC 8–9): G03G15/08 (Advanced/Invention)

Classification Explorer

Cited documents: JP2010156909 A2, JP2010156909, JP201005707, JP2010005707 A2, JP2005266004 A2, JP2005266004, JP2004191851 A2, JP2004191851,

Abstract:
Source: JP2012194315A PROBLEM TO BE SOLVED: To provide a toner supply device and an image forming device capable of suitably supplying toner to a process cartridge or a developing device mounted on an image forming device.SOLUTION: A sealing member 250 is disposed to close an opening 202 of a toner supply device 200. The sealing member 250 is made of a material reducing the degree of air permeability as a compression force for compressing the sealing member 250 is stronger. A lever 260 is used for compressing the sealing member and is fixed to a place 261 other than a rotary shaft 272 of a cam 270. As the cam 270 rotates, the lever 260 strongly compresses the sealing member 250. In the toner supply device 200, while the accumulation value of a toner supply time is small, the compression force for compressing the sealing member 250 is reduced, and as the accumulation value of the toner supply time becomes large, the compression force for compressing the sealing member 250 is increased.

0) CN202748594U – DOCTOR BLADE PRESSING DEVICE OF TONER CARTRIDGE...

421) Family number: 53111722 (CN202748594U) © PatBase

Title: DOCTOR BLADE PRESSING DEVICE OF TONER CARTRIDGE

Priority: CN201220384753U 20120728

Family:

Publication number	Publication date	Application number	Application date
CN202748594 U	20130220	CN201220384753U	20120728

Probable Assignee: JIANGXI LEIBOTAI ELECTRONIC TECHNOLOGY CO LTD

Assignee(s):(std)**:** JIANGXI LEIBOTAI ELECTRONIC TECHNOLOGY CO LTD

Assignee(s): JIANGXI LEIBOTAI ELECTRONIC TECHNOLOGY CO

Inventor(s):(std)**:** LI HOULONG

International class (IPC 8–9): G03G15/08 (Advanced/Invention)

Classification Explorer

Abstract:
Source: CN202748594U The utility model discloses a blade cartridge pressing device, comprising a base disposed on the base for fixing toner cartridge clip, a movement mechanism for pressing the blade cartridge and a motion mechanism for controlling the movement of the control unit. Efforts indenter pressed the blade in the process, applied to the surface of the blade is constant and head movement on the surface of the blade, making the blade attached to the surface of the toner cartridge firmer bunker.

0) DE29509884U1 – KANUELENKUPPLUNG KANUELENKUPPLUNG

422) Family number: 17737058 (DE29509884U1) © PatBase

Title: Kanuelenkupplung

Priority: DE19952009884U 19950619

Family:

Publication number	Publication date	Application number	Application date
DE29509884 U1	19961017	DE19952009884U	19950619

Probable Assignee: TIP TONER UND TINTENPRODUKTION

Assignee(s):(std)**:** TIP TONER U TINTENPRODUKTION ; TIP TONER UND TINTENPRODUKTION

Assignee(s): TIP TONER UND TINTENPRODUKTIONS GMBH 47053 DUISBUR ; TIP TONER UND TINTENPRODUKTIONS GMBH 47053 DUISBURG DE ; TIP TONER U TINTENPRODUKTIONS GMBH

International class (IPC 8–9): B41J2/175 (Advanced/Invention); B41J2/175 (Core/Invention)

International class (IPC 1–7): B41J2/175

CPC: B41J2/17506

European class: B41J2/175C B41J2/175C1

Classification Explorer

Cited documents: WO9318920 A1, EP0567308 A2, EP0364777 A1, CH585560,

Abstract:
Source: DE29509884U1 (Claim 1) AMSPROCHE 1. Kanuelenkupplung am Zylinderteil einer Nachfuellspritze fuer T o nerkartuschen, einer Injektionsspritze oder dergleichen, mit einer auf der Zylinderstirnseite angeordneten Au f s tecktuelle (9) fuer den Flanschabschnitt (15)einer Kanuele (1), welche einen radia l ausragenden Kragen(4) zur formschluessigen Halterung mittels axial auswaerts ragender Halteglieder des Zylinderteils aufweist, dadurchgekennzeichnet , dass die Halteglieder von zwei elastisch rueckstellbaren Haken (5) ausgebildet werdenmit radial einwaerts ragenden Hakenenden (6), welche beim Aufstecken des Flanschabschnittes (15) auf die Tuelle (9)ueber den Kragen (4) Schnaeppern.

Machine translation: (Claim 1) td AMSPROCHE 1 Kanuelenkupplung on the cylinder part of a Nachfuellspritze for T o toner cartridges, a hypodermic syringe or the like, with a fs on the cylinder end face arranged Au tecktuelle (9) for the flange (15) a cannula (1), which has a radial l projecting collar (4) for positive locking bracket means axially outwardly projecting retaining members of the cylindrical part has characterized in that the retaining elements of two elastically recoverable hook (5) is formed werdenmit radially inwardly projecting hook ends (6), which, when attaching the flange (15) on the Tueller (9) over the collar (4) snaps.

0) DE3431382A1 – HYDRAULIC CONTROL DEVICE FOR THE MOULD CLAMPING...

423) Family number: 3793984 (DE3431382A1) © PatBase

Title: Hydraulic control device for the mould clamping unit of an injection moulding device

Priority: DE19843431382 19840825

Family:

Publication number	Publication date	Application number	Application date
DE3431382 A1	19860227	DE19843431382	19840825
DE3431382 C2	19921126	DE19843431382	19840825

Probable Assignee: BOSCH GMBH ROBERT

Assignee(s):(std): BOSCH GMBH ROBERT

Assignee(s): ROBERT BOSCH GMBH

Inventor(s):(std): TITTMANN EGON DIPL ING ; WALTER HEINZ ING GRAD

Inventor(s): WALTER HEINZ ING GRAD 7255 RUTESHEIM DE ; TITTMANN EGON DIPL ING 7250 LEONBERG DE ; WALTER HEINZ ING

International class (IPC 8–9): B29C45/67 B29C45/68 B29C45/82 (Advanced/Invention); B29C45/64 B29C45/67 B29C45/82 (Core/Invention)

International class (IPC 1–7): B29C45/76 B29C45/80

CPC: B29C45/67 B29C45/683 B29C45/82

European class: B29C45/67 B29C45/68C B29C45/82

Classification Explorer

Cited documents: DE2438266 A1, DE2425831 A1,

Forward Citations: EP1321276, EP0740992, EP0740992, EP0464286, EP0269204, DE19517582, DE19517582, DE10208589, DE10208589,

Abstract:
Source: DE3431382A1 A hydraulic control device (10) for the mould clamping unit (11) of an injection moulding machine is proposed with which the pressures, in a toggle cylinder (14) and in a pressure cylinder (21) serving as pressure pad, which are necessary for securing the mould can be precisely controlled. The pressure pad (22) can be relieved to the tank (54) parallel to the controlling directional control valve (58) via a pressure control cartridge (68) opened by spring force, a mould–securing pressure valve (77) serving for pilot control. The mould–securing pressure valve (77) can be activated via a control valve (79) which is allocated to a control loop (38, 75, 78, 81) and also controls a pressure feed line (83), via which, when the mould (18, 19) is locked, a compression volume can be fed to the pressure pad (22), bypassing a proportional throttle valve (36), the pressure of which pressure pad is governed by a mould–locking pressure valve (65). In the last third of the closing stroke, a proportional pressure control valve (41) determines the mould securing via the pressure in the toggle cylinder (14), whereas when the toggle (15) is extended, the mould–securing pressure valve (77) controls a fine mould–securing pressure of close to 0 bar in the pressure pad (22). Subsequently the mould–locking pressure valve (65) regulates the maximum mould–locking pressure, whereas, on decompression, the proportional pressure control valve (41) controls the smooth pressure release.

0) US2013287433A – IMAGE FORMING APPARATUS

424) Family number: 55060270 (US2013287433A) © PatBase

Title: IMAGE FORMING APPARATUS

Priority: JP20120102503 20120427

Family:

Publication number	Publication date	Application number	Application date
JP2013231773 A2	20131114	JP20120102503	20120427
JP6031814 B2	20161124	JP20120102503	20120427
US2013287433 AA	20131031	US20130851146	20130327
US9116500 BB	20150825	US20130851146	20130327

Probable Assignee: BROTHER KOGYO KK

Assignee(s):(std)**:** BROTHER IND LTD ; ITO SAKAE

Assignee(s): BROTHER KOGYO KK

Inventor(s):(std)**:** ITO SAKAE

Agent(s): BANNER AND WITCOFF LTD

International class (IPC 8–9): G03G15/00 G03G21/16 (Advanced/Invention)

CPC: G03G21/1619 G03G2221/1687 G03G21/1628 G03G21/1647 Y10T29/49002

US class: 1/1 29/592.1 399/107

Classification Explorer

Cited documents: US8699919 BB, US8611784 BB, US7957675 BB, US7873303 BB, US7822362 BB, US7804628 BB, US7778572 BB, US7689050 BB, US7680431 BB, US7369794 BB, US2009252527 AA, US2009018899 AA, US2007071334 AA, JP2011253038 A2, JP2011253038, JP2010250285 A2, JP2010250285, JP2009251230 A2, JP2009251230, JP2009020672 A2, JP2008304748 A2, JP2007228569 A2, JP2007228569, JP2006295625 A2, JP2006184530 A2, JP2006119474 A2, JP2006119474, JP2003241466 A2, JP2003241466,

Forward Citations: US9696683, US2016291534, US2016098007,

Abstract:
Source: US2013287433A An image forming apparatus includes a first housing, a second housing pivotable relative to the first housing in such a manner as to be located to an open position and a close position, a slider provided in one of the first and second housings configured to be slidable relative to the one in a slide moving direction, a connecting portion provided in the other of the housings; an arm member configured to connected each of the slider and the connecting portion to be pivotable relative to each of them, and an elastic member comprising a first engaging portion engaging with the slider and a second engaging portion engaging with the one of the housings. The elastic member applies, to the slider, a force in a direction in which the slider moves closer to the connecting portion, when the second housing is in the close position.

0) DE202014008635U1 – KARTUSCHE FUER EINHANDMISCHBATTERIE CARTRIDGE ...

425) Family number: 58507630 (DE202014008635U1) © PatBase

Title: KARTUSCHE FUER EINHANDMISCHBATTERIE CARTRIDGE FOR ONE HAND MIXER (Machine translation)

Priority: DE201420008635U 20141030

Family:

Publication number	Publication date	Application number	Application date
DE202014008635 U1	20150226	DE201420008635U	20141030

Probable Assignee: FIVEEYES DESIGN AND KONZEPT GBR VERTRETEN DURCH DIE GESELLSCHAFTER MARKUS ARNDT

Assignee(s):(std)**:** FIVEEYES DESIGN AND KONZEPT GBR VERTRETEN DURCH DIE GESELLSCHAFTER MARKUS ARNDT

Assignee(s): FIVEEYES DESIGN AND KONZEPT GBR VERTRETEN DURCH DIE GESELLSCHAFTER MARKUS ARNDT 53804 MUCH ANDREAHELTEN BIERMANN 51103 KOELN ; FIVEEYES DESIGN AND KONZEPT GBR

International class (IPC 8–9): E03C1/04 (Advanced/Invention)

CPC: E03C1/04 F16K11/0782 F16K11/0787

Classification Explorer

Abstract:
Source: DE202014008635U1 Kartusche fuer Einhand–Mischbatterien gekennzeichnet durch: ein Gehaeuseunterteil (01) sowie ein Gehaeuseoberteil (02), eine feststehende untere Keramikscheibe mit oeffnungen fuer Wasserzufuhr und –abfuhr (03), eine bewegliche obere Keramikscheibe, die auf der unteren Scheibe gleitet und die Wasserdurchgaenge oeffnet und schliesst (04), und ein Kunststoffteil (05), das mit der oberen Keramikscheibe verbunden ist und an dem ein Bedienelement befestigt werden kann, mit dem die Scheibe geschoben und gedreht werden kann, um Wassermenge und ggf. –Temperatur zu regeln. Das Kunststoffteil zum Bewegen der oberen Keramikscheibe kann in seiner Form so variieren, dass es eine Bedienung von oben (05.1) oder eine Bedienung von der Seite (05.2) oder von zwei Seiten (05.3) ermoeglicht. Die Keramikscheiben und Gehaeuseteile koennen je nach Richtung der Wasserzufuhr und Wasserabfuhr in der Anzahl und Anordnung ihrer Durchgaenge variieren. Ggf. wird ein Zufuegen einer zweiten feststehenden Keramikscheibe (03.1) sinnvoll. Cartridge for single–lever mixer taps characterized by a Gehaeuseunterteil (01) and a Gehaeuseoberteil (02), a fixed lower ceramic plate with openings for water supply and discharge (03), a movable upper ceramic plate that slides on the lower plate and Wasserdurchgaenge opens and closes (04), and a plastic part (05) which is connected to the upper ceramic disc and on which an operating element may be attached, with which the pane can be pushed and rotated to amount of water and optionally –Temperature to regulate. The plastic part for moving the upper ceramic disc can vary in shape so that it can be operated from above (05.1) or an operator from the side (05.2) or from two sides (05.3). The ceramic discs and Gehaeuseteile can vary depending on the direction of the water supply and drainage in the number and arrangement of their Durchgaenge. If necessary, an addition of a second fixed ceramic disk (03.1) is useful.

0) JP5100519A – IMAGE FORMING DEVICE

426) Family number: 10020743 (JP5100519A) © PatBase

Title: IMAGE FORMING DEVICE

Priority: JP19910264027 19911011

Family:

Publication number	Publication date	Application number	Application date
JP5100519 A2	19930423	JP19910264027	19911011

Probable Assignee: MITA INDUSTRIAL CO LTD

Assignee(s):(std)**:** MITA INDUSTRIAL CO LTD

Assignee(s): MITA IND CO LTD

Inventor(s):(std)**:** KOBAYASHI MASAHIKO

International class (IPC 8–9)**:** G03G15/00 G03G15/08 G03G21/00 (Advanced/Invention); G03G15/00 G03G15/08 G03G21/00 (Core/Invention)

International class (IPC 1–7)**:** G03G15/00 G03G15/08

Classification Explorer

Forward Citations: JP2012118248,

Abstract:
Source: JP5100519A PURPOSE:To provide the image forming device capable of informing it has reached the limit of life of the device when toner is filled up in a toner recovering container. CONSTITUTION:An engaging claw 8 is provided in the vicinity of an attachment part of a toner cartridge 6. This engaging claw 8 is energized rotatably in the direction D by an extention spring 11. When the service life of the copying machine expires while the total copied number of pieces reaches a specified number, a rod 27 is pushed in the direction B. Then, the release wheel 28 is rotated in the direction C by a horizontal part 27b of a rod 27. When a release wheel turns and a projection 28b is taken off from a hooked part 8a of an engaging claw 8 by a release wheel 28, the engaging claw 8 is rotated in the direction D by the extension spring 11, and the claw is fitted into an engaging groove 7 of the toner cartridge. The detachment of the toner cartridge 6 is prevented by the engaging of the engaging claw 8 and the engaging groove 7.

0) JP6202470A – DEVELOPING DEVICE

427) Family number: 11410046 (JP6202470A) © PatBase

Title: DEVELOPING DEVICE

Priority: JP19920348496 19921228

Family:

Publication number	Publication date	Application number	Application date
JP6202470 A2	19940722	JP19920348496	19921228

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK

Assignee(s): CANON INC ; CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** NUMAGAMI ATSUSHI ; OSHIMA MASAKI ; YASHIRO MASAHIKO

International class (IPC 8–9)**:** G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)

International class (IPC 1–7)**:** G03G15/08

Classification Explorer

Abstract:
Source: JP6202470A PURPOSE: To horizontally pull out a film and to prevent the soiling of the hand and clothes of a user caused by the leakage of toner and a paper after being printed out caused by the dropping of the toner inside a main body by providing an annular part for pulling out the film on the knob part of a shield film. CONSTITUTION: An annular hole 28a is provided on the side part of the pulling out side of the film 28. Thereby, an operator intends to hook the annular hole 28a on a moderate hook 100, hold and pull a process cartridge in the direction of the arrow and pull out a toner seal. At this time, the annular hole 28a is formed into a circular shape, so that even if the process cartridge is held by the hand with vertical and horizontal angles, the film is pulled horizontally in a pulling out direction, that is, in parallel with the longitudinal direction of a developing unit, so as not to tear off a toner leakage preventing seal. When the hook 100 is attached to the side of an image forming device, the developing device is very easily used by a user.

0) JP10142921A – DEVELOPER AMOUNT DETECTING DEVICE AND IMAGE FOR...

428) Family number: 15271353 (JP10142921A) © PatBase

Title: DEVELOPER AMOUNT DETECTING DEVICE AND IMAGE FORMING DEVICE

Priority: JP19960318534 19961115

Family:

Publication number	Publication date	Application number	Application date
JP10142921 A2	19980529	JP19960318534	19961115

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK

Assignee(s): CANON INC ; CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** NAKAGAWA TAKAO

International class (IPC 8–9)**:** G03G15/08 G03G21/16 (Advanced/Invention); G03G15/08 G03G21/16 (Core/Invention)

International class (IPC 1–7)**:** G03G15/08 G03G21/16

Classification Explorer

Abstract:
Source: JP10142921A PROBLEM TO BE SOLVED: To always accurately and easily detect the remaining quantity of developer by coupling an interlocking means provided outside a developer storing means and interlocked with a follower means with the follower means through a coupling means and fixing the relative position thereof to the follower means. SOLUTION: When a recovery lever 11 is turned with reference to the shaft line of the shaft body 5, a float arm 8 is turned in a circumferential direction interlocked with the lever 11 so as to make a float 10 appear from a toner inside part to an above position on the toner upper surface or bring it into contact by following the toner upper surface. An angle sensor to detect the remaining quantity of toner according to an angle and convert it into an electrical signal is provided on the shaft body 5 or a recovery lever fitting part 11 a, and an electric contact transmitting the received electrical signal to a main body is provided in a process cartridge, whereby the user is informed of the remaining quantity of the toner by transmitting the electrical signal to the main body and displaying it.

0) JP2001235938A – IMAGE FORMING DEVICE

429) Family number: 15848833 (JP2001235938A) © PatBase

Title: IMAGE FORMING DEVICE

Priority: JP20000044938 20000222

Family:

Publication number	Publication date	Application number	Application date
JP2001235938 A2	20010831	JP20000044938	20000222

Probable Assignee: RICOH KK

Assignee(s):(std)**:** RICOH KK

Assignee(s): ROCOH COMPANY LTD ; RICOH CO LTD ; RICOH COMPANY LTD

Inventor(s):(std)**:** ASANUMA SHOJI

International class (IPC 8–9)**:** G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)

International class (IPC 1–7)**:** G03G15/08

Classification Explorer

Forward Citations: JP5623603, JP5398335, JP2013214106, JP2010256610, JP2008102478,

Abstract:
Source: JP2001235938A PROBLEM TO BE SOLVED: To provide an image forming device capable of easily and accurately confirming the residual amount of toner. SOLUTION: As for a process cartridge 14, a transparent window 38 is formed at the upper part of the stoner storage part 31 of a cartridge case 15, and a transparent member 39 by which the toner in the storage part 31 can be visually accurately confirmed is attached to the window 38. A transparent cleaning member 40 is movably disposed on the storage part 31 side at the member 39 part of the window 38, and moves and cleans the member 39 by moving an opening/closing lever 41 along a moving groove 42. Therefore, when the members 40 and 39 are clean, the residual amount of the toner in the storage part 31 is visually confirmed as it is. When the members 40 and 39 are soiled by the toner, the lever 41 is moved to clean the members 40 and 39, so that the residual amount of the toner in the storage part 31 is visually confirmed.

0) US2008181713A – PRINTING DEVICE LOCKING MECHANISM FOR CONSUMABL...

430) Family number: 42068464 (US2008181713A) © PatBase

Title: PRINTING DEVICE LOCKING MECHANISM FOR CONSUMABLE ENCLOSURES

Priority: US20070627904 20070126

Family:

Publication number	Publication date	Application number	Application date
US2008181713 AA	20080731	US20070627904	20070126
US7673968 BB	20100309	US20070627904	20070126

Probable Assignee: HEWLETT PACKARD DEVELOPMENT CO LP

Assignee(s):(std)**:** HEWLETT PACKARD DEVELOPMENT CO ; OGLE HOLLI C ; STATHEM RALPH L ; WARD JEFFERSON P

Assignee(s): HEWLETT PACKARD DEVELOPMENT CO LP ; HEWLETT PACKARD DEVELOPMENT COMPANY L P

Inventor(s):(std)**:** OGLE HOLLI C ; STATHEM RALPH L ; WARD JEFFERSON P

Agent(s): HEWLETT PACKARD COMPANY; HEWLETT PACKARD CO

International class (IPC 8–9): B41J2/14 B41J2/16 B41J29/02 (Advanced/Invention); B41J2/14 B41J2/16 B41J29/02 (Core/Invention)

CPC: B41J2/1752 B41J29/56

European class: B41J2/175C3 B41J29/56

US class: 347/49 347/85 347/86 400/693

Classification Explorer

Cited documents: US7393091 BB, US6466922 BA, US5519422 A, US2006265742 AA, US2005243118 AA, US2003206215 AA, US2003063147 AA, US2003053108 AA,

Forward Citations: US9361466, US2014177007, US2011199656,

Abstract:
Source: US2008181713A A user inserts one or more consumable enclosures into one or more corresponding slots of a printing device. The user engages a locking mechanism of the printing device into a corresponding feature of each consumable enclosure. The printing device detects user engagement of the locking mechanism. In response to the user performing a consumable enclosure–related action, the printing device substantially impedes user access to the locking mechanism and the consumable enclosures until the user has entered an unlock code.

0) JP2010107552A – IMAGE FORMING APPARATUS

431) Family number: 45049799 (JP2010107552A) © PatBase

Title: IMAGE FORMING APPARATUS

Priority: JP20080276478 20081028

Family:

Publication number	Publication date	Application number	Application date
JP2010107552 A2	20100513	JP20080276478	20081028
JP5115447 B2	20130109	JP20080276478	20081028

Probable Assignee: KONICA MINOLTA BUSINESS TECH

Assignee(s):(std)**:** KONICA MINOLTA BUSINESS TECH

Assignee(s): KONICA MINOLTA BUSINESS TECHNOLOGIES INC

Inventor(s):(std)**:** AKUNE YUSUKE ; FUJIWARA TAKASHI ; SHIIKI MASAHIRO ; TANIMOTO JUNICHI ; WAKAYAMA MASAHIDE ; YAMAMOTO YUICHI

International class (IPC 8–9): G03G15/00 (Advanced/Invention); G03G15/00 (Core/Invention)

Classification Explorer

Cited documents: JP2005331546 A2, JP11219026 A2,

Forward Citations: JP5884458, JP2013123867,

Abstract:
Source: JP2010107552A PROBLEM TO BE SOLVED: To provide an image forming apparatus which surely locks a cover on a body even if the stiffness of the cover is weak. SOLUTION: The image forming apparatus 1 has: a body 2; a toner cartridge 3 which is mounted in the body 2 and accommodates a toner necessary for forming images; and an opening/closing member 22 which rotates via a first shaft 21, so that the toner cartridge 3 may be attached to and detached from the body 2, to open and close to the body 2. In the image forming apparatus 1, a rotary lever 31, which is rotatable about a second shaft 23, is provided between the toner cartridge 3 and the opening/closing member 22. When the opening/closing member 22 closes to the body 2, the rotary lever 31 rotates about the second shaft 23, so that it may approach the opening/closing member 22, while sliding to contact a protrusion part 26 provided in the opening/closing member 22 and pressing the protrusion part downward.

0) KR200329346Y – ELECTRIFICATION PRESSURE MAINTENANCE DEVICE OF ...

432) Family number: 47049692 (KR200329346Y) © PatBase

Title: Electrification pressure maintenance device of the image forming apparatus (Machine translation)

Priority: KR20030011439U 20030414

Family:

Publication number	Publication date	Application number	Application date
KR200329346 Y1	20031010	KR20030011439U	20030414

Probable Assignee: KOREA FUJI XEROX CO LTD

Assignee(s): KOREA FUJI XEROX CO LTD

International class (IPC 8–9): G03G15/02 (Advanced/Invention); G03G15/02 (Advanced/Non–invention)

International class (IPC 1–7): G03G15/02

Classification Explorer

Abstract:
Source: KR200329346Y The present design is to prevent made to relates to a charging zone pressure maintenance device of the image forming apparatus, By pressing by charging additional spring force the feed rolls and in contact to convey the developer non–uniform charging amount by the strain and wear will be. configuration of the subject innovation is carried toward the photosensitive member (6) to develop the toner (3) is stored by a large amount of the toner (3) and the toner storage section (2) for storing the toner storage section (2) in the developing sleeve 5 and the developing sleeve 5, a developing cartridge of an image forming apparatus consisting of a toner charging unit 10 to restrict a thickness such that the amount is kept constant in the (3) attached to which, the charging portion 10 is the toner storage section (20) to receive directly transmitted to the charging shots strength of the spring 11, the spring 11 Tangier in the accommodating portion 22 formed with a certain space in the plate 12 and, on the charging plate (12) and while contact with the developing sleeve 5 and the yirueojyeoseo by directly charging the rubber member 13 to the contact surface, the hook member 24 formed with the toner storage section (20) integral with as the charged plate 12 is supported by a structure such that the pressure on the developing sleeve 5. The present design is configured as is it is possible to maintain the surface contact state is always pressed with a constant force a charge to surface contact with the developing sleeve to give it a uniform charge amount to the usable life of the device to obtain the concentration and quality of certain images one will be so. Quality, developing, War, plates, toners, springs, constant pressure, surface contact

0) CN206242736U – A NEW ARTISTIC DESIGN TEACHING MULTIFUNCTIONAL ...

433) Family number: 66070494 (CN206242736U) © PatBase

Title: A new artistic design teaching multifunctional folder (Machine translation)

Priority: CN201621348691U 20161209

Family:

Publication number	Publication date	Application number	Application date
CN206242736 U	20170613	CN201621348691U	20161209

Probable Assignee: LIUGUO TAO

Assignee(s): LIUGUO TAO ; MA HUI ; WANG YUYUN

International class (IPC 8–9): B42F7/14 B42F9/00 G09B19/00 (Advanced/Invention)

Classification Explorer

Abstract:
Source: CN206242736U The utility model discloses a novel artistic design teaching multifunctional folders, wherein a lid of the cartridge body connected to the left and right splint splint II; Bottom inner side provided with a placing groove tool with the Pen tool place slot, placing groove tool provided inside the toner cartridge is placed groove, the cassette side plate bonded with a magnetic stripe, magnetic stripe and cover the outer edge of the iron magnetic connection; The cartridge body outside of the bottom plate riveted with a clip and clip binding holes; One edge of the splint riveted with a card buckle, the buckle cover and buckle belt buckle; On plywood two bonded with a plurality of rubber, rubber fixed block fixed block two settings and has an internal thread, and is disposed through the rubber fixed within a block screw screwed and fixed by rubber stopper; Reasonable structure, easy to carry a lot of teaching courseware and tools for artistic design teaching work.

434) Family number: 7704077 (JP4063359A) © PatBase

Title: PHOTOSENSITIVE BODY CARTRIDGE FOR ELECTROPHOTOGRAPHIC RECORDING DEVICE

Priority: JP19900175629 19900703

Family:

Publication number	Publication date	Application number	Application date
JP4063359 A2	19920228	JP19900175629	19900703

Probable Assignee: NEC CORP

Assignee(s):(std)**:** NEC CORP

Inventor(s):(std)**:** TSUMURO YOSHITAKA

International class (IPC 8–9)**:** G03G15/00 G03G15/02 (Advanced/Invention); G03G15/00 G03G15/02 (Core/Invention)

International class (IPC 1–7)**:** G03G15/00 G03G15/02

Classification Explorer

Forward Citations: US7215905,

Abstract:
Source: JP4063359A PURPOSE: To prevent the user's hand from touching the surface of a photosensitive body when the cartridge is operated by fitting a transfer electromagnetic charger movably to the photosensitive body cartridge. CONSTITUTION: The photosensitive body cartridge consists of the photosensitive body 1, a waste toner casing 4, a grip 4a for operation which is provided on the casing 4, the transfer electrostatic charger 5a which is retracted to the side of the grip at the time of operation and movable to a specific position when the cartridge is loaded, etc. Then, when the cartridge is outside the electrophotographic recording device, the electrostatic charger 5a is positioned closely to the grip 4a and even when the user holds the grip 4a, the user's hand never touch the surface of the photosensitive body 1. Once the cartridge is loaded in the device, a pin 6 fixed to the device presses up a lever 5b and the electrostatic charger is held at a specific position.

0) CN206098336U – A LAMP POWDER COATING MACHINE (MACHINE TRANSL...

435) Family number: 65407627 (CN206098336U) © PatBase

Title: A lamp powder coating machine (Machine translation)

Priority: CN201621022595U 20160831

Family:

Publication number	Publication date	Application number	Application date
CN206098336 U	20170412	CN201621022595U	20160831

Probable Assignee: ANHUI HUI OPTOELECTRONICS TECHNOLOGY CO

Assignee(s): ANHUI HUI OPTOELECTRONICS TECHNOLOGY CO

International class (IPC 8–9): H01J9/22 (Advanced/Invention)

Classification Explorer

Abstract:
Source: CN206098336U A lamp coating machine, including a fixed film, bracket, support body, the bracket includes a turntable, a rod, rotating power components. The rotating power part is mounted in the central part of the turntable, and the lever is arranged uniformly scattered from the center part of the turntable, and the other end of the rod is fixed on the outer edge of the turntable. The fixed film and the supporting body are fastened on the pole by bolts. Fixed negatives open two holes. The powder coating machine also includes the powder box, the input tube and the output tube. The toner cartridge includes a spray box and a recycling box, and the input tube is connected with the spray box. The output tube is located above the Recycle Bin. The powder box also comprises the extrusion device, the control device, the extrusion device is located inside the spray box, the control device controls the extrusion device timing extrusion spray box inside the coating fluid from the input tube into the lamp after outflow. The input pipe is sleeved with a sealing sleeve. The bottom of the toner cartridge is provided with a first linear motor. The bottom of the extrusion device is arranged with a second linear motor. The device has a high degree of automation and greatly improves the production efficiency.

0) DE10235800A1 – RECORD CARRIER CONVEYOR FOR TRANSFER DEVICE IN ...

436) Family number: 30347029 (DE10235800A1) © PatBase

Title: Record carrier conveyor for transfer device in electrographic printer or copier, has device at bearing for slackening conveyor belt when in belt replacement position

Priority: DE20021035800 20020805

Family:

Publication number	Publication date	Application number	Application date
DE10235800 A1	20040304	DE20021035800	20020805
DE10235800 B4	20041021	DE20021035800	20020805

Probable Assignee: OCE PRINTING SYSTEMS GMBH

Assignee(s):(std)**:** OCE PRINTING SYSTEMS GMBH

Inventor(s):(std)**:** HAJDUKIEWICZ STEFAN

International class (IPC 8–9)**:** G03G15/16 (Advanced/Invention); G03G15/16 (Core/Invention)

International class (IPC 1–7)**:** G03G15/00 G03G15/16 G03G21/16

CPC: G03G15/165 G03G2215/1623

European class: G03G15/16E1G S03G215/16B4

Classification Explorer

Cited documents: US6078777 A, US5915300 A, JP55151660 A2, DE19856372 A1, DE10059888 A1,

Abstract:
A conveyor–belt unit (TBA) with a conveyor belt (TB) is provided for conveying a record carrier past a transfer member (ZT). The conveyor belt bearing (TBK) is pivotably mounted in the conveyor–belt unit. A device for tensioning the conveyor belt is provided at the bearing, for automatically slackening the belt when moved into a belt replacement position, and automatically tensioning the belt when moved into an operating position. An Independent claim is included for a method of replacing a conveyor belt.

0) FR2328436A – DISPOSITIF DE BASSINE A FRITURE AVEC EPURATEUR ...

437) Family number: 3622742 (FR2328436A) © PatBase

Title: DISPOSITIF DE BASSINE A FRITURE AVEC EPURATEUR COMBINATION FRYING PAN AND COOKING OIL FILTER – HAS SHAPE WHICH IS SWEPT BY FILTER ATTACHED TO ROTARY FRYING BASKET OF SEMICYLINDRICAL FORM

Priority: FR19750032489 19751023

Family:

Publication number	Publication date	Application number	Application date
FR2328436 A1	19770520	FR19750032489	19751023
FR2328436 B3	19780728	FR19750032489	19751023

Probable Assignee: NALPAS NORBERT

Assignee(s):(std)**:** NALPAS NORBERT

International class (IPC 8–9): A47J37/12 (Advanced/Invention); A47J37/12 (Core/Invention)

International class (IPC 1–7): A47J37/12

CPC: A47J37/1223

European class: A47J37/12D

Classification Explorer

Forward Citations: US6976420,

Abstract:
Source: FR2328436A (Claim 1) REVENDICATIONS I– DISPOSITIF D'EPURATIOI–s DES GRAISSES DE FRITURE constitue par une bassine de cuisson dont la partie superieure presente un evasement d'expansion et dont la base contenante du liquide est formee selon un plan de rotation autour d'un axe horizontal permettant a des accessoires jointifs formes selon ce plan, de traverser par balayage tamisant la masse inerte du liquide, ou de lle– coper dans un sac pourvu de moyens filtrants, ou de le refouler par un panneau filtrant au niveau superieur d'expension de la bassine. The frying pan is designed to accommodate the regular filtering of cooking oils. An open–fire pedestal with temperature controls, and a condenser type vapour extractor are also incorporated. The pan may include a frying basket, and the geometry of the combination be such that the pan volume may be swept by rotation of the basket about a horizontal axis. The basket is fitted with a screen in order to carry out the filtering operation. A 180 deg. rotation of the basket then lifts the oil into a position above that occupied during cooking. The oil passes through the screen (20) to return below and be filtered in the process.

0) GB201200673A – AN AUTOMATED METHOD AND PROCESS FOR MICROSCOPIC...

438) Family number: 50831361 (GB201200673A) © PatBase

Title: AN AUTOMATED METHOD AND PROCESS FOR MICROSCOPIC SUBSTANCE IDENTIFYING DEVICE WORKING WITHIN ANY CLEANING

Priority: GB20120000673 20120114

Family:

Publication number	Publication date	Application number	Application date
GB201200673 A0	20120229	GB20120000673	20120114
GB2500168 A1	20130918	GB20120000673	20120114

Probable Assignee: NGUMI COSMOS W

Assignee(s):(std)**:** NGUMI COSMOS W ; NGUMI COSMOS WATHINGIRA

Assignee(s): COSMOS WATHINGIRA NGUMI

Inventor(s):(std)**:** NGUMI COSMOS WATHINGIRA

Inventor(s): COSMOS WATHINGIRA NGUMI

International class (IPC 8–9): A47L7/00 C12Q1/04 (Advanced/Invention)

CPC: C12Q1/04 A47L9/28 A47L7/0061 A47L7/0085 A01K29/00

Classification Explorer

Cited documents: WO07093043 A1, US2007209143 AA, US2005204505 AA, US2003153021 AA, JP2011045547 A2, JP2000342497 A2, EP2508957 A2, CN201123784 Y,

Abstract:
Source: GB201200673A A cleaning device, such as a vacuum cleaner, which has a device for identifying microscopic objects e.g. micro−organisms such as bacteria, viruses and fungi; and a telemetric device for transmitting and receiving data via a wireless signal so that the microscopic object identifying device can collect information and the telemetric device transfers the information away from body of the cleaning device.

0) JP7193694A – FACSIMILE EQUIPMENT

439) Family number: 12648790 (JP7193694A) © PatBase

Title: FACSIMILE EQUIPMENT

Priority: JP19930329267 19931227

Family:

Publication number	Publication date	Application number	Application date
JP7193694 A2	19950728	JP19930329267	19931227

Probable Assignee: RICOH KK

Assignee(s):(std)**:** RICOH KK

Assignee(s): ROCOH COMPANY LTD ; RICOH CO LTD

Inventor(s):(std)**:** HISAMA KAZUNAGA

International class (IPC 8–9)**:** G03G21/10 H04N1/29 (Advanced/Invention); G03G21/10 H04N1/29 (Core/Invention)

International class (IPC 1–7)**:** G03G21/10 H04N1/29

Classification Explorer

Abstract:
Source: JP7193694A PURPOSE:To prevent deterioration in a cleaning blade and to reduce the running cost for one copy by parting the cleaning blade and a photosensing belt after the end of recording operation. CONSTITUTION:When a paper discharge sensor 11 senses an end of copying, a cam 19 on a drive shaft of a motor 18 pushes out a trapezoidal lever 20 to override a fixed shaft 21 of a waste toner cartridge 9 onto the trapezoidal lever 20 thereby parting the lever 20 from the photosensing belt 1. Thus, the contact between a cleaning blade 12 in the waste toner cartridge and the photosensing belt is released. Thus, a tearing force to the tip of the cleaning blade due to fluctuation in the lengthwise direction of the photosensing belt is released to prevent deformation of the cleaning blade thereby enhancing the printing quality and extending the service life of the cleaning blade and reducing the running cost per copy.

0) JP9146366A – IMAGE FORMING DEVICE

440) Family number: 14491669 (JP9146366A) © PatBase

Title: IMAGE FORMING DEVICE

Priority: JP19950326515 19951120

Family:

Publication number	Publication date	Application number	Application date
JP9146366 A2	19970606	JP19950326515	19951120

Probable Assignee: RICOH KK

Assignee(s):(std)**:** RICOH KK

Assignee(s): ROCOH COMPANY LTD ; RICOH CO LTD

Inventor(s):(std)**:** AKAFUJI MASAHIKO ; AOKI KATSUHIRO ; FUJISHIRO TAKATSUGU ; KANEKO TOSHIO ; KIMURA NORIYUKI ; KUROTAKA SHIGEO ; MOTOHASHI TAKESHI

International class (IPC 8–9)**:** G03G15/01 G03G15/08 G03G21/16 (Advanced/Invention); G03G15/01 G03G15/08 G03G21/16 (Core/Invention)

International class (IPC 1–7)**:** G03G15/01 G03G15/08 G03G21/16

Classification Explorer

Forward Citations: US8270879, US7379692, JP2006184606,

Abstract:
Source: JP9146366A PROBLEM TO BE SOLVED: To prevent a developer storage container from being accidentally detached from a developing device when the developing device is detached from the device main body. SOLUTION: A printer 1 is provided with an operation–lever protective member 54, as a misoperation prevention means, integrated with a unit support 53. When the operation–lever protective member 54 is attached/detached to/from a developing unit 21K, the member 54 moves to cover an operation lever 41K as the unit support 53 is lifted, thus making it impossible to operate the operation lever 41K used for the attachment/detachment of a toner cartridge 40K.

0) JP2011008114A – IMAGE FORMING APPARATUS

441) Family number: 48211099 (JP2011008114A) © PatBase

Title: IMAGE FORMING APPARATUS

Priority: JP20090152850 20090626

Family:

Publication number	Publication date	Application number	Application date
JP2011008114 A2	20110113	JP20090152850	20090626

Probable Assignee: OKI DATA KK

Assignee(s):(std)**:** OKI DATA KK

Assignee(s): OKI DATA CORP

Inventor(s):(std)**:** USHIKUBO JUNICHI

International class (IPC 8–9): G03G15/08 G03G21/00 (Advanced/Invention)

Classification Explorer

Forward Citations: JP2014157187,

Abstract:
Source: JP2011008114A PROBLEM TO BE SOLVED: To prevent occurrence of thinning in print without causing insufficient supply of toner even by an operator who is unaccustomed to developer cartridge attaching operation.SOLUTION: The image forming apparatus includes: a developer cartridge provided with a first shutter for being slid; an image forming unit provided with a second shutter having an engaging part engaged with the first shutter and a sensor lever for being slid by being interlocked with the first shutter; a shutter detection means detecting the sensor lever moving interlocked with the first shutter when the developer cartridge is attached, and detecting a condition of the first shutter; and an informing means informing of the condition of the first shutter detected by the shutter detection means.

0) CN206201818U – AN ART TONER, (MACHINE TRANSLATION)

442) Family number: 65915435 (CN206201818U) © PatBase

Title: An art Toner, (Machine translation)

Priority: CN201621250187U 20161118

Family:

Publication number	Publication date	Application number	Application date
CN206201818 U	20170531	CN201621250187U	20161118

Probable Assignee: HEBEI UNIV

Assignee(s):(std)**:** HEBEI UNIV

International class (IPC 8–9)**:** B44D3/02 B44D3/06 (Advanced/Invention)

Classification Explorer

Abstract:
Source: CN206201818U The utility model discloses an art, relates to the technical field of art supplies, pigment toner cartridge is no cover cylindrical cavity structure, the outer side of the fixed connection with a guide rail on the side of the bottom provided with a discharge pipe and fixed connected to the palette, the pigment cartridge cavity through the discharge pipe and the palette communication; Fit within the rail activities connected with a movable rod, the movable rod connected to the top of the rotating rotary plate; Pigment lumen top compartment is connected with the piston, the piston top is provided with a jack; The utility model pigment hopper bottom has a transfer cylinder and stirring blades, stirring blade is provided inside the heating plate, the pigment to be continued stirring and heating to ensure its uniform and not due to low ambient temperatures, the pigment cartridge top coagulation using a piston seal, use process, through the active lever movement along the rail, driven platen press top rod so that the piston moves downward, the pigment by a few times pressed out of the discharge pipe to the palette for use, without frequent add pigments, convenient to use.

0) US3553851A – TALKING BOOK

443) Family number: 937396 (US3553851A) © PatBase

Title: TALKING BOOK

Priority: US19690811148 19690327

Family:

Publication number	Publication date	Application number	Application date
US3553851 A	19710112	US19690811148	19690327

Probable Assignee: RICHARD E PAIGE

Assignee(s):(std)**:** RICHARD E PAIGE

Inventor(s):(std)**:** PAIGE RICHARD E

Inventor(s): RICHARD E PAIGE

International class (IPC 8–9)**:** G09B17/00 G09B5/06 (Advanced/Invention); G09B17/00 G09B5/00 (Core/Invention)

International class (IPC 1–7)**:** G09B5/04 G11B5/78

CPC: G09B5/062 G09B17/006

European class: G09B17/00B2 G09B5/06B

US class: 206/232 360/1 434/317

Classification Explorer

Forward Citations: WO03037461, USD424434, US8594557, US8297800, US7402042, US7203455, US6435559, US6222809, US6041215, US6021306, US5894923, US5803748, US5772208, US5609488, US5551905, US5525088, US5484292, US5453013, US5209665, US4990092, US4820233, US4643301, US4290524, US4189852, US4079431, US3823814, US3741565, US3641684, US2011236869, US2008254428, US2007154876, US2004213140, US2004076935, US2004070192, US2004043371, US2004043365, FR2452149,

Abstract:
Source: US3553851A ABSTRACT OF THE DISCLOSURE A teaching device for simultaneously teaching the reading and pronouncing of words is described which includes the combination of a housing having the appearance of a hook, a tape player within the housing, a prerecorded tape cartridge and a printed book detachably mounted on the housing, the material printed in the book corre–sponding to the material recorded on the tape.

0) JP2170168A – IMAGE FORMING DEVICE

444) Family number: 15218163 (JP2170168A) © PatBase

Title: IMAGE FORMING DEVICE

Priority: JP19880323418 19881223

Family:

Publication number	Publication date	Application number	Application date
JP2170168 A2	19900629	JP19880323418	19881223
JP2747710 B2	19980506	JP19880323418	19881223

Probable Assignee: KYOCERA CORP

Assignee(s):(std)**:** KYOCERA CORP

Assignee(s): KYOSERA KK

Inventor(s):(std)**:** MURASE KOJI

International class (IPC 8–9): G03G15/00 G03G21/00 G03G21/16 (Advanced/Invention); G03G15/00 G03G21/00 G03G21/16 (Core/Invention)

International class (IPC 1–7): G03G15/00 G03G21/16

Classification Explorer

Cited documents: JP62016956 U1,

Forward Citations: JP5337463,

Abstract:
Source: JP2170168A PURPOSE:To reduce the number of the parts of the above device, to make a space for operating small and to simplify a locking action and a releasing action by successively displacing one regulating means so that the regulation of two or more processing units is released stepwise. CONSTITUTION:A drum unit 1 incorporating a photosensitive drum and a cleaning blade, etc., and a developing unit 2 incorporating a developing roller, a developer container and a toner cartridge, etc., are constituted so as to be freely attached and detached through a guiding rail fixed to the frame body of a device main body. A lever member 3 is turnably supported on the rotary shaft 45 of the above−mentioned frame body. The units 1 and 2 are allowed to be locked by setting the lever 3 at a position where it is hung downward. When the lever 3 is turned by 45 deg., only the unit 2 is pulled out and when it is turned by more 45 deg., the unit 1 is also pulled out.

0) US6874599B – FIFTH WHEEL LUBRICATION SYSTEM

445) Family number: 31827559 (US6874599B) © PatBase

Title: FIFTH WHEEL LUBRICATION SYSTEM

Priority: US20020317403 20021211

Family:

Publication number	Publication date	Application number	Application date
US6874599 BA	20050405	US20020317403	20021211

Inventor(s): RISKEDAL BRAD A

International class (IPC 8–9): B62D53/08 (Advanced/Invention); B62D53/00 (Core/Invention)

International class (IPC 1–7): F01M11/04

CPC: B62D53/0885

European class: B62D53/08F

US class: 184/105.3 184/28 184/39 184/7.2 184/72

Classification Explorer

Cited documents: US6098754 A, US5845802 A, US5417308 A, US4586726 A, US4541651 A, US3887251 A, US3743054 A, US2914630 A, US2908898 A, US1732579 A,

Forward Citations: US8844680, US8827040, US8215455, US2011233002, US2010155180, US2008185228, US2007209879,

Abstract:
Source: US6874599B A fifth wheel lubricating system for greasing the interface between the upper and lower fifth wheel plates while the trailer is couple to the tractor. The system supplies grease form a cartridge that is coupled to a solenoid activated grease valve and controlled by means of an electrical controller mounted in the cab or on the catwalk of the fifth wheel tractor. The grease gun is operated pneumatically from an onboard air compressor or can be manually operated by means of a hand pump lever built into the grease gun. A primary grease hose carries grease from the grease valve to a grease distribution hub, where it is distributed to two or more distribution hoses that connect to the bottom side of the tractor mounted lower fifth wheel plate. The grease is forced up through holes in the lower fifth wheel plate, into grease slots on the top side of the lower plate. In operation, the driver can push a button on the controller and force a desired amount of grease into the grease slots located at the interface between the upper and lower fifth wheel plates, thereby providing a more convenient, cleaner, and more efficient means of lubricating a fifth wheel.

0) JP2009274864A – PACKING BAG SEALING METHOD OF CONSUMABLES UNIT ...

446) Family number: 44159484 (JP2009274864A) © PatBase

Title: PACKING BAG SEALING METHOD OF CONSUMABLES UNIT AND CONSUMABLES UNIT HAVING PACKING BAG LOCKING TOOL

Priority: JP20080130339 20080519

Family:

Publication number	Publication date	Application number	Application date
JP2009274864 A2	20091126	JP20080130339	20080519
JP4983722 B2	20120725	JP20080130339	20080519

Probable Assignee: CASIO ELECTRONICS CO LTD

Assignee(s):(std)**:** CASIO COMPUTER CO LTD ; CASIO ELECTRONICS CO LTD

Assignee(s): CASIO COMPUT CO LTD

Inventor(s):(std)**:** SUZUKI MASAKAZU

International class(IPC 8–9)**:** B65F1/00 (Advanced/Invention); B65F1/00 (Core/Invention)

CPC: Y02W30/10

Classification Explorer

Cited documents: JPS6056059 U, JPS5940205 U, JP7072781 A2, JP7056426 A2, JP6179458 A2, JP60056059 U1, JP60056059 U, JP59040205 U1, JP59040205 U, JP3122572 U1, JP3034285 U1, JP1168466 U1,

Abstract:
Source: JP2009274864A PROBLEM TO BE SOLVED: To provide a method for sealing a packing bag of a consumables unit by a simple and inexpensive method when disposing of the consumables unit, and the consumables unit suitable for its method. SOLUTION: A toner cartridge 1 has integrally a locking tool 1b in a covering casing 1a. The locking tool 1b is formed as a U–shaped hook of elastically fixing a free end part 1d to a covering part by a base part 1c. By providing such a locking tool 1b, a used toner cartridge 1' can be disposed of without pollution in transport, by surely sealing the packing bag by a simple method such as being fixed to the locking tool 1b together with an outside packing bag 3 of the locking tool 1b by folding back its twisted–bundled part 3b (3c), by twisting and bundling the vicinity of an opening part 3a of the packing bag 3, after being contained in the packing bag 3. There is no fear of a cost increase and the part loss without requiring to separately provide a sealing member, and this invention contributes to proper disposal of the used consumables unit.

0) CN202780985U – CHIP DISMANTLING TOOL

447) Family number: 53211627 (CN202780985U) © PatBase

Title: CHIP DISMANTLING TOOL

Priority: CN201220241955U 20120522

Family:

Publication number	Publication date	Application number	Application date
CN202780985 U	20130313	CN201220241955U	20120522

Probable Assignee: UNIV ZHEJIANG NORMAL

Assignee(s):(std)**:** UNIV ZHEJIANG NORMAL ; ZHEJIANG NORMAL UNIV

Inventor(s):(std)**:** GONG NINGNING

International class (IPC 8–9)**:** B25B27/00 (Advanced/Invention)

Classification Explorer

Abstract:
Source: CN202780985U The utility model relates to a toner chip dismantling tool, which includes fixtures, plate, feet, torsion, handle five parts. Hold the tool handles, so driven fixed feet feet head jig, jig up and down each edge shocked butt bite, the claws fixed chip card slot along the ends of the cut, while the hook jig to accurately insert chips hole on the card, then pull the tool as a whole, the hook can be easily disassembled from the chip on the cartridge. The utility model structure is simple, low cost, the dismantling process can not only ensure the drum shell is not broken, but also solve the problem of time–consuming manual removal, easy operation, can greatly improve the efficiency of the removal of chips.

0) JP4190371A – COLOR IMAGE FORMING DEVICE

448) Family number: 7943597 (JP4190371A) © PatBase

Title: COLOR IMAGE FORMING DEVICE

Priority: JP19900322269 19901126

Family:

Publication number	Publication date	Application number	Application date
JP2898744 B2	19990602	JP19900322269	19901126
JP4190371 A2	19920708	JP19900322269	19901126

Probable Assignee: KYOCERA CORP

Assignee(s):(std)**:** KYOCERA CORP

Assignee(s): KYOSERA KK

Inventor(s):(std)**:** AZUMA KATSURO ; OKADA TETSUYA ; YAMANE SHINJI

International class (IPC 8–9)**:** G03G15/00 G03G15/01 G03G15/04 G03G15/043 G03G21/00 G03G21/10 (Advanced/Invention); G03G15/00 G03G15/01 G03G15/04 G03G15/043 G03G21/00 G03G21/10 (Core/Invention)

International class (IPC 1–7)**:** G03G15/01 G03G15/04 G03G15/043 G03G21/00

Classification Explorer

Abstract:
Source: JP4190371A PURPOSE:To easily form a color image without incurring enlargement of the size of a device and retardation of a image forming speed by enabling the rotation of an image bearing medium to be reversed, and by selecting a desired developing device in accordance with a rotating direction of a toner image bearing medium. CONSTITUTION:A cylindrical hollow photosensitive medium drum can be rotated in both normal and reverse directions, and an electroconductive layer 1b is grounded. For example, a first change–over lever 4A and a second change–over lever 4B are both raised up a recording sheet 10 which has been once dichromatically developed is stored in a sheet discharge cassette. Then the rotations of sheet discharge rollers 6C are reversed so as to return the recording sheet 10 to the position of a register roller 3B, and thereafter, the rotation of a photosensitive drum 1 is reversed so as to carry out remaining dichromatic exposure and development and after a condition that left and right exposure units 9B, 9A are moved to and fixed at the position of a cian developing cartridge 8C and the position of an yellow developing cartridge 8Y, respectively. Further, the remaining dichromatic toner image is led to an image– transfer position as the drum 1 is reversed. Thereby it is possible to facilitate the formation of a color image without incurring the size of the device and retardation of the image forming speed.

0) US2014028170A – IMAGE PROCESSING APPARATUS

449) Family number: 55704871 (US2014028170A) © PatBase

Title: IMAGE PROCESSING APPARATUS

Priority: JP20120163687 20120724

Family:

Publication number	Publication date	Application number	Application date
JP2014027340 A2	20140206	JP20120163687	20120724
JP5942665 B2	20160629	JP20120163687	20120724
US2014028170 AA	20140130	US20130949448	20130724

Probable Assignee: BROTHER KOGYO KK

Assignee(s):(std)**:** BROTHER IND LTD ; ITO SAKAE ; MINAMINAKA KAZUYOSHI

Assignee(s): BROTHER KOGYO KK

Inventor(s):(std)**:** ITO SAKAE ; MINAMINAKA KAZUYOSHI

International class (IPC 8–9): B41J29/13 G03G15/00 G03G21/16 H04N1/00 (Advanced/Invention)

CPC: G03G21/16 G03G21/1628

US class: 312/327

Classification Explorer

Cited documents: US6032004 A, US2011318050 AA, US2011149354 AA, US2010158560 AA, US2009122330 AA, US2008310879 AA, US2008157639 AA, US2007002396 AA, US2005031371 AA, US2004051769 AA, JP9190133 A2, JP200710949, JP2007010949 A2, JP11260181 A2, JP11260181,

Forward Citations: US2016098007,

Abstract:
Source: US2014028170A An image processing apparatus, comprising: a main body; a first movable part; a second movable part; a locking mechanism; and a detection unit to detect a state of the locking mechanism, and wherein the locking mechanism comprises: a stopper provided on one of the main body and the first movable part; and a catching part provided on the other of the main body and the first movable part, wherein a support arm is formed to support the second movable part at a second separated position; the stopper is provided on each of one side and the other side in a width direction; the catching part is provided on each of the one side and the other side; the support arm is provided on each of the one side and the other side; and the detection unit is provided on one of the one side and the other side.

0) JP2056588A – CLEANING DEVICE

450) Family number: 3536791 (JP2056588A) © PatBase

Title: CLEANING DEVICE

Priority: JP19880207342 19880823

Family:

Publication number	Publication date	Application number	Application date
JP2056588 A2	19900226	JP19880207342	19880823

Probable Assignee: RICOH KK

Assignee(s):(std)**:** RICOH KK

Assignee(s): RICOH CO LTD

Inventor(s):(std)**:** HIRASAWA JUNICHI

International class (IPC 8–9): B41J29/17 G03G21/00 G03G21/10 (Advanced/Invention); B41J29/17 G03G21/00 G03G21/10 (Core/Invention)

International class (IPC 1–7): B41J29/17 G03G21/00

Classification Explorer

Forward Citations: JP5232849, JP3074899,

Abstract:
Source: JP2056588A PURPOSE:To eliminate removing operation for deposits by a user by drawing an image formation ease out of a machine main body and separating the front edge of a cleaning blade from a photosensitive body, and falling the deposits on the front edge of the cleaning blade. CONSTITUTION:When the image formation case 6 is drawn out from a grip 13 as shown by an arrow B so as to replace the photosensitive drum 1 or supply toner 17 to a toner cartridge 9, a blade holder 2 comes out pressing a lever 14 fixed to the machine main body 7 as shown by an arrow (a). Then the blade holder 2 rotates around the rotary shaft 15A of a toner recovery roller 15 to separate the front edge of the cleaning blade 3 from the photosensitive drum 1 as shown by a broke line, and then the deposits on the front edge of the blade 3 fall. The operation for the deposit removal is carried out automatically when the image formation case 6 is drawn out of the machine main body 7, so user's maintenance is performed at the same time.

0) JP3080285A – DRUM CARTRIDGE FOR ELECTROPHOTOGRAPHIC PRINTER

451) Family number: 5754127 (JP3080285A) © PatBase

Title: DRUM CARTRIDGE FOR ELECTROPHOTOGRAPHIC PRINTER

Priority: JP19890219002 19890824

Family:

Publication number	Publication date	Application number	Application date
JP3080285 A2	19910405	JP19890219002	19890824

Probable Assignee: NIPPON ELECTRIC ENG

Assignee(s):(std)**:** NIPPON ELECTRIC ENG

Assignee(s): NEC ENG LTD

Inventor(s):(std)**:** SATO TOSHIHARU

International class (IPC 8–9): G03G15/00 G03G21/00 (Advanced/Invention); G03G15/00 G03G21/00 (Core/Invention)

International class (IPC 1–7): G03G15/00 G03G21/00

Classification Explorer

Forward Citations: US5239350,

Abstract:
Source: JP3080285A PURPOSE:To close a photosensitive drum cover so as to protect a photosensitive drum from being photosensitized by impact and light from the outside by providing the movable photosensitive drum cover and a rail for moving which guides to move the photosensitive drum cover. CONSTITUTION:The photosensitive drum cover 1 is provided, which is attached to a printer so as to protect the photosensitive drum 5 from the impact and the light from the outside toner than at the time of closing the cover of a printer. The photosensitive drum cover 1 is constituted so as to be opened and closed by the rail 2 for moving the cover. Fixing members 4 are set on both ends of the photosensitive drum cover 1 and fixed by a raised latch 3 at the time of opening and closing the photosensitive drum cover 1. Thus, the photosensitive drum 5 is protected by closing the photosensitive drum cover 1 if necessary.

0) CN205539947U – TONER CARTRIDGE

452) Family number: 63427962 (CN205539947U) © PatBase

Title:	TONER CARTRIDGE
Priority:	CN201620199768U 20160315

Family:

Publication number	Publication date	Application number	Application date
CN205539947 U	20160831	CN201620199768U	20160315

Probable Assignee:	ZHUHAI XINCHENG TECH CO LTD
Assignee(s):(std)**:**	ZHUHAI XINCHENG TECH CO LTD
Assignee(s):	ZHUHAI XINCHENG TECHNOLOGY CO ; ZHUHAI XIN CHENG TECHNOLOGY CO LTD
Inventor(s):(std)**:**	PENG WENQING ; XU YANG
International class (IPC 8–9):	G03G15/08 G03G21/18 (Advanced/Invention)

Classification Explorer

Abstract:
Source: CN205539947U The utility model discloses a toner cartridge, including powder storehouse body and live –rollers, both ends are installed respectively and are covered its characterized in that at the electrically conductive end cover and the drive end of whitewashed storehouse body about the live –rollers: a mounting hole has been seted up to electrically conductive end cover, a live –rollers pot head is established in the mounting hole, it is equipped with an electrically conductive support to go back the fixing clip on the electrically conductive end cover, electrically conductive support and live –rollers conductive?contact, the live –rollers other end is installed and is rotated roller gear, the drive end is covered and is equipped with drive gear group, rotation roller gear passes through drive gear group and is connected with the motor. This powder storehouse is made the electrically conductive end cover of traditional integral type into split type, adds and establishes electrically conductive support and live –rollers conductive?contact, has reduced the processing degree of difficulty and cost.

0) JP62050861A – DEVELOPER STORAGE CARTRIDGE FOR ELECTROSTATIC R...

453) Family number: 9143566 (JP62050861A) © PatBase

Title: DEVELOPER STORAGE CARTRIDGE FOR ELECTROSTATIC RECORDING DEVICE

Priority: JP19850192224 19850830

Family:

Publication number	Publication date	Application number	Application date
JP2004937 C3	19960111	JP19850192224	19850830
JP62050861 A2	19870305	JP19850192224	19850830
JP7036091 B4	19950419	JP19850192224	19850830

Probable Assignee: MITA INDUSTRIAL CO LTD

Assignee(s):(std)**:** MITA INDUSTRIAL CO LTD

Assignee(s): MITA IND CO LTD

Inventor(s):(std)**:** ISHIDA HIROSHI ; NOMURA ATSUO

International class (IPC 8–9)**:** G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)

International class (IPC 1–7)**:** G03G15/08

CPC: G03G15/0886 G03G15/0855 G03G15/0865 G03G2215/0665 G03G2215/0675 G03G2215/0692

European class: G03G15/08H3 S03G215/06C1A S03G215/06C1C S03G215/06C7

Classification Explorer

Cited documents: JP60122970 A2, JP60115257 U1, JP60115257 U, JP60084950 U1, JP60084950 U, JP59166974 A2, JP57073770 A2, JP56150954 U1, JP56150954 U, JP56130776 A2,

Abstract:
Source: JP62050861A PURPOSE:To discharge a developer without any troublesome operation and to prevent it from scattering out by blocking the discharge operating at the bottom part of a developer container which is semicircularly sectioned with a shutter which is held by an elastic holding member. CONSTITUTION:Both ends of a cylindrical body 4 which has the slit opening 3 in the bottom wall 2 are covered with caps and supported slidably, the shutter 11 which closes the opening 3 is fixed to the cylindrical body 3 with plate rubber belts 13 provided at both lengthwise ends, and a plate type lever 14 is formed on the opposite side of the plate rubber belts 13. When a cartridge 1 is pressed down abutting on the upper edge 25 of a supply port, the shutter 11 whose one side is stopped by a lever 14 moves by the expansion of the rubber 13 to open the opening 3, so toner 15 is thrown in a storage chamber 26. Thus, the developer is supplied without any troublesome operation and prevented from scattering out.

0) US4586813A – IMAGE FORMING APPARATUS

454) Family number: 3644626 (US4586813A) © PatBase

Title: Image forming apparatus

Priority: JP19830172574 19830919 JP19830190328 19831012

Family:

Publication number	Publication date	Application number	Application date
DE3434401 A1	19850509	DE19843434401	19840919
DE3434401 C2	19890503	DE19843434401	19840919
JP1998616 C3	19951208	JP19830190328	19831012
JP60064362 A2	19850412	JP19830172574	19830919
JP60082544 A2	19850510	JP19830190328	19831012
JP7033184 B4	19950412	JP19830190328	19831012
US4586813 A	19860506	US19840649717	19840912

Probable Assignee: TOSHIBA A CORP OF JAPAN KK

Assignee(s):(std)**:** TOSHIBA KAWASAKI KK ; TOSHIBA KK

Assignee(s): KABUSHIKI KAISHA TOSHIBA ; KABUSHIKI KAISHA TOSHIBA KAWASAKI KANAGAWA JP ; TOSHIBA 72 HORIKAWA CHO SAIWAI KU KAWASAKI SHI JAP ; TOSHIBA A CORP OF JAPAN KK

Inventor(s):(std)**:** IDE FUMITO

Inventor(s): IDE FUMITO ZAMA KANAGAWA JP

International class (IPC 8–9)**:** B65H1/26 B65H3/06 B65H3/44 B65H7/06 B65H7/18 G03G15/00 (Advanced/Invention); B65H1/26 B65H3/06 B65H3/44 B65H7/00 B65H7/06 G03G15/00 (Core/Invention)

International class (IPC 1–7)**:** B65H1/26 B65H3/06 B65H3/44 B65H7/00 B65H7/06 B65H7/18 G03B27/48 G03B27/50 G03G15/00

CPC: G03G15/6511 B65H3/0669 B65H7/18 G03G2215/00396 G03G2215/00548 G03G2215/00556 G03G15/5012

European class: B65H3/06M B65H7/18 G03G15/50D G03G15/65B6 S03G215/00G1E S03G215/00G3C S03G215/00G3D

US class: 271/256 355/14SH 355/3SH 355/50 399/361

Classification Explorer

Cited documents: US4472049 A, JP57179867 A2, JP57072541 A2, JP57026862 A2, JP56048345 A2, DE3215815 A1, DE2264824 B2,

Forward Citations: US7721859, US7488258, US7021439, US5944645, US5884136, US5493968, US5408304, US5235381, US5218446, US4791457, US4750020, US4729311, US2004124056, JP5330692, JP3608641, JP3604056, JP3208841, JP1285543, JP1117140, JP11109693, JP10090963, EP0634281, EP0495109, EP0492619, EP0381459, EP0204452, DE4305025,

Abstract:
Source: US4586813A A feed member is selectively driven and brought into contact with an image forming medium so as to feed the image forming medium stored in a storage section in a direction toward an image forming section. A drive mechanism selectively applies a force to the feed member so that the feed member is brought into contact with the medium so as to feed the medium. A controlling means supplies a first control signal to the drive mechanism in response to a medium feed instruction signal. The medium can be sufficiently fed in accordance with the first control signal. The controlling means also supplies a second control signal to the drive mechanism in response to an error processing instruction signal when an error occurs. The feed member is separated from the medium in accordance with the second control signal.

0) JP11258908A – DEVELOPING DEVICE

455) Family number: 13252649 (JP11258908A) © PatBase

Title: DEVELOPING DEVICE

Priority: JP19980075084 19980310

Family:

Publication number	Publication date	Application number	Application date
JP11258908 A2	19990924	JP19980075084	19980310
JP3887937 B2	20070228	JP19980075084	19980310

Probable Assignee: SEIKO EPSON CORP

Assignee(s):(std)**:** SEIKO EPSON CORP

Inventor(s):(std)**:** YAMADA YOICHI

International class (IPC 8–9)**:** G03G15/08 (Advanced/Invention); G03G15/08 (Core/Invention)

International class (IPC 1–7)**:** G03G15/08

Classification Explorer

Cited documents: JP8001642 U, JP4317087, JP4009955 U, JP10055110, JP08001642 U, JP04317087, JP04009955 U,

Forward Citations: US7627264, US7606512,

Abstract:
Source: JP11258908A PROBLEM TO BE SOLVED: To prevent leakage of toner safely at the side faces of a developer carrier and the blade of a thin layer formation means. SOLUTION: In this developing device where the developer carrier 430 is rotatably attached at the case of a developing cartridge, and is provided with the thin layer formation means of the developer provided with the blade 482 which rotatably and pivotally supports each support shaft of the developer carrier 430 by a bearing 492 attached at the case and abuts on the developer carrier 430; a pressing means consisting of a projecting lever 492P or a pressing body pressing an elastic member 491 intervening between each side face of the developer carrier 430 and the blade 482 and the case inward at the contact position of the developer carrier 430 and the blade 482 or its peripheral area is disposed as the other body from the case.

456) Family number: 13752437 (JP2000075768A)

© PatBase

Title: PROCESS CARTRIDGE, IMAGE FORMING DEVICE, AND ELECTROSTATIC CHARGE DEVICE

Priority: JP19980259196 19980831

Family:

Publication number	Publication date	Application number	Application date
JP2000075768 A2	20000314	JP19980259196	19980831
JP4181668 B2	20081119	JP19980259196	19980831

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK

Assignee(s): CANON INC ; CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** KOJIMA HISAYOSHI ; MORI TOMONORI ; MURAYAMA KAZUNARI

International class (IPC 8–9)**:** G03G15/02 G03G21/18 (Advanced/Invention); G03G15/02 G03G21/18 (Core/Invention)

International class (IPC 1–7)**:** G03G15/02 G03G21/18

Classification Explorer

Forward Citations: US8614839, US2010027081, EP2175326,

Abstract:
Source: JP2000075768A PROBLEM TO BE SOLVED: To allow an electrostatic charging roller to stably maintain its charging performance over a long period, in a process cartridge including at least a photoreceptor drum and the electrostatic charging roller. SOLUTION: A moving member 72 with a cleaning brush 71 attached thereto is provided above an electrostatic charging roller 17. The moving member 72 is normally energized toward one end by a reciprocating return spring 74 mounted at the other end, and a reciprocating lever 73 normally abutting against a cylindrical cam 76 is mounted at the one end. The moving member 72 is urged to reciprocate in the longitudinal direction of the charging roller 17 by the action of the cylindrical cam 76, and at the same time, the cleaning brush 71 also reciprocates constantly. Therefore, particles, a toner floating inside a device, and dust that are generated during charging can be prevented from clinging to the surface of the charging roller 17.

0) JP9006213A – PROCESS CARTRIDGE AND IMAGE FORMING DEVICE

457) Family number: 14212302 (JP9006213A) © PatBase

Title: PROCESS CARTRIDGE AND IMAGE FORMING DEVICE

Priority: JP19950151343 19950619

Family:

Publication number	Publication date	Application number	Application date
JP9006213 A2	19970110	JP19950151343	19950619

Probable Assignee: CANON KK

Assignee(s):(std)**:** CANON KK

Assignee(s): CANON INC ; CANON KABUSHIKI KAISHA

Inventor(s):(std)**:** IKEMOTO ISAO ; KARAKAMA TOSHIYUKI ; WATANABE KAZUFUMI

International class (IPC 8–9)**:** B41J2/44 G03G15/08 G03G21/16 G03G21/18 (Advanced/Invention); B41J2/44 G03G15/08 G03G21/16 G03G21/18 (Core/Invention)

International class (IPC 1–7)**:** B41J2/44 G03G15/08 G03G21/16 G03G21/18

Classification Explorer

Forward Citations: JP4380132, JP2004109486, JP2002196650,

Abstract:
Source: JP9006213A PURPOSE: To make a process cartridge small−sized and lightweight by providing a warp correcting means for correcting the warp of at least one of an electrophotographic photoreceptor and a developer carrier. CONSTITUTION: A fixed magnet 10c is stored in a developing roller 10d, and butt rollers 17 kept in contact with a photoreceptor drum 7 for holding a fine gap K between the developing roller 10d and the photoreceptor 7 are provided near both end sections in the longitudinal direction. A tension spring 19 is hooked between a toner developing frame body 12 and a cleaning frame body 13. Since the force of the tension spring 19 is applied to the developing roller 10d, the developing roller 10d is warped in the direction that the center section in the longitudinal direction is separated from the photoreceptor drum 7 (in the direction that the gap K is widened) having the butt roller 17 as fulcrum. The warp quantity of the developing roller 10d is corrected. The developing roller 10d can be made small in diameter and thin in thickness.

0) JP2003255780A – CONNECTOR, DEVELOPMENT CARTRIDGE AND IMAGE FORM...

458) Family number: 29163883 (JP2003255780A) © PatBase

Title: CONNECTOR, DEVELOPMENT CARTRIDGE AND IMAGE FORMING APPARATUS

Priority: JP20020057179 20020304

Family:

Publication number	Publication date	Application number	Application date
JP2003255780 A2	20030910	JP20020057179	20020304
JP3962983 B2	20070822	JP20020057179	20020304

Probable Assignee: SEIKO EPSON CORP

Assignee(s):(std)**:** SEIKO EPSON CORP

Inventor(s):(std)**:** AOKI TAKESHI ; OKAMOTO KATSUMI ; SHIROKOSHI JUNJI

International class (IPC 8–9)**:** G03G15/00 G03G15/08 G03G21/00 H01R13/66 (Advanced/Invention); G03G15/00 G03G15/08 G03G21/00 H01R13/66 (Core/Invention)

International class (IPC 1–7)**:** G03G15/00 G03G15/08 G03G21/00 H01R13/66

Classification Explorer

Cited documents: JP7008968 U, JP2002025716, JP2002009468, JP10312870, JP07008968 U,

Abstract:
Source: JP2003255780A PROBLEM TO BE SOLVED: To avoid the influence of stuck toner and static electricity at a mem ory IC and to stabilize inserting and fixing of a memory IC board. SOLUTION: This connector is provided with: a positioning fixing part (60) to be engaged with the distal end of the memory IC board (46); and a hook part (61) for engaging the rear end of the memory IC board. The memory IC board is mounted covered with a casing, and contacts (43b and 44b) to come into spring–contact with the terminals (63 and 64) of the memory IC boards (63 and 64) are constituted of a plurality of columns. Among the plurality of columns of the contacts, the spring load of a contact on a board center side is higher than the other contacts.

0) US4898372A – COPY PAPER PROCESSING APPARATUS

459) Family number: 3325624 (US4898372A) © PatBase

Title: Copy paper processing apparatus

Priority: JP19870131604 19870529

Family:

Publication number	Publication date	Application number	Application date
JP63300070 A2	19881207	JP19870131604	19870529
US4898372 A	19900206	US19880197588	19880523

Probable Assignee: KONICA A CORP OF JAPAN CORP

Assignee(s):(std)**:** KONISHIROKU PHOTO IND

Assignee(s): KONICA A CORP OF JAPAN CORP ; KONICA CORP

Inventor(s):(std)**:** HAMANAKA IZUMI ; HIRABAYASHI TSUGIO

International class (IPC 8–9)**:** B26F1/32 B65H37/04 G03G15/00 (Advanced/Invention); B26F1/32 B65H37/04 G03G15/00 (Core/Invention)

International class (IPC 1–7)**:** B26F1/32 B42B2/00 B65H37/04 G03G15/00

CPC: G03G15/6541 G03G2215/00818 G03G2215/00827 G03G2215/00848

European class: G03G15/65K2 S03G215/00G4F S03G215/00G4G1 S03G215/00G4G6

US class: 270/53 270/58.12

Classification Explorer

Cited documents: US4763167 A, US4632377 A, US4575296 A, US4497478 A, US4424963 A, US4248525 A, US4083550 A, US4073391 A, JP61094180 A2, JP61084662 A2, JP61072569 A2, DE2653759 A1,

Forward Citations: US8509676, US6561503, US5899138, US5782466, US5700002, US5649695, US5599008, US5180152, US5114130, US5083760, US5037077, US4988030, US2010247202,

Abstract:
Source: US4898372A A copy paper processing apparatus wherein a set of copy papers supplied sheet by sheet from the outside while overlaying them are selectively punched by a puncher and stapled by a stapler and punch pins of the puncher are pulled out after the stapling operation is ended.

0) JP2006308799A – IMAGE FORMING APPARATUS

460) Family number: 34011523 (JP2006308799A) © PatBase

Title: IMAGE FORMING APPARATUS

Priority: JP20050130186 20050427

Family:

Publication number	Publication date	Application number	Application date
JP2006308799 A2	20061109	JP20050130186	20050427

Probable Assignee: MURATA MACHINERY LTD

Assignee(s):(std)**:** MURATA MACHINERY LTD

Assignee(s): MURATA MACH LTD

Inventor(s):(std)**:** SHOJI KATSUSHI

International class (IPC 8–9)**:** G03G15/00 G03G15/16 G03G21/10 (Advanced/Invention); G03G15/00 G03G15/16 G03G21/10 (Core/Invention)

Classification Explorer

Forward Citations: US9411306, US8989619, US2013243444, JP5601106, JP5354068, JP5148008, JP5103636, JP5046796, JP2013195596, JP2012226370, JP2012194589, JP2012056244, JP2009294407, JP2009294357, JP2009053376, EP2866098,

Abstract:
Source: JP2006308799A PROBLEM TO BE SOLVED: To provide a means for easily and surely detecting that returning a transfer roller guide inclined to a separate position before the changing operation of a process cartridge to a press−contact position after completing the operation is forgotten. SOLUTION: The image forming apparatus 1 is attachably/detachably provided with a waste toner container 22 for accumulating waste toner recovered from a photoreceptor drum 13, where a recessed notched part 49 in which an operation lever 34 operating the transfer roller guide 28 can be housed at a nip holding position Nh but it can not be housed at a nip releasing position Nk is formed, in a space between the transfer roller guide 28 and an inside access cover 8.

0) VN653U – AUTOMATIC SEAL REFILL (MACHINE TRANSLATION)

461) Family number: 51753363 (VN653U) © PatBase

Title: AUTOMATIC SEAL refill (Machine translation)

Priority: VN20050000203U 20051107

Family:

Publication number	Publication date	Application number	Application date
VN653 U	20071025	VN20050000203U	20051107

International class (IPC 8–9): B41K1/42 (Advanced/Invention)

Classification Explorer

Abstract:
Source: VN653U

Machine translation: Utility solutions proposed automatic refill seals include seal substrate, ink tray, bearing assemblies, cover and seal the lid attached to the base without having to press the bearing assemblies. To top are bottom, mouth and bottom lip is created at the top and bottom sticks out. Ink tray sliding in imperial seal and bearing assemblies are mounted on the rotating tray and toner cartridge in contact with the tray as it moves into the sign substrate. Shell has a more elastic and mounted on slides easy. Lid latch has two hooks on each substrate to seal the lid to hold on to his head.

0) JP2016053656A – MACHINE PART, TONER CARTRIDGE, AND IMAGE FORMIN...

462) Family number: 62187160 (JP2016053656A) © PatBase

Title: MACHINE PART, TONER CARTRIDGE, AND IMAGE FORMING APPARATUS

Priority: JP20140179562 20140903

Family:

Publication number	Publication date	Application number	Application date
JP2016053656 A2	20160414	JP20140179562	20140903

Probable Assignee: SAMSUNG ELECTRONICS CO LTD

Assignee(s):(std)**:** SAMSUNG ELECTRONICS CO LTD

Assignee(s): SAMSUNG ELECTRONICS CO LTD SAMSUNG ELECTRONICS CO LTD

Inventor(s):(std)**:** MURASE JINICHI

International class (IPC 8–9): G03G15/08 G03G21/16 (Advanced/Invention)

Classification Explorer

Abstract:
Source: JP2016053656A PROBLEM TO BE SOLVED: To provide a machine part for easily removing a case from a mechanism.SOLUTION: A machine part 62 is attached to a case 61. The machine part 62 includes a main body 71 that has an end face part 74 and a side face part 76, a handle 72 that is connected to the main body 71 with a first elastic deformation part 78, and a latch 73 that is connected to the main body 71 with a second elastic deformation part 83. The handle 72 has a first interlocking part 84. The latch 73 has a second interlocking part 86 that is overlapped with the first interlocking part 84 in a first direction D1 in which the handle 72 moves.SELECTED DRAWING: Figure 3

0) FR1430668A – APPAREIL DE PRISE DE VUES A COMMANDE D'UN ORGAN...

463) Family number: 21489639 (FR1430668A) © PatBase

Title: APPAREIL DE PRISE DE VUES A COMMANDE D'UN ORGANE DE L'APPAREIL EN FONCTION DE LA SENSIBILITE DU FILM TAKING CONTROL DEVICE OF A BODY UNIT BASED ON SENSITIVITY OF FILM (Machine translation)

Priority: FR19650012737 19650409

Family:

Publication number	Publication date	Application number	Application date
FR1430668 A	19660304	FR19650012737	19650409

Probable Assignee: DANGELMAIER AND CO OPTIK U FEI

Assignee(s):(std)**:** DANGELMAIER AND CO OPTIK U FEI ; DANGELMAIER AND CO OPTIK UND FEI

Assignee(s): DANGELMAIER AND CO OPTIK UND FEINMECHANIK ; DANGELMAIER AND CO OPTIK U FEINMECHANIK

International class (IPC 8–9): G03B1/66 G03B7/00 (Advanced/Invention); G03B1/00 G03B7/00 (Core/Invention)

International class (IPC 1–7): G03B7/00

CPC: G03B1/66 G03B7/00

European class: G03B1/66 G03B7/00

Classification Explorer

Abstract:
Source: FR1430668A (Claim 1) 1 On place la timonerie de transmission entre l'epaulement d'arret de la cartouche, d'une part, et un organe de commande d'exposition, de prefe rence un systeme de reglage du diaphragme, d'au tre part.

Machine translation: (Claim 1) is a place of communication between the wheelhouse to stop the shoulder of the cartridge, on the one hand, and a control exposure, a preferred reference system aperture setting, be at hand.

464) Family number: 1559550 (US4232107A) © PatBase

Title: PHOTOGRAPHIC MATERIAL SUITED FOR USE IN DIFFUSION TRANSFER PHOTOGRAPHY AND METHOD OF DIFFUSION TRANSFER PHOTOGRAPHY USING SUCH MATERIAL

Priority: GB19780011445 19780322

Family:

Publication number	Publication date	Application number	Application date
CA1134192 A1	19821026	CA19790323448	19790314
DE2962762 D1	19820701	DE19792962762	19790309
EP0004399 A2	19791003	EP19790200117	19790309
EP0004399 A3	19791017	EP19790200117	19790309
EP0004399 B1	19820512	EP19790200117	19790309
JP1407814 C3	19871027	JP19790033172	19790320
JP54130927 A2	19791011	JP19790033172	19790320
JP62017217 B4	19870416	JP19790033172	19790320
US4232107 A	19801104	US19790020651	19790315

Probable Assignee: AGFA GEVAERT NV

Assignee(s):(std)**:** AGFA GEVAERT NV

Assignee(s): AGFA GEVAERT N V ; AGFA GEVAERT NAAMLOZE VENNOOTSCHAP

Inventor(s):(std)**:** BUIRUERUMU JIYANSAN ; JANSSENS WILHELMUS

Inventor(s): UIRUERUMU JANSAN

Designated states: BE CH DE FR GB IT

International class (IPC 8–9): C07C45/46 C07C45/51 C07C45/62 C07C45/67 C07C45/71 C07C46/00 C07C47/565 C07C49/825 C07C50/34 C07C50/38 C07D231/46 G03C8/22 (Advanced/Invention); C07C45/00 C07C46/00 C07C47/52 C07C49/00 C07C50/00 C07D231/00 G03C8/02 (Core/Invention)

International class (IPC 1–7): C07C49/62 C07C50/04 C09B53/00 G03C1/10 G03C1/40 G03C1/48 G03C5/54 G03C7/00 G03C7/26

CPC: Y10S430/166 G03C8/22 C07C45/46 C07C45/513 C07C45/62 C07C45/67 C07C45/71 C07C46/00 C07C47/565 C07C49/825 C07C50/34 C07C50/38 C07D231/46

European class: C07C45/46 C07C45/51B4 C07C45/62 C07C45/67 C07C45/71 C07C46/00 C07C47/565 C07C49/825 C07C50/34 C07C50/38 C07D231/46 G03C8/22

US class: 430/212 430/217 430/218 430/223 430/227 430/236 430/239 430/240 430/242 430/244 430/543 430/559 430/564 430/566 430/598 430/599 430/621 430/965

Classification Explorer

Cited documents: US4139379 A, US3980479 A, US3728113 A, US3698898 A, US3185567 A, JP50161525 A2, JP49118723 A2, FR2383465 A1, FR2372460 A1, FR2287059 A1, FR2215645 A1, FR1185402 A,

Forward Citations: WO8604681, US5110723, US5045477, US5032487, US4952969, US4857271, US4853186, US4840887, US4797357, US4783396, US4724199, US4663273, US4594316, US4564577, US4559290, US4518682, US4503137, US4496645, US4483915, US4477554, US4440849, US4436810, US4423142, US4420557, US4409315, US4407929, US4396699, US4381339, US4371604, US4356249, US4353975, US2011131737, JP62123456, JP59101647, EP2181851, EP0772088, EP0394943, EP0255679, EP0247848, EP0247848, EP0247847, EP0247847, EP0210660, EP0201888, EP0200216, EP0173361, EP0149260, EP0124915, EP0120306, EP0111199, EP0109701, EP0109111, EP0089069, EP0078959, EP0059497, EP0056940, EP0049003, EP0049002, EP0038092, EP0037985,

Abstract:
Source: US4232107A Said material contains a quinone–type compound which corresponds to one of the formulae (A) or (B) and which is capable in reduced state and under alkaline conditions of releasing a

photographically useful group e.g. a dye: (A) (B) wherein: each of (Nuox)1 and (Nuox)2 represents an oxidized nucleophilic group, Z represents a bivalent atomic group which is electronegative, Q together with the Z group represents a releasable photographically useful group, each of R1, R2 and R3 is hydrogen, halogen, alkyl, alkoxy, or an acylamino group or R1 and R2 in adjacent positions on the ring form a ring fused with the remainder of the molecule, or R2 and R3 together are fused with the remainder of the molecule. each of R4 and R5 represents hydrogen or a hydrocarbon group. At least one of the substituents R1, R2, R3, R4 or R5 is a ballasting group X.

0) RU71289U – APPARATUS FOR MARKING OF ARTICLES OF CYLINDRICA...

465) Family number: 41739602 (RU71289U) © PatBase

Title: Apparatus for marking of articles of cylindrical form (Machine translation)

Priority: RU20070117003U 20070504

Family:

Publication number	Publication date	Application number	Application date
RU71289 U1	20080310	RU20070117003U	20070504

International class (IPC 8–9): B25H7/00 (Advanced/Invention); B25H7/00 (Core/Invention)

Classification Explorer

Abstract:
Source: RU71289U

Machine translation: (Claim 1) Device for marking containing bed with placed on it the image transfer mechanism with a heating element, a drive feeder, toner magnetic shaft and treatment elements, characterized in that the driving delivery device is designed as a rotating shaft carrying a two disc set of the feed bars each kinematically associated with the mechanism of the transfer, including two coaxially mounted disc type matrix coated with signs of peripheral parts in contact with the magnetic shaft and the cartridge heater is kinematically associated with feeding mechanism, and the bracket on the frame is fixed to the contact elements, which interact with a spring–loaded lever mounted inside bars with the possibility of contact with the workpiece. [IMAGE]

0) US2004169709A – PRINTING DEVICE AND METHOD

466) Family number: 30866118 (US2004169709A) © PatBase

Title: PRINTING DEVICE AND METHOD

Priority: US20030377386 20030228

Family:

Publication number	Publication date	Application number	Application date
EP1452324 A1	20040901	EP20030022523	20031002
JP2004262246 A2	20040924	JP20040052825	20040227
US2004169709 AA	20040902	US20030377386	20030228

Probable Assignee: HEWLETT PACKARD DEVELOPMENT CO LP

Assignee(s):(std)**:** GARAY ERNESTO ; HEWLETT PACKARD DEVELOPMENT CO ; WOTTON GEOFF ; REID CARL R

Assignee(s): HEWLETT PACKARD DEVELOPMENT CO LP ; HEWLETT PACKARD DEVELOPMENT COMPANY L P ; NATIONAL INST ; NATIONAL INSTITUTES OF HEALTH (NIH) US DEPT OF HEALTH AND HUMAN SERVICES (DHHS) US GOVERNMENT ; NATIONAL INSTITUTES OF HEALTH NIH US DEPT OF HEALTH AND HUMAN SERVICES DHHS US GOVERNMENT

Inventor(s):(std)**:** GARAY ERNESTO ; REID CARL R ; WOTTON GEOFF

Designated states: DE FR GB

International class (IPC 8–9)**:** B41J11/00 B41J2/01 B41J2/21 B41J29/00 G03G15/05 G03G15/22 (Advanced/Invention); B41J11/00 B41J2/01 B41J2/21 B41J29/00 G03G15/00 G03G15/05 (Core/Invention)

International class (IPC 1–7)**:** B41J2/01 B41J2/21 B41J29/00 G03G15/05 G03G15/22

CPC: B41J2/2114 B41J11/0015

European class: B41J11/00C B41J2/21B2

US class: 347/101

Classification Explorer

Cited documents: US6634744 BB, US6585364 BB, US6561639 BA, US6321652 BA, US6226463 BA, US5710587 A, US5635969 A, US5502476 A, US5428384 A, US5349376 A, US4913567 A, US2002126192 AA, EP1066968 A2,

Forward Citations: JP5879929, JP2013091260,

Abstract:
Source: US2004169709A In accordance with one embodiment, a printing device includes a sub–assembly for positioning ink on a print media. The printing device also includes a conditioning sub–assembly having a plurality of components, wherein the plurality of components has a first configuration to transfer conditioning material to the print media as the print media is fed through the printing device and a second configuration that does not transfer conditioning material to the print media as the print media is fed through the printing device.