PatBase - Search results 13 October 2020
Search query (2): FT=(PROCESS~ and PRODUCTION~ and ALVEOLAR~ OR CELL~ and DISPLAYS~) and IC =(B26F)
Results: 155

Search history

Search 1: FT=(PROCESS~ and PRODUCTION~ and ALVEOLAR~ OR CELL~ and DISPLAYS~) (Results 480037)

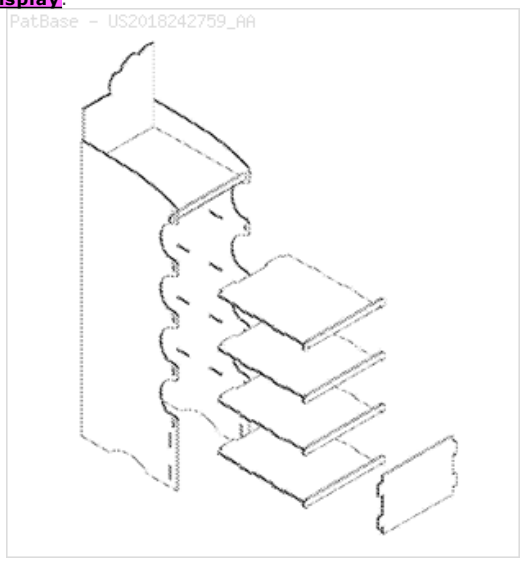
Search 2: FT=(PROCESS~ and PRODUCTION~ and ALVEOLAR~ OR CELL~ and DISPLAYS~) and IC =(B26F) (Results 155)

1) Family number: 65200266 (US2018242759 AA)

Title: **PROCESS** FOR THE **PRODUCTION** OF **DISPLAYS** FROM **ALVEOLAR** OR **CELL** PLATES OF THERMOPLASTIC POLYMERS AND/OR COPOLYMERS

Abstract: A **process** to produce **displays** from **alveolar** or **cell** plates of synthetic of thermoplastic synthetic polymers and/or copolymers is provided. The **process** may include: a) arranging an **alveolar** or **cell** plate on a table of a cutting device; b) establishing reference points; c) recognizing the positions of the reference points taking their location as correlation; d) performing a plurality of carvings on the plate taking the reference points into account, where the carvings are defined by the design of the **display** to be manufactured, and wherein said carvings are executed according to steps disclosed herein, where the resulting cuts, slits and recesses allow separating portions, to fold by forming closed or open corners, insert portions without locking, insert portions by locking with swinging fins, and combinations thereof; and e) assembling the **display** to result in a self-supporting structure of a **display**.

Classifications:
International (IPC 8-9): A47F5/00 A47F5/10 A47F5/11 B23C3/28 B23K26/38 B26D3/14 B26D5/00 B26D5/02 B26F1/38 B26F1/44 B29D12/00
International (IPC 1-7): B26D5/02 B26F1/38 B26F1/44
CPC: A47F5/10 A47F5/11 B23C3/28 B23K26/38 B26D3/00 B26D3/06 B26D3/14 B26D5/005 B26F1/44
US: 1/1 29/407.1



Family:

Publication number	Publication date	Application number	Application date
AR101613 AA	20170104	AR2015P102855	20150907
BR112018004577 A2	20180925	BR20181104577	20160906
CA2997758 AA	20180306	CA20162997758	20160906
CL2018000591 A1	20180727	CL20180000591	20180306
CO20180002512 A2	20180719	CO20180002512	20180307
CR20180144 A	20180723	CR20180000144	20160906
EP3347179 A1	20180718	EP20160844931	20160906
EP3347179 A4	20190109	EP20160844931	20160906
MX2018002811 A1	20180911	MX20180002811	20160906
PE09542018 A1	20180612	PE20180000350	20160906
PE20180954 A1	20180612	PE20180000350	20160906
SV2018005645 A	20180720	SV20180005645	20180307
US2018242759 AA	20180830	US20160758239	20160906
UY36884 A1	20170331	UY20160036884	20160905
WO17044413 A1	20170316	WO2016US50386	20160906

Priority:
AR2015P102855 20150907 AR2015P102825 20150907 WO2016US50386 20160906

Probable Assignee: KEUROGLIAN SAGHATIAN RICARDO JORGE

Assignee(s): (std): ARQUIFOAM IP LLC ; GEOZUCARAIAN BARDAKCHIAN JOSE SANTIAGO ; KEUROGLIAN SAGHATIAN RICARDO JORGE

Assignee(s): BARDAKCHIAN JOSE SANTIAGO GEOZUCARAIAN ; SAGHATIAN RICARDO JORGE KEUROGLIAN

Inventor(s): (std): BARDAKCHIAN JOSE SANTIAGO GEOZUCARAIAN ; GEOZUCARAIAN BARDAKCHIAN JOSE SANTIAGO ; JOSE SANTIAGO GEOZUCARAIAN BARDAKCHIAN ; KEUROGLIAN SAGHATIAN RICARDO JORGE ; RICARDO JORGE KEUROGLIAN SAGHATIAN ; SAGHATIAN RICARDO JORGE KEUROGLIAN

Agent(s): ALICIA LLOREDA RICAURTE; AVENTUM IP LAW LLP; CANFIELD FLOYD E; GUSTAVO GUINEZ RAMIREZ; HERRERO AND ASOCIADOS SL; SHAPIRO COHEN 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 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

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
AR101613 AA	20170104	LSPB	+	published / reissued	
BR112018004577 A2	20200324		B06U	PRELIMINARY REQUIREMENT: REQUESTS WITH	

				SEARCHES PERFORMED BY OTHER PATENT OFFICES: SUSPENSION OF THE PATENT APPLICATION PROCEDURE	
CA2997758 AA	20180306	LSPB	+	published / reissued	
CA2997758 AA	20181106	LSES	+EEER	EXAMINATION REQUEST	Effective date: 20181101
CL2018000591 A1	20180727	LSPB	+	published / reissued	
CO20180002512 A2	20180719	LSPB	+	published / reissued	
CR20180144 A	20180723	LSPB	+	published / reissued	
EP3347179 A1	20180718	LSPB	+	published / reissued	
EP3347179 A1	20180718	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20180307
EP3347179 A1	20180718		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AL 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 RS SE SI SK SM TR
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EP3347179 A1	20180718		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: BA ME
EP3347179 A1	20181212		DAV	REQUEST FOR VALIDATION OF THE EUROPEAN PATENT (DELETED)	
EP3347179 A1	20181212		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
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EP3347179 A4	20190109		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A47F 5/11 20060101ALI20181206BHEP
EP3347179 A4	20190109		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: B26F 1/44 20060101ALI20181206BHEP
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EP3347179 A4	20190109		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: B26D 5/02 20060101AFI20181206BHEP
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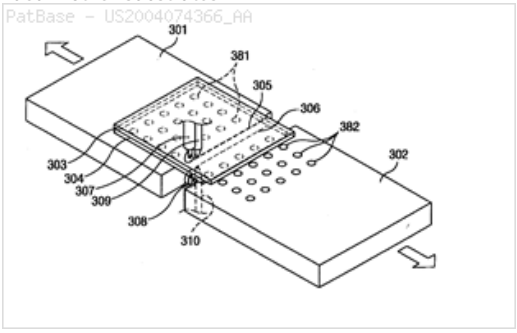
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PE09542018 A1	20180612	LSPB	+	published / reissued	
PE20180954 A1	20180612	LSPB	+	published / reissued	
SV2018005645 A	20180720	LSPB	+	published / reissued	
US2018242759 AA	20180309	LSAS	AS	ASSIGNMENT	Effective date: 20180301 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:SAGHATIAN, RICARDO JORGE KEUROGLIAN;BARDAKCHIAN, JOSE SANTIAGO GEOZUCARAIAN;REEL/FRAME:045162/0603 Owner: ARQUIFOAM IP, LLC, CALIFORNIA PartyType: owner
US2018242759 AA	20180716		RFE1	Docketed New Case - Ready for Examination	
US2018242759 AA	20180716		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2018242759 AA	20180830	LSPB	+	published / reissued	
US2018242759 AA	20190903	LSES	NFA1	Non Final Action Mailed	
US2018242759 AA	20190903		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NON FINAL ACTION MAILED
US2018242759 AA	20200407	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2018242759 AA	20200407		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
UY36884 A1	20170331	LSPB	+	published / reissued	
WO17044413 A1	20170316	LSPB	+	published / reissued	
WO17044413 A1	20170503		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A1 Ref document number: 16844931 Country of Ref document: EP
WO17044413 A1	20180306	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 2997758 Country of Ref document: CA
WO17044413 A1	20180306	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 000350-2018 Country of Ref document: PE
WO17044413 A1	20180306	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: MX/A/2018/002811 Country of Ref document: MX
WO17044413 A1	20180307	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: CR2018-000144 Country of Ref document: CR
WO17044413 A1	20180308	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO17044413 A1	20180403		REG	REFERENCE TO NATIONAL CODE	Ref country code: BR Ref document number: 112018004577 Ref legal event code: B01A Country of Ref document: BR
WO17044413 A1	20180409	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2016844931 Country of Ref document: EP
WO17044413 A1	20180925	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Effective date: 20180307 Kind code of Ref document: A2 Ref document number: 112018004577 Country of Ref document: BR

2) Family number: 33454065 (US2004074366 AA)

Title: APPARATUS FOR CUTTING LIQUID CRYSTAL **DISPLAY** PANEL

Abstract: An apparatus for cutting liquid crystal **display** panels is disclosed in the present invention. The apparatus includes at least one table receiving bonded mother substrates having a plurality of unit liquid crystal **display** panels, at least one cutting wheel forming a scribing line on a surface of the bonded mother substrates, and a suction unit coupled to the at least one cutting wheel and sucking in glass debris on the surface of the bonded mother substrates.

Classifications:
International (IPC 8-9): B26D1/14 B26D3/08 B26F1/38 B26F3/00 B28D5/00 C03B33/00 C03B33/023 C03B33/03 C03B33/033 C03B33/07 G02F1/13 G02F1/1333
International (IPC 1-7): B26D1/14 B26F1/38 B28D5/00 B31B1/25 C03B33/023 G02F1/13 G02F1/1333
CPC: B65G2249/04 C03B33/03 C03B33/033 C03B33/07 G02F1/133351 Y02P40/57 Y10T225/12 Y10T225/325 Y10T83/0378 Y10T83/0385 Y10T83/207
US: 225/2 225/2P 225/96.5 83/100 83/885 83/886 83/886S



Family:

Publication number	Publication date	Application number	Application date
CN1265947 C	20060726	CN200310101829	20031017
CN1496798 A	20040519	CN200310101829	20031017
JP2004145337 A2	20040520	JP20030356771	20031016
JP4578086 B2	20101110	JP20030356771	20031016
KR100724474 B1	20070604	KR20020064677	20021022
KR20040035508 A	20040429	KR20020064677	20021022
TW200408515 A	20040601	TW20030129056	20031020
TWI238759 B	20050901	TW20030129056	20031020
US2004074366 AA	20040422	US20030455718	20030606
US2010258605 AA	20101014	US20100822847	20100624
US8113401 BB	20120214	US20100822847	20100624

Priority:
KR20020064677 20021022 US20030455718 20030606 US20100822847 20100624

Probable Assignee: LG DISPLAY CO LTD

Assignee(s): (std): CHOO HUN JUN ; LG DISPLAY CO LTD ; LG PHILIP LCD CO LTD ; LG PHILIPS LCD CO LTD ; LIM JONG GO ; SHIM HWA SEOB ; SHIN SANG SUN ; UH JI HEUM

Assignee(s): LG DISPLAY CO ; LG PHILIP LCD CO ; LG PHILIPS LCD CO

Inventor(s): (std): CHOO HEON JEON ; CHOO HUN JUN ; EO JI HEUM ; HON JON CHOO ; JI HUM OH ; LIM JONG GO ; SANG SON CHOO HON JON OH JI HU ; SANG SON SIN ; SHIM HWA SEOB ; SHIN SANG SEON ; SHIN SANG SUN ; SIM HWA SEOP ; UH JI HEUM

Inventor(s): CHOO HON JON ; CHOO HON JON OH JI HUM SIN SANG SON ; HUN JUN CHOO ; HWA SEOB SHIM ; JI HEUM UH ; JONG GO LIM ; OH JI HUM ; SANG SUN SHIN ; SIN SANG SON

Agent(s): MCKENNA LONG AND ALDRIDGE LLP

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
CN1265947 C	20060726	LSGT	+	granted / extensions (spc, cpc, pte)	
CN1265947 C	20060726	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN1265947 C	20060726	LSGT	+GR01	授权	Text: 授权 (Authorization)
CN1265947 C	20080709	LSAS	C56	CHANGE IN THE NAME OR ADDRESS OF THE PATENTEE	
CN1265947 C	20080709	LSAS	C56	CHANGE IN THE NAME OR ADDRESS OF THE PATENTEE	OldParty: FORMER NAME OR ADDRESS: LG PHILIP LCD CO., LTD. Owner: LG DISPLAY CO., LTD. PartyType: owner
CN1265947 C	20080709	LSAS	CP01	专利权人姓名或者名称的变更	Patentee After Change: 乐金显示有限公司 (LG DISPLAY CO LTD) Patentee Before Change: LG.飞利浦LCD有限公司 (Lg Philips LCD Co., Ltd.) Text: 专利权人的姓名或者名称、地址的变更 (The name or address of a patentee)
CN1265947 C	20231017	PEXP		Calculated Patent Term Expiry	
CN1496798 A	20040519	LSPB	+	published / reissued	
CN1496798 A	20040519	LSPB	+C06	PUBLICATION	

CN1496798 A	20040519	LSPB	PB01	公开	Text: 公开 (Disclosure)
CN1496798 A	20040818		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
CN1496798 A	20040818		SE01	实质审查请求的生效	Text: 实质审查的生效 (Force of substantive review)
JP2004145337 A2	20040520	LSPB	+	published / reissued	
JP2004145337 A2	20040702	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Effective date: 20040701 Text: JAPANESE INTERMEDIATE CODE: A621
JP2004145337 A2	20071003	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20071002 Text: JAPANESE INTERMEDIATE CODE: A131
JP2004145337 A2	20071229		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20071228 Text: JAPANESE INTERMEDIATE CODE: A601
JP2004145337 A2	20080115		A602	WRITTEN PERMISSION OF EXTENSION OF TIME	Effective date: 20080111 Text: JAPANESE INTERMEDIATE CODE: A602
JP2004145337 A2	20080205	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20080204 Text: JAPANESE INTERMEDIATE CODE: A523
JP2004145337 A2	20080625	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20080624 Text: JAPANESE INTERMEDIATE CODE: A131
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JP2004145337 A2	20090520	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20090519 Text: JAPANESE INTERMEDIATE CODE: A131
JP2004145337 A2	20090808	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20090807 Text: JAPANESE INTERMEDIATE CODE: A523
JP2004145337 A2	20100303	LSRV	-A02	DECISION OF REFUSAL	Effective date: 20100302 Text: JAPANESE INTERMEDIATE CODE: A02
JP2004145337 A2	20100629	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20100628 Text: JAPANESE INTERMEDIATE CODE: A523
JP2004145337 A2	20100708	LSAL	A911	TRANSFER OF RECONSIDERATION BY EXAMINER BEFORE APPEAL (ZENCHI)	Effective date: 20100707 Text: JAPANESE INTERMEDIATE CODE: A911
JP2004145337 A2	20100806	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2004145337 A2	20100818	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Effective date: 20100817 Text: JAPANESE INTERMEDIATE CODE: A01
JP2004145337 A2	20100819	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Text: JAPANESE INTERMEDIATE CODE: A01
JP2004145337 A2	20100902	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	Effective date: 20100824 Text: JAPANESE INTERMEDIATE CODE: A61
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JP4578086 B2	20100903	LSGT	+R150	特許証	
JP4578086 B2	20101110	LSGT	+	granted / extensions (spc, cpc, pte)	
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JP4578086 B2	20130723	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
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KR100724474 B1	20150429	LSFE	FPAY	ANNUAL FEE PAYMENT	Payment date: 20150429 Year of fee payment: 9
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KR100724474 B1	20190417	LSFE	FPAY	ANNUAL FEE PAYMENT	Payment date: 20190417 Year of fee payment: 13
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KR20040035508 A	20070528	LSGT	+GRNT	WRITTEN DECISION	

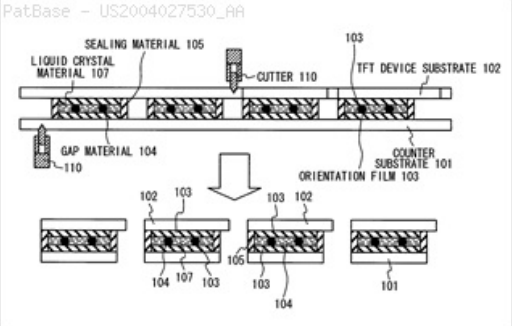
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TWI238759 B	20050901	LSGT	+	granted / extensions (spc, cpc, pte)	
TWI238759 B	20231020	PEXP		Calculated Patent Term Expiry	
US2004074366 AA	20030606	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:CHOO, HUN-JUN;UH, JI-HUEN;SHIN, SANG-SUN;AND OTHERS;REEL/FRAME:014164/0483;SIGNING DATES FROM 20030519 TO 20030520 Owner: LG.PHILIPS LCD CO., LTD., KOREA, REPUBLIC OF PartyType: owner
US2004074366 AA	20040422	LSPB	+	published / reissued	
US2004074366 AA	20081017	LSAS	AS	ASSIGNMENT	Effective date: 20080304 OldParty: CHANGE OF NAME;ASSIGNOR:LG.PHILIPS LCD CO., LTD.;REEL/FRAME:021754/0045 Owner: LG DISPLAY CO., LTD., KOREA, REPUBLIC OF PartyType: owner
US2004074366 AA	20081017	LSAS	AS	ASSIGNMENT	Effective date: 20080304 OldParty: CHANGE OF NAME;ASSIGNOR:LG.PHILIPS LCD CO., LTD.;REEL/FRAME:021754/0045 Owner: LG DISPLAY CO., LTD.,KOREA, REPUBLIC OF PartyType: owner
US2004074366 AA	20100909	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2004074366 AA	20100909		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2010258605 AA	20101014	LSPB	+	published / reissued	
US2010258605 AA	20111025	LSAS	AS	ASSIGNMENT	Effective date: 20080304 OldParty: CHANGE OF NAME;ASSIGNOR:LG. PHILLIPS LCD CO., LTD;REEL/FRAME:027118/0426 Owner: LG DISPLAY CO., LTD., KOREA, REPUBLIC OF PartyType: owner
US2010258605 AA	20120125	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US8113401 BB	20100624	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:CHOO, HUN-JUN;UH, JI-HEUM;SHIN, SANG-SUN;AND OTHERS;SIGNING DATES FROM 20030519 TO 20030520;REEL/FRAME:024590/0917 Owner: LG.PHILIPS LCD CO., LTD., KOREA, REPUBLIC OF PartyType: owner
US8113401 BB	20120125	LSGT	PAT1	Patented Case	
US8113401 BB	20120214	LSGT	+	granted / extensions (spc, cpc, pte)	
US8113401 BB	20150805	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US8113401 BB	20190624	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 8
US8113401 BB	20230606	PEXP		Calculated Patent Term Expiry	

3) Family number: 30282693 (US2004027530 AA)

Title: PRODUCING METHOD OF THE LIQUID CRYSTAL **DISPLAY** PANEL

Abstract: A producing method of a liquid crystal **display** panel includes steps (a) to (e). The Step (a) is fixing a counter substrate on a fixing table, wherein the counter substrate includes a plurality of counter portions each of which includes a plurality of counter electrodes. The Step (b) is dividing the counter substrate into the plurality of counter portions. The Step (c) is putting a liquid crystal material on the each of plurality of counter portions. The Step (d) is attaching a device substrate and the counter substrate together, wherein the device substrate includes a plurality of device portions each of which includes a plurality of switching devices. The Step (e) is dividing the device substrate into the plurality of device portions. The each of plurality of device portions is attached to a corresponding one of the each of plurality of counter portions.

Classifications:
International (IPC 8-9): B26F1/38 B26F1/40 G02F1/13 G02F1/1333 G02F1/1341 G02F1/1368
International (IPC 1-7): B26F1/40 G02F1/13 G02F1/1333 G02F1/1341 G02F1/1343 G02F1/1368
CPC: G02F1/133351 G02F2001/133354 G02F2001/13415
US: 349/158 349/158P 349/187 349/189



Family:

Publication number	Publication date	Application number	Application date
CN1291267 C	20061220	CN20031027707	20030808
CN1484072 A	20040324	CN20031027707	20030808
JP2004070106 A2	20040304	JP20020230970	20020808
JP3871983 B2	20070124	JP20020230970	20020808
KR100580339 B1	20060516	KR20030054419	20030806
KR20040014309 A	20040214	KR20030054419	20030806
TW200407636 A	20040516	TW20030121593	20030807
TWI291586 B	20071221	TW20030121593	20030807
US2004027530 AA	20040212	US20030636412	20030807
US6873394 BB	20050329	US20030636412	20030807

Priority:
JP20020230970 20020808

Probable Assignee: NEC LCD TECHNOLOGIES LTD

Assignee(s): (std): NEC LCD TECHNOLOGIES CO LTD ; NEC LCD TECHNOLOGIES LTD ; NEC LIQUID CRYSTAL TECHNOLOGY ; NEC LIQUID CRYSTAL TECHNOLOGY CO LTD ; NIPPON ELECTRIC KAGOSHIMA LTD

Assignee(s): HORIUCHI TOSHIHIRO ; MUKAI TOSHIAKI ; NEC KAGOSHIMA LTD ; NEC LIQUID CRYSTAL TECHNOLOGY CO ; NOIRI YOSHIKAZU ; UEEBISU SHINJI ; YOSHIZOE HIDEFUMI

Inventor(s): (std): HIDEFUMI YOSHIZOE ; HORIUCHI TOSHIHIRO ; KAMIEBISU SHINJI ; MUKAI TOSHIAKI ; NOIRI YOSHIKAZU ; TOSHIAKI MUKAI ; UEEBISU SHINJI ; YOSHIKAZU NOIRI ; YOSHIKAZU YOSHIZOE HIDEFUMI MU ; YOSHIZOE HIDEFUMI

Inventor(s): SHINJI UEEBISU ; TOSHIHIRO HORIUCHI ; YOSHIZOE HIDEFUMI MUKAI TOSHIAKI NOIRI YOSHIKAZU

Agent(s): KATTEN MUCHIN ZAVIS ROSENMAN

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
CN1291267 C	20061220	LSGT	+	granted / extensions (spc, cpc, pte)	
CN1291267 C	20061220	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN1291267 C	20121003	LSLE	-C17	CESSATION OF PATENT RIGHT	
CN1291267 C	20230808	PEXP		Calculated Patent Term Expiry	
CN1484072 A	20040324	LSPB	+	published / reissued	
CN1484072 A	20040324	LSPB	+C06	PUBLICATION	
CN1484072 A	20040602		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
JP2004070106 A2	20040304	LSPB	+	published / reissued	
JP2004070106 A2	20040426	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Effective date: 20040423 Text: JAPANESE INTERMEDIATE CODE: A621

JP2004070106 A2	20050311		RD01	NOTIFICATION OF CHANGE OF ATTORNEY	Effective date: 20050310 Text: JAPANESE INTERMEDIATE CODE: A7421
JP2004070106 A2	20060210		A977	REPORT ON RETRIEVAL	Effective date: 20060210 Text: JAPANESE INTERMEDIATE CODE: A971007
JP2004070106 A2	20060308	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20060307 Text: JAPANESE INTERMEDIATE CODE: A131
JP2004070106 A2	20060509	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20060508 Text: JAPANESE INTERMEDIATE CODE: A523
JP2004070106 A2	20060607	LSRV	-A02	DECISION OF REFUSAL	Effective date: 20060606 Text: JAPANESE INTERMEDIATE CODE: A02
JP2004070106 A2	20060707	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20060706 Text: JAPANESE INTERMEDIATE CODE: A523
JP2004070106 A2	20060817	LSAL	A911	TRANSFER OF RECONSIDERATION BY EXAMINER BEFORE APPEAL (ZENCHI)	Effective date: 20060816 Text: JAPANESE INTERMEDIATE CODE: A911
JP2004070106 A2	20060919	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2004070106 A2	20060927	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Effective date: 20060926 Text: JAPANESE INTERMEDIATE CODE: A01
JP2004070106 A2	20061026	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	Effective date: 20061018 Text: JAPANESE INTERMEDIATE CODE: A61
JP3871983 B2	20070124	LSGT	+	granted / extensions (spc, cpc, pte)	
JP3871983 B2	20070530	LSAS	S111	REQUEST FOR CHANGE OF OWNERSHIP OR PART OF OWNERSHIP	Text: JAPANESE INTERMEDIATE CODE: R313113
JP3871983 B2	20070607	LSAS	R350	WRITTEN NOTIFICATION OF REGISTRATION OF TRANSFER	Text: JAPANESE INTERMEDIATE CODE: R350
JP3871983 B2	20091001	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 3
JP3871983 B2	20091006	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 4
JP3871983 B2	20101005	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 5
JP3871983 B2	20111027	LSLE	-LAPS	CANCELLATION BECAUSE OF NO PAYMENT OF ANNUAL FEES	
JP3871983 B2	20220808	PEXP		Calculated Patent Term Expiry	
KR100580339 B1	20060516	LSGT	+	granted / extensions (spc, cpc, pte)	
KR100580339 B1	20100427	LSFE	FPAY	ANNUAL FEE PAYMENT	Payment date: 20100427 Year of fee payment: 5
KR100580339 B1	20110510	LSLE	-LAPS	LAPSE DUE TO UNPAID ANNUAL FEE	
KR100580339 B1	20230806	PEXP		Calculated Patent Term Expiry	
KR20040014309 A	20030806	LSES	A201	REQUEST FOR EXAMINATION	
KR20040014309 A	20040214	LSPB	+	published / reissued	
KR20040014309 A	20050428	LSES	-E902	NOTIFICATION OF	

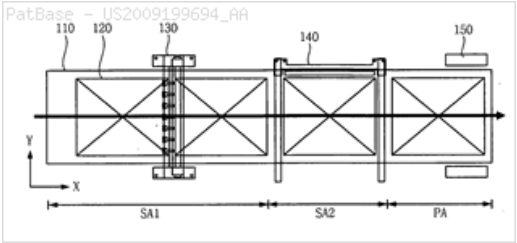
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KR20040014309 A	20050628	LSRE	AMND	AMENDMENT	
KR20040014309 A	20051117	LSRV	-E601	DECISION TO REFUSE APPLICATION	
KR20040014309 A	20051217		J201	REQUEST FOR TRIAL AGAINST REFUSAL DECISION	
KR20040014309 A	20060116	LSRE	AMND	AMENDMENT	
KR20040014309 A	20060216	LSGT	+B701	DECISION TO GRANT	
KR20040014309 A	20060509	LSGT	+GRNT	WRITTEN DECISION TO GRANT	
TW200407636 A	20040516	LSPB	+	published / reissued	
TWI291586 B	20071221	LSGT	+	granted / extensions (spc, cpc, pte)	
TWI291586 B	20120921	LSLE	-MM4A	ANNULMENT OR LAPSE OF PATENT DUE TO NON-PAYMENT OF FEES	
TWI291586 B	20230807	PEXP		Calculated Patent Term Expiry	
US2004027530 AA	20040212	LSPB	+	published / reissued	
US2004027530 AA	20130429	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US6873394 BB	20030807	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:NOIRI, YOSHIKAZU;MUKAI, TOSHIAKI;HORIUCHI, TOSHIHIRO;AND OTHERS;REEL/FRAME:014382/0829 Owner: NEC LCD TECHNOLOGIES, LTD., JAPAN Effective date: 20030730 PartyType: owner
US6873394 BB	20050329	LSGT	+	granted / extensions (spc, cpc, pte)	
US6873394 BB	20080922	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US6873394 BB	20121112		REMI	MAINTENANCE FEE REMINDER MAILED	
US6873394 BB	20130329	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US6873394 BB	20130429	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US6873394 BB	20130521	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20130329
US6873394 BB	20230930	PEXP		Calculated Patent Term Expiry (PTA 54 days)	

4) Family number: 43623904 (US2009199694 AA)

Title: FLAT **DISPLAY** PANEL CUTTING APPARATUS AND CUTTING METHOD USING THE SAME

Abstract: A flat **display** panel cutting apparatus includes: a conveyor for feeding a loaded flat **display** panel to a cutting area and a spraying area; a cutting means positioned in the cutting area, and for forming primary cracks on the flat **display** panel, the primary cracks including two or more first cracks spaced apart from each other in the X-axis direction and two or more second cracks spaced apart from each other in the Y-axis direction; and a spraying means positioned in the spraying area, and for growing secondary cracks by spraying a high temperature steam onto the first cracks or second cracks of the primary cracks formed on the flat **display** panel.

Classifications:
International (IPC 8-9): B26D3/00 B26F3/00 C03B33/00 C03B33/02 G02F1/13 G02F1/1333
CPC: B65G49/064 C03B33/03 C03B33/033 C03B33/09 G02F2001/133391 Y02P40/57 Y10T225/12 Y10T225/325 Y10T83/0267
US: 225/2 225/96.5 83/870 83/870P



Family:

Publication number	Publication date	Application number	Application date
CN101508519 A	20090819	CN200810177681	20081124
CN101508519 B	20140917	CN200810177681	20081124
KR101303542 B1	20130903	KR20080012087	20080211
KR20090086678 A	20090814	KR20080012087	20080211
TW200935134 A	20090816	TW20080148677	20081212
TWI392917 B	20130411	TW20080148677	20081212
US2009199694 AA	20090813	US20080314621	20081212
US8292140 BB	20121023	US20080314621	20081212

Priority:
KR20080012087 20080211

Probable Assignee: LG DISPLAY CO LTD
Assignee(s): (std): HWANG YOUNGMIN ; LG DISPLAY ; LG DISPLAY CO LTD ; UH JIHEUM
Assignee(s): LG DISPLAY CO ; LG DISPLAY CO LTD KR
Inventor(s): (std): HWANG YOUN GMIN ; UH JI HEUM
Agent(s): HOLLAND AND KNIGHT LLP; MORGAN LEWIS AND BOCKIUS LLP

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
CN101508519 A	20090819	LSPB	+	published / reissued	
CN101508519 A	20090819	LSPB	+C06	PUBLICATION	
CN101508519 A	20091014		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
CN101508519 B	20140917	LSGT	+	granted / extensions (spc, cpc, pte)	
CN101508519 B	20140917	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN101508519 B	20281124	PEXP		Calculated Patent Term Expiry	
KR101303542 B1	20111109	LSES	A201	REQUEST FOR EXAMINATION	
KR101303542 B1	20130626	LSGT	+E701	DECISION TO GRANT OR REGISTRATION OF PATENT RIGHT	
KR101303542 B1	20130828	LSGT	+GRNT	WRITTEN DECISION TO GRANT	
KR101303542 B1	20130903	LSGT	+	granted / extensions (spc, cpc, pte)	
KR101303542 B1	20160712	LSFE	FPAY	ANNUAL FEE PAYMENT	Payment date: 20160712 Year of fee payment: 4
KR101303542 B1	20170713	LSFE	FPAY	ANNUAL FEE PAYMENT	Payment date: 20170713 Year of fee payment: 5

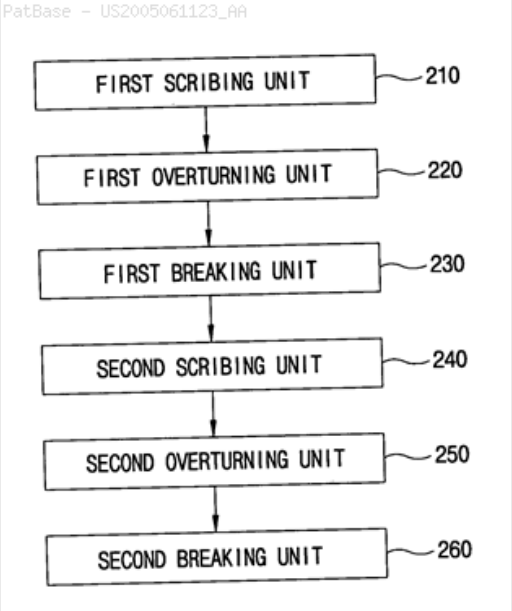
KR101303542 B1	20280211	PEXP		Calculated Patent Term Expiry	
KR20090086678 A	20090814	LSPB	+	published / reissued	
TW200935134 A	20090816	LSPB	+	published / reissued	
TWI392917 B	20130411	LSGT	+	granted / extensions (spc, cpc, pte)	
TWI392917 B	20281212	PEXP		Calculated Patent Term Expiry	
US2009199694 AA	20090813	LSPB	+	published / reissued	
US2009199694 AA	20121003	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US8292140 BB	20081212	LSAS	AS	ASSIGNMENT	Effective date: 20081201 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:UH, JIHEUM;HWANG, YOUNGMIN;REEL/FRAME:022036/0346 Owner: LG DISPLAY CO., LTD., KOREA, REPUBLIC OF PartyType: owner
US8292140 BB	20121003	LSGT	PAT1	Patented Case	
US8292140 BB	20121023	LSGT	+	granted / extensions (spc, cpc, pte)	
US8292140 BB	20160407	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US8292140 BB	20200221	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 8
US8292140 BB	20301126	PEXP		Calculated Patent Term Expiry (PTA 714 days)	

5) Family number: 31350631 (US2005061123 AA)

Title: APPARATUS FOR CUTTING A LIQUID CRYSTAL **DISPLAY** PANEL AND METHOD THEREOF

Abstract: An apparatus and method for cutting a LCD panel is provided. The apparatus comprises a first scribing unit for forming first scribing lines and second scribing lines for dividing LCD panels on a substrate having a plurality of LCD panels. The apparatus also has a first flipping unit for flipping the substrate, a first breaking unit having a breaking bar for striking the flipped substrate along the first scribing lines to form a crack on the substrate, and a plurality of breaking rollers for pressing the flipped substrate along the second scribing lines to form a crack on the substrate. A breaking **process** of an LCD panel may be performed without rotating the substrate by using the breaking bar and the breaking rollers. Also, the breaking **process** may be performed without damaging image **display** regions of LCD panels where different sized LCD panels are on the substrate.

Classifications:
International (IPC 8-9): B26F3/00 C03B33/00 C03B33/03 C03B33/033 C03B33/07 G02F1/13 G02F1/133 G02F1/1333
International (IPC 1-7): B26D1/00 B26F3/00 C03B33/00 C03B33/03 C03B33/07 G02F1/13 G02F1/133 G02F1/1333
CPC: C03B33/033 C03B33/07 G02F1/133351 Y02P40/57 Y10T225/12 Y10T225/325 Y10T225/329 Y10T83/0333 Y10T83/04
US: 225/2 225/96.5 225/97 83/13 83/13P 83/879 83/879S



Family:

Publication number	Publication date	Application number	Application date
CN100335948 C	20070905	CN200410080006	20040922
CN1601339 A	20050330	CN200410080006	20040922
FR2860079 A1	20050325	FR20040010057	20040923
FR2860079 B1	20060407	FR20040010057	20040923
GB200421127 A0	20041027	GB20040021127	20040922
GB2406389 A1	20050330	GB20040021127	20040922
GB2406389 B2	20051109	GB20040021127	20040922
JP2005099804 A2	20050414	JP20040277199	20040924
JP4213102 B2	20090121	JP20040277199	20040924
KR101003610 B1	20101223	KR20030066270	20030924
KR20050029970 A	20050329	KR20030066270	20030924
US2005061123 AA	20050324	US20040944870	20040921
US8191750 BB	20120605	US20040944870	20040921

Priority:
KR20030066270 20030924

Probable Assignee: LG DISPLAY CO LTD
Assignee(s): (std): LG DISPLAY ; LG DISPLAY CO LTD ; LG PHILIPS LCD CO LTD ; PARK YOUNG KUK
Assignee(s): LG DISPLAY CO ; LG PHILIPS LCD CO ; LG PHILLIPS LCD CO LTD
Inventor(s): (std): PARK YOUNG KUK ; YOUNG KUK PARK
Agent(s): ASAHI NOBUMITSU; CABINET HIRSCH AND PARTNERS; KATO NOBUAKI; MCKENNA LONG AND ALDRIDGE LLP; MCKENNA LONG AND ALDRIGE LLP; MOTOMIYA TERUHISA; OCHI TAKAO; OKABE MASAO; UBUKATA KAZUO; USUI SHINICHI

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
CN100335948 C	20070905	LSGT	+	granted / extensions (spc, cpc, pte)	
CN100335948 C	20070905	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN100335948 C	20070905	LSGT	+GR01	授权	Text: 授权 (Authorization)
CN100335948 C	20080723	LSAS	C56	CHANGE IN THE NAME OR ADDRESS OF THE PATENTEE	
CN100335948 C	20080723	LSAS	C56	CHANGE IN THE	PartyType: owner

				NAME OR ADDRESS OF THE PATENTEE	Owner: LG DISPLAY CO., LTD. OldParty: FORMER NAME OR ADDRESS: LG. PHILIP LCD CO., LTD.
CN100335948 C	20080723	LSAS	CP01	专利权人姓名或者名称的变更	Patentee After Change: 乐金显示有限公司 (LG DISPLAY CO LTD) Patentee Before Change: LG.菲利浦LCD株式会社 (Lg Philips LCD Co., Ltd.) Text: 专利权人的姓名或者名称、地址的变更 (The name or address of a patentee)
CN100335948 C	20240922	PEXP		Calculated Patent Term Expiry	
CN1601339 A	20050330	LSPB	+	published / reissued	
CN1601339 A	20050330	LSPB	+C06	PUBLICATION	
CN1601339 A	20050330	LSPB	PB01	公开	Text: 公开 (Disclosure)
CN1601339 A	20050525		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
CN1601339 A	20050525		SE01	实质审查请求的生效	Text: 实质审查的生效 (Force of substantive review)
FR2860079 A1	20050325	LSPB	+	published / reissued	
FR2860079 A1	20050520		SC	SEARCH COMPLETED	
FR2860079 A1	20050520		SC	SEARCH COMPLETED	BOPI Date: 2005-20
FR2860079 B1	20060407	LSGT	+	granted / extensions (spc, cpc, pte)	
FR2860079 B1	20081001	LSAS	CD	Changement de nom, de dénomination	
FR2860079 B1	20081001	LSAS	CD	Changement de nom, de dénomination	Registered Number: 0166566
FR2860079 B1	20081107	LSAS	CD	CHANGE OF NAME OR COMPANY NAME	
FR2860079 B1	20160809	LSFE	+PLFP	FEE PAYMENT	Year of fee payment: 13
FR2860079 B1	20170811	LSFE	+PLFP	FEE PAYMENT	Year of fee payment: 14
FR2860079 B1	20180725	LSFE	+PLFP	FEE PAYMENT	Year of fee payment: 15
FR2860079 B1	20190723	LSFE	+PLFP	Fee Payement	Payment date: 20190723 Year of fee payment: 16
FR2860079 B1	20190723	LSFE	+PLFP	FEE PAYMENT	Year of fee payment: 16
FR2860079 B1	20200722	LSFE	+PLFP	Fee Payement	Year of fee payment: 17 Payment date: 20200722
FR2860079 B1	20200722	LSFE	+PLFP	FEE PAYMENT	Year of fee payment: 17
FR2860079 B1	20240923	PEXP		Calculated Patent Term Expiry	
GB2406389 A1	20050330	LSPB	+	published / reissued	
GB2406389 B2	20051109	LSGT	+	granted / extensions (spc, cpc, pte)	
GB2406389 B2	20240922	PEXP		Calculated Patent Term Expiry	
JP2005099804 A2	20050414	LSPB	+	published / reissued	
JP2005099804 A2	20071120	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Text: JAPANESE INTERMEDIATE CODE: A131 Effective date: 20071119
JP2005099804 A2	20080220		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20080219 Text: JAPANESE INTERMEDIATE CODE: A601
JP2005099804 A2	20080225		A602	WRITTEN PERMISSION OF EXTENSION OF TIME	Effective date: 20080222 Text: JAPANESE INTERMEDIATE CODE: A602
JP2005099804 A2	20080320		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20080319 Text: JAPANESE INTERMEDIATE CODE: A601
JP2005099804 A2	20080326		A602	WRITTEN PERMISSION OF EXTENSION OF TIME	Effective date: 20080325 Text: JAPANESE INTERMEDIATE CODE: A602
JP2005099804 A2	20080419		A601	WRITTEN REQUEST FOR EXTENSION OF	Effective date: 20080418 Text: JAPANESE INTERMEDIATE

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JP2005099804 A2	20080424		A602	WRITTEN PERMISSION OF EXTENSION OF TIME	Effective date: 20080423 Text: JAPANESE INTERMEDIATE CODE: A602
JP2005099804 A2	20080520	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20080519 Text: JAPANESE INTERMEDIATE CODE: A523
JP2005099804 A2	20080930	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2005099804 A2	20081007	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Text: JAPANESE INTERMEDIATE CODE: A01 Effective date: 20081006
JP2005099804 A2	20081009	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Text: JAPANESE INTERMEDIATE CODE: A01
JP2005099804 A2	20081106	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	Text: JAPANESE INTERMEDIATE CODE: A61 Effective date: 20081029
JP2005099804 A2	20081107	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 3
JP4213102 B2	20081009	LSGT	+A01	特許査定書	
JP4213102 B2	20081009	LSGT	+A01	特許査定書	Effective date: 20081006
JP4213102 B2	20081104	LSFE	R100	特許料納付書	
JP4213102 B2	20081104	LSFE	R100	特許料納付書	Effective date: 20081029 Text: 50802298452
JP4213102 B2	20081107	LSGT	+R150	特許証	
JP4213102 B2	20081107	LSGT	+R150	特許証	Effective date: 20081118
JP4213102 B2	20090121	LSGT	+	granted / extensions (spc, cpc, pte)	
JP4213102 B2	20111013	LSFE	R20	特許料納付書	
JP4213102 B2	20111013	LSFE	R20	特許料納付書	Effective date: 20111012 Text: 51102074596
JP4213102 B2	20111018	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 4
JP4213102 B2	20111018	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP4213102 B2	20111018	LSFE	+R250	年金領収書, 年金領収書 (分納)	
JP4213102 B2	20111018	LSFE	+R250	年金領収書, 年金領収書 (分納)	Effective date: 20111025
JP4213102 B2	20121018	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 4
JP4213102 B2	20121018	LSFE	R20	特許料納付書	
JP4213102 B2	20121018	LSFE	R20	特許料納付書	Text: 51202195880 Effective date: 20121016
JP4213102 B2	20121023	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 5
JP4213102 B2	20121023	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP4213102 B2	20121023	LSFE	+R250	年金領収書, 年金領収書 (分納)	
JP4213102 B2	20121023	LSFE	+R250	年金領収書, 年金領収書 (分納)	Effective date: 20121030
JP4213102 B2	20131024	LSFE	R20	特許料納付書	
JP4213102 B2	20131024	LSFE	R20	特許料納付書	Effective date: 20131023 Text: 51302226097
JP4213102 B2	20131029	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250

JP4213102 B2	20131029	LSFE	+R250	年金領収書, 年金領収書 (分納)	
JP4213102 B2	20131029	LSFE	+R250	年金領収書, 年金領収書 (分納)	Effective date: 20131105
JP4213102 B2	20141023	LSFE	R20	特許料納付書	
JP4213102 B2	20141023	LSFE	R20	特許料納付書	Effective date: 20141021 Text: 51402169000
JP4213102 B2	20141028	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP4213102 B2	20141028	LSFE	+R250	年金領収書, 年金領収書 (分納)	
JP4213102 B2	20141028	LSFE	+R250	年金領収書, 年金領収書 (分納)	Effective date: 20141104
JP4213102 B2	20151105	LSFE	R20	特許料納付書	
JP4213102 B2	20151105	LSFE	R20	特許料納付書	Effective date: 20151030 Text: 51502181376
JP4213102 B2	20151110	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP4213102 B2	20151110	LSFE	+R250	年金領収書, 年金領収書 (分納)	
JP4213102 B2	20151110	LSFE	+R250	年金領収書, 年金領収書 (分納)	Effective date: 20151117
JP4213102 B2	20160929	LSFE	R20	特許料納付書	
JP4213102 B2	20160929	LSFE	R20	特許料納付書	Effective date: 20160926 Text: 51601991542
JP4213102 B2	20161004	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP4213102 B2	20161004	LSFE	+R250	年金領収書, 年金領収書 (分納)	
JP4213102 B2	20161004	LSFE	+R250	年金領収書, 年金領収書 (分納)	Effective date: 20161011
JP4213102 B2	20170928	LSFE	R20	特許料納付書	
JP4213102 B2	20170928	LSFE	R20	特許料納付書	Effective date: 20170926 Text: 51702019040
JP4213102 B2	20171003	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP4213102 B2	20171003	LSFE	+R250	年金領収書, 年金領収書 (分納)	
JP4213102 B2	20171003	LSFE	+R250	年金領収書, 年金領収書 (分納)	Effective date: 20171010
JP4213102 B2	20180927	LSFE	R20	特許料納付書	
JP4213102 B2	20180927	LSFE	R20	特許料納付書	Effective date: 20180921 Text: 51801949572
JP4213102 B2	20181002	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP4213102 B2	20181002	LSFE	+R250	年金領収書, 年金領収書 (分納)	
JP4213102 B2	20181002	LSFE	+R250	年金領収書, 年金領収書 (分納)	Effective date: 20181009
JP4213102 B2	20191003	LSFE	R20	特許料納付書	Effective date: 20190927
JP4213102 B2	20191003	LSFE	R20	特許料納付書	Effective date: 20190927 Text: 51902047509
JP4213102 B2	20191008	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP4213102 B2	20191008	LSFE	+R250	年金領収書, 年金領収書 (分納)	Effective date: 20191018
JP4213102 B2	20200929	LSFE	R20	特許料納付書	Effective date: 20200928 Text: 52001981683
JP4213102 B2	20240924	PEXP		Calculated Patent Term Expiry	
KR101003610 B1	20101223	LSGT	+	granted / extensions (spc, cpc, pte)	
KR101003610 B1	20130930	LSFE	FPAY	ANNUAL FEE PAYMENT	Payment date: 20130930 Year of fee payment: 4
KR101003610 B1	20141124	LSFE	FPAY	ANNUAL FEE PAYMENT	Payment date: 20141124 Year of fee payment: 5
KR101003610 B1	20161118	LSFE	FPAY	ANNUAL FEE PAYMENT	Payment date: 20161118 Year of fee payment: 7
KR101003610 B1	20171116	LSFE	FPAY	ANNUAL FEE PAYMENT	Payment date: 20171116 Year of fee payment: 8

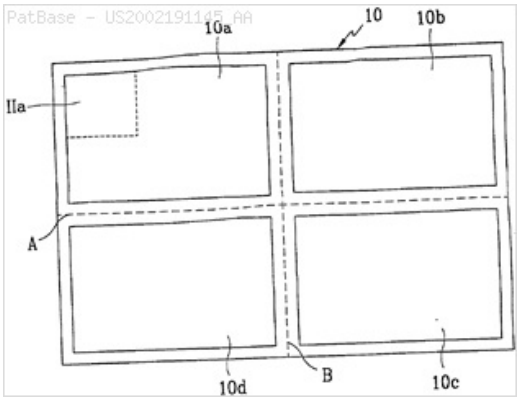
KR101003610 B1	20181114	LSFE	FPAY	ANNUAL FEE PAYMENT	Payment date: 20181114 Year of fee payment: 9
KR101003610 B1	20191113	LSFE	FPAY	ANNUAL FEE PAYMENT	Payment date: 20191113 Year of fee payment: 10
KR101003610 B1	20230924	PEXP		Calculated Patent Term Expiry	
KR20050029970 A	20050329	LSPB	+	published / reissued	
KR20050029970 A	20080812	LSES	A201	REQUEST FOR EXAMINATION	
KR20050029970 A	20100216	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR20050029970 A	20100810	LSRV	-E90F	NOTIFICATION OF REASON FOR FINAL REFUSAL	
KR20050029970 A	20101202	LSGT	+E701	DECISION TO GRANT OR REGISTRATION OF PATENT RIGHT	
KR20050029970 A	20101216	LSGT	+GRNT	WRITTEN DECISION TO GRANT	
US2005061123 AA	20050324	LSPB	+	published / reissued	
US2005061123 AA	20081017	LSAS	AS	ASSIGNMENT	Owner: LG DISPLAY CO., LTD., KOREA, REPUBLIC OF PartyType: owner Effective date: 20080304 OldParty: CHANGE OF NAME;ASSIGNOR:LG.PHILIPS LCD CO., LTD.;REEL/FRAME:021754/0045
US2005061123 AA	20081017	LSAS	AS	ASSIGNMENT	PartyType: owner Effective date: 20080304 OldParty: CHANGE OF NAME;ASSIGNOR:LG.PHILIPS LCD CO., LTD.;REEL/FRAME:021754/0045 Owner: LG DISPLAY CO., LTD.,KOREA, REPUBLIC OF
US2005061123 AA	20120516	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US8191750 BB	20040921	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:PARK, YOUNG-KUK;REEL/FRAME:015818/0662 Effective date: 20040917 Owner: LG.PHILIPS LCD. CO., LTD., KOREA, REPUBLIC OF PartyType: owner
US8191750 BB	20120516	LSGT	PAT1	Patented Case	
US8191750 BB	20120605	LSGT	+	granted / extensions (spc, cpc, pte)	
US8191750 BB	20151203	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US8191750 BB	20191022	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 8
US8191750 BB	20260304	PEXP		Calculated Patent Term Expiry (PTA 529 days)	

6) Family number: 32804870 (US2002191145 AA)

Title: IN-LINE SYSTEM AND METHOD FOR MANUFACTURING LIQUID CRYSTAL **DISPLAY**

Abstract: An in-line system for fabricating a liquid crystal **display** includes a sealer coating unit for coating a sealer onto a first substrate with a plurality of liquid crystal **display** **cell** regions, a liquid crystal injection unit for dropping a liquid crystal onto the first substrate coated with the sealer, and an assembly unit for assembling the first substrate with the second substrate. A sealer hardening unit hardens the sealer interposed between the first and the second substrate to thereby assemble the first and the second substrate with each other. A substrate cutting unit cuts the first and the second substrates along cutting lines through illuminating a laser beam along the cutting lines such that the first and the second substrates are severed into the liquid crystal **display** **cell** regions.

Classifications:
International (IPC 8-9): B05D1/12 B05D7/00 B23K26/16 B32B37/12 B32B38/00 B32B38/04 G02F1/13 G02F1/1333 G02F1/1339 G02F1/1341 G02F1/136 H01L21/78
International (IPC 1-7): B05D1/12 B05D7/00 B23K2/616 B23K26/16 B26F3/00 B26F3/02 G02F1/13 G02F1/133 G02F1/1333 G02F1/1339 G02F1/1341 G02F1/136 H01L2/178 H01L21/78
CPC: G02F1/1303 G02F1/133351 G02F1/13392 G02F1/1341 Y10T156/1052 Y10T156/1085 Y10T156/1317 Y10T156/1348 Y10T156/1352 Y10T156/1361 Y10T156/1374 Y10T156/1744 Y10T156/1798 Y10T225/304
US: 156/250 156/250S 156/270 156/272.8 156/272.800P 156/291 156/291S 156/292 156/292S 156/353 156/379.8 156/498 156/498S 156/516 156/523 156/523S 156/524 156/524S 156/526 156/526S 156/529 156/556 156/578 156/578S 216/23 219/121.67 219/121.84 225/93.5 349/122 349/155 349/158 349/187 349/187P 349/189 349/190 349/73 349/73P 438/460



Family:

Publication number	Publication date	Application number	Application date
JP2003015101 A2	20030115	JP20020085181	20020326
KR100490048 B1	20050517	KR20010034761	20010619
KR20020096359 A	20021231	KR20010034761	20010619
TWI229212 B	20050311	TW20010128546	20011116
US2002191145 AA	20021219	US20020108045	20020327
US6710843 BB	20040323	US20020108045	20020327
US2004150766 AA	20040805	US20040762436	20040122
US7138030 BB	20061121	US20040762436	20040122
US2007056686 AA	20070315	US20060554682	20061031

Priority:

KR20010034761 20010619 US20020108045 20020327 US20020106045 20020327
US20040762436 20040122 US20060554682 20061031

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Inventor(s): DAE HO CHOO ; SANG JUN LEE ; YONG JOON KWON
Agent(s): F CHAU AND ASSOCIATES LLC; FRANK CHAU ESQ F CHAU AND ASSOCIATES LLP

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
JP2003015101 A2	20030115	LSPB	+	published / reissued	
JP2003015101 A2	20050328	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Text: JAPANESE INTERMEDIATE CODE: A621 Effective date: 20050325
JP2003015101 A2	20080602		A977	REPORT ON RETRIEVAL	Text: JAPANESE INTERMEDIATE CODE: A971007 Effective date: 20080602
JP2003015101 A2	20080709	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Text: JAPANESE INTERMEDIATE CODE: A131 Effective date: 20080708
JP2003015101 A2	20081009	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20081008 Text: JAPANESE INTERMEDIATE CODE: A523
JP2003015101 A2	20081015	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20081008 Text: JAPANESE INTERMEDIATE CODE: A523
JP2003015101 A2	20081217	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Text: JAPANESE INTERMEDIATE CODE: A131 Effective date: 20081216
JP2003015101 A2	20090314	LSRE	A521	WRITTEN AMENDMENT	Text: JAPANESE INTERMEDIATE CODE: A523 Effective date: 20090313
JP2003015101 A2	20090430	LSRV	-A02	DECISION OF	Effective date: 20090428

				REFUSAL	Text: JAPANESE INTERMEDIATE CODE: A02
KR100490048 B1	20010619	LSES	A201	REQUEST FOR EXAMINATION	
KR100490048 B1	20050517	LSGT	+	granted / extensions (spc, cpc, pte)	
KR100490048 B1	20130430	LSFE	FPAY	ANNUAL FEE PAYMENT	Payment date: 20130430 Year of fee payment: 9
KR100490048 B1	20140430	LSFE	FPAY	ANNUAL FEE PAYMENT	Payment date: 20140430 Year of fee payment: 10
KR100490048 B1	20150430	LSFE	FPAY	ANNUAL FEE PAYMENT	Payment date: 20150430 Year of fee payment: 11
KR100490048 B1	20180502	LSFE	FPAY	ANNUAL FEE PAYMENT	Payment date: 20180502 Year of fee payment: 14
KR100490048 B1	20190429	LSFE	FPAY	ANNUAL FEE PAYMENT	Payment date: 20190429 Year of fee payment: 15
KR100490048 B1	20210619	PEXP		Calculated Patent Term Expiry	
KR20020096359 A	20021231	LSPB	+	published / reissued	
KR20020096359 A	20030801	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR20020096359 A	20031031	LSRE	AMND	AMENDMENT	
KR20020096359 A	20040428	LSRV	-E601	DECISION TO REFUSE APPLICATION	
KR20020096359 A	20040528		J201	REQUEST FOR TRIAL AGAINST REFUSAL DECISION	
KR20020096359 A	20040628	LSRE	AMND	AMENDMENT	
KR20020096359 A	20040811	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR20020096359 A	20050215	LSGT	+B701	DECISION TO GRANT	
KR20020096359 A	20050509	LSGT	+GRNT	WRITTEN DECISION TO GRANT	
TWI229212 B	20050311	LSGT	+	granted / extensions (spc, cpc, pte)	
TWI229212 B	20211116	PEXP		Calculated Patent Term Expiry	
US2002191145 AA	20021219	LSPB	+	published / reissued	
US2002191145 AA	20040304	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2004150766 AA	20040805	LSPB	+	published / reissued	
US2004150766 AA	20061101	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2007056686 AA	20070315	LSPB	+	published / reissued	
US2007056686 AA	20101214	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2007056686 AA	20101214		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US6710843 BB	20020327	LSAS	AS	ASSIGNMENT	Effective date: 20020319 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:CHOO, DAE-HO;LEE, SANG-JUN;KWON, YONG-JOON;REEL/FRAME:012748/0320 Owner: SAMSUNG ELECTRONICS CO., LTD., KOREA, REPUBLIC OF PartyType: owner
US6710843 BB	20040304	LSGT	PAT1	Patented Case	
US6710843 BB	20040323	LSGT	+	granted / extensions (spc, cpc, pte)	
US6710843 BB	20070829	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4

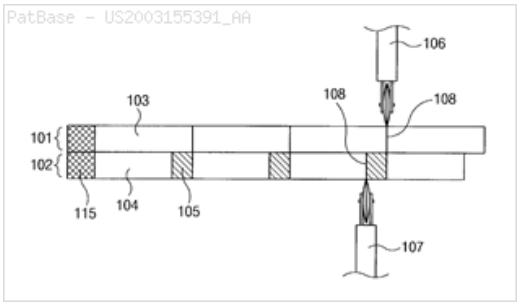
US6710843 BB	20110818	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US6710843 BB	20120917	LSAS	AS	ASSIGNMENT	Effective date: 20120904 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:SAMSUNG ELECTRONICS CO., LTD.;REEL/FRAME:029045/0860 Owner: SAMSUNG DISPLAY CO., LTD., KOREA, REPUBLIC OF PartyType: owner
US6710843 BB	20150916	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
US6710843 BB	20220327	PEXP		Calculated Patent Term Expiry	
US7138030 BB	20061101	LSGT	PAT1	Patented Case	
US7138030 BB	20061121	LSGT	+	granted / extensions (spc, cpc, pte)	
US7138030 BB	20100503	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US7138030 BB	20120917	LSAS	AS	ASSIGNMENT	PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:SAMSUNG ELECTRONICS CO., LTD.;REEL/FRAME:029045/0860 Effective date: 20120904 Owner: SAMSUNG DISPLAY CO., LTD., KOREA, REPUBLIC OF
US7138030 BB	20140425	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US7138030 BB	20180419	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 12
US7138030 BB	20220505	PEXP		Calculated Patent Term Expiry (PTA 39 days and a terminal disclaimer has been filed)	

7) Family number: 28994059 (US2003155391 AA)

Title: METHOD FOR CUTTING LIQUID CRYSTAL **DISPLAY** PANEL

Abstract: A method for cutting a liquid crystal **display** panel is disclosed in the present invention. The method includes forming a first scribing line on surfaces of first and second mother substrates using first and second wheels, cutting the first and second mother substrates along the first scribing line, forming a second scribing line on the second mother substrate using the second wheel, and removing a dummy region from the second mother substrate by cutting the second mother substrate along the second scribing line.

Classifications:
International (IPC 8-9): C03B33/00 C03B33/037 G02F1/13 G02F1/1333 G02F1/136 H01L21/02 H01L21/301
International (IPC 1-7): B26F3/00 C03B33/00 C03B33/037 G02F1/13 G02F1/1333 G02F1/136
CPC: G02F1/133351 Y10T225/12 Y10T225/371
US: 225/103 225/2 349/187



Family:

Publication number	Publication date	Application number	Application date
CN1310081 C	20070411	CN20021055867	20021212
CN1439926 A	20030903	CN20021055867	20021212
JP2003241173 A2	20030827	JP20030021377	20030130
KR100789455 B1	20071231	KR20020009126	20020220
KR20030069483 A	20030827	KR20020009126	20020220
US2003155391 AA	20030821	US20020256100	20020927
US6741320 BB	20040525	US20020256100	20020927

Priority:
KR20020009126 20020220

Probable Assignee: LG DISPLAY CO LTD
Assignee(s): (std): L G PHILIPS LCD CO LTD
Assignee(s): LG DISPLAY CO LTD ; LG PHILIPS LCD CO ; LG PHILLIPS LCD CO LTD
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Inventor(s): CHAE GYONG ; CHAE GYONG SIN SANG SON ; KYUNG SU CHAE ; SANG SUN SHIN ; SIN SANG SON
Agent(s): FUJINO IKUO; KATO NOBUAKI; MORGAN LEWIS AND BOCKIUS LLP; OCHI TAKAO; OKABE MASAO; TAKANASHI NORIMICHI; USUI SHINICHI

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
CN1310081 C	20070411	LSGT	+	granted / extensions (spc, cpc, pte)	
CN1310081 C	20070411	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN1310081 C	20070411	LSGT	+GR01	授权	Text: 授权 (Authorization)
CN1310081 C	20080723	LSAS	C56	CHANGE IN THE NAME OR ADDRESS OF THE PATENTEE	
CN1310081 C	20080723	LSAS	C56	CHANGE IN THE NAME OR ADDRESS OF THE PATENTEE	Owner: LG DISPLAY CO., LTD. OldParty: FORMER NAME OR ADDRESS: LG. PHILIP LCD CO., LTD. PartyType: owner
CN1310081 C	20080723	LSAS	CP01	专利权人姓名或者名称的变更	Patentee After Change: 乐金显示有限公司 (LG DISPLAY CO LTD) Patentee Before Change: LG.菲利浦LCD株式会社 (Lg Philips LCD Co., Ltd.) Text: 专利权人的姓名或者名称、地址的变更 (The name or address of a patentee)
CN1310081 C	20191206	LSLE	-CF01	TERMINATION OF PATENT RIGHT DUE TO NON-PAYMENT OF ANNUAL FEE	
CN1310081 C	20191206	LSLE	-CF01	未缴年费专利权终止	Effective date: 20181212 Text: 专利权的终止 (Termination of Patent Right)
CN1310081 C	20221212	PEXP		Calculated Patent Term Expiry	

CN1439926 A	20030903	LSPB	+	published / reissued	
CN1439926 A	20030903	LSPB	+C06	PUBLICATION	
CN1439926 A	20030903	LSPB	PB01	公开	Text: 公开 (Disclosure)
CN1439926 A	20050406		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
CN1439926 A	20050406		SE01	实质审查请求的生效	Text: 实质审查的生效 (Force of substantive review)
JP2003241173 A2	20030827	LSPB	+	published / reissued	
JP2003241173 A2	20040618	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Text: JAPANESE INTERMEDIATE CODE: A621 Effective date: 20040617
JP2003241173 A2	20060531		A977	REPORT ON RETRIEVAL	Effective date: 20060531 Text: JAPANESE INTERMEDIATE CODE: A971007
JP2003241173 A2	20060713	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Text: JAPANESE INTERMEDIATE CODE: A131 Effective date: 20060712
JP2003241173 A2	20061013		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20061012 Text: JAPANESE INTERMEDIATE CODE: A601
JP2003241173 A2	20061018		A602	WRITTEN PERMISSION OF EXTENSION OF TIME	Effective date: 20061017 Text: JAPANESE INTERMEDIATE CODE: A602
JP2003241173 A2	20070112	LSRE	A521	WRITTEN AMENDMENT	Text: JAPANESE INTERMEDIATE CODE: A523 Effective date: 20070111
JP2003241173 A2	20070220	LSRV	-A02	DECISION OF REFUSAL	Effective date: 20070219 Text: JAPANESE INTERMEDIATE CODE: A02
JP2003241173 A2	20070621	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20070620 Text: JAPANESE INTERMEDIATE CODE: A523
JP2003241173 A2	20070807	LSAL	A911	TRANSFER OF RECONSIDERATION BY EXAMINER BEFORE APPEAL (ZENCHI)	Text: JAPANESE INTERMEDIATE CODE: A911 Effective date: 20070806
JP2003241173 A2	20070910	LSAL	-A912	REMOVAL OF RECONSIDERATION BY EXAMINER BEFORE APPEAL (ZENCHI)	Text: JAPANESE INTERMEDIATE CODE: A912 Effective date: 20070907
JP2003241173 A2	20081209		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20081208 Text: JAPANESE INTERMEDIATE CODE: A601
JP2003241173 A2	20081212		A602	WRITTEN PERMISSION OF EXTENSION OF TIME	Effective date: 20081211 Text: JAPANESE INTERMEDIATE CODE: A602
JP2003241173 A2	20090305	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20090304 Text: JAPANESE INTERMEDIATE CODE: A523
JP2003241173 A2	20090624		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20090623 Text: JAPANESE INTERMEDIATE CODE: A601
JP2003241173 A2	20090629		A602	WRITTEN PERMISSION OF EXTENSION OF TIME	Effective date: 20090626 Text: JAPANESE INTERMEDIATE CODE: A602
JP2003241173 A2	20090724		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Text: JAPANESE INTERMEDIATE CODE: A601 Effective date: 20090723
JP2003241173 A2	20090730		A602	WRITTEN PERMISSION OF EXTENSION OF TIME	Effective date: 20090729 Text: JAPANESE INTERMEDIATE CODE: A602
JP2003241173 A2	20090820	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20090819 Text: JAPANESE INTERMEDIATE CODE: A523
KR100789455 B1	20071231	LSGT	+	granted / extensions (spc, cpc, pte)	
KR100789455 B1	20120928	LSFE	FPAY	ANNUAL FEE PAYMENT	Payment date: 20120928 Year of fee payment: 6
KR100789455 B1	20130930	LSFE	FPAY	ANNUAL FEE PAYMENT	Payment date: 20130930 Year of fee payment: 7
KR100789455 B1	20141124	LSFE	FPAY	ANNUAL FEE	Payment date: 20141124

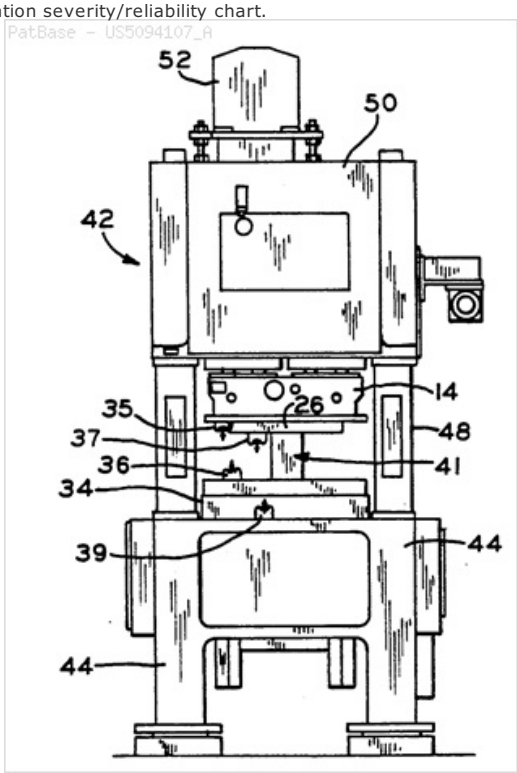
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KR100789455 B1	20171116	LSFE	FPAY	ANNUAL FEE PAYMENT	Payment date: 20171116 Year of fee payment: 11
KR100789455 B1	20181114	LSFE	FPAY	ANNUAL FEE PAYMENT	Payment date: 20181114 Year of fee payment: 12
KR100789455 B1	20220220	PEXP		Calculated Patent Term Expiry	
KR20030069483 A	20030827	LSPB	+	published / reissued	
KR20030069483 A	20070209	LSES	A201	REQUEST FOR EXAMINATION	
KR20030069483 A	20071123	LSGT	+E701	DECISION TO GRANT OR REGISTRATION OF PATENT RIGHT	
KR20030069483 A	20071220	LSGT	+GRNT	WRITTEN DECISION TO GRANT	
US2003155391 AA	20030821	LSPB	+	published / reissued	
US2003155391 AA	20040506	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US6741320 BB	20020927	LSAS	AS	ASSIGNMENT	Effective date: 20020916 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:CHAE, KYUNG-SU;SHIN, SANG-SUN;REEL/FRAME:013346/0560 Owner: LG.PHILIPS LCD CO., LTD., KOREA, REPUBLIC OF PartyType: owner
US6741320 BB	20040506	LSGT	PAT1	Patented Case	
US6741320 BB	20040525	LSGT	+	granted / extensions (spc, cpc, pte)	
US6741320 BB	20070327	LSRE	CC	CERTIFICATE OF CORRECTION	
US6741320 BB	20070920	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US6741320 BB	20081027	LSAS	AS	ASSIGNMENT	Effective date: 20080304 OldParty: CHANGE OF NAME;ASSIGNOR:LG.PHILIPS LCD CO., LTD.;REEL/FRAME:021763/0212 Owner: LG DISPLAY CO., LTD., KOREA, REPUBLIC OF PartyType: owner
US6741320 BB	20110922	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US6741320 BB	20151118	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
US6741320 BB	20220927	PEXP		Calculated Patent Term Expiry	

8) Family number: 4949310 (US5094107 A)

Title: PRESS VIBRATION SEVERITY/RELIABILITY MONITORING SYSTEM AND METHOD

Abstract: A method of generating a press load/speed vibration severity capacity zone chart, for the purpose of determining the effects of any press/die application on the long-term operating reliability of a press during its **production** operation, wherein sensors are placed on the press structure to monitor and record RMS vibration velocity levels over a plurality of load/speed test condition combinations, in order to generate the reliability chart. Further apparatus is used to monitor the actual reliability level of the press during any **production** application, by comparison of the actual **production** operation data to the data generated by the method to establish the press vibration severity/reliability chart.

Classifications:
International (IPC 8-9): B23Q17/09 B30B15/28 G01H1/00 G01H1/12 G07C3/00
International (IPC 1-7): B26F1/40 B30B15/00 G01H1/04 G01N29/00 G07C3/00
CPC: B30B15/28 G01H1/12 G05B19/4184 G05B2219/37434 G05B23/0272 G07C3/00 Y02P90/02 Y02P90/80
US: 73/570 73/862.06



Family:

Publication number	Publication date	Application number	Application date
DE4124675 A1	19920312	DE19914124675	19910725
US5094107 A	19920310	US19900570343	19900821

Priority:

US19900570343 19900821

Probable Assignee: MINSTER MACHINE CO

Assignee(s): (std): MINSTER MACHINE CO

Assignee(s): THE MINSTER MACHINE CO ; THE MINSTER MACHINE CO MINSTER OHIO US ; THE MINSTER MACHINE COMPANY

Inventor(s): (std): SCHOCH DANIEL A

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
DE4124675 A1	19920312	LSPB	+	published / reissued	
DE4124675 A1	19920312	LSES	+OP8	REQUEST FOR EXAMINATION AS TO PARAGRAPH 44 PATENT LAW	
DE4124675 A1	20000316	LSRV	-8131	REJECTION	
US5094107 A	19900926	LSAS	AS	ASSIGNMENT	Owner: MINSTER MACHINE COMPANY, THE, OHIO PartyType: owner Effective date: 19900920 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST.;ASSIGNOR:SCHOCH, DANIEL A.;REEL/FRAME:005450/0738
US5094107 A	19920226	LSGT	PAT1	Patented Case	
US5094107 A	19920226	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US5094107 A	19920310	LSGT	+	granted /	

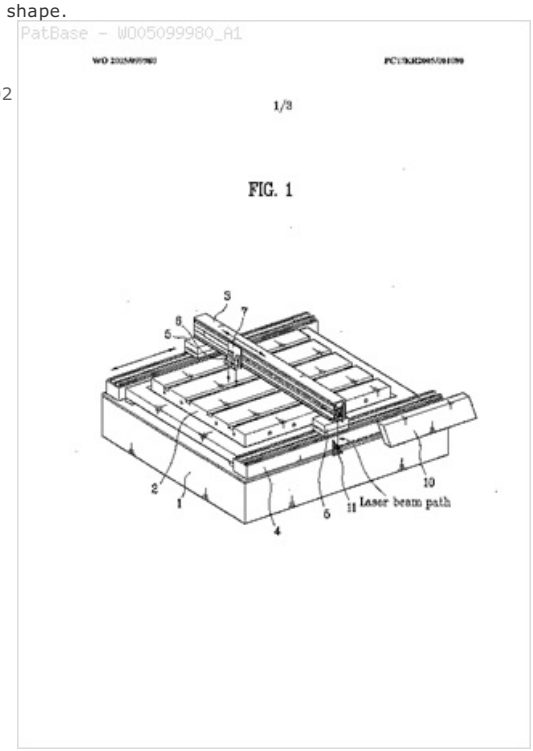
				extensions (spc, cpc, pte)	
US5094107 A	19930525	LSRE	CC	CERTIFICATE OF CORRECTION	
US5094107 A	19950327	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US5094107 A	19990315	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US5094107 A	20030317	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
US5094107 A	20100821	PEXP		Calculated Patent Term Expiry	

9) Family number: 32354886 (WO05099980 A1)

Title: METHOD OF CUTTING NONMETAL

Abstract: The present invention provides a method of cutting nonmetal including glass stably, by which the glass substrate for fabricating a module of a **display** such as TFT-LCD, PDP and OLED can be cut fast and stably with precision without causing a damage to the substrate to enhance **productivity** and throughput. The present invention includes the steps of generating a laser beam by an Nd-YAG oscillator (10) using a laser diode as a light source, converting the laser beam generated from the Nd-YAG laser oscillator (10) to a short wavelength of a 200~400nm UV area by a wavelength converter, converting the laser beam generated from the Nd-YAG laser oscillator (10) the short wavelength to the laser beam having an ultra short pulse of 1~100ns through Q-switching, guiding the laser beam to a torch (6), condensing to apply the guided short wavelength laser beam to a specific location on a nonmetallic substrate, and allowing the substrate and the laser beam to make relative movements to cut the substrate into a predetermined shape.

Classifications:
International (IPC 8-9): B23K26/00 B23K26/06 B23K26/08 B23K26/10 B23K26/38 B23K26/40 B26F3/06 B26F3/16 C03B33/02
International (IPC 1-7): B23K26/00 B23K26/38 B26F3/16 C03B33/02
CPC: B23K2103/50 B23K26/0622 B23K26/0884 B23K26/40 F28F19/01 F28G9/00



Family:

Publication number	Publication date	Application number	Application date
KR20050100734 A	20051020	KR20040025807	20040414
TW200602146 A	20060116	TW20050111750	20050413
WO05099980 A1	20051027	WO2005KR01080	20050414

Priority:
KR20040025807 20040414

Probable Assignee: TOP ENG CO LTD

Assignee(s): (std): BANG KYU YONG ; LEE CHANG BOK ; RYU DO HYUN ; TOP ENG CO LTD ; TOP ENGINEERING CO LTD

Assignee(s): TOP ENGINEERING CO

Inventor(s): (std): BANG KYU YONG ; LEE CHANG BOK ; RYU DO HYUN

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 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 SM SN SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
KR20050100734 A	20040414	LSES	A201	REQUEST FOR EXAMINATION	
KR20050100734 A	20051020	LSPB	+	published / reissued	
KR20050100734 A	20051207	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR20050100734 A	20060417	LSRV	-E601	DECISION TO REFUSE APPLICATION	
TW200602146 A	20060116	LSPB	+	published / reissued	
WO05099980 A1	20051027	LSPB	+	published /	

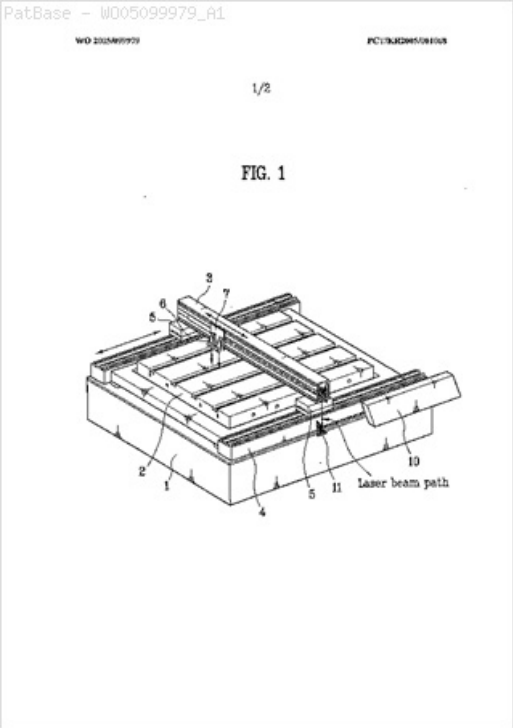
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WO05099980 A1	20051027		+AK	DESIGNATED STATES	Kind code of Ref document: A1 Country of Ref document: AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KM KP KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NA NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SM SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW
WO05099980 A1	20051027		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A1 Country of Ref document: AM AT AZ BE BF BG BJ BW BY CF CG CH CI CM CY CZ DE DK EE ES FI FR GA GB GH GM GN GQ GR GW HU IE IS IT KE KG KZ LS LT LU MC MD ML MR MW MZ NA NE NL PL PT RO RU SD SE SI SK SL SN SZ TD TG TJ TM TR TZ UG ZM ZW
WO05099980 A1	20051221		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO05099980 A1	20061017	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO05099980 A1	20061017	LSWD	-WWW	WIPO INFORMATION: WITHDRAWN IN NATIONAL OFFICE	Text: DE
WO05099980 A1	20070509	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	Ref country code: WO

10) Family number: 32354885 (WO05099979 A1)

Title: APPARATUS FOR CUTTING NONMETAL

Abstract: The present invention provides an apparatus for cutting nonmetal including glass stably, by which the glass substrate for fabricating a module of a **display** such as TFT-LCD, PDP and OLED can be cut fast and stably with precision without causing a damage to the substrate to enhance **productivity** and throughput. The present invention includes a laser beam generator (10) generating a UV short wavelength laser beam, an optical system (11) guiding a beam path of the short wavelength laser beam generated from the laser beam generator (10) to a portion specified for irradiation, a torch (6) condensing to apply the short wavelength laser beam to a specific location on a nonmetallic substrate to be cut, and a relative movement means for allowing the substrate and the laser beam to make a relative movement to cut the substrate.

Classifications:
International (IPC 8-9): C03B33/02 B23K26/00 B23K26/06 B23K26/08 B23K26/10 B23K26/38 B23K26/40 B26F3/06 B26F3/16 C03B33/02 H05K3/00
International (IPC 1-7): B23K26/00 B23K26/38 B26F3/16 C03B33/02
CPC: B23K2103/50 B23K26/0622 B23K26/0624 B23K26/0884 B23K26/40 E04G17/047 E04G17/06 H05K3/0029 H05K3/0052



Family:

Publication number	Publication date	Application number	Application date
KR20050100733 A	20051020	KR20040025806	20040414
TW200602147 A	20060116	TW20050111753	20050413
TWI275440 B	20070311	TW20050111753	20050413
WO05099979 A1	20051027	WO2005KR01068	20050413

Priority:
KR20040025806 20040414

Probable Assignee: TOP ENG CO LTD
Assignee(s): (std): BANG KYU YONG ; LEE CHANG BOK ; RYU DO HYUN ; TOP ENG CO LTD ; TOP ENGINEERING CO LTD
Assignee(s): TOP ENGINEERING CO
Inventor(s): (std): BANG KYU YONG ; LEE CHANG BOK ; RYU DO HYUN
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 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 SM SN SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
KR20050100733 A	20040414	LSES	A201	REQUEST FOR EXAMINATION	
KR20050100733 A	20051020	LSPB	+	published / reissued	
KR20050100733 A	20051207	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR20050100733 A	20060417	LSRV	-E601	DECISION TO REFUSE APPLICATION	
TW200602147 A	20060116	LSPB	+	published / reissued	
TWI275440 B	20070311	LSGT	+	granted / extensions	

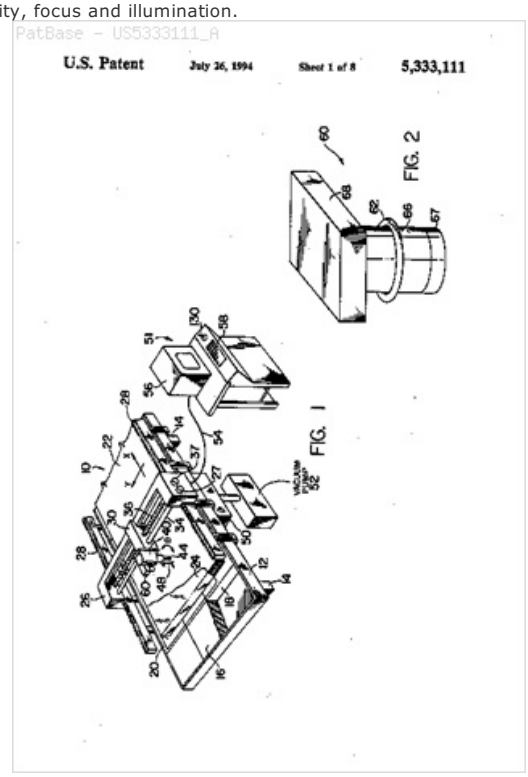
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TWI275440 B	20250413	PEXP		Calculated Patent Term Expiry	
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WO05099979 A1	20051027		+AK	DESIGNATED STATES	Kind code of Ref document: A1 Country of Ref document: AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KM KP KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NA NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SM SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW
WO05099979 A1	20051027		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A1 Country of Ref document: AM AT AZ BE BF BG BJ BY CF CG CH CI CM CY CZ DE DK EE ES FI FR GA GB GM GN GQ GR GW HU IE IS IT KE KG KZ LS LT LU MC MD ML MR MW MZ NA NE NL PL PT RO RU SD SE SI SK SL SN SZ TD TG TJ TM TR TZ UG ZM ZW
WO05099979 A1	20051221		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO05099979 A1	20061017	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO05099979 A1	20061017	LSWD	-WWW	WIPO INFORMATION: WITHDRAWN IN NATIONAL OFFICE	Text: DE
WO05099979 A1	20070516	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	Ref country code: WO

11) Family number: 4433709 (US5333111 A)

Title: GARMENT CUTTING SYSTEM HAVING COMPUTER ASSISTED PATTERN ALIGNMENT

Abstract: A garment cutting system adapted for use with fabrics having a stripe or plaid design is characterized by computer assisted design matching that allows for either manual or automatic matching both between a garment marker to the fabric layup and between sequenced garment segment patterns. The present system employs data reduction techniques to reduce **processing** time and includes apparatus for optimizing image stability, focus and illumination.

Classifications:
International (IPC 8-9): B26D5/00 B26F1/38 D06H7/00
International (IPC 1-7): A41H3/00 A41H43/00 B26D5/00 B26F1/38 D06H7/00 G06F15/46
CPC: B26D2005/002 B26D5/00 B26D5/005 B26D5/007 B26D7/018 B26F1/38 Y10S83/936 Y10T83/178
US: 364/470 364/474.09 364/474.13 382/111 382/294 382/8 700/135 700/171 83/76.8 83/936



Family:

Publication number	Publication date	Application number	Application date
DE69226904 D1	19981015	DE19926026904T	19920429
DE69226904 T2	19990512	DE19926026904T	19920429
EP0518473 A2	19921216	EP19920303877	19920429
EP0518473 A3	19940406	EP19920303877	19920429
EP0518473 B1	19980909	EP19920303877	19920429
ES2124243 T3	19990201	ES19920303877T	19920429
JP2108447 C3	19961106	JP19920112856	19920501
JP5123997 A2	19930521	JP19920112856	19920501
JP8025154 B4	19960313	JP19920112856	19920501
US5333111 A	19940726	US19910694871	19910502

Priority:
US19910694871 19910502

Probable Assignee: GERBER SCIENTIFIC INC

Assignee(s): (std): GERBER GARMENT TECHNOLOGY INC ; GERBER TECHNOLOGY INC

Assignee(s): ABLECO FINANCE LLC AS COLLATERAL AGENT ; ABLECO FINANCE LLC COLLATERAL AGENT AS ; CITIZENS BANK OF MASSACHUSETTS ; FLEET CAPITAL AGENT AS CORP ; FLEET CAPITAL AGENT CORP AS ; FLEET CAPITAL CORP ; FORTRESS CREDIT CO LLC COLLATERAL AGENT AS ; GERBER COBURN OPTICAL INC ; GERBER GARMENT TECHNOL INC ; GERBER GARMENT TECHNOLOGY INC A CORP OF CONNECTICU ; GERBER GARMENT TECHNOLOGY INC A CORP OF CONNECTICUT ; GERBER GARMENT TECHNOLOGY INC TOLLAND CONN US ; GERBER GARMENT TECHNOLOGY INCORPORATED ; GERBER SCIENTIFIC INC ; GERBER SCIENTIFIC INT INC ; GERBER SCIENTIFIC INT INC (AS SUCCESSOR IN INTEREST TO GERBER TECHNOLOGY INC AND GERBER SCIENTIFIC PRODUCTS INC) ; GERBER SCIENTIFIC INT INC AS SUCCESSOR IN INTEREST TO GERBER TECHNOLOGY INC AND GERBER SCIENTIFIC PRODUCTS INC ; GERBER SCIENTIFIC INT INC SUCCESSOR IN INTEREST AS ; GERBER SCIENTIFIC INT INC SUCCESSOR IN INTEREST TO GERBER TECHNOLOGY INC AND GERBER SCIENTIFIC PRODUCTS INC AS ; GERBER SCIENTIFIC PRODUCTS INC ; GERBER TECHNOLOGY INC TOLLAND CONN US

Inventor(s): (std): CHAIKEN CRAIG L ; FECTEAU JOHN A ; JIYON EI FUEKUTOU ; KUREIGU ERU CHIYAIKEN

Designated states: DE ES FR GB IT

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
DE69226904 D1	19991007	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	

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DE69226904 T2	19991007	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE69226904 T2	20110217	LSLE	-8339	CEASED/NON-PAYMENT OF THE ANNUAL FEE	
DE69226904 T2	20120429	PEXP		Calculated Patent Term Expiry	
EP0518473 A2	19921216	LSPB	+	published / reissued	
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EP0518473 A3	19940406		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A3 Country of Ref document: DE ES FR GB IT
EP0518473 A3	19960515	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 19960402
EP0518473 B1	19980909	LSGT	+	granted / extensions (spc, cpc, pte)	
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EP0518473 B1	19981113		+ET	FR: TRANSLATION FILED	
EP0518473 B1	19981125	LSAS	RAP4	PATENT OWNER DATA CHANGED	Owner: GERBER TECHNOLOGY, INC. PartyType: owner
EP0518473 B1	19981231	LSAS	REG	REFERENCE TO A NATIONAL CODE	Ref country code: FR Ref legal event code: CD
EP0518473 B1	19990201	LSGT	REG	REFERENCE TO A NATIONAL CODE	Kind code of Ref document: T3 Ref country code: ES Ref document number: 2124243 Ref legal event code: FG2A Country of Ref document: ES
EP0518473 B1	19990901	LSGT	+26N	NO OPPOSITION FILED	
EP0518473 B1	20020101		REG	REFERENCE TO A NATIONAL CODE	Ref country code: GB Ref legal event code: IF02
EP0518473 B1	20050429	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20050429 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: IT
EP0518473 B1	20060208		REG	REFERENCE TO A NATIONAL CODE	Ref country code: GB Ref legal event code: 732E
EP0518473 B1	20091130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20090930 Year of fee payment: 18 Country of Ref document: GB

EP0518473 B1	20100129	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20091013 Year of fee payment: 18 Country of Ref document: DE
EP0518473 B1	20100129	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20090930 Year of fee payment: 18 Country of Ref document: ES
EP0518473 B1	20100430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20091026 Year of fee payment: 18 Country of Ref document: FR
EP0518473 B1	20101229	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	Effective date: 20100429 Ref country code: EP
EP0518473 B1	20110121	LSLE	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20101230 Ref country code: FR Ref legal event code: ST
EP0518473 B1	20110131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20100430 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: FR
EP0518473 B1	20110228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20101103 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: DE
EP0518473 B1	20110331	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20100429 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: GB
EP0518473 B1	20110708	LSLE	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20110708 Ref country code: ES Ref legal event code: FD2A
EP0518473 B1	20110729	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20110628 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: ES
EP0518473 B1	20110930	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20100430 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: ES
EP0518473 B1	20120429	PEXP		Calculated Patent Term Expiry	

ES2124243 T3	19990201	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2124243 T3	19990201	LSGT	+FG2A	DEFINITIVE PROTECTION	Ref document number: 518473 Country of Ref document: ES
ES2124243 T3	20120429	PEXP		Calculated Patent Term Expiry	
JP2108447 C3	19961106	LSGT	+	granted / extensions (spc, cpc, pte)	
JP2108447 C3	20120501	PEXP		Calculated Patent Term Expiry	
JP5123997 A2	19930521	LSPB	+	published / reissued	
JP8025154 B4	19960313	LSPB	+	published / reissued	
JP8025154 B4	20080318	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 13
JP8025154 B4	20090313	LSLE	-LAPS	CANCELLATION BECAUSE OF NO PAYMENT OF ANNUAL FEES	
US5333111 A	19910627	LSAS	AS	ASSIGNMENT	Effective date: 19910621 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST.;ASSIGNORS:CHAIKEN, CRAIG L.;FECTEAU, JOHN A.;REEL/FRAME:005762/0403 Owner: GERBER GARMENT TECHNOLOGY, INC. A CORP. OF CONNEC PartyType: owner
US5333111 A	19940714	LSGT	PAT1	Patented Case	
US5333111 A	19940714	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US5333111 A	19940726	LSGT	+	granted / extensions (spc, cpc, pte)	
US5333111 A	19980121	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US5333111 A	20020116	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US5333111 A	20030808	LSAS	AS	ASSIGNMENT	Effective date: 20030509 OldParty: ASSIGNMENT FOR SECURITY;ASSIGNORS:GERBER SCIENTIFIC, INC.;GERBER SCIENTIFIC INTERNATIONAL, INC. (AS SUCCESSOR IN INTEREST TO GERBER TECHNOLOGY, INC.;GERBER SCIENTIFIC PRODUCTS, INC., A CONNECTICUT CORPORATION;AND OTHERS;REEL/FRAME:014344/0767 Owner: ABLECO FINANCE LLC, AS COLLATERAL AGENT, NEW YORK PartyType: owner
US5333111 A	20031031	LSAS	AS	ASSIGNMENT	Effective date: 20030509 OldParty: SECURITY AGREEMENT;ASSIGNORS:GERBER SCIENTIFIC, INC.;GERBER SCIENTIFIC INTERNATIONAL, INC.;GERBER COBURN OPTICAL, INC.;AND OTHERS;REEL/FRAME:014624/0770 Owner: FLEET CAPITAL CORPORATION, AS AGENT, CONNECTICUT PartyType: owner
US5333111 A	20060109	LSAS	AS	ASSIGNMENT	Effective date: 20051031 OldParty: INTELLECTUAL PROPERTY SECURITY AGREEMENT;ASSIGNOR:GERBER SCIENTIFIC, INC.;REEL/FRAME:016987/0139 Owner: CITIZENS BANK OF MASSACHUSETTS, MASSACHUSETTS PartyType: owner
US5333111 A	20060120	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
US5333111 A	20101130	LSAS	AS	ASSIGNMENT	Effective date: 20081218 OldParty: RELEASE BY SECURED PARTY;ASSIGNOR:ABLECO FINANCE LLC, AS COLLATERAL AGENT;REEL/FRAME:025406/0746 Owner: GERBER SCIENTIFIC, INC., CONNECTICUT PartyType: owner
US5333111 A	20101130	LSAS	AS	ASSIGNMENT	Effective date: 20081218

					OldParty: RELEASE BY SECURED PARTY;ASSIGNOR:ABLECO FINANCE LLC, AS COLLATERAL AGENT;REEL/FRAME:025406/0746 Owner: GERBER COBURN OPTICAL, INC., CONNECTICUT PartyType: owner
US5333111 A	20101130	LSAS	AS	ASSIGNMENT	Effective date: 20081218 OldParty: RELEASE BY SECURED PARTY;ASSIGNOR:ABLECO FINANCE LLC, AS COLLATERAL AGENT;REEL/FRAME:025406/0746 Owner: GERBER SCIENTIFIC INTERNATIONAL, INC. (AS SUCCESSO PartyType: owner
US5333111 A	20101201	LSAS	AS	ASSIGNMENT	Effective date: 20081217 OldParty: RELEASE BY SECURED PARTY;ASSIGNOR:BANK OF AMERICA, N.A. (AS SUCCESSOR IN INTEREST TO FLEET CAPITAL CORPORATION);REEL/FRAME:025413/0165 Owner: GERBER SCIENTIFIC, INC., CONNECTICUT PartyType: owner
US5333111 A	20101201	LSAS	AS	ASSIGNMENT	Effective date: 20081217 OldParty: RELEASE BY SECURED PARTY;ASSIGNOR:BANK OF AMERICA, N.A. (AS SUCCESSOR IN INTEREST TO FLEET CAPITAL CORPORATION);REEL/FRAME:025413/0165 Owner: GERBER SCIENTIFIC INTERNATIONAL, INC., CONNECTICUT PartyType: owner
US5333111 A	20101201	LSAS	AS	ASSIGNMENT	Effective date: 20081217 OldParty: RELEASE BY SECURED PARTY;ASSIGNOR:BANK OF AMERICA, N.A. (AS SUCCESSOR IN INTEREST TO FLEET CAPITAL CORPORATION);REEL/FRAME:025413/0165 Owner: GERBER COBURN OPTICAL, INC., CONNECTICUT PartyType: owner
US5333111 A	20110726	PEXP		Calculated Patent Term Expiry	
US5333111 A	20110823	LSAS	AS	ASSIGNMENT	Effective date: 20110822 OldParty: GRANT OF A SECURITY INTEREST - PATENTS;ASSIGNORS:GERBER SCIENTIFIC, INC.;GERBER SCIENTIFIC INTERNATIONAL, INC.;REEL/FRAME:026795/0001 Owner: FORTRESS CREDIT CO LLC , AS COLLATERAL AGENT, NEW PartyType: owner
US5333111 A	20110823	LSAS	AS	ASSIGNMENT	Effective date: 20110822 OldParty: TERMINATION AND RELEASE OF SECURITY INTEREST IN INTELLECTUAL PROPERTY;ASSIGNOR:RBS CITIZENS, N.A. A NATIONAL BANKING ASSOCIATION AND SUCCESSOR TO CITIZENS BANK OF MASSACHUSETTS, A MASSACHUSETTS BANK;REEL/FRAME:026795/0056 Owner: GERBER SCIENTIFIC INC., CONNECTICUT PartyType: owner
US5333111 A	20110823	LSAS	AS	ASSIGNMENT	Effective date: 20110822 OldParty: TERMINATION AND RELEASE OF SECURITY INTEREST IN INTELLECTUAL PROPERTY;ASSIGNOR:RBS CITIZENS, N.A. A NATIONAL BANKING ASSOCIATION AND SUCCESSOR TO CITIZENS BANK OF MASSACHUSETTS, A MASSACHUSETTS BANK;REEL/FRAME:026795/0056 Owner: GERBER SCIENTIFIC INTERNATIONAL INC., CONNECTICUT PartyType: owner
US5333111 A	20110923	LSAS	AS	ASSIGNMENT	Effective date: 20110922 OldParty: RELEASE OF ASSIGNMENT OF SECURITY - PATENTS;ASSIGNOR:ABLECO FINANCE LLC;REEL/FRAME:026962/0037 Owner: GERBER SCIENTIFIC, INC., CONNECTICUT PartyType: owner
US5333111 A	20110923	LSAS	AS	ASSIGNMENT	Effective date: 20110922 OldParty: RELEASE OF ASSIGNMENT OF SECURITY - PATENTS;ASSIGNOR:ABLECO FINANCE LLC;REEL/FRAME:026962/0037 Owner: GERBER SCIENTIFIC INTERNATIONAL INC., CONNECTICUT PartyType: owner
US5333111 A	20110923	LSAS	AS	ASSIGNMENT	Effective date: 20110922 OldParty: RELEASE OF ASSIGNMENT OF SECURITY - PATENTS;ASSIGNOR:ABLECO FINANCE LLC;REEL/FRAME:026962/0037 Owner: GERBER COBURN OPTICAL, INC., CONNECTICUT PartyType: owner

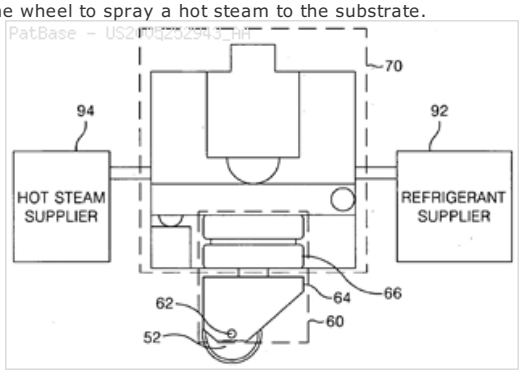
US5333111 A	20111018	LSAS	AS	ASSIGNMENT	Effective date: 20030430 OldParty: CHANGE OF NAME;ASSIGNOR:GERBER TECHNOLOGY, INC.;REEL/FRAME:027081/0571 Owner: GERBER SCIENTIFIC INTERNATIONAL, INC., CONNECTICUT PartyType: owner
US5333111 A	20111018	LSAS	AS	ASSIGNMENT	Effective date: 19980320 OldParty: CHANGE OF NAME;ASSIGNOR:GERBER GARMENT TECHNOLOGY, INC.;REEL/FRAME:027082/0885 Owner: GERBER TECHNOLOGY, INC., CONNECTICUT PartyType: owner
US5333111 A	20111104	LSAS	AS	ASSIGNMENT	Effective date: 20081217 OldParty: RELEASE BY SECURED PARTY;ASSIGNOR:BANK OF AMERICA, N.A. SUCCESSOR TO FLEET CAPITAL CORPORATION;REEL/FRAME:027248/0154 Owner: GERBER SCIENTIFIC, INC., CONNECTICUT PartyType: owner
US5333111 A	20111104	LSAS	AS	ASSIGNMENT	Effective date: 20081217 OldParty: RELEASE BY SECURED PARTY;ASSIGNOR:BANK OF AMERICA, N.A. SUCCESSOR TO FLEET CAPITAL CORPORATION;REEL/FRAME:027248/0154 Owner: GERBER SCIENTIFIC INTERNATIONAL, INC., CONNECTICUT PartyType: owner
US5333111 A	20111104	LSAS	AS	ASSIGNMENT	Effective date: 20081217 OldParty: RELEASE BY SECURED PARTY;ASSIGNOR:BANK OF AMERICA, N.A. SUCCESSOR TO FLEET CAPITAL CORPORATION;REEL/FRAME:027248/0154 Owner: GERBER SCIENTIFIC PRODUCTS, INC., CONNECTICUT PartyType: owner
US5333111 A	20111104	LSAS	AS	ASSIGNMENT	Effective date: 20081217 OldParty: RELEASE BY SECURED PARTY;ASSIGNOR:BANK OF AMERICA, N.A. SUCCESSOR TO FLEET CAPITAL CORPORATION;REEL/FRAME:027248/0154 Owner: GERBER TECHNOLOGY INC., CONNECTICUT PartyType: owner
US5333111 A	20130108	LSAS	AS	ASSIGNMENT	Effective date: 20121221 OldParty: RELEASE BY SECURED PARTY;ASSIGNOR:FORTRESS CREDIT CO LLC;REEL/FRAME:029590/0250 Owner: GERBER SCIENTIFIC, INC., CONNECTICUT PartyType: owner
US5333111 A	20130108	LSAS	AS	ASSIGNMENT	Effective date: 20121221 OldParty: RELEASE BY SECURED PARTY;ASSIGNOR:FORTRESS CREDIT CO LLC;REEL/FRAME:029590/0250 Owner: GERBER SCIENTIFIC INTERNATIONAL, INC., CONNECTICUT PartyType: owner

12) Family number: 32398862 (US2005252943 AA)

Title: APPARATUS AND METHOD FOR SCRIBING SUBSTRATE

Abstract: This invention relates to a scribing apparatus of a substrate that is adaptive for improving **productivity** as well as preventing the occurrence of substrate badness. A scribing apparatus according to an embodiment of the present invention includes a wheel to scribe a substrate; a refrigerant supplier installed near one side of the wheel to spray a refrigerant to the substrate; and a hot steam supplier installed near the other side of the wheel to spray a hot steam to the substrate.

Classifications:
International (IPC 8-9): B24B49/00 B24B51/00 B26D3/08 B26D5/00 B26F3/00 B31B1/25 B31B50/25 C03B33/00 C03B33/07 C03B33/09 C03B33/10 G02F1/13 G02F1/133
International (IPC 1-7): B26F3/00 G02F1/13 G02F1/133
CPC: C03B33/07 C03B33/09 C03B33/10 E02F3/965 E02F3/966 Y02P40/57 Y10T225/304 Y10T83/0333 Y10T83/2024
US: 225/93.5 225/93.500P 451/7 83/80 83/879



Family:

Publication number	Publication date	Application number	Application date
KR101043674 B1	20110623	KR20040032937	20040511
KR20050108005 A	20051116	KR20040032937	20040511
TW200608093 A	20060301	TW20050115271	20050511
TWI336002 B	20110111	TW20050115271	20050511
US2005252943 AA	20051117	US20050126733	20050510
US7934976 BB	20110503	US20050126733	20050510

Priority:
KR20040032937 20040511

Probable Assignee: LG DISPLAY CO LTD
Assignee(s): (std): LG DISPLAY ; LG DISPLAY CO LTD ; LG PHILIPS LCD CO LTD
Assignee(s): LG DISPLAY CO ; LG PHILIPS LCD CO
Inventor(s): (std): YOO KWANG J ; YOO KWANG JONG
Inventor(s): YOO KWANG
Agent(s): BRINKS HOFER GILSON AND LIONE

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
KR101043674 B1	20110623	LSGT	+	granted / extensions (spc, cpc, pte)	
KR101043674 B1	20150528	LSFE	FPAY	ANNUAL FEE PAYMENT	Year of fee payment: 5 Payment date: 20150528
KR101043674 B1	20170617	LSLE	-LAPS	LAPSE DUE TO UNPAID ANNUAL FEE	
KR101043674 B1	20240511	PEXP		Calculated Patent Term Expiry	
KR20050108005 A	20051116	LSPB	+	published / reissued	
KR20050108005 A	20090508	LSES	A201	REQUEST FOR EXAMINATION	
KR20050108005 A	20101021	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR20050108005 A	20110525	LSGT	+E701	DECISION TO GRANT OR REGISTRATION OF PATENT RIGHT	
KR20050108005 A	20110616	LSGT	+GRNT	WRITTEN DECISION TO GRANT	
TW200608093 A	20060301	LSPB	+	published / reissued	
TWI336002 B	20110111	LSGT	+	granted / extensions (spc, cpc, pte)	
TWI336002 B	20110111	LSGT	+GD4A	ISSUE OF PATENT CERTIFICATE FOR GRANTED	

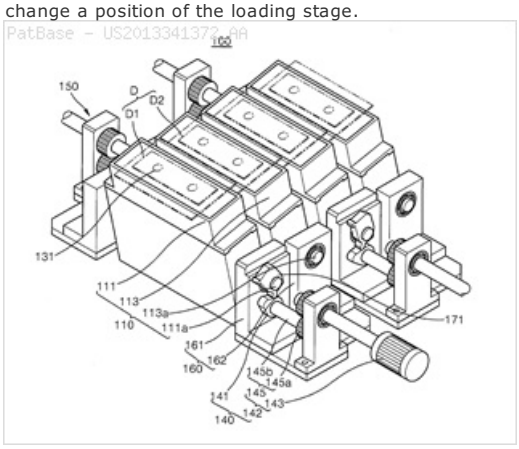
				INVENTION PATENT	
TWI336002 B	20191011	LSLE	-MM4A	ANNULMENT OR LAPSE OF PATENT DUE TO NON-PAYMENT OF FEES	
TWI336002 B	20250511	PEXP		Calculated Patent Term Expiry	
US2005252943 AA	20051117	LSPB	+	published / reissued	
US2005252943 AA	20080520	LSAS	AS	ASSIGNMENT	Effective date: 20080229 Owner: LG DISPLAY CO., LTD., KOREA, REPUBLIC OF OldParty: CHANGE OF NAME;ASSIGNOR:LG PHILIPS LCD CO., LTD;REEL/FRAME:021006/0571 PartyType: owner
US2005252943 AA	20080520	LSAS	AS	ASSIGNMENT	PartyType: owner OldParty: CHANGE OF NAME;ASSIGNOR:LG PHILIPS LCD CO., LTD;REEL/FRAME:021006/0571 Owner: LG DISPLAY CO., LTD.,KOREA, REPUBLIC OF Effective date: 20080229
US2005252943 AA	20110413	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US7934976 BB	20050510	LSAS	AS	ASSIGNMENT	PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:YOO, KWANG JONG;REEL/FRAME:016558/0906 Effective date: 20050509 Owner: LG. PHILIPS LCD CO., LTD., KOREA, REPUBLIC OF
US7934976 BB	20110413	LSGT	PAT1	Patented Case	
US7934976 BB	20110503	LSGT	+	granted / extensions (spc, cpc, pte)	
US7934976 BB	20141028	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US7934976 BB	20181224	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US7934976 BB	20190610	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	Text: PATENT EXPIRED FOR FAILURE TO PAY MAINTENANCE FEES (ORIGINAL EVENT CODE: EXP.); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US7934976 BB	20190610	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US7934976 BB	20190610	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US7934976 BB	20190702	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20190503
US7934976 BB	20260213	PEXP		Calculated Patent Term Expiry (PTA 279 days)	

13) Family number: 55406339 (US2013341372 AA)

Title: **CELL** CUTTING DEVICE AND **CELL** CUTTING METHOD

Abstract: A **cell** cutting device and a **cell** cutting method are disclosed. The **cell** cutting device includes a loading stage configured to load a **display** sheet including a plurality of **display** **cells**, a rotation driving unit connected to the loading stage and configured to rotate the loading stage and to separate the **display** sheet into the plurality of **display** **cells**, and a position change unit connected to the loading stage and configured to change a position of the loading stage.

Classifications:
International (IPC 8-9): B26D1/11 B26D3/00 B26D7/01 B26F3/00 C03B33/00 C03B33/033 G02F1/13 G02F1/1333 H01L21/304
CPC: B65G2249/04 C03B33/033 G02F1/1303 G02F1/133351 Y10T225/12 Y10T225/325 Y10T225/329
US: 1/1 225/2 225/96.5 225/97 83/13



Family:

Publication number	Publication date	Application number	Application date
CN103508665 A	20140115	CN201310074186	20130308
CN103508665 B	20180413	CN201310074186	20130308
KR102048921 B1	20191127	KR20120066317	20120620
KR20130142791 A	20131230	KR20120066317	20120620
TW201401353 A	20140101	TW20120143560	20121121
TWI594311 B	20170801	TW20120143560	20121121
US2013341372 AA	20131226	US20120662099	20121026
US10640413 BB	20200505	US20160296985	20161018
US2017050876 AA	20170223	US20160296985	20161018

Priority:

KR20120066317 20120620 US20120662009 20121026 US20120662099 20121026 US20160296985 20161018

Probable Assignee: SAMSUNG DISPLAY CO LTD
Assignee(s): (std): SAMSUNG DISPLAY CO LTD
Assignee(s): SAMSUNG DISPLAY CO
Inventor(s): (std): DAE SEUNG MUN ; JAE PIL LEE ; LEE JAE PIL ; MUN DAE SEUNG ; MYEONG LYEOL YU ; YU MYEONG LYEOL
Agent(s): LEWIS ROCA ROTHGERBER CHRISTIE LLP

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
CN103508665 A	20140115	LSPB	+	published / reissued	
CN103508665 A	20140115	LSPB	+C06	PUBLICATION	
CN103508665 A	20150722		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
CN103508665 B	20180413	LSGT	+	granted / extensions (spc, cpc, pte)	
CN103508665 B	20180413	LSGT	+GR01	PATENT GRANT	
CN103508665 B	20330308	PEXP		Calculated Patent Term Expiry	
KR102048921 B1	20191127	LSGT	+	granted / extensions (spc, cpc, pte)	
KR102048921 B1	20320620	PEXP		Calculated Patent Term Expiry	
KR20130142791 A	20120725	LSAS	N231	NOTIFICATION OF CHANGE OF APPLICANT	
KR20130142791 A	20131230	LSPB	+	published / reissued	
KR20130142791 A	20170619	LSES	A201	REQUEST FOR EXAMINATION	

KR20130142791 A	20181109	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR20130142791 A	20181228	LSRE	AMND	AMENDMENT	
KR20130142791 A	20190410	LSRV	-E601	DECISION TO REFUSE APPLICATION	
KR20130142791 A	20190508	LSRE	AMND	AMENDMENT	
KR20130142791 A	20190601	LSRV	-E90F	NOTIFICATION OF REASON FOR FINAL REFUSAL	
KR20130142791 A	20190726	LSRE	AMND	AMENDMENT	
KR20130142791 A	20190821	LSGT	+X701	DECISION TO GRANT (AFTER RE-EXAMINATION)	
KR20130142791 A	20191120	LSGT	+GRNT	WRITTEN DECISION TO GRANT	
TW201401353 A	20140101	LSPB	+	published / reissued	
TWI594311 B	20170801	LSGT	+	granted / extensions (spc, cpc, pte)	
TWI594311 B	20321121	PEXP		Calculated Patent Term Expiry	
US10640413 BB	20200505	LSGT	+	granted / extensions (spc, cpc, pte)	
US10640413 BB	20330101	PEXP		Calculated Patent Term Expiry (PTA 67 days)	
US2013341372 AA	20121029	LSAS	AS	ASSIGNMENT	Effective date: 20121012 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:LEE, JAE-PIL;YU, MYEONG-LYEOL;MUN, DAE-SEUNG;REEL/FRAME:029206/0267 Owner: SAMSUNG DISPLAY CO., LTD., KOREA, REPUBLIC OF PartyType: owner
US2013341372 AA	20131226	LSPB	+	published / reissued	
US2013341372 AA	20151029		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2013341372 AA	20151109		FRM1	Final Rejection Mailed	
US2013341372 AA	20170404	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2013341372 AA	20170404		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2017050876 AA	20161019	LSAS	AS	ASSIGNMENT	Effective date: 20121012 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:LEE, JAE-PIL;YU, MYEONG-LYEOL;MUN, DAE-SEUNG;REEL/FRAME:040068/0498 Owner: SAMSUNG DISPLAY CO., LTD., KOREA, REPUBLIC OF PartyType: owner
US2017050876 AA	20170223	LSPB	+	published / reissued	
US2017050876 AA	20170309		RFE1	Docketed New Case - Ready for Examination	
US2017050876 AA	20180221	LSES	NFA1	Non Final Action Mailed	
US2017050876 AA	20180629	LSES	NFA1	Non Final Action Mailed	
US2017050876 AA	20190104		FRM1	Final Rejection Mailed	
US2017050876 AA	20190307		RSP1	Response after Final Action Forwarded to Examiner	
US2017050876 AA	20190314	LSES	ADV1	Advisory Action	

				Mailed	
US2017050876 AA	20190314		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: ADVISORY ACTION MAILED
US2017050876 AA	20190415		RFE1	Docketed New Case - Ready for Examination	
US2017050876 AA	20190415		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2017050876 AA	20190503	LSES	NFA1	Non Final Action Mailed	
US2017050876 AA	20190503		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NON FINAL ACTION MAILED
US2017050876 AA	20190803		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2017050876 AA	20190803		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER
US2017050876 AA	20190916		FRM1	Final Rejection Mailed	
US2017050876 AA	20190916		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: FINAL REJECTION MAILED
US2017050876 AA	20191119		RFE1	Docketed New Case - Ready for Examination	
US2017050876 AA	20191119		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2017050876 AA	20191231	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2017050876 AA	20191231		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NOTICE OF ALLOWANCE MAILED -- APPLICATION RECEIVED IN OFFICE OF PUBLICATIONS
US2017050876 AA	20200415	LSGT	PAT1	Patented Case	
US2017050876 AA	20200415	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE

14) Family number: 48164568 (US2012120380 AA)

Title: LOW AND HIGH PRESSURE PROXIMITY SENSORS

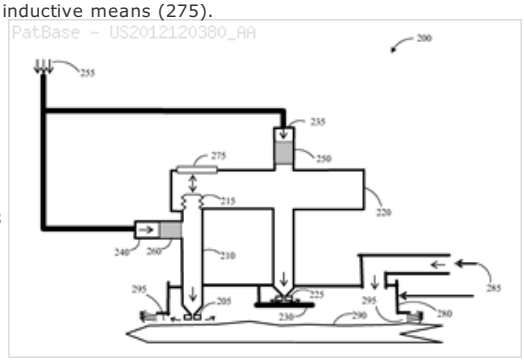
Abstract: A fluid proximity sensor for surface measurements having a measurement chamber (210) with a measurement nozzle (205), a reference chamber (220) with a reference nozzle (225), and a diaphragm (215) forming an interface between the reference chamber and the measurement chamber. A shroud (280) that encloses the measurement nozzle and reference nozzle provides a peripheral gap (295) between the shroud and a work surface (290) being measured. By connecting either a partial vacuum supply or a partial fluid supply to the shroud, the internal shroud pressure can be raised or lowered and thus the gain-frequency operating regime of the proximity sensor optimized Movement of the diaphragm in response to differential pressure changes can be sensed by optical, capacitive or inductive means (275).

Classifications:

International (IPC 8-9): B26F1/00 B26F1/40 B26F1/44 B29D11/00 B32B27/00 B32B27/30 B32B27/32 C08F2/46 C08F220/14 C08F220/28 C08F222/10 C08F236/20 C08J5/18 C08L33/08 C08L33/14 F21V8/00 F21Y101/02 G01B13/12 G01L13/02 G02B1/04 G02B6/00 G02F1/13357 G03B27/42 G03F7/20 G03F9/00 G09F13/18 H01L21/027

CPC: B26F1/00 B26F1/40 B26F2001/4418 B26F2001/4427 C08F220/14 C08F222/1006 C08J5/18 G02B1/04 Y10T428/24843 Y10T428/26 Y10T428/31855 G01B13/12 G03F9/7057 C08F2222/1013 C08F2222/108 C08L33/00

US: 1/1 264/2.7 264/2.700S 355/53 355/53P 362/611 362/611S 362/612 362/612P 428/200 428/200S 428/220 428/332 428/500 520/1 522/1 522/178 522/182 522/183 526/320 526/320S 73/716 73/716S



Family:

Publication number	Publication date	Application number	Application date
CN102472614 A	20120523	CN201080030003	20100615
CN102472614 B	20150401	CN201080030003	20100615
CN102471507 A	20120523	CN201080031422	20100709
CN102471507 B	20141224	CN201080031422	20100709
DE602010030023 D1	20160225	DE201060030023T	20100709
EP2455417 A1	20120523	EP20100799778	20100709
EP2455417 A4	20140521	EP20100799778	20100709
EP2455417 B1	20160106	EP20100799778	20100709
JP2011007720 A1	20121227	JP20100527675T	20100709
JP5732852 B1	20150610	JP20100527675T	20100709
JP2013501213 T2	20130110	JP20120522056T	20100615
JP5669841 B2	20150218	JP20120522056T	20100615
KR101697805 B1	20170118	KR20127003572	20100709
KR20120051683 A	20120522	KR20127003572	20100709
KR101929864 B1	20181217	KR20127005220	20100615
KR20120053019 A	20120524	KR20127005220	20100615
NL2004889 A1	20110202	NL20102004889	20100615
TW201109620 A	20110316	TW20100121550	20100630
TWI425185 B	20140201	TW20100121550	20100630
TW201111435 A	20110401	TW20100123104	20100714
TWI483986 B	20150511	TW20100123104	20100714
US2012120380 AA	20120517	US20100378395	20100615
US9358696 BB	20160607	US20100378395	20100615
US2012127757 AA	20120524	US20100384048	20100709
US8795843 BB	20140805	US20100384048	20100709
WO11012368 A1	20110203	WO2010EP58335	20100615
WO11007720 A1	20110120	WO2010JP61659	20100709

Priority:

JP20090166045 20090714 US20090230189P 20090731 JP20100001189 20100106
WO2010EP58335 20100615 US20100378395 20100615 WO2010JP61659 20100709
EP20100799778 20100709 JP20100527675 20100709

Probable Assignee: MITSUBISHI CHEMICAL CORP

Assignee(s) (std): ASML HOLDING NV ; FUJIYAMA KOUSUKE ; KONOKAWA YUUHEI ; LYONS JOSEPH ; LYONS JOSEPH H ; MITSUBISHI RAYON CO ; NABESHIMA YASUHIKO ; SATOU YOSHIAKI ; YAMASHITA TOMOYOSHI

Assignee(s): MITSUBISHI CHEMICAL CORP ; MITSUBISHI RAYON CO LTD

Inventor(s) (std): FUJIYAMA KOUSUKE ; JOSEPH LYONS ; KONOKAWA YUUHEI ; KOUSUKE FUJIYAMA ; LYONS JOSEPH ; LYONS JOSEPH H ; NABESHIMA YASUHIKO ; SATOU YOSHIAKI ; TOMOYOSHI YAMASHITA ; YAMASHITA TOMOYOSHI ; YASUHIKO NABESHIMA ; YOSHIAKI SATOU ; YUUHEI KONOKAWA

Agent(s): MIYAZAKI TERUO ET AL; OBLON SPIVAK MCCLELLAND MAIER AND NEUSTADT LLP; SLENDERS PETER; STERNE KESSLER GOLDSTEIN AND FOX PLLC; TER MEER STEINMEISTER AND PARTNER; TER MEER STEINMEISTER AND PARTNER GBR; TER MEER STEINMEISTER AND PARTNER PATENTANWAELTE MBB

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

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details

CN102471507 A	20120523	LSPB	+	published / reissued	
CN102471507 A	20120523	LSPB	+C06	PUBLICATION	
CN102471507 A	20120523	LSPB	PB01	公开	Text: 公开 (Disclosure)
CN102471507 A	20120704		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
CN102471507 A	20120704		SE01	实质审查请求的生效	Text: 实质审查的生效 (Force of substantive review)
CN102471507 B	20141224	LSGT	+	granted / extensions (spc, cpc, pte)	
CN102471507 B	20141224	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN102471507 B	20141224	LSGT	+GR01	授权	Text: 授权 (Authorization)
CN102471507 B	20170908	LSAS	CP01	CHANGE IN THE NAME OR TITLE OF A PATENT HOLDER	
CN102471507 B	20170908	LSAS	CP01	专利权人姓名或者名称的变更	Patentee After Change: 三菱化学株式会社 (MITSUBISHI CHEMICAL CORP) Patentee Before Change: 三菱丽阳株式会社 (MITSUBISHI RAYON CO LTD) Text: 专利权人的姓名或者名称、地址的变更 (The name or address of a patentee)
CN102471507 B	20171222		CP02	CHANGE IN THE ADDRESS OF A PATENT HOLDER	
CN102471507 B	20171222		CP02	专利权人地址的变更	Patentee After Change: 三菱化学株式会社 (MITSUBISHI CHEMICAL CORP) Patentee Before Change: 三菱化学株式会社 (MITSUBISHI CHEMICAL CORP) Text: 专利权人的姓名或者名称、地址的变更 (The name or address of a patentee)
CN102471507 B	20190628	LSLE	-CF01	TERMINATION OF PATENT RIGHT DUE TO NON-PAYMENT OF ANNUAL FEE	
CN102471507 B	20190628	LSLE	-CF01	未缴年费专利权终止	Effective date: 20180709 Text: 专利权的终止 (Termination of Patent Right)
CN102471507 B	20300709	PEXP		Calculated Patent Term Expiry	
CN102472614 A	20120523	LSPB	+	published / reissued	
CN102472614 A	20120523	LSPB	+C06	PUBLICATION	
CN102472614 A	20120905		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
CN102472614 A	20130220		ERR	GAZETTE CORRECTION	
CN102472614 A	20130220		ERR	GAZETTE CORRECTION	Text: ADD 2012.01.04 : 2011.12.31
CN102472614 A	20130220	LSRE	RECT	RECTIFICATION	
CN102472614 B	20150401	LSGT	+	granted / extensions (spc, cpc, pte)	
CN102472614 B	20150401	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN102472614 B	20300615	PEXP		Calculated Patent Term Expiry	
DE602010030023 D1	20140410		R079	AMENDMENT OF IPC MAIN CLASS	ClassificationScheme: IPC ClassificationSymbol: C08J0005180000 Text: PREVIOUS MAIN CLASS: C08J0005180000
DE602010030023 D1	20171214	LSAS	R081	CHANGE OF APPLICANT/PATENTEE	OldParty: Mitsubishi Rayon Co., Ltd., Tokio/Tokyo, JP Owner: Mitsubishi Chemical Corporation, Tokyo, JP PartyType: Owner
DE602010030023 D1	20190201	LSDW	-R119	APPLICATION DEEMED WITHDRAWN, OR IP RIGHT LAPSED, DUE TO NON-PAYMENT OF RENEWAL FEE	
EP2455417 A1	20120523	LSPB	+	published / reissued	
EP2455417 A1	20120523	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20120209

EP2455417 A1	20120523		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AL 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
EP2455417 A1	20121024		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP2455417 A1	20140514		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: C08F 220/14 20060101ALI20140410BHEP
EP2455417 A1	20140514		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: G02F 1/13357 20060101ALI20140410BHEP
EP2455417 A1	20140514		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: C08F 220/28 20060101ALI20140410BHEP
EP2455417 A1	20140514		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: C08J 5/18 20060101AFI20140410BHEP
EP2455417 A1	20140514		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: B26F 1/40 20060101ALI20140410BHEP
EP2455417 A1	20140514		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: C08F 222/10 20060101ALI20140410BHEP
EP2455417 A1	20161031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20160714 Year of fee payment: 7 Country of Ref document: DE
EP2455417 A4	20140521	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20140417
EP2455417 A4	20150318	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20150217
EP2455417 A4	20150819	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	Effective date: 20150723
EP2455417 A4	20151216	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	Owner: MITSUBISHI RAYON CO., LTD. PartyType: owner
EP2455417 A4	20151216		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: SATOU, YOSHIAKI PartyType: inventor
EP2455417 A4	20151216		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: NABESHIMA, YASUHIKO PartyType: inventor
EP2455417 A4	20151216		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: YAMASHITA, TOMOYOSHI PartyType: inventor
EP2455417 A4	20151216		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: KONOKAWA, YUUHEI PartyType: inventor
EP2455417 A4	20151216		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: FUJIYAMA, KOUSUKE PartyType: inventor
EP2455417 B1	20160106	LSGT	+	granted / extensions (spc, cpc, pte)	
EP2455417 B1	20160106		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: AL 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
EP2455417 B1	20160106	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: GB Ref legal event code: FG4D
EP2455417 B1	20160115	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: EP
EP2455417 B1	20160210	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: IE Ref legal event code: FG4D
EP2455417 B1	20160215	LSNP	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20160215 Kind code of Ref document: T Ref country code: AT Ref document number: 768829 Ref legal event code: REF

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EP2455417 B1	20160225	LSPB	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref document number: 602010030023 Ref legal event code: R096 Country of Ref document: DE
EP2455417 B1	20160510	LSRV	REG	REFERENCE TO A NATIONAL CODE	Ref country code: LT Ref legal event code: MG4D
EP2455417 B1	20160511		REG	REFERENCE TO A NATIONAL CODE	Effective date: 20160106 Ref country code: NL Ref legal event code: MP
EP2455417 B1	20160515	LSRV	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20160106 Kind code of Ref document: T Ref country code: AT Ref document number: 768829 Ref legal event code: MK05 Country of Ref document: AT
EP2455417 B1	20160630	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160106 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: NL
EP2455417 B1	20160729	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160106 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: ES
EP2455417 B1	20160729	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160106 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: HR
EP2455417 B1	20160729	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160407 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: GR
EP2455417 B1	20160729	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160106 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: FI
EP2455417 B1	20160729	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160406 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: NO
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EP2455417 B1	20160831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160106 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: LT
EP2455417 B1	20160831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160106 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: PL
EP2455417 B1	20160831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM	Lapsed date: 20160106 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE

				NATIONAL OFFICE TO EPO]	WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SE
EP2455417 B1	20160831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160106 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: AT
EP2455417 B1	20160831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160506 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: PT
EP2455417 B1	20160831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160506 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: IS
EP2455417 B1	20160831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160106 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: LV
EP2455417 B1	20161007	LSRE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref document number: 602010030023 Ref legal event code: R097 Country of Ref document: DE
EP2455417 B1	20161031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160106 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: DK
EP2455417 B1	20161031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160106 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: EE
EP2455417 B1	20161130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160106 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SK
EP2455417 B1	20161130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160106 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: RO
EP2455417 B1	20161130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160106 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SM
EP2455417 B1	20161130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160106 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: CZ
EP2455417 B1	20161214	LSGT	+26N	NO OPPOSITION FILED	Effective date: 20161007
EP2455417 B1	20161230	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM	Lapsed date: 20160106 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE

				NATIONAL OFFICE TO EPO]	WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: BE
EP2455417 B1	20170228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160106 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SI
EP2455417 B1	20170228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160406 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: BG
EP2455417 B1	20170228	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: PL
EP2455417 B1	20170322	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	Effective date: 20160709 Ref country code: EP
EP2455417 B1	20170331	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160106 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: MC
EP2455417 B1	20170428	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160801 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: FR
EP2455417 B1	20170428	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160731 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: LI
EP2455417 B1	20170428	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160731 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: CH
EP2455417 B1	20170428	LSLE	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20170331 Ref country code: FR Ref legal event code: ST
EP2455417 B1	20170503	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: IE Ref legal event code: MM4A
EP2455417 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160709 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: GB
EP2455417 B1	20170731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160709 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: IE
EP2455417 B1	20170831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160709 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: LU
EP2455417 B1	20171031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20170705 Year of fee payment: 8 Country of Ref document: DE
EP2455417 B1	20171214		REG	REFERENCE TO A NATIONAL CODE	PartyType: representative Ref country code: DE Ref document number: 602010030023 Ref legal event code: R082 Representative: TER MEER STEINMEISTER & PARTNER

					PATENTANWAELTE, DE Country of Ref document: DE
EP2455417 B1	20171214	LSAS	REG	REFERENCE TO A NATIONAL CODE	OldParty: FORMER OWNER: MITSUBISHI RAYON CO., LTD., TOKIO/TOKYO, JP Owner: MITSUBISHI CHEMICAL CORPORATION, JP PartyType: owner Ref country code: DE Ref document number: 602010030023 Ref legal event code: R081 Country of Ref document: DE
EP2455417 B1	20180531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20100709 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT; INVALID AB INITIO Country of Ref document: HU
EP2455417 B1	20180531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160106 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: CY
EP2455417 B1	20180629	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160106 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: MK
EP2455417 B1	20180629	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160106 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: TR
EP2455417 B1	20180629	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160731 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: MT
EP2455417 B1	20181031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160106 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: AL
EP2455417 B1	20190201	LSDW	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref document number: 602010030023 Ref legal event code: R119 Country of Ref document: DE
EP2455417 B1	20190430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190201 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: DE
EP2455417 B1	20300709	PEXP		Calculated Patent Term Expiry	
JP2011007720 A1	20121227	LSPB	+	published / reissued	
JP2011007720 A1	20130626	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Effective date: 20130625 Text: JAPANESE INTERMEDIATE CODE: A621
JP2011007720 A1	20140522		RD04	NOTIFICATION OF RESIGNATION OF POWER OF ATTORNEY	Effective date: 20140521 Text: JAPANESE INTERMEDIATE CODE: A7424
JP2011007720 A1	20140709	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20140708 Text: JAPANESE INTERMEDIATE CODE: A131
JP2011007720 A1	20140904	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20140903 Text: JAPANESE INTERMEDIATE CODE: A523
JP2011007720 A1	20150310	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	

JP2011007720 A1	20150318	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Effective date: 20150317 Text: JAPANESE INTERMEDIATE CODE: A01
JP2011007720 A1	20150420	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	Effective date: 20150330 Text: JAPANESE INTERMEDIATE CODE: A61
JP2013501213 T2	20130110	LSPB	+	published / reissued	
JP2013501213 T2	20130615	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20130614 Text: JAPANESE INTERMEDIATE CODE: A523
JP2013501213 T2	20130615	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Effective date: 20130614 Text: JAPANESE INTERMEDIATE CODE: A621
JP2013501213 T2	20140415	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20140414 Text: JAPANESE INTERMEDIATE CODE: A131
JP2013501213 T2	20140705	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20140704 Text: JAPANESE INTERMEDIATE CODE: A523
JP2013501213 T2	20141210	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2013501213 T2	20141215	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Effective date: 20141212 Text: JAPANESE INTERMEDIATE CODE: A01
JP2013501213 T2	20141225	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	Effective date: 20141216 Text: JAPANESE INTERMEDIATE CODE: A61
JP5669841 B2	20141218	LSGT	+A01	特許査定書	
JP5669841 B2	20141222	LSFE	R100	特許料納付書	
JP5669841 B2	20141226	LSGT	+R150	特許証	
JP5669841 B2	20150218	LSGT	+	granted / extensions (spc, cpc, pte)	
JP5669841 B2	20171221	LSFE	R20	特許料納付書	
JP5669841 B2	20171226	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP5669841 B2	20171226	LSFE	+R250	年金領収書, 年金領収書 (分納)	
JP5669841 B2	20181220	LSFE	R20	特許料納付書	
JP5669841 B2	20181225	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP5669841 B2	20181225	LSFE	+R250	年金領収書, 年金領収書 (分納)	
JP5669841 B2	20191219	LSFE	R20	特許料納付書	Effective date: 20191217
JP5669841 B2	20191224	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP5669841 B2	20191224	LSFE	+R250	年金領収書, 年金領収書 (分納)	Effective date: 20200110
JP5669841 B2	20300615	PEXP		Calculated Patent Term Expiry	
JP5732852 B1	20150319	LSGT	+A01	特許査定書	
JP5732852 B1	20150319	LSFE	R1001	特許料納付書 (包括納付)	
JP5732852 B1	20150424	LSGT	+R151	特許登録通知書 (一括)	
JP5732852 B1	20150610	LSGT	+	granted / extensions (spc, cpc, pte)	
JP5732852 B1	20150916	LSFE	R2521	自動納付登録通知書	
JP5732852 B1	20170926	LSAS	R313533	表示変更登録申請書 (住所)	
JP5732852 B1	20171004	LSAS	R350	移転登録済通知書	
JP5732852 B1	20171206	LSFE	R2523	自動納付終了通知書	
JP5732852 B1	20300709	PEXP		Calculated Patent Term Expiry	
KR101697805 B1	20170118	LSGT	+	granted / extensions (spc, cpc, pte)	
KR101697805 B1	20300709	PEXP		Calculated Patent Term Expiry	
KR101929864 B1	20181217	LSGT	+	granted / extensions	

				(spc, cpc, pte)	
KR101929864 B1	20300615	PEXP		Calculated Patent Term Expiry	
KR20120051683 A	20120522	LSPB	+	published / reissued	
KR20120051683 A	20150326	LSES	A201	REQUEST FOR EXAMINATION	
KR20120051683 A	20160520	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR20120051683 A	20160720	LSRE	AMND	AMENDMENT	
KR20120051683 A	20161031	LSRV	-E601	DECISION TO REFUSE APPLICATION	
KR20120051683 A	20161130	LSRE	AMND	AMENDMENT	
KR20120051683 A	20161226	LSGT	+X701	DECISION TO GRANT (AFTER RE-EXAMINATION)	
KR20120051683 A	20170112	LSGT	+GRNT	WRITTEN DECISION TO GRANT	
KR20120053019 A	20120302	LSRE	AMND	AMENDMENT	
KR20120053019 A	20120524	LSPB	+	published / reissued	
KR20120053019 A	20150615	LSES	A201	REQUEST FOR EXAMINATION	
KR20120053019 A	20160415	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR20120053019 A	20160615	LSRE	AMND	AMENDMENT	
KR20120053019 A	20161026	LSRV	-E601	DECISION TO REFUSE APPLICATION	
KR20120053019 A	20161125	LSRE	AMND	AMENDMENT	
KR20120053019 A	20170113		J201	REQUEST FOR TRIAL AGAINST REFUSAL DECISION	
KR20120053019 A	20181017		J301	TRIAL DECISION	Effective date: 20181017 Text: TRIAL NUMBER: 2017101000204; TRIAL DECISION FOR APPEAL AGAINST DECISION TO DECLINE REFUSAL REQUESTED 20170113
KR20120053019 A	20181018		S901	EXAMINATION BY REMAND OF REVOCATION	
KR20120053019 A	20181105	LSGT	+GRNO	DECISION TO GRANT (AFTER OPPOSITION)	
KR20120053019 A	20181211	LSGT	+GRNT	WRITTEN DECISION TO GRANT	
NL2004889 A1	20110202	LSPB	+	published / reissued	
NL2004889 A1	20110406	LSWD	-WDAP	PATENT APPLICATION WITHDRAWN	Effective date: 20110330
TW201109620 A	20110316	LSPB	+	published / reissued	
TW201111435 A	20110401	LSPB	+	published / reissued	
TWI425185 B	20140201	LSGT	+	granted / extensions (spc, cpc, pte)	
TWI425185 B	20300630	PEXP		Calculated Patent Term Expiry	
TWI483986 B	20150511	LSGT	+	granted / extensions (spc, cpc, pte)	
TWI483986 B	20190211	LSLE	-MM4A	ANNULMENT OR LAPSE OF PATENT DUE TO NON-PAYMENT OF FEES	
TWI483986 B	20300714	PEXP		Calculated Patent Term Expiry	
US2012120380 AA	20120517	LSPB	+	published / reissued	
US2012120380 AA	20160518	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2012127757 AA	20120524	LSPB	+	published / reissued	
US8795843 BB	20120118	LSAS	AS	ASSIGNMENT	Effective date: 20120105 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:KONOKAWA, YUUHEI;SATOU, YOSHIAKI;FUJIYAMA,

					KOUSUKE;AND OTHERS;REEL/FRAME:027550/0500 Owner: MITSUBISHI RAYON CO., LTD., JAPAN PartyType: owner
US8795843 BB	20140716	LSGT	PAT1	Patented Case	
US8795843 BB	20140805	LSGT	+	granted / extensions (spc, cpc, pte)	
US8795843 BB	20170905	LSAS	AS	ASSIGNMENT	Effective date: 20170401 OldParty: CHANGE OF NAME;ASSIGNOR:MITSUBISHI RAYON CO., LTD.;REEL/FRAME:043750/0834 Owner: MITSUBISHI CHEMICAL CORPORATION, JAPAN PartyType: owner
US8795843 BB	20180319	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.)
US8795843 BB	20180910	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	Text: PATENT EXPIRED FOR FAILURE TO PAY MAINTENANCE FEES (ORIGINAL EVENT CODE: EXP.); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US8795843 BB	20180910	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US8795843 BB	20180910	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US8795843 BB	20181002	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20180805
US8795843 BB	20310327	PEXP		Calculated Patent Term Expiry (PTA 261 days and a terminal disclaimer has been filed)	
US9358696 BB	20111215	LSAS	AS	ASSIGNMENT	Effective date: 20091021 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:LYONS, JOSEPH H.;REEL/FRAME:027392/0753 Owner: ASML HOLDING N.V., NETHERLANDS PartyType: owner
US9358696 BB	20150924	LSES	NFA1	Non Final Action Mailed	
US9358696 BB	20160518	LSGT	PAT1	Patented Case	
US9358696 BB	20160607	LSGT	+	granted / extensions (spc, cpc, pte)	
US9358696 BB	20191126	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 4
US9358696 BB	20320529	PEXP		Calculated Patent Term Expiry (PTA 714 days)	
WO11007720 A1	20100709	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 201080031422.5 Country of Ref document: CN
WO11007720 A1	20100714	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 2010527675 Country of Ref document: JP
WO11007720 A1	20110120	LSPB	+	published / reissued	
WO11007720 A1	20110309		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A1 Ref document number: 10799778 Country of Ref document: EP
WO11007720 A1	20120113	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 13384048 Country of Ref document: US
WO11007720 A1	20120116	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO11007720 A1	20120209	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2010799778 Country of Ref document: EP
WO11007720 A1	20120210	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 20127003572 Country of Ref document: KR
WO11012368 A1	20100615	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO	Ref document number: 201080030003.X

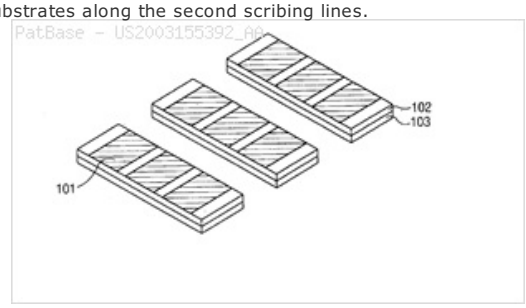
				NATIONAL PHASE	Country of Ref document: CN
WO11012368 A1	20110203	LSPB	+	published / reissued	
WO11012368 A1	20110323		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A1 Ref document number: 10725423 Country of Ref document: EP
WO11012368 A1	20111215	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 13378395 Country of Ref document: US
WO11012368 A1	20120124	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2012522056 Country of Ref document: JP
WO11012368 A1	20120131	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO11012368 A1	20120228	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 20127005220 Country of Ref document: KR
WO11012368 A1	20120829	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	Kind code of Ref document: A1 Ref document number: 10725423 Country of Ref document: EP

15) Family number: 28994060 (US2003155392 AA)

Title: APPARATUS FOR CUTTING LIQUID CRYSTAL **DISPLAY** PANELS AND CUTTING METHOD USING THE SAME

Abstract: An apparatus for cutting liquid crystal **display** panels and a cutting method using the same are disclosed in the present invention. The apparatus includes a first scribing unit sequentially forming a plurality of first scribing lines on surfaces of first and second mother substrates having unit liquid crystal **display** panels and cutting the first and second mother substrates along the first scribing lines, a first turning unit turning the cut first and second mother substrates by 90 degrees, and at least two second scribing units sequentially forming a plurality of second scribing lines on the surfaces of the first and second mother substrates and cutting the first and second mother substrates along the second scribing lines.

Classifications:
International (IPC 8-9): B26F1/00 B26F1/18 B26F3/00 C03B33/00 C03B33/03 C03B33/033 C03B33/037 G02F1/13 G02F1/1333 H01L21/02 H01L21/301
International (IPC 1-7): B26F1/18 B26F3/00 C03B33/033 C03B33/037 G02F1/13 G02F1/1333 H01L2/100 H01L21/00
CPC: B26F3/002 G02F1/133351 Y10T225/12 Y10T225/371
US: 225/103 225/2 349/158 349/187 438/33



Family:

Publication number	Publication date	Application number	Application date
CN1277666 C	20061004	CN20031003121	20030130
CN1439497 A	20030903	CN20031003121	20030130
JP2003292333 A2	20031015	JP20030035995	20030214
JP4187543 B2	20081126	JP20030035995	20030214
KR100832292 B1	20080526	KR20020008806	20020219
KR20030068966 A	20030825	KR20020008806	20020219
US2003155392 AA	20030821	US20020327199	20021224
US6795154 BB	20040921	US20020327199	20021224

Priority:
KR20020008806 20020219

Probable Assignee: LG DISPLAY CO LTD

Assignee(s): (std): LG DISPLAY ; LG PHILIPS LCD CO LTD

Assignee(s): LG DISPLAY CO LTD ; LG PHILIPS LCD CO ; LG PHILLIPS LCD CO LTD

Inventor(s): (std): EO JI HEUM ; HUM OH CHI ; SHIN SANG SEON ; SHIN SANG SUN ; SON OH CHI HUM SIN SANG ; SON SIN SANG ; UH JI HEUM

Inventor(s): JI HEUM UH ; OH CHI HUM ; OH CHI HUM SIN SANG SON ; SANG SUN SHIN ; SIN SANG SON

Agent(s): ASAHI NOBUMITSU; FUJINO IKUO; KATO NOBUAKI; MORGAN LEWIS AND BOCKIUS LLP; MOTOMIYA TERUHISA; OCHI TAKAO; OKABE MASAO; TAKAHASHI SEIICHIRO; TAKANASHI NORIMICHI; UBUKATA KAZUO; USUI SHINICHI; YOSHIZAWA HIROSHI

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
CN1277666 C	20061004	LSGT	+	granted / extensions (spc, cpc, pte)	
CN1277666 C	20061004	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN1277666 C	20061004	LSGT	+GR01	授权	Text: 授权 (Authorization)
CN1277666 C	20080723	LSAS	C56	CHANGE IN THE NAME OR ADDRESS OF THE PATENTEE	
CN1277666 C	20080723	LSAS	C56	CHANGE IN THE NAME OR ADDRESS OF THE PATENTEE	OldParty: FORMER NAME OR ADDRESS: LG. PHILIP LCD CO., LTD. Owner: LG DISPLAY CO., LTD. PartyType: owner
CN1277666 C	20080723	LSAS	CP01	专利权人姓名或者名称的变更	Patentee After Change: 乐金显示有限公司 (LG DISPLAY CO LTD) Patentee Before Change: LG.菲利浦LCD株式会社 (Lg Philips LCD Co., Ltd.) Text: 专利权人的姓名或者名称、地址的变更 (The name or address of a patentee)
CN1277666 C	20100331	LSLE	-C19	LAPSE OF PATENT RIGHT DUE TO NON-PAYMENT OF THE ANNUAL FEE	
CN1277666 C	20100331	LSLE	-CF01	未缴年费专利权终止	Text: 专利权的终止(未缴年费专利权终止) (Any cessation of the patent right, termination of the patent right due to failure to pay annual fee))

CN1277666 C	20230130	PEXP		Calculated Patent Term Expiry	
CN1439497 A	20030903	LSPB	+	published / reissued	
CN1439497 A	20030903	LSPB	+C06	PUBLICATION	
CN1439497 A	20030903	LSPB	PB01	公开	Text: 公开 (Disclosure)
CN1439497 A	20050330		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
CN1439497 A	20050330		SE01	实质审查请求的生效	Text: 实质审查的生效 (Force of substantive review)
JP2003292333 A2	20031015	LSPB	+	published / reissued	
JP2003292333 A2	20040618	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Effective date: 20040617 Text: JAPANESE INTERMEDIATE CODE: A621
JP2003292333 A2	20070911	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20070910 Text: JAPANESE INTERMEDIATE CODE: A131
JP2003292333 A2	20071211		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Text: JAPANESE INTERMEDIATE CODE: A601 Effective date: 20071210
JP2003292333 A2	20071214		A602	WRITTEN PERMISSION OF EXTENSION OF TIME	Text: JAPANESE INTERMEDIATE CODE: A602 Effective date: 20071213
JP2003292333 A2	20080111	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20080110 Text: JAPANESE INTERMEDIATE CODE: A523
JP2003292333 A2	20080226	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20080225 Text: JAPANESE INTERMEDIATE CODE: A131
JP2003292333 A2	20080527		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20080526 Text: JAPANESE INTERMEDIATE CODE: A601
JP2003292333 A2	20080530		A602	WRITTEN PERMISSION OF EXTENSION OF TIME	Effective date: 20080529 Text: JAPANESE INTERMEDIATE CODE: A602
JP2003292333 A2	20080626	LSRE	A521	WRITTEN AMENDMENT	Text: JAPANESE INTERMEDIATE CODE: A523 Effective date: 20080625
JP2003292333 A2	20080814	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2003292333 A2	20080821	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Effective date: 20080820 Text: JAPANESE INTERMEDIATE CODE: A01
JP2003292333 A2	20080828	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Text: JAPANESE INTERMEDIATE CODE: A01
JP2003292333 A2	20080918	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	Effective date: 20080909 Text: JAPANESE INTERMEDIATE CODE: A61
JP2003292333 A2	20080922	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 3
JP4187543 B2	20080828	LSGT	+A01	特許査定書	
JP4187543 B2	20080916	LSFE	R100	特許料納付書	
JP4187543 B2	20080919	LSGT	+R150	特許証	
JP4187543 B2	20081126	LSGT	+	granted / extensions (spc, cpc, pte)	
JP4187543 B2	20110721	LSFE	R20	特許料納付書	
JP4187543 B2	20110726	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 4
JP4187543 B2	20110726	LSFE	+R250	年金領収書, 年金領収書 (分納)	
JP4187543 B2	20120802	LSFE	R20	特許料納付書	
JP4187543 B2	20120807	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 5
JP4187543 B2	20120807	LSFE	+R250	年金領収書, 年金領収書	

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JP4187543 B2	20130711	LSFE	R20	特許料納付書	
JP4187543 B2	20130723	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP4187543 B2	20130723	LSFE	+R250	年金領収書, 年金領収書(分納)	
JP4187543 B2	20140814	LSFE	R20	特許料納付書	
JP4187543 B2	20140819	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP4187543 B2	20140819	LSFE	+R250	年金領収書, 年金領収書(分納)	
JP4187543 B2	20150903	LSFE	R20	特許料納付書	
JP4187543 B2	20150908	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP4187543 B2	20150908	LSFE	+R250	年金領収書, 年金領収書(分納)	
JP4187543 B2	20160804	LSFE	R20	特許料納付書	
JP4187543 B2	20160809	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP4187543 B2	20160809	LSFE	+R250	年金領収書, 年金領収書(分納)	
JP4187543 B2	20170803	LSFE	R20	特許料納付書	
JP4187543 B2	20170808	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP4187543 B2	20170808	LSFE	+R250	年金領収書, 年金領収書(分納)	
JP4187543 B2	20180726	LSFE	R20	特許料納付書	
JP4187543 B2	20180731	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP4187543 B2	20180731	LSFE	+R250	年金領収書, 年金領収書(分納)	
JP4187543 B2	20190801	LSFE	R20	特許料納付書	
JP4187543 B2	20190806	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP4187543 B2	20190806	LSFE	+R250	年金領収書, 年金領収書(分納)	
JP4187543 B2	20230214	PEXP		Calculated Patent Term Expiry	
KR100832292 B1	20080526	LSGT	+	granted / extensions (spc, cpc, pte)	
KR100832292 B1	20120329	LSFE	FPAY	ANNUAL FEE PAYMENT	Year of fee payment: 5 Payment date: 20120330
KR100832292 B1	20130328	LSFE	FPAY	ANNUAL FEE PAYMENT	Year of fee payment: 6 Payment date: 20130329
KR100832292 B1	20150429	LSFE	FPAY	ANNUAL FEE PAYMENT	Payment date: 20150429 Year of fee payment: 8
KR100832292 B1	20160428	LSFE	FPAY	ANNUAL FEE PAYMENT	Payment date: 20160428 Year of fee payment: 9
KR100832292 B1	20170413	LSFE	FPAY	ANNUAL FEE PAYMENT	Payment date: 20170413 Year of fee payment: 10
KR100832292 B1	20180416	LSFE	FPAY	ANNUAL FEE PAYMENT	Payment date: 20180416 Year of fee payment: 11
KR100832292 B1	20190417	LSFE	FPAY	ANNUAL FEE PAYMENT	Year of fee payment: 12 Payment date: 20190417
KR100832292 B1	20220219	PEXP		Calculated Patent Term Expiry	
KR20030068966 A	20030825	LSPB	+	published / reissued	
KR20030068966 A	20070209	LSES	A201	REQUEST FOR EXAMINATION	
KR20030068966 A	20071123	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR20030068966 A	20080423	LSGT	+E701	DECISION TO GRANT OR REGISTRATION OF PATENT RIGHT	
KR20030068966 A	20080520	LSGT	+GRNT	WRITTEN DECISION TO GRANT	
US2003155392 AA	20030821	LSPB	+	published / reissued	

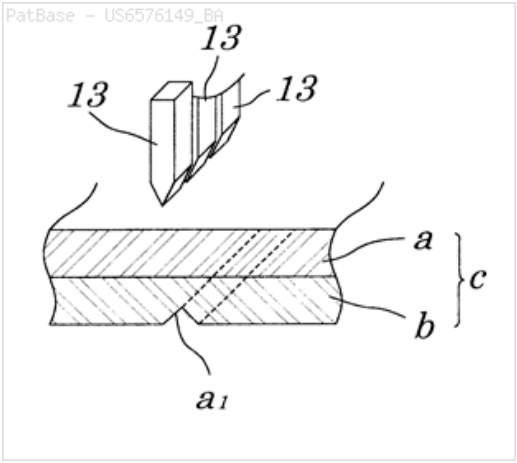
US2003155392 AA	20040902	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US6795154 BB	20021224	LSAS	AS	ASSIGNMENT	Effective date: 20021218 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:UH, JI-HEUM;SHIN, SANG-SUN;REEL/FRAME:013621/0790 Owner: LG.PHILIPS LCD CO., LTD., KOREA, REPUBLIC OF PartyType: owner
US6795154 BB	20040902	LSGT	PAT1	Patented Case	
US6795154 BB	20040921	LSGT	+	granted / extensions (spc, cpc, pte)	
US6795154 BB	20080221	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US6795154 BB	20081027	LSAS	AS	ASSIGNMENT	Effective date: 20080304 OldParty: CHANGE OF NAME;ASSIGNOR:LG.PHILIPS LCD CO., LTD.;REEL/FRAME:021763/0212 Owner: LG DISPLAY CO., LTD., KOREA, REPUBLIC OF PartyType: owner
US6795154 BB	20110922	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US6795154 BB	20160321	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
US6795154 BB	20230319	PEXP		Calculated Patent Term Expiry (PTA 85 days)	

16) Family number: 14029604 (US6576149 BA)

Title: METHOD AND DEVICE FOR PARTING LAMINATED SUBSTRATE FOR LIQUID CRYSTAL **CELL**

Abstract: A method for parting a laminated substrate used for a liquid crystal **cell** and a parting device are provided which are capable of obtaining, at a time of the parting, a parting line being vertical to a face on which a scribe line is formed, thus enabling prevention of a failure in the parting of the laminated substrate. To part the laminated substrate made of a first substrate and a second substrate into a plurality of substrates used for the liquid crystal **cell**, the scribe line is formed on one substrate out of the first substrate and second substrate along a boundary of the substrate used for the liquid crystal **cell** and multiple parting force is applied by timesharing to the other substrate out of the first and second substrates along the scribe line.

Classifications:
International (IPC 8-9): B26F3/00 C03B33/03 C03B33/033 C03B33/07 G02F1/13 G02F1/1333 H01L21/00
International (IPC 1-7): B26F3/00 C30B3/300 C30B33/00 G02F1/13 G02F1/1333
CPC: B65G2249/04 C03B33/03 C03B33/033 C03B33/07 G02F1/133351 H01L21/67092 Y02P40/57 Y10T225/30 Y10T225/307 Y10T225/321 Y10T225/325 Y10T225/329 Y10T225/371
US: 216/23 216/23S 216/24 216/31 216/52 225/103 225/103S 225/93 225/94 225/96 225/96.5 225/96.500P 225/97 438/46 438/460 438/460S 438/462 438/464



Family:

Publication number	Publication date	Application number	Application date
JP2001018198 A2	20010123	JP19990195029	19990708
JP3471664 B2	20031202	JP19990195029	19990708
KR100382803 B1	20030512	KR20000039038	20000708
KR20010015236 A	20010226	KR20000039038	20000708
TW458860 B	20011011	TW20000113515	20000707
US6576149 BA	20030610	US20000612220	20000707
US2003205604 AA	20031106	US20030420705	20030423
US6945443 BB	20050920	US20030420705	20030423

Priority:
JP19990195029 19990708 US20000612220 20000707 US20030420705 20030423

Probable Assignee: INNOLUX CORP
Assignee(s): (std): NEC CORP ; NEC LCD TECHNOLOGIES LTD ; NIPPON ELECTRIC CO
Assignee(s): CHIMEI INNLOLUX CORP ; CHIMEI INNOLUX CORP ; INNOLUX CORP
Inventor(s): (std): MATSUZAWA SUNAO ; MATSUZAWA TADASHI
Inventor(s): TADASHI MATSUZAWA
Agent(s): FOLEY AND LARDNER; FOLEY AND LARDNER LLP; WATANABE KIHEI

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
JP2001018198 A2	20010123	LSPB	+	published / reissued	
JP3471664 B2	20030820	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Text: JAPANESE INTERMEDIATE CODE: A01 Effective date: 20030819
JP3471664 B2	20031202	LSGT	+	granted / extensions (spc, cpc, pte)	
JP3471664 B2	20070904	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 5
JP3471664 B2	20080828	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 5
JP3471664 B2	20080902	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 6

JP3471664 B2	20090827	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 6
JP3471664 B2	20090901	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 7
JP3471664 B2	20100309	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 7
JP3471664 B2	20100309	LSAS	S111	REQUEST FOR CHANGE OF OWNERSHIP OR PART OF OWNERSHIP	Text: JAPANESE INTERMEDIATE CODE: R313113
JP3471664 B2	20100317	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 7
JP3471664 B2	20100317	LSAS	R350	WRITTEN NOTIFICATION OF REGISTRATION OF TRANSFER	Text: JAPANESE INTERMEDIATE CODE: R350
JP3471664 B2	20100831	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 8
JP3471664 B2	20110912	LSLE	-LAPS	CANCELLATION BECAUSE OF NO PAYMENT OF ANNUAL FEES	
JP3471664 B2	20190708	PEXP		Calculated Patent Term Expiry	
KR100382803 B1	20000708	LSES	A201	REQUEST FOR EXAMINATION	
KR100382803 B1	20020430	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR100382803 B1	20030129	LSGT	+E701	DECISION TO GRANT OR REGISTRATION OF PATENT RIGHT	
KR100382803 B1	20030422	LSGT	+GRNT	WRITTEN DECISION TO GRANT	
KR100382803 B1	20030512	LSGT	+	granted / extensions (spc, cpc, pte)	
KR100382803 B1	20130408	LSFE	FPAY	ANNUAL FEE PAYMENT	Year of fee payment: 11 Payment date: 20130409
KR100382803 B1	20140407	LSFE	FPAY	ANNUAL FEE PAYMENT	Payment date: 20140408 Year of fee payment: 12
KR100382803 B1	20160423	LSLE	-LAPS	LAPSE DUE TO UNPAID ANNUAL FEE	
KR100382803 B1	20200708	PEXP		Calculated Patent Term Expiry	
KR20010015236 A	20010226	LSPB	+	published / reissued	
TW458860 B	20011011	LSGT	+	granted / extensions (spc, cpc, pte)	
TW458860 B	20020225	LSGT	+GD4A	ISSUE OF PATENT CERTIFICATE FOR GRANTED INVENTION PATENT	
TW458860 B	20160711	LSLE	-MM4A	ANNULMENT OR LAPSE OF PATENT DUE TO NON-PAYMENT OF FEES	
TW458860 B	20200707	PEXP		Calculated Patent Term Expiry	
US2003205604 AA	20031106	LSPB	+	published / reissued	
US6576149 BA	20000707	LSAS	AS	ASSIGNMENT	Effective date: 20000630 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:MATSUZAWA, TADASHI;REEL/FRAME:010915/0177

					Owner: NEC CORPORATION, JAPAN PartyType: owner
US6576149 BA	20030422	LSAS	AS	ASSIGNMENT	Effective date: 20030401 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:NEC CORPORATION;REEL/FRAME:013988/0035 Owner: NEC LCD TECHNOLOGIES, LTD., JAPAN PartyType: owner
US6576149 BA	20030521	LSGT	PAT1	Patented Case	
US6576149 BA	20030521	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US6576149 BA	20030610	LSGT	+	granted / extensions (spc, cpc, pte)	
US6576149 BA	20031014	LSRE	CC	CERTIFICATE OF CORRECTION	
US6576149 BA	20061117	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US6576149 BA	20100607	LSAS	AS	ASSIGNMENT	Effective date: 20100301 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:NEC LCD TECHNOLOGIES, LTD.;REEL/FRAME:024492/0176 Owner: NEC CORPORATION,JAPAN PartyType: owner
US6576149 BA	20100607	LSAS	AS	ASSIGNMENT	Effective date: 20100301 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:NEC LCD TECHNOLOGIES, LTD.;REEL/FRAME:024492/0176 Owner: NEC CORPORATION, JAPAN PartyType: owner
US6576149 BA	20101109	LSAS	AS	ASSIGNMENT	Effective date: 20101014 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:NEC CORPORATION;REEL/FRAME:025302/0783 Owner: CHIMEI INNLOLUX CORPORATION, TAIWAN PartyType: owner
US6576149 BA	20101210	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US6576149 BA	20110518	LSAS	AS	ASSIGNMENT	Effective date: 20101014 OldParty: CORRECTIVE ASSIGNMENT TO CORRECT THE NAME AND ADDRESS OF THE RECEIVING PARTY PREVIOUSLY RECORDED ON REEL 025302 AND FRAME 0783 ON NOVEMBER 9, 2010;ASSIGNOR:NEC CORPORATION;REEL/FRAME:026296/0825 Owner: CHIMEI INNOLUX CORPORATION, TAIWAN PartyType: owner
US6576149 BA	20140403	LSAS	AS	ASSIGNMENT	Effective date: 20121219 OldParty: CHANGE OF NAME;ASSIGNOR:CHIMEI INNOLUX CORPORATION;REEL/FRAME:032604/0487 Owner: INNOLUX CORPORATION, TAIWAN PartyType: owner
US6576149 BA	20141210	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
US6576149 BA	20201122	PEXP		Calculated Patent Term Expiry (PTA 138 days)	
US6945443 BB	20050831	LSGT	PAT1	Patented Case	
US6945443 BB	20050920	LSGT	+	granted / extensions (spc, cpc, pte)	
US6945443 BB	20080924	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US6945443 BB	20100607	LSAS	AS	ASSIGNMENT	Effective date: 20100301 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:NEC LCD TECHNOLOGIES, LTD.;REEL/FRAME:024492/0176 Owner: NEC CORPORATION,JAPAN PartyType: owner
US6945443 BB	20100607	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:NEC LCD TECHNOLOGIES, LTD.;REEL/FRAME:024492/0176 PartyType: owner Owner: NEC CORPORATION, JAPAN Effective date: 20100301
US6945443 BB	20101109	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:NEC CORPORATION;REEL/FRAME:025302/0783 Owner: CHIMEI INNLOLUX CORPORATION, TAIWAN Effective date: 20101014 PartyType: owner

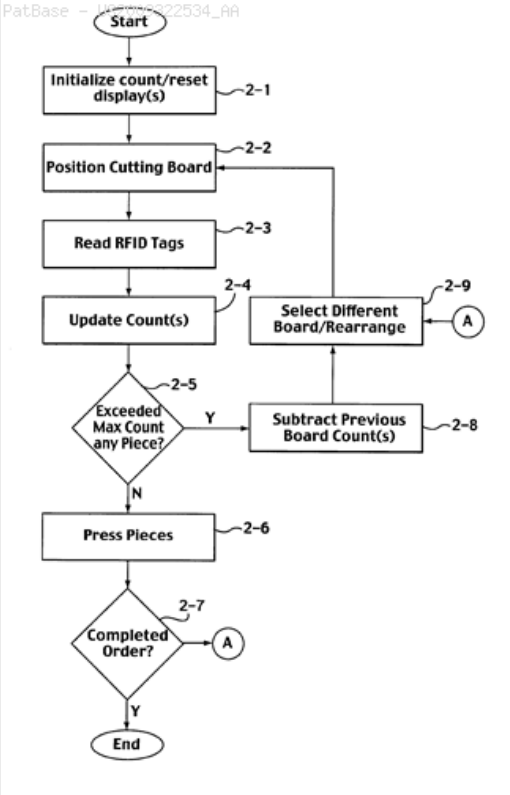
US6945443 BB	20110518	LSAS	AS	ASSIGNMENT	Owner: CHIMEI INNOLUX CORPORATION, TAIWAN OldParty: CORRECTIVE ASSIGNMENT TO CORRECT THE NAME AND ADDRESS OF THE RECEIVING PARTY PREVIOUSLY RECORDED ON REEL 025302 AND FRAME 0783 ON NOVEMBER 9, 2010;ASSIGNOR:NEC CORPORATION;REEL/FRAME:026296/0825 PartyType: owner Effective date: 20101014
US6945443 BB	20130314	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US6945443 BB	20140403	LSAS	AS	ASSIGNMENT	OldParty: CHANGE OF NAME;ASSIGNOR:CHIMEI INNOLUX CORPORATION;REEL/FRAME:032604/0487 PartyType: owner Effective date: 20121219 Owner: INNOLUX CORPORATION, TAIWAN
US6945443 BB	20170428		REMI	MAINTENANCE FEE REMINDER MAILED	
US6945443 BB	20171016	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	Text: PATENT EXPIRED FOR FAILURE TO PAY MAINTENANCE FEES (ORIGINAL EVENT CODE: EXP.)
US6945443 BB	20171016	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US6945443 BB	20171016	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US6945443 BB	20171107	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20170920
US6945443 BB	20200823	PEXP		Calculated Patent Term Expiry (PTA 47 days)	

17) Family number: 41580262 (US2009322534 AA)

Title: SYSTEMS OR METHOD FOR TRACKING DIE USE OR YIELD

Abstract: A company cutting leather pieces for assembly into a desired number of **products**, such as automobile interior components, wishes to cut the number of pieces of each or several patterns that are required to create the desired number of final **products**. The company may also, or alternately, wish to determine the yield of cut **products** from a particular hide. An RFID (Radio Frequency Identification) tag containing information related to a pattern identity associated with each die may be placed onto each die. Dies placed on a hide for cutting may be polled to update a count of each pattern cut or to be cut. A hide may be scanned and fitted with an RFID tag containing information related to the area of the hide. Dies may be placed on the hide and the hide and dies polled to enable a comparison of the area of the hide with the total area of the patterns associated with the dies.

Classifications:
International (IPC 8-9): B26D5/00 B26D7/00 B26D7/27 B26F1/40 B26F1/44 B26F1/46 C14B5/02 G05B19/12 G06Q10/00 G08B13/14
CPC: B26D5/00 B26F1/40 B26F1/44 B26F1/46 C14B5/02 G05B19/128 G05B2219/45137 G05B2219/49302 G06Q10/043
US: 340/539.1 340/568.1 340/572.1 340/572.100P



Family:

Publication number	Publication date	Application number	Application date
CN101528428 A	20090909	CN200780035826	20070828
CN101528428 B	20131204	CN200780035826	20070828
DE602007031730 D1	20130912	DE200760031730T	20070828
EP2056996 A1	20090513	EP20070800500	20070828
EP2056996 A4	20111214	EP20070800500	20070828
EP2056996 B1	20130717	EP20070800500	20070828
MX2009002312 A1	20090313	MX20090002312	20070828
PL2056996 T3	20131231	PL20070800500T	20070828
US2009322534 AA	20091231	US20070439048	20070828
US8193937 BB	20120605	US20070439048	20070828
WO08025129 A1	20080306	WO2007CA01474	20070828

Priority:

US20060840718P 20060826 US20060840718P 20060829 US20060846330P 20060922
US20060840330P 20060922 WO2007CA01474 20070828 EP20070800500 20070828
US20070439048 20070828

Probable Assignee: ONTARIO DIE INT INC

Assignee(s): (std): LEVENE GARY S ; ONTARIO DIE INT INC ; ONTARIO DIE INTERNAT INC

Assignee(s): ONTARIO DIE INTERNATIONAL INC

Inventor(s): (std): LEVENE GARY S

Inventor(s): GARY S LEVENE ; LEVENE GARY S KITCHENER

Agent(s): BERESKIN AND PARR LLP; BERESKIN AND PARR LLP SENCRL SRL; BERESKIN PARR; BRAND THOMAS LOUIS

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 ZA ZM ZW

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details

CN101528428 A	20090909	LSPB	+	published / reissued	
CN101528428 A	20090909	LSPB	+C06	PUBLICATION	
CN101528428 A	20091104		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
CN101528428 B	20131204	LSGT	+	granted / extensions (spc, cpc, pte)	
CN101528428 B	20131204	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN101528428 B	20171017	LSLE	-CF01	TERMINATION OF PATENT RIGHT DUE TO NON-PAYMENT OF ANNUAL FEE	
CN101528428 B	20270828	PEXP		Calculated Patent Term Expiry	
EP2056996 A1	20090513	LSPB	+	published / reissued	
EP2056996 A1	20090513	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20090220
EP2056996 A1	20090513		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC MT NL PL PT RO SE SI SK TR
EP2056996 A1	20090513		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: AL BA HR MK RS
EP2056996 A1	20140530	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130717 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: CZ
EP2056996 A1	20140530	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130717 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: EE
EP2056996 A4	20111214	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20111110
EP2056996 A4	20111214		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: B26D 7/27 20060101AFI20111104BHEP
EP2056996 A4	20111214		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: B26D 5/00 20060101ALI20111104BHEP
EP2056996 A4	20111214		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: C14B 5/02 20060101ALI20111104BHEP
EP2056996 A4	20111214		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: B26F 1/46 20060101ALI20111104BHEP
EP2056996 A4	20111214		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: B26F 1/40 20060101ALI20111104BHEP
EP2056996 A4	20111214		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: G06Q 10/00 20060101ALI20111104BHEP
EP2056996 A4	20111214		RIC1	INFORMATION PROVIDED ON	ClassificationScheme: IPC ClassificationSymbol: G05B 19/12

				IPC CODE ASSIGNED BEFORE GRANT	20060101ALI20111104BHEP
EP2056996 A4	20111214		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: B26F 1/44 20060101ALI20111104BHEP
EP2056996 A4	20120808		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP2056996 A4	20120926		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: B26D 5/00 20060101ALI20120822BHEP
EP2056996 A4	20120926		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: C14B 5/02 20060101ALI20120822BHEP
EP2056996 A4	20120926		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: B26D 7/27 20060101AFI20120822BHEP
EP2056996 A4	20120926		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: B26F 1/40 20060101ALI20120822BHEP
EP2056996 A4	20120926		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: B26F 1/44 20060101ALI20120822BHEP
EP2056996 A4	20120926		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: B26F 1/46 20060101ALI20120822BHEP
EP2056996 A4	20120926		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: G05B 19/12 20060101ALI20120822BHEP
EP2056996 A4	20120926		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: G06Q 10/00 20120101ALI20120822BHEP
EP2056996 A4	20130612	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	Effective date: 20130517
EP2056996 B1	20130717	LSGT	+	granted / extensions (spc, cpc, pte)	
EP2056996 B1	20130717		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC MT NL PL PT RO SE SI SK TR
EP2056996 B1	20130717	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: GB Ref legal event code: FG4D
EP2056996 B1	20130731	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: EP
EP2056996 B1	20130814	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: IE Ref legal event code: FG4D
EP2056996 B1	20130815	LSNP	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20130815 Kind code of Ref document: T Ref country code: AT Ref document number: 621881 Ref legal event code: REF Country of Ref document: AT
EP2056996 B1	20130912	LSPB	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20130912 Ref country code: DE Ref document number: 602007031730 Ref legal event code: R096 Country of Ref document: DE
EP2056996 B1	20131202		REG	REFERENCE TO A NATIONAL CODE	Ref country code: SK Ref document number: E 14866 Ref legal event code: T3 Country of Ref document: SK
EP2056996 B1	20131215	LSRV	REG	REFERENCE TO A	Effective date: 20130717

				NATIONAL CODE	Kind code of Ref document: T Ref country code: AT Ref document number: 621881 Ref legal event code: MK05 Country of Ref document: AT
EP2056996 B1	20131218	LSRV	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20130717 Ref country code: NL Ref legal event code: VDEP
EP2056996 B1	20131227	LSRV	REG	REFERENCE TO A NATIONAL CODE	Ref country code: LT Ref legal event code: MG4D
EP2056996 B1	20131231		REG	REFERENCE TO A NATIONAL CODE	Ref country code: PL Ref legal event code: T3
EP2056996 B1	20140131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130717 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SE
EP2056996 B1	20140131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20131118 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: PT
EP2056996 B1	20140131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130717 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: AT
EP2056996 B1	20140131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20131117 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: IS
EP2056996 B1	20140131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130717 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: BE
EP2056996 B1	20140131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130717 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: LT
EP2056996 B1	20140131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130731 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: CY
EP2056996 B1	20140228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20131028 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: ES
EP2056996 B1	20140228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130717 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: LV

EP2056996 B1	20140228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20131018 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: GR
EP2056996 B1	20140228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130717 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: FI
EP2056996 B1	20140228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130717 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SI
EP2056996 B1	20140228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130717 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: NL
EP2056996 B1	20140331	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130717 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: CY
EP2056996 B1	20140331	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: PL
EP2056996 B1	20140430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130831 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: LI
EP2056996 B1	20140430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20140301 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: DE
EP2056996 B1	20140430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130717 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: MC
EP2056996 B1	20140430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130717 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: DK
EP2056996 B1	20140430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130717 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: EE
EP2056996 B1	20140430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED	Lapsed date: 20130717 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION

				VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: CZ
EP2056996 B1	20140430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130831 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: CH
EP2056996 B1	20140430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130717 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: RO
EP2056996 B1	20140521	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: IE Ref legal event code: MM4A
EP2056996 B1	20140522	LSDW	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20140301 Ref country code: DE Ref document number: 602007031730 Ref legal event code: R119 Country of Ref document: DE
EP2056996 B1	20140523	LSLE	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20140430 Ref country code: FR Ref legal event code: ST
EP2056996 B1	20140530	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130717 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: IT
EP2056996 B1	20140625	LSGT	+26N	NO OPPOSITION FILED	Effective date: 20140422
EP2056996 B1	20140625	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	Effective date: 20131017 Ref country code: EP
EP2056996 B1	20140728	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref country code: HU Ref document number: E019749 Ref legal event code: AG4A Country of Ref document: HU
EP2056996 B1	20140731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20131017 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: GB
EP2056996 B1	20140731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130828 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: IE
EP2056996 B1	20140829	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130917 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: FR
EP2056996 B1	20150630	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130717 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: MT
EP2056996 B1	20150630	LSLE	-PG25	LAPSED IN A CONTRACTING STATE	Lapsed date: 20130717 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A

				[ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: TR
EP2056996 B1	20150731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130717 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: BG
EP2056996 B1	20150731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130828 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: LU
EP2056996 B1	20151030	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20150805 Year of fee payment: 9 Country of Ref document: SK
EP2056996 B1	20151130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20150728 Year of fee payment: 9 Country of Ref document: PL
EP2056996 B1	20151130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20150901 Year of fee payment: 9 Country of Ref document: HU
EP2056996 B1	20170428	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160829 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: HU
EP2056996 B1	20170503	LSLE	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20160828 Ref country code: SK Ref document number: E 14866 Ref legal event code: MM4A Country of Ref document: SK
EP2056996 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160828 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: SK
EP2056996 B1	20180228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160828 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: PL
EP2056996 B1	20270828	PEXP		Calculated Patent Term Expiry	
MX2009002312 A1	20090313	LSPB	+	published / reissued	
MX2009002312 A1	20120731	LSGT	+FG	GRANT OR REGISTRATION	
PL2056996 T3	20131231	LSGT	+	granted / extensions (spc, cpc, pte)	
US2009322534 AA	20091231	LSPB	+	published / reissued	
US2009322534 AA	20120504	LSAS	AS	ASSIGNMENT	Effective date: 20060829

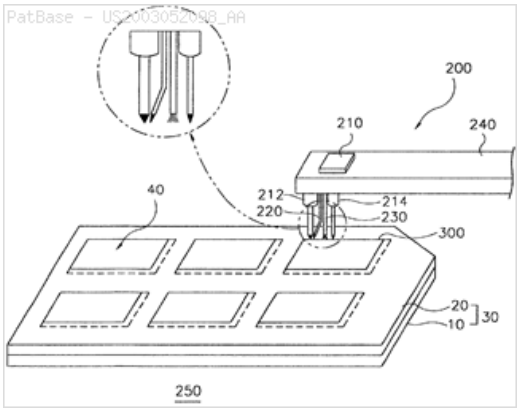
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US2009322534 AA	20120516	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US8193937 BB	20120516	LSGT	PAT1	Patented Case	
US8193937 BB	20120605	LSGT	+	granted / extensions (spc, cpc, pte)	
US8193937 BB	20150925	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US8193937 BB	20191119	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 8
US8193937 BB	20280514	PEXP		Calculated Patent Term Expiry (PTA 260 days)	
WO08025129 A1	20070828	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 200780035826.X Country of Ref document: CN
WO08025129 A1	20080306	LSPB	+	published / reissued	
WO08025129 A1	20080514		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A1 Ref document number: 07800500 Country of Ref document: EP
WO08025129 A1	20090220	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2007800500 Country of Ref document: EP
WO08025129 A1	20090226	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 12439048 Country of Ref document: US
WO08025129 A1	20090227	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: MX/A/2009/002312 Country of Ref document: MX
WO08025129 A1	20090303	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO08025129 A1	20090329	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: RU

18) Family number: 27995496 (US2003052098 AA)

Title: METHOD AND APPARATUS FOR CUTTING SUBSTRATE USING COOLANT

Abstract: Disclosed is a coolant for cooling a selectively heated portion of a liquid crystal **display** substrate to cut the selected portion using thermal stress and a method of cutting the substrate using the same. A rapidly heated portion of the substrate is rapidly cooled using water having a high specific heat or a mixed coolant in which a material for improving characteristics of surface tension, viscosity and thermal conductivity is dissolved in water. Therefore, the cutting quality of the substrate is improved, and a cutting speed is also enhanced.

Classifications:
International (IPC 8-9): B23K26/00 B23K26/06 B23K26/073 B23K26/14 B23K26/38 B23K26/40 B23K26/42 B26F3/06 B28D1/00 B28D1/22 B28D5/00 C03B33/00 C03B33/09 C03B33/10 C09K5/00 C09K5/10 G02F1/13 G02F1/1333
International (IPC 1-7): B23K26/00 B26F3/06 B28D1/00 B65H35/00 C03B33/09 C09K5/00 G02F1/1333
CPC: B23K2101/40 B23K2103/50 B23K26/0736 B23K26/146 B23K26/364 B23K26/38 B23K26/40 B23K26/703 B28D1/221 B28D5/0011 C03B33/09 C03B33/093 C03B33/102 C09K5/10 G02F1/133351 Y02P40/57 Y10T225/10 Y10T225/304 Y10T225/307
US: 219/121.67 219/121.68 219/121.680P 219/121.69 219/121.690P 219/121.72 225/1 225/1S 225/93.5 225/93.500S 225/94 225/94S 252/71 252/71S 349/187 65/112



Family:

Publication number	Publication date	Application number	Application date
JP2002346995 A2	20021204	JP20020076285	20020319
JP4405706 B2	20100127	JP20020076285	20020319
KR100676249 B1	20070130	KR20010028355	20010523
KR20020089711 A	20021130	KR20010028355	20010523
US2003052098 AA	20030320	US20020154346	20020523
US2006065647 AA	20060330	US20050281324	20051116
US7542125 BB	20090602	US20050281324	20051116

Priority:
KR20010028355 20010523 US20020154346 20020523 US20050281324 20051116

Probable Assignee: SAMSUNG DISPLAY CO LTD

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Assignee(s): SAMSUNG DISPLAY CO LTD ; SAMSUNG ELECTRONICS CO ; SAMSUNG ELECTRONICS COMPANY LIMITED

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Inventor(s): BAEK KYUN JEON ; DAE HO CHOO ; GI HEON KIM ; HYUNG WOO NAM

Agent(s): CANTOR COLBURN LLP; TAKAHASHI HAYASHI AND PARTNER PATENT ATTORNEYS INC

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
JP2002346995 A2	20021204	LSPB	+	published / reissued	
JP2002346995 A2	20041021	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Effective date: 20041020 Text: JAPANESE INTERMEDIATE CODE: A621
JP2002346995 A2	20060106		RD03	NOTIFICATION OF APPOINTMENT OF POWER OF ATTORNEY	Effective date: 20060105 Text: JAPANESE INTERMEDIATE CODE: A7423
JP2002346995 A2	20060204		RD04	NOTIFICATION OF RESIGNATION OF POWER OF ATTORNEY	Effective date: 20060106 Text: JAPANESE INTERMEDIATE CODE: A7424
JP2002346995 A2	20070801	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20070731 Text: JAPANESE INTERMEDIATE CODE: A131
JP2002346995 A2	20071101	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20071031 Text: JAPANESE INTERMEDIATE CODE: A523
JP2002346995 A2	20080917	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20080916 Text: JAPANESE INTERMEDIATE CODE: A131
JP2002346995 A2	20081213	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20081212 Text: JAPANESE INTERMEDIATE CODE: A523
JP2002346995 A2	20090813	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20090812 Text: JAPANESE INTERMEDIATE CODE: A131

JP2002346995 A2	20091002	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20091001 Text: JAPANESE INTERMEDIATE CODE: A523
JP2002346995 A2	20091021	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2002346995 A2	20091028	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Effective date: 20091027 Text: JAPANESE INTERMEDIATE CODE: A01
JP2002346995 A2	20091029	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Text: JAPANESE INTERMEDIATE CODE: A01
JP2002346995 A2	20091112	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	Effective date: 20091105 Text: JAPANESE INTERMEDIATE CODE: A61
JP2002346995 A2	20091113	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 3
JP4405706 B2	20100127	LSGT	+	granted / extensions (spc, cpc, pte)	
JP4405706 B2	20121113	LSLE	-LAPS	CANCELLATION BECAUSE OF NO PAYMENT OF ANNUAL FEES	
JP4405706 B2	20121219	LSAS	S111	REQUEST FOR CHANGE OF OWNERSHIP OR PART OF OWNERSHIP	Text: JAPANESE INTERMEDIATE CODE: R313111
JP4405706 B2	20130322		R371	TRANSFER WITHDRAWN	Text: JAPANESE INTERMEDIATE CODE: R371
JP4405706 B2	20130702	LSAS	S111	REQUEST FOR CHANGE OF OWNERSHIP OR PART OF OWNERSHIP	Text: JAPANESE INTERMEDIATE CODE: R313111
JP4405706 B2	20130814		R370	WRITTEN MEASURE OF DECLINING OF TRANSFER PROCEDURE	Text: JAPANESE INTERMEDIATE CODE: R370
JP4405706 B2	20220319	PEXP		Calculated Patent Term Expiry	
KR100676249 B1	20070130	LSGT	+	granted / extensions (spc, cpc, pte)	
KR100676249 B1	20120116	LSFE	FPAY	ANNUAL FEE PAYMENT	Payment date: 20120116 Year of fee payment: 6
KR100676249 B1	20130125	LSLE	-LAPS	LAPSE DUE TO UNPAID ANNUAL FEE	
KR100676249 B1	20210523	PEXP		Calculated Patent Term Expiry	
KR20020089711 A	20021130	LSPB	+	published / reissued	
KR20020089711 A	20060427	LSES	A201	REQUEST FOR EXAMINATION	
KR20020089711 A	20070119	LSGT	+E701	DECISION TO GRANT OR REGISTRATION OF PATENT RIGHT	
KR20020089711 A	20070124	LSGT	+GRNT	WRITTEN DECISION TO GRANT	
US2003052098 AA	20020903	LSAS	AS	ASSIGNMENT	PartyType: owner Owner: SAMSUNG ELECTRONICS CO., LTD., KOREA, REPUBLIC OF OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:KIM, GI-HEON;CHOO, DAE-HO;JEON, BAEK-KYUN;AND OTHERS;REEL/FRAME:013251/0870;SIGNING DATES FROM 20020730 TO 20020731
US2003052098 AA	20030320	LSPB	+	published / reissued	
US2003052098 AA	20060331	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	

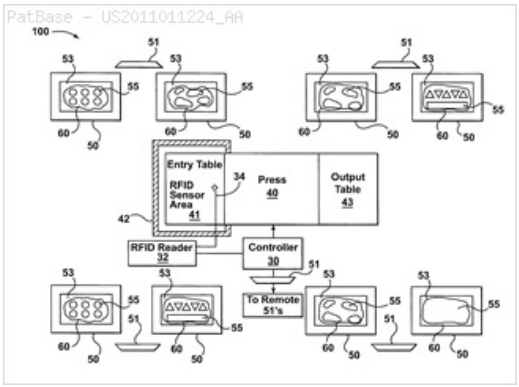
US2003052098 AA	20060331		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2006065647 AA	20060330	LSPB	+	published / reissued	
US7542125 BB	20090602	LSGT	+	granted / extensions (spc, cpc, pte)	
US7542125 BB	20120921	LSAS	AS	ASSIGNMENT	Effective date: 20120904 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:SAMSUNG ELECTRONICS CO., LTD.;REEL/FRAME:029019/0139 Owner: SAMSUNG DISPLAY CO., LTD., KOREA, REPUBLIC OF PartyType: owner
US7542125 BB	20130114		REMI	MAINTENANCE FEE REMINDER MAILED	
US7542125 BB	20130602	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US7542125 BB	20130701	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US7542125 BB	20130701	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US7542125 BB	20130723	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20130602
US7542125 BB	20230421	PEXP		Calculated Patent Term Expiry (PTA 333 days)	

19) Family number: 43687135 (US2011011224 AA)

Title: SYSTEMS AND METHODS FOR REAL-TIME MONITORING OF DIE USE OR YIELD

Abstract: A method for monitoring die cutting comprising the steps of placing at least one cutting die on a hide, each cutting die having a particular pattern and an RFID (Radio Frequency Identification) tag coupled thereto, each RFID tag containing die-related information about that particular cutting die, repeatedly reading at least one RFID tag to obtain the die-related information for each RFID tag in real-time, based on the die-related information, determining whether the hide is ready for cutting, generating an output based on with whether the hide is ready for cutting, and when the hide is ready for cutting, cutting the hide.

Classifications:
International (IPC 8-9): B26D7/00 B26D7/27 B26D7/28 B26F1/38 B26F1/44 B26F1/46 B68F1/00 C14B5/02 G05B23/02 G06K7/10
CPC: B26D5/34 B26F1/40 B26F1/46 C14B5/02 G05B19/4065 G05B2219/37256 G05B2219/45137 G06Q10/043 Y10T83/04 Y10T83/141
US: 83/13 83/13P 83/72 83/72S



Family:

Publication number	Publication date	Application number	Application date
BRPI0907969 A2	20150804	BR2009PI07969	20090302
CN101983117 A	20110302	CN200980111630	20090302
EP2257414 A1	20101208	EP20090715950	20090302
EP2257414 A4	20121226	EP20090715950	20090302
MX2010009544 A1	20101130	MX20100009544	20090302
US2011011224 AA	20110120	US20090919860	20090302
WO09105893 A1	20090903	WO2009CA00247	20090302

Priority:

US20080032320P 20080228 US20080032320 20080228 WO2009CA00247 20090302 US20090919860 20090302

Probable Assignee: ONTARIO DIE INT INC
Assignee(s): (std): LEVENE GARY S ; ONTARIO DIE INT INC ; ONTARIO DIE INTERNAT INC
Assignee(s): ONTARIO DIE INTERNATIONAL INC
Inventor(s): (std): LEVENE GARY S
Inventor(s): GARY S LEVENE
Agent(s): BERESKIN AND PARR LLP; BERESKIN AND PARR LLP SENCRL SRL; BRAND THOMAS LOUIS
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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
BRPI0907969 A2	20170110	LSFE	-B08F	APPLICATION FEES: DISMISSAL - ARTICLE 86 OF INDUSTRIAL PROPERTY LAW	Text: REFERENTE A 8A ANUIDADE.
BRPI0907969 A2	20170425	LSLE	-B08K	LAPSE AS NO EVIDENCE OF PAYMENT OF THE ANNUAL FEE HAS BEEN FURNISHED TO INPI (ACC. ART. 87)	
CN101983117 A	20110302	LSPB	+	published / reissued	
CN101983117 A	20110302	LSPB	+C06	PUBLICATION	
CN101983117 A	20110413		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
CN101983117 A	20130320	LSDW	-C02	DEEMED WITHDRAWAL OF PATENT APPLICATION AFTER PUBLICATION (PATENT LAW 2001)	
EP2257414 A1	20101208	LSPB	+	published / reissued	
EP2257414 A1	20101208	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20100921

EP2257414 A1	20101208		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: 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 TR
EP2257414 A1	20101208		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: AL BA RS
EP2257414 A1	20110601		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP2257414 A4	20121226	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20121126
EP2257414 A4	20121226		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: B26F 1/44 20060101ALI20121120BHEP
EP2257414 A4	20121226		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: B26F 1/38 20060101AFI20121120BHEP
EP2257414 A4	20121226		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: G06K 7/10 20060101ALI20121120BHEP
EP2257414 A4	20121226		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: G05B 23/02 20060101ALI20121120BHEP
EP2257414 A4	20121226		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: B26F 1/46 20060101ALI20121120BHEP
EP2257414 A4	20121226		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: C14B 5/02 20060101ALI20121120BHEP
EP2257414 A4	20121226		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: B26D 7/28 20060101ALI20121120BHEP
EP2257414 A4	20121226		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: B68F 1/00 20060101ALI20121120BHEP
EP2257414 A4	20131218	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 20130625
MX2010009544 A1	20101130	LSPB	+	published / reissued	
MX2010009544 A1	20160729	LSWD	-FA	ABANDONMENT OR WITHDRAWAL	
US2011011224 AA	20110120	LSPB	+	published / reissued	
US2011011224 AA	20120528	LSAS	AS	ASSIGNMENT	Effective date: 20090513 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:LEVENE, GARY S.;REEL/FRAME:028277/0001 Owner: ONTARIO DIE INTERNATIONAL INC., CANADA PartyType: owner
US2011011224 AA	20131118	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2011011224 AA	20131118		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
WO09105893 A1	20090302	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 200980111630.3 Country of Ref document: CN
WO09105893 A1	20090903	LSPB	+	published / reissued	
WO09105893 A1	20091028		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A1 Ref document number: 09715950 Country of Ref document: EP
WO09105893 A1	20100827	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 12919860 Country of Ref document: US
WO09105893 A1	20100827	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: MX/A/2010/009544 Country of Ref document:

					MX
WO09105893 A1	20100831	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO09105893 A1	20100921	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2009715950 Country of Ref document: EP
WO09105893 A1	20150804	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Effective date: 20100830 Kind code of Ref document: A2 Ref document number: PI0907969 Country of Ref document: BR

20) Family number: 46983027 (WO10109026 A1)

Title: ANTI-COLLISION DEVICE FOR A WATER JET CUTTING HEAD

Abstract: The invention relates to an anti-collision device for a water jet cutting head. The invention allows the water jet cutting of two- and three-dimensional planes of different materials together with the detection of collisions with unforeseen obstacles on horizontal working planes having spatial coordinates XY, thereby allowing the intelligent alteration and correction of the programmed navigation and working path thereof using a sequence of planned perception/action operations implemented with extensiometric gauges (1) disposed between a shaft (5) and a nozzle (2) or inside a height adjuster, wherein the cutting focusing element (3) and the abrasive holder (4) are connected to a device for controlling and adjusting the sensitivity of the gauge sensor (1), which device includes in front elevation a charge **cell** and cable (13), a terminal strip (14), an integrated circuit card (15), control buttons (16) and a digital numeric **display** (17) on which the user can view and measure the sensitivity of the sensor.

Classifications:
International (IPC 8-9): B23Q11/00 B26F3/00
CPC: B23Q11/04 B23Q5/58 B26D5/00 B26D5/005 B26D7/00 B26F3/004

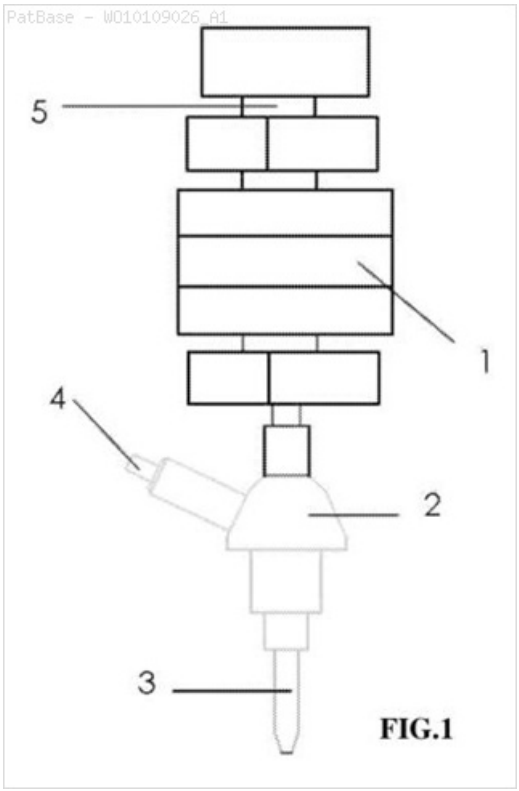


FIG.1

Family:

Publication number	Publication date	Application number	Application date
EP2412498 A1	20120201	EP20090842116	20090323
WO10109026 A1	20100930	WO2009ES70070	20090323

Priority:
WO2009ES70070 20090323

Probable Assignee: MATEU SENTAMANS EMILIO
Assignee(s): (std): MATEU SENTAMANS EMILIO
Inventor(s): (std): MATEU SENTAMANS EMILIO
Agent(s): CHANZA JORDAN DIONISIO
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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
EP2412498 A1	20120201	LSPB	+	published / reissued	
EP2412498 A1	20120201	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20111023
EP2412498 A1	20120201		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: 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 TR
EP2412498 A1	20120627		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP2412498 A1	20130410	LSDW	-18D	APPLICATION DEEMED TO BE	Effective date:

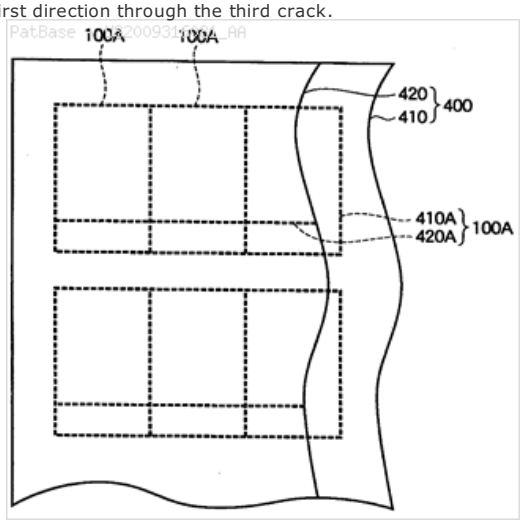
				WITHDRAWN	20121002
WO10109026 A1	20100930	LSPB	+	published / reissued	
WO10109026 A1	20101117		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A1 Ref document number: 09842116 Country of Ref document: EP
WO10109026 A1	20110310		DPE1	REQUEST FOR PRELIMINARY EXAMINATION FILED AFTER EXPIRATION OF 19TH MONTH FROM PRIORITY DATE (PCT APPLICATION FILED FROM 20040101)	
WO10109026 A1	20110923	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO10109026 A1	20111023	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2009842116 Country of Ref document: EP

21) Family number: 44148881 (US2009316081 AA)

Title: METHOD FOR MANUFACTURING A LIQUID CRYSTAL **DISPLAY** DEVICE AND MOTHER SUBSTRATE FOR MANUFACTURING THE SAME

Abstract: A method for manufacturing a liquid crystal **display** device includes: forming a first crack, on a mother substrate for use in a liquid crystal **display** device, on one side of the mother substrate extending along a first direction; forming a first scribe line by laser irradiation along the first crack in a second direction which intersects with the first direction; forming a second crack on one side extending along a second direction on the mother substrate; forming a third crack at an intersection where the first scribe line intersects with a line in the first direction through the second crack; and forming a second scribe line by laser irradiation along the second crack in the first direction through the third crack.

Classifications:
International (IPC 8-9): B26F3/00 C03B33/00 C03B33/07 C03B33/09 G02F1/13 G02F1/133 G02F1/1333
CPC: C03B33/091 G02F1/133351 Y02P40/57 Y10T225/12
US: 225/2 349/73



Family:

Publication number	Publication date	Application number	Application date
JP2009294461 A2	20091217	JP20080148375	20080605
US2009316081 AA	20091224	US20090478681	20090604

Priority:

JP20080148375 20080605

Probable Assignee: JAPAN DISPLAY CENTRAL INC

Assignee(s): (std): JAPAN DISPLAY INC ; MATSUMOTO YUUSHI ; NISHIDA TAKUMA ; TOSHIBA MATSUSHITA DISPLAY TEC ; TOSHIBA MOBILE DISPLAY CO LTD

Assignee(s): JAPAN DISPLAY CENTRAL INC

Inventor(s): (std): MATSUMOTO YUSHI ; MATSUMOTO YUUSHI ; NISHIDA TAKUMA

Agent(s): FINNEGAN HENDERSON FARABOW GARRETT AND DUNNER LLP

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
JP2009294461 A2	20091217	LSPB	+	published / reissued	
JP2009294461 A2	20110311	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Effective date: 20110310 Text: JAPANESE INTERMEDIATE CODE: A621
JP2009294461 A2	20120912	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Text: JAPANESE INTERMEDIATE CODE: A131 Effective date: 20120911
JP2009294461 A2	20120913		A977	REPORT ON RETRIEVAL	Text: JAPANESE INTERMEDIATE CODE: A971007 Effective date: 20120912
JP2009294461 A2	20121030	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20121029 Text: JAPANESE INTERMEDIATE CODE: A523
JP2009294461 A2	20130116	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20130115 Text: JAPANESE INTERMEDIATE CODE: A131
JP2009294461 A2	20130312	LSRE	A521	WRITTEN AMENDMENT	Text: JAPANESE INTERMEDIATE CODE: A523 Effective date: 20130311
JP2009294461 A2	20130508	LSRV	-A02	DECISION OF REFUSAL	Effective date: 20130507 Text: JAPANESE INTERMEDIATE CODE: A02
US2009316081 AA	20090903	LSAS	AS	ASSIGNMENT	PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:NISHIDA, TAKUMA;MATSUMOTO, YUUSHI;REEL/FRAME:023189/0508

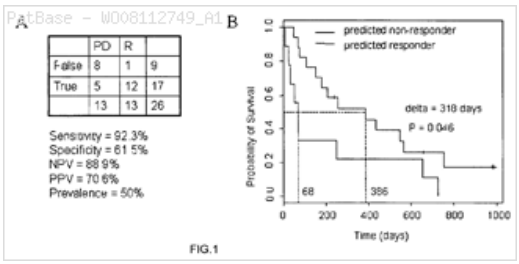
					Owner: TOSHIBA MOBILE DISPLAY CO., LTD., JAPAN Effective date: 20090713
US2009316081 AA	20091224	LSPB	+	published / reissued	
US2009316081 AA	20130214	LSAS	AS	ASSIGNMENT	Effective date: 20120330 OldParty: CHANGE OF NAME;ASSIGNOR:TOSHIBA MOBILE DISPLAY CO., LTD.;REEL/FRAME:029817/0057 Owner: JAPAN DISPLAY CENTRAL INC., JAPAN PartyType: owner
US2009316081 AA	20140127	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2009316081 AA	20140127		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION

22) Family number: 42154635 (WO08112749 A1)

Title: METHODS OF DETERMINING ACUTE MYELOID LEUKEMIA RESPONSE TO TREATMENT WITH FARNESYLTRANSFERASE

Abstract: A simple two gene expression assay, RASGRPI:APTX, with utility in diagnosing a population of acute myeloid leukemia (AML) patients who are more likely to respond to farbesyltransferase inhibition with tipifamib (RI15777. ZARNESTRA).

Classifications:
International (IPC 8-9): B21D28/14 B21D37/00 B26F1/00 B26F1/20 C12N15/09 C12Q1/68 G01N G01N33/48 G01N33/50 G01N33/574
CPC: G01N2800/52 G01N33/57426 C12Q1/6886 C12Q2600/118 C12Q2600/136 G01N33/48



Family:

Publication number	Publication date	Application number	Application date
AU2008225130 AA	20080918	AU20080225130	20080313
BRPI0808872 A2	20141111	BR2008PI08872	20080313
CA2680909 AA	20080918	CA20082680909	20080313
CN102317772 A	20120111	CN200880015763	20080313
EP2135073 A1	20091223	EP20080731984	20080313
EP2135073 A4	20110921	EP20080731984	20080313
HK1139203 A1	20100910	HK20100104758	20100514
JP2011512785 T2	20110428	JP20090553739T	20080313
KR20090113972 A	20091103	KR20080039704	20080429
KR20100113972 A	20101022	KR20097021280	20080313
MX2009009841 A1	20090924	MX20090009841	20080313
WO08112749 A1	20080918	WO2008US56636	20080313

Priority:

US20070894308P 20070312 WO2008US56636 20080313 KR20097021280 20080313 KR20080039704 20080429

Probable Assignee: HYUNDAI MOTOR CO LTD

Assignee(s): (std): FAN HONGTAO ; HYUNDAI MOTOR CO LTD ; RAPONI MITCH ; VERIDEX LLC ; WANG YIXIN

Assignee(s): HYUNDAI MOTOR CO ; HYUNDAI MOTOR COMPANY

Inventor(s): (std): FAN HONGTAO ; HONGTAO FAN ; KIM MIN JAE ; MITCH RAPONI ; RAPONI MITCH ; WANG YIXIN ; YIXIN WANG

Agent(s): CALLINANS; CHINA PATENT AGENT HK LTD; FISHER ADAMS KELLY CALLINANS; GOODFELLOW HUGH ROBIN; JOHNSON PHILIP S ET AL; SPRUSON AND FERGUSON

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 SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AU2008225130 AA	20080918	LSPB	+	published / reissued	
AU2008225130 AA	20131010	LSLE	-MK4	APPLICATION LAPSED SECTION 142(2) (D) - NO CONTINUATION FEE PAID FOR THE APPLICATION	
BRPI0808872 A2	20150825	LSFE	-B08F	APPLICATION FEES: DISMISSAL - ARTICLE 86 OF INDUSTRIAL PROPERTY LAW	Text: REFERENTE AS 6A E 7A ANUIDADES.
BRPI0808872 A2	20160510	LSLE	-B08K	LAPSE AS NO EVIDENCE OF PAYMENT OF THE ANNUAL FEE HAS BEEN FURNISHED TO INPI (ACC. ART. 87)	Text: EM VIRTUDE DO ARQUIVAMENTO PUBLICADO NA RPI 2329 DE 25-08-2015 E CONSIDERANDO AUSENCIA DE MANIFESTACAO DENTRO DOS PRAZOS LEGAIS, INFORMO QUE CABE SER MANTIDO O ARQUIVAMENTO DO PEDIDO DE PATENTE, CONFORME O DISPOSTO NO ARTIGO 12, DA RESOLUCAO 113/2013.
CA2680909 AA	20080918	LSPB	+	published / reissued	

CA2680909 AA	20130326	LSES	+EEER	EXAMINATION REQUEST	Effective date: 20130312
CA2680909 AA	20160112	LSLE	-FZDE	DEAD	Effective date: 20151201
CN102317772 A	20120111	LSPB	+	published / reissued	
CN102317772 A	20120111	LSPB	+C06	PUBLICATION	
CN102317772 A	20120307		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
CN102317772 A	20140514	LSDW	-C02	DEEMED WITHDRAWAL OF PATENT APPLICATION AFTER PUBLICATION (PATENT LAW 2001)	
EP2135073 A1	20091223	LSPB	+	published / reissued	
EP2135073 A1	20091223	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20091012
EP2135073 A1	20091223		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MT NL NO PL PT RO SE SI SK TR
EP2135073 A1	20100317		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: RAPONI, MITCH PartyType: inventor
EP2135073 A1	20100317		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: WANG, YIXIN PartyType: inventor
EP2135073 A1	20100317		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: FAN, HONGTAO PartyType: inventor
EP2135073 A1	20100616		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP2135073 A1	20100910		REG	REFERENCE TO A NATIONAL CODE	Ref country code: HK Ref document number: 1139203 Ref legal event code: DE Country of Ref document: HK
EP2135073 A4	20110921	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20110823
EP2135073 A4	20110921		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: G01N 33/574 20060101AFI20110817BHEP
EP2135073 A4	20120912	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 20120320
EP2135073 A4	20161007	LSWD	REG	REFERENCE TO A NATIONAL CODE	Ref country code: HK Ref document number: 1139203 Ref legal event code: WD Country of Ref document: HK
HK1139203 A1	20100910	LSPB	+	published / reissued	
JP2011512785 T2	20110304	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Effective date: 20110303 Text: JAPANESE INTERMEDIATE CODE: A621
JP2011512785 T2	20110428	LSPB	+	published / reissued	
JP2011512785 T2	20111213		RD04	NOTIFICATION OF RESIGNATION OF POWER OF ATTORNEY	Effective date: 20111212 Text: JAPANESE INTERMEDIATE CODE: A7424
JP2011512785 T2	20120410	LSWD	-A762	WRITTEN ABANDONMENT OF APPLICATION	Effective date: 20120409 Text: JAPANESE INTERMEDIATE CODE: A762
JP2011512785 T2	20120427	LSRE	A521	WRITTEN	Effective date: 20120411

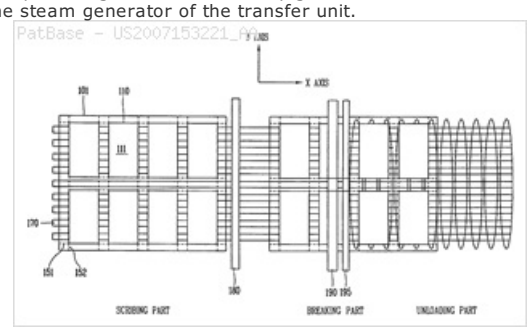
				AMENDMENT	Text: JAPANESE INTERMEDIATE CODE: A821
KR20090113972 A	20080429	LSES	A201	REQUEST FOR EXAMINATION	
KR20090113972 A	20090907	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR20090113972 A	20091103	LSPB	+	published / reissued	
KR20090113972 A	20100111	LSRV	-E601	DECISION TO REFUSE APPLICATION	
KR20100113972 A	20101022	LSPB	+	published / reissued	
KR20100113972 A	20130414	LSDW	-WITN	WITHDRAWAL DUE TO NO REQUEST FOR EXAMINATION	
MX2009009841 A1	20090924	LSPB	+	published / reissued	
MX2009009841 A1	20170831	LSWD	-FA	ABANDONMENT OR WITHDRAWAL	
WO08112749 A1	20080313	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 200880015763.6 Country of Ref document: CN
WO08112749 A1	20080918	LSPB	+	published / reissued	
WO08112749 A1	20081105		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A1 Ref document number: 08731984 Country of Ref document: EP
WO08112749 A1	20090909	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2008225130 Country of Ref document: AU
WO08112749 A1	20090911	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 2680909 Country of Ref document: CA
WO08112749 A1	20090911	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2009553739 Country of Ref document: JP
WO08112749 A1	20090914	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: MX/A/2009/009841 Country of Ref document: MX
WO08112749 A1	20090915	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO08112749 A1	20091001	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Date of Ref document: 20080313 Kind code of Ref document: A Ref document number: 2008225130 Country of Ref document: AU
WO08112749 A1	20091012	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 20097021280 Country of Ref document: KR
WO08112749 A1	20091012	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2008731984 Country of Ref document: EP
WO08112749 A1	20141111	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Effective date: 20090911 Kind code of Ref document: A2 Ref document number: PI0808872 Country of Ref document: BR

23) Family number: 34711796 (US2007153221 AA)

Title: METHOD FOR CUTTING LIQUID CRYSTAL **DISPLAY** PANEL AND METHOD FOR FABRICATING LIQUID CRYSTAL **DISPLAY** PANEL USING THE SAME

Abstract: A method for cutting a liquid crystal **display** panel includes transferring a pair of mother substrates on which a plurality of panel regions have been disposed to a scribing unit; forming first and second prearranged cut lines on front and rear surfaces of the mother substrates using a scribing unit; transferring the mother substrates with the first and second prearranged cut lines formed thereon to a breaking component; and moving a transfer unit which includes a body having a plurality of suction members and a steam generator installed at an edge of the body to an upper side of the mother substrates, and separating liquid crystal **display** panels formed at the panel regions from a dummy glass therearound while spraying steam onto the surface of the mother substrates through the steam generator of the transfer unit.

Classifications:
International (IPC 8-9): B26F3/00 B65D85/48 C03B33/00 C03B33/02 G02F1/13 G02F1/1333 H01J9/00
CPC: G02F1/133351
US: 349/158 349/187 445/60 445/60P



Family:

Publication number	Publication date	Application number	Application date
CN100523935 C	20090805	CN200610086598	20060630
CN1991478 A	20070704	CN200610086598	20060630
JP2007183550 A2	20070719	JP20060177619	20060628
JP4563351 B2	20101013	JP20060177619	20060628
KR100960468 B1	20100528	KR20050134431	20051229
KR20070071194 A	20070704	KR20050134431	20051229
US2007153221 AA	20070705	US20060477815	20060630
US7583351 BB	20090901	US20060477815	20060630
US2009291613 AA	20091126	US20090461163	20090803
US8248572 BB	20120821	US20090461163	20090803

Priority:
KR20050134431 20051229 US20060477815 20060630 US20090461163 20090803

Probable Assignee: LG DISPLAY CO LTD
Assignee(s): (std): HA BYOUNG MOK ; LG DISPLAY ; LG DISPLAY CO LTD ; LG PHILIPS LCD CO LTD ; YOO JUNG DEOG
Assignee(s): LG DISPLAY CO ; LG PHILIPS LCD CO ; LG PHILLIPS LCD CO LTD
Inventor(s): (std): BYOUNG MOK YOO JUNG DEOG HA ; HA BYOUNG MOK ; YOO JUNG DEOG
Inventor(s): YOO JUNG DEOG HA BYOUNG MOK
Agent(s): ASAHI NOBUMITSU; KATO NOBUAKI; MCKENNA LONG AND ALDRIDGE LLP; MOTOMIYA TERUHISA; OCHI TAKAO; OKABE MASAO; OKABE YUZURU; USUI SHINICHI

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
CN100523935 C	20090805	LSGT	+	granted / extensions (spc, cpc, pte)	
CN100523935 C	20090805	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN100523935 C	20140813	LSLE	-C17	CESSATION OF PATENT RIGHT	
CN100523935 C	20260630	PEXP		Calculated Patent Term Expiry	
CN1991478 A	20070704	LSPB	+	published / reissued	
CN1991478 A	20070704	LSPB	+C06	PUBLICATION	
CN1991478 A	20070829		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
JP2007183550 A2	20070719	LSPB	+	published / reissued	
JP2007183550 A2	20090716	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20090715 Text: JAPANESE INTERMEDIATE CODE: A131
JP2007183550 A2	20091016	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20091015 Text: JAPANESE INTERMEDIATE CODE: A523
JP2007183550 A2	20100324	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20100323 Text: JAPANESE INTERMEDIATE CODE: A131

JP2007183550 A2	20100615	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20100614 Text: JAPANESE INTERMEDIATE CODE: A523
JP2007183550 A2	20100629	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2007183550 A2	20100706	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Effective date: 20100705 Text: JAPANESE INTERMEDIATE CODE: A01
JP2007183550 A2	20100708	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Text: JAPANESE INTERMEDIATE CODE: A01
JP2007183550 A2	20100805	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	Effective date: 20100728 Text: JAPANESE INTERMEDIATE CODE: A61
JP2007183550 A2	20100806	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 3
JP4563351 B2	20101013	LSGT	+	granted / extensions (spc, cpc, pte)	
JP4563351 B2	20130806	LSLE	-LAPS	CANCELLATION BECAUSE OF NO PAYMENT OF ANNUAL FEES	
JP4563351 B2	20260628	PEXP		Calculated Patent Term Expiry	
KR100960468 B1	20100528	LSGT	+	granted / extensions (spc, cpc, pte)	
KR100960468 B1	20130521	LSLE	-LAPS	LAPSE DUE TO UNPAID ANNUAL FEE	
KR100960468 B1	20251229	PEXP		Calculated Patent Term Expiry	
KR20070071194 A	20070704	LSPB	+	published / reissued	
KR20070071194 A	20080626	LSES	A201	REQUEST FOR EXAMINATION	
KR20070071194 A	20091112	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR20070071194 A	20100428	LSGT	+E701	DECISION TO GRANT OR REGISTRATION OF PATENT RIGHT	
KR20070071194 A	20100520	LSGT	+GRNT	WRITTEN DECISION TO GRANT	
US2007153221 AA	20070705	LSPB	+	published / reissued	
US2007153221 AA	20081017	LSAS	AS	ASSIGNMENT	Effective date: 20080304 OldParty: CHANGE OF NAME;ASSIGNOR:LG.PHILIPS LCD CO., LTD.;REEL/FRAME:021754/0045 Owner: LG DISPLAY CO., LTD., KOREA, REPUBLIC OF PartyType: owner
US2007153221 AA	20081017	LSAS	AS	ASSIGNMENT	Effective date: 20080304 OldParty: CHANGE OF NAME;ASSIGNOR:LG.PHILIPS LCD CO., LTD.;REEL/FRAME:021754/0045 Owner: LG DISPLAY CO., LTD.,KOREA, REPUBLIC OF PartyType: owner
US2009291613 AA	20091126	LSPB	+	published / reissued	
US2009291613 AA	20120518	LSAS	AS	ASSIGNMENT	Effective date: 20080304 OldParty: CHANGE OF NAME;ASSIGNOR:LG. PHILLIPS LCD CO., LTD;REEL/FRAME:028236/0062 Owner: LG DISPLAY CO., LTD., KOREA, REPUBLIC OF PartyType: owner
US2009291613 AA	20120801	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US7583351 BB	20060925	LSAS	AS	ASSIGNMENT	Effective date: 20060915 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:YOO, JUNG-DEOG;HA, BYOUNG-MOK;REEL/FRAME:018332/0327 Owner: LG.PHILIPS LCD CO., LTD., KOREA, REPUBLIC OF

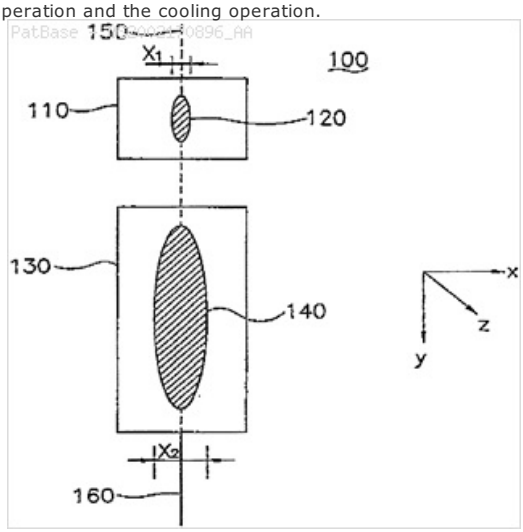
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US7583351 BB	20090901	LSGT	+	granted / extensions (spc, cpc, pte)	
US7583351 BB	20130415		REMI	MAINTENANCE FEE REMINDER MAILED	
US7583351 BB	20130901	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US7583351 BB	20130930	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US7583351 BB	20130930	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US7583351 BB	20131022	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20130901
US7583351 BB	20270807	PEXP		Calculated Patent Term Expiry (PTA 403 days)	
US8248572 BB	20090803	LSAS	AS	ASSIGNMENT	Effective date: 20060915 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:YOO, JUNG-DEOG;HA, BYOUNG-MOK;REEL/FRAME:023080/0622 Owner: LG.PHILIPS LCD CO., LTD., KOREA, REPUBLIC OF PartyType: owner
US8248572 BB	20120801	LSGT	PAT1	Patented Case	
US8248572 BB	20120821	LSGT	+	granted / extensions (spc, cpc, pte)	
US8248572 BB	20160217	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US8248572 BB	20191222	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 8
US8248572 BB	20260630	PEXP		Calculated Patent Term Expiry	

24) Family number: 33329065 (US2002170896 AA)

Title: METHOD AND APPARATUS FOR CUTTING A NON-METALLIC SUBSTRATE USING A LASER BEAM

Abstract: A method and an apparatus for cutting a non-metallic substrate by a laser are disclosed. In the disclosed method and apparatus, a first laser beam for breaking molecular bonds of the non-metallic substrate material is scanned on a cutting path formed on the non-metallic substrate to form a scribe line having a crack in desired depth. Then, a second laser beam is scanned along a scanning path of the first laser beam to propagate the crack in a depth direction of the substrate and to completely separate the non-metallic substrate. Since the cutting speed can be controlled by the speed of the first laser beam, the cutting speed can be increased and the cutting speed can be easily controlled as compared with the conventional cutting method using the temperature difference due to the heating operation and the cooling operation.

Classifications:
International (IPC 8-9): B23K101/40 B23K26/00 B23K26/364 B23K26/38 B23K26/40 B26F3/06 B28D1/22 B28D5/00 C03B33/08 C03B33/09 H01L21/301 H01L21/304 H01L21/78 H01S3/00 H05K13/00
International (IPC 1-7): B23K101/40 B23K26/00 B23K26/14 B26F3/06 B28D5/00 C03B33/08 C03B33/09 H01L2/1301 H01L2/146 H01L2/178 H01L21/301 H01L21/46 H01L21/78 H01S3/00 H05K13/00
CPC: B23K2101/40 B23K2103/42 B23K2103/50 B23K2103/52 B23K26/364 B23K26/40 B28D1/221 C03B33/093 H01L21/3043 H01L21/78
US: 219/121.67 219/121.670S 219/121.69 219/121.690P 219/121.72 219/121.720P 257/E21.238 257/E21.238S 257/E21.599 257/E21.599S 438/460 438/463



Family:

Publication number	Publication date	Application number	Application date
CN1268466 C	20060809	CN20011025569	20010815
CN1386606 A	20021225	CN20011025569	20010815
JP2002346782 A2	20021204	JP20010293512	20010926
KR100701013 B1	20070329	KR20010027677	20010521
KR20020088296 A	20021127	KR20010027677	20010521
TW496807 B	20020801	TW20010113231	20010531
US2002170896 AA	20021121	US20020150971	20020521
US6653210 BB	20031125	US20020150971	20020521
US2004056008 AA	20040325	US20030667515	20030923

Priority:
KR20010027677 20010521 US20020150971 20020521 US20030667515 20030923

Probable Assignee: SAMSUNG DISPLAY CO LTD
Assignee(s): (std): SAMSUNG ELECTRONICS CO LTD
Assignee(s): CHOO DAE HO ; JEON BAEK KYUN ; NAM HYUNG WOO ; SAMSUNG DISPLAY CO LTD ; SAMSUNG ELECTRONICS CO ; SAMSUNG ELECTRONICS COMPANY LIMITED
Inventor(s): (std): BAEK CHON JUN ; CHOO DAE HO ; DAI HO CHU ; HYONG WU CHU DAI HO CHON BAEK ; HYONG WU NAM ; JEON BAEK KYUN ; JUN BAEK GYUN ; NAM HYEONG U ; NAM HYUNG WOO ; SHU DAIKO
Inventor(s): BAEK KYUN JEON ; CHON BAEK JUN ; CHU DAI HO ; CHU DAI HO CHON BAEK JUN NAM HYONG WU ; DAE HO CHOO ; HYUNG WOO NAM ; NAM HYONG WU
Agent(s): MCGUIREWOODS LLP; TAKAHASHI HAYASHI AND PARTNER PATENT ATTORNEYS INC

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
CN1268466 C	20060809	LSGT	+	granted / extensions (spc, cpc, pte)	
CN1268466 C	20060809	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN1268466 C	20060809	LSGT	+GR01	授权	Text: 授权 (Authorization)
CN1268466 C	20121128	LSAS	ASS	SUCCESSION OR ASSIGNMENT OF PATENT RIGHT	Effective date: 20121029 OldParty: FORMER OWNER: SAMSUNG ELECTRONICS CO., LTD. Owner: SAMSUNG MONITOR CO., LTD. PartyType: owner
CN1268466 C	20121128	LSAS	C41	TRANSFER OF PATENT APPLICATION OR PATENT RIGHT OR UTILITY MODEL	

CN1268466 C	20121128	LSAS	TR01	专利权的转移	Effective date: 20121029 Patentee After Change: 三星显示有限公司 (SAMSUNG DISPLAY CO LTD) Patentee Before Change: 三星电子株式会社 (SAMSUNG ELECTRONICS CO LTD) Text: 专利申请权、专利权的转移 (Transfer of Patent Application or Patent Right)
CN1268466 C	20210815	PEXP		Calculated Patent Term Expiry	
CN1386606 A	20021225	LSPB	+	published / reissued	
CN1386606 A	20021225	LSPB	+C06	PUBLICATION	
CN1386606 A	20021225	LSPB	PB01	公开	Text: 公开 (Disclosure)
CN1386606 A	20031217		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
CN1386606 A	20031217		SE01	实质审查请求的生效	Text: 实质审查的生效 (Force of substantive review)
JP2002346782 A2	20021204	LSPB	+	published / reissued	
JP2002346782 A2	20060106		RD03	NOTIFICATION OF APPOINTMENT OF POWER OF ATTORNEY	Effective date: 20060105 Text: JAPANESE INTERMEDIATE CODE: A7423
JP2002346782 A2	20060204		RD04	NOTIFICATION OF RESIGNATION OF POWER OF ATTORNEY	Effective date: 20060106 Text: JAPANESE INTERMEDIATE CODE: A7424
JP2002346782 A2	20060919	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20060915 Text: JAPANESE INTERMEDIATE CODE: A131
JP2002346782 A2	20061214	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20061213 Text: JAPANESE INTERMEDIATE CODE: A523
JP2002346782 A2	20070815	LSRV	-A02	DECISION OF REFUSAL	Effective date: 20070814 Text: JAPANESE INTERMEDIATE CODE: A02
KR100701013 B1	20070329	LSGT	+	granted / extensions (spc, cpc, pte)	
KR100701013 B1	20130228	LSFE	FPAY	ANNUAL FEE PAYMENT	Payment date: 20130228 Year of fee payment: 7
KR100701013 B1	20140303	LSFE	FPAY	ANNUAL FEE PAYMENT	Payment date: 20140303 Year of fee payment: 8
KR100701013 B1	20150227	LSFE	FPAY	ANNUAL FEE PAYMENT	Payment date: 20150227 Year of fee payment: 9
KR100701013 B1	20180302	LSFE	FPAY	ANNUAL FEE PAYMENT	Payment date: 20180302 Year of fee payment: 12
KR100701013 B1	20190304	LSFE	FPAY	ANNUAL FEE PAYMENT	Payment date: 20190304 Year of fee payment: 13
KR100701013 B1	20210521	PEXP		Calculated Patent Term Expiry	
KR20020088296 A	20021127	LSPB	+	published / reissued	
KR20020088296 A	20060515	LSES	A201	REQUEST FOR EXAMINATION	
KR20020088296 A	20070320	LSGT	+E701	DECISION TO GRANT OR REGISTRATION OF PATENT RIGHT	
KR20020088296 A	20070322	LSGT	+GRNT	WRITTEN DECISION TO GRANT	
TW496807 B	20020801	LSGT	+	granted / extensions (spc, cpc, pte)	
TW496807 B	20021210	LSGT	+GD4A	ISSUE OF PATENT CERTIFICATE FOR GRANTED INVENTION PATENT	
TW496807 B	20210531	PEXP		Calculated Patent Term Expiry	
US2002170896 AA	20021121	LSPB	+	published / reissued	
US2002170896 AA	20031106	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2004056008 AA	20040325	LSPB	+	published /	

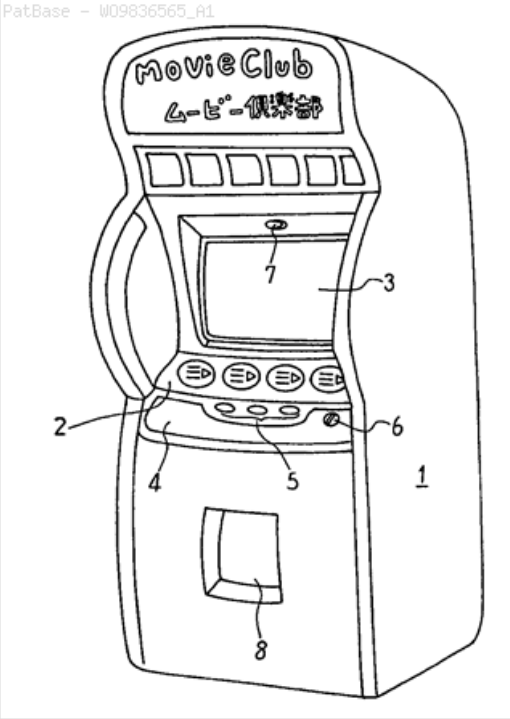
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US2004056008 AA	20071108	LSWD	ABD1	Abandoned -- After Examiner's Answer or Board of Appeals Decision	
US2004056008 AA	20071108		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- AFTER EXAMINER'S ANSWER OR BOARD OF APPEALS DECISION
US6653210 BB	20020521	LSAS	AS	ASSIGNMENT	Effective date: 20020520 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:CHOO, DAE-HO;JEON, BAEK-KYUN;NAM, HYUNG-WOO;REEL/FRAME:012923/0688 Owner: SAMSUNG ELECTRONICS CO., LTD., KOREA, REPUBLIC OF PartyType: owner
US6653210 BB	20031106	LSGT	PAT1	Patented Case	
US6653210 BB	20031125	LSGT	+	granted / extensions (spc, cpc, pte)	
US6653210 BB	20070427	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US6653210 BB	20110419	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US6653210 BB	20120828	LSAS	AS	ASSIGNMENT	Effective date: 20120403 OldParty: CHANGE OF NAME;ASSIGNOR:SAMSUNG ELECTRONICS CO., LTD.;REEL/FRAME:028863/0858 Owner: SAMSUNG DISPLAY CO., LTD., KOREA, REPUBLIC OF PartyType: owner
US6653210 BB	20150519	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
US6653210 BB	20220521	PEXP		Calculated Patent Term Expiry	

25) Family number: 12518830 (WO9836565 A1)

Title: MOVING PICTURE CARD PRODUCING APPARATUS AND STORAGE MEDIUM FOR THE APPARATUS

Abstract: A card on which a moving picture frame is printed out is issued automatically by a moving picture card producing apparatus. The moving picture card producing apparatus has a memory means in which a program for controlling the **production** of a moving picture card and frame moving picture data which are to be a plurality of background images are stored, an input means for selectively inputting one of the moving picture data, an image pickup means, a control means which reads the program out of the memory means and executes the program and incorporates an image picked up by the image pickup means in a plurality of the frames selected by the input means to control the **production** of frames of synthesized images and a moving picture frame printer for dividing the synthesized images into rectangles and printing on the rear of a lenticular lens alternately. Further, the structure for forming cuts in the produced moving picture card in order to facilitate the separation of the card into picked up image pieces has a card tray on which a card with a certain shape is placed, a cut forming unit having a cutting blade, and a control unit which, when insertion of the card tray into the cut forming unit is detected, brings the cutting blade closer to the card tray by a distance smaller than the thickness of the card placed on the card tray and controls the formation of cuts in the card.

Classifications:
International (IPC 8-9): B26D3/00 B26D3/10 B26F1/38 B26F1/40 B42D15/10 G02B3/00 G03B25/00 G03B25/02 G03B35/00 G06F19/00 G06K19/00 G06T13/00 G06T13/80 G09F11/20 G11B23/00 H04N5/262 H04N5/265 H04N5/76 H04N5/84 H04N5/91
International (IPC 1-7): B26D3/00 B26D3/10 B26F1/40 B42D15/10 G02B3/00 G03B35/00 G06F19/00 G06K19/00 G06T13/00 G09F11/20 G11B23/00 H04N5/262 H04N5/265 H04N5/76 H04N5/84 H04N5/91
CPC: B26F1/40 G03B25/02



Family:

Publication number	Publication date	Application number	Application date
AU199887053 A1	19980908	AU19980087053	19980216
CA2252666 AA	19981019	CA19982252666	19980216
CN1223051 A	19990714	CN19988000450	19980216
EP0920198 A1	19990602	EP19980902233	19980216
JP10229535 A2	19980825	JP19970031575	19970217
JP4192210 B2	20081210	JP19980535581T	19980216
KR20000064968 A	20001106	KR19980708431	19980216
TW408276 B	20001011	TW19980102097	19980216
WO9836565 A1	19980820	WO1998JP00615	19980216

Priority:
JP19970031575 19970217 JP19970272266 19970918 WO1998JP00615 19980216

Probable Assignee: SEGA SAMMY HOLDINGS INC

Assignee(s): (std): DOTE SHINGO ; ITOH FUTOSHI ; SEGA ENTERPRISES KK ; SEGA SAMMY HOLDINGS INC ; WATANABE SHINJI ; YAMADA MASAYOSHI

Assignee(s): SEGA CORP ; SEGA ENTERP LTD ; SEGA ENTERPRISES LTD ; SEGA GAMES CO LTD

Inventor(s): (std): DOTE SHINGO ; FUTOSHI ITOH ; ITO FUTOSHI ; ITOH FUTOSHI ; SHINGO DOTE ; SHINJI WATANABE ; TSUCHIDE SHINGO ; WATANABE SHINJI ; YAMADA KANETSU ; YAMADA MASAYOSHI

Inventor(s): MASAYOSHI YAMADA

Agent(s): DOI KENJI; HAYASHI TSUNENORI; PHILLIPS ORMONDE FITZPATRICK; ROBIC

Designated states: AT AU BE CA CH CN DE DK ES FI FR GB GR IE IT JP KR LI LU MC NL PT SE US

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
AU199887053 A1	19980908	LSPB	+	published / reissued	
AU199887053 A1	20010405	LSLE	-MK5	APPLICATION LAPSED SECTION 142(2)(E) - PATENT REQUEST AND COMPL. SPECIFICATION NOT ACCEPTED	

CA2252666 AA	19981019	LSPB	+	published / reissued	
CA2252666 AA	19990127	LSES	+EEER	EXAMINATION REQUEST	
CA2252666 AA	20010216	LSLE	-FZDE	DEAD	
CN1223051 A	19990714	LSPB	+	published / reissued	
CN1223051 A	19990714	LSPB	+C06	PUBLICATION	
CN1223051 A	19990721		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
CN1223051 A	20010530	LSDW	-C01	DEEMED WITHDRAWAL OF PATENT APPLICATION (PATENT LAW 1993)	
EP0920198 A1	19990602	LSPB	+	published / reissued	
EP0920198 A1	19990602	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 19981111
EP0920198 A1	19990602		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: CH DE ES FR GB IT LI
EP0920198 A1	19990804	LSWD	-18W	APPLICATION WITHDRAWN	Date Application Withdrawn: 19990615
JP10229535 A2	19980825	LSPB	+	published / reissued	
JP4192210 B2	20050310	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20050216 Text: JAPANESE INTERMEDIATE CODE: A523
JP4192210 B2	20050310	LSAS	A72	NOTIFICATION OF CHANGE IN NAME OF APPLICANT	Effective date: 20050216 Text: JAPANESE INTERMEDIATE CODE: A721
JP4192210 B2	20080219	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20080219 Text: JAPANESE INTERMEDIATE CODE: A131
JP4192210 B2	20080522	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20080421 Text: JAPANESE INTERMEDIATE CODE: A523
JP4192210 B2	20080708	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Effective date: 20080708 Text: JAPANESE INTERMEDIATE CODE: A01
JP4192210 B2	20080710	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Text: JAPANESE INTERMEDIATE CODE: A01
JP4192210 B2	20081003	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	Text: JAPANESE INTERMEDIATE CODE: R150
JP4192210 B2	20081006	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 3
JP4192210 B2	20081210	LSGT	+	granted / extensions (spc, cpc, pte)	
JP4192210 B2	20111003	LSLE	-LAPS	CANCELLATION BECAUSE OF NO PAYMENT OF ANNUAL FEES	
JP4192210 B2	20180216	PEXP		Calculated Patent Term Expiry	
KR20000064968 A	19981017	LSES	A201	REQUEST FOR EXAMINATION	
KR20000064968 A	20000925	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR20000064968 A	20001106	LSPB	+	published / reissued	
KR20000064968 A	20010221	LSRV	-E601	DECISION TO REFUSE APPLICATION	
TW408276 B	20001011	LSGT	+	granted / extensions (spc, cpc, pte)	
TW408276 B	20180216	PEXP		Calculated Patent Term Expiry	
WO9836565 A1	19980216	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 98800450.X Country of Ref document: CN
WO9836565 A1	19980820	LSPB	+	published / reissued	
WO9836565 A1	19980820		+AK	DESIGNATED STATES	Kind code of Ref document: A1

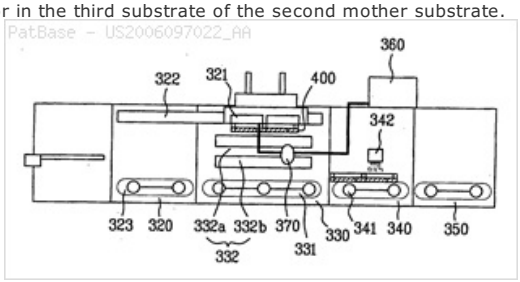
					Country of Ref document: AU CA CN JP KR US
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WO9836565 A1	19981017	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 1019980708431 Country of Ref document: KR
WO9836565 A1	19981019	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 2252666 Country of Ref document: CA
WO9836565 A1	19981019	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 2252666 Country of Ref document: CA
WO9836565 A1	19981019	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 09171421 Country of Ref document: US
WO9836565 A1	19981020	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 1998902233 Country of Ref document: EP
WO9836565 A1	19981027	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 87053/98 Country of Ref document: AU
WO9836565 A1	19990113		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO9836565 A1	19990602	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 1998902233 Country of Ref document: EP
WO9836565 A1	19990615	LSWD	-WWW	WIPO INFORMATION: WITHDRAWN IN NATIONAL OFFICE	Ref document number: 1998902233 Country of Ref document: EP
WO9836565 A1	20001106	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 1019980708431 Country of Ref document: KR
WO9836565 A1	20010221	LSRV	-WWR	WIPO INFORMATION: REFUSED IN NATIONAL OFFICE	Ref document number: 1019980708431 Country of Ref document: KR

26) Family number: 33650980 (US2006097022 AA)

Title: SCRIBING APPARATUS, SUBSTRATE CUTTING APPARATUS EQUIPPED WITH THE SCRIBING APPARATUS, AND SUBSTRATE CUTTING METHOD USING THE SUBSTRATE CUTTING APPARATUS

Abstract: A scribing apparatus simultaneously performs scribing **processes** for a TFT substrate and a C/F substrate in the same location, thereby efficiently utilizing equipment space and achieving enhanced **productivity**. A substrate cutting apparatus is equipped with the scribing apparatus, and a substrate cutting method uses the substrate cutting apparatus. The scribing apparatus includes a stage for attracting a first mother substrate including first and second conjoined substrates, a scribing belt for holding a second mother substrate including conjoined third and fourth substrates, and a head unit for forming cracks in the second substrate of the first mother substrate or in the third substrate of the second mother substrate.

Classifications:
International (IPC 8-9): B23K26/00 B23K26/06 B23K26/067 B23K26/08 B23K26/40 B26F3/00 B28D5/00 B41F19/00 B41F19/02 B44B5/00 C03B33/00 C03B33/033 C03B33/07 C03B33/09 G02F1/13 G02F1/1333 G02F1/136
CPC: B23K2101/40 B23K2103/50 B23K26/0624 B23K26/067 B23K26/0838 B23K26/40 B28D5/0011 B28D5/0094 B41F19/02 B44B5/00 C03B33/033 C03B33/07 C03B33/091 C03B33/093 G02F1/133351 Y02P40/57 Y10T225/304 Y10T225/321 Y10T83/2192 B65G2249/04 C03B33/074 B65G2249/02 B65G49/064
US: 219/121.67 219/121.72 225/93.5 225/93.500P 225/96 225/96S 65/112 83/155



Family:

Publication number	Publication date	Application number	Application date
CN100419553 C	20080917	CN200510082444	20050630
CN1769987 A	20060510	CN200510082444	20050630
GB200513327 A0	20050803	GB20050013327	20050629
GB2419852 A1	20060510	GB20050013327	20050629
GB2419852 B2	20080220	GB20050013327	20050629
GB200710299 A0	20070711	GB20070010299	20050629
GB2436231 A1	20070919	GB20070010299	20050629
GB2436231 B2	20080326	GB20070010299	20050629
GB200710300 A0	20070711	GB20070010300	20050629
GB2436232 A1	20070919	GB20070010300	20050629
GB2436232 B2	20080206	GB20070010300	20050629
KR100628276 B1	20060927	KR20040089706	20041105
KR20060040281 A	20060510	KR20040089706	20041105
US2006097022 AA	20060511	US20050169857	20050630
US7528341 BB	20090505	US20050169857	20050630

Priority:

KR20040089706 20041105 GB20050013327 20050629 GB20070010299 20050629 GB20070010300 20050629

Probable Assignee: LG DISPLAY CO LTD
Assignee(s): (std): LG DISPLAY CO LTD ; LG PHILIPS LCD CO LTD
Assignee(s): LG DISPLAY CO ; LG PHILIPS LCD CO
Inventor(s): (std): JUNG SIK KIM ; KIM JUNG S ; KIM JUNG SIK
Inventor(s): KIM JUNG
Agent(s): BIRCH STEWART KOLASCH AND BIRCH; BIRCH STEWART KOLASCH AND BIRCH LLP

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
CN100419553 C	20080917	LSGT	+	granted / extensions (spc, cpc, pte)	
CN100419553 C	20080917	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN100419553 C	20080917	LSGT	+GR01	授权	Text: 授权 (Authorization)
CN100419553 C	20200623	LSLE	-CF01	TERMINATION OF PATENT RIGHT DUE TO NON-PAYMENT OF ANNUAL FEE	
CN100419553 C	20200623	LSLE	-CF01	未缴年费专利权终止	Effective date: 20190630 Text: 专利权的终止 (Termination of Patent Right)
CN100419553 C	20250630	PEXP		Calculated Patent Term Expiry	
CN1769987 A	20060510	LSPB	+	published / reissued	
CN1769987 A	20060510	LSPB	+C06	PUBLICATION	
CN1769987 A	20060510	LSPB	PB01	公开	Text: 公开 (Disclosure)
CN1769987 A	20060705		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
CN1769987 A	20060705		SE01	实质审查请求的生效	Text: 实质审查的生效 (Force of

					substantive review)
GB2419852 A1	20060510	LSPB	+	published / reissued	
GB2419852 B2	20080220	LSGT	+	granted / extensions (spc, cpc, pte)	
GB2419852 B2	20200226	LSLE	-PCNP	PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	Effective date: 20190629
GB2419852 B2	20250629	PEXP		Calculated Patent Term Expiry	
GB2436231 A1	20070919	LSPB	+	published / reissued	
GB2436231 B2	20080326	LSGT	+	granted / extensions (spc, cpc, pte)	
GB2436231 B2	20200226	LSLE	-PCNP	PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	Effective date: 20190629
GB2436231 B2	20250629	PEXP		Calculated Patent Term Expiry	
GB2436232 A1	20070919	LSPB	+	published / reissued	
GB2436232 B2	20080206	LSGT	+	granted / extensions (spc, cpc, pte)	
GB2436232 B2	20200226	LSLE	-PCNP	PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	Effective date: 20190629
GB2436232 B2	20250629	PEXP		Calculated Patent Term Expiry	
KR100628276 B1	20060927	LSGT	+	granted / extensions (spc, cpc, pte)	
KR100628276 B1	20120628	LSFE	FPAY	ANNUAL FEE PAYMENT	Payment date: 20120628 Year of fee payment: 7
KR100628276 B1	20130618	LSFE	FPAY	ANNUAL FEE PAYMENT	Payment date: 20130619 Year of fee payment: 8
KR100628276 B1	20140920	LSLE	-LAPS	LAPSE DUE TO UNPAID ANNUAL FEE	
KR100628276 B1	20241105	PEXP		Calculated Patent Term Expiry	
KR20060040281 A	20041105	LSES	A201	REQUEST FOR EXAMINATION	
KR20060040281 A	20060510	LSPB	+	published / reissued	
KR20060040281 A	20060830	LSGT	+E701	DECISION TO GRANT OR REGISTRATION OF PATENT RIGHT	
KR20060040281 A	20060919	LSGT	+GRNT	WRITTEN DECISION TO GRANT	
US2006097022 AA	20060511	LSPB	+	published / reissued	
US2006097022 AA	20080521	LSAS	AS	ASSIGNMENT	Effective date: 20080304 OldParty: CHANGE OF NAME;ASSIGNOR:LG.PHILIPS LCD CO., LTD.;REEL/FRAME:020985/0675 Owner: LG DISPLAY CO., LTD., KOREA, REPUBLIC OF PartyType: owner
US2006097022 AA	20080521	LSAS	AS	ASSIGNMENT	Effective date: 20080304 OldParty: CHANGE OF NAME;ASSIGNOR:LG.PHILIPS LCD CO., LTD.;REEL/FRAME:020985/0675 Owner: LG DISPLAY CO., LTD.,KOREA, REPUBLIC OF PartyType: owner
US2006097022 AA	20090415	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US7528341 BB	20050630	LSAS	AS	ASSIGNMENT	Effective date: 20050627 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:KIM, JUNG SIK;REEL/FRAME:016758/0269 Owner: LG. PHILIPS LCD CO., LTD., KOREA, REPUBLIC OF PartyType: owner
US7528341 BB	20090415	LSGT	PAT1	Patented Case	
US7528341 BB	20090505	LSGT	+	granted / extensions (spc, cpc, pte)	
US7528341 BB	20121002	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4

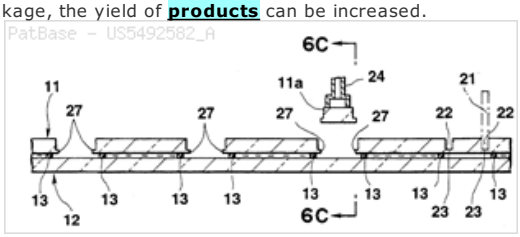
US7528341 BB	20161024	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US7528341 BB	20270424	PEXP		Calculated Patent Term Expiry (PTA 663 days)	

27) Family number: 30464594 (US5492582 A)

Title: METHOD OF MANUFACTURING LIQUID CRYSTAL **DISPLAY** DEVICE

Abstract: A method of manufacturing a liquid crystal **display** device, in which predetermined portions of two glass plates bonded to each other with a sealing member interposed therebetween and constituting the **display** device, can be cut without turning over the bonded two glass plates and without breaking necessary portions thereof. In the method of manufacturing the liquid crystal **display** device, first, an upper one of the bonded two glass plates is half cut from its upper surface with a blade, and unnecessary portions of the upper glass plate are removed by the use of a vacuum suction head. Thereafter, predetermined portions of exposed portions of a lower one of the bonded two glass plates are fully cut with the blade. In accordance with it, it is not necessary to turn over the the bonded two glass plates-to cut it into a plurality of units, and, therefore, a cutting **process** can be performed automatically. Further, since portions of the bonded two glass plates other than the unnecessary portions thereof are prevented from breakage, the yield of **products** can be increased.

Classifications:
International (IPC 8-9): B24B9/06 B24B9/10 B26F3/00 C03B33/00 C03B33/03 C03B33/07 C03C27/00 G02F1/13 G02F1/1333
International (IPC 1-7): B24B9/10 B26F3/00 C03B33/00 C03B33/03 C03B33/07 C03C27/00 G02F1/13
CPC: Y02P40/57 B24C1/006 B24C1/083 B28D1/22 C03B33/076 G02F1/133351 Y10T156/108 Y10T83/0304 Y10T83/0453 Y10T83/207 Y10T83/2185
US: 156/101 156/106 156/248 156/267 349/153 349/155 349/189 359/62 359/80 359/81 359/82 428/1 65/112 65/42 65/56 65/58 83/100 83/152 83/24 83/875



Family:

Publication number	Publication date	Application number	Application date
CN1098202 A	19950201	CN19941004694	19940422
JP2678966 B2	19971119	JP19930117576	19930422
JP6304899 A2	19941101	JP19930117576	19930422
JP2713097 B2	19980216	JP19930117577	19930422
JP6305758 A2	19941101	JP19930117577	19930422
JP2713098 B2	19980216	JP19930117578	19930422
JP6305759 A2	19941101	JP19930117578	19930422
KR100124893 B1	19970603	KR19940008457	19940421
KR19940023815 A	19941117	KR19940008457	19940421
KR970009009 B1	19970603	KR19940008457	19940421
TH16544 A	19950829	TH19941000764	19940421
TH7907 B	19980330	TH19941000764	19940421
TW332868 B	19980601	TW19940103542	19940421
US5492582 A	19960220	US19940229829	19940419

Priority:
JP19930117576 19930422 JP19930117578 19930422 JP19930117577 19930422

Probable Assignee: CASIO COMPUTER CO LTD
Assignee(s): (std): CASIO COMPUTER CO LTD
Assignee(s): CASIO COMPUT CO LTD ; CASIO COMPUTER CO ; CASIO COMPUTER KK ; CASIO KEISANKI KK
Inventor(s): (std): IDE AKIHIKO ; UEKI DETSURO ; UEKI TETSURO ; UEKI TETSUROU
Inventor(s): AKIHIKO IDE ; TETSURO UEKI

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
CN1098202 A	19950201	LSPB	+	published / reissued	
CN1098202 A	19950201	LSPB	+C06	PUBLICATION	
CN1098202 A	19960731		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
CN1098202 A	19960828		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
CN1098202 A	20000809	LSDW	-C01	DEEMED WITHDRAWAL OF PATENT APPLICATION (PATENT LAW 1993)	
JP2678966 B2	19971119	LSGT	+	granted / extensions (spc, cpc, pte)	
JP2678966 B2	20080731	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 11
JP2678966 B2	20080812	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE	Year of fee payment: 12

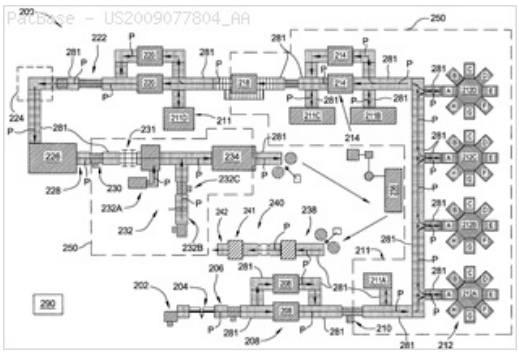
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JP2678966 B2	20110809	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 15
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JP2678966 B2	20130422	PEXP		Calculated Patent Term Expiry	
JP2713097 B2	19980216	LSGT	+	granted / extensions (spc, cpc, pte)	
JP2713097 B2	20071031	LSLE	-LAPS	CANCELLATION BECAUSE OF NO PAYMENT OF ANNUAL FEES	
JP2713097 B2	20130422	PEXP		Calculated Patent Term Expiry	
JP2713098 B2	19980216	LSGT	+	granted / extensions (spc, cpc, pte)	
JP2713098 B2	20081002	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 11
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JP2713098 B2	20091001	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 12
JP2713098 B2	20091013	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 13
JP2713098 B2	20101007	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 13
JP2713098 B2	20101012	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 14
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JP2713098 B2	20111011	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 15
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JP6304899 A2	19941101	LSPB	+	published / reissued	
JP6305758 A2	19941101	LSPB	+	published / reissued	

JP6305759 A2	19941101	LSPB	+	published / reissued	
KR100124893 B1	19970603	LSGT	+	granted / extensions (spc, cpc, pte)	
KR100124893 B1	20140421	PEXP		Calculated Patent Term Expiry	
KR19940023815 A	19941117	LSPB	+	published / reissued	
KR970009009 B1	19940421	LSES	A201	REQUEST FOR EXAMINATION	
KR970009009 B1	19970220	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR970009009 B1	19970506	LSPB	G160	DECISION TO PUBLISH PATENT APPLICATION	
KR970009009 B1	19970603	LSGT	+	granted / extensions (spc, cpc, pte)	
KR970009009 B1	19970828	LSGT	+E701	DECISION TO GRANT OR REGISTRATION OF PATENT RIGHT	
KR970009009 B1	19970930	LSGT	+GRNT	WRITTEN DECISION TO GRANT	
KR970009009 B1	20010920	LSFE	FPAY	ANNUAL FEE PAYMENT	Year of fee payment: 5 Payment date: 20010920
KR970009009 B1	20021001	LSLE	-LAPS	LAPSE DUE TO UNPAID ANNUAL FEE	
KR970009009 B1	20140421	PEXP		Calculated Patent Term Expiry	
TH16544 A	19950829	LSPB	+	published / reissued	
TH7907 B	19980330	LSGT	+	granted / extensions (spc, cpc, pte)	
TH7907 B	20140421	PEXP		Calculated Patent Term Expiry	
TW332868 B	19980601	LSGT	+	granted / extensions (spc, cpc, pte)	
TW332868 B	20140421	PEXP		Calculated Patent Term Expiry	
US5492582 A	19940419	LSAS	AS	ASSIGNMENT	PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:IDE, AKIHIKO;UEKI, TETSURO;REEL/FRAME:006974/0475 Owner: CASIO COMPUTER CO., LTD., JAPAN Effective date: 19940412
US5492582 A	19960209	LSGT	PAT1	Patented Case	
US5492582 A	19960209	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US5492582 A	19960220	LSGT	+	granted / extensions (spc, cpc, pte)	
US5492582 A	19990809	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US5492582 A	20030728	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US5492582 A	20070727	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
US5492582 A	20140419	PEXP		Calculated Patent Term Expiry	

28) Family number: 42981399 (US2009077804 AA)

Title: **PRODUCTION** LINE MODULE FOR FORMING MULTIPLE SIZED PHOTOVOLTAIC DEVICES

Abstract: The present invention generally relates to a sectioning module positioned within an automated solar **cell** device fabrication system. The solar **cell** device fabrication system is adapted to receive a single large substrate and form multiple silicon thin film solar **cell** devices from the single large substrate.



Classifications:

International (IPC 8-9): B05C9/08 B05C9/12 B05D5/12 B23D1/26 B23K26/00 B23P15/26 B23P17/00 B23P19/00 B23P21/00 B23P23/00 B23Q15/00 B23Q17/00 B23Q41/00 B23Q7/14 B24B1/00 B24B19/02 B24B41/00 B24B41/02 B24B49/00 B24B53/007 B24B53/21 B24B55/00 B24B55/06 B24B7/06 B24D9/00 B25J15/00 B26D3/06 B26F3/00 B32B37/02 B32B37/10 B65G47/00 E04D13/18 F24J2/00 F24J2/52 G01R1/00 G01R27/08 G01R31/00 G01R31/26 g01r31/26 G06F7/10 H01L21/00 H01L21/301 H01L21/304 H01L21/4763 H01L21/66 H01L21/67 H01L21/677 H01L21/68 H01L21/683 H01L21/768 H01L31/00 H01L31/04 H01L31/042 H01L31/048 H01L31/06 H01L31/072 H01L31/075 H01L31/18 H01L51/44 H01L51/48 H01R43/02 H05K13/00 H05K3/10 H05K3/36

International (IPC 1-7): B26D3/06 H01L21/4763

CPC: H01L31/18 B23K26/364 B26F3/002 B26F3/004 B65G2249/02 B65G2249/04 B65G49/064 C03B33/03 C03B33/033 H01L21/67132 H01L21/67236 H01L21/67712 H01L21/67715 H01L21/67721 H01L21/67727 H01L21/6776 H01L31/022425 H01L31/03921 H01L31/0504 H01L31/075 H02S50/00 H02S50/10 Y02E10/548 Y02P40/57 Y10T225/10 Y10T225/325 Y10T225/329 Y10T29/49002 Y10T29/49355 Y10T29/5196 Y10T29/53113 Y10T29/5313 Y10T29/5317 Y10T29/53187 Y10T29/53365 Y10T29/53417 B24B49/045 B24B55/02 B24B9/10 H01L21/67092 H01L31/186 Y02E10/50 Y02P70/50 F24S2025/016 F24S2025/601 F24S2025/805 F24S25/30 F24S25/40 F24S25/632 H02S20/23 Y02B10/10 Y02E10/47 Y02P80/20 B32B17/10036 B32B17/10761 H01L31/1876 H01L31/188 Y10T29/49208 Y10T29/49213 Y10T29/49224 Y10T29/49769 Y10T29/4978 Y10T29/4998 Y10T29/5136 Y10T29/5137 Y10T29/52 Y10T29/5303 Y10T29/53052 Y10T29/53174 H01L21/67138 H01L21/67754 H01L31/0201 H01L31/046 H01L31/048 H01L31/0512 H05K2203/0278 H05K3/321 Y10T29/49117 Y10T29/49126 Y10T29/4913 Y10T29/49155 B23K2101/40 B23K2103/50 B23K26/0622 B23K26/082 B23K26/36 B23K26/40 H01L21/67253 H01L21/681 B25J11/00 G01J1/08 Y10S136/29 B32B2309/02 B32B2309/12 B32B2309/70 B32B2457/12 B32B37/02 B32B38/0036 B32B39/00 H01L31/1804 Y02E10/547 B23K2103/172 B65G49/068 C03B33/0222 H01L21/67115 H01L21/67259 H01L21/67276 H01L21/67706 H01L21/67748 H01L31/02008 H01L31/076

US: 118/620 118/620S 126/704 126/704S 136/250 136/251 136/256 136/258 136/290 156/295 156/359 156/64 198/339.1 198/339.100S 225/1 225/1S 225/96.5 225/96.500S 225/97 225/97S 250/200 257/E31.001 257/E31.001S 29/25.01 29/25.010P 29/33.00P 29/33P 29/407.04 29/407.040S 29/407.1 29/407.100S 29/527.1 29/527.100P 29/564 29/564.1 29/592.1 29/592.100S 29/650 29/650S 29/707 29/712 29/712S 29/726 29/729 29/729S 29/738 29/738S 29/739 29/739S 29/742 29/742S 29/783 29/795 29/825 29/830 29/832 29/846 29/846P 29/876 29/876S 29/879 29/879P 29/885 29/885S 29/890.033 29/890.033P 29/890.033S 324/501 324/501P 324/691 324/715 324/715P 324/750.3 324/750.300S 324/757.01 324/757.010S 324/759.02 324/759.020S 324/761.01 324/762.07 324/764.01 324/764.010S 324/765 414/217 414/217S 414/225.01 414/225.010S 414/783 414/783S 427/74 427/74S 427/8 427/8P 438/462 438/462S 438/57 438/57S 438/61 438/61P 438/66 438/66S 451/184 451/184S 451/194 451/21 451/213 451/443 451/443S 451/54 451/54S 451/57 451/57S 451/58 451/58P 451/8 73/865.6 73/865.600S 901/30 901/30S

Family:

Publication number	Publication date	Application number	Application date
CN101494250 A	20090729	CN200810171158	20081022
CN101425550 A	20090506	CN200810173403	20081022
CN101541486 A	20090923	CN200880000176	20080829
CN101796481 A	20100804	CN200880105071	20080829
CN101796481 B	20120704	CN200880105071	20080829
CN101861653 A	20101013	CN200980101026	20090123
CN101861653 B	20120718	CN200980101026	20090123
CN101911314 A	20101208	CN200980101997	20090211
CN101926009 A	20101222	CN200980102932	20090123
CN101926009 B	20120125	CN200980102932	20090123
CN102089892 A	20110608	CN200980106764	20090227
CN102089892 B	20130213	CN200980106764	20090227
CN102405535 A	20120404	CN201080018150	20100406
EP2053664 A2	20090429	EP20080167332	20081022
EP2053665 A2	20090429	EP20080167335	20081022
EP2198367 A1	20100623	EP20080799033	20080829
EP2200790 A1	20100630	EP20080799778	20080829
EP2243168 A2	20101027	EP20090703276	20090123
EP2250677 A2	20101117	EP20090710551	20090211
IN05719CN2008 A	20090821	IN2008CN05719	20081023
IN00564CN2010 A	20100723	IN2010CN00564	20100129
JP2009105401 A2	20090514	JP20080270178	20081020
JP2009105402 A2	20090514	JP20080270180	20081020
JP2010538475 T2	20101209	JP20100523183T	20080829
JP2010538476 T2	20101209	JP20100523184T	20080829
JP2011512680 T2	20110421	JP20100546874T	20090211
KR20090040846 A	20090427	KR20080101081	20081015
KR20090040848 A	20090427	KR20080101511	20081016
KR20090047388 A	20090512	KR20087026168	20081024
KR20100051738 A	20100517	KR20107007066	20080829
KR20100124759 A	20101129	KR20107020299	20090211
TW200919761 A	20090501	TW20080133226	20080829
TW200919762 A	20090501	TW20080133232	20080829
TW200929413 A	20090701	TW20080140528	20081022
TW200933916 A	20090801	TW20080140529	20081022
TW200946847 A	20091116	TW20090104535	20090212
TW201000923 A	20100101	TW20090112053	20090410
TW201101426 A	20110101	TW20100111109	20100409

US2009102502 AA	20090423	US20070876346	20071022
US2009077804 AA	20090326	US20080201840	20080829
US2009077805 AA	20090326	US20080202199	20080829
US8225496 BB	20120724	US20080202199	20080829
US2009104342 AA	20090423	US20080212594	20080917
US2009179651 AA	20090716	US20090351087	20090109
US8138782 BB	20120320	US20090351087	20090109
US2009221217 AA	20090903	US20090358814	20090123
US8231431 BB	20120731	US20090358814	20090123
US2009188102 AA	20090730	US20090358844	20090123
US8024854 BB	20110927	US20090358844	20090123
US2009188603 AA	20090730	US20090359250	20090123
US2009205703 AA	20090820	US20090368887	20090210
US2009211071 AA	20090827	US20090394616	20090227
US8065784 BB	20111129	US20090394616	20090227
US2009256581 AA	20091015	US20090409732	20090324
US8049521 BB	20111101	US20090409732	20090324
US2009277006 AA	20091112	US20090430807	20090427
US7908743 BB	20110322	US20090430807	20090427
US2010047954 AA	20100225	US20090548273	20090826
US2011314672 AA	20111229	US20110221675	20110830
WO09029901 A1	20090305	WO2008US74930	20080829
WO09029902 A1	20090305	WO2008US74931	20080829
WO09029902 A4	20090806	WO2008US74931	20080829
WO09055208 A1	20090430	WO2008US78165	20080929
WO09055262 A1	20090430	WO2008US79585	20081010
WO09094539 A1	20090730	WO2009US31835	20090123
WO09094545 A2	20090730	WO2009US31843	20090123
WO09094545 A3	20091001	WO2009US31843	20090123
WO09102772 A2	20090820	WO2009US33771	20090211
WO09102772 A3	20091119	WO2009US33771	20090211
WO10110778 A2	20100930	WO2009US35579	20090227
WO10110778 A3	20101125	WO2009US35579	20090227
WO09129030 A2	20091022	WO2009US38063	20090324
WO09129030 A3	20091210	WO2009US38063	20090324
WO10129125 A2	20101111	WO2010US30114	20100406
WO10129125 A3	20110113	WO2010US30114	20100406

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US20070967077P 20070831
US20080020304 20080110
US20080023739P 20080125
US20080023739 20080125
US20080032005 20080227
US20080036691P 20080314
US20080043060 20080407
US20080044852P 20080414
WO2008US74930 20080829
US20080212594 20080917
WO2009US31835 20090123
US20090359250 20090123
WO2009US33771 20090211
US20090409732 20090324
WO2010US30114 20100406
US20070876346 20071022
US20080023214P 20080124
US20080023810P 20080125
US20080028795P 20080214
US20080034931P 20080307
US20080036691 20080314
US20080043600P 20080408
US20080044852 20080414
US20080201840 20080829
US20080111705P 20081105
WO2009US31843 20090123
US20090358814 20090123
WO2009US35579 20090227
US20090430807 20090427
US20110221675 20110830
US20080020304P 20080110
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US20080032005P 20080227
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US20080043060P 20080407
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WO2008US74931 20080829
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Agent(s):	PATTERSON AND SHERIDAN LLP; PATTERSON AND SHERIDAN LLP APPM TX; PATTERSON B TODD; PATTERSON B TODD ET AL; PATTERSON TODD B; ZIMMERMANN AND PARTNER
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

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
CN101425550 A	20090506	LSPB	+	published / reissued	
CN101425550 A	20090506	LSPB	+C06	PUBLICATION	
CN101425550 A	20090701		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
CN101425550 A	20120215	LSRE	C53	CORRECTION OF PATENT FOR INVENTION OR PATENT APPLICATION	
CN101425550 A	20121114	LSDW	-C02	DEEMED WITHDRAWAL OF PATENT APPLICATION AFTER PUBLICATION (PATENT LAW 2001)	
CN101494250 A	20090729	LSPB	+	published / reissued	
CN101494250 A	20090729	LSPB	+C06	PUBLICATION	
CN101494250 A	20090923		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
CN101494250 A	20120215	LSRE	C53	CORRECTION OF PATENT FOR INVENTION OR PATENT APPLICATION	
CN101494250 A	20130703	LSDW	-C20	PATENT RIGHT OR UTILITY MODEL DEEMED TO BE ABANDONED OR IS ABANDONED	
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CN101541486 A	20090923	LSPB	+C06	PUBLICATION	
CN101541486 A	20091111		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
CN101541486 A	20121003	LSDW	-C02	DEEMED WITHDRAWAL OF PATENT APPLICATION AFTER PUBLICATION (PATENT LAW 2001)	
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CN101796481 A	20100804	LSPB	+C06	PUBLICATION	
CN101796481 A	20100922		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
CN101796481 A	20120307	LSRE	C53	CORRECTION OF PATENT FOR INVENTION OR PATENT APPLICATION	
CN101796481 B	20120704	LSGT	+	granted / extensions (spc, cpc, pte)	
CN101796481 B	20120704	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN101796481 B	20141022	LSLE	-C17	CESSATION OF PATENT RIGHT	

CN101796481 B	20280829	PEXP		Calculated Patent Term Expiry
CN101861653 A	20101013	LSPB	+	published / reissued
CN101861653 A	20101013	LSPB	+C06	PUBLICATION
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CN101861653 A	20120222	LSRE	C53	CORRECTION OF PATENT FOR INVENTION OR PATENT APPLICATION
CN101861653 B	20120718	LSGT	+	granted / extensions (spc, cpc, pte)
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CN101861653 B	20150325	LSLE	-C17	CESSATION OF PATENT RIGHT
CN101861653 B	20290123	PEXP		Calculated Patent Term Expiry
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CN101911314 A	20130515	LSDW	-C02	DEEMED WITHDRAWAL OF PATENT APPLICATION AFTER PUBLICATION (PATENT LAW 2001)
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CN101926009 B	20150325	LSLE	-C17	CESSATION OF PATENT RIGHT
CN101926009 B	20290123	PEXP		Calculated Patent Term Expiry
CN102089892 A	20110608	LSPB	+	published / reissued
CN102089892 A	20110608	LSPB	+C06	PUBLICATION
CN102089892 A	20110720		C10	ENTRY INTO SUBSTANTIVE EXAMINATION
CN102089892 A	20120215	LSRE	C53	CORRECTION OF PATENT FOR INVENTION OR PATENT APPLICATION
CN102089892 B	20130213	LSGT	+	granted / extensions (spc, cpc, pte)
CN102089892 B	20130213	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL
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CN102405535 A	20120404	LSPB	+	published / reissued	
CN102405535 A	20120404	LSPB	+C06	PUBLICATION	
CN102405535 A	20120627		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
CN102405535 A	20141015	LSDW	-C02	DEEMED WITHDRAWAL OF PATENT APPLICATION AFTER PUBLICATION (PATENT LAW 2001)	
EP2053664 A2	20090429	LSPB	+	published / reissued	
EP2053664 A2	20090429		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MT NL NO PL PT RO SE SI SK TR
EP2053664 A2	20090429		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: AL BA MK RS
EP2053664 A2	20111102	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 20110501
EP2053665 A2	20090429	LSPB	+	published / reissued	
EP2053665 A2	20090429		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MT NL NO PL PT RO SE SI SK TR
EP2053665 A2	20090429		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: AL BA MK RS
EP2053665 A2	20111109	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 20110501
EP2198367 A1	20100623	LSPB	+	published / reissued	
EP2198367 A1	20100623	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20100331
EP2198367 A1	20100623		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MT NL NO PL PT RO SE SI SK TR
EP2198367 A1	20100623		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: AL BA MK RS
EP2198367 A1	20100707		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: BACHRACH, ROBERT Z. PartyType: inventor
EP2198367 A1	20100707		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: CHAE, YONG-KEE
EP2198367 A1	20100707		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: CHOI, SOO YOUNG PartyType: inventor
EP2198367 A1	20100707		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: DE VRIES, NICHOLAS G. J.
EP2198367 A1	20100707		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: ELGAR, YACOV
EP2198367 A1	20100707		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: ENGLHARDT, ERIC A.
EP2198367 A1	20100707		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE	PartyType: inventor Inventor: FREI, MICHEL R.

				GRANT (CORRECTED)	
EP2198367 A1	20100707		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: GAY, CHARLES
EP2198367 A1	20100707		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: HAWKINS, PARRIS
EP2198367 A1	20100707		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: HO, CHOI PartyType: inventor
EP2198367 A1	20100707		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: HUNTER, JAMES CRAIG PartyType: inventor
EP2198367 A1	20100707		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: KANKANALA, PENCHALA N. PartyType: inventor
EP2198367 A1	20100707		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: LI, LIWEI
EP2198367 A1	20100707		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: LO, WING HOO PartyType: inventor
EP2198367 A1	20100707		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: LU, DANNY CAM TOAN PartyType: inventor
EP2198367 A1	20100707		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: MEI, FANG
EP2198367 A1	20100707		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: MURPHY, STEPHEN P.
EP2198367 A1	20100707		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: PATEL, SRUJAL PartyType: inventor
EP2198367 A1	20100707		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: SAUNDERS, MATTHEW J. B. PartyType: inventor
EP2198367 A1	20100707		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: SCHLEZINGER, ASAF PartyType: inventor
EP2198367 A1	20100707		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: SHENG, SHURAN
EP2198367 A1	20100707		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: SU, TZAY-FA PartyType: inventor
EP2198367 A1	20100707		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: SULLIVAN, JEFFREY S. PartyType: inventor
EP2198367 A1	20100707		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: TANNER, DAVID
EP2198367 A1	20100707		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE	Inventor: TROWBRIDGE, TERESA PartyType: inventor

				GRANT (CORRECTED)	
EP2198367 A1	20100707		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: WALKER, BRICE PartyType: inventor
EP2198367 A1	20100707		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: WHITE, JOHN M.
EP2198367 A1	20100707		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: WON, TAE K. PartyType: inventor
EP2198367 A1	20100804		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: BACHRACH, ROBERT Z.
EP2198367 A1	20100804		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: CHAE, YONG-KEE
EP2198367 A1	20100804		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: CHOI, SOO YOUNG PartyType: inventor
EP2198367 A1	20100804		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: DE VRIES, NICHOLAS G. J. PartyType: inventor
EP2198367 A1	20100804		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: ELGAR, YACOV
EP2198367 A1	20100804		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: ENGLHARDT, ERIC A. PartyType: inventor
EP2198367 A1	20100804		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: FREI, MICHEL R. PartyType: inventor
EP2198367 A1	20100804		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: GAY, CHARLES PartyType: inventor
EP2198367 A1	20100804		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: HAWKINS, PARRIS
EP2198367 A1	20100804		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: HO, CHOI
EP2198367 A1	20100804		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: HUNTER, JAMES CRAIG PartyType: inventor
EP2198367 A1	20100804		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: KANKANALA, PENCHALA N. PartyType: inventor
EP2198367 A1	20100804		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: LI, LIWEI PartyType: inventor
EP2198367 A1	20100804		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: LO, WING HOO PartyType: inventor
EP2198367 A1	20100804		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE	Inventor: LU, DANNY CAM TOAN PartyType: inventor

				GRANT (CORRECTED)	
EP2198367 A1	20100804		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: MEI, FANG
EP2198367 A1	20100804		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: MURPHY, STEPHEN P. PartyType: inventor
EP2198367 A1	20100804		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: PATEL, SRUJAL PartyType: inventor
EP2198367 A1	20100804		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: SAUNDERS, MATTHEW J. B.
EP2198367 A1	20100804		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: SCHLEZINGER, ASAF PartyType: inventor
EP2198367 A1	20100804		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: SHENG, SHURAN
EP2198367 A1	20100804		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: SU, TZAY-FA
EP2198367 A1	20100804		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: SULLIVAN, JEFFREY S. PartyType: inventor
EP2198367 A1	20100804		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: TANNER, DAVID PartyType: inventor
EP2198367 A1	20100804		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: TROWBRIDGE, TERESA PartyType: inventor
EP2198367 A1	20100804		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: WALKER, BRICE
EP2198367 A1	20100804		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: WHITE, JOHN M.
EP2198367 A1	20100804		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: WON, TAE K. PartyType: inventor
EP2198367 A1	20101208		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP2198367 A1	20130911	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 20130301
EP2200790 A1	20100630	LSPB	+	published / reissued	
EP2200790 A1	20100630	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20081023
EP2200790 A1	20100630		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MT NL NO PL PT RO SE SI SK TR
EP2200790 A1	20100630		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: AL BA MK RS
EP2200790 A1	20100728		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE	Inventor: BACHRACH, ROBERT, Z. PartyType: inventor

				GRANT (CORRECTED)	
EP2200790 A1	20100728		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: CHAE, YONG-KEE
EP2200790 A1	20100728		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: CHOI, SOO, YOUNG
EP2200790 A1	20100728		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: DE VRIES, NICHOLAS, G., J. PartyType: inventor
EP2200790 A1	20100728		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: ELGAR, YACOV
EP2200790 A1	20100728		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: ENGLHARDT, ERIC, A.
EP2200790 A1	20100728		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: FREI, MICHEL, R.
EP2200790 A1	20100728		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: GAY, CHARLES PartyType: inventor
EP2200790 A1	20100728		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: HAWKINS, PARRIS
EP2200790 A1	20100728		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: HO, CHOI PartyType: inventor
EP2200790 A1	20100728		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: HUNTER, JAMES, CRAIG PartyType: inventor
EP2200790 A1	20100728		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: KANKANALA, PENCHALA, N. PartyType: inventor
EP2200790 A1	20100728		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: LI, LIWEI
EP2200790 A1	20100728		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: LO, WING, HOO PartyType: inventor
EP2200790 A1	20100728		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: LU, DANNY, CAM, TOAN PartyType: inventor
EP2200790 A1	20100728		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: MEI, FANG PartyType: inventor
EP2200790 A1	20100728		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: MURPHY, STEPHEN, P. PartyType: inventor
EP2200790 A1	20100728		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: PATEL, SRUJAL PartyType: inventor
EP2200790 A1	20100728		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT	PartyType: inventor Inventor: SAUNDERS, MATTHEW, J., B.

			(CORRECTED)	
EP2200790 A1	20100728	RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: SCHLEZINGER, ASAF PartyType: inventor
EP2200790 A1	20100728	RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: SHENG, SHURAN PartyType: inventor
EP2200790 A1	20100728	RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: SU, TZAY-FA PartyType: inventor
EP2200790 A1	20100728	RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: SULLIVAN, JEFFREY, S. PartyType: inventor
EP2200790 A1	20100728	RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: TANNER, DAVID
EP2200790 A1	20100728	RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: TROWBRIDGE, TERESA
EP2200790 A1	20100728	RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: WALKER, BRICE PartyType: inventor
EP2200790 A1	20100728	RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: WHITE, JOHN, M. PartyType: inventor
EP2200790 A1	20100728	RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: WON, TAE, K. PartyType: inventor
EP2200790 A1	20101208	DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP2200790 A1	20110518	RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: BACHRACH, ROBERT, Z.
EP2200790 A1	20110518	RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: CHAE, YONG-KEE PartyType: inventor
EP2200790 A1	20110518	RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: CHOI, SOO, YOUNG PartyType: inventor
EP2200790 A1	20110518	RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: DE VRIES, NICHOLAS, G., J.
EP2200790 A1	20110518	RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: ELGAR, YACOV
EP2200790 A1	20110518	RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: ENGLHARDT, ERIC, A. PartyType: inventor
EP2200790 A1	20110518	RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: FREI, MICHEL, R.
EP2200790 A1	20110518	RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: GAY, CHARLES

EP2200790 A1	20110518	RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: HAWKINS, PARRIS
EP2200790 A1	20110518	RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: HO, CHOI PartyType: inventor
EP2200790 A1	20110518	RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: HUNTER, JAMES, CRAIG PartyType: inventor
EP2200790 A1	20110518	RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: KANKANALA, PENCHALA, N. PartyType: inventor
EP2200790 A1	20110518	RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: LI, LIWEI
EP2200790 A1	20110518	RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: LO, WING, HOO
EP2200790 A1	20110518	RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: LU, DANNY, CAM, TOAN
EP2200790 A1	20110518	RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: MEI, FANG PartyType: inventor
EP2200790 A1	20110518	RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: MURPHY, STEPHEN, P.
EP2200790 A1	20110518	RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: PATEL, SRUJAL
EP2200790 A1	20110518	RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: SAUNDERS, MATTHEW, J., B. PartyType: inventor
EP2200790 A1	20110518	RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: SCHLEZINGER, ASAF PartyType: inventor
EP2200790 A1	20110518	RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: SHENG, SHURAN PartyType: inventor
EP2200790 A1	20110518	RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: SU, TZAY-FA
EP2200790 A1	20110518	RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: SULLIVAN, JEFFREY, S.
EP2200790 A1	20110518	RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: TANNER, DAVID
EP2200790 A1	20110518	RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: TROWBRIDGE, TERESA
EP2200790 A1	20110518	RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: WALKER, BRICE

EP2200790 A1	20110518		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: WHITE, JOHN, M.
EP2200790 A1	20110518		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: WON, TAE, K.
EP2200790 A1	20111123	LSWD	-18W	APPLICATION WITHDRAWN	Effective date: 20111013
EP2243168 A2	20101027	LSPB	+	published / reissued	
EP2243168 A2	20101027	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20100824
EP2243168 A2	20101027		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: 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 TR
EP2243168 A2	20101027		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: AL BA RS
EP2243168 A2	20110504		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP2243168 A2	20140122	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 20130801
EP2250677 A2	20101117	LSPB	+	published / reissued	
EP2250677 A2	20101117	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20100831
EP2250677 A2	20101117		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: 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 TR
EP2250677 A2	20101117		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: AL BA RS
EP2250677 A2	20101229		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: UMOTOY, SALVADOR P.
EP2250677 A2	20101229		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: SULLIVAN, JEFFREY S.
EP2250677 A2	20101229		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: BRENNAN, MICHAEL
EP2250677 A2	20101229		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: GAY, CHARLES PartyType: inventor
EP2250677 A2	20101229		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: COSTUROS, THEODOSSIOS V. PartyType: inventor
EP2250677 A2	20101229		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: WILLIAMS, GARY
EP2250677 A2	20101229		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: GOMEZ, OSCAR PartyType: inventor
EP2250677 A2	20110518		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP2250677 A2	20140205	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 20130903
IN00564CN2010 A	20100723	LSPB	+	published / reissued	

IN05719CN2008 A	20090821	LSPB	+	published / reissued	
JP2009105401 A2	20090514	LSPB	+	published / reissued	
JP2009105401 A2	20120110	LSWD	-A300	WITHDRAWAL OF APPLICATION BECAUSE OF NO REQUEST FOR EXAMINATION	Effective date: 20120110 Text: JAPANESE INTERMEDIATE CODE: A300
JP2009105402 A2	20090514	LSPB	+	published / reissued	
JP2009105402 A2	20120110	LSWD	-A300	WITHDRAWAL OF APPLICATION BECAUSE OF NO REQUEST FOR EXAMINATION	Text: JAPANESE INTERMEDIATE CODE: A300 Effective date: 20120110
JP2010538475 T2	20101201		RD03	NOTIFICATION OF APPOINTMENT OF POWER OF ATTORNEY	Text: JAPANESE INTERMEDIATE CODE: A7423 Effective date: 20101130
JP2010538475 T2	20101209	LSPB	+	published / reissued	
JP2010538475 T2	20101211		RD04	NOTIFICATION OF RESIGNATION OF POWER OF ATTORNEY	Effective date: 20101210 Text: JAPANESE INTERMEDIATE CODE: A7424
JP2010538475 T2	20111101	LSWD	-A300	WITHDRAWAL OF APPLICATION BECAUSE OF NO REQUEST FOR EXAMINATION	Text: JAPANESE INTERMEDIATE CODE: A300 Effective date: 20111101
JP2010538476 T2	20101201		RD03	NOTIFICATION OF APPOINTMENT OF POWER OF ATTORNEY	Effective date: 20101130 Text: JAPANESE INTERMEDIATE CODE: A7423
JP2010538476 T2	20101209	LSPB	+	published / reissued	
JP2010538476 T2	20101211		RD04	NOTIFICATION OF RESIGNATION OF POWER OF ATTORNEY	Effective date: 20101210 Text: JAPANESE INTERMEDIATE CODE: A7424
JP2010538476 T2	20111101	LSWD	-A300	WITHDRAWAL OF APPLICATION BECAUSE OF NO REQUEST FOR EXAMINATION	Effective date: 20111101 Text: JAPANESE INTERMEDIATE CODE: A300
JP2011512680 T2	20110421	LSPB	+	published / reissued	
JP2011512680 T2	20111214	LSRE	A521	WRITTEN AMENDMENT	Text: JAPANESE INTERMEDIATE CODE: A523 Effective date: 20111213
JP2011512680 T2	20111214	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Effective date: 20111213 Text: JAPANESE INTERMEDIATE CODE: A621
JP2011512680 T2	20130123	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20130122 Text: JAPANESE INTERMEDIATE CODE: A131
JP2011512680 T2	20130124		A977	REPORT ON RETRIEVAL	Effective date: 20130123 Text: JAPANESE INTERMEDIATE CODE: A971007
JP2011512680 T2	20130626	LSRV	-A02	DECISION OF REFUSAL	Effective date: 20130625 Text: JAPANESE INTERMEDIATE CODE: A02
KR20090040846 A	20081015	LSES	A201	REQUEST FOR EXAMINATION	
KR20090040846 A	20090427	LSPB	+	published / reissued	
KR20090040846 A	20100728	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR20090040846 A	20101011	LSRV	-E601	DECISION TO REFUSE APPLICATION	
KR20090040848 A	20081016	LSES	A201	REQUEST FOR EXAMINATION	
KR20090040848 A	20090427	LSPB	+	published / reissued	
KR20090040848 A	20100830	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR20090040848 A	20110217	LSRV	-E601	DECISION TO REFUSE APPLICATION	

KR20090047388 A	20081024	LSES	A201	REQUEST FOR EXAMINATION	
KR20090047388 A	20090512	LSPB	+	published / reissued	
KR20090047388 A	20101019	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR20090047388 A	20110705	LSRV	-E601	DECISION TO REFUSE APPLICATION	
KR20100051738 A	20100517	LSPB	+	published / reissued	
KR20100051738 A	20130930	LSDW	-WITN	WITHDRAWAL DUE TO NO REQUEST FOR EXAMINATION	
KR20100124759 A	20101129	LSPB	+	published / reissued	
KR20100124759 A	20140312	LSDW	-WITN	WITHDRAWAL DUE TO NO REQUEST FOR EXAMINATION	
TW200919761 A	20090501	LSPB	+	published / reissued	
TW200919762 A	20090501	LSPB	+	published / reissued	
TW200929413 A	20090701	LSPB	+	published / reissued	
TW200933916 A	20090801	LSPB	+	published / reissued	
TW200946847 A	20091116	LSPB	+	published / reissued	
TW201000923 A	20100101	LSPB	+	published / reissued	
TW201101426 A	20110101	LSPB	+	published / reissued	
US2009077804 AA	20081208	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:BACHRACH, ROBERT Z.;CHAE, YONG-KEE;CHOI, SOO YOUNG;AND OTHERS;REEL/FRAME:021940/0001;SIGNING DATES FROM 20081006 TO 20081202 Owner: APPLIED MATERIALS, INC., CALIFORNIA PartyType: owner
US2009077804 AA	20090326	LSPB	+	published / reissued	
US2009077804 AA	20120716	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2009077804 AA	20120716		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2009077805 AA	20090326	LSPB	+	published / reissued	
US2009102502 AA	20080314	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:FREI, MICHEL RANJIT;SU, TZAY-FA;REEL/FRAME:020653/0650;SIGNING DATES FROM 20071109 TO 20071113 PartyType: owner Owner: APPLIED MATERIALS, INC., CALIFORNIA
US2009102502 AA	20090423	LSPB	+	published / reissued	
US2009102502 AA	20100802	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2009102502 AA	20100802		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2009104342 AA	20081202	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:WANG, DAPENG;FREI, MICHEL R.;SU, TZAY-FA (JEFF);AND OTHERS;REEL/FRAME:021914/0967;SIGNING DATES FROM 20081016 TO 20081025 PartyType: owner Owner: APPLIED MATERIALS, INC., CALIFORNIA
US2009104342 AA	20090423	LSPB	+	published / reissued	
US2009104342 AA	20130419	LSWD	ABD3	Abandoned -- Failure to Respond	

				to an Office Action	
US2009104342 AA	20130419		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2009179651 AA	20090716	LSPB	+	published / reissued	
US2009188102 AA	20090730	LSPB	+	published / reissued	
US2009188603 AA	20090309	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:HALLER, UWE P.;ELGAR, YACOV;KLUG, THOMAS;REEL/FRAME:022366/0727;SIGNING DATES FROM 20090129 TO 20090203 PartyType: owner Owner: APPLIED MATERIALS, INC., CALIFORNIA
US2009188603 AA	20090730	LSPB	+	published / reissued	
US2009188603 AA	20110328	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2009188603 AA	20110328		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2009205703 AA	20090408	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:UMOTOY, SALVADOR P.;SULLIVAN, JEFFREY S.;BRENNAN, MIKE;AND OTHERS;REEL/FRAME:022519/0881;SIGNING DATES FROM 20090224 TO 20090406 Owner: APPLIED MATERIALS, INC., CALIFORNIA PartyType: owner
US2009205703 AA	20090820	LSPB	+	published / reissued	
US2009205703 AA	20110126	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2009205703 AA	20110126		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2009211071 AA	20090827	LSPB	+	published / reissued	
US2009221217 AA	20090903	LSPB	+	published / reissued	
US2009256581 AA	20091015	LSPB	+	published / reissued	
US2009277006 AA	20091112	LSPB	+	published / reissued	
US2010047954 AA	20091112	LSAS	AS	ASSIGNMENT	Owner: APPLIED MATERIALS, INC.,CALIFORNIA OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:SU, TZAY-FA (JEFF);LE, HIEN-MINH;MEI, FANG;AND OTHERS;SIGNING DATES FROM 20090922 TO 20091005;REEL/FRAME:023512/0285 PartyType: owner
US2010047954 AA	20100225	LSPB	+	published / reissued	
US2010047954 AA	20130529	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2010047954 AA	20130529		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2011314672 AA	20110830	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:LU, DANNY CAM TOAN;SULLIVAN, JEFFREY S.;TANNER, DAVID;AND OTHERS;SIGNING DATES FROM 20090203 TO 20090209;REEL/FRAME:026831/0386 Owner: APPLIED MATERIALS, INC., CALIFORNIA PartyType: owner
US2011314672 AA	20111229	LSPB	+	published / reissued	
US2011314672 AA	20130612	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2011314672 AA	20130612		-STCB	INFORMATION ON STATUS:	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION

				APPLICATION DISCONTINUATION	
US7908743 BB	20090728	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:LI, ZHIYONG;LUU, CHUCK;PRABHU, GOPALAKRISHNA B.;AND OTHERS;REEL/FRAME:023011/0766;SIGNING DATES FROM 20090508 TO 20090513 PartyType: owner Owner: APPLIED MATERIALS, INC., CALIFORNIA
US7908743 BB	20090728	LSAS	AS	ASSIGNMENT	Owner: APPLIED MATERIALS, INC., CALIFORNIA OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:LI, ZHIYONG;LUU, CHUCK;PRABHU, GOPALAKRISHNA B.;AND OTHERS;SIGNING DATES FROM 20090508 TO 20090513;REEL/FRAME:023011/0766 PartyType: owner
US7908743 BB	20110322	LSGT	+	granted / extensions (spc, cpc, pte)	
US7908743 BB	20141031		REMI	MAINTENANCE FEE REMINDER MAILED	
US7908743 BB	20150322	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US7908743 BB	20150420	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US7908743 BB	20150420	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US7908743 BB	20150512	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20150322
US7908743 BB	20290412	PEXP		Calculated Patent Term Expiry (PTA 44 days)	
US8024854 BB	20090309	LSAS	AS	ASSIGNMENT	Owner: APPLIED MATERIALS, INC., CALIFORNIA PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:LU, DANNY CAM TOAN;SULLIVAN, JEFFREY S.;TANNER, DAVID;AND OTHERS;REEL/FRAME:022366/0803;SIGNING DATES FROM 20090203 TO 20090209
US8024854 BB	20090309	LSAS	AS	ASSIGNMENT	PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:LU, DANNY CAM TOAN;SULLIVAN, JEFFREY S.;TANNER, DAVID;AND OTHERS;SIGNING DATES FROM 20090203 TO 20090209;REEL/FRAME:022366/0803 Owner: APPLIED MATERIALS, INC., CALIFORNIA
US8024854 BB	20110927	LSGT	+	granted / extensions (spc, cpc, pte)	
US8024854 BB	20150508		REMI	MAINTENANCE FEE REMINDER MAILED	
US8024854 BB	20150927	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US8024854 BB	20151026	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US8024854 BB	20151026	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US8024854 BB	20151117	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20150927
US8024854 BB	20290911	PEXP		Calculated Patent Term Expiry (PTA 231 days)	
US8049521 BB	20090602	LSAS	AS	ASSIGNMENT	PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:LU, DANNY CAM TOAN;MARRIOTT, MICHAEL;SVIDENKO, VICKY;AND OTHERS;REEL/FRAME:022767/0266;SIGNING DATES FROM 20090408 TO 20090501 Owner: APPLIED MATERIALS, INC., CALIFORNIA

US8049521 BB	20090602	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:LU, DANNY CAM TOAN;MARRIOTT, MICHAEL;SVIDENKO, VICKY;AND OTHERS;SIGNING DATES FROM 20090408 TO 20090501;REEL/FRAME:022767/0266 Owner: APPLIED MATERIALS, INC., CALIFORNIA PartyType: owner
US8049521 BB	20111101	LSGT	+	granted / extensions (spc, cpc, pte)	
US8049521 BB	20150612		REMI	MAINTENANCE FEE REMINDER MAILED	
US8049521 BB	20151101	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US8049521 BB	20151130	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US8049521 BB	20151130	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US8049521 BB	20151222	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20151101
US8049521 BB	20300113	PEXP		Calculated Patent Term Expiry (PTA 295 days)	
US8065784 BB	20090506	LSAS	AS	ASSIGNMENT	Owner: APPLIED MATERIALS, INC., CALIFORNIA OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:LU, DANNY CAM TOAN;ELGAR, YACOV;SULLIVAN, JEFFREY S.;AND OTHERS;REEL/FRAME:022648/0786;SIGNING DATES FROM 20090311 TO 20090317 PartyType: owner
US8065784 BB	20090506	LSAS	AS	ASSIGNMENT	PartyType: owner Owner: APPLIED MATERIALS, INC., CALIFORNIA OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:LU, DANNY CAM TOAN;ELGAR, YACOV;SULLIVAN, JEFFREY S.;AND OTHERS;SIGNING DATES FROM 20090311 TO 20090317;REEL/FRAME:022648/0786
US8065784 BB	20111109	LSGT	PAT1	Patented Case	
US8065784 BB	20111129	LSGT	+	granted / extensions (spc, cpc, pte)	
US8065784 BB	20120221	LSRE	CC	CERTIFICATE OF CORRECTION	
US8065784 BB	20150710		REMI	MAINTENANCE FEE REMINDER MAILED	
US8065784 BB	20151129	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US8065784 BB	20151228	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US8065784 BB	20151228	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US8065784 BB	20160119	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20151129
US8065784 BB	20291118	PEXP		Calculated Patent Term Expiry (PTA 264 days)	
US8138782 BB	20090309	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:ELGAR, YACOV;LU, DANNY CAM TOAN;SU, TZAY-FA;AND OTHERS;REEL/FRAME:022366/0864;SIGNING DATES FROM 20090126 TO 20090209 Owner: APPLIED MATERIALS, INC., CALIFORNIA PartyType: owner
US8138782 BB	20090309	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:ELGAR, YACOV;LU, DANNY CAM TOAN;SU, TZAY-FA;AND OTHERS;SIGNING DATES FROM 20090126 TO 20090209;REEL/FRAME:022366/0864

					Owner: APPLIED MATERIALS, INC., CALIFORNIA PartyType: owner
US8138782 BB	20120229	LSGT	PAT1	Patented Case	
US8138782 BB	20120320	LSGT	+	granted / extensions (spc, cpc, pte)	
US8138782 BB	20151030		REMI	MAINTENANCE FEE REMINDER MAILED	
US8138782 BB	20160320	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US8138782 BB	20160418	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US8138782 BB	20160418	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US8138782 BB	20160510	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20160320
US8138782 BB	20300928	PEXP		Calculated Patent Term Expiry (PTA 627 days)	
US8225496 BB	20081208	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:BACHRACH, ROBERT Z.;CHAE, YONG-KEE;CHOI, SOO YOUNG;AND OTHERS;REEL/FRAME:021939/0673;SIGNING DATES FROM 20081006 TO 20081208 Owner: APPLIED MATERIALS, INC., CALIFORNIA PartyType: owner
US8225496 BB	20081208	LSAS	AS	ASSIGNMENT	Owner: APPLIED MATERIALS, INC., CALIFORNIA PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:BACHRACH, ROBERT Z.;CHAE, YONG-KEE;CHOI, SOO YOUNG;AND OTHERS;SIGNING DATES FROM 20081006 TO 20081208;REEL/FRAME:021939/0673
US8225496 BB	20120704	LSGT	PAT1	Patented Case	
US8225496 BB	20120724	LSGT	+	granted / extensions (spc, cpc, pte)	
US8225496 BB	20160304		REMI	MAINTENANCE FEE REMINDER MAILED	
US8225496 BB	20160724	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US8225496 BB	20160822	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US8225496 BB	20160822	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US8225496 BB	20160913	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20160724
US8225496 BB	20310525	PEXP		Calculated Patent Term Expiry (PTA 999 days)	
US8231431 BB	20090512	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:GAJARIA, DHRUV;LI, ZHIYONG;PRABHU, GOPALAKRISHNA B.;AND OTHERS;REEL/FRAME:022673/0862;SIGNING DATES FROM 20090204 TO 20090409 PartyType: owner Owner: APPLIED MATERIALS, INC., CALIFORNIA
US8231431 BB	20090512	LSAS	AS	ASSIGNMENT	PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:GAJARIA, DHRUV;LI, ZHIYONG;PRABHU, GOPALAKRISHNA B.;AND OTHERS;SIGNING DATES FROM 20090204 TO 20090409;REEL/FRAME:022673/0862 Owner: APPLIED MATERIALS, INC., CALIFORNIA
US8231431 BB	20120711	LSGT	PAT1	Patented Case	
US8231431 BB	20120731	LSGT	+	granted / extensions (spc, cpc, pte)	

US8231431 BB	20160311		REMI	MAINTENANCE FEE REMINDER MAILED	
US8231431 BB	20160731	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US8231431 BB	20160829	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US8231431 BB	20160829	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US8231431 BB	20160920	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20160731
US8231431 BB	20310124	PEXP		Calculated Patent Term Expiry (PTA 731 days)	
WO09029901 A1	20080829	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 200880000176.X Country of Ref document: CN
WO09029901 A1	20081023	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 5719/CHENP/2008 Country of Ref document: IN
WO09029901 A1	20081023	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2008799778 Country of Ref document: EP
WO09029901 A1	20081024	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 2010523183 Kind code of Ref document: A Country of Ref document: JP
WO09029901 A1	20081024	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 1020087026168 Country of Ref document: KR
WO09029901 A1	20090305	LSPB	+	published / reissued	
WO09029901 A1	20090429		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Ref document number: 08799778 Kind code of Ref document: A1 Country of Ref document: EP
WO09029901 A1	20100302	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO09029902 A1	20080829	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 200880105071.0 Country of Ref document: CN
WO09029902 A1	20090305	LSPB	+	published / reissued	
WO09029902 A1	20090429		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Ref document number: 08799033 Kind code of Ref document: A1 Country of Ref document: EP
WO09029902 A4	20100127	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 2010523184 Country of Ref document: JP
WO09029902 A4	20100129	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 564/CHENP/2010 Country of Ref document: IN
WO09029902 A4	20100227	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: PI 2010000279 Country of Ref document: MY
WO09029902 A4	20100302	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO09029902 A4	20100331	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 20107007066 Country of Ref document: KR
WO09029902 A4	20100331	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2008799033 Country of Ref document: EP
WO09055208 A1	20090430	LSPB	+	published / reissued	

WO09055208 A1	20090624		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A1 Ref document number: 08842189 Country of Ref document: EP
WO09055208 A1	20100423	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO09055208 A1	20101208	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	Kind code of Ref document: A1 Ref document number: 08842189 Country of Ref document: EP
WO09055262 A1	20090430	LSPB	+	published / reissued	
WO09055262 A1	20090624		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Ref document number: 08843080 Kind code of Ref document: A1 Country of Ref document: EP
WO09055262 A1	20100423	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO09055262 A1	20101208	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	Kind code of Ref document: A1 Ref document number: 08843080 Country of Ref document: EP
WO09094539 A1	20090123	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 200980101026.2 Country of Ref document: CN
WO09094539 A1	20090730	LSPB	+	published / reissued	
WO09094539 A1	20090923		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Ref document number: 09704307 Kind code of Ref document: A1 Country of Ref document: EP
WO09094539 A1	20100727	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO09094539 A1	20110223	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	Ref document number: 09704307 Kind code of Ref document: A1 Country of Ref document: EP
WO09094545 A2	20090123	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 200980102932.4 Country of Ref document: CN
WO09094545 A2	20090730	LSPB	+	published / reissued	
WO09094545 A2	20090923		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A2 Ref document number: 09703276 Country of Ref document: EP
WO09094545 A3	20100727	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO09094545 A3	20100824	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2009703276 Country of Ref document: EP
WO09102772 A2	20090211	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 200980101997.7 Country of Ref document: CN
WO09102772 A2	20090820	LSPB	+	published / reissued	
WO09102772 A2	20091014		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Ref document number: 09710551 Kind code of Ref document: A2 Country of Ref document: EP
WO09102772 A3	20100816	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2010546874 Country of Ref document: JP
WO09102772 A3	20100817	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO09102772 A3	20100831	LSNP	+WWE	WIPO INFORMATION:	Ref document number: 2009710551 Country of Ref document: EP

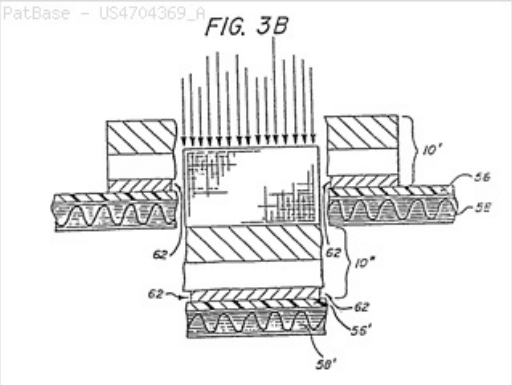
				ENTRY INTO NATIONAL PHASE	
WO09102772 A3	20100910	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 20107020299 Country of Ref document: KR
WO09129030 A2	20091022	LSPB	+	published / reissued	
WO09129030 A3	20091216		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A2 Ref document number: 09733635 Country of Ref document: EP
WO09129030 A3	20101015	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO09129030 A3	20110810	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	Kind code of Ref document: A2 Ref document number: 09733635 Country of Ref document: EP
WO10110778 A2	20090227	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 200980106764.6 Country of Ref document: CN
WO10110778 A2	20100828	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO10110778 A2	20100930	LSPB	+	published / reissued	
WO10110778 A2	20101124		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Ref document number: 09842413 Kind code of Ref document: A2 Country of Ref document: EP
WO10110778 A3	20110420	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	Ref document number: 09842413 Kind code of Ref document: A1 Country of Ref document: EP
WO10129125 A2	20100406	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 201080018150.5 Country of Ref document: CN
WO10129125 A2	20101111	LSPB	+	published / reissued	
WO10129125 A2	20101229		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A2 Ref document number: 10772432 Country of Ref document: EP
WO10129125 A3	20111027	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO10129125 A3	20120530	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	Kind code of Ref document: A2 Ref document number: 10772432 Country of Ref document: EP

29) Family number: 30273678 (US4704369 A)

Title: METHOD OF SEVERING A SEMICONDUCTOR DEVICE

Abstract: An improved method for severing a large area semiconductor device, including a substrate having a base electrode region thereupon, semiconductor body and top electrode into smaller area devices includes the steps of supporting the semiconductor device from the top electrode side thereof and applying a cutting force to the substrate side of the semiconductor device so as to cut the device without establishing short circuit contact between the substrate electrode and the top electrode thereof. Also included is a large area semiconductor device having a protective layer affixed to the top electrode surface thereof. The large area device is readily adapted for severing into smaller area photovoltaic devices by the method disclosed herein.

Classifications:
International (IPC 8-9): H01L21/02 H01L21/205 H01L21/301 H01L21/302 H01L21/34 H01L31/04 H01L31/18 H01L31/20
International (IPC 1-7): B26D B26F1/02 C23C14/38 H01L15/02 H01L21/02 H01L21/205 H01L21/301 H01L21/304 H01L21/34 H01L21/463 H01L21/78 H01L31/04 H01L31/06 H01L31/18
CPC: H01L21/302 H01L31/206 Y02E10/50 Y02P70/50 Y10T83/0562
US: 136/258 257/E21.214 437/2 437/226 438/465 438/68 83/47



Family:

Publication number	Publication date	Application number	Application date
AU198655532 A1	19861009	AU19860055532	19860401
AU577010 B2	19880908	AU19860055532	19860401
BRPI8601422 A	19861209	BR1986PI01422	19860331
CA1244558 A1	19881108	CA19860504277	19860317
DE3679697 D1	19910718	DE19863679697T	19860317
EP0197679 A2	19861015	EP19860301939	19860317
EP0197679 A3	19880113	EP19860301939	19860317
EP0197679 B1	19910612	EP19860301939	19860317
ES553395 A0	19870801	ES19860553395	19860325
ES8707631 A1	19870801	ES19860553395	19860325
IN164588 A	19890415	IN1986DE00270	19860321
JP2502513 B2	19960529	JP19860070660	19860328
JP61263173 A2	19861121	JP19860070660	19860328
MX167950 B	19930426	MX19860002027	19860331
US4704369 A	19871103	US19850718770	19850401
ZA8602254 A	19861126	ZA19860002254	19860326

Priority:

US19850718770 19850401 CA19860504277 19860317

Probable Assignee: UNITED SOLAR SYSTEMS CORP

Assignee(s): (std): ENERGY CONVERSION DEVICES INC ; SOUBONIKUSU SOLAR SYST ; SOVONICS SOLAR SYSTEMS

Assignee(s): ENAAJII KONBAAJON DEBAISESU INC ; ENERGY CONVERSION DEVICES INC A CORP OF DE ; ENERGY CONVERSION DEVICES INC TROY MICH US ; KYANON KK ; NATH PREM ; SINGH AVTAR ; UNITED SOLAR SYSTEMS CORP

Inventor(s): (std): ABUTAA SHINGU ; NATH M ; NATH PREM ; PUREEMU NASU ; SINGH AVATH ; SINGH AVTAR

Inventor(s): AUTAA SHINGU ; AVATH SINGH ; AVTAR SINGH ; M NATH ; NATH PREM ROCHESTER MICHIGAN 48063 US ; PREM NATH ; SINGH AVTAR DETROIT MICHIGAN 48235 US

Agent(s): GOWLING LAFLEUR HENDERSON LLP; GRIFFITH HACK

Designated states: CH DE FR GB IT LI NL

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AU198655532 A1	19861009	LSPB	+	published / reissued	
AU577010 B2	19880908	LSGT	+	granted / extensions (spc, cpc, pte)	
AU577010 B2	20060401	PEXP		Calculated Patent Term Expiry	
BRPI8601422 A	19861209	LSPB	+	published / reissued	
BRPI8601422 A	19950926	LSLE	-MM	LAPSE DUE TO NON-PAYMENT OF FEES (ART. 50)	

CA1244558 A1					
CA1244558 A1	20060317	LSLE	-MKEX	EXPIRY	
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EP0197679 A2	19861015	LSPB	+	published / reissued	
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EP0197679 A2	19870422	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	PartyType: owner Owner: ENERGY CONVERSION DEVICES, INC.
EP0197679 A3	19880113		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A3 Country of Ref document: CH DE FR GB IT LI NL
EP0197679 A3	19880810	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 19880614
EP0197679 A3	19900704	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 19900517
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EP0197679 B1	19910712		+ET	FR: TRANSLATION FILED	
EP0197679 B1	19910716		+ITF	IT: TRANSLATION FOR A EP PATENT FILED	Owner: ING. C. GREGORJ S.P.A. PartyType: owner
EP0197679 B1	19910718		REF	CORRESPONDS TO:	Ref document number: 3679697 Date of Ref document: 19910718 Country of Ref document: DE
EP0197679 B1	19910913	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: PL
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EP0197679 B1	19931001	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT	Lapsed date: 19931001 Country of Ref document: NL

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EP0197679 B1	20030303	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 18 Payment date: 20030303 Country of Ref document: FR
EP0197679 B1	20040317	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20040317 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: GB
EP0197679 B1	20041110	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	Ref country code: EP Effective date: 20040317
EP0197679 B1	20041130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20041130 Country of Ref document: FR
EP0197679 B1	20050107	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: ST Ref country code: FR
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EP0197679 B1	20050331	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20050331 Year of fee payment: 20 Country of Ref document: DE
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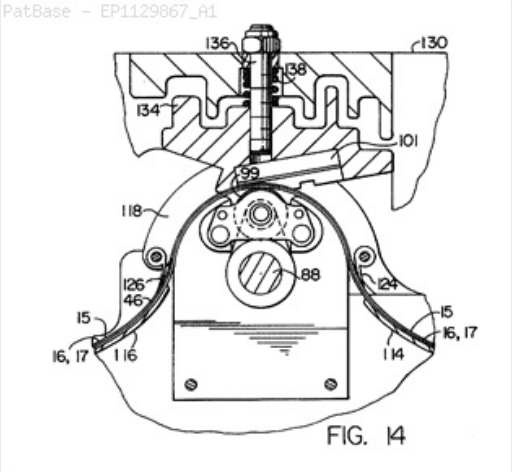
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ES8707631 A1	20080416	LSLE	-FD1A	PATENT LAPSED	Effective date: 20070428
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JP2502513 B2	19960529	LSGT	+	granted / extensions (spc, cpc, pte)	
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JP2502513 B2	20060328	PEXP		Calculated Patent Term Expiry	
JP61263173 A2	19861121	LSPB	+	published / reissued	
MX167950 B	19930426	LSGT	+	granted / extensions (spc, cpc, pte)	
MX167950 B	20030426	PEXP		Calculated Patent Term Expiry	
US4704369 A	19850401	LSAS	AS	ASSIGNMENT	Effective date: 19850328 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST.;ASSIGNORS:NATH, PREM;SINGH, AVTAR;REEL/FRAME:004422/0681 Owner: SOVONICS SOLAR SYSTEMS, 1675 WEST MAPLE ROAD, TROY PartyType: owner
US4704369 A	19860922	LSAS	AS	ASSIGNMENT	PartyType: owner Effective date: 19860911 Owner: ENERGY CONVERSION DEVICES, INC., A CORP. OF DE. OldParty: ASSIGNMENT OF ASSIGNORS INTEREST. EFFECTIVE 06/02/86 SUBJECT TO LICENSE AGREEMENT RECITED;ASSIGNOR:SOVONICS SOLAR SYSTEMS;REEL/FRAME:004604/0158
US4704369 A	19870901	LSGT	PAT1	Patented Case	
US4704369 A	19870901	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US4704369 A	19871103	LSGT	+	granted / extensions (spc, cpc, pte)	
US4704369 A	19910422	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US4704369 A	19940503	LSAS	AS	ASSIGNMENT	Effective date: 19940414 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:ENERGY CONVERSION DEVICES, INC.;REEL/FRAME:006969/0179 PartyType: owner Owner: UNITED SOLAR SYSTEMS CORP., MICHIGAN
US4704369 A	19950419	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US4704369 A	19990503	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
US4704369 A	20050401	PEXP		Calculated Patent Term Expiry	
ZA8602254 A	19861126	LSGT	+	granted / extensions (spc, cpc, pte)	
ZA8602254 A	20060325	PEXP		Calculated Patent Term Expiry	

30) Family number: 15490317 (EP1129867 A1)

Title: METHOD AND APPARATUS FOR MANUFACTURING A GRAPHIC **PRODUCT**

Abstract: A method and apparatus for making a graphic **product** from a layer of sheet material on a carrier sheet uses stored machine readable data describing the periphery of the graphic **product** to cut and remove the **product** from the carrier sheet. The apparatus includes a feeding mechanism for feeding the layer of sheet material and a bonding web adjacent a thermal heating head. The thermal heating head has individual heating elements that are selectively energized to heat the bonding web throughout a patterned heat application area which overlies the portion of the sheet material corresponding to the weed or the graphic **product** designated for removal. The portion of the layer of sheet material secured to the bonding web is then separated from the carrier sheet. The apparatus can also be used to apply an adhesive inhibitor to one portion of the sheet material so that another portion can be removed with a conventional adhesive transfer web.

Classifications:
International (IPC 8-9): B26D7/00 B26D7/27 B26F1/38 B44C1/17
International (IPC 1-7): B44C1/17
CPC: B26D7/27 B26F1/3806 B44C1/1712 B44C1/172 B44C1/1725



Family:

Publication number	Publication date	Application number	Application date
AT229886 E	20030115	AT20000104347T	20000302
DE60001045 D1	20030130	DE20006001045T	20000302
DE60001045 T2	20030904	DE20006001045T	20000302
EP1129867 A1	20010905	EP20000104347	20000302
EP1129867 B1	20021218	EP20000104347	20000302
ES2188439 T3	20030701	ES20000104347T	20000302

Priority:
EP20000104347 20000302

Probable Assignee: GERBER SCIENT PRODUCTS INC
Assignee(s): (std): GERBER SCIENT PRODUCTS INC
Assignee(s): GERBER SCIENTIFIC PRODUCTS INC
Inventor(s): (std): STEMPIEN JOSEPH W
Designated states: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AT229886 E	20030115	LSGT	+	granted / extensions (spc, cpc, pte)	
AT229886 E	20030715	LSPB	+UEP	PUBLICATION OF TRANSLATION OF EUROPEAN PATENT SPECIFICATION	Ref document number: 1129867 Country of Ref document: EP
AT229886 E	20051215	LSLE	-REN	CEASED DUE TO NON-PAYMENT OF THE ANNUAL FEE	
AT229886 E	20200302	PEXP		Calculated Patent Term Expiry	
DE60001045 D1	20040122	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE60001045 D1	20110120	LSLE	-8339	CEASED/NON-PAYMENT OF THE ANNUAL FEE	
DE60001045 T2	20030904	LSGT	+	granted / extensions (spc, cpc, pte)	
DE60001045 T2	20040122	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
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EP1129867 A1	20010905	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20000302
EP1129867 A1	20010905		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE
EP1129867 A1	20010905		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Text: AL;LT;LV;MK;RO;SI
EP1129867 A1	20011219	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20011106
EP1129867 A1	20020522	LSFE	+AKX	DESIGNATION FEES PAID	Text: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE
EP1129867 B1	20021218	LSGT	+	granted / extensions (spc, cpc, pte)	
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EP1129867 B1	20021218	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20021218 Country of Ref document: GR
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EP1129867 B1	20021218	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: FG4D Ref country code: GB
EP1129867 B1	20021231	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: EP
EP1129867 B1	20030122	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: IE Ref legal event code: FG4D
EP1129867 B1	20030130		REF	CORRESPONDS TO:	Ref document number: 60001045 Date of Ref document: 20030130 Country of Ref document: DE
EP1129867 B1	20030130		REF	CORRESPONDS TO:	Kind code of Ref document: P Ref document number: 60001045 Date of Ref document: 20030130 Country of Ref document: DE
EP1129867 B1	20030302	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20030302 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: LU
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EP1129867 B1	20030303	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20030303 Country of Ref document: IE

EP1129867 B1	20030318	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20030318 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: DK
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EP1129867 B1	20030331	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20030331 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: MC
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EP1129867 B1	20030415		REG	REFERENCE TO A NATIONAL CODE	PartyType: representative Ref legal event code: NV Ref country code: CH Representative: SCHMAUDER & PARTNER AG PATENTANWALTSBUERO
EP1129867 B1	20030701	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: FG2A Kind code of Ref document: T3 Ref country code: ES Ref document number: 2188439 Country of Ref document: ES
EP1129867 B1	20030704		+ET	FR: TRANSLATION FILED	
EP1129867 B1	20031210	LSGT	+26N	NO OPPOSITION FILED	Effective date: 20030919
EP1129867 B1	20040114	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: MM4A Ref country code: IE
EP1129867 B1	20040302	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 5 Payment date: 20040302 Country of Ref document: CH
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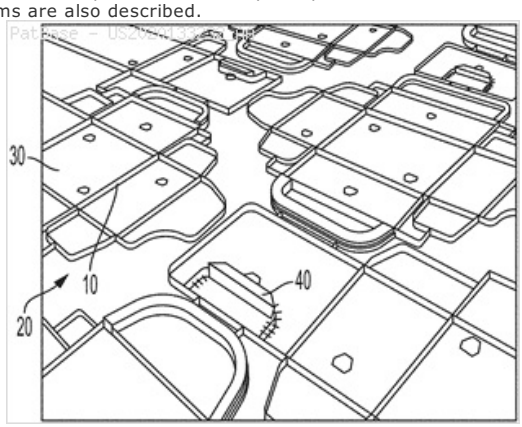
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EP1129867 B1	20110930	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20100303 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: ES
EP1129867 B1	20110930	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20091006 Year of fee payment: 10 Country of Ref document: FR
EP1129867 B1	20200302	PEXP		Calculated Patent	

				Term Expiry
ES2188439 T3	20030701	LSGT	+	granted / extensions (spc, cpc, pte)
ES2188439 T3	20200302	PEXP		Calculated Patent Term Expiry

31) Family number: 78656730 (US2020133232 AA)

Title: SYSTEM AND METHOD FOR PREFLIGHTING A COMPUTER AIDED DESIGN FILE CORRESPONDING TO A TOOL FOR **PROCESSING** SHEET MEDIA

Abstract: A method for performing a design rule check of a computer aided design (CAD) file corresponding to a geometry of a tool for use in a **process** for making an article from a starting material. Design rules defined to avoid a geometry of the tool documented as causing an inefficiency in a non-printing or non-platemaking operation of the **process** are stored in a computer. A design rule checking (DRC) module of the computer **processes** the CAD file relative to the stored design rules, identifies violations, automatically suggests design changes responsive to each violation, receives a user input responsive to suggested design changes, and modifies the CAD file in response to the user input. Non-transitory computer readable media containing code for implementing the method and related CAD systems are also described.



Classifications:
International (IPC 8-9): B21D37/20 B23P15/24 B23P15/40 B26F1/44 G05B19/4093 G05B19/4097 G06F111/04 G06F113/20 G06F113/24 G06F119/18 G06F119/22 G06F17/50 G06F30/17 G06F30/20
CPC: B21D37/205 B23P15/406 B26F2001/4463 G05B19/40931 G05B19/40938 G05B19/4097 G06F17/5009 G06F17/5086 G06F2111/04 G06F2113/20 G06F2113/24 G06F2119/18 G06F2119/22 G06F30/17 G06F30/20 Y02P90/02

Family:

Publication number	Publication date	Application number	Application date
US2020133232 AA	20200430	US20190668167	20191030
WO20089378 A1	20200507	WO2019EP79797	20191031

Priority:
US20180753209P 20181031 US20190877178P 20190722 US20190886436P 20190814 US20190668167 20191030

Probable Assignee: ESKO SOFTWARE BVBA

Assignee(s): (std): ESKO SOFTWARE BVBA

Inventor(s): (std): BLANVILAIN DIDIER ; BLANVILAIN DIDIER M ; DEROO RICHARD ; DEROO RICHARD C ; EVANS LLEWELYN ; FEOLE JAMES ; PRIDE JASON ; ROSKUSKI HEIDI ; VENGERIK INESSA

Agent(s): RATNERPRESTIA

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 DJ 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 JO JP KE KG KH KM KN KP KR KW 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

Legal status (INPADOC)

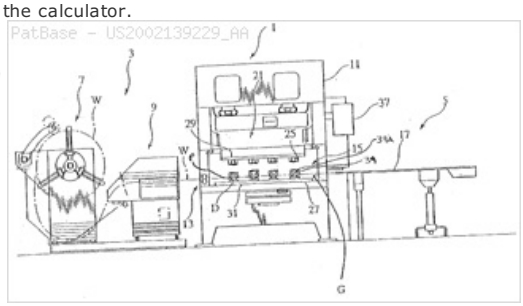
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Patent	Date recorded	Event group	Code	Event	Details
US2020133232 AA	20191115	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:DEROO, RICHARD C.;BLANVILAIN, DIDIER M.;PRIDE, JASON;AND OTHERS;SIGNING DATES FROM 20191104 TO 20191105;REEL/FRAME:051017/0038 Owner: ESKO SOFTWARE BVBA, BELGIUM PartyType: owner
US2020133232 AA	20200123		RFE1	Docketed New Case - Ready for Examination	
US2020133232 AA	20200430	LSPB	+	published / reissued	
WO20089378 A1	20200507	LSPB	+	published / reissued	
WO20089378 A1	20200617		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A1 Ref document number: 19798564 Country of Ref document: EP

32) Family number: 28329949 (US2002139229 AA)

Title: PRESS APPARATUS, STRIKER CONTROL MODULAR TOOL APPARATUS AND PROGRAMMABLE METHOD FOR PUNCHING APERTURES INTO A WORKPIECE

Abstract: Method and apparatus for punching apertures into a workpiece. A press apparatus includes an inputting device, that enables a user of the press apparatus to input working pattern data representing the workpiece, and a **display** device, that **displays** a working pattern of the workpiece based on the inputted working pattern data. A tool selecting device selects a plurality of tools required for working the workpiece in accordance with the working pattern data. A calculator calculates a transferring pitch of the workpiece in order for parts of the workpiece to be sequentially arranged in predetermined positions in a feeding direction of the press apparatus with respect to the plurality of tools selected by the tool selecting device. In this regard, the calculator also determines which tool is to be operated in association with the transferring pitch. The press includes a controller that controls the transferring pitch calculated by the calculator.



Classifications:
International (IPC 8-9): B21D B21D28/00 B21D28/24 B21D43/02 B26D5/00 B26D7/00 B26F1/02 B26F1/14 B30B B30B1/00 G05B15/00 G05B19/402 G06F19/00
International (IPC 1-7): B21D28/00 B21D28/24 B26D3/00 B26D5/00 B26D5/08 B26D5/20 B26D7/00 B26F1/04 B30B1/00 G06F19/00
CPC: B21D28/246 Y10T29/5136 Y10T408/36 Y10T83/0524 Y10T83/18 Y10T83/4577 Y10T83/4582 Y10T83/8729 Y10T83/8736 Y10T83/9423
US: 29/564 408/31 700/17 700/180 83/255 83/257 83/39 83/55 83/550 83/555 83/684 83/76.9 83/769

Family:

Publication number	Publication date	Application number	Application date
AT433353 E	20090615	AT20020757779T	20020329
AU2002338282 AA	20021015	AU20020338282	20020329
CN100370467 C	20080220	CN20028010760	20020329
CN1513153 A	20040714	CN20028010760	20020329
CN101251752 A	20080827	CN200810003452	20020329
CN101251752 B	20100609	CN200810003452	20020329
DE60232592 D1	20090723	DE20026032592T	20020329
EP1412170 A2	20040428	EP20020757779	20020329
EP1412170 A4	20070404	EP20020757779	20020329
EP1412170 B1	20090610	EP20020757779	20020329
ES2326962 T3	20091022	ES20020757779T	20020329
HK1065510 A1	20050225	HK20040108375	20041026
HK1065510 A3	20050225	HK20040108375	20041026
HK1065510 B	20091211	HK20040108375	20041026
JP2004521750 T2	20040722	JP20020577186T	20020329
JP4434587 B2	20100317	JP20020577186T	20020329
JP2008100286 A2	20080501	JP20070285477	20071101
TW553812 B	20030921	TW20020106270	20020329
US2002139229 AA	20021003	US20020103766	20020325
US7730816 BB	20100608	US20020103766	20020325
US2005126358 AA	20050616	US20050042184	20050126
US7027879 BB	20060411	US20050042184	20050126
WO02078940 A2	20021010	WO2002US06675	20020329
WO02078940 A3	20021219	WO2002US06675	20020329

Priority:

US20010279430P 20010329 US20020103766 20020325 WO2002US06675 20020329
JP20020577186 20020329 US20050042184 20050126

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Inventor(s): (std): KOJI YAMAMOTO ; YAMAMOTO KOJI

Agent(s): GREENBLUM AND BERNSTEIN PLC; NTD PATENT AND TRADE MARK AGENCY LTD; NTD PATENT AND TRADE MARK AGENCY LTD UNITS 1805 6 18 F GREENFIELD TOWER

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 CO CR CU CY CZ DE DK DM DZ EC EE 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 NE NL NO NZ OM PH PL PT RO RU SD SE SG SI SK SL SN SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VN YU ZA ZM ZW

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AT433353 E	20090615	LSGT	+	granted / extensions (spc, cpc, pte)	
AT433353 E	20091115	LSPB	+UEP	PUBLICATION OF TRANSLATION OF EUROPEAN PATENT SPECIFICATION	Ref document number: 1412170 Country of Ref document: EP
AT433353 E	20220329	PEXP		Calculated Patent Term Expiry	

AU2002338282 AA	20021015	LSPB	+	published / reissued	
AU2002338282 AA	20040219	LSLE	-MK6	APPLICATION LAPSED SECTION 142(2)(F)/REG. 8.3(3) - PCT APPLIC. NOT ENTERING NATIONAL PHASE	
CN100370467 C	20080220	LSGT	+	granted / extensions (spc, cpc, pte)	
CN100370467 C	20080220	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN100370467 C	20130522	LSLE	-C17	CESSATION OF PATENT RIGHT	
CN100370467 C	20220329	PEXP		Calculated Patent Term Expiry	
CN101251752 A	20080827	LSPB	+	published / reissued	
CN101251752 A	20080827	LSPB	+C06	PUBLICATION	
CN101251752 A	20081022		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
CN101251752 B	20100609	LSGT	+	granted / extensions (spc, cpc, pte)	
CN101251752 B	20100609	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN101251752 B	20130522	LSLE	-C17	CESSATION OF PATENT RIGHT	
CN101251752 B	20220329	PEXP		Calculated Patent Term Expiry	
CN1513153 A	20040714	LSPB	+	published / reissued	
CN1513153 A	20040714	LSPB	+C06	PUBLICATION	
CN1513153 A	20040922		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
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DE60232592 D1	20161001	LSDW	-R119	APPLICATION DEEMED WITHDRAWN, OR IP RIGHT LAPSED, DUE TO NON-PAYMENT OF RENEWAL FEE	
EP1412170 A2	20040428	LSPB	+	published / reissued	
EP1412170 A2	20040428	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20031028
EP1412170 A2	20040428		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR
EP1412170 A2	20040428		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: AL LT LV MK RO SI
EP1412170 A2	20050225		REG	REFERENCE TO A NATIONAL CODE	Ref country code: HK Ref document number: 1065510 Ref legal event code: DE Country of Ref document: HK
EP1412170 A2	20070404	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20070306
EP1412170 A2	20070404		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: B21D 28/24 20060101AFI20070228BHEP
EP1412170 A2	20070808	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20070710

EP1412170 A2	20081231	LSRE	RTI1	TITLE (CORRECTION)	Text: TOOL APPARATUS AND PROGRAMMABLE METHOD FOR PUNCHING APERTURES INTO A WORKPIECE
EP1412170 A2	20090610		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR
EP1412170 A2	20090610	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: GB Ref legal event code: FG4D
EP1412170 A2	20090615	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: EP
EP1412170 A2	20090722	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: IE Ref legal event code: FG4D
EP1412170 A2	20090723		REF	CORRESPONDS TO:	Date of Ref document: 20090723 Kind code of Ref document: P Ref document number: 60232592 Country of Ref document: DE
EP1412170 A2	20091022	LSGT	REG	REFERENCE TO A NATIONAL CODE	Kind code of Ref document: T3 Ref country code: ES Ref document number: 2326962 Ref legal event code: FG2A Country of Ref document: ES
EP1412170 A2	20091030	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20090610 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: FI
EP1412170 A2	20091102	LSLE	-NLV1	NL: LAPSED OR ANNULLED DUE TO FAILURE TO FULFILL THE REQUIREMENTS OF ART. 29P AND 29M OF THE PATENTS ACT	Ref country code: EP
EP1412170 A2	20091130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20090610 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: NL
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EP1412170 A2	20091211	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: HK Ref document number: 1065510 Ref legal event code: GR Country of Ref document: HK
EP1412170 A2	20100226	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20090610 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: BE
EP1412170 A2	20100331	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20091010 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: PT
EP1412170 A2	20100430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20090610 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: DK
EP1412170 A2	20100519	LSGT	+26N	NO OPPOSITION FILED	Effective date: 20100311
EP1412170 A2	20101029	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20090911 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: GR

EP1412170 A2	20101029	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20100331 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: MC
EP1412170 A2	20101029	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: PL
EP1412170 A2	20110131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20100329 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: IE
EP1412170 A2	20110228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20100331 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: CH
EP1412170 A2	20110228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20100331 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: LI
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EP1412170 A2	20120928	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20100329 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: LU
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EP1412170 A2	20150318	LSFE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: FR Ref legal event code: PLFP Year of fee payment: 14 Country of Ref document: FR
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EP1412170 A2	20150430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20150327 Year of fee payment: 14 Country of Ref document: DE
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EP1412170 A2	20150529	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20150325 Year of fee payment: 14 Country of Ref document: GB
EP1412170 A2	20150529	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20150326 Year of fee payment: 14 Country of Ref document: AT
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EP1412170 A2	20161001	LSDW	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref document number: 60232592 Ref legal event code: R119 Country of Ref document: DE
EP1412170 A2	20161115	LSLE	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20160329 Kind code of Ref document: T Ref country code: AT Ref document number: 433353 Ref legal event code: MM01 Country of Ref document: AT
EP1412170 A2	20161123	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	Effective date: 20160329 Ref country code: EP
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ES2326962 T3	20091022	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2326962 T3	20220329	PEXP		Calculated Patent Term Expiry	
HK1065510 A1	20050225	LSPB	+	published / reissued	
HK1065510 A1	20161028	LSLE	-PC	PATENT CEASED (I.E. PATENT HAS LAPSED DUE TO THE FAILURE TO PAY THE RENEWAL FEE)	Effective date: 20160329
HK1065510 A1	20241026	PEXP		Calculated Patent Term Expiry	
HK1065510 A3	20050225	LSPB	+	published / reissued	
HK1065510 B	20091211	LSGT	+	granted / extensions (spc, cpc, pte)	

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JP2004521750 T2	20060111	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20060110 Text: JAPANESE INTERMEDIATE CODE: A131
JP2004521750 T2	20060407	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20060406 Text: JAPANESE INTERMEDIATE CODE: A523
JP2004521750 T2	20060913	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20060912 Text: JAPANESE INTERMEDIATE CODE: A131
JP2004521750 T2	20061103	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20061102 Text: JAPANESE INTERMEDIATE CODE: A523
JP2004521750 T2	20070711	LSRV	-A02	DECISION OF REFUSAL	Effective date: 20070710 Text: JAPANESE INTERMEDIATE CODE: A02
JP2004521750 T2	20071102	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20071101 Text: JAPANESE INTERMEDIATE CODE: A523
JP2004521750 T2	20080128	LSAL	A911	TRANSFER OF RECONSIDERATION BY EXAMINER BEFORE APPEAL (ZENCHI)	Effective date: 20080125 Text: JAPANESE INTERMEDIATE CODE: A911
JP2004521750 T2	20090323	LSAL	-A912	REMOVAL OF RECONSIDERATION BY EXAMINER BEFORE APPEAL (ZENCHI)	Effective date: 20090319 Text: JAPANESE INTERMEDIATE CODE: A912
JP2004521750 T2	20091110	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20091109 Text: JAPANESE INTERMEDIATE CODE: A523
JP2004521750 T2	20091217	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Text: JAPANESE INTERMEDIATE CODE: A01
JP2004521750 T2	20100107	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	Effective date: 20091222 Text: JAPANESE INTERMEDIATE CODE: A61
JP2004521750 T2	20100114	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 3
JP2008100286 A2	20080501	LSPB	+	published / reissued	
JP2008100286 A2	20101216	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20101215 Text: JAPANESE INTERMEDIATE CODE: A131
JP2008100286 A2	20110921	LSRV	-A02	DECISION OF REFUSAL	Effective date: 20110920 Text: JAPANESE INTERMEDIATE CODE: A02
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JP4434587 B2	20141127	LSFE	R20	特許料納付書	
JP4434587 B2	20141202	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
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JP4434587 B2	20220329	PEXP		Calculated Patent Term Expiry	
TW553812 B	20030921	LSGT	+	granted / extensions (spc, cpc, pte)	
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TW553812 B	20120621	LSLE	-MM4A	ANNULMENT OR LAPSE OF PATENT DUE TO NON-PAYMENT OF FEES	
TW553812 B	20220329	PEXP		Calculated Patent Term Expiry	
US2002139229 AA	20021003	LSPB	+	published / reissued	
US2005126358 AA	20050616	LSPB	+	published / reissued	
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US7027879 BB	20091005	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
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US7027879 BB	20140411	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US7027879 BB	20140512	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US7027879 BB	20140512	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US7027879 BB	20140603	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20140411
US7027879 BB	20220325	PEXP		Calculated Patent Term Expiry	
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US7730816 BB	20020325	LSAS	AS	ASSIGNMENT	Effective date: 20020322 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:YAMAMOTO, KOJI;REEL/FRAME:012726/0717 Owner: AMADA AMERICA, INC.,CALIFORNIA PartyType: owner
US7730816 BB	20100608	LSGT	+	granted / extensions (spc, cpc, pte)	
US7730816 BB	20140117		REMI	MAINTENANCE FEE REMINDER MAILED	
US7730816 BB	20140608	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US7730816 BB	20140707	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US7730816 BB	20140707	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362

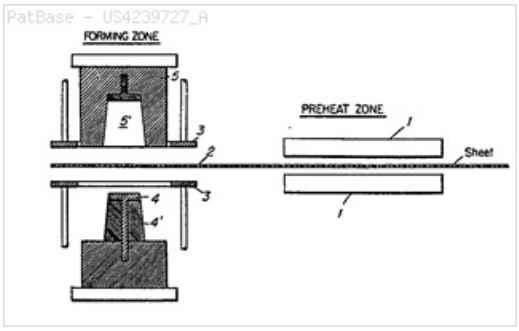
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US7730816 BB	20220325	PEXP		Calculated Patent Term Expiry	
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WO02078940 A2	20021010		+AK	DESIGNATED STATES	Kind code of Ref document: A2 Country of Ref document: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG US UZ VN YU ZA ZM ZW
WO02078940 A2	20021010		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A2 Country of Ref document: AM AT AZ BE BF BJ BY CF CG CH CI CM CY DE DK ES FI FR GA GB GH GM GN GQ GR GW IE IT KE KG KZ LS LU MC MD ML MR MW MZ NE NL PT RU SD SE SL SN SZ TD TG TJ TM TR TZ UG ZM ZW
WO02078940 A2	20021204		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO02078940 A3	20021219		+AK	DESIGNATED STATES	Kind code of Ref document: A3 Country of Ref document: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG US UZ VN YU ZA ZM ZW
WO02078940 A3	20021219		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A3 Country of Ref document: AM AT AZ BE BF BJ BY CF CG CH CI CM CY DE DK ES FI FR GA GB GH GM GN GQ GR GW IE IT KE KG KZ LS LU MC MD ML MR MW MZ NE NL PT RU SD SE SL SN SZ TD TG TJ TM TR TZ UG ZM ZW
WO02078940 A3	20030116		DFPE	REQUEST FOR PRELIMINARY EXAMINATION FILED PRIOR TO EXPIRATION OF 19TH MONTH FROM PRIORITY DATE (PCT APPLICATION FILED BEFORE 20040101)	
WO02078940 A3	20030926	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2002577186 Country of Ref document: JP
WO02078940 A3	20031028	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2002757779 Country of Ref document: EP
WO02078940 A3	20031127	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 028107608 Country of Ref document: CN
WO02078940 A3	20040212	LSWD	REG	REFERENCE TO NATIONAL CODE	Ref country code: DE Ref legal event code: 8642
WO02078940 A3	20040428	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 2002757779 Country of Ref document: EP

33) Family number: 2367788 (US4239727 A)

Title: METHOD AND APPARATUS FOR THERMOFORMING THERMOPLASTIC FOAM ARTICLES

Abstract: A method and apparatus for thermoforming plastic foam articles comprising the sequential steps of (a) preheating the plastic foam, usually supplied in the form of a continuous sheet stock, (b) clamping, in a fixed position, that portion of the stock material which is to be thermoformed, (c) initially deforming the preheated foam stock with a portion of a male mold member to form a preform, (d) drawing a vacuum on the interior of the female mold member to assist in completion of the thermoforming operation, and (e) completing formation of the desired article by deformation of the preform between a male and female thermoforming device.

Classifications:
International (IPC 8-9): B26F1/00 B26F1/38 B26F1/40 B29C45/00 B29C51/00 B29C51/04 B29C51/10 B29C51/18 B29C51/26 B29C51/28 B29C51/42 B29C51/44 B29C55/00 B29C67/20
International (IPC 1-7): B26F1/00 B29C17/03 B29C17/04 B29C17/10 B29C25/00 B29C51/10 B29C67/20 B29D27/00 B29F3/08 B29H3/06
CPC: B29C51/002 B29C51/04 B29C51/10 B29K2025/00 B29K2105/04 B29L2031/7132 Y10S264/13 B26F1/40 B29C51/445
US: 206/519 229/400 264/153 264/321 264/53 264/550 264/551 264/554 264/DIG.13 425/301 425/302.1 425/307 425/384 425/388 425/398 425/817R 264/DIG.013



Family:

Publication number	Publication date	Application number	Application date
AU197950171 A1	19800320	AU19790050171	19790822
AU524203 B2	19820902	AU19790050171	19790822
CA1140715 A1	19830208	CA19790334110	19790820
CA1171226 A1	19840724	CA19810387247	19811005
CA1172410 A1	19840814	CA19810388643	19811023
DE2965668 D1	19830721	DE19792965668	19790914
EP0010847 A1	19800514	EP19790301890	19790914
EP0010847 B1	19830615	EP19790301890	19790914
EP0051924 A2	19820519	EP19810304697	19811009
EP0051924 A3	19830921	EP19810304697	19811009
ES484170 A1	19800901	ES19790484170	19790914
ES507018 A0	19830201	ES19810507018	19811111
ES8303175 A1	19830201	ES19810507018	19811111
JP1491124 C3	19890407	JP19790118662	19790914
JP55059920 A2	19800506	JP19790118662	19790914
JP63032610 B4	19880630	JP19790118662	19790914
JP57109610 A2	19820708	JP19810180444	19811112
US4239727 A	19801216	US19780942836	19780915
US4359160 A	19821116	US19800212920	19801204
US4442064 A	19840410	US19810316174	19811029

Priority:

US19780942836 19780915
US19800212920 19801204
US19810316174 19811029
CA19790334110 19790820
CA19810387247 19811005
US19800206201 19801112
CA19810388643 19811023

Probable Assignee: MOBIL OIL CORP

Assignee(s): (std): MOBIL CORP ; MOBIL OIL ; MOBIL OIL CORP

Assignee(s): LEGRETT SAMANTHA L NEE VIVLAMORE ; MYERS DONALD W ; TENNECO PACKAGING INC ; TENNECO PLASTICS CO ; VIVLAMORE SAMANTHA L

Inventor(s): (std): DONARUDO UITOBETSUKU MAIYAAZU ; DONARUDO UITSUTOBETSUKU MAIYAA ; LEGRETT SAMANTHA L ; LEGRETT SAMANTHA L NEE VIVLAMO ; LEGRETT SAMANTHA LINDA ; MYERS DONALD W ; MYERS DONALD WITBECK ; SAMANSA RINDA BIBURAMOA ; SAMANSA RINDA RIGURETSUTO ; VIVLAMORE SAMANTHA L ; VIVLAMORE SAMANTHA LINDA

Inventor(s): DONALD WITBECK MYERS ; DONARUDO UITSUTOBETSUKU MAIYAASU ; LEGRETT SAMANTHA L NEE VIVLAMORE ; SAMANTHA LINDA VIVLAMORE

Agent(s): GOWLING LAFLEUR HENDERSON LLP; PHILLIPS ORMONDE AND FITZPATRICK

Designated states: BE DE FR GB IT NL

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AU197950171 A1	19800320	LSPB	+	published / reissued	
AU524203 B2	19820902	LSGT	+	granted / extensions (spc, cpc, pte)	
AU524203 B2	19990822	PEXP		Calculated Patent Term Expiry	
CA1140715 A1					
CA1140715 A1	20000208	LSLE	-MKEX	EXPIRY	
CA1171226 A1					

CA1171226 A1	20010725	LSRE	+MKEC	EXPIRY (CORRECTION)	
CA1171226 A1	20011005	LSLE	-MKEX	EXPIRY	
CA1172410 A1					
CA1172410 A1	20010815	LSRE	+MKEC	EXPIRY (CORRECTION)	
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DE2965668 D1	19860522		8328	CHANGE IN THE PERSON/NAME/ADDRESS OF THE AGENT	Text: KADOR, U., DIPL.-CHEM. DR.RER.NAT., PAT.-ANW., 8000 MUENCHEN
DE2965668 D1	19900906	LSLE	-8339	CEASED/NON-PAYMENT OF THE ANNUAL FEE	
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EP0010847 A1	19800514	LSPB	+	published / reissued	
EP0010847 A1	19800514		+AK	DESIGNATED CONTRACTING STATES	Country of Ref document: DE FR GB IT NL
EP0010847 A1	19800806	LSES	+17P	REQUEST FOR EXAMINATION FILED	
EP0010847 A1	19830114		+ITF	IT: TRANSLATION FOR A EP PATENT FILED	Owner: MODIANO & ASSOCIATI S.R.L. PartyType: owner
EP0010847 B1	19830615	LSGT	+	granted / extensions (spc, cpc, pte)	
EP0010847 B1	19830615		+AK	DESIGNATED CONTRACTING STATES	Country of Ref document: DE FR GB IT NL
EP0010847 B1	19830721		REF	CORRESPONDS TO:	Date of Ref document: 19830721 Ref document number: 2965668 Country of Ref document: DE
EP0010847 B1	19830812		+ET	FR: TRANSLATION FILED	
EP0010847 B1	19840604	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 19840604 Year of fee payment: 6 Country of Ref document: DE
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EP0010847 B1	19840703	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 19840703 Year of fee payment: 6 Country of Ref document: FR
EP0010847 B1	19870930	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 19870930 Year of fee payment: 9 Country of Ref document: NL
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EP0010847 B1	19900401	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 19900401 Country of Ref document: NL
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EP0010847 B1	19900531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 19900531 Country of Ref document: FR
EP0010847 B1	19900601	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 19900601 Country of Ref document: DE
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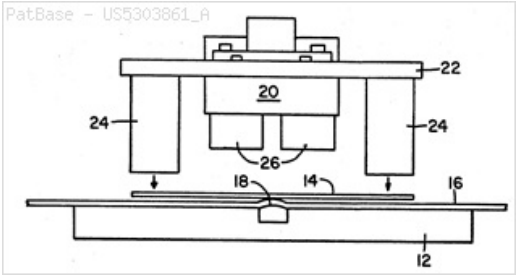
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EP0051924 A2	19820519		+AK	DESIGNATED CONTRACTING STATES	Country of Ref document: BE DE FR GB IT NL
EP0051924 A3	19830921		+AK	DESIGNATED CONTRACTING STATES	Country of Ref document: BE DE FR GB IT NL
EP0051924 A3	19840502	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 19840224
EP0051924 A3	19861001	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 19860409
EP0051924 A3	20070808		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: MYERS, DONALD WITBECK
EP0051924 A3	20070808		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: LEGRETT, SAMANTHA LINDA PartyType: inventor
ES484170 A1	19800901	LSGT	+	granted / extensions (spc, cpc, pte)	
ES484170 A1	20000901	PEXP		Calculated Patent Term Expiry	
ES8303175 A1	19830201	LSGT	+	granted / extensions (spc, cpc, pte)	
ES8303175 A1	20030201	PEXP		Calculated Patent Term Expiry	
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JP55059920 A2	19800506	LSPB	+	published / reissued	
JP57109610 A2	19820708	LSPB	+	published / reissued	
JP63032610 B4	19880630	LSPB	+	published / reissued	
US4239727 A	19800530	LSGT	PAT1	Patented Case	
US4239727 A	19801216	LSGT	+	granted / extensions (spc, cpc, pte)	
US4359160 A	19821116	LSGT	+	granted / extensions (spc, cpc, pte)	
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US4442064 A	19840410	LSGT	+	granted / extensions (spc, cpc, pte)	
US4442064 A	19870505	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US4442064 A	19910528	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
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US4442064 A	19960407	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US4442064 A	19960618	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 19960410
US4442064 A	20180122	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US4442064 A	20180122	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362

34) Family number: 9057037 (US5303861 A)

Title: SEPARATING SHEET GLASS

Abstract: A method of, and apparatus for, separating a sheet of glass along a score line on the sheet. The method comprises flexing the glass at the score line along an axis of flexure on the support to pre-stress the glass to a level below the critical stress level, and initiating a break at one end of the score line. The apparatus comprises a support for the sheet, the support defining an axis of flexure for alignment with the score line, at least one movable pressure member spaced above and on one side of the score line, a press head to move the pressure member into contact with the sheet of glass to pre-stress the sheet at the score line, and a break initiator at one end of the score line.

Classifications:
International (IPC 8-9): C03B33/00 C03B33/02 C03B33/03 C03B33/033 C03B33/037
International (IPC 1-7): B26F3/00 C03B33/02 C03B33/023 C03B33/03 C03B33/033 C03B33/037 C03B35/00
CPC: B65G2249/04 C03B33/033 B65G2249/045 Y10T225/12 Y10T225/325 Y10T225/329 Y10T225/371
US: 225/103 225/2 225/96.5 225/97



Family:

Publication number	Publication date	Application number	Application date
CA2104155 AA	19940302	CA19932104155	19930816
DE69315643 D1	19980122	DE19936015643T	19930813
DE69315643 T2	19980402	DE19936015643T	19930813
EP0585694 A1	19940309	EP19930112994	19930813
EP0585694 B1	19971210	EP19930112994	19930813
JP2683785 B2	19971203	JP19930217353	19930901
JP6157061 A2	19940603	JP19930217353	19930901
KR0130747 B1	19980408	KR19930017427	19930901
KR19940006942 A	19940426	KR19930017427	19930901
KR940006942 A	19940426	KR19930017427	19930901
TW319754 B	19971111	TW19930110618	19931217
US5303861 A	19940419	US19920938956	19920901

Priority:
US19920938956 19920901 US19930099751 19930805 CA19932104155 19930816

Probable Assignee: CORNING INC

Assignee(s): (std): CORNING INC

Assignee(s): ALLAIRE ROGER ALPHEE ; CORNING INC A CORP OF NEW YORK ; CORNING INC CORNING N Y US ; CORNING INCORPORATED ; PARDUE WILLIAM FREDERICK JR ; SHINKAI MASAYUKI

Inventor(s): (std): ALLAIRE ROGER A ; ALLAIRE ROGER ALPHEE ; MASAYUKI SHINKAI ; PARDUE JR WILLIAM F ; PARDUE JR WILLIAM FREDERICK ; PARDUE JR WILLIAM FREDERICK PA ; PARDUE WILLIAM F JR ; ROJIYAA ARUFUII ARAIAA ; SHINKAI MASAYUKI ; UIRIAMU FUREDERITSUKU PAADEYUU

Inventor(s): ALLAIRE ROGER ALPHEE CORNING NY 14831 US ; PARDUE JR WILLIAM FREDERICK PARDUE JR WILLIAM FREDERICK CORNING NY 14831 US ; PARDUE WILLIAM F ; PARDUE WILLIAM FREDERICK JR ; SHINKAI MASAYUKI CORNING NY 14831 US ; UIRIAMU FUREDERITSUKU PAADEYUU JIYUNIA

Agent(s): GOWLING LAFLEUR HENDERSON LLP

Designated states: BE DE FR GB GR IT NL

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
CA2104155 AA	19940302	LSPB	+	published / reissued	
CA2104155 AA	19970818	LSLE	-FZDE	DEAD	
DE69315643 D1	19990114	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE69315643 D1	20100624	LSLE	-8339	CEASED/NON-PAYMENT OF THE ANNUAL FEE	
DE69315643 T2	19980402	LSGT	+	granted / extensions (spc, cpc, pte)	
DE69315643 T2	19990114	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
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				FEE	
DE69315643 T2	20130813	PEXP		Calculated Patent Term Expiry	
EP0585694 A1	19940309	LSPB	+	published / reissued	
EP0585694 A1	19940309		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: BE DE FR GR IT NL
EP0585694 A1	19941012	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 19940817
EP0585694 A1	19960313	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 19960129
EP0585694 A1	19971015		+RBV	DESIGNATED CONTRACTING STATES (CORRECTED)	Country of Ref document: BE DE FR GB IT NL
EP0585694 A1	19971210	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 19971210 Country of Ref document: IT
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EP0585694 B1	19971210	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 19971210 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: BE
EP0585694 B1	19971210	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT;WARNING: LAPSES OF ITALIAN PATENTS WITH EFFECTIVE DATE BEFORE 2007 MAY HAVE OCCURRED AT ANY TIME BEFORE 2007. THE CORRECT EFFECTIVE DATE MAY BE DIFFERENT FROM THE ONE RECORDED. Lapsed date: 19971210 Country of Ref document: IT
EP0585694 B1	19980122		REF	CORRESPONDS TO:	Date of Ref document: 19980122 Ref document number: 69315643 Country of Ref document: DE
EP0585694 B1	19980403		+ET	FR: TRANSLATION FILED	
EP0585694 B1	19981202	LSGT	+26N	NO OPPOSITION FILED	
EP0585694 B1	19990630	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 7 Payment date: 19990630 Country of Ref document: NL
EP0585694 B1	19990702	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 19990702 Year of fee payment: 7 Country of Ref document: GB
EP0585694 B1	19990802	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE	Year of fee payment: 7 Payment date: 19990802 Country of Ref document: FR

				[ANNOUNCED FROM NATIONAL OFFICE TO EPO]	
EP0585694 B1	20000813	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20000813 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: GB
EP0585694 B1	20010301	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20010301 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: NL
EP0585694 B1	20010404	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	Effective date: 20000813 Ref country code: EP
EP0585694 B1	20010430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20010430 Country of Ref document: FR
EP0585694 B1	20010501	LSLE	-NLV4	NL: LAPSED OR ANULLED DUE TO NON-PAYMENT OF THE ANNUAL FEE	Effective date: 20010301 Ref country code: EP
EP0585694 B1	20010601	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: FR Ref legal event code: ST
EP0585694 B1	20090130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20080930 Year of fee payment: 16 Country of Ref document: DE
EP0585694 B1	20100730	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20100302 Country of Ref document: DE
EP0585694 B1	20130813	PEXP		Calculated Patent Term Expiry	
JP2683785 B2	19971203	LSGT	+	granted / extensions (spc, cpc, pte)	
JP2683785 B2	20040803	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP2683785 B2	20050823	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP2683785 B2	20060822	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP2683785 B2	20070821	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 11
JP2683785 B2	20080814	LSFE	+FPAY	RENEWAL FEE	Year of fee payment: 11

				PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	
JP2683785 B2	20080819	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 12
JP2683785 B2	20090815	LSLE	-LAPS	CANCELLATION BECAUSE OF NO PAYMENT OF ANNUAL FEES	
JP2683785 B2	20130901	PEXP		Calculated Patent Term Expiry	
JP6157061 A2	19940603	LSPB	+	published / reissued	
JP6157061 A2	19970108	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Text: JAPANESE INTERMEDIATE CODE: A01 Effective date: 19970107
KR0130747 B1	19940902	LSES	A201	REQUEST FOR EXAMINATION	
KR0130747 B1	19970821	LSGT	+E701	DECISION TO GRANT OR REGISTRATION OF PATENT RIGHT	
KR0130747 B1	19971121	LSGT	+GRNT	WRITTEN DECISION TO GRANT	
KR0130747 B1	19980408	LSGT	+	granted / extensions (spc, cpc, pte)	
KR0130747 B1	20081113	LSFE	FPAY	ANNUAL FEE PAYMENT	Payment date: 20081114 Year of fee payment: 12
KR0130747 B1	20091122	LSLE	-LAPS	LAPSE DUE TO UNPAID ANNUAL FEE	
KR0130747 B1	20130901	PEXP		Calculated Patent Term Expiry	
KR19940006942 A	19940426	LSPB	+	published / reissued	
KR940006942 A	19940426	LSPB	+	published / reissued	
TW319754 B	19971111	LSGT	+	granted / extensions (spc, cpc, pte)	
TW319754 B	20131217	PEXP		Calculated Patent Term Expiry	
US5303861 A	19920901	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST.;ASSIGNORS:ALLAIRE, ROGER A.;PARDUE, WILLIAM F., JR.;REEL/FRAME:006252/0561 PartyType: owner Effective date: 19920831 Owner: CORNING INCORPORATED A CORP. OF NEW YORK, NEW Y
US5303861 A	19940407	LSGT	PAT1	Patented Case	
US5303861 A	19940407	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US5303861 A	19940419	LSGT	+	granted / extensions (spc, cpc, pte)	
US5303861 A	19970929	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US5303861 A	20010928	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US5303861 A	20051019	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
US5303861 A	20120901	PEXP		Calculated Patent Term Expiry	

35) Family number: 48534743 (US2011075091 AA)

Title: APPARATUS AND METHODS FOR CUTTING ELECTRONIC **DISPLAYS** DURING RESIZING

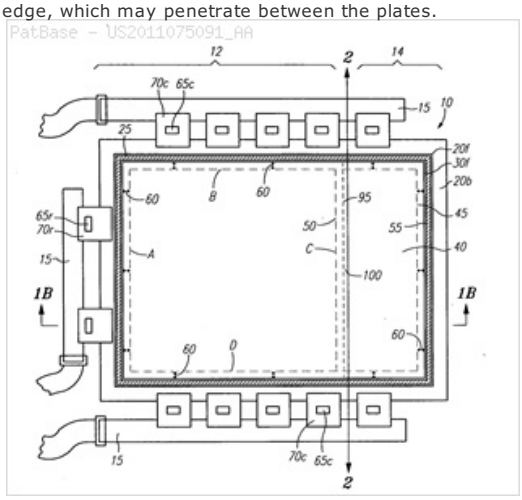
Abstract: Apparatus and methods for resizing electronic **displays** are provided. The **display** includes a front plate, a back plate, a perimeter seal spacing the front and back plates apart, image-generating medium contained in an area between the plates, and polarizing layers and/or other films on the outer surfaces of the plates. A target portion of the **display** is identified, and a saw is passed along a cut line to create a channel that extends through the polarizer to the outer surface of the top plate. A scriber tool is passed along the cut line within the channel to create a scribe line in the outer surface of the top plate. The **display** is inverted, and the **process** repeated to cut a channel and scribe the bottom plate. The plates are broken along the scribe line, and a seal is applied along the exposed edge, which may penetrate between the plates.

Classifications:

International (IPC 8-9): B26D11/00 B26D3/08 B26F3/00 C02B33/00 C02B33/07 C02B33/10 C02B33/33 C03B33/033 C03B33/10 G02F1/13 G02F1/1333 G02F1/1335 G02F1/1339

CPC: G02F1/133351 G02F1/1339 G02F1/1341 Y10T225/12 Y10T225/307 Y10T225/325 Y10T83/0207 Y10T83/0341 Y10T83/0385

US: 225/2 225/2S 225/94 225/96.5 225/96.500S 349/187 349/187P 349/190 349/96 349/96P 83/862 83/862S 83/880 83/886



Family:

Publication number	Publication date	Application number	Application date
US2011075091 AA	20110331	US20050135785	20050523
US7938051 BB	20110510	US20050135785	20050523
US2011194053 AA	20110811	US20110088186	20110415
US8671813 BB	20140318	US20110088186	20110415

Priority:

US20040573421P 20040521 US20050135785 20050523 US20110088186 20110415

Probable Assignee: PIXEL SCIENTIFIC INC

Assignee(s): (std): TANNAS LAWRENCE E

Assignee(s): PIXEL SCIENTIFIC INC

Inventor(s): (std): TANNAS LAWRENCE E

Agent(s): VISTA IP LAW GROUP LLP; WILLIAM A

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
US2011075091 AA	20110331	LSPB	+	published / reissued	
US2011075091 AA	20110420	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2011194053 AA	20110811	LSPB	+	published / reissued	
US2011194053 AA	20140226	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US7938051 BB	20110420	LSGT	PAT1	Patented Case	
US7938051 BB	20110510	LSGT	+	granted / extensions (spc, cpc, pte)	
US7938051 BB	20141113	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US7938051 BB	20141113		+SULP	SURCHARGE FOR LATE PAYMENT	
US7938051 BB	20181109	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 8
US7938051 BB	20190222	LSAS	AS	ASSIGNMENT	PartyType: owner Effective date: 20190214 Owner: PIXEL SCIENTIFIC, INC., CALIFORNIA OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:TANNAS, LAWRENCE E., JR.;REEL/FRAME:048414/0051

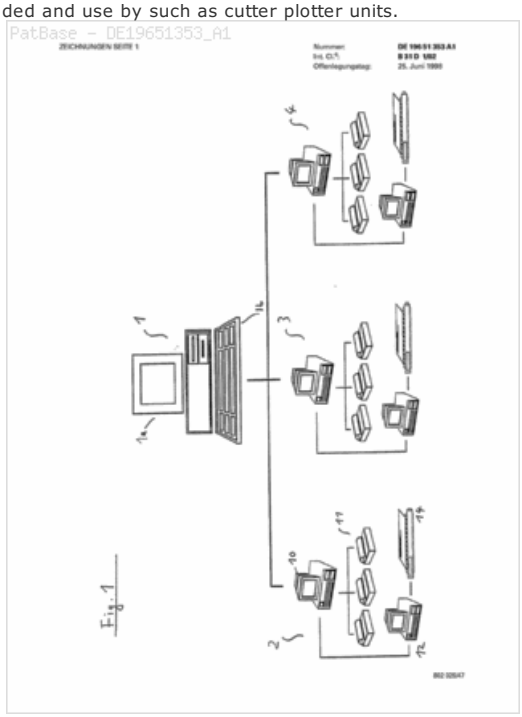
US7938051 BB	20270921	PEXP		Calculated Patent Term Expiry (PTA 851 days)	
US8671813 BB	20140226	LSGT	PAT1	Patented Case	
US8671813 BB	20140318	LSGT	+	granted / extensions (spc, cpc, pte)	
US8671813 BB	20171030	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.)
US8671813 BB	20180313	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: SURCHARGE FOR LATE PAYMENT, LARGE ENTITY (ORIGINAL EVENT CODE: M1554)
US8671813 BB	20180313	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 4
US8671813 BB	20190222	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:TANNAS, LAWRENCE E., JR.;REEL/FRAME:048414/0051 PartyType: owner Owner: PIXEL SCIENTIFIC, INC., CALIFORNIA Effective date: 20190214
US8671813 BB	20250523	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	

36) Family number: 13336890 (DE19651353 A1)

Title: **Production** of shaped flat labels or shaped items

Abstract: The system has a central computer 1 that is linked to a number of peripheral units 2,3,4 used to produce labels or packaging. The central computer has a graphics **display** facility that is used to define the shape details and information of the labels etc appropriate to the application. These are then down loaded and use by such as cutter plotter units.

Classifications:
International (IPC 8-9): B26D7/27 B26F1/38 B31D1/02 B41J11/66 B65C11/02 B65C9/40
International (IPC 1-7): B31D1/02 B65C9/40 B65C9/46 G06F3/13 G06T11/60
CPC: B26D7/27 B26F1/3806 B31D1/021 B31D1/026 B41J11/66 B65C11/0289 B65C9/40



Family:

Publication number	Publication date	Application number	Application date
DE19651353 A1	19980625	DE19961051353	19961210

Priority:

DE19961051353 19961210

Probable Assignee: AE MEDIA PHARMA VERTRIEBS GMBH
Assignee(s): (std): AE MEDIA PHARMA VERTRIEBS GMBH
Assignee(s): AE MEDIA PHARMA VERTRIEBS GMBH 83451 PIDING DE
Inventor(s): (std): LEIPOLD MICHAEL
Inventor(s): LEIPOLD MICHAEL 83457 BAYERISCH GMAIN DE

Legal status (INPADOC)

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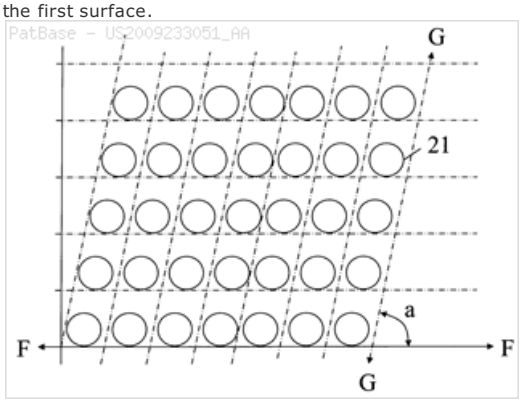
Patent	Date recorded	Event group	Code	Event	Details
DE19651353 A1	19980625	LSPB	+	published / reissued	
DE19651353 A1	19980625	LSES	+OP8	REQUEST FOR EXAMINATION AS TO PARAGRAPH 44 PATENT LAW	
DE19651353 A1	20031009	LSLE	-8139	DISPOSAL/NON-PAYMENT OF THE ANNUAL FEE	

37) Family number: 43749606 (US2009233051 AA)

Title: MICRO-HOLE SUBSTRATES AND METHODS OF MANUFACTURING THE SAME

Abstract: A method of fabricating a substrate with micro holes, the method comprising providing a roll of flexible film having a first surface and a second surface, the first surface and the second surface being separated from one another by a thickness of the roll of flexible film, identifying a depth of the micro holes to be formed, and punching the first surface of the roll of flexible film to form a plurality of micro holes with a depth into the first surface.

Classifications:
International (IPC 8-9): B05D5/06 B26F1/00 B26F1/24 B32B27/00 B32B3/00 B32B3/30 B81C B81C1/00 G02F1/1333 G09F9/30 H01L27/28 H01L27/32 H01L51/50 H05B H05B33/02 H05B33/10
CPC: B81B2201/047 B81C1/00087 Y10T428/24479 Y10T428/2457 Y10T83/0481
US: 427/66 428/156 428/167 428/167P 83/30



Family:

Publication number	Publication date	Application number	Application date
CN101538004 A	20090923	CN200810111593	20080610
CN101538004 B	20110907	CN200810111593	20080610
EP2103566 A2	20090923	EP20080103019	20080327
EP2103566 A3	20110803	EP20080103019	20080327
EP2103566 A8	20091209	EP20080103019	20080327
HK1130043 A1	20091218	HK20090109603	20091016
HK1130043 A3	20091218	HK20090109603	20091016
HK1130043 B	20120713	HK20090109603	20091016
JP2009224304 A2	20091001	JP20080149025	20080606
TW200940329 A	20091001	TW20080119908	20080529
TWI418461 B	20131211	TW20080119908	20080529
US2009233051 AA	20090917	US20080050016	20080317
US2010040835 AA	20100218	US20090582438	20091020

Priority:
US20080050016 20080317 US20090582438 20091020

Probable Assignee: CHEN SHI CHIUN
Assignee(s): (std): CHEN SHI CHIUN ; CHEN SHI CHIUNG ; SHI CHIUN CHEN
Inventor(s): (std): CHEN SHI CHIUN ; CHEN SHI CHIUNG ; SHI CHIUN CHEN
Agent(s): 2K PATENTANWAELTE BLASBERG KEWITZ AND REICHEL; ALSTON AND BIRD LLP; ONC LAWYERS
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

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
CN101538004 A	20090923	LSPB	+	published / reissued	
CN101538004 A	20090923	LSPB	+C06	PUBLICATION	
CN101538004 A	20091218		REG	REFERENCE TO A NATIONAL CODE	Ref country code: HK Ref document number: 1130043 Ref legal event code: DE Country of Ref document: HK
CN101538004 A	20091230		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
CN101538004 B	20110907	LSGT	+	granted / extensions (spc, cpc, pte)	
CN101538004 B	20110907	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN101538004 B	20120713		REG	REFERENCE TO A NATIONAL CODE	Ref country code: HK Ref document number: 1130043 Ref legal event code: GR Country of Ref document: HK
CN101538004 B	20160803	LSWD	-EXPY	TERMINATION OF PATENT RIGHT OR UTILITY MODEL	

CN101538004 B	20280610	PEXP		Calculated Patent Term Expiry	
EP2103566 A2	20090923	LSPB	+	published / reissued	
EP2103566 A2	20090923		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MT NL NO PL PT RO SE SI SK TR
EP2103566 A2	20090923		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: AL BA MK RS
EP2103566 A3	20110803		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A3 Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MT NL NO PL PT RO SE SI SK TR
EP2103566 A3	20110803		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: AL BA MK RS
EP2103566 A3	20110803		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: B81C 1/00 20060101AFI20110627BHEP
EP2103566 A3	20120321	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20120203
EP2103566 A3	20120411	LSFE	+AKX	DESIGNATION FEES PAID	Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MT NL NO PL PT RO SE SI SK TR
EP2103566 A3	20150114	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20141212
EP2103566 A3	20151125	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 20150623
HK1130043 A1	20091218	LSPB	+	published / reissued	
HK1130043 A1	20100319		CHRG	CHANGES IN THE REGISTER	Text: CORRECTION OF THE NAME OF THE INVENTOR FROM CHEN, SHI-CHIUN TO CHEN, SHI-CHIUNG
HK1130043 A1	20170106	LSLE	-PC	PATENT CEASED (I.E. PATENT HAS LAPSED DUE TO THE FAILURE TO PAY THE RENEWAL FEE)	Effective date: 20160610
HK1130043 A1	20291016	PEXP		Calculated Patent Term Expiry	
HK1130043 A3	20091218	LSPB	+	published / reissued	
HK1130043 B	20120713	LSGT	+	granted / extensions (spc, cpc, pte)	
HK1130043 B	20291016	PEXP		Calculated Patent Term Expiry	
JP2009224304 A2	20091001	LSPB	+	published / reissued	
JP2009224304 A2	20100209	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Effective date: 20100208 Text: JAPANESE INTERMEDIATE CODE: A621
JP2009224304 A2	20110804		A977	REPORT ON RETRIEVAL	Effective date: 20110804 Text: JAPANESE INTERMEDIATE CODE: A971007
JP2009224304 A2	20110810	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20110809 Text: JAPANESE INTERMEDIATE CODE: A131
JP2009224304 A2	20111108	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20111107 Text: JAPANESE INTERMEDIATE CODE: A523
JP2009224304 A2	20120509	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20120508 Text: JAPANESE INTERMEDIATE CODE: A131
JP2009224304 A2	20121024	LSRV	-A02	DECISION OF REFUSAL	Effective date: 20121023 Text: JAPANESE INTERMEDIATE CODE: A02
TW200940329 A	20091001	LSPB	+	published / reissued	
TWI418461 B	20131211	LSGT	+	granted / extensions (spc, cpc, pte)	
TWI418461 B	20160911	LSLE	-MM4A	ANNULMENT OR LAPSE OF PATENT DUE TO NON-PAYMENT OF FEES	
TWI418461 B	20280529	PEXP		Calculated Patent Term Expiry	
US2009233051 AA	20090917	LSPB	+	published / reissued	

US2009233051 AA	20120310	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2009233051 AA	20120310		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2010040835 AA	20100218	LSPB	+	published / reissued	
US2010040835 AA	20121228	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2010040835 AA	20121228		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION

38) Family number: 48838288 (EP2316623 A1)

Title: MANAGEMENT OF PANEL CUTTING FOR KITCHEN ELEMENTS DESIGN

Abstract: The method involves determining a programmed manufacturing cycle corresponding to wooden panels (P, P') automatically to be cut based on controls (100, 101), where one of the controls includes walls (A, B) and the other control includes other walls (A', B'). The programmed manufacturing cycle is determined with respect to a manufacturing time unit. Cutting of one of the walls of the former control and one of the walls of the latter control is controlled within one of the panels. Cutting of the other wall of the former control is controlled within the other panel. An independent claim is also included for a device for cutting panels for designing walls of kitchen elements, comprising a panel cutting table.

Classifications:
International (IPC 8-9): B23Q1/60 B26F1/38 B26F3/00 B27B31/08 B27B5/06
CPC: B26D5/00 B26D5/005 B26F1/3813 B26F3/004 B27B5/06

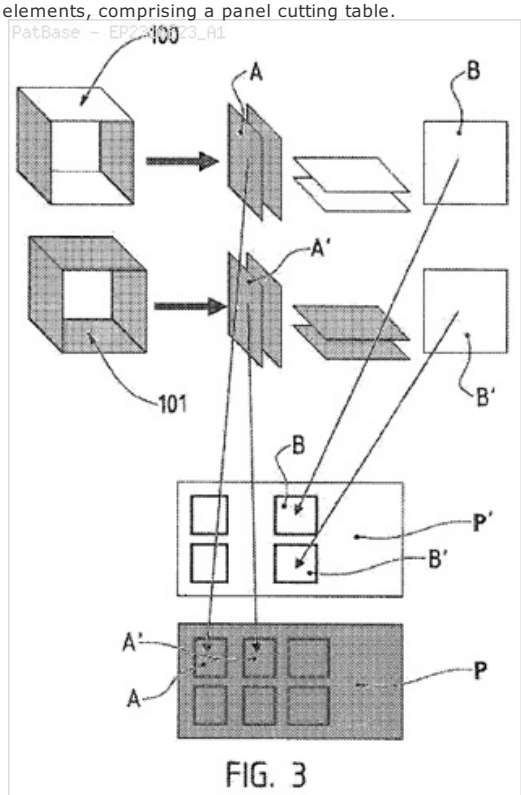


FIG. 3

Family:

Publication number	Publication date	Application number	Application date
EP2316623 A1	20110504	EP20100306199	20101102
FR2951976 A1	20110506	FR20090057725	20091102
FR2951976 B1	20120210	FR20090057725	20091102

Priority:
FR20090057725 20091102

Probable Assignee: SALM SAS
Assignee(s): (std): SALM SAS
Inventor(s): (std): OFFNER OLIVIER
Inventor(s): OLIVIER OFFNER
Agent(s): CABINET BLEGER RHEIN; CABINET BLEGER RHEIN POUPON; RHEIN ALAIN
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

Legal status (INPADOC)

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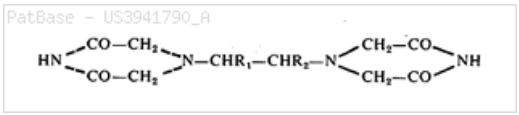
Patent	Date recorded	Event group	Code	Event	Details
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EP2316623 A1	20110504		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP2316623 A1	20110504		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: BA ME
EP2316623 A1	20120502	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 20111105
FR2951976 A1	20110506	LSPB	+	published / reissued	
FR2951976 A1	20110506		SC	SEARCH	BOPI Date: 2011-18

				COMPLETED	
FR2951976 B1	20120210	LSGT	+	granted / extensions (spc, cpc, pte)	
FR2951976 B1	20160819	LSFE	+PLFP	FEE PAYMENT	Year of fee payment: 8
FR2951976 B1	20160929	LSAS	CD	Changement de nom, de dénomination	BOPI Date: 2016-44 Registered Number: 0213562
FR2951976 B1	20161104	LSAS	CD	CHANGE OF NAME OR COMPANY NAME	Effective date: 20160929 Owner: SCHMIDT GROUPE, FR PartyType: owner
FR2951976 B1	20170721	LSFE	+PLFP	FEE PAYMENT	Year of fee payment: 9
FR2951976 B1	20180808	LSFE	+PLFP	FEE PAYMENT	Year of fee payment: 10
FR2951976 B1	20191007	LSFE	+PLFP	Fee Payement	Payment date: 20191007 Year of fee payment: 11
FR2951976 B1	20191007	LSFE	+PLFP	FEE PAYMENT	Year of fee payment: 11
FR2951976 B1	20291102	PEXP		Calculated Patent Term Expiry	

39) Family number: 30753349 (US3941790 A)

Title: Bis diketopiperazines

Abstract: A pharmaceutical composition useful for aiding regression and palliation of cancer in mammals comprises a therapeutically effective amount of a compound of formula CO-CH2 CH2-CO HN ANGLE ANGLE N-CHR1-CHR2-N ANGLE ANGLE NH CO-CH2CH2-CO wherein R1 and R2 are each separately selected from hydrogen and methyl or together represent an ethylene bridging group, with the proviso that when both of the groups R1 and R2 are methyl they are disposed in the meso configuration, or a non-toxic salt thereof with a physiologically acceptable inorganic or organic acid, in combination with a physiologically acceptable diluent or carrier.



Classifications:
International (IPC 8-9): A44C11/00 A44C11/02 A44C5/18 A61K A61K31/495 B25B5/00 B25B5/10 B26F1/32 B29C37/00 B61D27/00 C07C271/00 C07C271/20 C07C51/09 C07D241/00 C07D241/08 F24D19/00 F24D19/10 F24D3/00 F24D3/02
International (IPC 1-7): A61K27/00 A61K31/495 B61D27/00 C07D241/04 C07D241/08 C07D295/10 C07D403/06 C07D51/00 C07D51/68 C07D51/70 C07D51/72 F24D19/10 F24D3/00 F24D3/02
CPC: C07C243/00 C07C247/00 C07C271/20 C07C51/09 C07D241/08 B25B5/102 A44C5/18 A61K31/495 B26F1/32 B29C37/00 B61D27/0036 F24D19/1066 F24D3/00 F24D3/02
US: 236/9R 237/19 237/37 237/5 237/63 260/268DK 424/250 514/252.11 544/357

Family:

Publication number	Publication date	Application number	Application date
AU470566 A1	19671102	AU19660004705	19660427
AU197136837 A1	19730621	AU19710036837	19711214
AU470566 B2	19760318	AU19710036837	19711214
BE729217 A	19690828		19690228
BE776958 A4	19720620	BE19710776958	19711220
BE776958 R	19720620	BE19710776958	19711220
CA941378 A1	19740205		00000000
CA943133 A1	19740305		00000000
CA922720 A1	19730313	CA19690043617	19690221
CA943133 A2	19740305	CA19710127216	19711109
CA1002049 A1	19761221	CA19710130520	19711220
CA941378 A2	19740205	CA19720145789	19720627
CH564541 A	19750731	CH19710018558	19711220
CH563996 A	19750715	CH19740002468	19740118
CH563997 A	19750715	CH19740002469	19711220
DE1910283 A1	19700730	DE19691910283	19690228
DE1910283 B2	19790301	DE19691910283	19690228
DE1910283 C3	19791018	DE19691910283	19690228
DE1967027 A1	19760923	DE19691967027	19690228
DE1967027 B2	19771027	DE19691967027	19690228
DE1967027 C3	19780622	DE19691967027	19690228
DE2163601 A1	19720622	DE19712163601	19711221
ES198026 A1	19520801	ES19510198026	19510525
FR1044773 A	19531120		19510612
FR2012129 A1	19700313	FR19690005316	19690228
FR2154389 A2	19730511	FR19710045674	19711220
FR2154389 B2	19751128	FR19710045674	19711220
GB1234935 A	19710609	GB19670030617	19670703
GB1374979 A	19741120	GB19700060564	19701221
IL31690 A0	19700521	IL19690031690	19690224
IL31690 A1	19720530	IL19690031690	19690224
IL38342 A1	19780310	IL19710038342	19711213
NL163957 B	00000000		00000000
NL82056 C	00000000		00000000
NL163957 C	19801117	NL19690002744	19690221
NL6902744 A	19700106	NL19690002744	19690221
NL7117573 A	19720623	NL19710017573	19711221
SE400286 B	19780320	SE19710016356	19711220
SE400286 C	19780629	SE19710016356	19711220
US2694526 A	19541116	US19510219484	19510405
US3941790 A	19760302	US19740444485	19740221
US4275063 A	19810623	US19770768287	19770214
ZA7108200 A	19730829	ZA19710008200	19711207

Priority:

US19510219484 19510405
US19680741874 19680702
DE19691967027 19690228
CA19710127216 19711109
US19740444485 19740221
AU19660004705 19660427
GB19680030617 19681002
GB19700060564 19701221
CA19720145789 19720627
GB19670030617 19670703
CA19690043617 19690221
GB19710007100 19710317
US19720310700 19721130

Probable Assignee: BTG INT LTD

Assignee(s): (std): NAT RES DEV ; NAT RESEARCH DEVELO ; NATIONAL RESEARCH DEVELOPMENT CORP ; VAPOR HEATING CORP

Assignee(s): ANDREW M CREIGHTON ; BRITISH TECHNOLOGY GROUP LTD ; BTG INT ; BTG INT LTD ; BTG INTIONAL ; CREIGHTON ANDREW M ; DREIGHTON ANDREW M ; NAT RES DEV CORP ; NATIONAL RESEARCH DEVELO ; NATIONAL RESEARCH DEVELOPMENT CORP 66 74 VICTORIA ; NATIONAL RESEARCH DEVELOPMENT CORP 66 74 VICTORIA STREET LONDRES S W 1 GR BR ; NATIONAL RESEARCH DEVELOPMENT CORP LONDON ; NATIONAL RESEARCH DEVELOPMENT GB ; NATIONAL RESEARCH DEVELOPMENT LONDEN CORP

Inventor(s): (std): CREIGHTON A ; CREIGHTON A M ; CREIGHTON ANDREW M ; CREIGHTON ANDREW MALCOLM ; DREIGHTON ANDREW M ; ERNST ROBERT D ; LEHANE TIMOTHY J ; MALCOLM CREIGHTON ANDREW ; SMITH WILLIAM M

Inventor(s): A M CREIGHTON ; ANDREW M CREIGHTON ; ANDREW MALCOLM CREIGHTON ; CREIGHTON ANDREW MALCOLM LONDON

Agent(s): EITAN PEARL LATZER AND COHEN ZEDEK

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
AU197136837 A1	19730621	LSPB	+	published / reissued	
AU470566 A1	19671102	LSPB	+	published / reissued	
AU470566 B2	19760318	LSGT	+	granted / extensions (spc, cpc, pte)	
BE729217 A	19690828	LSPB	+	published / reissued	
BE729217 A	19880101	LSLE	-RE20	PATENT EXPIRED	Effective date: 19890228 Owner: NATIONAL RESEARCH DEVELOPMENT CORP. PartyType: owner
BE729217 A	19890228	PEXP		Calculated Patent Term Expiry	
BE776958 A4	19720620	LSPB	+	published / reissued	
BE776958 R	19720620	LSPB	+	published / reissued	
CA1002049 A1					
CA922720 A1					
CA941378 A1					
CA941378 A2	19740205	LSGT	+	granted / extensions (spc, cpc, pte)	
CA943133 A1					
CA943133 A2	19740305	LSGT	+	granted / extensions (spc, cpc, pte)	
CH563996 A	19750715	LSGT	+	granted / extensions (spc, cpc, pte)	
CH563996 A	19791015	LSLE	-PL	PATENT CEASED	
CH563996 A	19940118	PEXP		Calculated Patent Term Expiry	
CH563997 A	19750715	LSGT	+	granted / extensions (spc, cpc, pte)	
CH563997 A	19791015	LSLE	-PL	PATENT CEASED	
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CH564541 A	19911220	PEXP		Calculated Patent Term Expiry	
DE1910283 A1	19700730	LSPB	+	published / reissued	
DE1910283 B2	19790301	LSPB	+	published / reissued	
DE1910283 C3	19791018	LSGT	+	granted / extensions (spc, cpc, pte)	
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DE1967027 A1	19760923	LSPB	+	published / reissued	
DE1967027 B2	19771027	LSPB	+	published / reissued	

DE1967027 C3	19780622	LSGT	+	granted / extensions (spc, cpc, pte)	
DE1967027 C3	19780622	LSGT	+C3	GRANT AFTER TWO PUBLICATION STEPS (3RD PUBLICATION)	
DE1967027 C3	19781214		EI	MISCELLANEOUS SEE PART 3	
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DE2163601 A1	19720622	LSPB	+	published / reissued	
DE2163601 A1	19790222	LSES	+OD	REQUEST FOR EXAMINATION	
DE2163601 A1	19800117	LSWD	-OHN	WITHDRAWAL	
ES198026 A1	19520801	LSGT	+	granted / extensions (spc, cpc, pte)	
FR1044773 A	19531120	LSGT	+	granted / extensions (spc, cpc, pte)	
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GB1234935 A	19710609	LSGT	+	granted / extensions (spc, cpc, pte)	
GB1234935 A	19870703	PEXP		Calculated Patent Term Expiry	
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GB1374979 A	19750403	LSGT	+PS	PATENT SEALED	
GB1374979 A	19881207	LSLE	-PE20	PATENT EXPIRED AFTER TERMINATION OF 20 YEARS	
GB1374979 A	19901221	PEXP		Calculated Patent Term Expiry	
IL31690 A1	19720530	LSPB	+	published / reissued	
IL38342 A1	19780310	LSPB	+	published / reissued	
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NL163957 C	19801117	LSGT	+	granted / extensions (spc, cpc, pte)	
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NL163957 C	19890316	LSLE	-V4	LAPSED BECAUSE OF REACHING THE MAXIMUM LIFETIME OF A PATENT	
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NL7117573 A	19720623	LSPB	+	published / reissued	
NL82056 C	00000000	LSGT	+	granted / extensions (spc, cpc, pte)	
SE400286 B	19780320	LSPB	+	published / reissued	
SE400286 C	19780629	LSGT	+	granted / extensions (spc, cpc, pte)	
SE400286 C	19911220	PEXP		Calculated Patent Term Expiry	
US2694526 A	19541116	LSGT	+	granted / extensions (spc, cpc, pte)	
US3941790 A	19760302	LSGT	+	granted / extensions (spc, cpc, pte)	

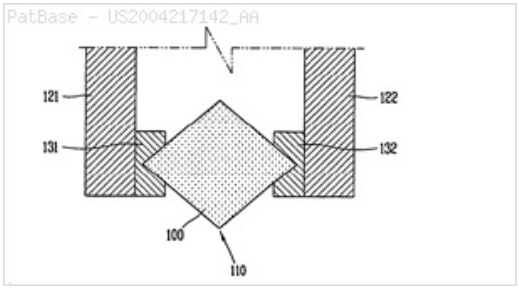
US3941790 A	19920811	LSAS	AS	ASSIGNMENT	Effective date: 19920709 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST.;ASSIGNOR:NATIONAL RESEARCH DEVELOPMENT CORPORATION;REEL/FRAME:006243/0136 Owner: BRITISH TECHNOLOGY GROUP LIMITED, ENGLAND PartyType: owner
US4275063 A	19810212	LSAS	AS	ASSIGNMENT	Effective date: 19721208 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST.;ASSIGNOR:CREIGHTON ANDREW MALCOLM;REEL/FRAME:003828/0651 Owner: NATIONAL RESEARCH DEVELOPMENT CORPORATION, KINGSGA PartyType: owner
US4275063 A	19810302	LSGT	PAT1	Patented Case	
US4275063 A	19810302	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US4275063 A	19810623	LSGT	+	granted / extensions (spc, cpc, pte)	
US4275063 A	19920811	LSAS	AS	ASSIGNMENT	Effective date: 19920709 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST.;ASSIGNOR:NATIONAL RESEARCH DEVELOPMENT CORPORATION;REEL/FRAME:006243/0136 Owner: BRITISH TECHNOLOGY GROUP LIMITED, ENGLAND PartyType: owner
US4275063 A	19950721		PTEF	APPLICATION FOR A PATENT TERM EXTENSION	Expiry date: 20080623 Filing date: 19950721 Text: PRODUCT NAME: ZINECARD (DEXRAZOXANE); REQUESTED FOR 5 YEARS
US4275063 A	19960923	LSGT	+PTEG	GRANT OF A PATENT TERM EXTENSION	Expiry date: 20080623 Extension date: 20130622 Filing date: 19950721 Text: PRODUCT NAME: ZINECARD (DEXRAZOXANE)
US4275063 A	19961022	LSGT	+356	PATENT TERM EXTENSION UNDER 35 U.S.C. 156	Text: FIVE YEARS
US4275063 A	20011119	LSAS	AS	ASSIGNMENT	Effective date: 20010904 OldParty: CHANGE OF NAME;ASSIGNOR:BRITISH TECHNOLOGY GROUP LIMITED;REEL/FRAME:012322/0101 Owner: BTG INTERNATIONAL LIMITED, ENGLAND PartyType: owner
US4275063 A	20030708	LSGT	+356	PATENT TERM EXTENSION UNDER 35 U.S.C. 156	Expiry date: 19980623 Extension date: 20030623 Text: PRODUCT NAME: ZINECARD
US4275063 A	20130622	PEXP		Calculated Patent Term Expiry	
ZA7108200 A	19730829	LSGT	+	granted / extensions (spc, cpc, pte)	
ZA7108200 A	19871206	PEXP		Calculated Patent Term Expiry	

40) Family number: 33171695 (US2004217142 AA)

Title: APPARATUS FOR CUTTING LIQUID CRYSTAL **DISPLAY** PANEL

Abstract: An apparatus for cutting a liquid crystal **display** panel includes a cutting wheel having a spindle shape substantially corresponding to two conical shapes being attached to each other at circular bottom surfaces, a cutting blade along a central portion of the cutting wheel, a holder to which the cutting wheel is mounted, and a support part at the holder, the support part fixing and supporting the cutting wheel.

Classifications:
International (IPC 8-9): B26D1/01 B26D1/14 B26D1/15 B26D3/08 C03B33/00 C03B33/027 C03B33/10 G02F1/13 G02F1/1333
International (IPC 1-7): B26D1/14 B26D1/15 B26D3/08 B26F3/00 C03B33/027 G01N19/02 G02F1/13 G02F1/1333
CPC: C03B33/105 C03B33/107 G02F1/133351 Y02P40/57 Y10T225/30 Y10T83/0385 Y10T83/9403
US: 225/93 225/93P 73/104 73/104S 83/676 83/886



Family:

Publication number	Publication date	Application number	Application date
CN1310743 C	20070418	CN200410037583	20040428
CN1550299 A	20041201	CN200410037583	20040428
JP2004326120 A2	20041118	JP20040133525	20040428
KR100923680 B1	20091028	KR20030027124	20030429
KR20040092806 A	20041104	KR20030027124	20030429
TW200426005 A	20041201	TW20040111731	20040427
TWI236408 B	20050721	TW20040111731	20040427
US2004217142 AA	20041104	US20040832312	20040427
US7308846 BB	20071218	US20040832312	20040427

Priority:

KR20030027124 20030429

Probable Assignee: LG DISPLAY CO LTD

Assignee(s): (std): LG DISPLAY ; LG DISPLAY CO LTD ; LG PHILIPS LCD CO LTD ; TOP ENG CO LTD ; TOP ENGINEERING CO LTD

Assignee(s): LG PHILIPS LCD CO ; LG PHILLIPS LCD CO LTD ; TOP ENGINEERING CO

Inventor(s): (std): JEON KYU JAE ; JONG YULL JEON KYU JAE KIM JUN ; JONG YULL PARK ; JUN GYU JAE ; JUNG SIK KIM ; KIM JEONG SIK ; KIM JUNG SIK ; KWON YONG CHEOL ; KWON YUNG CHUL ; KYU JAE JEON ; PARK JONG YUL ; PARK JONG YULL ; YUNG CHUL KWON

Inventor(s): JEON KYU JAE KIM JUNG SIK KWON YUNG CHUL PARK JONG YULL

Agent(s): ASAHI NOBUMITSU; KATO NOBUAKI; MOTOMIYA TERUHISA; OCHI TAKAO; OKABE MASAO; UBUKATA KAZUO; USUI SHINICHI

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
CN1310743 C	20070418	LSGT	+	granted / extensions (spc, cpc, pte)	
CN1310743 C	20070418	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN1310743 C	20070418	LSGT	+GR01	授权	Text: 授权 (Authorization)
CN1310743 C	20080709	LSAS	C56	CHANGE IN THE NAME OR ADDRESS OF THE PATENTEE	
CN1310743 C	20080709	LSAS	C56	CHANGE IN THE NAME OR ADDRESS OF THE PATENTEE	OldParty: FORMER NAME OR ADDRESS: LG PHILIP LCD CO., LTD.; TOWER ENGINEERING CO., LTD. Owner: LG DISPLAY CO., LTD.; TOWER ENGINEERING CO., LTD. PartyType: owner
CN1310743 C	20080709	LSAS	CP03	专利权人的姓名或者名称、地址的变更	Co-Patentee After Change: 塔工程有限公司 (TOWER ENGINEERING CO LTD) Co-Patentee Before Change: 塔工程有限公司 (TOWER ENGINEERING CO LTD) Patentee After Change: 乐金显示有限公司 (LG DISPLAY CO LTD) Patentee Before Change: LG.飞利浦LCD有限公司 (Lg Philips LCD Co., Ltd.) Text: 专利权人的姓名或者名称、地址的变更 (The name or address of a patentee)

CN1310743 C	20140409	LSAS	ASS	SUCCESSION OR ASSIGNMENT OF PATENT RIGHT	Effective date: 20140318 Text: FORMER OWNER: TOP ENGINEERING CO., LTD.
CN1310743 C	20140409	LSAS	C41	TRANSFER OF PATENT APPLICATION OR PATENT RIGHT OR UTILITY MODEL	
CN1310743 C	20140409	LSAS	TR01	专利权的转移	Effective date: 20140318 Patentee After Change: 乐金显示有限公司 (LG DISPLAY CO LTD) Patentee Before Change: 乐金显示有限公司; 塔工程有限公司 (LG DISPLAY CO LTD; TOWER ENGINEERING CO LTD) Text: 专利申请权、专利权的转移 (Transfer of Patent Application or Patent Right)
CN1310743 C	20200414	LSLE	-CF01	TERMINATION OF PATENT RIGHT DUE TO NON-PAYMENT OF ANNUAL FEE	
CN1310743 C	20200414	LSLE	-CF01	未缴年费专利权终止	Effective date: 20190428 Text: 专利权的终止 (Termination of Patent Right)
CN1310743 C	20240428	PEXP		Calculated Patent Term Expiry	
CN1550299 A	20041201	LSPB	+	published / reissued	
CN1550299 A	20041201	LSPB	+C06	PUBLICATION	
CN1550299 A	20041201	LSPB	PB01	公开	Text: 公开 (Disclosure)
CN1550299 A	20050202		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
CN1550299 A	20050202		SE01	实质审查请求的生效	Text: 实质审查的生效 (Force of substantive review)
JP2004326120 A2	20041118	LSPB	+	published / reissued	
JP2004326120 A2	20050112	LSAS	A711	NOTIFICATION OF CHANGE IN APPLICANT	Effective date: 20050111 Text: JAPANESE INTERMEDIATE CODE: A711
JP2004326120 A2	20050208	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20050111 Text: JAPANESE INTERMEDIATE CODE: A821
JP2004326120 A2	20060608		A977	REPORT ON RETRIEVAL	Effective date: 20060608 Text: JAPANESE INTERMEDIATE CODE: A971007
JP2004326120 A2	20060627	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20060627 Text: JAPANESE INTERMEDIATE CODE: A131
JP2004326120 A2	20060801	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20060731 Text: JAPANESE INTERMEDIATE CODE: A131
JP2004326120 A2	20061101	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20061031 Text: JAPANESE INTERMEDIATE CODE: A523
JP2004326120 A2	20061128	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20061127 Text: JAPANESE INTERMEDIATE CODE: A131
JP2004326120 A2	20070228	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20070227 Text: JAPANESE INTERMEDIATE CODE: A523
JP2004326120 A2	20070320	LSRV	-A02	DECISION OF REFUSAL	Effective date: 20070319 Text: JAPANESE INTERMEDIATE CODE: A02
KR100923680 B1	20030902	LSAS	N231	NOTIFICATION OF CHANGE OF APPLICANT	
KR100923680 B1	20091028	LSGT	+	granted / extensions (spc, cpc, pte)	
KR100923680 B1	20120928	LSFE	FPAY	ANNUAL FEE PAYMENT	Year of fee payment: 4 Payment date: 20120928
KR100923680 B1	20130930	LSFE	FPAY	ANNUAL FEE PAYMENT	Payment date: 20130930 Year of fee payment: 5
KR100923680 B1	20140918	LSFE	FPAY	ANNUAL FEE PAYMENT	Year of fee payment: 6 Payment date: 20140918
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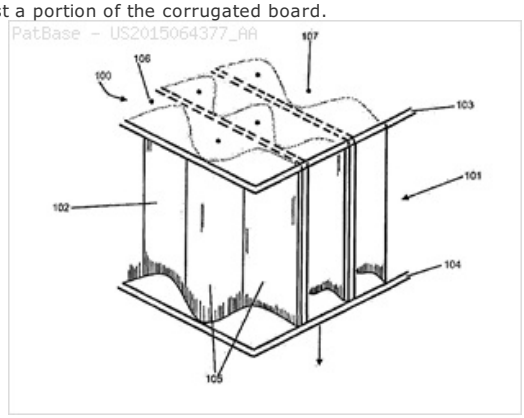
KR100923680 B1	20180917	LSFE	FPAY	ANNUAL FEE PAYMENT	Payment date: 20180917 Year of fee payment: 10
KR100923680 B1	20190917	LSFE	FPAY	ANNUAL FEE PAYMENT	Payment date: 20190917 Year of fee payment: 11
KR100923680 B1	20230429	PEXP		Calculated Patent Term Expiry	
KR20040092806 A	20041104	LSPB	+	published / reissued	
KR20040092806 A	20080327	LSES	A201	REQUEST FOR EXAMINATION	
KR20040092806 A	20090521	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR20040092806 A	20090929	LSGT	+E701	DECISION TO GRANT OR REGISTRATION OF PATENT RIGHT	
KR20040092806 A	20091020	LSGT	+GRNT	WRITTEN DECISION TO GRANT	
TW200426005 A	20041201	LSPB	+	published / reissued	
TWI236408 B	20050721	LSGT	+	granted / extensions (spc, cpc, pte)	
TWI236408 B	20240427	PEXP		Calculated Patent Term Expiry	
US2004217142 AA	20041104	LSPB	+	published / reissued	
US2004217142 AA	20071128	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US7308846 BB	20040427	LSAS	AS	ASSIGNMENT	Effective date: 20040422 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:KWON, YUNG-CHUL;KIM, JUNG-SIK;PARK, JONG-YULL;AND OTHERS;REEL/FRAME:015270/0430 Owner: LG.PHILIPS LCD CO., LTD., KOREA, REPUBLIC OF PartyType: owner
US7308846 BB	20040427	LSAS	AS	ASSIGNMENT	Effective date: 20040422 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:KWON, YUNG-CHUL;KIM, JUNG-SIK;PARK, JONG-YULL;AND OTHERS;REEL/FRAME:015270/0430 Owner: TOP ENGINEERING CO., LTD., KOREA, REPUBLIC OF PartyType: owner
US7308846 BB	20071128	LSGT	PAT1	Patented Case	
US7308846 BB	20071218	LSGT	+	granted / extensions (spc, cpc, pte)	
US7308846 BB	20081027	LSAS	AS	ASSIGNMENT	Effective date: 20080304 OldParty: CHANGE OF NAME;ASSIGNOR:LG.PHILIPS LCD CO., LTD.;REEL/FRAME:021763/0212 Owner: LG DISPLAY CO., LTD., KOREA, REPUBLIC OF PartyType: owner
US7308846 BB	20110329	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US7308846 BB	20120605	LSRE	CC	CERTIFICATE OF CORRECTION	
US7308846 BB	20140619	LSAS	AS	ASSIGNMENT	Effective date: 20140603 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:TOP ENGINEERING CO., LTD.;REEL/FRAME:033138/0623 Owner: LG DISPLAY CO., LTD., KOREA, REPUBLIC OF PartyType: owner
US7308846 BB	20150605	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US7308846 BB	20190423	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 12
US7308846 BB	20241029	PEXP		Calculated Patent Term Expiry (PTA 185 days)	

41) Family number: 53002489 (US2015064377 AA)

Title: LAMINATED BOARD

Abstract: A machine is provided for creating perforated corrugated board, wherein the machine includes: a) at least one apparatus configured to perforate an "ACP" corrugated board after a corrugated board exits the corrugators as part of a continuous **process**, so that the perforations are spread over at least a portion of the corrugated board.

Classifications:
International (IPC 8-9): B23K26/00 B23K26/08 B23K26/38 B23K26/40 B26D1/56 B26F B26F1/00 B26F1/20 B26F1/24 B26F1/38 B31F B31F1/08 B31F1/20 B31F1/24 B31F1/28 B31F1/30 B31F7/02 B32B B32B29/00 B32B29/08 B32B3/00 B32B3/10 B32B3/12 B32B3/26 B32B3/28 B32B33/00 B32B38/04 B65B61/02 B65D B65D81/24 B65D85/34
CPC: B23K2103/40 B23K2103/50 B23K26/00 B23K26/0846 B23K26/355 B23K26/382 B26D1/56 B26F1/08 B26F1/24 B31F1/08 B31F1/2822 B31F1/2881 B31F1/305 B32B2038/047 B32B2250/02 B32B2250/03 B32B2250/26 B32B2250/40 B32B2307/724 B32B2307/726 B32B2439/62 B32B2439/70 B32B29/005 B32B29/08 B32B3/12 B32B3/266 B32B3/28 B32B38/04 Y10T428/1303 Y10T428/24149 Y10T428/24322 Y10T83/0481 Y10T83/478 Y10T83/9314
US: 219/121.7 428/116 428/137 428/34.2 83/30 83/326 83/660



Family:

Publication number	Publication date	Application number	Application date
AU2012290776 AA	20130207	AU20120290776	20120801
AU2012290776 BB	20150305	AU20120290776	20120801
AU2015202834 AA	20150625	AU20150202834	20150526
BR112014002586 A2	20170221	BR20141102586	20120801
CA2880862 AA	20150130	CA20122880862	20120801
CL2014000247 A1	20140711	CL20140000247	20140131
CN103717509 A	20140409	CN201280038207	20120801
CN104494211 A	20150408	CN201410610045	20120801
EP2739549 A1	20140611	EP20120820231	20120801
EP2739549 A4	20150506	EP20120820231	20120801
HK1196346 A1	20141212	HK20140109773	20140929
JP2014524369 T2	20140922	JP20140523886T	20120801
KR20140057578 A	20140513	KR20147005571	20120801
MX2014001344 A1	20140513	MX20140001344	20120801
NZ594363 A	20121221	NZ20110594363	20110801
RU2014107842 A	20150910	RU20140107842	20120801
US2015064377 AA	20150305	US20120236443	20120801
WO13019126 A1	20130207	WO2012NZ00133	20120801
ZA201401351 A	20151223	ZA20140001351	20140221
ZA201406417 A	20150826	ZA20140006417	20140901

Priority:

NZ20110594363 20110801 WO2012NZ00133 20120801 AU20120290776 20120801
AU20150202834 20120801 CN201280038207 20120801

Probable Assignee: CORCEL IP LTD

Assignee(s): (std): CORCEL IP LTD ; COREL IP LTD ; ROGERS JASON PAUL ; VAN BERLO PATRICK PETRUS ANTONIUS MARIA

Assignee(s): CORCEL IP LIMITED

Inventor(s): (std): BERLO PATRICK PETRUS ANTONIUS MARIA VAN ; JASON PAUL ROGERS ; PATRICK PETRUS ANTONIUS MARIA VAN BERLO ; ROGERS JASON PAUL ; VAN BERLO PATRICK PETRUS ANTON ; VAN BERLO PATRICK PETRUS ANTONIUS MARIA

Agent(s): ESTUDIO CAREY LTDA; JAMES AND WELLS INTELLECTUAL PROPERTY; KANGXIN PARTNERS PC HONG KONG LTD; RIDOUT AND MAYBEE LLP; ROGERS JASON P ET AL; WILSON GUNN

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 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

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
AU2012290776 AA	20130207	LSPB	+	published / reissued	
AU2012290776 BB	20150305	LSGT	+	granted / extensions (spc, cpc, pte)	
AU2012290776 BB	20150702	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	

AU2012290776 BB	20180301	LSLE	-MK14	PATENT CEASED SECTION 143(A) (ANNUAL FEES NOT PAID) OR EXPIRED	
AU2012290776 BB	20320801	PEXP		Calculated Patent Term Expiry	
AU2015202834 AA	20150625	LSPB	+	published / reissued	
AU2015202834 AA	20180301	LSLE	-MK4	APPLICATION LAPSED SECTION 142(2)(D) - NO CONTINUATION FEE PAID FOR THE APPLICATION	
BR112014002586 A2	20180529	LSFE	-B08F	APPLICATION FEES: DISMISSAL - ARTICLE 86 OF INDUSTRIAL PROPERTY LAW	
BR112014002586 A2	20180529	LSFE	-B08F	APPLICATION FEES: DISMISSAL - ARTICLE 86 OF INDUSTRIAL PROPERTY LAW	Text: REFERENTE A 6A ANUIDADE.
BR112014002586 A2	20181023	LSLE	-B08K	LAPSE AS NO EVIDENCE OF PAYMENT OF THE ANNUAL FEE HAS BEEN FURNISHED TO INPI (ACC. ART. 87)	Text: EM VIRTUDE DO ARQUIVAMENTO PUBLICADO NA RPI 2473 DE 29-05-2018 E CONSIDERANDO AUSENCIA DE MANIFESTACAO DENTRO DOS PRAZOS LEGAIS, INFORMO QUE CABE SER MANTIDO O ARQUIVAMENTO DO PEDIDO DE PATENTE, CONFORME O DISPOSTO NO ARTIGO 12, DA RESOLUCAO 113/2013.
CA2880862 AA	20150130	LSPB	+	published / reissued	
CA2880862 AA	20170912	LSLE	-FZDE	DEAD	Effective date: 20170801
CL2014000247 A1	20140711	LSPB	+	published / reissued	
CN103717509 A	20140409	LSPB	+	published / reissued	
CN103717509 A	20140409	LSPB	+C06	PUBLICATION	
CN103717509 A	20140827		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
CN103717509 A	20141212		REG	REFERENCE TO A NATIONAL CODE	Ref country code: HK Ref document number: 1196346 Ref legal event code: DE Country of Ref document: HK
CN103717509 A	20171124	LSRV	-RJ01	REJECTION OF INVENTION PATENT APPLICATION AFTER PUBLICATION	
CN104494211 A	20150408	LSPB	+	published / reissued	
CN104494211 A	20150408	LSPB	+C06	PUBLICATION	
CN104494211 A	20150506		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
CN104494211 A	20171013	LSDW	-WD01	INVENTION PATENT APPLICATION DEEMED WITHDRAWN AFTER PUBLICATION	
EP2739549 A1	20140611	LSPB	+	published / reissued	
EP2739549 A1	20140611	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20140218
EP2739549 A1	20140611		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AL 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 RS SE SI SK SM TR
EP2739549 A1	20140611		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: BA ME
EP2739549 A4	20150506	LSES	+RA4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED (CORRECTED)	Effective date: 20150410
EP2739549 A4	20150506		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED	ClassificationScheme: IPC ClassificationSymbol: B32B 33/00 20060101ALI20150405BHEP

				BEFORE GRANT	
EP2739549 A4	20150506		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: B65D 85/34 20060101ALI20150405BHEP
EP2739549 A4	20150506		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: B65D 81/24 20060101AFI20150405BHEP
EP2739549 A4	20150506		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: B31F 1/20 20060101ALI20150405BHEP
EP2739549 A4	20150506		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: B32B 3/00 20060101ALI20150405BHEP
EP2739549 A4	20150506		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: B32B 38/04 20060101ALI20150405BHEP
EP2739549 A4	20150506		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: B32B 29/00 20060101ALI20150405BHEP
EP2739549 A4	20150506		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: B26F 1/00 20060101ALI20150405BHEP
EP2739549 A4	20150506		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: B32B 3/28 20060101ALI20150405BHEP
EP2739549 A4	20180801	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 20180301
HK1196346 A1	20141212	LSPB	+	published / reissued	
JP2014524369 T2	20140922	LSPB	+	published / reissued	
JP2014524369 T2	20150717	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Effective date: 20150717 Text: JAPANESE INTERMEDIATE CODE: A621
JP2014524369 T2	20160905	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20160905 Text: JAPANESE INTERMEDIATE CODE: A131
JP2014524369 T2	20161202		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20161202 Text: JAPANESE INTERMEDIATE CODE: A601
JP2014524369 T2	20170306	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20170306 Text: JAPANESE INTERMEDIATE CODE: A523
JP2014524369 T2	20170626	LSRV	-A02	DECISION OF REFUSAL	Effective date: 20170626 Text: JAPANESE INTERMEDIATE CODE: A02
KR20140057578 A	20140513	LSPB	+	published / reissued	
KR20140057578 A	20170902	LSDW	-WITN	WITHDRAWAL DUE TO NO REQUEST FOR EXAMINATION	
MX2014001344 A1	20140513	LSPB	+	published / reissued	
NZ594363 A	20120525	LSAS	ASS	CHANGE OF OWNERSHIP	OldParty: OLD OWNER(S): CORCEL IP LIMITED; PATRICK PETRUS ANTONIUS MARIA VAN BERLO; JASON PAUL ROGERS Owner: CORCEL IP LIMITED, NZ PartyType: owner
NZ594363 A	20121221	LSPB	+	published / reissued	
NZ594363 A	20130328	LSGT	+PSEA	PATENT SEALED	
NZ594363 A	20160331	LSFE	+RENW	RENEWAL (RENEWAL FEES ACCEPTED)	Effective date: 20160303 Text: PATENT RENEWED FOR 1 YEAR UNTIL 07 MAY 2017 BY JAMES + WELLS
NZ594363 A	20171124	LSLE	-LAPS	PATENT LAPSED	
RU2014107842 A	20150910	LSPB	+	published / reissued	
RU2014107842 A	20170810	LSWD	-FA92	ACKNOWLEDGEMENT OF APPLICATION WITHDRAWN (LACK OF SUPPLEMENTARY	Effective date: 20170731

				MATERIALS SUBMITTED)	
US2015064377 AA	20140207	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:VAN BERLO, PATRICK PETRUS ANTONIUS MARIA;ROGERS, JASON PAUL;SIGNING DATES FROM 20120202 TO 20120229;REEL/FRAME:032174/0028 Owner: CORCEL IP LIMITED, NEW ZEALAND PartyType: owner
US2015064377 AA	20140324	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:VAN BERLO, PATRICK PETRUS ANTONIUS MARIA;ROGERS, JASON PAUL;SIGNING DATES FROM 20140212 TO 20140213;REEL/FRAME:032505/0370 Owner: CORCEL IP LIMITED, NEW ZEALAND PartyType: owner
US2015064377 AA	20141223		RFE1	Docketed New Case - Ready for Examination	
US2015064377 AA	20150305	LSPB	+	published / reissued	
US2015064377 AA	20170207		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2015064377 AA	20170223	LSES	NFA1	Non Final Action Mailed	
US2015064377 AA	20170901	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2015064377 AA	20170901		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
WO13019126 A1	20130207	LSPB	+	published / reissued	
WO13019126 A1	20130327		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A1 Ref document number: 12820231 Country of Ref document: EP
WO13019126 A1	20130404		DPE2	REQUEST FOR PRELIMINARY EXAMINATION FILED BEFORE EXPIRATION OF 19TH MONTH FROM PRIORITY DATE (PCT APPLICATION FILED FROM 20040101)	
WO13019126 A1	20130502	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Date of Ref document: 20120801 Kind code of Ref document: A Ref document number: 2012290776 Country of Ref document: AU
WO13019126 A1	20140130	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: MX/A/2014/001344 Country of Ref document: MX
WO13019126 A1	20140131	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 2014523886 Country of Ref document: JP
WO13019126 A1	20140203	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO13019126 A1	20140228	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 20147005571 Country of Ref document: KR
WO13019126 A1	20140303	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 2014107842 Country of Ref document: RU
WO13019126 A1	20140324	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 14236443 Country of Ref document: US
WO13019126 A1	20140520		REG	REFERENCE TO NATIONAL CODE	Ref country code: BR Ref document number: 112014002586 Ref legal event code: B01A Country of Ref document: BR

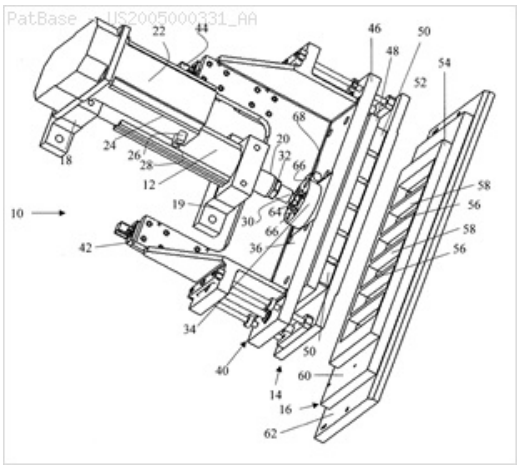
WO13019126 A1	20150130	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 2880862 Country of Ref document: CA
WO13019126 A1	20170221	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Effective date: 20140203 Kind code of Ref document: A2 Ref document number: 112014002586 Country of Ref document: BR
ZA201401351 A	20151223	LSGT	+	granted / extensions (spc, cpc, pte)	
ZA201401351 A	20340220	PEXP		Calculated Patent Term Expiry	
ZA201406417 A	20150826	LSGT	+	granted / extensions (spc, cpc, pte)	
ZA201406417 A	20340831	PEXP		Calculated Patent Term Expiry	

42) Family number: 31451842 (US2005000331 AA)

Title: LOAD **CELL** DEFLASHER ASSEMBLY AND METHOD

Abstract: A load **cell** deflasher for the punch and die deflash **processing** of **product** from an extrusion includes a load **cell** pressure transducer interconnected with a punch to sense pressure measurements of the punch against the extrusion at the die and communicate the measurements to a programmable logic controller that controls the extension and retraction of the punch to the die and the structure accommodating pre-punch alignment of the extrusion to the die. The pressure measurements are logged in a trending database of the programmable logic controller. If a pressure measurement exceeds a threshold value, to programmable logic controller can command instruct a positioning actuator of the punch to abort its punch stroke prior to completion. If the programmable logic controller determines an upward trend of pressure measurements, an auto-tune mode of the programmable logic controller can command instruct an extrusion card transfer positioning actuator to adjustably position a gripper carriage transferring the extrusion in intervening proximity between the punch and die to an optimal position for extrusion deflashing.

Classifications:
International (IPC 8-9): B26D5/08 B26D5/12 B26D7/00 B26D7/24 B26F1/38 B26F1/40 B29C45/38 B29C49/04 B29C49/42 B29C49/72 B29C49/78
International (IPC 1-7): B26D1/00 B26D5/08 B26D7/28 B28B11/12 B28B21/92 B28B7/14
CPC: B26D7/24 B26F1/40 B29C49/04 B29C49/72 B29C49/78 Y10S425/806 Y10S83/914 Y10T83/04 Y10T83/178 Y10T83/8858
US: 425/806 83/13 83/130 83/639.1 83/76.8 83/768 83/914



Family:

Publication number	Publication date	Application number	Application date
US2005000331 AA	20050106	US20030613954	20030703
US6994003 BB	20060207	US20030613954	20030703
WO05010662 A2	20050203	WO2004US20258	20040624
WO05010662 A3	20050728	WO2004US20258	20040624

Priority:
US20030613954 20030703

Probable Assignee: AUTOMATIC LIQUID PACKAGING SOLUTIONS
Assignee(s): (std): DIAMOND MACHINE WERKS INC ; FARRELL BRAD ; KREVALD WALTER R ; URASKY PETER D
Assignee(s): AUTOMATIC LIQUID PACKAGING SOLUTIONS
Inventor(s): (std): FARRELL BRAD ; KREVALD WALTER R ; URASKY PETER D
Inventor(s): KREVALD WALTER ; URASKY PETER
Agent(s): JAMES P; JAMES P HANRATH BOUNDAS SKARARZYNSKI WALSH AND BLACK 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 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

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
US2005000331 AA	20050106	LSPB	+	published / reissued	
US6994003 BB	20030703	LSAS	AS	ASSIGNMENT	Effective date: 20030703 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:FARRELL, BRAD;KREVALD, WALTER R.;URASKY, PETER D.;REEL/FRAME:014283/0873 Owner: DIAMOND MACHINE WERKS, INC., ILLINOIS PartyType: owner
US6994003 BB	20060118	LSGT	PAT1	Patented Case	
US6994003 BB	20060207	LSGT	+	granted / extensions (spc, cpc, pte)	
US6994003 BB	20090225	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US6994003 BB	20130920		REMI	MAINTENANCE FEE REMINDER MAILED	
US6994003 BB	20131106	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US6994003 BB	20131106		+SULP	SURCHARGE FOR	Year of fee payment: 7

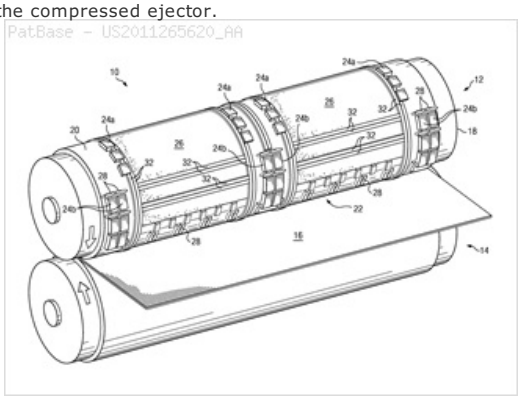
				LATE PAYMENT	
US6994003 BB	20140203	LSAS	AS	ASSIGNMENT	Effective date: 20140124 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:DIAMOND MACHINE WERKS, INC.;REEL/FRAME:032116/0482 Owner: AUTOMATIC LIQUID PACKAGING SOLUTIONS, ILLINOIS PartyType: owner
US6994003 BB	20170918	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.)
US6994003 BB	20180305	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	Text: PATENT EXPIRED FOR FAILURE TO PAY MAINTENANCE FEES (ORIGINAL EVENT CODE: EXP.)
US6994003 BB	20180305	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US6994003 BB	20180305	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US6994003 BB	20180327	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20180207
US6994003 BB	20240217	PEXP		Calculated Patent Term Expiry (PTA 229 days)	
WO05010662 A2	20050203	LSPB	+	published / reissued	
WO05010662 A2	20050203		+AK	DESIGNATED STATES	Kind code of Ref document: A2 Country of Ref document: AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NA NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW
WO05010662 A2	20050203		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A2 Country of Ref document: AM AT AZ BE BF BG BJ BW BY CF CG CH CI CM CY CZ DE DK EE ES FI FR GA GB GH GM GN GQ GR GW HU IE IT KE KG KZ LS LU MC MD ML MR MW MZ NA NE NL PL PT RO RU SD SE SI SK SL SN SZ TD TG TJ TM TR TZ UG ZM ZW
WO05010662 A2	20050330		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO05010662 A3	20050818		DPEN	REQUEST FOR PRELIMINARY EXAMINATION FILED PRIOR TO EXPIRATION OF 19TH MONTH FROM PRIORITY DATE (PCT APPLICATION FILED FROM 20040101)	
WO05010662 A3	20060503	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	Ref country code: WO

43) Family number: 49883743 (US2011265620 AA)

Title: CUTTING DIE APPARATUS AND METHOD

Abstract: Embodiments of the present disclosure generally provide a cutting die system. The cutting die system includes a substrate, at least one blade, and an ejector coupled to the substrate. The ejector includes a compressible portion having a top surface and a bottom surface opposite the top surface. The bottom surface is coupled to the substrate and a protective layer is cured to the top surface. A method of die cutting a blank according to an embodiment of the present disclosure includes directing a blank between a cutting die and an anvil, the cutting die comprising a substrate. An ejector coupled to the substrate is compressed between the cutting die and the blank. A scrap piece is cut from the blank as it passes between the cutting die and the anvil, and the scrap piece is ejected by releasing the compressed ejector.

Classifications:
International (IPC 8-9): B26D7/18 B26F1/38 B26F1/40
CPC: B26D7/18 B26D7/1818 B26F1/384 B26F1/40 Y10T83/0467 Y10T83/2109 Y10T83/2111
US: 83/117 83/117S 83/118 83/118S 83/27 83/27P



Family:

Publication number	Publication date	Application number	Application date
US10538010 BB	20200121	US20100769485	20100428
US2011265620 AA	20111103	US20100769485	20100428

Priority:
US20100769485 20100428

Probable Assignee: BURGER GREGORY DEAN
Assignee(s): (std): BURGER GREGORY DEAN ; KICINSKI AARON DUKE
Inventor(s): (std): BURGER GREGORY DEAN ; KICINSKI AARON DUKE
Agent(s): DRAKE KIRBY

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
US10538010 BB	20200121	LSGT	+	granted / extensions (spc, cpc, pte)	
US10538010 BB	20301203	PEXP		Calculated Patent Term Expiry (PTA 219 days)	
US2011265620 AA	20111103	LSPB	+	published / reissued	
US2011265620 AA	20151007		FRM1	Final Rejection Mailed	
US2011265620 AA	20161109	LSAL	APL5	On Appeal -- Awaiting Decision by the Board of Appeals	
US2011265620 AA	20180625	LSAL	BDR1	Board of Appeals Decision Rendered	
US2011265620 AA	20180823	LSWD	ABD1	Abandoned -- After Examiner's Answer or Board of Appeals Decision	
US2011265620 AA	20190222	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: PETITION RELATED TO MAINTENANCE FEES GRANTED (ORIGINAL EVENT CODE: PTGR); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US2011265620 AA	20190222	LSRE	+STCC	INFORMATION ON STATUS: APPLICATION REVIVAL	Text: WITHDRAWN ABANDONMENT, AWAITING EXAMINER ACTION
US2011265620 AA	20190222	LSES	WAE1	Withdrawn Abandonment, awaiting examiner action	
US2011265620 AA	20190530	LSAL	EAA1	Examiner's Answer to Appeal Brief Mailed	

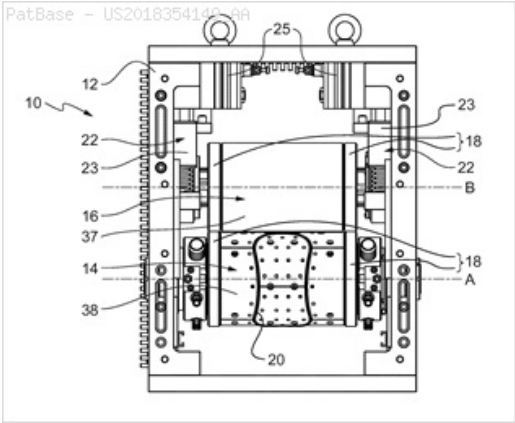
US2011265620 AA	20190530	LSAL	STCV	INFORMATION ON STATUS: APPEAL PROCEDURE	Text: EXAMINER'S ANSWER TO APPEAL BRIEF MAILED
US2011265620 AA	20190904		RFE1	Docketed New Case - Ready for Examination	
US2011265620 AA	20190904		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2011265620 AA	20191209	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2011265620 AA	20191209		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: PUBLICATIONS -- ISSUE FEE PAYMENT VERIFIED
US2011265620 AA	20200101	LSGT	PAT1	Patented Case	
US2011265620 AA	20200101	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE

44) Family number: 65386328 (US2018354149 AA)

Title: ROTARY CUTTING APPARATUS WITH AN EMBEDDED MONITORING UNIT

Abstract: The disclosure is related to a rotary cutting apparatus (**10**) comprising a frame (**12**); a first rotary device (**14** or **16**) comprising a first shaft concentrically arranged about a first rotational axis (A or B) and a first drum (**37** or **38**); a second rotary device (**14** or **16**) comprising a second shaft concentrically arranged about a second rotational axis (A or B) and a second drum (**37** or **38**); said first and second rotational axes being substantially horizontal and substantially in the same plane, wherein, a monitoring unit (**28**) is at least partially embedded in at least one of the drums of the first and second rotary devices, the monitoring unit being configured for measuring at least one working parameter and for transmitting data representative of the at least one working parameter between the monitoring unit and an interface transmission unit poisitioned outside either the first or second rotary device or both.

Classifications:
International (IPC 8-9): B26D1/28 B26D1/40 B26D5/00 B26D7/00 B26D7/26 B26D7/27 B26F1/38 B26F1/44
International (IPC 1-7): B26D7/26 B26F1/38
CPC: B26D1/40 B26D5/00 B26D7/26 B26D7/265 B26D7/27 B26F1/38 B26F1/384
US: 1/1 83/72



Family:

Publication number	Publication date	Application number	Application date
BR112018006921 A2	20181016	BR20181106921	20161003
CN108025449 A	20180511	CN201680056454	20161003
CN108025449 B	20200121	CN201680056454	20161003
DE602015011131 D1	20180614	DE201560011131T	20151006
EP3153285 A1	20170412	EP20150306573	20151006
EP3153285 B1	20180516	EP20150306573	20151006
ES2675850 T3	20180713	ES20150306573T	20151006
HU039651 T2	20190128	HU20150306573T	20151006
IN201837008451 A	20180518	IN201837008451	20180307
JP2018535103 T2	20181129	JP20180517545T	20161003
KR20180063095 A	20180611	KR20187008868	20161003
MX2018004104 A1	20180517	MX20180004104	20161003
PL3153285 T3	20181031	PL20150306573T	20151006
TR201807612 T4	20180621	TR20180007612T	20151006
US10695930 BB	20200630	US20160762634	20161003
US2018354149 AA	20181213	US20160762634	20161003
WO17060196 A1	20170413	WO2016EP73562	20161003

Priority:
EP20150306573 20151006 WO2016EP73562 20161003

Probable Assignee: HYPERION MATERIALS AND TECHNOLOGIES SWEDEN AB

Assignee(s): (std): HYPERION MATERIALS AND TECH SWEDEN AB ; SANDVIK INTELLECTUAL PROPERTY ; SANDVIK INTELLECTUAL PROPERTY AB

Assignee(s): HYPERION MATERIALS AND TECHNOLOGIES SWEDEN AB ; SANDVIK HYPERION AB

Inventor(s): (std): ARNAUD JOEL PRAS ; DIJON PIERRE LUC PAUL ANDRE ; JACQUES SECONDI ; PIERRE LUC PAUL ANDRE DIJON ; PRAS ARNAUD JOEL ; SECONDI JACQUES

Agent(s): CARPINTERO MARIO; CEREN AYYUEREK; NEILSON MARTIN MARK; SETREUS ELLEN; SONODA AND KOBAYASHI INTELLECTUAL PROPERTY LAW

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 DJ 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 KW 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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
BR112018006921 A2	20190102	LSAS	B25A	REQUESTED TRANSFER OF RIGHTS APPROVED	PartyType: owner Owner: SANDVIK HYPERION AB (SE)
BR112018006921 A2	20200324		B06U	PRELIMINARY REQUIREMENT: REQUESTS WITH SEARCHES PERFORMED BY OTHER PATENT OFFICES: SUSPENSION OF THE	

				PATENT APPLICATION PROCEDURE	
CN108025449 A	20180511	LSPB	+	published / reissued	
CN108025449 A	20180511	LSPB	PB01	PUBLICATION	
CN108025449 A	20180511	LSPB	PB01	公开	Text: 公开 (Disclosure)
CN108025449 A	20180831		SE01	ENTRY INTO FORCE OF REQUEST FOR SUBSTANTIVE EXAMINATION	
CN108025449 A	20180831		SE01	实质审查请求的生效	Text: 实质审查的生效 (Force of substantive review)
CN108025449 A	20181102	LSAS	TA01	TRANSFER OF PATENT APPLICATION RIGHT	
CN108025449 A	20181102	LSAS	TA01	专利申请权的转移	Applicant After Change: 山特维克海博锐股份有限公司 (Of Sandvik sharp Haibo Co., Ltd.) Effective date: 20181012 Applicant Before Change: 山特维克知识产权股份有限公司 (SANDVIK INTELLECTUAL PROPERTY AB) Text: 专利申请权、专利权的转移 (Transfer of Patent Application or Patent Right)
CN108025449 B	20200121	LSGT	+	granted / extensions (spc, cpc, pte)	
CN108025449 B	20200121	LSGT	+GR01	PATENT GRANT	
CN108025449 B	20200121	LSGT	+GR01	授权	Text: 授权 (Authorization)
CN108025449 B	20361003	PEXP		Calculated Patent Term Expiry	
DE602015011131 D1	20181217	LSAS	R081	CHANGE OF APPLICANT/PATENTEE	OldParty: Sandvik Intellectual Property AB, Sandviken, SE Owner: Sandvik Hyperion AB, Stockholm, SE PartyType: Owner
DE602015011131 D1	20190128	LSAS	R081	CHANGE OF APPLICANT/PATENTEE	Owner: Hyperion Materials & Technologies (Sweden) AB, Stockholm, SE PartyType: Owner OldParty: Sandvik Hyperion AB, Stockholm, SE
EP3153285 A1	20170412	LSPB	+	published / reissued	
EP3153285 A1	20170412		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AL 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 RS SE SI SK SM TR
EP3153285 A1	20170412		+AV	REQUEST FOR VALIDATION OF THE EUROPEAN PATENT	Country of Ref document: MA
EP3153285 A1	20170412		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: BA ME
EP3153285 A1	20171115	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20171010
EP3153285 A1	20171115		+RBV	DESIGNATED CONTRACTING STATES (CORRECTED)	Country of Ref document: AL 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 RS SE SI SK SM TR
EP3153285 A1	20180314	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	Effective date: 20180213
EP3153285 A1	20180314		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: B26F 1/38 20060101ALN20180202BHEP ClassificationScheme: IPC
EP3153285 A1	20180314		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: B26D 7/26 20060101AFI20180202BHEP ClassificationScheme: IPC
EP3153285 B1	20180516	LSGT	+	granted / extensions (spc, cpc, pte)	
EP3153285 B1	20180516		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: AL 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 RS SE SI SK SM TR
EP3153285 B1	20180516	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: FG4D Ref country code: GB
EP3153285 B1	20180531	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: EP
EP3153285 B1	20180613	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: FG4D Ref country code: IE
EP3153285 B1	20180614	LSPB	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref legal event code: R096 Ref document number: 602015011131

					Country of Ref document: DE
EP3153285 B1	20180615	LSNP	REG	REFERENCE TO A NATIONAL CODE	Kind code of Ref document: T Ref document number: 999116 Effective date: 20180615 Ref country code: AT Ref legal event code: REF Country of Ref document: AT
EP3153285 B1	20180713	LSGT	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20180713 Ref country code: ES Ref legal event code: FG2A Ref document number: 2675850 Kind code of Ref document: T3 Country of Ref document: ES
EP3153285 B1	20180731		REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: TRGR Ref country code: SE
EP3153285 B1	20180829		REG	REFERENCE TO A NATIONAL CODE	Ref country code: NL Ref legal event code: FP
EP3153285 B1	20181010		REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: 732E Ref country code: GB Text: REGISTERED BETWEEN 20180913 AND 20180919
EP3153285 B1	20181010	LSRV	REG	REFERENCE TO A NATIONAL CODE	Ref country code: LT Ref legal event code: MG4D
EP3153285 B1	20181025	LSFE	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: PLFP Year of fee payment: 4 Ref country code: FR
EP3153285 B1	20181031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20180816 Country of Ref document: BG
EP3153285 B1	20181031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20180516 Country of Ref document: FI
EP3153285 B1	20181031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180816 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: NO
EP3153285 B1	20181031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20180516 Country of Ref document: LT
EP3153285 B1	20181130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180516 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: HR
EP3153285 B1	20181130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180516 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: RS
EP3153285 B1	20181130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20180817 Country of Ref document: GR
EP3153285 B1	20181130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180516 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: LV
EP3153285 B1	20181130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 4 Payment date: 20180925 Country of Ref document: CZ
EP3153285 B1	20181130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20180919 Year of fee payment: 4 Country of Ref document: PL

EP3153285 B1	20181203		REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: T3 Ref document number: E 28139 Ref country code: SK Country of Ref document: SK
EP3153285 B1	20181215	LSRV	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20180516 Kind code of Ref document: T Ref document number: 999116 Ref legal event code: MK05 Ref country code: AT Country of Ref document: AT
EP3153285 B1	20181217		REG	REFERENCE TO A NATIONAL CODE	PartyType: representative Ref document number: 602015011131 Representative: KRAUS & WEISERT PATENTANWAELTE PARTGMBB, DE Ref country code: DE Ref legal event code: R082 Country of Ref document: DE
EP3153285 B1	20181217	LSAS	REG	REFERENCE TO A NATIONAL CODE	OldParty: FORMER OWNER: SANDVIK INTELLECTUAL PROPERTY AB, SANDVIKEN, SE PartyType: owner Ref country code: DE Ref legal event code: R081 Owner: SANDVIK HYPERION AB, SE Ref document number: 602015011131 Country of Ref document: DE
EP3153285 B1	20181217	LSAS	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE OldParty: FORMER OWNER: SANDVIK INTELLECTUAL PROPERTY AB, SANDVIKEN, SE Owner: HYPERION MATERIALS & TECHNOLOGIES (SWEDEN) AB, SE Ref document number: 602015011131 PartyType: owner Ref legal event code: R081 Country of Ref document: DE
EP3153285 B1	20181231	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20181026 Year of fee payment: 4 Country of Ref document: NL
EP3153285 B1	20190116		REG	REFERENCE TO A NATIONAL CODE	Owner: SANDVIK HYPERION AB; SE Ref legal event code: PD Effective date: 20181128 OldParty: DETAILS ASSIGNMENT: CHANGE OF OWNER(S), CESSION; FORMER OWNER NAME: SANDVIK INTELLECTUAL PROPERTY AB PartyType: owner Ref country code: BE
EP3153285 B1	20190128		REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref legal event code: R082 Representative: KRAUS & WEISERT PATENTANWAELTE PARTGMBB, DE PartyType: representative Ref document number: 602015011131 Country of Ref document: DE
EP3153285 B1	20190128	LSAS	REG	REFERENCE TO A NATIONAL CODE	Ref document number: 602015011131 Owner: HYPERION MATERIALS & TECHNOLOGIES (SWEDEN) AB, SE Ref country code: DE PartyType: owner Ref legal event code: R081 OldParty: FORMER OWNER: SANDVIK HYPERION AB, STOCKHOLM, SE Country of Ref document: DE
EP3153285 B1	20190128	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref document number: E039651 Ref legal event code: AG4A Ref country code: HU Country of Ref document: HU
EP3153285 B1	20190131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20180516 Country of Ref document: RO
EP3153285 B1	20190131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20180516 Country of Ref document: EE
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EP3153285 B1	20190131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-

				INFORMATION FROM NATIONAL OFFICE TO EPO]	LIMIT Lapsed date: 20180516 Country of Ref document: DK
EP3153285 B1	20190131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 4 Payment date: 20181004 Country of Ref document: HU
EP3153285 B1	20190131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 4 Payment date: 20181029 Country of Ref document: DE
EP3153285 B1	20190131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 4 Payment date: 20180919 Country of Ref document: SK
EP3153285 B1	20190131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20181029 Year of fee payment: 4 Country of Ref document: SE
EP3153285 B1	20190213	LSAS	RAP2	RIGHTS OF A PATENT TRANSFERRED	PartyType: owner Owner: SANDVIK HYPERION AB
EP3153285 B1	20190213		REG	REFERENCE TO A NATIONAL CODE	Effective date: 20181214 PartyType: owner OldParty: DETAILS ASSIGNMENT: CHANGE OF OWNER(S), ASSIGNMENT; FORMER OWNER NAME: SANDVIK INTELLECTUAL PROPERTY AB Owner: SANDVIK HYPERION AB; SE Ref legal event code: PD Ref country code: NL
EP3153285 B1	20190219	LSRE	REG	REFERENCE TO A NATIONAL CODE	Ref document number: 602015011131 Ref legal event code: R097 Ref country code: DE Country of Ref document: DE
EP3153285 B1	20190228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180516 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SM
EP3153285 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 4 Payment date: 20181102 Country of Ref document: ES
EP3153285 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 4 Payment date: 20181001 Country of Ref document: TR
EP3153285 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20181031 Year of fee payment: 4 Country of Ref document: IT
EP3153285 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20181029 Year of fee payment: 4 Country of Ref document: BE
EP3153285 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20181025 Year of fee payment: 4 Country of Ref document: FR
EP3153285 B1	20190228		REG	REFERENCE TO A NATIONAL CODE	OldParty: FORMER OWNER(S): SANDVIK INTELLECTUAL PROPERTY AB, SE Ref legal event code: GB9C Ref country code: HU Owner: SANDVIK HYPERION AB, SE PartyType: owner
EP3153285 B1	20190306	LSAS	RAP2	RIGHTS OF A PATENT TRANSFERRED	Owner: HYPERION MATERIALS & TECHNOLOGIES (SWEDEN) AB PartyType: owner
EP3153285 B1	20190318		REG	REFERENCE TO A NATIONAL CODE	Owner: HYPERION MATERIALS & TECHNOLOGIES (SWEDEN) AB; SE Ref legal event code: HC Effective date: 20190123 OldParty: DETAILS ASSIGNMENT: CHANGE OF OWNER(S), CHANGEMENT DE NOM DU PROPRIETAIRE; FORMER OWNER NAME: SANDVIK HYPERION AB Ref country code: BE PartyType: owner
EP3153285 B1	20190424	LSGT	+26N	NO OPPOSITION FILED	Effective date: 20190219

EP3153285 B1	20190429	LSAS	REG	REFERENCE TO A NATIONAL CODE	OldParty: FORMER OWNER(S): SANDVIK INTELLECTUAL PROPERTY AB, SE; SANDVIK HYPERION AB, SE PartyType: owner Owner: HYPERION MATERIALS & TECHNOLOGIES, SE Ref legal event code: HC9C Ref country code: HU
EP3153285 B1	20190515		REG	REFERENCE TO A NATIONAL CODE	Owner: HYPERION MATERIALS & TECHNOLOGIES (SWEDEN) AB; SE Ref legal event code: HC Effective date: 20190304 Ref country code: NL OldParty: DETAILS ASSIGNMENT: CHANGE OF OWNER(S), CHANGE OF OWNER(S) NAME; FORMER OWNER NAME: SANDVIK HYPERION AB PartyType: owner
EP3153285 B1	20190531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20180516 Country of Ref document: SI
EP3153285 B1	20190531	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: PL Ref country code: CH
EP3153285 B1	20190628	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20180516 Country of Ref document: MC
EP3153285 B1	20190628	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20181006 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: LU
EP3153285 B1	20190724	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: MM4A Ref country code: IE
EP3153285 B1	20190830	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20181031 Country of Ref document: CH
EP3153285 B1	20190830	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20181031 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: LI
EP3153285 B1	20191002	LSAS	REG	REFERENCE TO A NATIONAL CODE	OldParty: FORMER OWNER: SANDVIK INTELLECTUAL PROPERTY AB, SANDVIKEN, SE Ref legal event code: PC4A Effective date: 20190826 PartyType: owner Ref document number: E 28139 Owner: SANDVIK HYPERION AB, STOCKHOLM, SE Ref country code: SK Country of Ref document: SK
EP3153285 B1	20191002	LSAS	REG	REFERENCE TO A NATIONAL CODE	PartyType: owner Owner: HYPERION MATERIALS & TECHNOLOGIES (SWEDEN) AB,, SE Ref country code: SK Effective date: 20190826 Ref document number: E 28139 Ref legal event code: TC4A Country of Ref document: SK
EP3153285 B1	20191031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20181006 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: IE
EP3153285 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190919 Year of fee payment: 5 Country of Ref document: SK
EP3153285 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190920 Year of fee payment: 5 Country of Ref document: TR
EP3153285 B1	20191129	LSLE	-PG25	LAPSED IN A CONTRACTING STATE	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION

				[ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20180516 Country of Ref document: AL
EP3153285 B1	20191129	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 5 Payment date: 20190918 Country of Ref document: PL
EP3153285 B1	20200131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20181006 Country of Ref document: MT
EP3153285 B1	20200131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20191026 Year of fee payment: 5 Country of Ref document: NL
EP3153285 B1	20200131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190925 Year of fee payment: 5 Country of Ref document: HU
EP3153285 B1	20200131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20191002 Year of fee payment: 5 Country of Ref document: CZ
EP3153285 B1	20200131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 5 Payment date: 20191029 Country of Ref document: SE
EP3153285 B1	20200131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 5 Payment date: 20191029 Country of Ref document: DE
EP3153285 B1	20200228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20191025 Year of fee payment: 5 Country of Ref document: FR
EP3153285 B1	20200228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20191028 Year of fee payment: 5 Country of Ref document: BE
EP3153285 B1	20200228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 5 Payment date: 20191023 Country of Ref document: IT
EP3153285 B1	20200228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20191104 Year of fee payment: 5 Country of Ref document: ES
EP3153285 B1	20200501	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20191028 Year of fee payment: 5 Country of Ref document: GB
EP3153285 B1	20200529	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180516 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: PT
EP3153285 B1	20200630	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180516 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: MK
EP3153285 B1	20200630	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20180516 Country of Ref document: CY
EP3153285 B1	20200731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT

				NATIONAL OFFICE TO EPO]	Lapsed date: 20180916 Country of Ref document: IS
EP3153285 B1	20351006	PEXP		Calculated Patent Term Expiry	
ES2675850 T3	20180713	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2675850 T3	20351006	PEXP		Calculated Patent Term Expiry	
HU039651 T2	20190128	LSPB	+	published / reissued	
IN201837008451 A	20180518	LSPB	+	published / reissued	
JP2018535103 T2	20180719		A632	国内書面	Effective date: 20180405
JP2018535103 T2	20180719		A634	国際出願翻訳文提出書	Effective date: 20180601
JP2018535103 T2	20181121	LSAS	A711	NOTIFICATION OF CHANGE IN APPLICANT	Text: JAPANESE INTERMEDIATE CODE: A711 Effective date: 20181121
JP2018535103 T2	20181121	LSAS	A711	出願人名義変更届	Effective date: 20181121
JP2018535103 T2	20181129	LSPB	+	published / reissued	
JP2018535103 T2	20190919	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Text: JAPANESE INTERMEDIATE CODE: A621 Effective date: 20190919
JP2018535103 T2	20190919	LSES	+A621	出願審査請求書	Effective date: 20190919
JP2018535103 T2	20200427		A971007	検索報告書	Effective date: 20200427
JP2018535103 T2	20200427		A977	REPORT ON RETRIEVAL	Effective date: 20200427 Text: JAPANESE INTERMEDIATE CODE: A971007
JP2018535103 T2	20200519	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20200519 Text: JAPANESE INTERMEDIATE CODE: A131
JP2018535103 T2	20200519	LSES	-A131	拒絶理由通知書	Effective date: 20200519
JP2018535103 T2	20200818		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Text: JAPANESE INTERMEDIATE CODE: A601 Effective date: 20200818
JP2018535103 T2	20200818		A601	期間延長請求書	Effective date: 20200818
KR20180063095 A	20180611	LSPB	+	published / reissued	
MX2018004104 A1	20180517	LSPB	+	published / reissued	
PL3153285 T3	20181031	LSGT	+	granted / extensions (spc, cpc, pte)	
TR201807612 T4	20180621	LSGT	+	granted / extensions (spc, cpc, pte)	
TR201807612 T4	20351006	PEXP		Calculated Patent Term Expiry	
US10695930 BB	20180323	LSAS	AS	ASSIGNMENT	PartyType: owner Effective date: 20160930 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:DIJON, PIERRE-LUC;PRAS, ARNAUD;SECONDI, JACQUES;REEL/FRAME:045324/0313 Owner: SANDVIK INTELLECTUAL PROPERTY AB, SWEDEN
US10695930 BB	20180323	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US10695930 BB	20180810	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:SANDVIK INTELLECTUAL PROPERTY AKTIEBOLAG;REEL/FRAME:046762/0435 PartyType: owner Owner: SANDVIK HYPERION AB, SWEDEN Effective date: 20171231
US10695930 BB	20200630	LSGT	+	granted / extensions (spc, cpc, pte)	
US10695930 BB	20370130	PEXP		Calculated Patent Term Expiry (PTA 119 days)	
US2018354149 AA	20181129		APP1	Application Dispatched from Preexam, Not Yet Docketed	
US2018354149 AA	20181213	LSPB	+	published / reissued	
US2018354149 AA	20190117	LSAS	AS	ASSIGNMENT	Owner: HYPERION MATERIALS & TECHNOLOGIES (SWEDEN) AB, SWE PartyType: owner OldParty: CHANGE OF NAME;ASSIGNOR:SANDVIK HYPERION AB;REEL/FRAME:048085/0327

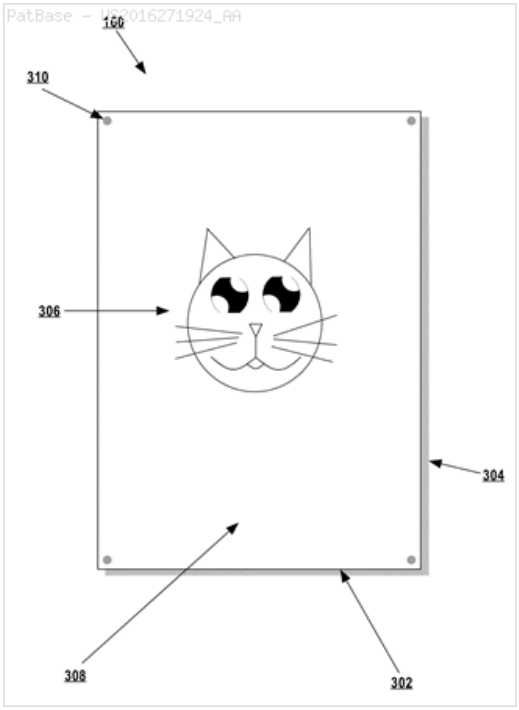
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US2018354149 AA	20190117	LSAS	AS	ASSIGNMENT	Effective date: 20181121 OldParty: CHANGE OF NAME;ASSIGNOR:SANDVIK HYPERION AB;REEL/FRAME:048085/0327 Owner: HYPERION MATERIALS & TECHNOLOGIES (SWEDEN) AB, SWEDEN PartyType: owner
US2018354149 AA	20190319		RFE1	Docketed New Case - Ready for Examination	
US2018354149 AA	20190319		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2018354149 AA	20191001	LSES	NFA1	Non Final Action Mailed	
US2018354149 AA	20191001		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NON FINAL ACTION MAILED
US2018354149 AA	20191210		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2018354149 AA	20191210		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER
US2018354149 AA	20200220	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2018354149 AA	20200220		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NOTICE OF ALLOWANCE MAILED - - APPLICATION RECEIVED IN OFFICE OF PUBLICATIONS
US2018354149 AA	20200610	LSGT	PAT1	Patented Case	
US2018354149 AA	20200610	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
WO17060196 A1	20170413	LSPB	+	published / reissued	
WO17060196 A1	20170531		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Ref document number: 16778761 Kind code of Ref document: A1 Country of Ref document: EP
WO17060196 A1	20180328	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 20187008868 Kind code of Ref document: A Country of Ref document: KR
WO17060196 A1	20180404	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: MX/A/2018/004104 Country of Ref document: MX
WO17060196 A1	20180405	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 2018517545 Country of Ref document: JP
WO17060196 A1	20180405	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2018517545 Country of Ref document: JP
WO17060196 A1	20180407	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO17060196 A1	20180417		REG	REFERENCE TO NATIONAL CODE	Ref country code: BR Ref document number: 112018006921 Ref legal event code: B01A Country of Ref document: BR
WO17060196 A1	20181016	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Effective date: 20180405 Kind code of Ref document: A2 Ref document number: 112018006921 Country of Ref document: BR
WO17060196 A1	20181031	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	Kind code of Ref document: A1 Ref document number: 16778761 Country of Ref document: EP

45) Family number: 63598744 (US2016271924 AA)

Title: AUTOMATED APPLICATION OF CUT THERMAL ADHESIVE FILMS

Abstract: Method of manufacturing a substrate with a cut thermal film comprises obtaining an input digital image of a design to be transferred to the substrate; storing the input image in memory; rendering design elements of the design as a single output image; based upon a bleed size value, a maximum number of negative areas, a maximum number of positive areas, and attribute values: resizing the image to include a border for bleed; filling transparent areas of the image with the substrate attribute values; creating a cutting path; creating a mask image; inverting the mask image; modifying the mask image to adjust fill areas around details, to limit negative areas to be less than the maximum number of negative areas, and to limit positive areas to be less than the maximum number of positive areas; creating cutting path data in memory as a vector path outlining the mask image.

Classifications:
International (IPC 8-9): A41D27/00 B26D3/00 B26D3/08 B26D5/00 B26F1/00 B26F1/38 B32B37/00 B32B38/00 B32B38/10 B44C1/00 B44C1/16 G05B19/4097 G06T11/00 G09F3/04
CPC: B26D3/085 B26D5/00 B26F1/00 B26F1/3813 B44C1/162 G05B19/4097 Y02P90/02
US: 1/1 156/230



Family:

Publication number	Publication date	Application number	Application date
CA2979986 AA	20170915	CA20162979986	20160316
CN107533769 A	20180102	CN201680027505	20160316
DE602016030633 D1	20200312	DE201660030633T	20160316
EP3271899 A1	20180124	EP20160765676	20160316
EP3271899 A4	20181121	EP20160765676	20160316
EP3271899 B1	20200226	EP20160765676	20160316
US10137590 BB	20181127	US20160072169	20160316
US2016271924 AA	20160922	US20160072169	20160316
US10507589 BB	20191217	US20180201803	20181127
US2019091885 AA	20190328	US20180201803	20181127
US2020147819 AA	20200514	US20190707159	20191209
WO16149396 A1	20160922	WO2016US22683	20160316

Priority:

US20150133946P 20150316 WO2016US22683 20160316 EP20160765676 20160316
US20160072169 20160316 US20180201803 20181127 US20190707159 20191209

Probable Assignee: ZAZZLE INC

Assignee(s): (std): ZAZZLE INC

Assignee(s): HARVILL YOUNG ; ZAZZLE INC REDWOOD CITY

Inventor(s): (std): HARVILL YOUNG

Inventor(s): HARVILL YOUNG REDWOOD CITY

Agent(s): BERESKIN AND PARR LLP SENCRL SRL; HICKMAN PALERMO BACKER BINGHAM LLP; HICKMAN PALERMO BECKER BINGHAM LLP; KULCZYCKA MALGORZATA A; PALERMO CHRISTOPHER J ET AL; WARREN CAROLINE ELISABETH

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

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
CA2979986 AA	20170915	LSPB	+	published / reissued	

CN107533769 A	20180102	LSPB	+	published / reissued	
CN107533769 A	20180102	LSPB	PB01	PUBLICATION	
CN107533769 A	20180403		SE01	ENTRY INTO FORCE OF REQUEST FOR SUBSTANTIVE EXAMINATION	
DE602016030633 D1	20181017		R079	AMENDMENT OF IPC MAIN CLASS	ClassificationSymbol: G06T0011000000 Text: PREVIOUS MAIN CLASS: G06T0011000000 ClassificationScheme: IPC
EP3271899 A1	20180124	LSPB	+	published / reissued	
EP3271899 A1	20180124	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20170911
EP3271899 A1	20180124		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AL 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 RS SE SI SK SM TR
EP3271899 A1	20180124		+AV	REQUEST FOR VALIDATION OF THE EUROPEAN PATENT	Country of Ref document: MA MD
EP3271899 A1	20180124		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: BA ME
EP3271899 A1	20180620		DAV	REQUEST FOR VALIDATION OF THE EUROPEAN PATENT (DELETED)	
EP3271899 A1	20180620		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP3271899 A4	20181121	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20181023
EP3271899 A4	20181121		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: G05B 19/4097 20060101ALI20181017BHEP ClassificationScheme: IPC
EP3271899 A4	20181121		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A41D 27/00 20060101ALI20181017BHEP
EP3271899 A4	20181121		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: G06T 11/00 20060101AFI20181017BHEP ClassificationScheme: IPC
EP3271899 A4	20181121		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: G09F 3/04 20060101ALI20181017BHEP ClassificationScheme: IPC
EP3271899 A4	20191016	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	Effective date: 20190919
EP3271899 A4	20191016	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	PartyType: owner Owner: ZAZZLE INC.
EP3271899 B1	20200226	LSGT	+	granted / extensions (spc, cpc, pte)	
EP3271899 B1	20200226		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: AL 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 RS SE SI SK SM TR
EP3271899 B1	20200226	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: FG4D Ref country code: GB
EP3271899 B1	20200228	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: EP Ref country code: CH
EP3271899 B1	20200312	LSPB	REG	REFERENCE TO A NATIONAL	Ref document number: 602016030633

				CODE	Ref legal event code: R096 Ref country code: DE Country of Ref document: DE
EP3271899 B1	20200315	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref document number: 1238552 Effective date: 20200315 Kind code of Ref document: T Ref legal event code: REF Ref country code: AT Country of Ref document: AT
EP3271899 B1	20200318	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: FG4D Ref country code: IE
EP3271899 B1	20200527		REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: FP Ref country code: NL
EP3271899 B1	20200731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20200226 Country of Ref document: FI
EP3271899 B1	20200731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20200526 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: NO
EP3271899 B1	20200731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20200226 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: RS
EP3271899 B1	20200825	LSRV	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: MG4D Ref country code: LT
EP3271899 B1	20200831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20200527 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: GR
EP3271899 B1	20200831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20200526 Country of Ref document: BG
EP3271899 B1	20200831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20200226 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: HR
EP3271899 B1	20200831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20200626 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: IS
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EP3271899 B1	20200831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION	Lapsed date: 20200226 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-

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EP3271899 B1	20200930	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200814 Year of fee payment: 5 Country of Ref document: NL
EP3271899 B1	20360316	PEXP		Calculated Patent Term Expiry	
US10137590 BB	20160526	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:HARVILL, YOUNG;REEL/FRAME:038727/0513 Owner: ZAZZLE INC., CALIFORNIA Effective date: 20160510 PartyType: owner
US10137590 BB	20181107	LSGT	PAT1	Patented Case	
US10137590 BB	20181127	LSGT	+	granted / extensions (spc, cpc, pte)	
US10137590 BB	20191231	LSRE	CC	CERTIFICATE OF CORRECTION	
US10137590 BB	20370722	PEXP		Calculated Patent Term Expiry (PTA 493 days)	
US10507589 BB	20181127	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US10507589 BB	20190115		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US10507589 BB	20191217	LSGT	+	granted / extensions (spc, cpc, pte)	
US10507589 BB	20360316	PEXP		Calculated Patent Term Expiry	
US2016271924 AA	20160711		RFE1	Docketed New Case - Ready for Examination	
US2016271924 AA	20160922	LSPB	+	published / reissued	
US2016271924 AA	20181107	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2019091885 AA	20190115		RFE1	Docketed New Case - Ready for Examination	
US2019091885 AA	20190328	LSPB	+	published / reissued	
US2019091885 AA	20190815	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2019091885 AA	20190815		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NOTICE OF ALLOWANCE MAILED -- APPLICATION RECEIVED IN OFFICE OF PUBLICATIONS
US2019091885 AA	20191114	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2019091885 AA	20191114		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: PUBLICATIONS -- ISSUE FEE PAYMENT VERIFIED
US2019091885 AA	20191126	LSGT	PAT1	Patented Case	

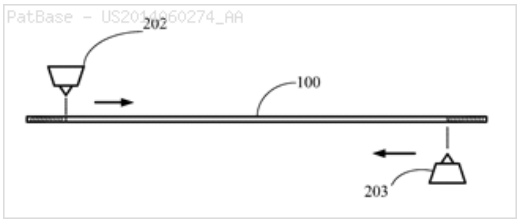
US2019091885 AA	20191126	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2020147819 AA	20200206		RFE1	Docketed New Case - Ready for Examination	
US2020147819 AA	20200514	LSPB	+	published / reissued	
WO16149396 A1	20160922	LSPB	+	published / reissued	
WO16149396 A1	20161109		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A1 Ref document number: 16765676 Country of Ref document: EP
WO16149396 A1	20170911		+REEP	REQUEST FOR ENTRY INTO THE EUROPEAN PHASE	Ref document number: 2016765676 Country of Ref document: EP
WO16149396 A1	20170915	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 2979986 Country of Ref document: CA
WO16149396 A1	20170919	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE

46) Family number: 52644298 (US2014060274 AA)

Title: CUTTING APPARATUS FOR GLASS SUBSTRATE AND METHOD OF CUTTING THE GLASS SUBSTRATE

Abstract: The present invention provides a cutting apparatus for cutting glass substrate which comprises a cutting device including a first waterjet and a second waterjet. A compressed liquid source is in communication with the first and second waterjet. And a first controlling unit is used to control the operation of the first and second waterjets. The present invention also relates to a method for cutting the glass substrate. By the provision of the present invention, the performance of cutting the glass substrate is increased, and the cost is reduced.

Classifications:
International (IPC 8-9): B24C3/32 B26F3/00 C03B33/02
CPC: B26D11/00 B26F3/004 Y10T83/0591 Y10T83/364
US: 451/75 83/177 83/53



Family:

Publication number	Publication date	Application number	Application date
CN102826744 A	20121219	CN201210316778	20120831
CN102826744 B	20150107	CN201210316778	20120831
US2014060274 AA	20140306	US20120641100	20120904
WO14032315 A1	20140306	WO2012CN80957	20120904

Priority:
CN201210316778 20120831 WO2012CN80957 20120904

Probable Assignee: SHENZHEN CHINA STAR OPTOELECTRONICS TECHNOLOGY CO LTD

Assignee(s): (std): GUO ZHENHUA ; LI XIANDE ; LIN KUNHSIEN ; QI MINGHU ; SHENZHEN CHINA STAR OPTOELECT ; SHENZHEN HUAXING OPTOELECT TEC ; WANG YONGQIANG ; WU CHUNHAO

Assignee(s): SHENZHEN CHINA STAR OPTOELECTRONICS TECHNOLOGY CO ; SHENZHEN CHINA STAR OPTOELECTRONICS TECHNOLOGY CO LTD ; SHENZHEN HUAXING OPTOELECTRONIC TECHNOLOGY CO ; SHENZHEN HUAXING OPTOELECTRONIC TECHNOLOGY CO LTD

Inventor(s): (std): GUO ZHENHUA ; LI XIANDE ; LIN KUNHSIEN ; LIN KUNXIAN ; QI MINGHU ; WANG YONGQIANG ; WU CHUNHAO ; WU JUNHAO

Agent(s): CHINA WISPRO INTELLECTUAL PROPERTY 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 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

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
CN102826744 A	20121219	LSPB	+	published / reissued	
CN102826744 A	20121219	LSPB	+C06	PUBLICATION	
CN102826744 A	20121219	LSPB	PB01	公开	Text: 公开 (Disclosure)
CN102826744 A	20130206		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
CN102826744 A	20130206		SE01	实质审查请求的生效	Text: 实质审查的生效 (Force of substantive review)
CN102826744 B	20150107	LSGT	+	granted / extensions (spc, cpc, pte)	
CN102826744 B	20150107	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN102826744 B	20150107	LSGT	+GR01	授权	Text: 授权 (Authorization)
CN102826744 B	20190521	LSLI	PE01	ENTRY INTO FORCE OF THE REGISTRATION OF THE CONTRACT FOR PLEDGE OF PATENT RIGHT	
CN102826744 B	20190521	LSLI	PE01	专利权质押合同登记的生效	Effective date: 20190426 Pledgor: 深圳市华星光电技术有限公司 (SHENZHEN CHINA STAR OPTOELECTRONICS TECHNOLOGY CO LTD) Registered Number: 2019440020032 Pledgee: 北京银行股份有限公司深圳分行 (Bank of Beijing Co., Ltd. Shenzhen Branch) Text: 专利权质押合同登记的生效、变更及

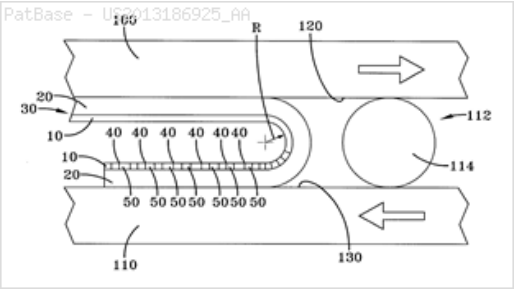
					注销 (Of pledge contract Taking Effect, Change and Cancellation of Registration)
CN102826744 B	20200103	LSAS	CP03	CHANGE OF NAME, TITLE OR ADDRESS	
CN102826744 B	20200103	LSAS	CP03	专利权人的姓名或者名称、地址的变更	Text: 专利权人的姓名或者名称、地址的变更 (The name or address of a patentee) Patentee After Change: TCL华星光电技术有限公司 (Tcl HUAXING OPTOELECTRONICS TECHNOLOGY CO., Ltd.) Patentee Before Change: 深圳市华星光电技术有限公司 (SHENZHEN CHINA STAR OPTOELECTRONICS TECHNOLOGY CO LTD)
CN102826744 B	20320831	PEXP		Calculated Patent Term Expiry	
US2014060274 AA	20121013	LSAS	AS	ASSIGNMENT	Effective date: 20120920 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:QI, MINGHU;WU, CHUNHAO;LIN, KUNHSIEN;AND OTHERS;REEL/FRAME:029124/0460 Owner: SHENZHEN CHINA STAR OPTOELECTRONICS TECHNOLOGY CO. PartyType: owner
US2014060274 AA	20140306	LSPB	+	published / reissued	
US2014060274 AA	20150506	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2014060274 AA	20150506		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
WO14032315 A1	20121013	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 13641100 Country of Ref document: US
WO14032315 A1	20140306	LSPB	+	published / reissued	
WO14032315 A1	20140423		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A1 Ref document number: 12883602 Country of Ref document: EP
WO14032315 A1	20150302	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO14032315 A1	20150923	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	Kind code of Ref document: A1 Ref document number: 12883602 Country of Ref document: EP

47) Family number: 54381742 (US2013186925 AA)

Title: METHOD OF PATTERNING ELECTRICALLY-CONDUCTIVE FILM ON FLEXIBLE SUBSTRATES

Abstract: A method of patterning an electrically-conductive film is performed by providing a flexible substrate that carries the electrically-conductive film thereon to form a combined layer. The combined layer is then bent about a radius of curvature, so as to impart a stress on the brittle conductive film along the axis of curvature of the curved surface. The application of the stress to the conductive film results in the formation of crack lines that are substantially perpendicular to the direction to which the substrate and conductive film are bent. The crack lines serve to define and electrically isolate conductive sections therebetween that can be utilized as electrodes and address lines in electronic devices.

Classifications:
International (IPC 8-9): B26F3/00 G01L G01L1/22 G02F1/1343 H05K3/00
CPC: B26F3/00 G02F1/13439 Y10T225/16 Y10T29/49002 Y10T29/49124
US: 1/1 225/4



Family:

Publication number	Publication date	Application number	Application date
CN104487813 A	20150401	CN201280071311	20121228
CN104487813 B	20190215	CN201280071311	20121228
EP2804725 A2	20141126	EP20120866045	20121228
EP2804725 A4	20151230	EP20120866045	20121228
HK1207682 A1	20160205	HK20150108133	20150821
HK1207682 B	20200124	HK20150108133	20150821
US2013186925 AA	20130725	US20120721312	20121220
US9233481 BB	20160112	US20120721312	20121220
WO13109400 A2	20130725	WO2012US72006	20121228
WO13109400 A3	20141231	WO2012US72006	20121228

Priority:
US20120632236P 20120120 US20120721312 20121220 WO2012US72006 20121228

Probable Assignee: KENT STATE UNIV
Assignee(s): (std): UNIV KENT STATE OHIO
Assignee(s): KENT STATE UNIV
Inventor(s): (std): LEE DA WEI ; LI DAWEI ; WEST JOHN L ; WEST JOHN L JL
Agent(s): HODGKISS TIMOTHY A ET AL; MARKS AND CLERK; RENNER KENNER GREIVE BOBAK TAYLOR AND WEBER; TETZNER 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

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
CN104487813 A	20150401	LSPB	+	published / reissued	
CN104487813 A	20150401	LSPB	+C06	PUBLICATION	
CN104487813 A	20150401	LSPB	PB01	公开	Text: 公开 (Disclosure)
CN104487813 A	20150429		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
CN104487813 A	20150429		SE01	实质审查请求的生效	Text: 实质审查的生效 (Force of substantive review)
CN104487813 A	20160205		REG	REFERENCE TO A NATIONAL CODE	Ref country code: HK Ref document number: 1207682 Ref legal event code: DE Country of Ref document: HK
CN104487813 B	20190215	LSGT	+	granted / extensions (spc, cpc, pte)	
CN104487813 B	20190215	LSGT	+GR01	PATENT GRANT	
CN104487813 B	20190215	LSGT	+GR01	授权	Text: 授权 (Authorization)
CN104487813 B	20321228	PEXP		Calculated Patent Term Expiry	
EP2804725 A2	20141126	LSPB	+	published / reissued	
EP2804725 A2	20141126	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20140728

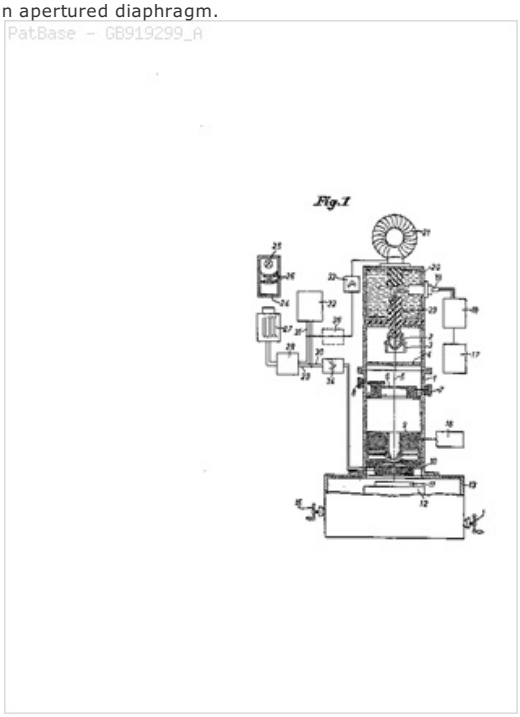
EP2804725 A2	20141126		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP2804725 A2	20150218	LSES	R17D	DEFERRED SEARCH REPORT PUBLISHED (CORRECTED)	Effective date: 20141231
EP2804725 A2	20150218		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: G01L 1/22 20060101AFI20150114BHEP
EP2804725 A2	20151209		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP2804725 A4	20151230	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20151201
EP2804725 A4	20151230		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: G01L 1/22 20060101AFI20151125BHEP
EP2804725 A4	20151230		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: G02F 1/1343 20060101ALI20151125BHEP
EP2804725 A4	20160824	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20160722
EP2804725 A4	20170412	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	Effective date: 20170316
EP2804725 A4	20180117	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 20170727
HK1207682 A1	20160205	LSPB	+	published / reissued	
HK1207682 A1	20350821	PEXP		Calculated Patent Term Expiry	
HK1207682 B	20200124	LSGT	+	granted / extensions (spc, cpc, pte)	
HK1207682 B	20350821	PEXP		Calculated Patent Term Expiry	
US2013186925 AA	20130725	LSPB	+	published / reissued	
US2013186925 AA	20151222	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US9233481 BB	20121220	LSAS	AS	ASSIGNMENT	Effective date: 20121218 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:WEST, JOHN L.;LEE, DA-WEI;REEL/FRAME:029508/0065 Owner: KENT STATE UNIVERSITY, OHIO PartyType: owner
US9233481 BB	20151211	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US9233481 BB	20151222	LSGT	PAT1	Patented Case	
US9233481 BB	20160112	LSGT	+	granted / extensions (spc, cpc, pte)	
US9233481 BB	20190712	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 4
US9233481 BB	20340413	PEXP		Calculated Patent Term Expiry (PTA 479 days)	
WO13109400 A2	20130725	LSPB	+	published / reissued	
WO13109400 A2	20130911		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A2 Ref document number: 12866045 Country of Ref document: EP
WO13109400 A2	20140721	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO13109400 A2	20140728	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2012866045 Country of Ref document: EP

48) Family number: 30169806 (GB919299 A)

Title: METHOD AND APPARATUS FOR THE WORKING OF MATERIAL BY MEANS OF A BEAM OF CHARGE CARRIERS

Abstract: 919,299. Electron beam apparatus. ZEISSSTIFTUNG, CARL, [trading as ZEISS, C]. [Firm of], Sept. 5, 1960 [Sept. 4, 1959; June 1, 1960], No. 30514/60. Class 39 (1). [Also in Groups XXII and XL (b)] Operations on a material, specifically the removal of material by heating and evaporation, soldering or welding, are effected by means of a beam of electric charge carriers, the working cross-section of which is smaller than the area of the place of the material to be worked, which is scanned over the material in synchronism with the scanning of a picture by a television type of scanner, the beam being controlled as to its intensity, position of impact during the scan and velocity of scan in accordance with the content of the picture. The Figure illustrates one embodiment in which an electron beam 5 produced by an evacuated electric discharge apparatus 1 of generally known construction is arranged to impinge a workpiece 11 located within the vacuum chamber and is scanned over the surface of the workpiece in a television type of raster by signals applied to an electromagnetic deflection system 10. 9 comprises an electromagnetic lens, 6 an adjustable beam-shaping aperture, 4 the anode and 3 a modulating electrode by which the intensity of the electron beam, which originates from a cathode 2 may be controlled. Electrode 3 is connected to receive signals through an isolating transformer 21. The beam 5 is modulated so to impinge the material only in response to picture signals of a predetermined magnitude. If this method of working is employed the discharge apparatus 1 may be simplified, Fig. 2 (not shown), by dispensing with the isolation transformer 21 and connection to electrode 3, and the use instead of on/off beam modulation achieved by the use of auxiliary deflection electrodes, to which the picture signal is applied, which determine whether or not the beam is interrupted by an apertured diaphragm.

Classifications:
International (IPC 8-9): A47D15/00 B23K15/00 B23K15/08 B23K17/00 H01J37/30 H01J37/302 H01J37/31
International (IPC 1-7): B26F1/28 H01J37/31
CPC: B23K15/0013 B23K15/08 B23K17/00 H01J37/3023 Y10T409/300896 Y10T409/30112 Y10T82/10
US: 219/121.12 219/121.18 219/121.29 219/121.34 219/121.62 219/121.8 219/121.83 250/202 358/3.29 358/3.32 358/474 409/80 409/84 82/1.11



Family:

Publication number	Publication date	Application number	Application date
CH395366 A	19650715	CH19600009674	19600826
DE1106431 B	19610510	DE1959Z007524	19590904
DE1110342 B	19610706	DE1960Z008043	19600601
FR919297 A	19470401		00000000
FR1266430 A	19610707	FR19600837693	19600902
GB919299 A	19630220	GB19600030514	19600905
JP50024477 B4	19750815	JP19680071560	19681003
NL255532 A	00000000		00000000
US3192318 A	19650629	US19600053939	19600906

Priority:
DE1959Z007524 19590904 DE1960Z008043 19600601 FR19600837693 19600902

Probable Assignee: CARL ZEISS AG

Assignee(s): (std): CARL ZEISS AG ; UNITED AIRCRAFT CORP ; ZEISS CARL ; ZEISS CARL FA ; ZEISS STIFTUNG

Assignee(s): CARL ZEISS ; CARL ZEISS FA ; CARL ZEISS STIFTUNG ; FA CARL ZEISS

Inventor(s): (std): DIETRICH HOFFMEISTER ; FRITZ SCHLEICH ; HEINZ STEIGERWALD KARL ; HOFFMEISTER DIETRICH ; JUSTUS SIENKENCHT ; JUSTUS SIENKNECHT ; KARL HEINZ STEIGERWALD ; SCHLEICH DIPL ING FRITZ ; SIENKNECHT DR JUSTUS ; STEIGERWALD DIPL PHYS KARL HEI

Inventor(s): SCHLEICH FRITZ ; SIENKENCHT JUSTUS ; SIENKNECHT JUSTUS ; STEIGERWALD DIPL PHYS KARL HEINZ ; STEIGERWALD KARL HEINZ

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
CH395366 A	19650715	LSGT	+	granted / extensions (spc, cpc, pte)	
CH395366 A	19800826	PEXP		Calculated Patent Term Expiry	
DE1106431 B	19610510	LSPB	+	published / reissued	

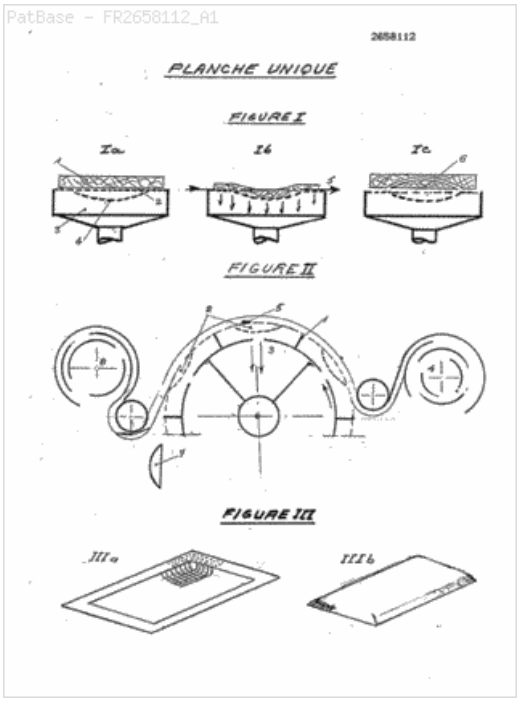
DE1110342 B	19610706	LSPB	+	published / reissued
FR1266430 A	19610707	LSGT	+	granted / extensions (spc, cpc, pte)
FR1266430 A	19800902	PEXP		Calculated Patent Term Expiry
FR919297 A	19470401	LSGT	+	granted / extensions (spc, cpc, pte)
GB919299 A	19630220	LSGT	+	granted / extensions (spc, cpc, pte)
GB919299 A	19800905	PEXP		Calculated Patent Term Expiry
JP50024477 B4	19750815	LSPB	+	published / reissued
NL255532 A	00000000	LSPB	+	published / reissued
US3192318 A	19650629	LSGT	+	granted / extensions (spc, cpc, pte)

49) Family number: 6274045 (FR2658112 A1)

Title: Method for obtaining shoulder pads and similar objects from cellular or fibrous materials, and installation for implementing it

Abstract: Improved method making it possible to obtain objects of predetermined profiles by cutting out, starting from webs or sheets of flexible materials, consisting in shaping and temporarily increasing the density of the webs or sheets prior to the cutting-out operation. It is characterised in that the shaping is obtained by action of a partial vacuum through a concave die, the cut removing the part which projects from the die.

Classifications:
International (IPC 8-9): B26D3/00 B26D3/28 B26D7/01
International (IPC 1-7): B26F1/38 D06H7/00
CPC: B26D3/281 B26D7/018



Family:

Publication number	Publication date	Application number	Application date
FR2658112 A1	19910816	FR19900001854	19900212

Priority:
FR19900001854 19900212

Probable Assignee: SH IND SARL
Assignee(s): (std): SH IND SARL
Assignee(s): SH INDUSTRIES SARL

Legal status (INPADOC)

View legal status timeline

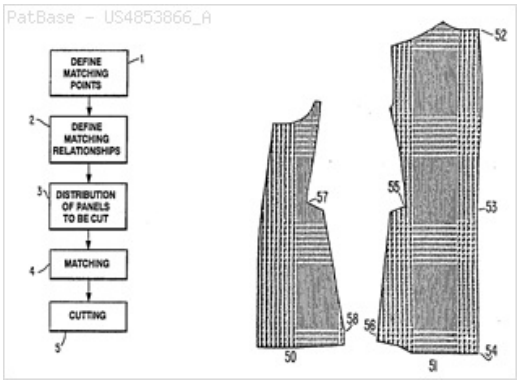
Patent	Date recorded	Event group	Code	Event	Details
FR2658112 A1	19910816	LSPB	+	published / reissued	

50) Family number: 3109705 (US4853866 A)

Title: METHOD AND APPARATUS FOR MATCHING PANELS TO BE CUT FROM PATTERNED FABRICS

Abstract: A matching method and apparatus for the automatic cutting of patterned fabrics by an integrated marking and cutting system first defines matching points in each of the patterns of panels to be cut and digitizes these points so that the coordinates and respective identification codes for each of the points are recorded in a memory. Matching relationships are then defined for the matching points which unequivocally fix the position which the design must be in at each of the matching points and digitizes and records these relationships in the memory. Separation margins between the panels in their distribution are then established either automatically or interactively on the basis of the previously defined matching relationships and a vision sensor is then automatically positioned over the spread patterned fabric which is to be cut in the positions of the matching points which have been defined for each one of the panels which have been distributed for cutting. The relative design position with respect to a reference position at each of the matching point positions is then determined and a position correction obtained for each panel with respect to the position initially assigned to each one of the panels to be cut, each position correction being obtained on the basis of the positions of the pattern determined in the previous step and on the basis of the previously defined matching relationships wherein all of the panels which are to be cut are matched prior to proceeding with their cutting operation.

Classifications:
International (IPC 8-9): A41H3/00 A41H43/00 B26D5/00 B26F1/38 D06H3/08 D06H7/00 G01N21/84 G01N21/89 G01N21/898 G05B19/408 G05B19/42 G06Q10/00
International (IPC 1-7): A41H43/00 A41H43/02 B26D5/00 B26D5/30 B26F1/38 D06H3/08 D06H7/00 G01N21/88 G01N21/89 G05B19/00 G06F15/00
CPC: B26D2005/002 B26D5/00 B26D5/005 B26D5/007 B26F1/38 G05B19/4083 G05B19/4205 G05B2219/36503 G05B2219/37572 G05B2219/45044 G06Q10/043 Y10S2/901
US: 2/243B 2/901 33/17.00A 33/17A 364/470 364/474.35 364/474.37 700/135 700/195



Family:

Publication number	Publication date	Application number	Application date
AT91394 E	19930715	AT19860110652T	19860801
CA1291249 A1	19911022	CA19860518963	19860924
DE3688705 D1	19930819	DE19863688705T	19860801
DE3688705 T2	19931104	DE19863688705T	19860801
DK171929 B1	19970818	DK19860003847	19860812
DK384786 A	19871003	DK19860003847	19860812
DK384786 A0	19860812	DK19860003847	19860812
EP0239665 A2	19871007	EP19860110652	19860801
EP0239665 A3	19890816	EP19860110652	19860801
EP0239665 B1	19930714	EP19860110652	19860801
ES553646 A0	19871216	ES19860553646	19860402
ES8801003 A1	19871216	ES19860553646	19860402
FI863973 A	19871003	FI19860003973	19861001
FI863973 A0	19861001	FI19860003973	19861001
FI88121 B	19921231	FI19860003973	19861001
FI88121 C	19930413	FI19860003973	19861001
IE62243 B	19950111	IE19860002155	19860811
IE862155 L	19871002	IE19860002155	19860811
JP1033587 B4	19890713	JP19860316119	19861227
JP1549847 C3	19900309	JP19860316119	19861227
JP62238863 A2	19871019	JP19860316119	19861227
US4853866 A	19890801	US19870027817	19870319

Priority:
ES19860553646 19860402 EP19860110652 19860801 CA19860518963 19860924

Probable Assignee: INVESTRONICA INC 116 SEAVIEW DRIVE

Assignee(s): (std): INVESTRONICA SA

Assignee(s): CALZADO VICENTE ; GALAN MARIO ANDRADA ; INBESUTORONIKA SA ; INVESTRONICA INC ; INVESTRONICA INC 116 SEAVIEW DRIVE ; INVESTRONICA S A MADRID ES ; LLEDO ANTONIO ROMERO

Inventor(s): (std): ANDRADA GALAN MARIO ; ANTONIO ROMERO RIEDO ; BISENTE KARUSAADO REKENA ; CALZADO REQUENA VICENTE ; CALZADO REQUENA VINCENTE ; CALZADO VICENTE ; GALAN MARIO A ; GALAN MARIO ANDRADA ; GALZADO REQUENA VICENTE ; LLEDO ANTONIO R ; LLEDO ANTONIO ROMERO ; MARIO ANDORAADA GARAN ; REQUENA VICENTE CALZADO ; ROMERO LLEDO ANTONIO

Inventor(s): ANDRADA GALAN MARIO E 28008 MADRID ES ; CALZADO REQUENA VICENTE MADRID ES ; ROMERO LLEDO ANTONIO TORRELODONES MADRID ES

Agent(s): MARKS AND CLERK

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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AT91394 E	19930715	LSGT	+	granted / extensions	

				(spc, cpc, pte)	
AT91394 E	19940115	LSPB	+UEP	PUBLICATION OF TRANSLATION OF EUROPEAN PATENT SPECIFICATION	
AT91394 E	20050515	LSLE	-REN	CEASED DUE TO NON-PAYMENT OF THE ANNUAL FEE	
AT91394 E	20060801	PEXP		Calculated Patent Term Expiry	
CA1291249 A1	19911022	LSGT	+	granted / extensions (spc, cpc, pte)	
CA1291249 A1	20061023	LSLE	-MKLA	LAPSED	
CA1291249 A1	20081022	PEXP		Calculated Patent Term Expiry	
DE3688705 D1	19940714	LSOP	-8363	OPPOSITION AGAINST THE PATENT	
DE3688705 D1	20040603		8328	CHANGE IN THE PERSON/NAME/ADDRESS OF THE AGENT	PartyType: representative Representative: PUSCHMANN & BORCHERT, 82041 OBERHACHING
DE3688705 D1	20050609	LSLE	-8339	CEASED/NON-PAYMENT OF THE ANNUAL FEE	
DE3688705 T2	19931104	LSGT	+	granted / extensions (spc, cpc, pte)	
DE3688705 T2	19940714	LSOP	-8363	OPPOSITION AGAINST THE PATENT	
DE3688705 T2	20040603		8328	CHANGE IN THE PERSON/NAME/ADDRESS OF THE AGENT	Representative: PUSCHMANN & BORCHERT, 82041 OBERHACHING PartyType: representative
DE3688705 T2	20050609	LSLE	-8339	CEASED/NON-PAYMENT OF THE ANNUAL FEE	
DK171929 B1	19970818	LSGT	+	granted / extensions (spc, cpc, pte)	
DK171929 B1	19970818	LSGT	+B1	PATENT GRANTED (LAW 1993)	
DK171929 B1	20060418	LSLE	-PBP	PATENT LAPSED	Text: DK
DK171929 B1	20060812	PEXP		Calculated Patent Term Expiry	
DK384786 A	19871003	LSPB	+	published / reissued	
EP0239665 A2	19871007	LSPB	+	published / reissued	
EP0239665 A2	19871007		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: AT BE CH DE FR GB IT LI LU NL SE
EP0239665 A3	19890816		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A3 Country of Ref document: AT BE CH DE FR GB IT LI LU NL SE
EP0239665 A3	19900404	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 19900207
EP0239665 A3	19920102	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 19911121
EP0239665 B1	19930714	LSGT	+	granted / extensions (spc, cpc, pte)	
EP0239665 B1	19930714		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: AT BE CH DE FR GB IT LI LU NL SE
EP0239665 B1	19930714		REF	CORRESPONDS TO:	Ref document number: 91394 Kind code of Ref document: T Date of Ref document: 19930715 Country of Ref document: AT
EP0239665 B1	19930730		+ET	FR: TRANSLATION FILED	
EP0239665 B1	19930819		REF	CORRESPONDS TO:	Date of Ref document: 19930819 Ref document number: 3688705 Country of Ref document: DE
EP0239665 B1	19931012		+ITF	IT: TRANSLATION FOR A EP PATENT FILED	Owner: STUDIO JAUMANN PartyType: owner
EP0239665 B1	19931213	LSFE	+EPTA	LU: LAST PAID ANNUAL FEE	Ref country code: EP
EP0239665 B1	19940608	LSOP	-26	OPPOSITION FILED	Opponent: GERBER GARMENT TECHNOLOGY, INC. Effective date: 19940414 PartyType: opponent
EP0239665 B1	19940801	LSOP	-NLR1	NL: OPPOSITION HAS BEEN FILED WITH THE EPO	PartyType: opponent Opponent: GERBER GARMENT TECHNOLOGY, INC. Ref country code: EP

EP0239665 B1	19950131	LSGT	+EAL	SE: EUROPEAN PATENT IN FORCE IN SWEDEN	Ref country code: EP Text: 86110652.4
EP0239665 B1	19981118	LSOP	-R26	OPPOSITION FILED (CORRECTED)	Opponent: GERBER TECHNOLOGY INC. PartyType: opponent Effective date: 19940414
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EP0239665 B1	20030730	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20030730 Year of fee payment: 18 Country of Ref document: GB
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EP0239665 B1	20030818	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 18 Payment date: 20030818 Country of Ref document: CH
EP0239665 B1	20030831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20030831 Year of fee payment: 18 Country of Ref document: NL
EP0239665 B1	20031009	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20031009 Year of fee payment: 18 Country of Ref document: BE
EP0239665 B1	20040801	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20040801 Country of Ref document: AT
EP0239665 B1	20040801	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20040801 Country of Ref document: GB
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EP0239665 B1	20040802	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20040802 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: SE
EP0239665 B1	20040831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20040831 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: BE
EP0239665 B1	20040831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT	Lapsed date: 20040831 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: CH

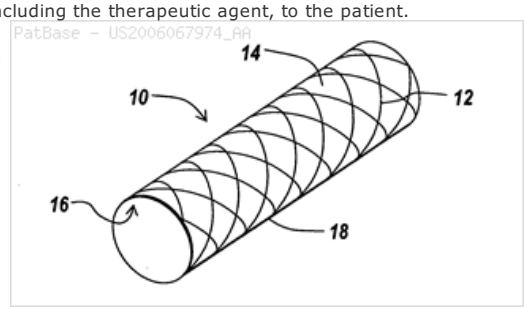
				INFORMATION FROM NATIONAL OFFICE TO EPO]	
EP0239665 B1	20040831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20040831 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: LI
EP0239665 B1	20041006	LSRE	+27C	OPPOSITION PROCEEDINGS TERMINATED	Effective date: 20040514
EP0239665 B1	20041201	LSOP	NLR2	NL: DECISION OF OPPOSITION	Effective date: 20040514 Ref country code: EP
EP0239665 B1	20050216	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 19 Payment date: 20050216 Country of Ref document: FR
EP0239665 B1	20050228	LSLE	-BERE	BE: LAPSED	Effective date: 20040831 Owner: S.A. *INVESTRONICA PartyType: owner Ref country code: EP
EP0239665 B1	20050301	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20050301 Country of Ref document: DE
EP0239665 B1	20050301	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20050301 Country of Ref document: NL
EP0239665 B1	20050323	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	Effective date: 20040801 Ref country code: EP
EP0239665 B1	20050329	LSLE	-EUG	SE: EUROPEAN PATENT HAS LAPSED	Ref country code: EP
EP0239665 B1	20050415	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: PL Ref country code: CH
EP0239665 B1	20050502	LSLE	-NLV4	NL: LAPSED OR ANULLED DUE TO NON-PAYMENT OF THE ANNUAL FEE	Effective date: 20050301 Ref country code: EP
EP0239665 B1	20050801	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20050801 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: IT
EP0239665 B1	20050801	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20050801 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES;WARNING: LAPSES OF ITALIAN PATENTS WITH EFFECTIVE DATE BEFORE 2007 MAY HAVE OCCURRED AT ANY TIME BEFORE 2007. THE CORRECT EFFECTIVE DATE MAY BE DIFFERENT FROM THE ONE RECORDED. Country of Ref document: IT
EP0239665 B1	20060428	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20060428 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: FR
EP0239665 B1	20060526	LSLE	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20060428 Ref country code: FR Ref legal event code: ST
EP0239665 B1	20060801	PEXP		Calculated Patent Term Expiry	
EP0239665 B1	20071231	LSLE	-BERE	BE: LAPSED	PartyType: owner Ref country code: EP Effective date: 20040831 Owner: S.A. *INVESTRONICA
ES8801003 A1	19871216	LSGT	+	granted / extensions (spc, cpc, pte)	
ES8801003 A1	20071216	PEXP		Calculated Patent Term Expiry	

ES8801003 A1	20080616	LSLE	-FD1A	PATENT LAPSED	Effective date: 20040910
FI863973 A	19871003	LSPB	+	published / reissued	
FI88121 B	19921231	LSPB	+	published / reissued	
FI88121 B	20061001	PEXP		Calculated Patent Term Expiry	
FI88121 C	19930413	LSGT	+	granted / extensions (spc, cpc, pte)	
FI88121 C	20040831	LSGT	+FG	PATENT GRANTED	Owner: INVESTRONICA, S.A. PartyType: owner
FI88121 C	20050430	LSLE	-MA	PATENT EXPIRED	
FI88121 C	20061001	PEXP		Calculated Patent Term Expiry	
IE62243 B	19950111	LSGT	+	granted / extensions (spc, cpc, pte)	
IE62243 B	20060517	LSLE	-MM4A	PATENT LAPSED	
IE62243 B	20060811	PEXP		Calculated Patent Term Expiry	
JP1033587 B4	19890713	LSPB	+	published / reissued	
JP1033587 B4	20050713	LSLE	-LAPS	CANCELLATION BECAUSE OF NO PAYMENT OF ANNUAL FEES	
JP1549847 C3	19900309	LSGT	+	granted / extensions (spc, cpc, pte)	
JP1549847 C3	20061227	PEXP		Calculated Patent Term Expiry	
JP62238863 A2	19871019	LSPB	+	published / reissued	
US4853866 A	19870319	LSAS	AS	ASSIGNMENT	Effective date: 19870316 Owner: INVESTRONICA S.A., TOMAS BRETON 62, 28045 MADRID, OldParty: ASSIGNMENT OF ASSIGNORS INTEREST.;ASSIGNORS:ANDRADA GALAN, MARIO;ROMERO LLEDO, ANTONIO;CALZADO REQUENA, VINCENTE;REEL/FRAME:004680/0847 PartyType: owner
US4853866 A	19890617	LSGT	PAT1	Patented Case	
US4853866 A	19890801	LSGT	+	granted / extensions (spc, cpc, pte)	
US4853866 A	19930108	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US4853866 A	19941116	LSAS	AS	ASSIGNMENT	Owner: INVESTRONICA INC. 116 SEAVIEW DRIVE, NEW JERSEY Effective date: 19941114 PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:INVESTRONICA S.A.;REEL/FRAME:007203/0235
US4853866 A	19960917		-DD	DISCLAIMER AND DEDICATION FILED	Text: 960722
US4853866 A	19970113	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US4853866 A	20010220		REMI	MAINTENANCE FEE REMINDER MAILED	
US4853866 A	20010729	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US4853866 A	20011002	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20010801
US4853866 A	20070319	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US4853866 A	20180130	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US4853866 A	20180130	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362

51) Family number: 32764164 (US2006067974 AA)

Title: DRUG DELIVERY COATING FOR USE WITH A STENT

Abstract: A coated medical device an a method of providing a coating on an implantable medical device result in a medical device having a bio-absorbable coating. The coating includes a bio-absorbable carrier component. In addition to the bio-absorbable carrier component, a therapeutic agent component can also be provided. The coated medical device is implantable in a patient to effect controlled delivery of the coating, including the therapeutic agent, to the patient.



Classifications:

International (IPC 8-9): A01N43/00 A61B1/32 A61F13/00 A61F13/02 A61F2/00 A61F2/02 A61F2/06 A61F2/28 A61F2/82 A61F2/86 A61K31/00 A61K31/16 A61K31/185 A61K31/20 A61K31/202 A61K31/21 A61K31/215 A61K31/225 A61K31/33 A61K31/337 A61K31/352 A61K31/355 A61K31/366 A61K31/395 A61K31/405 A61K31/4353 A61K31/436 A61K31/44 A61K31/445 A61K31/4523 A61K31/453 A61K31/4545 A61K31/4709 A61K31/496 A61K31/7028 A61K31/7036 A61K31/7088 A61K31/727 A61K33/00 A61K33/24 A61K35/56 A61K35/60 A61K38/00 A61K38/12 A61K38/13 A61K38/14 A61K45/00 A61K47/06 A61K47/10 A61K47/12 A61K47/14 A61K47/22 A61K47/44 A61K48/00 A61K49/00 A61K6/00 A61K8/02 A61K9/00 A61K9/06 A61K9/10 A61K9/14 A61K9/16 A61K9/24 A61K9/28 A61K9/70 A61L A61L15/16 A61L15/20 A61L15/44 A61L2/02 A61L2/04 A61L2/07 A61L2/08 A61L2/14 A61L2/20 A61L26/00 A61L27/00 A61L27/28 A61L27/36 A61L27/52 A61L27/54 A61L29/00 A61L29/08 A61L29/12 A61L29/14 A61L29/16 A61L31/00 A61L31/08 A61L31/10 A61L31/12 A61L31/14 A61L31/16 A61L33/00 A61M1/12 A61M25/00 A61M31/00 A61M35/00 A61P29/00 A61P3/00 A61P35/00 A61P37/00 A61P41/00 A61P43/00 A61P7/02 A61P9/00 B05B13/04 B05C1/00 B05C11/02 B05C13/02 B05C3/00 B05C3/109 B05D1/00 B05D1/02 B05D1/18 B05D1/28 B05D3/00 B05D3/02 B05D3/06 B05D5/00 B05D5/08 B05D7/00 B26F1/18 B29C39/02 B65B31/04 B65B55/02 B65B55/12 B65B55/18 C07C53/00 C07C57/00 C07D307/00 C07D307/02

CPC: A61L2300/41 A61L2300/416 A61L2300/802 A61L29/08 A61L29/16 A61L31/08 A61L31/16 A61P29/00 A61P35/00 A61P7/02 A61P9/00 B05D3/0254 A61B2017/00004 A61B2017/320044 A61B2090/0816 A61F2/0059 A61F2/0095 A61L2/07 A61L2/081 A61L2/087 A61L2/14 A61L2/186 A61L2/206 A61L2/208 A61L2202/24 A61L31/00 A61L31/145 A61L31/148 A61P43/00 B26F1/18 B29C39/02 B65B31/04 B65B55/18 Y10T83/0481 A61K31/225 A61K31/355 A61L2300/22 A61P41/00 A61F2/82 A61F2250/0067 A61K31/4353 A61L2300/216 A61L2300/404 A61L2300/406 A61L2300/606 A61L2420/06 A61L2430/00 A61L29/148 A61P37/00 A61F2/06 A61L2420/02 A61L31/10 A61F2/86 A61K47/10 A61K47/22 A61K47/44 A61L2300/428 A61L2300/45 A61M25/0009 A61M25/0045 A61P3/00 A61F13/02 A61F13/023 A61K35/60 A61K38/13 A61K47/12 A61K47/14 A61K9/0024 A61K9/06 A61L2300/252 A61L2300/414 A61L2300/42 A61L2300/602 A61L27/36 A61L27/3604 A61L27/52 A61L27/54 A61L31/005 B05D3/067 A61F2/0063 A61L31/14 B05C3/109 B05B13/02 B05C11/021 B05C11/023 B05C3/02 B05D1/18 A61K31/00 A61K31/20 A61K31/436 A61K31/445 A61K31/4545 A61K31/496 A61K31/7028 A61K31/7036 A61K9/10 A61K9/145 A61K9/16 A61K9/7007 A61L27/28 A61F2/07 A61F2/885 A61F2/90 A61F2002/065 A61F2002/075 A61B2050/314 A61B50/30 A61L2/08 A61L2/20 A61L2/26 A61L2202/181 B65B55/16 A61F2002/0086 A61F2002/009 A61F2/958 A61F2250/0036 A61F2240/001

US: 1/1 118/200 118/400 118/404 118/50 118/500 118/500S 118/50S 118/712 118/712S 264/299 422/22 422/22S 422/26 422/26S 422/28 422/28S 422/34 422/34S 424/400 424/422 424/423 424/423P 424/423S 424/425 424/425P 424/426 424/426P 424/426S 424/434 424/434P 424/443 424/443P 424/445 424/447 424/472 424/472P 424/484 424/484P 424/486 424/486S 424/489 424/489S 424/523 424/523S 424/9.1 427/2.1 427/2.100P 427/2.100S 427/2.14 427/2.140S 427/2.24 427/2.240S 427/2.25 427/2.250P 427/2.26 427/2.260S 427/2.3 427/2.300S 427/2.31 514/1.1 514/1.100S 514/16.4 514/16.400S 514/179 514/183 514/19.1 514/19.100S 514/20.5 514/20.9 514/252.13 514/252.130S 514/277 514/291 514/291S 514/312 514/316 514/316S 514/37 514/37S 514/419 514/44 514/44.00RS 514/449 514/449S 514/44R 514/458 514/458S 514/460 514/460S 514/510 514/547 514/547S 514/548 514/548S 514/558 514/558S 514/56 514/772 514/772S 514/784 514/784S 514/785 514/9 525/437 525/437S 53/396 53/425 53/425P 53/432 53/435 549/263 549/475 549/475S 554/1 554/1S 554/224 554/224S 600/37 604/1 604/1S 606/151 606/151P 623/1.15 623/1.150S 83/30

Family:

Publication number	Publication date	Application number	Application date
AU2006304590 AA	20070426	AU20060304590	20061016
AU2007300608 AA	20080403	AU20070300608	20070914
BRPI0717412 A2	20131112	BR2007PI17412	20070914
CA2626030 AA	20080414	CA20062626030	20061016
CA2663741 AA	20090318	CA20072663741	20070914
CN102256565 A	20111123	CN200880132279	20081203
CN102256565 B	20160113	CN200880132279	20081203
CN102307469 A	20120104	CN200980149358	20090317
CN102753118 A	20121024	CN201080047130	20101015
CN102753118 B	20160120	CN201080047130	20101015
CN106890366 A	20170627	CN201610997993	20090317
CN107029305 A	20170811	CN201610998395	20090317
DE602005042527 D1	20140220	DE200560042527T	20050928
DE602005045694 D1	20150226	DE200560045694T	20050928
DE602005048751 D1	20160428	DE200560048751T	20050928
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DE602007029417 D1	20130523	DE200760029417T	20071030
DE602007048156 D1	20161103	DE200760048156T	20071030
EP1819297 A2	20070822	EP20050800844	20050928
EP1819297 A4	20110928	EP20050800844	20050928
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EP1812022 A2	20070801	EP20050802894	20050928
EP1812022 A4	20110831	EP20050802894	20050928
EP1812022 B1	20140115	EP20050802894	20050928
EP1811933 A2	20070801	EP20050804291	20050928
EP1811933 A4	20110831	EP20050804291	20050928
EP1811933 B1	20160323	EP20050804291	20050928
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EP1804717 A4	20151118	EP20050804960	20050928
EP1811935 A2	20070801	EP20050858430	20050928
EP1811935 A4	20110928	EP20050858430	20050928
EP1811935 B1	20160330	EP20050858430	20050928
EP1933991 A2	20080625	EP20060826208	20061016

EP1933991 A4	20120502	EP20060826208	20061016
EP2086605 A2	20090812	EP20070838216	20070914
EP2083875 A2	20090805	EP20070867319	20071030
EP2083875 B1	20130327	EP20070867319	20071030
EP2183002 A1	20100512	EP20080782511	20080730
EP2183002 A4	20130522	EP20080782511	20080730
EP2185294 A1	20100519	EP20080796836	20080730
EP2185294 A4	20140910	EP20080796836	20080730
EP2185294 B1	20180704	EP20080796836	20080730
EP2344067 A1	20110720	EP20080877338	20081203
EP2344067 A4	20120912	EP20080877338	20081203
EP2348844 A1	20110803	EP20090819594	20090317
EP2348844 A4	20120912	EP20090819594	20090317
EP2348844 B1	20190109	EP20090819594	20090317
EP2490618 A1	20120829	EP20100825447	20101015
EP2490618 A4	20140507	EP20100825447	20101015
EP2626091 A1	20130814	EP20120004057	20071030
EP2626091 B1	20160928	EP20120004057	20071030
EP3603571 A1	20200205	EP20180000936	20090317
IL197738 A0	20091224	IL20070197738	20070914
IN01635CN2009 A	20160831	IN2009CN01635	20090323
IN287766 B	20170929	IN2011DN03395	20110506
IN03605DN2012 A	20160831	IN2012DN03605	20120425
IN339185 B	20200626	IN2012DN03605	20120425
JP2009511215 T2	20090319	JP20080535802T	20061016
JP2010504327 T2	20100212	JP20090529197T	20070914
JP2010508897 T2	20100325	JP20090535299T	20071030
JP2012505025 T2	20120301	JP20110531009T	20081203
JP2012505030 T2	20120301	JP20110531038T	20090317
JP6117472 B2	20170419	JP20110531038T	20090317
JP2013508033 T2	20130307	JP20120534404T	20101015
JP5778159 B2	20150916	JP20120534404T	20101015
JP2013233456 A2	20131121	JP20130172914	20130823
JP2014061444 A2	20140410	JP20130266902	20131225
JP2015198983 A2	20151112	JP20150136955	20150708
JP6096844 B2	20170315	JP20150136955	20150708
JP2016104197 A2	20160609	JP20160002239	20160108
JP6306068 B2	20180404	JP20160002239	20160108
JP2017170252 A2	20170928	JP20170134020	20170707
US2006067974 AA	20060330	US20050236908	20050928
US8263102 BB	20120911	US20050236908	20050928
US2006067975 AA	20060330	US20050236943	20050928
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US2007202149 AA	20070830	US20060582135	20061016
US8124127 BB	20120228	US20060582135	20061016
US2008109017 AA	20080508	US20070701799	20070202
US9492596 BB	20161115	US20070701799	20070202
US2008118550 AA	20080522	US20070978840	20071030
US8574627 BB	20131105	US20070978840	20071030
US2008113001 AA	20080515	US20070980155	20071030
US9592324 BB	20170314	US20070980155	20071030
US2008206305 AA	20080828	US20080075223	20080310
US9801982 BB	20171031	US20080075223	20080310
US2009011116 AA	20090108	US20080182165	20080730
US2009047414 AA	20090219	US20080182261	20080730
US8312836 BB	20121120	US20080182261	20080730
US2009181937 AA	20090716	US20080325546	20081201
US9012506 BB	20150421	US20080325546	20081201
US2009208552 AA	20090820	US20090364763	20090203
US9000040 BB	20150407	US20090364763	20090203
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US9427423 BB	20160830	US20090401243	20090310
US2010183697 AA	20100722	US20090581582	20091019
US9278161 BB	20160308	US20090581582	20091019
US2011274823 AA	20111110	US20110185135	20110718
US8722132 BB	20140513	US20110185135	20110718

US2012313839 AA	20130823	US20130404487	20130224
US8501229 BB	20130806	US20130404487	20130224
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US8722077 BB	20140513	US20120593656	20120824
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US2015209482 AA	20150730	US20150679368	20150406
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US2018008650 AA	20180111	US20170710514	20170920
US10772995 BB	20200915	US20170789708	20171020
US2018043065 AA	20180215	US20170789708	20171020
US2020171213 A9	20200604	US20170789708	20171020
US2018050132 AA	20180222	US20170794086	20171026
US2018133376 AA	20180517	US20170817018	20171117
US2018200306 AA	20180719	US20170841993	20171214
US2019054053 AA	20190221	US20180165628	20181019
WO06036964 A2	20060406	WO2005US34601	20050928
WO06036964 A3	20060713	WO2005US34601	20050928
WO06036967 A1	20060406	WO2005US34610	20050928
WO06036969 A2	20060406	WO2005US34614	20050928
WO06036969 A3	20061019	WO2005US34614	20050928
WO06036970 A2	20060406	WO2005US34615	20050928
WO06036970 A3	20060817	WO2005US34615	20050928
WO07011385 A2	20070125	WO2005US34678	20050928
WO07011385 A3	20070315	WO2005US34678	20050928
WO06036982 A2	20060406	WO2005US34679	20050928
WO06036982 A3	20141016	WO2005US34679	20050928
WO06036983 A2	20060406	WO2005US34681	20050928
WO06036983 A3	20060914	WO2005US34681	20050928
WO06036984 A2	20060406	WO2005US34682	20050928
WO06036984 A3	20060908	WO2005US34682	20050928
WO06037049 A2	20060406	WO2005US34836	20050928
WO06037049 A3	20060831	WO2005US34836	20050928
WO06037080 A2	20060406	WO2005US34941	20050928
WO06037080 A3	20060629	WO2005US34941	20050928
WO06037080 C1	20060914	WO2005US34941	20050928
WO07047028 A1	20070426	WO2006US37184	20060922
WO07047781 A2	20070426	WO2006US40753	20061016
WO07047781 A3	20071227	WO2006US40753	20061016
WO08039308 A2	20080403	WO2007US19978	20070914
WO08039308 A3	20090618	WO2007US19978	20070914
WO08057328 A2	20080515	WO2007US22860	20071030
WO08057328 A3	20090604	WO2007US22860	20071030
WO08057344 A2	20080515	WO2007US22944	20071030
WO08057344 A3	20090528	WO2007US22944	20071030
WO08097418 A2	20080814	WO2008US00565	20080116
WO08097418 A3	20090611	WO2008US00565	20080116
WO09018313 A1	20090205	WO2008US71547	20080730
WO09018325 A1	20090205	WO2008US71565	20080730
WO10042134 A1	20100415	WO2008US85386	20081203
WO10042241 A1	20100415	WO2009US37364	20090317
WO10104790 A2	20100916	WO2010US26521	20100308
WO10104790 A3	20140403	WO2010US26521	20100308
WO11049833 A1	20110428	WO2010US52899	20101015

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US20040613808P 20040928
US20040613745P 20040928
EP20050800844 20050528
WO2005US34941 20050528
EP20050802894 20050928
WO2005US34682 20050928
EP20050804291 20050928
WO2005US34601 20050928
EP20050858430 20050928
WO2005US34678 20050928
WO2005US34679 20050928
WO2005US34941 20050928
US20050237263 20050928
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US20050726869P 20051014
US20050727312P 20051015
US20060525390 20060922
US20060525328 20060922
WO2006US40753 20061016
US20060582135 20061016
US20060856983P 20061106
US20070701799 20070202
US20070962502P 20070730
US20070962557P 20070730
WO2007US19978 20070914
EP20070867319 20071030
WO2007US22944 20071030
EP20120004057 20071030
US20070980155 20071030
US20070978840 20071030
US20080075223 20080310
WO2008US71565 20080730
WO2008US71547 20080730
US20080182165 20080730
US20080182261 20080730
US20080237264 20080928
US20080104568P 20081010
US20080104575P 20081010
US20080325546 20081201
WO2008US85386 20081203

JP20110531009	20081203	JP20110531009T	20081203	US20090364763	20090203
US20090401243	20090310	WO2009US37364	20090317	CN200980149358	20090317
EP20090819594	20090317	JP20110531038	20090317	JP20110531038T	20090317
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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 YU ZA ZM ZW

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AU2006304590 AA	20070426	LSPB	+	published / reissued	
AU2006304590 AA	20100225	LSLE	-MK1	APPLICATION LAPSED SECTION 142(2)(A) - NO REQUEST FOR EXAMINATION IN RELEVANT PERIOD	
AU2007300608 AA	20080403	LSPB	+	published / reissued	
AU2007300608 AA	20110526	LSLE	-MK1	APPLICATION LAPSED SECTION 142(2)(A) - NO REQUEST FOR EXAMINATION IN RELEVANT PERIOD	
BRPI0717412 A2	20131231	LSRV	-B11A	DISMISSAL ACC. ART.33 OF IPL - EXAMINATION NOT REQUESTED WITHIN 36 MONTHS OF FILING	
BRPI0717412 A2	20140429	LSRV	-B11Y	DEFINITIVE DISMISSAL ACC. ARTICLE 33 OF IPL - EXTENSION OF TIME LIMIT FOR REQUEST OF EXAMINATION EXPIRED	
CA2626030 AA	20080414	LSPB	+	published / reissued	
CA2626030 AA	20101018	LSLE	-FZDE	DEAD	
CA2663741 AA	20090318	LSPB	+	published / reissued	
CA2663741 AA	20110914	LSLE	-FZDE	DEAD	
CN102256565 A	20111123	LSPB	+	published / reissued	

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CN102256565 A	20120104		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
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CN102256565 B	20281203	PEXP		Calculated Patent Term Expiry	
CN102307469 A	20120104	LSPB	+	published / reissued	
CN102307469 A	20120104	LSPB	+C06	PUBLICATION	
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CN102753118 B	20301015	PEXP		Calculated Patent Term Expiry	
CN106890366 A	20170627	LSPB	+	published / reissued	
CN106890366 A	20170627	LSPB	PB01	PUBLICATION	
CN107029305 A	20170811	LSPB	+	published / reissued	
CN107029305 A	20170811	LSPB	PB01	PUBLICATION	
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DE602005042527 D1	20140116	LSAS	R081	CHANGE OF APPLICANT/PATENTEE	OldParty: Atrium Medical Corp., Hudson, N.H., US PartyType: Owner
DE602005048751 D1	20150507		R079	AMENDMENT OF IPC MAIN CLASS	ClassificationScheme: IPC ClassificationSymbol: A61L0031140000 Text: PREVIOUS MAIN CLASS: A61F0013000000
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DE602007048156 D1	20130424		R079	AMENDMENT OF IPC MAIN CLASS	ClassificationScheme: IPC ClassificationSymbol: A61L0031080000 Text: PREVIOUS MAIN CLASS: A61L0031080000
EP1804717 A2	20070711	LSPB	+	published / reissued	
EP1804717 A2	20070711	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20070425
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EP1804717 A2	20080102		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP1804717 A2	20141119	LSES	R17D	DEFERRED SEARCH REPORT PUBLISHED (CORRECTED)	Effective date: 20141016
EP1804717 A4	20151118	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20151015

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EP1804717 A4	20151118		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61K 47/22 20060101ALI20151009BHEP
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EP1804717 A4	20200603	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	Owner: ATRIUM MEDICAL CORPORATION PartyType: owner
EP1811933 A2	20070801	LSPB	+	published / reissued	
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EP1811933 A2	20070801		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: 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
EP1811933 A2	20071114		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: FERRARO, JOSEPH PartyType: inventor
EP1811933 A2	20071114		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: ROGERS, LISA PartyType: inventor
EP1811933 A2	20071114		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: MARTAKOS, PAUL PartyType: inventor
EP1811933 A2	20071114		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: KARWOSKI, THEODORE PartyType: inventor
EP1811933 A2	20071114		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: HERWECK, STEVE, A. PartyType: inventor
EP1811933 A2	20071114		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: FAUCHER, KEITH PartyType: inventor
EP1811933 A2	20071114		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: MCNAMARA, PHILIP PartyType: inventor
EP1811933 A2	20080102		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP1811933 A2	20161031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20160830 Year of fee payment: 12 Country of Ref document: GB
EP1811933 A2	20161130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20160817 Year of fee payment: 12 Country of Ref document: FR
EP1811933 A4	20110831	LSES	+A4	SUPPLEMENTARY	Effective date: 20110803

				SEARCH REPORT DRAWN UP AND DESPATCHED	
EP1811933 A4	20110831		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61F 13/00 20060101AFI20110728BHEP
EP1811933 A4	20120905	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20120802
EP1811933 A4	20150507		REG	REFERENCE TO A NATIONAL CODE	ClassificationScheme: IPC ClassificationSymbol: A61L0031140000 Ref country code: DE Ref document number: 602005048751 Ref legal event code: R079 Text: PREVIOUS MAIN CLASS: A61F0013000000 Country of Ref document: DE
EP1811933 A4	20150610		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61L 31/10 20060101ALI20150507BHEP
EP1811933 A4	20150610		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61L 31/14 20060101AFI20150507BHEP
EP1811933 A4	20150624	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	Effective date: 20150526
EP1811933 A4	20150624		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: ROGERS, LISA PartyType: inventor
EP1811933 A4	20150624		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: FERRARO, JOSEPH PartyType: inventor
EP1811933 A4	20150624		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: HERWECK, STEVE, A. PartyType: inventor
EP1811933 A4	20150624		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: MARTAKOS, PAUL PartyType: inventor
EP1811933 A4	20150624		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: KARWOSKI, THEODORE PartyType: inventor
EP1811933 A4	20150624		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: MCNAMARA, PHILIP PartyType: inventor
EP1811933 A4	20150624		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: FAUCHER, KEITH PartyType: inventor
EP1811933 B1	20160323	LSGT	+	granted / extensions (spc, cpc, pte)	
EP1811933 B1	20160323		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: 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
EP1811933 B1	20160323	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: GB Ref legal event code: FG4D
EP1811933 B1	20160331	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: EP
EP1811933 B1	20160415	LSNP	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20160415 Kind code of Ref document: T Ref country code: AT Ref document number: 782502 Ref legal event code: REF Country of Ref document: AT
EP1811933 B1	20160420	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: IE Ref legal event code: FG4D
EP1811933 B1	20160428	LSPB	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref document number: 602005048751 Ref legal event code: R096 Country of Ref document: DE
EP1811933 B1	20160725	LSRV	REG	REFERENCE TO A NATIONAL CODE	Ref country code: LT Ref legal event code: MG4D
EP1811933 B1	20160727		REG	REFERENCE TO A NATIONAL CODE	Effective date: 20160323 Ref country code: NL Ref legal event code: MP
EP1811933 B1	20160729	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT	Lapsed date: 20160624 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN

				INFORMATION FROM NATIONAL OFFICE TO EPO]	THE PRESCRIBED TIME-LIMIT Country of Ref document: GR
EP1811933 B1	20160729	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160323 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: FI
EP1811933 B1	20160815	LSRV	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20160323 Kind code of Ref document: T Ref country code: AT Ref document number: 782502 Ref legal event code: MK05 Country of Ref document: AT
EP1811933 B1	20160817	LSFE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: FR Ref legal event code: PLFP Year of fee payment: 12 Country of Ref document: FR
EP1811933 B1	20160831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160323 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: NL
EP1811933 B1	20160831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160323 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SE
EP1811933 B1	20160831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160323 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: LV
EP1811933 B1	20160831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160323 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: LT
EP1811933 B1	20161031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160323 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: PL
EP1811933 B1	20161031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160723 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: IS
EP1811933 B1	20161031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160323 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: EE
EP1811933 B1	20161130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160323 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: CZ
EP1811933 B1	20161130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160323 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: AT
EP1811933 B1	20161130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160323 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: RO
EP1811933 B1	20161130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM	Lapsed date: 20160323 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT

				NATIONAL OFFICE TO EPO]	Country of Ref document: SK
EP1811933 B1	20161130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160725 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: PT
EP1811933 B1	20161130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160323 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: ES
EP1811933 B1	20161230	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160323 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: IT
EP1811933 B1	20161230	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160323 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: BE
EP1811933 B1	20170102	LSRE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref document number: 602005048751 Ref legal event code: R097 Country of Ref document: DE
EP1811933 B1	20170131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160323 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: DK
EP1811933 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20160928 Year of fee payment: 12 Country of Ref document: DE
EP1811933 B1	20170228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160623 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: BG
EP1811933 B1	20170301	LSGT	+26N	NO OPPOSITION FILED	Effective date: 20170102
EP1811933 B1	20170428	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160323 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: MC
EP1811933 B1	20170428	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: PL
EP1811933 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160323 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SI
EP1811933 B1	20170628	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: IE Ref legal event code: MM4A
EP1811933 B1	20170731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160930 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: LI
EP1811933 B1	20170731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160930 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: CH
EP1811933 B1	20170731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO	Lapsed date: 20160928 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: IE

				EPO]	
EP1811933 B1	20170823	LSFE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: FR Ref legal event code: PLFP Year of fee payment: 13
EP1811933 B1	20170831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160928 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: LU
EP1811933 B1	20171031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20170829 Year of fee payment: 13 Country of Ref document: GB
EP1811933 B1	20171031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20170823 Year of fee payment: 13 Country of Ref document: FR
EP1811933 B1	20180131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20170928 Year of fee payment: 13 Country of Ref document: DE
EP1811933 B1	20180531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160323 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: CY
EP1811933 B1	20180531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20050928 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT; INVALID AB INITIO Country of Ref document: HU
EP1811933 B1	20180629	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160323 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: TR
EP1811933 B1	20180817	LSFE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: FR Ref legal event code: PLFP Year of fee payment: 14
EP1811933 B1	20181031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20180815 Year of fee payment: 14 Country of Ref document: DE
EP1811933 B1	20181031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20180817 Year of fee payment: 14 Country of Ref document: FR
EP1811933 B1	20181130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20180828 Year of fee payment: 14 Country of Ref document: GB
EP1811933 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190813 Year of fee payment: 15 Country of Ref document: DE
EP1811933 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190819 Year of fee payment: 15 Country of Ref document: FR
EP1811933 B1	20191231	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190827 Year of fee payment: 15 Country of Ref document: GB
EP1811933 B1	20250928	PEXP		Calculated Patent Term Expiry	
EP1811935 A2	20070801	LSPB	+	published / reissued	
EP1811935 A2	20070801	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20070425
EP1811935 A2	20070801		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: 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
EP1811935 A2	20070801		+AX	REQUEST FOR	Country of Ref document: AL BA HR MK YU

				EXTENSION OF THE EUROPEAN PATENT	
EP1811935 A2	20071114		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: LABRECQUE, ROGER PartyType: inventor
EP1811935 A2	20071114		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: MCNAMARA, PHILIP PartyType: inventor
EP1811935 A2	20071114		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: FERRARO, JOSEPH PartyType: inventor
EP1811935 A2	20071114		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: ROGERS, LISA PartyType: inventor
EP1811935 A2	20071114		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: MARTAKOS, PAUL PartyType: inventor
EP1811935 A2	20071114		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: KARWOSKI, THEODORE PartyType: inventor
EP1811935 A2	20071114		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: HERWECK, STEVE PartyType: inventor
EP1811935 A2	20071114		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: FAUCHER, KEITH PartyType: inventor
EP1811935 A2	20080102		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP1811935 A2	20161031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20160830 Year of fee payment: 12 Country of Ref document: GB
EP1811935 A2	20161130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20160817 Year of fee payment: 12 Country of Ref document: FR
EP1811935 A4	20110928	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20110825
EP1811935 A4	20110928		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61F 2/02 20060101AFI20110819BHEP
EP1811935 A4	20110928		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61L 27/54 20060101ALI20110819BHEP
EP1811935 A4	20110928		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61L 31/16 20060101ALI20110819BHEP
EP1811935 A4	20110928		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61L 31/00 20060101ALI20110819BHEP
EP1811935 A4	20120912	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20120809
EP1811935 A4	20150408		REG	REFERENCE TO A NATIONAL CODE	ClassificationScheme: IPC ClassificationSymbol: A61L0027360000 Ref country code: DE Ref document number: 602005048844 Ref legal event code: R079 Text: PREVIOUS MAIN CLASS: A61F0013000000 Country of Ref document: DE
EP1811935 A4	20150513		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: B05D 3/06 20060101ALI20150408BHEP
EP1811935 A4	20150513		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61L 27/54 20060101ALI20150408BHEP
EP1811935 A4	20150513		RIC1	INFORMATION PROVIDED ON IPC	ClassificationScheme: IPC ClassificationSymbol: A61F 13/02

				CODE ASSIGNED BEFORE GRANT	20060101ALI20150408BHEP
EP1811935 A4	20150513		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61K 47/14 20060101ALI20150408BHEP
EP1811935 A4	20150513		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61K 35/60 20060101ALI20150408BHEP
EP1811935 A4	20150513		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61K 38/13 20060101ALI20150408BHEP
EP1811935 A4	20150513		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61L 31/00 20060101ALI20150408BHEP
EP1811935 A4	20150513		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61L 31/10 20060101ALI20150408BHEP
EP1811935 A4	20150513		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61K 31/225 20060101ALI20150408BHEP
EP1811935 A4	20150513		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61L 27/52 20060101ALI20150408BHEP
EP1811935 A4	20150513		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61L 2/20 20060101ALI20150408BHEP
EP1811935 A4	20150513		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61L 27/36 20060101AFI20150408BHEP
EP1811935 A4	20150513		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61F 2/06 20130101ALI20150408BHEP
EP1811935 A4	20150513		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61K 47/12 20060101ALI20150408BHEP
EP1811935 A4	20150513		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61L 2/07 20060101ALI20150408BHEP
EP1811935 A4	20150513		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61K 31/355 20060101ALI20150408BHEP
EP1811935 A4	20150513		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61K 9/00 20060101ALI20150408BHEP
EP1811935 A4	20150513		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61L 31/14 20060101ALI20150408BHEP
EP1811935 A4	20150513		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61L 2/08 20060101ALI20150408BHEP
EP1811935 A4	20150513		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61K 9/06 20060101ALI20150408BHEP
EP1811935 A4	20150603	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	Effective date: 20150511
EP1811935 B1	20160330	LSGT	+	granted / extensions (spc, cpc, pte)	
EP1811935 B1	20160330		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: 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
EP1811935 B1	20160330	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: GB Ref legal event code: FG4D
EP1811935 B1	20160331	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: EP
EP1811935 B1	20160415	LSNP	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20160415 Kind code of Ref document: T Ref country code: AT Ref document number: 784648 Ref legal event code: REF

					Country of Ref document: AT
EP1811935 B1	20160420	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: IE Ref legal event code: FG4D
EP1811935 B1	20160512	LSPB	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref document number: 602005048844 Ref legal event code: R096 Country of Ref document: DE
EP1811935 B1	20160725	LSRV	REG	REFERENCE TO A NATIONAL CODE	Ref country code: LT Ref legal event code: MG4D
EP1811935 B1	20160729	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160330 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: FI
EP1811935 B1	20160729	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160701 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: GR
EP1811935 B1	20160803		REG	REFERENCE TO A NATIONAL CODE	Effective date: 20160330 Ref country code: NL Ref legal event code: MP
EP1811935 B1	20160815	LSRV	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20160330 Kind code of Ref document: T Ref country code: AT Ref document number: 784648 Ref legal event code: MK05 Country of Ref document: AT
EP1811935 B1	20160817	LSFE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: FR Ref legal event code: PLFP Year of fee payment: 12 Country of Ref document: FR
EP1811935 B1	20160831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160330 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: LV
EP1811935 B1	20160831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160330 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: LT
EP1811935 B1	20160831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160330 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SE
EP1811935 B1	20160930	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160330 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: NL
EP1811935 B1	20161031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160330 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: PL
EP1811935 B1	20161031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160330 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: EE
EP1811935 B1	20161031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160730 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: IS
EP1811935 B1	20161130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160330 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: ES

EP1811935 B1	20161130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160330 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: CZ
EP1811935 B1	20161130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160330 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SK
EP1811935 B1	20161130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160330 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: AT
EP1811935 B1	20161130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160801 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: PT
EP1811935 B1	20161130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160330 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: RO
EP1811935 B1	20161230	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160330 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: BE
EP1811935 B1	20161230	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160330 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: IT
EP1811935 B1	20170103	LSRE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref document number: 602005048844 Ref legal event code: R097 Country of Ref document: DE
EP1811935 B1	20170131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160330 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: DK
EP1811935 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20160928 Year of fee payment: 12 Country of Ref document: DE
EP1811935 B1	20170308	LSGT	+26N	NO OPPOSITION FILED	Effective date: 20170103
EP1811935 B1	20170428	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160330 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: MC
EP1811935 B1	20170428	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: PL
EP1811935 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160330 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SI
EP1811935 B1	20170628	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: IE Ref legal event code: MM4A
EP1811935 B1	20170731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160930 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: CH
EP1811935 B1	20170731	LSLE	-PG25	LAPSED IN A	Lapsed date: 20160928

				CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: IE
EP1811935 B1	20170731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160930 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: LI
EP1811935 B1	20170823	LSFE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: FR Ref legal event code: PLFP Year of fee payment: 13
EP1811935 B1	20170831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160928 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: LU
EP1811935 B1	20171031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20170823 Year of fee payment: 13 Country of Ref document: FR
EP1811935 B1	20171031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20170829 Year of fee payment: 13 Country of Ref document: GB
EP1811935 B1	20180131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20170928 Year of fee payment: 13 Country of Ref document: DE
EP1811935 B1	20180531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20050928 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT; INVALID AB INITIO Country of Ref document: HU
EP1811935 B1	20180531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160330 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: CY
EP1811935 B1	20180629	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160330 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: TR
EP1811935 B1	20180731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160330 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: BG
EP1811935 B1	20180817	LSFE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: FR Ref legal event code: PLFP Year of fee payment: 14
EP1811935 B1	20181031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20180817 Year of fee payment: 14 Country of Ref document: FR
EP1811935 B1	20181031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20180815 Year of fee payment: 14 Country of Ref document: DE
EP1811935 B1	20181130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20180828 Year of fee payment: 14 Country of Ref document: GB
EP1811935 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190819 Year of fee payment: 15 Country of Ref document: FR
EP1811935 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM	Payment date: 20190813 Year of fee payment: 15 Country of Ref document: DE

				NATIONAL OFFICE TO EPO]	
EP1811935 B1	20191231	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190827 Year of fee payment: 15 Country of Ref document: GB
EP1811935 B1	20250928	PEXP		Calculated Patent Term Expiry	
EP1812022 A2	20070801	LSPB	+	published / reissued	
EP1812022 A2	20070801	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20070425
EP1812022 A2	20070801		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: 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
EP1812022 A2	20071114		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: SWANICK, THOMAS, M. PartyType: inventor
EP1812022 A2	20071114		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: FERRARO, JOSEPH PartyType: inventor
EP1812022 A2	20071114		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: MARTAKOS, PAUL PartyType: inventor
EP1812022 A2	20071114		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: ROGERS, LISA PartyType: inventor
EP1812022 A2	20071114		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: KARWOSKI, THEODORE PartyType: inventor
EP1812022 A2	20071114		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: HERWECK, STEVE, A. PartyType: inventor
EP1812022 A2	20071114		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: FAUCHER, KEITH PartyType: inventor
EP1812022 A2	20071114		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: MCNAMARA, PHILIP PartyType: inventor
EP1812022 A2	20080102		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP1812022 A2	20140829	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20140515 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: IS
EP1812022 A2	20140829	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20140115 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: LT
EP1812022 A2	20160129	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20150930 Year of fee payment: 11 Country of Ref document: DE
EP1812022 A2	20161031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20160830 Year of fee payment: 12 Country of Ref document: GB
EP1812022 A2	20161130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20160817 Year of fee payment: 12 Country of Ref document: FR
EP1812022 A4	20110831	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20110803
EP1812022 A4	20110831		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61K 33/00 20060101AFI20110728BHEP

EP1812022 A4	20110831		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61K 33/24 20060101ALI20110728BHEP
EP1812022 A4	20110831		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61L 31/00 20060101ALI20110728BHEP
EP1812022 A4	20120905	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20120806
EP1812022 A4	20130719		REG	REFERENCE TO A NATIONAL CODE	ClassificationScheme: IPC ClassificationSymbol: B05D0003060000 Ref country code: DE Ref document number: 602005042527 Ref legal event code: R079 Text: PREVIOUS MAIN CLASS: A61K0033000000 Country of Ref document: DE
EP1812022 A4	20130828	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	Effective date: 20130802
EP1812022 A4	20130828		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61F 2/06 20130101ALI20130719BHEP
EP1812022 A4	20130828		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61L 2/08 20060101ALI20130719BHEP
EP1812022 A4	20130828		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61L 27/52 20060101ALI20130719BHEP
EP1812022 A4	20130828		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61L 2/20 20060101ALI20130719BHEP
EP1812022 A4	20130828		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61L 27/54 20060101ALI20130719BHEP
EP1812022 A4	20130828		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61K 31/225 20060101ALI20130719BHEP
EP1812022 A4	20130828		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61F 13/02 20060101ALI20130719BHEP
EP1812022 A4	20130828		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61L 31/14 20060101ALI20130719BHEP
EP1812022 A4	20130828		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61K 9/06 20060101ALI20130719BHEP
EP1812022 A4	20130828		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61L 31/10 20060101ALI20130719BHEP
EP1812022 A4	20130828		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61K 31/355 20060101ALI20130719BHEP
EP1812022 A4	20130828		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61L 27/36 20060101ALI20130719BHEP
EP1812022 A4	20130828		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61K 9/00 20060101ALI20130719BHEP
EP1812022 A4	20130828		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61K 47/12 20060101ALI20130719BHEP
EP1812022 A4	20130828		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: B05D 3/06 20060101AFI20130719BHEP
EP1812022 A4	20130828		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61K 47/14 20060101ALI20130719BHEP
EP1812022 A4	20130828		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED	ClassificationScheme: IPC ClassificationSymbol: A61L 31/00 20060101ALI20130719BHEP

EP1812022 A4	20130828		RIC1	BEFORE GRANT INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61L 2/07 20060101ALI20130719BHEP
EP1812022 A4	20130918	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	Effective date: 20130823
EP1812022 B1	20140115	LSGT	+	granted / extensions (spc, cpc, pte)	
EP1812022 B1	20140115		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: 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
EP1812022 B1	20140115	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: GB Ref legal event code: FG4D
EP1812022 B1	20140115	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: EP
EP1812022 B1	20140215	LSNP	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20140215 Kind code of Ref document: T Ref country code: AT Ref document number: 649544 Ref legal event code: REF Country of Ref document: AT
EP1812022 B1	20140220	LSPB	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20140220 Ref country code: DE Ref document number: 602005042527 Ref legal event code: R096 Country of Ref document: DE
EP1812022 B1	20140226	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: IE Ref legal event code: FG4D
EP1812022 B1	20140528	LSRV	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20140115 Ref country code: NL Ref legal event code: VDEP
EP1812022 B1	20140615	LSRV	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20140115 Kind code of Ref document: T Ref country code: AT Ref document number: 649544 Ref legal event code: MK05 Country of Ref document: AT
EP1812022 B1	20140625	LSRV	REG	REFERENCE TO A NATIONAL CODE	Ref country code: LT Ref legal event code: MG4D
EP1812022 B1	20140731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20140515 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: IS
EP1812022 B1	20140731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20140115 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: LT
EP1812022 B1	20140829	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20140115 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: AT
EP1812022 B1	20140829	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20140515 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: PT
EP1812022 B1	20140829	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20140115 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: NL
EP1812022 B1	20140829	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20140115 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: FI
EP1812022 B1	20140829	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20140115 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SE

EP1812022 B1	20140829	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20140115 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: CY
EP1812022 B1	20140829	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20140115 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: ES
EP1812022 B1	20140930	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20140115 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: LV
EP1812022 B1	20140930	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20140115 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: BE
EP1812022 B1	20141016	LSRE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref document number: 602005042527 Ref legal event code: R097 Country of Ref document: DE
EP1812022 B1	20141031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20140115 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: DK
EP1812022 B1	20141031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20140115 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: RO
EP1812022 B1	20141031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20140115 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: CZ
EP1812022 B1	20141031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20140115 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: EE
EP1812022 B1	20141128	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20140115 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SK
EP1812022 B1	20141128	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20140115 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: PL
EP1812022 B1	20141224	LSGT	+26N	NO OPPOSITION FILED	Effective date: 20141016
EP1812022 B1	20150212	LSRE	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20141016 Ref country code: DE Ref document number: 602005042527 Ref legal event code: R097 Country of Ref document: DE
EP1812022 B1	20150430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20140928 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: LU
EP1812022 B1	20150430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20140115 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: MC

EP1812022 B1	20150430	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: PL
EP1812022 B1	20150529	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20140115 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SI
EP1812022 B1	20150701	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: IE Ref legal event code: MM4A
EP1812022 B1	20150731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20140930 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: CH
EP1812022 B1	20150731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20140930 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: LI
EP1812022 B1	20150831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20140928 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: IE
EP1812022 B1	20160531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20140115 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: BG
EP1812022 B1	20160630	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20140115 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: IT
EP1812022 B1	20160630	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20140416 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: GR
EP1812022 B1	20160729	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20050928 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT; INVALID AB INITIO Country of Ref document: HU
EP1812022 B1	20160729	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20140115 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: TR
EP1812022 B1	20160817	LSFE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: FR Ref legal event code: PLFP Year of fee payment: 12 Country of Ref document: FR
EP1812022 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20160928 Year of fee payment: 12 Country of Ref document: DE
EP1812022 B1	20170823	LSFE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: FR Ref legal event code: PLFP Year of fee payment: 13
EP1812022 B1	20171031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20170829 Year of fee payment: 13 Country of Ref document: GB
EP1812022 B1	20171031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20170823 Year of fee payment: 13 Country of Ref document: FR
EP1812022 B1	20180131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM	Payment date: 20170928 Year of fee payment: 13 Country of Ref document: DE

				NATIONAL OFFICE TO EPO]	
EP1812022 B1	20180817	LSFE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: FR Ref legal event code: PLFP Year of fee payment: 14
EP1812022 B1	20181031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20180815 Year of fee payment: 14 Country of Ref document: DE
EP1812022 B1	20181031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20180817 Year of fee payment: 14 Country of Ref document: FR
EP1812022 B1	20181130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20180828 Year of fee payment: 14 Country of Ref document: GB
EP1812022 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190813 Year of fee payment: 15 Country of Ref document: DE
EP1812022 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190819 Year of fee payment: 15 Country of Ref document: FR
EP1812022 B1	20191231	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190827 Year of fee payment: 15 Country of Ref document: GB
EP1812022 B1	20250928	PEXP		Calculated Patent Term Expiry	
EP1819297 A2	20070822	LSPB	+	published / reissued	
EP1819297 A2	20070822		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: 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
EP1819297 A2	20070912	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20070713
EP1819297 A2	20080102		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP1819297 A2	20080305	LSES	+R17P	REQUEST FOR EXAMINATION FILED (CORRECTED)	Effective date: 20070425
EP1819297 A2	20160129	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20150930 Year of fee payment: 11 Country of Ref document: DE
EP1819297 A2	20161031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20160830 Year of fee payment: 12 Country of Ref document: GB
EP1819297 A2	20161130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20160817 Year of fee payment: 12 Country of Ref document: FR
EP1819297 A4	20110928	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20110825
EP1819297 A4	20110928		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61F 2/02 20060101AFI20110819BHEP
EP1819297 A4	20110928		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61L 27/54 20060101ALI20110819BHEP
EP1819297 A4	20110928		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61L 31/00 20060101ALI20110819BHEP
EP1819297 A4	20110928		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61L 31/14 20060101ALI20110819BHEP
EP1819297 A4	20120926	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20120823

EP1819297 A4	20140723		REG	REFERENCE TO A NATIONAL CODE	ClassificationScheme: IPC ClassificationSymbol: A61L0027360000 Ref country code: DE Ref document number: 602005045694 Ref legal event code: R079 Text: PREVIOUS MAIN CLASS: A61F0002020000 Country of Ref document: DE
EP1819297 A4	20140827		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61K 31/355 20060101ALI20140723BHEP
EP1819297 A4	20140827		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61K 47/14 20060101ALI20140723BHEP
EP1819297 A4	20140827		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61L 31/14 20060101ALI20140723BHEP
EP1819297 A4	20140827		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61L 27/52 20060101ALI20140723BHEP
EP1819297 A4	20140827		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61F 2/06 20130101ALI20140723BHEP
EP1819297 A4	20140827		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61L 2/20 20060101ALI20140723BHEP
EP1819297 A4	20140827		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61L 2/08 20060101ALI20140723BHEP
EP1819297 A4	20140827		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61K 47/12 20060101ALI20140723BHEP
EP1819297 A4	20140827		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61L 27/36 20060101AFI20140723BHEP
EP1819297 A4	20140827		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61K 9/06 20060101ALI20140723BHEP
EP1819297 A4	20140827		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61F 13/02 20060101ALI20140723BHEP
EP1819297 A4	20140827		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61K 9/00 20060101ALI20140723BHEP
EP1819297 A4	20140827		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61K 31/225 20060101ALI20140723BHEP
EP1819297 A4	20140827		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61L 31/10 20060101ALI20140723BHEP
EP1819297 A4	20140827		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61L 27/54 20060101ALI20140723BHEP
EP1819297 A4	20140827		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61L 2/07 20060101ALI20140723BHEP
EP1819297 A4	20140827		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: B05D 3/06 20060101ALI20140723BHEP
EP1819297 A4	20140827		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61L 31/00 20060101ALI20140723BHEP
EP1819297 A4	20140903	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	Effective date: 20140807
EP1819297 B1	20150114	LSGT	+	granted / extensions (spc, cpc, pte)	
EP1819297 B1	20150114		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: 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

EP1819297 B1	20150114	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: GB Ref legal event code: FG4D
EP1819297 B1	20150115	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: EP
EP1819297 B1	20150211	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: IE Ref legal event code: FG4D
EP1819297 B1	20150215	LSNP	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20150215 Kind code of Ref document: T Ref country code: AT Ref document number: 706675 Ref legal event code: REF Country of Ref document: AT
EP1819297 B1	20150226	LSPB	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20150226 Ref country code: DE Ref document number: 602005045694 Ref legal event code: R096 Country of Ref document: DE
EP1819297 B1	20150520	LSRV	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20150114 Ref country code: NL Ref legal event code: VDEP
EP1819297 B1	20150615	LSRV	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20150114 Kind code of Ref document: T Ref country code: AT Ref document number: 706675 Ref legal event code: MK05 Country of Ref document: AT
EP1819297 B1	20150625	LSRV	REG	REFERENCE TO A NATIONAL CODE	Ref country code: LT Ref legal event code: MG4D
EP1819297 B1	20150731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20150414 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: BG
EP1819297 B1	20150731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20150114 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SE
EP1819297 B1	20150731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20150114 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: ES
EP1819297 B1	20150731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20150114 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: LT
EP1819297 B1	20150731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20150114 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: FI
EP1819297 B1	20150831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20150114 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: AT
EP1819297 B1	20150831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20150114 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: PL
EP1819297 B1	20150831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20150514 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: IS
EP1819297 B1	20150831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20150114 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: NL

EP1819297 B1	20150831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20150415 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: GR
EP1819297 B1	20151015	LSRE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref document number: 602005045694 Ref legal event code: R097 Country of Ref document: DE
EP1819297 B1	20151030	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20150114 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: CZ
EP1819297 B1	20151030	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20150114 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: DK
EP1819297 B1	20151030	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20150114 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SK
EP1819297 B1	20151030	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20150114 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: EE
EP1819297 B1	20151030	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20150114 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: RO
EP1819297 B1	20151223	LSGT	+26N	NO OPPOSITION FILED	Effective date: 20151015
EP1819297 B1	20151231	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20150114 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: IT
EP1819297 B1	20160229	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20150114 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SI
EP1819297 B1	20160429	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20150114 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: MC
EP1819297 B1	20160429	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20150928 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: LU
EP1819297 B1	20160429	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: PL
EP1819297 B1	20160531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20150114 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: BE
EP1819297 B1	20160629	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: IE Ref legal event code: MM4A
EP1819297 B1	20160729	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO	Lapsed date: 20150928 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: IE

				EPO]	
EP1819297 B1	20160729	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20150930 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: CH
EP1819297 B1	20160729	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20150930 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: LI
EP1819297 B1	20160817	LSFE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: FR Ref legal event code: PLFP Year of fee payment: 12 Country of Ref document: FR
EP1819297 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20160928 Year of fee payment: 12 Country of Ref document: DE
EP1819297 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20050928 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT; INVALID AB INITIO Country of Ref document: HU
EP1819297 B1	20170630	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20150114 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: CY
EP1819297 B1	20170823	LSFE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: FR Ref legal event code: PLFP Year of fee payment: 13
EP1819297 B1	20170831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20150114 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: TR
EP1819297 B1	20171031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20170829 Year of fee payment: 13 Country of Ref document: GB
EP1819297 B1	20171031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20170823 Year of fee payment: 13 Country of Ref document: FR
EP1819297 B1	20180131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20170928 Year of fee payment: 13 Country of Ref document: DE
EP1819297 B1	20180629	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20150114 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: PT
EP1819297 B1	20180817	LSFE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: FR Ref legal event code: PLFP Year of fee payment: 14
EP1819297 B1	20181031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20180817 Year of fee payment: 14 Country of Ref document: FR
EP1819297 B1	20181031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20180815 Year of fee payment: 14 Country of Ref document: DE
EP1819297 B1	20181130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20180828 Year of fee payment: 14 Country of Ref document: GB
EP1819297 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO	Payment date: 20190819 Year of fee payment: 15 Country of Ref document: FR

				EPO]	
EP1819297 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190813 Year of fee payment: 15 Country of Ref document: DE
EP1819297 B1	20191231	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190827 Year of fee payment: 15 Country of Ref document: GB
EP1819297 B1	20250928	PEXP		Calculated Patent Term Expiry	
EP1933991 A2	20080625	LSPB	+	published / reissued	
EP1933991 A2	20080625	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20080331
EP1933991 A2	20080625		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: 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
EP1933991 A2	20080625		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: AL BA HR MK RS
EP1933991 A2	20081112		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: FAUCHER, KEITH, M. PartyType: inventor
EP1933991 A2	20081112		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: TANG, HUI PartyType: inventor
EP1933991 A2	20081112		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: HERWECK, STEVE, A. PartyType: inventor
EP1933991 A2	20081112		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: KARWOSKI, THEODORE PartyType: inventor
EP1933991 A2	20081112		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: ROGERS, LISA PartyType: inventor
EP1933991 A2	20081112		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: FERRARO, JOSEPH PartyType: inventor
EP1933991 A2	20081112		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: MARTAKOS, PAUL PartyType: inventor
EP1933991 A2	20090211		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: FAUCHER, KEITH, M. PartyType: inventor
EP1933991 A2	20090211		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: TANG, HUI PartyType: inventor
EP1933991 A2	20090211		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: ROGERS, LISA PartyType: inventor
EP1933991 A2	20090211		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: FERRARO, JOSEPH PartyType: inventor
EP1933991 A2	20090211		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: MARTAKOS, PAUL PartyType: inventor
EP1933991 A2	20090211		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: HERWECK, STEVE, A. PartyType: inventor
EP1933991 A2	20090211		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: KARWOSKI, THEODORE PartyType: inventor
EP1933991 A4	20120502	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20120403
EP1933991 A4	20120502		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: B05D 3/00 20060101AFI20120328BHEP

EP1933991 A4	20120502		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61L 33/00 20060101ALI20120328BHEP
EP1933991 A4	20120502		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61F 2/28 20060101ALI20120328BHEP
EP1933991 A4	20120801		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP1933991 A4	20130227	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20130131
EP1933991 A4	20151214	LSRV	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref legal event code: R003
EP1933991 A4	20160518	LSRV	-18R	APPLICATION REFUSED	Effective date: 20151214
EP2083875 A2	20090805	LSPB	+	published / reissued	
EP2083875 A2	20090805	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20090604
EP2083875 A2	20090805		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC MT NL PL PT RO SE SI SK TR
EP2083875 A2	20100505		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP2083875 A2	20100616	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20100518
EP2083875 A2	20131129	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130327 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: RO
EP2083875 A2	20131129	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130327 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: CZ
EP2083875 A2	20131129	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130327 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: EE
EP2083875 A2	20131129	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130327 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SK
EP2083875 A2	20160129	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20151030 Year of fee payment: 9 Country of Ref document: DE
EP2083875 A2	20161031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20160926 Year of fee payment: 10 Country of Ref document: GB
EP2083875 A2	20161130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20160926 Year of fee payment: 10 Country of Ref document: FR
EP2083875 B1	20130327	LSGT	+	granted / extensions (spc, cpc, pte)	
EP2083875 B1	20130327		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC MT NL PL PT RO SE SI SK TR
EP2083875 B1	20130327	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: GB Ref legal event code: FG4D
EP2083875 B1	20130328	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: EP
EP2083875 B1	20130415	LSNP	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20130415 Kind code of Ref document: T

					Ref country code: AT Ref document number: 602962 Ref legal event code: REF Country of Ref document: AT
EP2083875 B1	20130508	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: IE Ref legal event code: FG4D
EP2083875 B1	20130523	LSPB	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20130523 Ref country code: DE Ref document number: 602007029417 Ref legal event code: R096 Country of Ref document: DE
EP2083875 B1	20130731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130327 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SE
EP2083875 B1	20130731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130327 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: LT
EP2083875 B1	20130731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130627 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: BG
EP2083875 B1	20130815	LSRV	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20130327 Kind code of Ref document: T Ref country code: AT Ref document number: 602962 Ref legal event code: MK05 Country of Ref document: AT
EP2083875 B1	20130826	LSRV	REG	REFERENCE TO A NATIONAL CODE	Ref country code: LT Ref legal event code: MG4D
EP2083875 B1	20130830	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130327 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SI
EP2083875 B1	20130830	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130628 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: GR
EP2083875 B1	20130830	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130327 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: FI
EP2083875 B1	20130830	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130327 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: LV
EP2083875 B1	20130918	LSRV	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20130327 Ref country code: NL Ref legal event code: VDEP
EP2083875 B1	20130930	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130327 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: BE
EP2083875 B1	20131031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130327 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SK
EP2083875 B1	20131031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130327 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: NL
EP2083875 B1	20131031	LSLE	-PG25	LAPSED IN A	Lapsed date: 20130327

				CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: EE
EP2083875 B1	20131031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130727 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: IS
EP2083875 B1	20131031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130708 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: ES
EP2083875 B1	20131031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130327 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: AT
EP2083875 B1	20131031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130327 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: RO
EP2083875 B1	20131031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130729 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: PT
EP2083875 B1	20131031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130327 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: CZ
EP2083875 B1	20131129	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130327 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: CY
EP2083875 B1	20131129	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130327 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: PL
EP2083875 B1	20140131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130327 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: DK
EP2083875 B1	20140228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130327 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: IT
EP2083875 B1	20140305	LSGT	+26N	NO OPPOSITION FILED	Effective date: 20140103
EP2083875 B1	20140410	LSRE	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20140103 Ref country code: DE Ref document number: 602007029417 Ref legal event code: R097 Country of Ref document: DE
EP2083875 B1	20140530	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130327 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: MC
EP2083875 B1	20140530	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: PL
EP2083875 B1	20140730	LSLE	REG	REFERENCE TO A	Ref country code: IE

				NATIONAL CODE	Ref legal event code: MM4A
EP2083875 B1	20140731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20131031 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: LI
EP2083875 B1	20140731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20131031 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: CH
EP2083875 B1	20141031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20131030 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: IE
EP2083875 B1	20150630	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130327 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: TR
EP2083875 B1	20150731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20071030 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT; INVALID AB INITIO Country of Ref document: HU
EP2083875 B1	20150731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20131030 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: LU
EP2083875 B1	20150831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130327 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: MT
EP2083875 B1	20160926	LSFE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: FR Ref legal event code: PLFP Year of fee payment: 10 Country of Ref document: FR
EP2083875 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20161031 Year of fee payment: 10 Country of Ref document: DE
EP2083875 B1	20170922	LSFE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: FR Ref legal event code: PLFP Year of fee payment: 11
EP2083875 B1	20171031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20170922 Year of fee payment: 11 Country of Ref document: FR
EP2083875 B1	20171031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20170925 Year of fee payment: 11 Country of Ref document: GB
EP2083875 B1	20180131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20171027 Year of fee payment: 11 Country of Ref document: DE
EP2083875 B1	20180920	LSFE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: FR Ref legal event code: PLFP Year of fee payment: 12
EP2083875 B1	20181031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20180920 Year of fee payment: 12 Country of Ref document: FR
EP2083875 B1	20181130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20180926 Year of fee payment: 12 Country of Ref document: GB
EP2083875 B1	20190131	LSFE	+PGFP	ANNUAL FEE PAID TO	Payment date: 20180917

				NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 12 Country of Ref document: DE
EP2083875 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190924 Year of fee payment: 13 Country of Ref document: FR
EP2083875 B1	20191231	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190925 Year of fee payment: 13 Country of Ref document: GB
EP2083875 B1	20200131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190917 Year of fee payment: 13 Country of Ref document: DE
EP2083875 B1	20271030	PEXP		Calculated Patent Term Expiry	
EP2086605 A2	20090812	LSPB	+	published / reissued	
EP2086605 A2	20090812	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20090331
EP2086605 A2	20090812		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC MT NL PL PT RO SE SI SK TR
EP2086605 A2	20090812		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: AL BA HR MK RS
EP2086605 A2	20091021		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: HERWECK, STEVE, A. PartyType: inventor
EP2086605 A2	20091021		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: SWANICK, THOMAS, M. PartyType: inventor
EP2086605 A2	20091021		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: FERRARO, JOSEPH PartyType: inventor
EP2086605 A2	20091021		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: MARTAKOS, PAUL PartyType: inventor
EP2086605 A2	20091021		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: ROGERS, LISA PartyType: inventor
EP2086605 A2	20091021		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: KARWOSKI, THEODORE PartyType: inventor
EP2086605 A2	20091021		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: FAUCHER, KEITH, M. PartyType: inventor
EP2086605 A2	20091021		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: MCNAMARA, PHILIP PartyType: inventor
EP2086605 A2	20091021		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: LABRECQUE, ROGER PartyType: inventor
EP2086605 A2	20091021		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: CONROY, SUZANNE PartyType: inventor
EP2086605 A2	20091021		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: CARLTON, TREVOR PartyType: inventor
EP2086605 A2	20100317	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20100211
EP2086605 A2	20100526		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP2086605 A2	20110316	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 20100824
EP2183002 A1	20100512	LSPB	+	published / reissued	

EP2183002 A1	20100512	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20100226
EP2183002 A1	20100512		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MT NL NO PL PT RO SE SI SK TR
EP2183002 A1	20100512		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: AL BA MK RS
EP2183002 A1	20101103		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP2183002 A4	20130522	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20130423
EP2183002 A4	20130522		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61L 31/16 20060101AFI20130417BHEP
EP2183002 A4	20130522		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: B05B 13/04 20060101ALI20130417BHEP
EP2183002 A4	20130522		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: B05C 3/109 20060101ALI20130417BHEP
EP2183002 A4	20140604	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 20131126
EP2185294 A1	20100519	LSPB	+	published / reissued	
EP2185294 A1	20100519	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20100226
EP2185294 A1	20100519		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MT NL NO PL PT RO SE SI SK TR
EP2185294 A1	20100519		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: AL BA MK RS
EP2185294 A1	20101103		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP2185294 A4	20140910	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20140807
EP2185294 A4	20140910		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: B05D 3/00 20060101AFI20140801BHEP
EP2185294 A4	20161019	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20160914
EP2185294 A4	20180307	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	Effective date: 20180206
EP2185294 B1	20180704	LSGT	+	granted / extensions (spc, cpc, pte)	
EP2185294 B1	20180704		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MT NL NO PL PT RO SE SI SK TR
EP2185294 B1	20180704	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: GB Ref legal event code: FG4D
EP2185294 B1	20180713	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: EP
EP2185294 B1	20180715	LSNP	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20180715 Kind code of Ref document: T Ref country code: AT Ref document number: 1013940 Ref legal event code: REF Country of Ref document: AT
EP2185294 B1	20180725	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: IE Ref legal event code: FG4D
EP2185294 B1	20180726	LSPB	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref document number: 602008055865 Ref legal event code: R096 Country of Ref document: DE
EP2185294 B1	20180817	LSFE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: FR Ref legal event code: PLFP Year of fee payment: 11
EP2185294 B1	20181031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE	Payment date: 20180817 Year of fee payment: 11

				[ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Country of Ref document: FR
EP2185294 B1	20181031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20180827 Year of fee payment: 11 Country of Ref document: DE
EP2185294 B1	20181107		REG	REFERENCE TO A NATIONAL CODE	Effective date: 20180704 Ref country code: NL Ref legal event code: MP
EP2185294 B1	20181126	LSRV	REG	REFERENCE TO A NATIONAL CODE	Ref country code: LT Ref legal event code: MG4D
EP2185294 B1	20181130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20180828 Year of fee payment: 11 Country of Ref document: GB
EP2185294 B1	20181215	LSRV	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20180704 Kind code of Ref document: T Ref country code: AT Ref document number: 1013940 Ref legal event code: MK05 Country of Ref document: AT
EP2185294 B1	20181231	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180704 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: NL
EP2185294 B1	20190131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180704 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: CZ
EP2185294 B1	20190131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180704 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: FI
EP2185294 B1	20190131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180704 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: AT
EP2185294 B1	20190131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180704 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SE
EP2185294 B1	20190131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20181004 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: BG
EP2185294 B1	20190131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20181104 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: IS
EP2185294 B1	20190131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20181005 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: GR
EP2185294 B1	20190131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180704 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: PL
EP2185294 B1	20190131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20181004 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: NO

EP2185294 B1	20190131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180704 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: LT
EP2185294 B1	20190228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180704 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: LV
EP2185294 B1	20190228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180704 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: ES
EP2185294 B1	20190228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180704 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: HR
EP2185294 B1	20190228	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: PL
EP2185294 B1	20190329	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180730 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: LU
EP2185294 B1	20190401		REG	REFERENCE TO A NATIONAL CODE	Effective date: 20180731 Ref country code: BE Ref legal event code: MM
EP2185294 B1	20190405	LSRE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref document number: 602008055865 Ref legal event code: R097 Country of Ref document: DE
EP2185294 B1	20190430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180731 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: LI
EP2185294 B1	20190430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180704 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: MC
EP2185294 B1	20190430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180704 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: IT
EP2185294 B1	20190430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180704 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: EE
EP2185294 B1	20190430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180731 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: CH
EP2185294 B1	20190430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180704 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: RO
EP2185294 B1	20190501	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: IE Ref legal event code: MM4A
EP2185294 B1	20190531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM	Lapsed date: 20180731 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: BE

				NATIONAL OFFICE TO EPO]	
EP2185294 B1	20190531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180704 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: DK
EP2185294 B1	20190531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180704 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SK
EP2185294 B1	20190612	LSGT	+26N	NO OPPOSITION FILED	Effective date: 20190405
EP2185294 B1	20190731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180730 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: IE
EP2185294 B1	20190830	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180704 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SI
EP2185294 B1	20190830	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190621 Year of fee payment: 12 Country of Ref document: FR
EP2185294 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190617 Year of fee payment: 12 Country of Ref document: DE
EP2185294 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190626 Year of fee payment: 12 Country of Ref document: GB
EP2185294 B1	20200131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180730 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: MT
EP2185294 B1	20200331	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180704 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: TR
EP2185294 B1	20200529	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180704 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: PT
EP2185294 B1	20200529	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20080730 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT; INVALID AB INITIO Country of Ref document: HU
EP2185294 B1	20200630	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180704 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: CY
EP2185294 B1	20200731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200619 Year of fee payment: 13 Country of Ref document: FR
EP2185294 B1	20200831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200630 Year of fee payment: 13 Country of Ref document: GB
EP2185294 B1	20280730	PEXP		Calculated Patent	

				Term Expiry	
EP2344067 A1	20110720	LSPB	+	published / reissued	
EP2344067 A1	20110720	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20110509
EP2344067 A1	20110720		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MT NL NO PL PT RO SE SI SK TR
EP2344067 A1	20110720		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: AL BA MK RS
EP2344067 A1	20120118		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP2344067 A4	20120912	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20120816
EP2344067 A4	20120912		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61L 27/28 20060101ALI20120809BHEP
EP2344067 A4	20120912		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61K 31/355 20060101ALI20120809BHEP
EP2344067 A4	20120912		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61L 31/16 20060101ALI20120809BHEP
EP2344067 A4	20120912		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61F 2/00 20060101AFI20120809BHEP
EP2344067 A4	20120912		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61L 31/08 20060101ALI20120809BHEP
EP2344067 A4	20120912		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61L 29/08 20060101ALI20120809BHEP
EP2344067 A4	20120912		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61L 29/16 20060101ALI20120809BHEP
EP2344067 A4	20120912		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61K 35/60 20060101ALI20120809BHEP
EP2344067 A4	20120912		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61K 31/225 20060101ALI20120809BHEP
EP2344067 A4	20130522	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20130423
EP2344067 A4	20160810	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 20160303
EP2348844 A1	20110803	LSPB	+	published / reissued	
EP2348844 A1	20110803	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20110509
EP2348844 A1	20110803		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: 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 TR
EP2348844 A1	20120118		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP2348844 A4	20120912	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20120814
EP2348844 A4	20120912		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A01N 43/00 20060101AFI20120808BHEP
EP2348844 A4	20120912		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61K 31/4353 20060101ALI20120808BHEP
EP2348844 A4	20120912		RIC1	INFORMATION PROVIDED ON IPC	ClassificationScheme: IPC ClassificationSymbol: A61L 31/16

				CODE ASSIGNED BEFORE GRANT	20060101ALI20120808BHEP
EP2348844 A4	20120912		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61K 31/33 20060101ALI20120808BHEP
EP2348844 A4	20150107	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20141204
EP2348844 A4	20180711		REG	REFERENCE TO A NATIONAL CODE	ClassificationScheme: IPC ClassificationSymbol: A61F0002820000 Ref country code: DE Ref document number: 602009056676 Ref legal event code: R079 Text: PREVIOUS MAIN CLASS: A01N0043000000 Country of Ref document: DE
EP2348844 A4	20180815		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61L 31/08 20060101ALI20180711BHEP
EP2348844 A4	20180815		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61F 2/82 20060101AFI20180711BHEP
EP2348844 A4	20180815		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61L 31/16 20060101ALI20180711BHEP
EP2348844 A4	20180815		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61L 31/14 20060101ALI20180711BHEP
EP2348844 A4	20180815		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61K 31/4353 20060101ALI20180711BHEP
EP2348844 A4	20180919	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	Effective date: 20180820
EP2348844 B1	20190109	LSGT	+	granted / extensions (spc, cpc, pte)	
EP2348844 B1	20190109		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: 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 TR
EP2348844 B1	20190109	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: GB Ref legal event code: FG4D
EP2348844 B1	20190115	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: EP
EP2348844 B1	20190115	LSNP	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20190115 Kind code of Ref document: T Ref country code: AT Ref document number: 1086396 Ref legal event code: REF Country of Ref document: AT
EP2348844 B1	20190131	LSPB	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref document number: 602009056676 Ref legal event code: R096 Country of Ref document: DE
EP2348844 B1	20190206	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: IE Ref legal event code: FG4D
EP2348844 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190328 Year of fee payment: 11 Country of Ref document: FR
EP2348844 B1	20190515		REG	REFERENCE TO A NATIONAL CODE	Effective date: 20190109 Ref country code: NL Ref legal event code: MP
EP2348844 B1	20190527	LSRV	REG	REFERENCE TO A NATIONAL CODE	Ref country code: LT Ref legal event code: MG4D
EP2348844 B1	20190628	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190109 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: NL
EP2348844 B1	20190715	LSRV	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20190109 Kind code of Ref document: T Ref country code: AT Ref document number: 1086396 Ref legal event code: MK05 Country of Ref document: AT
EP2348844 B1	20190731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM	Lapsed date: 20190109 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT

				NATIONAL OFFICE TO EPO]	Country of Ref document: PL
EP2348844 B1	20190731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190109 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: LT
EP2348844 B1	20190731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190109 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: ES
EP2348844 B1	20190731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190509 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: PT
EP2348844 B1	20190731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190409 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: NO
EP2348844 B1	20190731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190109 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: FI
EP2348844 B1	20190731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190109 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SE
EP2348844 B1	20190731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190415 Year of fee payment: 11 Country of Ref document: IT
EP2348844 B1	20190731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190412 Year of fee payment: 11 Country of Ref document: DE
EP2348844 B1	20190830	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190410 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: GR
EP2348844 B1	20190830	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190409 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: BG
EP2348844 B1	20190830	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190509 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: IS
EP2348844 B1	20190830	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190109 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: LV
EP2348844 B1	20190830	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190109 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: HR
EP2348844 B1	20191010	LSRE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref document number: 602009056676 Ref legal event code: R097 Country of Ref document: DE
EP2348844 B1	20191031	LSLE	-PG25	LAPSED IN A	Lapsed date: 20190109

				CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: MC
EP2348844 B1	20191031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190109 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: RO
EP2348844 B1	20191031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190109 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: CZ
EP2348844 B1	20191031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190109 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: EE
EP2348844 B1	20191031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190109 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SK
EP2348844 B1	20191031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190109 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: AT
EP2348844 B1	20191031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190109 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: DK
EP2348844 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190430 Year of fee payment: 11 Country of Ref document: GB
EP2348844 B1	20191031	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: PL
EP2348844 B1	20191129	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190317 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: LU
EP2348844 B1	20191213		REG	REFERENCE TO A NATIONAL CODE	Effective date: 20190331 Ref country code: BE Ref legal event code: MM
EP2348844 B1	20191218	LSGT	+26N	NO OPPOSITION FILED	Effective date: 20191010
EP2348844 B1	20200131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190331 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: LI
EP2348844 B1	20200131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190317 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: IE
EP2348844 B1	20200131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190331 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: CH
EP2348844 B1	20200228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM	Lapsed date: 20190109 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT

				NATIONAL OFFICE TO EPO]	Country of Ref document: SI
EP2348844 B1	20200228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190331 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: BE
EP2348844 B1	20200331	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190109 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: TR
EP2348844 B1	20200501	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200228 Year of fee payment: 12 Country of Ref document: GB
EP2348844 B1	20200501	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200214 Year of fee payment: 12 Country of Ref document: DE
EP2348844 B1	20200501	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200316 Year of fee payment: 12 Country of Ref document: IT
EP2348844 B1	20200630	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190317 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: MT
EP2348844 B1	20200630	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200219 Year of fee payment: 12 Country of Ref document: FR
EP2348844 B1	20290317	PEXP		Calculated Patent Term Expiry	
EP2490618 A1	20120829	LSPB	+	published / reissued	
EP2490618 A1	20120829	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20120512
EP2490618 A1	20120829		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AL 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 RS SE SI SK SM TR
EP2490618 A1	20130123		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP2490618 A4	20140507	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20140404
EP2490618 A4	20140507		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61L 31/00 20060101ALI20140331BHEP
EP2490618 A4	20140507		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61L 31/10 20060101AFI20140331BHEP
EP2490618 A4	20140507		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61L 31/14 20060101ALI20140331BHEP
EP2490618 A4	20161026	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20160927
EP2490618 A4	20200603	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	Owner: ATRIUM MEDICAL CORPORATION PartyType: owner
EP2626091 A1	20130814	LSPB	+	published / reissued	
EP2626091 A1	20130814	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20120524
EP2626091 A1	20130814		AC	DIVISIONAL APPLICATION: REFERENCE TO EARLIER APPLICATION	Kind code of Ref document: P Ref document number: 2083875 Country of Ref document: EP
EP2626091 A1	20130814		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC MT NL PL PT RO SE SI SK

					TR
EP2626091 A1	20131030	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20131001
EP2626091 A1	20160629	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	Effective date: 20160603
EP2626091 A1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20161228 Year of fee payment: 10 Country of Ref document: GB
EP2626091 A1	20170428	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20170103 Year of fee payment: 10 Country of Ref document: FR
EP2626091 B1	20160928	LSGT	+	granted / extensions (spc, cpc, pte)	
EP2626091 B1	20160928		AC	DIVISIONAL APPLICATION: REFERENCE TO EARLIER APPLICATION	Kind code of Ref document: P Ref document number: 2083875 Country of Ref document: EP
EP2626091 B1	20160928		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC MT NL PL PT RO SE SI SK TR
EP2626091 B1	20160928	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: GB Ref legal event code: FG4D
EP2626091 B1	20160930	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: EP
EP2626091 B1	20161015	LSNP	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20161015 Kind code of Ref document: T Ref country code: AT Ref document number: 832194 Ref legal event code: REF Country of Ref document: AT
EP2626091 B1	20161102	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: IE Ref legal event code: FG4D
EP2626091 B1	20161103	LSPB	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref document number: 602007048156 Ref legal event code: R096 Country of Ref document: DE
EP2626091 B1	20170103	LSFE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: FR Ref legal event code: PLFP Year of fee payment: 10 Country of Ref document: FR
EP2626091 B1	20170125	LSRV	REG	REFERENCE TO A NATIONAL CODE	Ref country code: LT Ref legal event code: MG4D
EP2626091 B1	20170131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160928 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: FI
EP2626091 B1	20170131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160928 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: LT
EP2626091 B1	20170201		REG	REFERENCE TO A NATIONAL CODE	Effective date: 20160928 Ref country code: NL Ref legal event code: MP
EP2626091 B1	20170215	LSRV	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20160928 Kind code of Ref document: T Ref country code: AT Ref document number: 832194 Ref legal event code: MK05 Country of Ref document: AT
EP2626091 B1	20170228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20161031 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: BE
EP2626091 B1	20170228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160928 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SE
EP2626091 B1	20170228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA	Lapsed date: 20160928 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE

				POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: NL
EP2626091 B1	20170228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20161229 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: GR
EP2626091 B1	20170228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160928 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: LV
EP2626091 B1	20170428	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160928 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: EE
EP2626091 B1	20170428	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160928 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: RO
EP2626091 B1	20170428	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20161230 Year of fee payment: 10 Country of Ref document: DE
EP2626091 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160928 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: CZ
EP2626091 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20161228 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: BG
EP2626091 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20170128 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: IS
EP2626091 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160928 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: PL
EP2626091 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160928 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SK
EP2626091 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160928 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: AT
EP2626091 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160928 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: ES
EP2626091 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20170130 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: PT
EP2626091 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE	Lapsed date: 20160928 NotificationOfLapse: LAPSE BECAUSE OF

				[ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: BE
EP2626091 B1	20170531	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: PL
EP2626091 B1	20170629	LSRE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref document number: 602007048156 Ref legal event code: R097 Country of Ref document: DE
EP2626091 B1	20170630	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160928 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: IT
EP2626091 B1	20170726	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: IE Ref legal event code: MM4A
EP2626091 B1	20170731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160928 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: DK
EP2626091 B1	20170731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20161031 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: LI
EP2626091 B1	20170731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20161031 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: CH
EP2626091 B1	20170831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20161030 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: LU
EP2626091 B1	20170906	LSGT	+26N	NO OPPOSITION FILED	Effective date: 20170629
EP2626091 B1	20170922	LSFE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: FR Ref legal event code: PLFP Year of fee payment: 11
EP2626091 B1	20171031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20170922 Year of fee payment: 11 Country of Ref document: FR
EP2626091 B1	20171031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20170925 Year of fee payment: 11 Country of Ref document: GB
EP2626091 B1	20171130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20161030 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: IE
EP2626091 B1	20171130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160928 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SI
EP2626091 B1	20180131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20171027 Year of fee payment: 11 Country of Ref document: DE
EP2626091 B1	20180531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20071030 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT; INVALID AB INITIO Country of Ref document: HU
EP2626091 B1	20180531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA	Lapsed date: 20160928 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE

				POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: CY
EP2626091 B1	20180629	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160928 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: MC
EP2626091 B1	20180629	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20161031 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: MT
EP2626091 B1	20180920	LSFE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: FR Ref legal event code: PLFP Year of fee payment: 12
EP2626091 B1	20181031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160928 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: TR
EP2626091 B1	20181031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20180920 Year of fee payment: 12 Country of Ref document: FR
EP2626091 B1	20181130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20180926 Year of fee payment: 12 Country of Ref document: GB
EP2626091 B1	20190131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20180917 Year of fee payment: 12 Country of Ref document: DE
EP2626091 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190924 Year of fee payment: 13 Country of Ref document: FR
EP2626091 B1	20191231	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190925 Year of fee payment: 13 Country of Ref document: GB
EP2626091 B1	20200131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190917 Year of fee payment: 13 Country of Ref document: DE
EP2626091 B1	20271030	PEXP		Calculated Patent Term Expiry	
EP3603571 A1	20200205	LSPB	+	published / reissued	
EP3603571 A1	20200205	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20181219
EP3603571 A1	20200205		AC	DIVISIONAL APPLICATION: REFERENCE TO EARLIER APPLICATION	Kind code of Ref document: P Ref document number: 2348844 Country of Ref document: EP
EP3603571 A1	20200205		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: 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 TR
EP3603571 A1	20200603	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	Owner: ATRIUM MEDICAL CORPORATION PartyType: owner
IN01635CN2009 A	20160831	LSPB	+	published / reissued	
IN03605DN2012 A	20160831	LSPB	+	published / reissued	
IN287766 B	20170929	LSGT	+	granted / extensions (spc, cpc, pte)	
IN287766 B	20310506	PEXP		Calculated Patent Term Expiry	
IN339185 B	20200626	LSGT	+	granted / extensions (spc, cpc, pte)	
IN339185 B	20320425	PEXP		Calculated Patent Term Expiry	
JP2009511215 T2	20090319	LSPB	+	published / reissued	

JP2009511215 T2	20100105	LSWD	-A300	WITHDRAWAL OF APPLICATION BECAUSE OF NO REQUEST FOR EXAMINATION	Effective date: 20100105 Text: JAPANESE INTERMEDIATE CODE: A300
JP2010504327 T2	20100212	LSPB	+	published / reissued	
JP2010504327 T2	20101207	LSWD	-A300	WITHDRAWAL OF APPLICATION BECAUSE OF NO REQUEST FOR EXAMINATION	Effective date: 20101207 Text: JAPANESE INTERMEDIATE CODE: A300
JP2010508897 T2	20100325	LSPB	+	published / reissued	
JP2010508897 T2	20110104	LSWD	-A300	WITHDRAWAL OF APPLICATION BECAUSE OF NO REQUEST FOR EXAMINATION	Effective date: 20110104 Text: JAPANESE INTERMEDIATE CODE: A300
JP2012505025 T2	20120301	LSPB	+	published / reissued	
JP2012505025 T2	20121002	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20121001 Text: JAPANESE INTERMEDIATE CODE: A523
JP2012505025 T2	20130524	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20130523 Text: JAPANESE INTERMEDIATE CODE: A131
JP2012505025 T2	20130824	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20130823 Text: JAPANESE INTERMEDIATE CODE: A523
JP2012505025 T2	20140307	LSRV	-A02	DECISION OF REFUSAL	Effective date: 20140306 Text: JAPANESE INTERMEDIATE CODE: A02
JP2012505025 T2	20140708	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20140707 Text: JAPANESE INTERMEDIATE CODE: A523
JP2012505025 T2	20140813	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20140725 Text: JAPANESE INTERMEDIATE CODE: A821
JP2012505025 T2	20140818	LSAL	A911	TRANSFER OF RECONSIDERATION BY EXAMINER BEFORE APPEAL (ZENCHI)	Effective date: 20140815 Text: JAPANESE INTERMEDIATE CODE: A911
JP2012505025 T2	20140916	LSAL	-A912	REMOVAL OF RECONSIDERATION BY EXAMINER BEFORE APPEAL (ZENCHI)	Effective date: 20140912 Text: JAPANESE INTERMEDIATE CODE: A912
JP2012505030 T2	20120301	LSPB	+	published / reissued	
JP2012505030 T2	20130105	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20130104 Text: JAPANESE INTERMEDIATE CODE: A523
JP2012505030 T2	20131007	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20131004 Text: JAPANESE INTERMEDIATE CODE: A131
JP2012505030 T2	20131226	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20131225 Text: JAPANESE INTERMEDIATE CODE: A523
JP2012505030 T2	20140606	LSRV	-A02	DECISION OF REFUSAL	Effective date: 20140605 Text: JAPANESE INTERMEDIATE CODE: A02
JP2012505030 T2	20141007	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20141006 Text: JAPANESE INTERMEDIATE CODE: A523
JP2012505030 T2	20141115	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20141028 Text: JAPANESE INTERMEDIATE CODE: A821
JP2012505030 T2	20141120	LSAL	A911	TRANSFER OF RECONSIDERATION BY EXAMINER BEFORE APPEAL (ZENCHI)	Effective date: 20141119 Text: JAPANESE INTERMEDIATE CODE: A911
JP2012505030 T2	20150113	LSAL	-A912	REMOVAL OF RECONSIDERATION BY EXAMINER BEFORE APPEAL (ZENCHI)	Effective date: 20150109 Text: JAPANESE INTERMEDIATE CODE: A912
JP2012505030 T2	20160509		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20160509 Text: JAPANESE INTERMEDIATE CODE: A601
JP2012505030 T2	20160609		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20160609 Text: JAPANESE INTERMEDIATE CODE: A601
JP2012505030 T2	20160708		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20160708 Text: JAPANESE INTERMEDIATE CODE: A601
JP2012505030 T2	20160810	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20160810 Text: JAPANESE INTERMEDIATE CODE: A523
JP2012505030 T2	20160829	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20160810 Text: JAPANESE INTERMEDIATE CODE: A821
JP2012505030 T2	20161227		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20161227 Text: JAPANESE INTERMEDIATE CODE: A601
JP2012505030 T2	20170113	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20170113 Text: JAPANESE INTERMEDIATE CODE: A523
JP2012505030 T2	20170330	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING	Effective date: 20170323 Text: JAPANESE INTERMEDIATE CODE: A61

				GRANT PROCEDURE)	
JP2013233456 A2	20131121	LSPB	+	published / reissued	
JP2013233456 A2	20140912	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20140911 Text: JAPANESE INTERMEDIATE CODE: A131
JP2013233456 A2	20141105		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20141104 Text: JAPANESE INTERMEDIATE CODE: A601
JP2013233456 A2	20141110		A602	WRITTEN PERMISSION OF EXTENSION OF TIME	Effective date: 20141107 Text: JAPANESE INTERMEDIATE CODE: A602
JP2013233456 A2	20150827	LSRV	-A02	DECISION OF REFUSAL	Effective date: 20150826 Text: JAPANESE INTERMEDIATE CODE: A02
JP2013508033 T2	20130307	LSPB	+	published / reissued	
JP2013508033 T2	20130910	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20130909 Text: JAPANESE INTERMEDIATE CODE: A523
JP2013508033 T2	20130910	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Effective date: 20130909 Text: JAPANESE INTERMEDIATE CODE: A621
JP2013508033 T2	20140821	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20140820 Text: JAPANESE INTERMEDIATE CODE: A131
JP2013508033 T2	20141112		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20141111 Text: JAPANESE INTERMEDIATE CODE: A601
JP2013508033 T2	20141119		A602	WRITTEN PERMISSION OF EXTENSION OF TIME	Effective date: 20141118 Text: JAPANESE INTERMEDIATE CODE: A602
JP2013508033 T2	20141223	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20141222 Text: JAPANESE INTERMEDIATE CODE: A523
JP2013508033 T2	20150604	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2013508033 T2	20150609	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Effective date: 20150608 Text: JAPANESE INTERMEDIATE CODE: A01
JP2013508033 T2	20150716	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	Effective date: 20150708 Text: JAPANESE INTERMEDIATE CODE: A61
JP2014061444 A2	20140410	LSPB	+	published / reissued	
JP2014061444 A2	20141205	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20141204 Text: JAPANESE INTERMEDIATE CODE: A131
JP2014061444 A2	20150212		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20150212 Text: JAPANESE INTERMEDIATE CODE: A601
JP2014061444 A2	20150914	LSRV	-A02	DECISION OF REFUSAL	Effective date: 20150911 Text: JAPANESE INTERMEDIATE CODE: A02
JP2014061444 A2	20160108	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20160108 Text: JAPANESE INTERMEDIATE CODE: A523
JP2014061444 A2	20160118	LSAL	A911	TRANSFER OF RECONSIDERATION BY EXAMINER BEFORE APPEAL (ZENCHI)	Effective date: 20160115 Text: JAPANESE INTERMEDIATE CODE: A911
JP2014061444 A2	20160119	LSWD	-A761	WRITTEN WITHDRAWAL OF APPLICATION	Effective date: 20160119 Text: JAPANESE INTERMEDIATE CODE: A761
JP2015198983 A2	20151112	LSPB	+	published / reissued	
JP2015198983 A2	20160420	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20160420 Text: JAPANESE INTERMEDIATE CODE: A131
JP2015198983 A2	20160719	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20160719 Text: JAPANESE INTERMEDIATE CODE: A523
JP2015198983 A2	20160902	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20160902 Text: JAPANESE INTERMEDIATE CODE: A131
JP2015198983 A2	20161201		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20161201 Text: JAPANESE INTERMEDIATE CODE: A601
JP2015198983 A2	20161221	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20161221 Text: JAPANESE INTERMEDIATE CODE: A523
JP2015198983 A2	20170117	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2015198983 A2	20170119	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT	Effective date: 20170119 Text: JAPANESE INTERMEDIATE CODE: A01

				OR TO GRANT A REGISTRATION (UTILITY MODEL)	
JP2015198983 A2	20170223	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	Effective date: 20170216 Text: JAPANESE INTERMEDIATE CODE: A61
JP2016104197 A2	20160609	LSPB	+	published / reissued	
JP2016104197 A2	20161206	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20161206 Text: JAPANESE INTERMEDIATE CODE: A131
JP2016104197 A2	20170113	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20170113 Text: JAPANESE INTERMEDIATE CODE: A523
JP2016104197 A2	20170410	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20170410 Text: JAPANESE INTERMEDIATE CODE: A131
JP2016104197 A2	20170707	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20170707 Text: JAPANESE INTERMEDIATE CODE: A523
JP2016104197 A2	20170726	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20170707 Text: JAPANESE INTERMEDIATE CODE: A821
JP2016104197 A2	20170905	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20170905 Text: JAPANESE INTERMEDIATE CODE: A131
JP2016104197 A2	20171201	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20171201 Text: JAPANESE INTERMEDIATE CODE: A523
JP2016104197 A2	20180205	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2016104197 A2	20180209	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Effective date: 20180209 Text: JAPANESE INTERMEDIATE CODE: A01
JP2016104197 A2	20180315	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	Effective date: 20180307 Text: JAPANESE INTERMEDIATE CODE: A61
JP2017170252 A2	20170707	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Effective date: 20170707 Text: JAPANESE INTERMEDIATE CODE: A621
JP2017170252 A2	20170928	LSPB	+	published / reissued	
JP2017170252 A2	20180605	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20180605 Text: JAPANESE INTERMEDIATE CODE: A131
JP2017170252 A2	20180621		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20180621 Text: JAPANESE INTERMEDIATE CODE: A601
JP2017170252 A2	20181015	LSWD	-A761	WRITTEN WITHDRAWAL OF APPLICATION	Effective date: 20181015 Text: JAPANESE INTERMEDIATE CODE: A761
JP2017170252 A2	20190121	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20181227 Text: JAPANESE INTERMEDIATE CODE: A821
JP5778159 B2	20150611	LSGT	+A01	特許査定書	
JP5778159 B2	20150611	LSGT	+A01	特許査定書	Effective date: 20150608
JP5778159 B2	20150714	LSFE	R100	特許料納付書	
JP5778159 B2	20150714	LSFE	R100	特許料納付書	Effective date: 20150708 Text: 51501372533
JP5778159 B2	20150717	LSGT	+R150	特許証	
JP5778159 B2	20150717	LSGT	+R150	特許証	Effective date: 20150728
JP5778159 B2	20150916	LSGT	+	granted / extensions (spc, cpc, pte)	
JP5778159 B2	20180705	LSFE	R20	特許料納付書	
JP5778159 B2	20180705	LSFE	R20	特許料納付書	Effective date: 20180630 Text: 51801348305
JP5778159 B2	20180710	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP5778159 B2	20180710	LSFE	+R250	年金領収書, 年金領収書 (分納)	
JP5778159 B2	20180710	LSFE	+R250	年金領収書, 年金領収書 (分納)	Effective date: 20180717
JP5778159 B2	20190704	LSFE	R20	特許料納付書	
JP5778159 B2	20190704	LSFE	R20	特許料納付書	Effective date: 20190628 Text: 51901377868
JP5778159 B2	20190709	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP5778159 B2	20190709	LSFE	+R250	年金領収書, 年金領収書 (分納)	

JP5778159 B2	20190709	LSFE	+R250	年金領収書, 年金領収書 (分納)	Effective date: 20190719
JP5778159 B2	20200629	LSFE	R20	特許料納付書	Effective date: 20200626 Text: 52001304961
JP5778159 B2	20200630	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP5778159 B2	20200630	LSFE	+R250	年金領収書, 年金領収書 (分納)	Effective date: 20200717
JP5778159 B2	20301015	PEXP		Calculated Patent Term Expiry	
JP6096844 B2	20170126	LSGT	+A01	特許査定書	
JP6096844 B2	20170221	LSFE	R100	特許料納付書	
JP6096844 B2	20170224	LSGT	+R150	特許証	
JP6096844 B2	20170315	LSGT	+	granted / extensions (spc, cpc, pte)	
JP6096844 B2	20200130	LSFE	R20	特許料納付書	Effective date: 20200129
JP6096844 B2	20200131	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP6096844 B2	20200131	LSFE	+R250	年金領収書, 年金領収書 (分納)	Effective date: 20200214
JP6096844 B2	20350708	PEXP		Calculated Patent Term Expiry	
JP6117472 B2	20120113	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20120112 Text: JAPANESE INTERMEDIATE CODE: A523
JP6117472 B2	20120217	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20120216 Text: JAPANESE INTERMEDIATE CODE: A523
JP6117472 B2	20170302	LSGT	+A01	特許査定書	
JP6117472 B2	20170328	LSFE	R100	特許料納付書	
JP6117472 B2	20170331	LSGT	+R150	特許証	
JP6117472 B2	20170419	LSGT	+	granted / extensions (spc, cpc, pte)	
JP6117472 B2	20200227	LSFE	R20	特許料納付書	Effective date: 20200226
JP6117472 B2	20200228	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP6117472 B2	20200228	LSFE	+R250	年金領収書, 年金領収書 (分納)	Effective date: 20200313
JP6117472 B2	20290317	PEXP		Calculated Patent Term Expiry	
JP6306068 B2	20180215	LSGT	+A01	特許査定書	
JP6306068 B2	20180313	LSFE	R100	特許料納付書	
JP6306068 B2	20180316	LSGT	+R150	特許証	
JP6306068 B2	20180404	LSGT	+	granted / extensions (spc, cpc, pte)	
JP6306068 B2	20360108	PEXP		Calculated Patent Term Expiry	
US10016465 BB	20180620	LSGT	PAT1	Patented Case	
US10016465 BB	20180710	LSGT	+	granted / extensions (spc, cpc, pte)	
US10016465 BB	20260131	PEXP		Calculated Patent Term Expiry (PTA 125 days and a terminal disclaimer has been filed)	
US10285964 BB	20190514	LSGT	+	granted / extensions (spc, cpc, pte)	
US10285964 BB	20290310	PEXP		Calculated Patent Term Expiry	
US10772995 BB	20171020	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US10772995 BB	20200826	LSGT	PAT1	Patented Case	
US10772995 BB	20200915	LSGT	+	granted / extensions (spc, cpc, pte)	
US10772995 BB	20250928	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US10792312 BB	20201006	LSGT	+	granted / extensions (spc, cpc, pte)	

US10792312 BB	20250928	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US2006067974 AA	20060330	LSPB	+	published / reissued	
US2006067974 AA	20120822	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2006067975 AA	20060330	LSPB	+	published / reissued	
US2006067975 AA	20150204	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2006067976 AA	20051209	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:FERRARO, JOSEPH;ROGERS, LISA;MARTAKOS, PAUL;AND OTHERS;REEL/FRAME:017108/0354;SIGNING DATES FROM 20051115 TO 20051121 Owner: ATRIUM MEDICAL CORPORATION, NEW HAMPSHIRE PartyType: owner
US2006067976 AA	20060330	LSPB	+	published / reissued	
US2006067976 AA	20100524	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2006067976 AA	20100524		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2006067977 AA	20051207	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:LABRECQUE, ROGER;MOODIE, GEOFFREY;FERRARO, JOSEPH;AND OTHERS;REEL/FRAME:017100/0233;SIGNING DATES FROM 20051115 TO 20051121 Owner: ATRIUM MEDICAL CORPORATION, NEW HAMPSHIRE PartyType: owner
US2006067977 AA	20060330	LSPB	+	published / reissued	
US2006067977 AA	20100426	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2006067977 AA	20100426		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2006067983 AA	20060330	LSPB	+	published / reissued	
US2006067983 AA	20140716	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2006078586 AA	20060413	LSPB	+	published / reissued	
US2006078586 AA	20170328		FRM1	Final Rejection Mailed	
US2006078586 AA	20170605		RSP1	Response after Final Action Forwarded to Examiner	
US2006078586 AA	20170623	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2006078586 AA	20170922	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.)
US2006078586 AA	20170922	LSFE	PPR1	Publications -- Issue Fee Payment Received	
US2006078586 AA	20170925	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2006078586 AA	20171011	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2006083768 AA	20060104	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:LABRECQUE, ROGER;MOODIE, GEOFFREY;CONROY, SUZANNE;AND OTHERS;REEL/FRAME:017161/0780;SIGNING DATES FROM 20051220 TO 20051228 Owner: ATRIUM MEDICAL CORPORATION, NEW HAMPSHIRE PartyType: owner
US2006083768 AA	20060420	LSPB	+	published / reissued	
US2006083768 AA	20100216	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2006083768 AA	20100216		-STCB	INFORMATION ON STATUS: APPLICATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION

				DISCONTINUATION	
US2006088596 AA	20060104	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:LABRECQUE, ROGER;MOODIE, GEOFFREY;ROGERS, LISA;AND OTHERS;REEL/FRAME:017161/0754;SIGNING DATES FROM 20051215 TO 20051220 Owner: ATRIUM MEDICAL CORPORATION, NEW HAMPSHIRE PartyType: owner
US2006088596 AA	20060427	LSPB	+	published / reissued	
US2006088596 AA	20100216	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2006088596 AA	20100216		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2006110457 AA	20060525	LSPB	+	published / reissued	
US2006110457 AA	20140924	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2006121081 AA	20060608	LSPB	+	published / reissued	
US2006121081 AA	20110803	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2007071798 AA	20070329	LSPB	+	published / reissued	
US2007071798 AA	20130116	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2007084144 AA	20061115	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:LABRECQUE, ROGER;CONROY, SUZANNE;FAUCHER, KEITH M.;AND OTHERS;REEL/FRAME:018540/0312;SIGNING DATES FROM 20061106 TO 20061110 Owner: ATRIUM MEDICAL CORPORATION, NEW HAMPSHIRE PartyType: owner
US2007084144 AA	20070419	LSPB	+	published / reissued	
US2007084144 AA	20071113	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2007084144 AA	20071113		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2007202149 AA	20070830	LSPB	+	published / reissued	
US2007202149 AA	20120208	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2008109017 AA	20080508	LSPB	+	published / reissued	
US2008109017 AA	20161026	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2008113001 AA	20080515	LSPB	+	published / reissued	
US2008113001 AA	20170222	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2008118550 AA	20080522	LSPB	+	published / reissued	
US2008118550 AA	20131016	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2008206305 AA	20080828	LSPB	+	published / reissued	
US2008206305 AA	20170407		RFE1	Docketed New Case - Ready for Examination	
US2008206305 AA	20170612	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2008206305 AA	20170929	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2008206305 AA	20171011	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2009011116 AA	20080918	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:HERWECK, STEVE A.;KARWOSKI, THEODORE;MARTAKOS, PAUL;AND OTHERS;REEL/FRAME:021553/0045;SIGNING DATES FROM 20080819 TO 20080903

					Owner: ATRIUM MEDICAL CORPORATION, NEW HAMPSHIRE PartyType: owner
US2009011116 AA	20090108	LSPB	+	published / reissued	
US2009011116 AA	20131230	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2009011116 AA	20131230		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2009047414 AA	20090219	LSPB	+	published / reissued	
US2009047414 AA	20121031	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2009181937 AA	20090716	LSPB	+	published / reissued	
US2009181937 AA	20150401	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2009208552 AA	20090820	LSPB	+	published / reissued	
US2009208552 AA	20150318	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2010183697 AA	20100722	LSPB	+	published / reissued	
US2010183697 AA	20160217	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2010233232 AA	20100916	LSPB	+	published / reissued	
US2010233232 AA	20160810	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2011274823 AA	20111110	LSPB	+	published / reissued	
US2011274823 AA	20120221	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:LABRECQUE, ROGER;MOODIE, GEOFFREY;FERRARO, JOSEPH;AND OTHERS;SIGNING DATES FROM 20051115 TO 20051121;REEL/FRAME:027739/0585 Owner: ATRIUM MEDICAL CORPORATION, NEW HAMPSHIRE PartyType: owner
US2011274823 AA	20140423	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2012213839 AA	20120823	LSPB	+	published / reissued	
US2012213839 AA	20130717	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2012315219 AA	20121213	LSPB	+	published / reissued	
US2012315219 AA	20130301	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:LABRECQUE, ROGER;MOODIE, GEOFFREY;FERRARO, JOSEPH;AND OTHERS;SIGNING DATES FROM 20051115 TO 20051117;REEL/FRAME:029905/0295 Owner: ATRIUM MEDICAL CORPORATION, NEW HAMPSHIRE PartyType: owner
US2012315219 AA	20140423	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2013074452 AA	20130328	LSPB	+	published / reissued	
US2013074452 AA	20130723	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:SWANICK, THOMAS M.;FERRARO, JOSEPH;MARTAKOS, PAUL;AND OTHERS;SIGNING DATES FROM 20051107 TO 20051121;REEL/FRAME:030857/0660 Owner: ATRIUM MEDICAL CORPORATION, NEW HAMPSHIRE PartyType: owner
US2013074452 AA	20130823	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:HERWECK, STEVE A.;SWANICK, THOMAS M.;FERRARO, JOSEPH;AND OTHERS;SIGNING DATES FROM 20061205 TO 20061208;REEL/FRAME:031071/0766 Owner: ATRIUM MEDICAL CORPORATION, NEW HAMPSHIRE PartyType: owner
US2013074452 AA	20131016	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2014010949 AA	20140109	LSPB	+	published / reissued	

US2014010949 AA	20140327	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:FAUCHER, KEITH M.;TANG, HUI;ROGERS, LISA;AND OTHERS;SIGNING DATES FROM 20130820 TO 20140320;REEL/FRAME:032539/0017 Owner: ATRIUM MEDICAL CORPORATION, NEW HAMPSHIRE PartyType: owner
US2014010949 AA	20151209	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2014308333 AA	20141016	LSPB	+	published / reissued	
US2014308333 AA	20141021	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:LABRECQUE, ROGER;MOODIE, GEOFFREY;FERRARO, JOSEPH F.;AND OTHERS;SIGNING DATES FROM 20140423 TO 20141009;REEL/FRAME:033990/0214 Owner: ATRIUM MEDICAL CORPORATION, NEW HAMPSHIRE PartyType: owner
US2014308333 AA	20170508	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2014308333 AA	20170531	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2015079191 AA	20150122		RFE1	Docketed New Case - Ready for Examination	
US2015079191 AA	20150319	LSPB	+	published / reissued	
US2015079191 AA	20170130		FRM1	Final Rejection Mailed	
US2015079191 AA	20170703		RFE1	Docketed New Case - Ready for Examination	
US2015079191 AA	20170915	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2015079191 AA	20171209	LSFE	AWA4	Awaiting TC Resp., Issue Fee Not Paid	
US2015079191 AA	20171214	LSFE	PPR1	Publications -- Issue Fee Payment Received	
US2015079191 AA	20171215	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2015079191 AA	20171220	LSWD	ABD7	Abandonment for Failure to Correct Drawings/Oath/NonPub Request	
US2015079191 AA	20180605	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2015079191 AA	20180620	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2015209482 AA	20150730	LSPB	+	published / reissued	
US2015209482 AA	20170405		RFE1	Docketed New Case - Ready for Examination	
US2015209482 AA	20170711	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2015209482 AA	20170802	LSFE	AWA4	Awaiting TC Resp., Issue Fee Not Paid	
US2015209482 AA	20170802	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2015209482 AA	20171016	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2015209482 AA	20171108	LSGT	PAT1	Patented Case	
US2015209482 AA	20171108	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2015224233 AA	20150813	LSPB	+	published / reissued	
US2015224233 AA	20170126	LSES	NFA1	Non Final Action Mailed	
US2015224233 AA	20170526		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	

US2015224233 AA	20170713	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2015224233 AA	20170808	LSFE	AWA4	Awaiting TC Resp., Issue Fee Not Paid	
US2015224233 AA	20170818	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2015224233 AA	20171017	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2015224233 AA	20171108	LSGT	PAT1	Patented Case	
US2015224233 AA	20171108	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2016206789 AA	20160721	LSPB	+	published / reissued	
US2016206789 AA	20170207	LSES	NFA1	Non Final Action Mailed	
US2016206789 AA	20170525		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2016206789 AA	20170731	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2016206789 AA	20171025	LSFE	AWA4	Awaiting TC Resp., Issue Fee Not Paid	
US2016206789 AA	20171101	LSFE	AWA2	Awaiting TC Resp, Issue Fee Payment Received	
US2016206789 AA	20171102	LSFE	AWA3	Awaiting TC Resp, Issue Fee Payment Verified	
US2016206789 AA	20171108	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2016206789 AA	20171129	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2016324816 AA	20160815		RFE1	Docketed New Case - Ready for Examination	
US2016324816 AA	20161110	LSPB	+	published / reissued	
US2016324816 AA	20170711	LSES	NFA1	Non Final Action Mailed	
US2016324816 AA	20180208		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2016324816 AA	20180410		FRM2	Final Rejection Counted, Not Yet Mailed	
US2016324816 AA	20180411		FRM1	Final Rejection Mailed	
US2016324816 AA	20190109	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2016324816 AA	20190109		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NOTICE OF ALLOWANCE MAILED -- APPLICATION RECEIVED IN OFFICE OF PUBLICATIONS
US2016324816 AA	20190409	LSFE	PPR1	Publications -- Issue Fee Payment Received	
US2016324816 AA	20190409		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: PUBLICATIONS -- ISSUE FEE PAYMENT RECEIVED
US2016324816 AA	20190424	LSGT	PAT1	Patented Case	
US2016324816 AA	20190424	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2018008650 AA	20180111	LSPB	+	published / reissued	
US2018008650 AA	20180913	LSES	NFA1	Non Final Action Mailed	

US2018008650 AA	20190315		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2018008650 AA	20190315		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER
US2018008650 AA	20190607		FRM1	Final Rejection Mailed	
US2018008650 AA	20190607		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: FINAL REJECTION MAILED
US2018008650 AA	20190826		RSP1	Response after Final Action Forwarded to Examiner	
US2018008650 AA	20190826		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE AFTER FINAL ACTION FORWARDED TO EXAMINER
US2018008650 AA	20190912	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2018008650 AA	20190912		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NOTICE OF ALLOWANCE MAILED -- APPLICATION RECEIVED IN OFFICE OF PUBLICATIONS
US2018008650 AA	20191114	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2018008650 AA	20191114		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NOTICE OF ALLOWANCE MAILED -- APPLICATION RECEIVED IN OFFICE OF PUBLICATIONS
US2018008650 AA	20191220	LSFE	AWA3	Awaiting TC Resp, Issue Fee Payment Verified	
US2018008650 AA	20191220		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: AWAITING TC RESP, ISSUE FEE PAYMENT VERIFIED
US2018008650 AA	20200110	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2018008650 AA	20200110		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: PUBLICATIONS -- ISSUE FEE PAYMENT VERIFIED
US2018008650 AA	20200419	LSFE	AWA4	Awaiting TC Resp., Issue Fee Not Paid	
US2018008650 AA	20200419		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: AWAITING TC RESP., ISSUE FEE NOT PAID
US2018008650 AA	20200429		RFE1	Docketed New Case - Ready for Examination	
US2018008650 AA	20200608	LSFE	AWA4	Awaiting TC Resp., Issue Fee Not Paid	
US2018008650 AA	20200608		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: AWAITING TC RESP., ISSUE FEE NOT PAID
US2018008650 AA	20200623	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2018008650 AA	20200623		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING	Text: NOTICE OF ALLOWANCE MAILED -- APPLICATION RECEIVED IN OFFICE OF PUBLICATIONS

				PROCEDURE IN GENERAL	
US2018008650 AA	20200831	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2018043065 AA	20171103		RFE1	Docketed New Case - Ready for Examination	
US2018043065 AA	20180215	LSPB	+	published / reissued	
US2018043065 AA	20190219	LSES	NFA1	Non Final Action Mailed	
US2018043065 AA	20190219		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NON FINAL ACTION MAILED
US2018043065 AA	20190625		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2018043065 AA	20190625		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER
US2018043065 AA	20190916	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2018043065 AA	20190916		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NOTICE OF ALLOWANCE MAILED -- APPLICATION RECEIVED IN OFFICE OF PUBLICATIONS
US2018043065 AA	20191219		RFE1	Docketed New Case - Ready for Examination	
US2018043065 AA	20191219		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2018043065 AA	20200113	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2018043065 AA	20200113		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NOTICE OF ALLOWANCE MAILED -- APPLICATION RECEIVED IN OFFICE OF PUBLICATIONS
US2018043065 AA	20200221	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: PETITION RELATED TO MAINTENANCE FEES GRANTED (ORIGINAL EVENT CODE: PTGR); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US2018043065 AA	20200427	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2018043065 AA	20200427		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NOTICE OF ALLOWANCE MAILED -- APPLICATION RECEIVED IN OFFICE OF PUBLICATIONS
US2018043065 AA	20200723	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2018050132 AA	20171114		RFE1	Docketed New Case - Ready for Examination	
US2018050132 AA	20180222	LSPB	+	published / reissued	
US2018050132 AA	20190308	LSES	NFA1	Non Final Action Mailed	
US2018050132 AA	20190308		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NON FINAL ACTION MAILED
US2018050132 AA	20190610		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	

US2018050132 AA	20190610		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER
US2018050132 AA	20190808	LSES	NFA1	Non Final Action Mailed	
US2018050132 AA	20190808		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NON FINAL ACTION MAILED
US2018050132 AA	20191221		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2018050132 AA	20191221		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER
US2018050132 AA	20200220	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2018050132 AA	20200220		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NOTICE OF ALLOWANCE MAILED -- APPLICATION RECEIVED IN OFFICE OF PUBLICATIONS
US2018050132 AA	20200526		RFE1	Docketed New Case - Ready for Examination	
US2018050132 AA	20200702	LSFE	AWA4	Awaiting TC Resp., Issue Fee Not Paid	
US2018050132 AA	20200702		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: AWAITING TC RESP., ISSUE FEE NOT PAID
US2018050132 AA	20200707	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2018133376 AA	20180517	LSPB	+	published / reissued	
US2018133376 AA	20180917	LSES	NFA1	Non Final Action Mailed	
US2018133376 AA	20190225		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2018133376 AA	20190225		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER
US2018133376 AA	20190522		FRM1	Final Rejection Mailed	
US2018133376 AA	20190522		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: FINAL REJECTION MAILED
US2018133376 AA	20191025		RFE1	Docketed New Case - Ready for Examination	
US2018133376 AA	20191025		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2018133376 AA	20200204	LSES	NFA1	Non Final Action Mailed	
US2018133376 AA	20200204		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NON FINAL ACTION MAILED
US2018133376 AA	20200806		RSP4	Response to Non-Final Office Action Entered and Forwarded to	

				Examiner	
US2018200306 AA	20180413		RFE1	Docketed New Case - Ready for Examination	
US2018200306 AA	20180413		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2018200306 AA	20180719	LSPB	+	published / reissued	
US2018200306 AA	20190802	LSES	NFA1	Non Final Action Mailed	
US2018200306 AA	20190802		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NON FINAL ACTION MAILED
US2018200306 AA	20190914		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2018200306 AA	20190914		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER
US2018200306 AA	20191028	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2018200306 AA	20191028		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NOTICE OF ALLOWANCE MAILED -- APPLICATION RECEIVED IN OFFICE OF PUBLICATIONS
US2018200306 AA	20200125	LSFE	AWA4	Awaiting TC Resp., Issue Fee Not Paid	
US2018200306 AA	20200125		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: AWAITING TC RESP., ISSUE FEE NOT PAID
US2018200306 AA	20200206		RFE1	Docketed New Case - Ready for Examination	
US2018200306 AA	20200206		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2018200306 AA	20200520	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2018200306 AA	20200709	LSFE	AWA4	Awaiting TC Resp., Issue Fee Not Paid	
US2018200306 AA	20200820	LSFE	AWA2	Awaiting TC Resp, Issue Fee Payment Received	
US2018200306 AA	20200820		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: AWAITING TC RESP, ISSUE FEE PAYMENT RECEIVED
US2018200306 AA	20200824	LSFE	AWA3	Awaiting TC Resp, Issue Fee Payment Verified	
US2019054053 AA	20181119		RFE1	Docketed New Case - Ready for Examination	
US2019054053 AA	20181119		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2019054053 AA	20190221	LSPB	+	published / reissued	
US2019054053 AA	20191024	LSES	NFA1	Non Final Action Mailed	

US2019054053 AA	20191024		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NON FINAL ACTION MAILED
US2019054053 AA	20200202		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2019054053 AA	20200202		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER
US2019054053 AA	20200409		FRM1	Final Rejection Mailed	
US2019054053 AA	20200409		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: FINAL REJECTION MAILED
US2019054053 AA	20200629		RSP1	Response after Final Action Forwarded to Examiner	
US2019054053 AA	20200629		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE AFTER FINAL ACTION FORWARDED TO EXAMINER
US2019054053 AA	20200720	LSES	ADV1	Advisory Action Mailed	
US2019054053 AA	20200720		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: ADVISORY ACTION MAILED
US2019054053 AA	20200811		RFE1	Docketed New Case - Ready for Examination	
US2019054053 AA	20200811		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2020171213 A9	20200723		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: PUBLICATIONS -- ISSUE FEE PAYMENT VERIFIED
US8001922 BB	20051206	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:LABRECQUE, ROGER;MOODIE, GEOFFREY;FERRARO, JOSEPH;AND OTHERS;REEL/FRAME:017098/0937;SIGNING DATES FROM 20051115 TO 20051121 Owner: ATRIUM MEDICAL CORPORATION, NEW HAMPSHIRE PartyType: owner
US8001922 BB	20051206	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:LABRECQUE, ROGER;MOODIE, GEOFFREY;FERRARO, JOSEPH;AND OTHERS;SIGNING DATES FROM 20051115 TO 20051121;REEL/FRAME:017098/0937 Owner: ATRIUM MEDICAL CORPORATION, NEW HAMPSHIRE PartyType: owner
US8001922 BB	20110803	LSGT	PAT1	Patented Case	
US8001922 BB	20110823	LSGT	+	granted / extensions (spc, cpc, pte)	
US8001922 BB	20141231	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US8001922 BB	20190116	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 8
US8001922 BB	20270513	PEXP		Calculated Patent Term Expiry (PTA 592 days)	
US8124127 BB	20070402	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:FAUCHER, KEITH M.;TANG, HUI;ROGERS, LISA;AND OTHERS;REEL/FRAME:019099/0860;SIGNING DATES FROM 20070322 TO 20070326 Owner: ATRIUM MEDICAL CORPORATION, NEW HAMPSHIRE PartyType: owner
US8124127 BB	20070402	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:FAUCHER, KEITH

					M.;TANG, HUI;ROGERS, LISA;AND OTHERS;SIGNING DATES FROM 20070322 TO 20070326;REEL/FRAME:019099/0860 Owner: ATRIUM MEDICAL CORPORATION, NEW HAMPSHIRE PartyType: owner
US8124127 BB	20120208	LSGT	PAT1	Patented Case	
US8124127 BB	20120228	LSGT	+	granted / extensions (spc, cpc, pte)	
US8124127 BB	20150728	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US8124127 BB	20190716	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 8
US8124127 BB	20290310	PEXP		Calculated Patent Term Expiry (PTA 876 days and a terminal disclaimer has been filed)	
US8263102 BB	20051129	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:LABRECQUE, ROGER;MOODIE, GEOFFREY;FERRARO, JOSEPH;AND OTHERS;REEL/FRAME:017074/0970;SIGNING DATES FROM 20051115 TO 20051117 Owner: ATRIUM MEDICAL CORPORATION, NEW HAMPSHIRE PartyType: owner
US8263102 BB	20051129	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:LABRECQUE, ROGER;MOODIE, GEOFFREY;FERRARO, JOSEPH;AND OTHERS;SIGNING DATES FROM 20051115 TO 20051117;REEL/FRAME:017074/0970 Owner: ATRIUM MEDICAL CORPORATION, NEW HAMPSHIRE PartyType: owner
US8263102 BB	20051206	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:LABRECQUE, ROGER;MOODIE, GEOFFREY;FERRARO, JOSEPH;AND OTHERS;REEL/FRAME:017091/0764;SIGNING DATES FROM 20051115 TO 20051121 Owner: ATRIUM MEDICAL CORPORATION, NEW HAMPSHIRE PartyType: owner
US8263102 BB	20051206	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:LABRECQUE, ROGER;MOODIE, GEOFFREY;FERRARO, JOSEPH;AND OTHERS;SIGNING DATES FROM 20051115 TO 20051121;REEL/FRAME:017091/0764 Owner: ATRIUM MEDICAL CORPORATION, NEW HAMPSHIRE PartyType: owner
US8263102 BB	20120822	LSGT	PAT1	Patented Case	
US8263102 BB	20120911	LSGT	+	granted / extensions (spc, cpc, pte)	
US8263102 BB	20160223	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US8263102 BB	20200218	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 8
US8263102 BB	20280421	PEXP		Calculated Patent Term Expiry (PTA 936 days and a terminal disclaimer has been filed)	
US8312836 BB	20081030	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:CORBEIL, SCOTT E.;LABRECQUE, ROGER;MARTAKOS, PAUL;AND OTHERS;REEL/FRAME:021761/0696;SIGNING DATES FROM 20080926 TO 20081029 Owner: ATRIUM MEDICAL CORPORATION, NEW HAMPSHIRE PartyType: owner
US8312836 BB	20081030	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:CORBEIL, SCOTT E.;LABRECQUE, ROGER;MARTAKOS, PAUL;AND OTHERS;SIGNING DATES FROM 20080926 TO 20081029;REEL/FRAME:021761/0696 Owner: ATRIUM MEDICAL CORPORATION, NEW HAMPSHIRE PartyType: owner
US8312836 BB	20121031	LSGT	PAT1	Patented Case	
US8312836 BB	20121120	LSGT	+	granted / extensions (spc, cpc, pte)	
US8312836 BB	20160425	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US8312836 BB	20200415	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 8

US8312836 BB	20281024	PEXP		Calculated Patent Term Expiry (PTA 1122 days)	
US8367099 BB	20061212	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:HERWECK, STEVE A.;SWANICK, THOMAS M.;FERRARO, JOSEPH;AND OTHERS;REEL/FRAME:018630/0520;SIGNING DATES FROM 20061205 TO 20061208 Owner: ATRIUM MEDICAL CORPORATION, NEW HAMPSHIRE PartyType: owner
US8367099 BB	20061212	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:HERWECK, STEVE A.;SWANICK, THOMAS M.;FERRARO, JOSEPH;AND OTHERS;SIGNING DATES FROM 20061205 TO 20061208;REEL/FRAME:018630/0520 Owner: ATRIUM MEDICAL CORPORATION, NEW HAMPSHIRE PartyType: owner
US8367099 BB	20130116	LSGT	PAT1	Patented Case	
US8367099 BB	20130205	LSGT	+	granted / extensions (spc, cpc, pte)	
US8367099 BB	20141111	LSRE	CC	CERTIFICATE OF CORRECTION	
US8367099 BB	20160725	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US8367099 BB	20200714	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 8
US8367099 BB	20300415	PEXP		Calculated Patent Term Expiry (PTA 1660 days)	
US8501229 BB	20120702	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:FAUCHER, KEITH M.;TANG, HUI;ROGERS, LISA;AND OTHERS;SIGNING DATES FROM 20070322 TO 20070323;REEL/FRAME:028478/0971 Owner: ATRIUM MEDICAL CORPORATION, NEW HAMPSHIRE PartyType: owner
US8501229 BB	20130717	LSGT	PAT1	Patented Case	
US8501229 BB	20130806	LSGT	+	granted / extensions (spc, cpc, pte)	
US8501229 BB	20170126	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US8501229 BB	20261016	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US8574618 BB	20131016	LSGT	PAT1	Patented Case	
US8574618 BB	20131105	LSGT	+	granted / extensions (spc, cpc, pte)	
US8574618 BB	20170426	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US8574618 BB	20250928	PEXP		Calculated Patent Term Expiry	
US8574627 BB	20080314	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:MARTAKOS, PAUL;HERWECK, STEVE A.;PROWSE, JOCELYN;AND OTHERS;REEL/FRAME:020652/0178;SIGNING DATES FROM 20080107 TO 20080125 Owner: ATRIUM MEDICAL CORPORATION, NEW HAMPSHIRE PartyType: owner
US8574627 BB	20080314	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:MARTAKOS, PAUL;HERWECK, STEVE A.;PROWSE, JOCELYN;AND OTHERS;SIGNING DATES FROM 20080107 TO 20080125;REEL/FRAME:020652/0178 Owner: ATRIUM MEDICAL CORPORATION, NEW HAMPSHIRE PartyType: owner
US8574627 BB	20131016	LSGT	PAT1	Patented Case	
US8574627 BB	20131105	LSGT	+	granted / extensions (spc, cpc, pte)	
US8574627 BB	20150310	LSRE	CC	CERTIFICATE OF CORRECTION	
US8574627 BB	20170426	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US8574627 BB	20301120	PEXP		Calculated Patent Term Expiry (PTA 1117 days)	
US8722077 BB	20140423	LSGT	PAT1	Patented Case	

US8722077 BB	20140513	LSGT	+	granted / extensions (spc, cpc, pte)	
US8722077 BB	20171016	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 4
US8722077 BB	20250928	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US8722132 BB	20140423	LSGT	PAT1	Patented Case	
US8722132 BB	20140513	LSGT	+	granted / extensions (spc, cpc, pte)	
US8722132 BB	20171225	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.)
US8722132 BB	20180329	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: SURCHARGE FOR LATE PAYMENT, LARGE ENTITY (ORIGINAL EVENT CODE: M1554)
US8722132 BB	20180329	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 4
US8722132 BB	20250928	PEXP		Calculated Patent Term Expiry	
US8795703 BB	20051207	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:SWANICK, THOMAS M.;FERRARO, JOSEPH;MARTAKOS, PAUL;AND OTHERS;REEL/FRAME:017100/0205;SIGNING DATES FROM 20051107 TO 20051121 Owner: ATRIUM MEDICAL CORPORATION, NEW HAMPSHIRE PartyType: owner
US8795703 BB	20051207	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:SWANICK, THOMAS M.;FERRARO, JOSEPH;MARTAKOS, PAUL;AND OTHERS;SIGNING DATES FROM 20051107 TO 20051121;REEL/FRAME:017100/0205 Owner: ATRIUM MEDICAL CORPORATION, NEW HAMPSHIRE PartyType: owner
US8795703 BB	20140716	LSGT	PAT1	Patented Case	
US8795703 BB	20140805	LSGT	+	granted / extensions (spc, cpc, pte)	
US8795703 BB	20180117	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 4
US8795703 BB	20310430	PEXP		Calculated Patent Term Expiry (PTA 2040 days and a terminal disclaimer has been filed)	
US8858978 BB	20060130	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:LABRECQUE, ROGER;MCNAMARA, PHILIP;FERRARO, JOSEPH;AND OTHERS;REEL/FRAME:017219/0606;SIGNING DATES FROM 20051208 TO 20060119 Owner: ATRIUM MEDICAL CORPORATION, NEW HAMPSHIRE PartyType: owner
US8858978 BB	20060130	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:LABRECQUE, ROGER;MCNAMARA, PHILIP;FERRARO, JOSEPH;AND OTHERS;SIGNING DATES FROM 20051208 TO 20060119;REEL/FRAME:017219/0606 Owner: ATRIUM MEDICAL CORPORATION, NEW HAMPSHIRE PartyType: owner
US8858978 BB	20140924	LSGT	PAT1	Patented Case	
US8858978 BB	20141014	LSGT	+	granted / extensions (spc, cpc, pte)	
US8858978 BB	20150217	LSRE	CC	CERTIFICATE OF CORRECTION	
US8858978 BB	20180313	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 4
US8858978 BB	20290427	PEXP		Calculated Patent Term Expiry (PTA 1307 days and a terminal disclaimer has been filed)	
US8962023 BB	20051206	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:LABRECQUE, ROGER;MCNAMARA, PHILIP;FERRARO, JOSEPH;AND OTHERS;REEL/FRAME:017098/0897;SIGNING DATES FROM 20051115 TO 20051121 Owner: ATRIUM MEDICAL CORPORATION, NEW HAMPSHIRE PartyType: owner
US8962023 BB	20051206	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS

					INTEREST;ASSIGNORS:LABRECQUE, ROGER;MCNAMARA, PHILIP;FERRARO, JOSEPH;AND OTHERS;SIGNING DATES FROM 20051115 TO 20051121;REEL/FRAME:017098/0897 Owner: ATRIUM MEDICAL CORPORATION, NEW HAMPSHIRE PartyType: owner
US8962023 BB	20150204	LSGT	PAT1	Patented Case	
US8962023 BB	20150224	LSGT	+	granted / extensions (spc, cpc, pte)	
US8962023 BB	20180716	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 4
US8962023 BB	20280708	PEXP		Calculated Patent Term Expiry (PTA 1014 days and a terminal disclaimer has been filed)	
US9000040 BB	20090506	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:FAUCHER, KEITH M.;TANG, HUI;MARTAKOS, PAUL;AND OTHERS;REEL/FRAME:022643/0308;SIGNING DATES FROM 20090401 TO 20090402 Owner: ATRIUM MEDICAL CORPORATION, NEW HAMPSHIRE PartyType: owner
US9000040 BB	20090506	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:FAUCHER, KEITH M.;TANG, HUI;MARTAKOS, PAUL;AND OTHERS;SIGNING DATES FROM 20090401 TO 20090402;REEL/FRAME:022643/0308 Owner: ATRIUM MEDICAL CORPORATION, NEW HAMPSHIRE PartyType: owner
US9000040 BB	20150318	LSGT	PAT1	Patented Case	
US9000040 BB	20150407	LSGT	+	granted / extensions (spc, cpc, pte)	
US9000040 BB	20180913	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 4
US9000040 BB	20250928	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US9012506 BB	20090324	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:FAUCHER, KEITH M.;TANG, HUI;FERRARO, JOSEPH;AND OTHERS;REEL/FRAME:022439/0032;SIGNING DATES FROM 20090127 TO 20090209 Owner: ATRIUM MEDICAL CORPORATION, NEW HAMPSHIRE PartyType: owner
US9012506 BB	20090324	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:FAUCHER, KEITH M.;TANG, HUI;FERRARO, JOSEPH;AND OTHERS;SIGNING DATES FROM 20090127 TO 20090209;REEL/FRAME:022439/0032 Owner: ATRIUM MEDICAL CORPORATION, NEW HAMPSHIRE PartyType: owner
US9012506 BB	20150401	LSGT	PAT1	Patented Case	
US9012506 BB	20150421	LSGT	+	granted / extensions (spc, cpc, pte)	
US9012506 BB	20180913	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 4
US9012506 BB	20250928	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US9220820 BB	20151209	LSGT	PAT1	Patented Case	
US9220820 BB	20151229	LSGT	+	granted / extensions (spc, cpc, pte)	
US9220820 BB	20190514	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 4
US9220820 BB	20261016	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US9278161 BB	20100402	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:SWANICK, THOMAS M.;BIENKIEWICZ, JOE;FERRARO, JOSEPH;AND OTHERS;SIGNING DATES FROM 20100323 TO 20100324;REEL/FRAME:024179/0990 Owner: ATRIUM MEDICAL CORPORATION, NEW HAMPSHIRE PartyType: owner
US9278161 BB	20151029	LSFE	AWA4	Awaiting TC Resp.,	

				Issue Fee Not Paid	
US9278161 BB	20151102	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US9278161 BB	20160122	LSFE	PPR1	Publications -- Issue Fee Payment Received	
US9278161 BB	20160217	LSGT	PAT1	Patented Case	
US9278161 BB	20160308	LSGT	+	granted / extensions (spc, cpc, pte)	
US9278161 BB	20190814	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 4
US9278161 BB	20260802	PEXP		Calculated Patent Term Expiry (PTA 308 days)	
US9427423 BB	20090527	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:SWANICK, THOMAS M.;FERRARO, JOSEPH;ROGERS, LISA;AND OTHERS;SIGNING DATES FROM 20090323 TO 20090326;REEL/FRAME:022736/0204 Owner: ATRIUM MEDICAL CORPORATION, NEW HAMPSHIRE PartyType: owner
US9427423 BB	20150924	LSES	NFA1	Non Final Action Mailed	
US9427423 BB	20160810	LSGT	PAT1	Patented Case	
US9427423 BB	20160830	LSGT	+	granted / extensions (spc, cpc, pte)	
US9427423 BB	20200116	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 4
US9427423 BB	20290814	PEXP		Calculated Patent Term Expiry (PTA 157 days)	
US9492596 BB	20070523	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:HERWECK, STEVE A.;FERRARO, JOSEPH;MARTAKOS, PAUL;AND OTHERS;REEL/FRAME:019336/0418;SIGNING DATES FROM 20070514 TO 20070522 Owner: ATRIUM MEDICAL CORPORATION, NEW HAMPSHIRE PartyType: owner
US9492596 BB	20070523	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:HERWECK, STEVE A.;FERRARO, JOSEPH;MARTAKOS, PAUL;AND OTHERS;SIGNING DATES FROM 20070514 TO 20070522;REEL/FRAME:019336/0418 Owner: ATRIUM MEDICAL CORPORATION, NEW HAMPSHIRE PartyType: owner
US9492596 BB	20150715		RFE1	Docketed New Case - Ready for Examination	
US9492596 BB	20161026	LSGT	PAT1	Patented Case	
US9492596 BB	20161115	LSGT	+	granted / extensions (spc, cpc, pte)	
US9492596 BB	20200415	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 4
US9492596 BB	20280711	PEXP		Calculated Patent Term Expiry (PTA 525 days)	
US9592324 BB	20080207	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:HERWECK, STEVE A., MR.;FERRARO, JOSEPH, MR.;MARTAKOS, PAUL, MR.;AND OTHERS;REEL/FRAME:020474/0592;SIGNING DATES FROM 20080122 TO 20080124 Owner: ATRIUM MEDICAL CORPORATION, NEW HAMPSHIRE PartyType: owner
US9592324 BB	20080207	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:HERWECK, STEVE A., MR.;FERRARO, JOSEPH, MR.;MARTAKOS, PAUL, MR.;AND OTHERS;SIGNING DATES FROM 20080122 TO 20080124;REEL/FRAME:020474/0592 Owner: ATRIUM MEDICAL CORPORATION, NEW HAMPSHIRE PartyType: owner
US9592324 BB	20150730	LSES	NFA1	Non Final Action Mailed	
US9592324 BB	20151208		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	

US9592324 BB	20170222	LSGT	PAT1	Patented Case	
US9592324 BB	20170314	LSGT	+	granted / extensions (spc, cpc, pte)	
US9592324 BB	20200813	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 4
US9592324 BB	20310222	PEXP		Calculated Patent Term Expiry (PTA 1211 days and a terminal disclaimer has been filed)	
US9682175 BB	20170531	LSGT	PAT1	Patented Case	
US9682175 BB	20170620	LSGT	+	granted / extensions (spc, cpc, pte)	
US9682175 BB	20250928	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US9801913 BB	20051222	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:FERRARO, JOSEPH;ROGERS, LISA;MARTAKOS, PAUL;AND OTHERS;REEL/FRAME:017142/0726;SIGNING DATES FROM 20051208 TO 20051215 Owner: ATRIUM MEDICAL CORPORATION, NEW HAMPSHIRE PartyType: owner
US9801913 BB	20051222	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:FERRARO, JOSEPH;ROGERS, LISA;MARTAKOS, PAUL;AND OTHERS;SIGNING DATES FROM 20051208 TO 20051215;REEL/FRAME:017142/0726 Owner: ATRIUM MEDICAL CORPORATION, NEW HAMPSHIRE PartyType: owner
US9801913 BB	20151201	LSES	ADV1	Advisory Action Mailed	
US9801913 BB	20171011	LSGT	PAT1	Patented Case	
US9801913 BB	20171031	LSGT	+	granted / extensions (spc, cpc, pte)	
US9801913 BB	20270923	PEXP		Calculated Patent Term Expiry (PTA 725 days and a terminal disclaimer has been filed)	
US9801982 BB	20080430	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:HERWECK, STEVE A.;FERRARO, JOSEPH;MARTAKOS, PAUL;AND OTHERS;REEL/FRAME:020883/0328;SIGNING DATES FROM 20080409 TO 20080415 Owner: ATRIUM MEDICAL CORPORATION, NEW HAMPSHIRE PartyType: owner
US9801982 BB	20080430	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:HERWECK, STEVE A.;FERRARO, JOSEPH;MARTAKOS, PAUL;AND OTHERS;SIGNING DATES FROM 20080409 TO 20080415;REEL/FRAME:020883/0328 Owner: ATRIUM MEDICAL CORPORATION,NEW HAMPSHIRE PartyType: owner
US9801982 BB	20080430	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:HERWECK, STEVE A.;FERRARO, JOSEPH;MARTAKOS, PAUL;AND OTHERS;SIGNING DATES FROM 20080409 TO 20080415;REEL/FRAME:020883/0328 Owner: ATRIUM MEDICAL CORPORATION, NEW HAMPSHIRE PartyType: owner
US9801982 BB	20150803	LSES	NFA1	Non Final Action Mailed	
US9801982 BB	20171011	LSGT	PAT1	Patented Case	
US9801982 BB	20171031	LSGT	+	granted / extensions (spc, cpc, pte)	
US9801982 BB	20270423	PEXP		Calculated Patent Term Expiry (PTA 572 days and a terminal disclaimer has been filed)	
US9827352 BB	20150421		RFE1	Docketed New Case - Ready for Examination	
US9827352 BB	20171128	LSGT	+	granted / extensions (spc, cpc, pte)	
US9827352 BB	20250928	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	

US9827353 BB	20150504		RFE1	Docketed New Case - Ready for Examination	
US9827353 BB	20171128	LSGT	+	granted / extensions (spc, cpc, pte)	
US9827353 BB	20250928	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US9844611 BB	20171129	LSGT	PAT1	Patented Case	
US9844611 BB	20171219	LSGT	+	granted / extensions (spc, cpc, pte)	
US9844611 BB	20250928	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
WO06036964 A2	20060406	LSPB	+	published / reissued	
WO06036964 A2	20060406		+AK	DESIGNATED STATES	Kind code of Ref document: A2 Country of Ref document: AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KM KP KR KZ LC LK LR LS LT LU LV LY MA MD MG MK MN MW MX MZ NA NG NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SM SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW
WO06036964 A2	20060406		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A2 Country of Ref document: AM AT AZ BE BF BG BJ BW BY CF CG CH CI CM CY CZ DE DK EE ES FI FR GA GB GH GM GN GQ GR GW HU IE IS IT KE KG KZ LS LT LU LV MC MD ML MR MW MZ NA NE NL PL PT RO RU SD SE SI SK SL SN SZ TD TG TJ TM TR TZ UG ZM ZW
WO06036964 A3	20061025		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO06036964 A3	20070329	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO06036964 A3	20070425	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2005804291 Country of Ref document: EP
WO06036964 A3	20070801	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 2005804291 Country of Ref document: EP
WO06036967 A1	20060406	LSPB	+	published / reissued	
WO06036967 A1	20060406		+AK	DESIGNATED STATES	Kind code of Ref document: A1 Country of Ref document: AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KM KP KR KZ LC LK LR LS LT LU LV LY MA MD MG MK MN MW MX MZ NA NG NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SM SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW
WO06036967 A1	20060406		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A1 Country of Ref document: AM AT AZ BE BF BG BJ BY CF CG CH CI CM CY CZ DE DK EE ES FI FR GA GB GM GN GQ GR GW HU IE IS IT KE KG KZ LS LT LU LV MC MD ML MR MW MZ NA NE NL PL PT RO RU SD SE SI SK SL SN SZ TD TG TJ TM TR TZ UG ZM ZW
WO06036967 A1	20060920		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO06036967 A1	20070329	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO06036967 A1	20071121	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	Kind code of Ref document: A1 Ref document number: 05802120 Country of Ref document: EP
WO06036969 A2	20060406	LSPB	+	published / reissued	
WO06036969 A2	20060406		+AK	DESIGNATED STATES	Kind code of Ref document: A2 Country of Ref document: AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KM KP KR KZ LC LK LR LS LT LU LV LY MA MD MG MK MN MW MX MZ NA NG NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SM SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW
WO06036969 A2	20060406		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A2 Country of Ref document: AM AT AZ BE BF BG BJ BW BY CF CG CH CI CM CY CZ DE DK EE ES FI FR GA GB GH GM GN GQ GR GW HU IE IS IT KE KG KZ LS LT LU LV MC MD ML MR MW MZ NA NE NL PL PT RO RU SD SE SI SK SL SN SZ TD TG TJ TM TR TZ UG ZM ZW
WO06036969 A2	20060920		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO06036969 A3	20070215		DPE1	REQUEST FOR PRELIMINARY EXAMINATION FILED AFTER EXPIRATION OF 19TH MONTH FROM PRIORITY DATE (PCT APPLICATION FILED	

				FROM 20040101)	
WO06036969 A3	20070329	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO06036969 A3	20071114	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	Kind code of Ref document: A2 Ref document number: 05800777 Country of Ref document: EP
WO06036970 A2	20060406	LSPB	+	published / reissued	
WO06036970 A2	20060406		+AK	DESIGNATED STATES	Kind code of Ref document: A2 Country of Ref document: AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KM KP KR KZ LC LK LR LS LT LU LV LY MA MD MG MK MN MW MX MZ NA NG NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SM SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW
WO06036970 A2	20060406		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A2 Country of Ref document: AM AT AZ BE BF BG BJ BW BY CF CG CH CI CM CY CZ DE DK EE ES FI FR GA GB GH GM GN GQ GR GW HU IE IS IT KE KG KZ LS LT LU LV MC MD ML MR MW MZ NA NE NL PL PT RO RU SD SE SI SK SL SN SZ TD TG TJ TM TR TZ UG ZM ZW
WO06036970 A3	20061012		DPE1	REQUEST FOR PRELIMINARY EXAMINATION FILED AFTER EXPIRATION OF 19TH MONTH FROM PRIORITY DATE (PCT APPLICATION FILED FROM 20040101)	
WO06036970 A3	20061025		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO06036970 A3	20070329	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO06036970 A3	20070829	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	Ref country code: WO
WO06036982 A2	20060406	LSPB	+	published / reissued	
WO06036982 A2	20060406		+AK	DESIGNATED STATES	Kind code of Ref document: A2 Country of Ref document: AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KM KP KR KZ LC LK LR LS LT LU LV LY MA MD MG MK MN MW MX MZ NA NG NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SM SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW
WO06036982 A2	20060406		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A2 Country of Ref document: AM AT AZ BE BF BG BJ BW BY CF CG CH CI CM CY CZ DE DK EE ES FI FR GA GB GH GM GN GQ GR GW HU IE IS IT KE KG KZ LS LT LU LV MC MD ML MR MW MZ NA NE NL PL PT RO RU SD SE SI SK SL SN SZ TD TG TJ TM TR TZ UG ZM ZW
WO06036982 A2	20061025		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO06036982 A2	20070329	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO06036982 A2	20070425	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2005804960 Country of Ref document: EP
WO06036982 A2	20070711	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 2005804960 Country of Ref document: EP
WO06036983 A2	20060406	LSPB	+	published / reissued	
WO06036983 A2	20060406		+AK	DESIGNATED STATES	Kind code of Ref document: A2 Country of Ref document: AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KM KP KR KZ LC LK LR LS LT LU LV LY MA MD MG MK MN MW MX MZ NA NG NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SM SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW
WO06036983 A2	20060406		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A2 Country of Ref document: AM AT AZ BE BF BG BJ BW BY CF CG CH CI CM CY CZ DE DK EE ES FI FR GA GB GH GM GN GQ GR GW HU IE IS IT KE KG KZ LS LT LU LV MC MD ML MR MW MZ NA NE NL PL PT RO RU SD SE SI SK SL SN SZ TD TG TJ TM TR TZ UG ZM ZW
WO06036983 A3	20061025		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO06036983 A3	20061221		DPE1	REQUEST FOR PRELIMINARY EXAMINATION FILED AFTER EXPIRATION OF 19TH MONTH FROM PRIORITY DATE (PCT APPLICATION FILED FROM 20040101)	
WO06036983 A3	20070329	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE

WO06036983 A3	20071121	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	Kind code of Ref document: A2 Ref document number: 05802121 Country of Ref document: EP
WO06036984 A2	20060406	LSPB	+	published / reissued	
WO06036984 A2	20060406		+AK	DESIGNATED STATES	Kind code of Ref document: A2 Country of Ref document: AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KM KP KR KZ LC LK LR LS LT LU LV LY MA MD MG MK MN MW MX MZ NA NG NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SM SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW
WO06036984 A2	20060406		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A2 Country of Ref document: AM AT AZ BE BF BG BJ BY CF CG CH CI CM CY CZ DE DK EE ES FI FR GA GB GM GN GQ GR GW HU IE IS IT KE KG KZ LS LT LU LV MC MD ML MR MW MZ NA NE NL PL PT RO RU SD SE SI SK SL SN SZ TD TG TJ TM TR TZ UG ZM ZW
WO06036984 A3	20060920		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO06036984 A3	20070329	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO06036984 A3	20070425	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2005802894 Country of Ref document: EP
WO06036984 A3	20070801	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 2005802894 Country of Ref document: EP
WO06037049 A2	20060406	LSPB	+	published / reissued	
WO06037049 A2	20060406		+AK	DESIGNATED STATES	Kind code of Ref document: A2 Country of Ref document: AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KM KP KR KZ LC LK LR LS LT LU LV LY MA MD MG MK MN MW MX MZ NA NG NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SM SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW
WO06037049 A2	20060406		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A2 Country of Ref document: AM AT AZ BE BF BG BJ BW BY CF CG CH CI CM CY CZ DE DK EE ES FI FR GA GB GH GM GN GQ GR GW HU IE IS IT KE KG KZ LS LT LU LV MC MD ML MR MW MZ NA NE NL PL PT RO RU SD SE SI SK SL SN SZ TD TG TJ TM TR TZ UG ZM ZW
WO06037049 A3	20060920		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO06037049 A3	20070329	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO06037049 A3	20071121	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	Kind code of Ref document: A2 Ref document number: 05800825 Country of Ref document: EP
WO06037080 A2	20060406	LSPB	+	published / reissued	
WO06037080 A2	20060406		+AK	DESIGNATED STATES	Kind code of Ref document: A2 Country of Ref document: AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KM KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NA NG NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SM SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW
WO06037080 A2	20060406		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A2 Country of Ref document: AM AT AZ BE BF BG BJ BW BY CF CG CH CI CM CY CZ DE DK EE ES FI FR GA GB GH GM GN GQ GR GW HU IE IS IT KE KG KZ LS LT LU MC MD ML MR MW MZ NA NE NL PL PT RO RU SD SE SI SK SL SN SZ TD TG TJ TM TR TZ UG ZM ZW
WO06037080 C1	20061025		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO06037080 C1	20070329	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO06037080 C1	20070425	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2005800844 Country of Ref document: EP
WO06037080 C1	20070822	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 2005800844 Country of Ref document: EP
WO07011385 A2	20070125	LSPB	+	published / reissued	
WO07011385 A3	20070329	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO07011385 A3	20070425	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2005858430 Country of Ref document: EP
WO07011385 A3	20070502		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO07011385 A3	20070801	LSPB	+WWP	WIPO INFORMATION:	Ref document number: 2005858430

WO07047028 A1	20070426	LSPB	+	PUBLISHED IN NATIONAL OFFICE published / reissued	Country of Ref document: EP
WO07047028 A1	20070725		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO07047028 A1	20080415	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO07047028 A1	20081203	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	Kind code of Ref document: A1 Ref document number: 06815294 Country of Ref document: EP
WO07047781 A2	20070426	LSPB	+	published / reissued	
WO07047781 A2	20070725		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO07047781 A3	20080221		DPE1	REQUEST FOR PRELIMINARY EXAMINATION FILED AFTER EXPIRATION OF 19TH MONTH FROM PRIORITY DATE (PCT APPLICATION FILED FROM 20040101)	
WO07047781 A3	20080331	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2006826208 Country of Ref document: EP
WO07047781 A3	20080414	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 2626030 Country of Ref document: CA
WO07047781 A3	20080414	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 2008535802 Country of Ref document: JP
WO07047781 A3	20080416	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO07047781 A3	20080417	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2006304590 Country of Ref document: AU
WO07047781 A3	20080508	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Date of Ref document: 20061016 Kind code of Ref document: A Ref document number: 2006304590 Country of Ref document: AU
WO08039308 A2	20080403	LSPB	+	published / reissued	
WO08039308 A2	20080528		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A2 Ref document number: 07838216 Country of Ref document: EP
WO08039308 A2	20090318	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2663741 Country of Ref document: CA
WO08039308 A2	20090319	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 2009529197 Country of Ref document: JP
WO08039308 A2	20090319	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2007300608 Country of Ref document: AU
WO08039308 A2	20090323	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 1635/CHENP/2009 Country of Ref document: IN
WO08039308 A2	20090324	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO08039308 A2	20090331	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2007838216 Country of Ref document: EP
WO08039308 A2	20090423	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Date of Ref document: 20070914 Kind code of Ref document: A Ref document number: 2007300608 Country of Ref document: AU
WO08039308 A3	20131112	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Effective date: 20090320 Kind code of Ref document: A2 Ref document number: PI0717412 Country of Ref document: BR
WO08057328 A2	20080515	LSPB	+	published / reissued	
WO08057328 A2	20080702		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A2 Ref document number: 07861569 Country of Ref document: EP
WO08057328 A2	20090507	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE

WO08057328 A3	20091209	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	Kind code of Ref document: A2 Ref document number: 07861569 Country of Ref document: EP
WO08057344 A2	20080515	LSPB	+	published / reissued	
WO08057344 A2	20080702		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A2 Ref document number: 07867319 Country of Ref document: EP
WO08057344 A2	20090501	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 2009535299 Country of Ref document: JP
WO08057344 A2	20090507	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO08057344 A3	20090604	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2007867319 Country of Ref document: EP
WO08057344 A3	20090903		DPE1	REQUEST FOR PRELIMINARY EXAMINATION FILED AFTER EXPIRATION OF 19TH MONTH FROM PRIORITY DATE (PCT APPLICATION FILED FROM 20040101)	
WO08097418 A2	20080814	LSPB	+	published / reissued	
WO08097418 A2	20081001		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A2 Ref document number: 08705613 Country of Ref document: EP
WO08097418 A3	20090804	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO08097418 A3	20100303	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	Kind code of Ref document: A2 Ref document number: 08705613 Country of Ref document: EP
WO09018313 A1	20090205	LSPB	+	published / reissued	
WO09018313 A1	20090401		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A1 Ref document number: 08796836 Country of Ref document: EP
WO09018313 A1	20100202	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO09018313 A1	20100226	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2008796836 Country of Ref document: EP
WO09018313 A1	20101021		DPE1	REQUEST FOR PRELIMINARY EXAMINATION FILED AFTER EXPIRATION OF 19TH MONTH FROM PRIORITY DATE (PCT APPLICATION FILED FROM 20040101)	
WO09018325 A1	20090205	LSPB	+	published / reissued	
WO09018325 A1	20090401		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A1 Ref document number: 08782511 Country of Ref document: EP
WO09018325 A1	20090709		DPE1	REQUEST FOR PRELIMINARY EXAMINATION FILED AFTER EXPIRATION OF 19TH MONTH FROM PRIORITY DATE (PCT APPLICATION FILED FROM 20040101)	
WO09018325 A1	20100202	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO09018325 A1	20100226	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2008782511 Country of Ref document: EP
WO09018325 A1	20100429		DPE1	REQUEST FOR PRELIMINARY EXAMINATION FILED AFTER EXPIRATION OF 19TH MONTH FROM PRIORITY DATE (PCT APPLICATION FILED FROM 20040101)	
WO10042134 A1	20081203	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 200880132279.1 Country of Ref document: CN

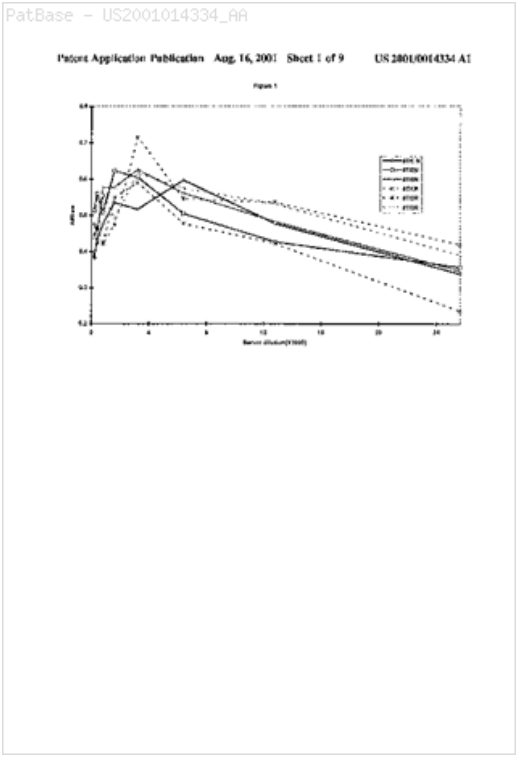
WO10042134 A1	20100415	LSPB	+	published / reissued	
WO10042134 A1	20100602		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A1 Ref document number: 08877338 Country of Ref document: EP
WO10042134 A1	20110407	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2011531009 Country of Ref document: JP
WO10042134 A1	20110411	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO10042134 A1	20110506	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 3394/DELNP/2011 Country of Ref document: IN
WO10042134 A1	20110509		+REEP	REQUEST FOR ENTRY INTO THE EUROPEAN PHASE	Ref document number: 2008877338 Country of Ref document: EP
WO10042134 A1	20110509	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2008877338 Country of Ref document: EP
WO10042241 A1	20090317	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 200980149358.8 Country of Ref document: CN
WO10042241 A1	20100415	LSPB	+	published / reissued	
WO10042241 A1	20100602		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A1 Ref document number: 09819594 Country of Ref document: EP
WO10042241 A1	20110407	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2011531038 Country of Ref document: JP
WO10042241 A1	20110411	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO10042241 A1	20110506	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 3395/DELNP/2011 Country of Ref document: IN
WO10042241 A1	20110509	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2009819594 Country of Ref document: EP
WO10104790 A2	20100916	LSPB	+	published / reissued	
WO10104790 A2	20101110		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A2 Ref document number: 10751242 Country of Ref document: EP
WO10104790 A2	20120411	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	Kind code of Ref document: A2 Ref document number: 10751242 Country of Ref document: EP
WO11049833 A1	20101015	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 201080047130.0 Country of Ref document: CN
WO11049833 A1	20110428	LSPB	+	published / reissued	
WO11049833 A1	20110622		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A1 Ref document number: 10825447 Country of Ref document: EP
WO11049833 A1	20120417	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2012534404 Country of Ref document: JP
WO11049833 A1	20120425	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 3605/DELNP/2012 Country of Ref document: IN
WO11049833 A1	20120512	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2010825447 Country of Ref document: EP

52) Family number: 28111796 (US2001014334 AA)

Title: METHODS AND MATERIALS FOR THE TREATMENT OF PROSTATIC CARCINOMA

Abstract: The present invention related generally to materials and methods for reduction and/or alleviation of prostatic and prostatic-related (metatastic) carcinoma via the administration of disclosed compositions, immunotherapeutic agents, or antibodies.

Classifications:
International (IPC 8-9): A61K39/00 A61K39/385 A61K39/39 A61K47/02 A61K47/36 A61P13/00 A61P13/08 A61P15/00 A61P35/00 C12N15/09 C12N9/64
International (IPC 1-7): A61K38/16 A61K39/00 A61K39/385 A61K39/39 A61K47/02 A61K47/36 A61P13/08 A61P35/00 B26F1/38 C12N15/09 C12N9/64 C14B5/00 G05B15/00
CPC: A61K2039/55505 A61K2039/55583 A61K39/0011 A61K39/001194 A61K39/39 A61P13/08 A61P15/00 A61P35/00 C12N9/6445
US: 424/184.1 424/185.1 424/193.1 424/193.100P 424/277.1 424/279.1 514/19.5 514/19.500S 514/19.8 514/19.800S 514/6



Family:

Publication number	Publication date	Application number	Application date
AT279208 E	20041015	AT19990918940T	19990430
AU199936737 A1	20000105	AU19990036737	19990430
AU199936737 A5	20000105	AU19990036737	19990430
AU771362 B2	20040318	AU19990036737	19990430
CA2335337 AA	20001215	CA19992335337	19990430
CN1313775 A	20010919	CN19998009798	19990430
DE69921130 D1	20041118	DE19996021130T	19990430
EP1087786 A1	20010404	EP19990918940	19990430
EP1087786 B1	20041013	EP19990918940	19990430
JP2002518345 T2	20020625	JP20000554399T	19990430
US2001014334 AA	20010816	US19980099017	19980617
US6280742 BA	20010828	US19980099017	19980617
WO9965521 A1	19991223	WO1999US09592	19990430

Priority:
US19980099017 19980617 WO1999US09592 19990430

Probable Assignee: ZONAGEN INC A DELAWARE CORP
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Inventor(s): (std): SEID ALLEN ; SEID C A ; SEID CHRISTOPHER ALLEN ; SINGH G ; SINGH GURPREET
Inventor(s): C A SEID ; CHRISTOPHER ALLEN SEID ; G SINGH ; GURPREET SINGH
Agent(s): RIDOUT AND MAYBEE LLP; WRAYS; WRAYS PTY LTD
Designated states: AT AU BE CA CH CN CY DE DK ES FI FR GB GR IE IT JP LI LU MC NL PT SE

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AT279208 E	20041015	LSGT	+	granted / extensions (spc, cpc, pte)	
AT279208 E	20050415	LSLE	-RER	CEASED AS TO PARAGRAPH 5 LIT. 3 LAW INTRODUCING PATENT TREATIES	
AT279208 E	20190430	PEXP		Calculated Patent Term Expiry	

AU199936737 A1	20000105	LSPB	+	published / reissued	
AU771362 B2	20040318	LSGT	+	granted / extensions (spc, cpc, pte)	
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AU771362 B2	20190430	PEXP		Calculated Patent Term Expiry	
CA2335337 AA	20001215	LSPB	+	published / reissued	
CA2335337 AA	20010427	LSES	+EEER	EXAMINATION REQUEST	
CA2335337 AA	20060501	LSLE	-FZDE	DEAD	
CN1313775 A	20010919	LSPB	+	published / reissued	
CN1313775 A	20010919	LSPB	+C06	PUBLICATION	
CN1313775 A	20011003		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
CN1313775 A	20060503	LSDW	-C20	PATENT RIGHT OR UTILITY MODEL DEEMED TO BE ABANDONED OR IS ABANDONED	
DE69921130 D1	20050915	LSWD	-8332	NO LEGAL EFFECT FOR DE	
DE69921130 D1	20050915	LSWD	-8332	NO LEGAL EFFECT FOR DE	
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EP1087786 A1	20010404	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20010112
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EP1087786 A1	20030813	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20030701
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EP1087786 B1	20050429	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: PL
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EP1087786 B1	20190430	PEXP		Calculated Patent Term Expiry	
JP2002518345 T2	20020625	LSPB	+	published / reissued	
US2001014334 AA	20010816	LSPB	+	published / reissued	
US6280742 BA	19980723	LSAS	AS	ASSIGNMENT	Effective date: 19980707 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:SEID, CHRISTOPHER ALLEN;SINGH, GURPREET;REEL/FRAME:009340/0549 Owner: ZONAGEN, INC., A DELAWARE CORPORATION, TEXAS PartyType: owner
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US6280742 BA	20180617	PEXP		Calculated Patent Term Expiry	
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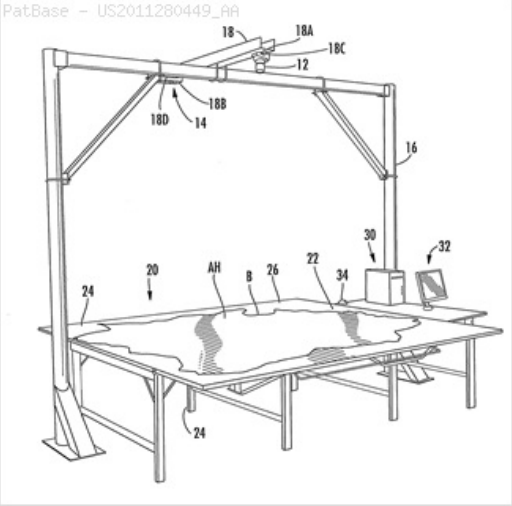
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WO9965521 A1	19991223		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A1 Country of Ref document: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
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WO9965521 A1	20000309		DFPE	REQUEST FOR PRELIMINARY EXAMINATION FILED PRIOR TO EXPIRATION OF 19TH MONTH FROM PRIORITY DATE (PCT APPLICATION FILED BEFORE 20040101)	
WO9965521 A1	20001215	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 2335337 Country of Ref document: CA
WO9965521 A1	20001218	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 2000 554399 Country of Ref document: JP
WO9965521 A1	20001220	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 36737/99 Country of Ref document: AU
WO9965521 A1	20010112	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 1999918940 Country of Ref document: EP
WO9965521 A1	20010404	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 1999918940 Country of Ref document: EP
WO9965521 A1	20040701	LSGT	+WWG	WIPO INFORMATION: GRANT IN NATIONAL OFFICE	Ref document number: 36737/99 Country of Ref document: AU
WO9965521 A1	20041013	LSGT	+WWG	WIPO INFORMATION: GRANT IN NATIONAL OFFICE	Ref document number: 1999918940 Country of Ref document: EP

53) Family number: 49952112 (US2011280449 AA)

Title: SYSTEMS AND METHODS FOR **PROCESSING** OF COVERINGS SUCH AS LEATHER HIDES AND FABRICS FOR FURNITURE AND OTHER **PRODUCTS**

Abstract: Methods and systems for **processing** coverings such as leather hides and fabrics are provided. A system can include a worktable having a surface on which a covering is placeable. An imaging device can be positionable relative to the worktable. The imaging device can be configured to obtain an image of the covering on the surface of the worktable. A projector can be positionable relative to worktable. The projector can be configured to project an image onto the surface of the worktable and the covering on the surface of the worktable. A controller can be in communication with the imaging device and projector. The controller can be configured to correct images taken by the imaging device. The controller can also be configured to correct the images projected onto the surface of the worktable and the covering thereon. The controller can be configured to permit the showing of virtual markings on the covering placed on the surface of the worktable through an image projected thereon by the projector. The covering can then be marked or cut along the virtual markings.

Classifications:
International (IPC 8-9): B26D5/00 B26F1/38 B65H9/00 C14B1/00 C14B1/28 C14B13/00 C14B17/00 C14B5/00 D06H3/04 D06H5/00 D06H7/00 G01N33/44 G03B15/00 G03B17/54 G03B21/14 G06K9/00 G06K9/32 G06K9/42
CPC: B26D5/007 B26F1/3813 C14B17/16 C14B5/00 D06H3/04 D06H5/00 D06H7/00 G03B15/00 G03B17/54 G03B21/147 G06K9/3275 G06T5/006 G03B21/14 G06K9/42 B26D2005/002 B65H2511/413 B65H2553/42 B65H2553/46 B65H2701/178 B65H9/00 B65H2220/01
US: 1/1 348/95 353/121 353/121S 353/28 353/28S 382/111 382/111P



Family:

Publication number	Publication date	Application number	Application date
EP2569454 A2	20130320	EP20110781341	20110513
EP2569454 A4	20151104	EP20110781341	20110513
MX2012013238 A1	20130405	MX20120013238	20110513
US2011280449 AA	20111117	US20100780646	20100514
US8295555 BB	20121023	US20100780646	20100514
US2013163826 AA	20130627	US20120656875	20121022
US8811678 BB	20140819	US20120656875	20121022
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US9157182 BB	20151013	US20120658804	20121023
US2013177215 AA	20130711	US20120658810	20121023
US9421692 BB	20160823	US20120658810	20121023
WO11143543 A2	20111117	WO2011US36416	20110513
WO11143543 A3	20120518	WO2011US36416	20110513

Priority:
US20100780646 20100514 WO2011US36416 20110513 US20120656875 20121022
US20120658804 20121023 US20120658810 20121023

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Inventor(s): (std): CAMPBELL JR ROBERT L ; CAMPBELL JR ROBERT LEROY ; CAMPBELL ROBERT L ; CAMPBELL ROBERT LEROY JR ; LEONARD CHARLES A ; LEONARD CHARLES ANTHONY ; MILLER ROBERT L ; MILLER ROBERT LEE

Inventor(s): CHARLES ANTHONY LEONARD ; ROBERT LEE MILLER ; ROBERT LEROY CAMPBELL JR

Agent(s): J BENNETT MULLINAX LLC; ROBERTSON JAMES ALEXANDER; WILSON JEFFREY L

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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
EP2569454 A2	20130320	LSPB	+	published / reissued	
EP2569454 A2	20130320	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20121214
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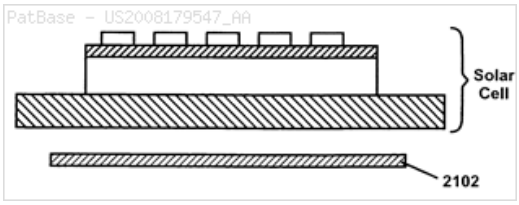
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US2013176422 AA	20130711	LSPB	+	published / reissued	
US2013176422 AA	20150707	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:CAMPBELL, ROBERT L.;LEONARD, CHARLES A.;MILLER, ROBERT L.;SIGNING DATES FROM 20140709 TO 20140801;REEL/FRAME:036010/0407 Owner: AUTOMATED VISION, LLC, NORTH CAROLINA PartyType: owner
US2013176422 AA	20150923	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2013177215 AA	20130711	LSPB	+	published / reissued	
US2013177215 AA	20160329	LSAS	AS	ASSIGNMENT	Effective date: 20140709 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:CAMPBELL, ROBERT L;LEONARD, CHARLES A;MILLER, ROBERT L;REEL/FRAME:038125/0827 Owner: AUTOMATED VISION LLC, NORTH CAROLINA PartyType: owner
US2013177215 AA	20160803	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US8295555 BB	20101027	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:CAMPBELL, JR., ROBERT L.;LEONARD, CHARLES A.;MILLER, ROBERT L.;SIGNING DATES FROM 20100913 TO 20100916;REEL/FRAME:025207/0865 Owner: AUTOMATED VISION, LLC, NORTH CAROLINA PartyType: owner
US8295555 BB	20121003	LSGT	PAT1	Patented Case	
US8295555 BB	20121023	LSGT	+	granted / extensions (spc, cpc, pte)	
US8295555 BB	20160603		REMI	MAINTENANCE FEE REMINDER MAILED	
US8295555 BB	20161019	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US8295555 BB	20161019		+SULP	SURCHARGE FOR LATE PAYMENT	
US8295555 BB	20191230	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 8
US8295555 BB	20310211	PEXP		Calculated Patent Term Expiry (PTA 273 days)	
US8811678 BB	20140730	LSGT	PAT1	Patented Case	
US8811678 BB	20140819	LSGT	+	granted / extensions (spc, cpc, pte)	
US8811678 BB	20180402	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.)
US8811678 BB	20180823	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: SURCHARGE FOR LATE PAYMENT, SMALL ENTITY (ORIGINAL EVENT CODE: M2554); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US8811678 BB	20180823	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 4
US8811678 BB	20300514	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has	

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US9157182 BB	20150923	LSGT	PAT1	Patented Case	
US9157182 BB	20151013	LSGT	+	granted / extensions (spc, cpc, pte)	
US9157182 BB	20190603	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US9157182 BB	20190719	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: SURCHARGE FOR LATE PAYMENT, SMALL ENTITY (ORIGINAL EVENT CODE: M2554); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US9157182 BB	20190719	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 4
US9157182 BB	20300831	PEXP		Calculated Patent Term Expiry (PTA 109 days)	
US9421692 BB	20151110		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US9421692 BB	20160409		RFE1	Docketed New Case - Ready for Examination	
US9421692 BB	20160803	LSGT	PAT1	Patented Case	
US9421692 BB	20160823	LSGT	+	granted / extensions (spc, cpc, pte)	
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US9421692 BB	20310506	PEXP		Calculated Patent Term Expiry (PTA 357 days)	
WO11143543 A2	20111117	LSPB	+	published / reissued	
WO11143543 A2	20120104		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A2 Ref document number: 11781341 Country of Ref document: EP
WO11143543 A3	20121114	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO11143543 A3	20121114	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: MX/A/2012/013238 Country of Ref document: MX
WO11143543 A3	20121214		+REEP	REQUEST FOR ENTRY INTO THE EUROPEAN PHASE	Ref document number: 2011781341 Country of Ref document: EP
WO11143543 A3	20121214	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2011781341 Country of Ref document: EP

54) Family number: 42001074 (US2008179547 AA)

Title: METHOD AND STRUCTURE FOR FABRICATING SOLAR **CELLS** USING A THICK LAYER TRANSFER **PROCESS**

Abstract: A photovoltaic **cell** device, e.g., solar **cell**, solar panel, and method of manufacture. The device has an optically transparent substrate comprises a first surface and a second surface. A first thickness of material (e.g., semiconductor material, single crystal material) having a first surface region and a second surface region is included. In a preferred embodiment, the surface region is overlying the first surface of the optically transparent substrate. The device has an optical coupling material provided between the first surface region of the thickness of material and the first surface of the optically transparent material.



Classifications:
International (IPC 8-9): B26D7/08 B26D7/10 B26F3/00 B26F3/06 B26F3/16 B28D5/00 B28D5/02 G21K5/00 H01L21/02 H01L21/265 H01L21/268 H01L21/30 H01L21/301 H01L21/304 H01L21/46 H01L21/66 H01L21/67 H01L21/683 H01L21/70 H01L21/762 H01L21/78 H01L31/00 H01L31/0392 H01L31/04 H01L31/042 H01L31/068 H01L31/0687 H01L31/18
International (IPC 1-7): H01B5/14 H01L31/00
CPC: H01L21/76254 H01L31/03921 H01L31/068 H01L31/0687 H01L31/1804 Y02E10/544 Y02E10/547 Y02P70/50 B26F3/004 B26F3/16 H01L31/18 Y10T83/041 Y10T83/283 B26F3/002 H01L21/304 H01L21/67 H01L21/67092 H01L21/683 H01L21/6835 H01L21/7813 H01L22/12 H01L31/1892 Y02E10/52 Y10T225/10 Y10T225/30 Y10T225/393
US: 1/1 225/1 225/106 225/2 225/93 250/492.21 250/492.210P 257/E21.001 257/E21.001S 257/E21.211 257/E21.211S 257/E21.237 257/E21.237S 257/E21.347 257/E21.347S 257/E21.599 257/E31.001 257/E31.001S 257/E31.13 257/E31.130S 29/25.01 29/25.010S 438/14 438/458 438/458S 438/459 438/460 438/460P 438/463 438/463P 438/464 438/520 438/528 438/57 438/57S 438/71 438/71P 83/15 83/170

Family:

Publication number	Publication date	Application number	Application date
CN101473446 A	20090701	CN200780022933	20070910
CN101473446 B	20120627	CN200780022933	20070910
CN101577296 A	20091111	CN200910138229	20090507
CN101577296 B	20131225	CN200910138229	20090507
CN101969046 A	20110209	CN200910253027	20090827
EP2082434 A2	20090729	EP20070871066	20070910
EP2117053 A2	20091111	EP20090159711	20090507
EP2117053 A3	20150121	EP20090159711	20090507
EP2169730 A2	20100331	EP20090275067	20090827
EP2169730 A3	20150121	EP20090275067	20090827
IN10247DN2008 A	20090327	IN2008DN10247	20081210
IN00933DE2009 A	20100430	IN2009DE00933	20090506
JP2009295973 A2	20091217	JP20090112501	20090507
JP2010103488 A2	20100506	JP20090194807	20090825
JP2010503239 T2	20100128	JP200905276097	20070910
KR20090025257 A	20090310	KR20087031257	20081223
KR101656097 B1	20160908	KR20090039968	20090507
KR20090116660 A	20091111	KR20090039968	20090507
KR20100027046 A	20100310	KR20090080240	20090828
US2008179547 AA	20080731	US20070852088	20070907
US7811900 BB	20101012	US20070852088	20070907
US2009277314 AA	20091112	US20090435230	20090504
US9362439 BB	20160607	US20090435230	20090504
US2010055874 AA	20100304	US20090460898	20090724
US8293619 BB	20121023	US20090460898	20090724
US2010178723 AA	20100715	US20100730113	20100323
US8110480 BB	20120207	US20100730113	20100323
US2012058624 AA	20120308	US20110209371	20110813
US8563402 BB	20131022	US20110209371	20110813
US2012234887 AA	20120920	US20110225172	20110902
US8993410 BB	20150331	US20110225172	20110902
US2015155422 AA	20150604	US20150618940	20150210
US9356181 BB	20160531	US20150618940	20150210
US2016247958 AA	20160825	US20160145714	20160503
US2016276522 AA	20160922	US20160167291	20160527
US9640711 BB	20170502	US20160167291	20160527
US2019326467 AA	20191024	US20190504168	20190705
WO08082723 A2	20080710	WO2007US78023	20070910
WO08082723 A3	20081030	WO2007US78023	20070910

Priority:

US20060825095P 20060908 US20070852088 20070907 WO2007US78023 20070910
US20080051307P 20080507 US20080092683P 20080828 US20090435230 20090504
US20090460898 20090724 US20100730113 20100323 US20110209371 20110813
US20110225172 20110902 US20150618940 20150210 US20160145714 20160503
US20160167291 20160527 US20190504168 20190705

Probable Assignee: SILICON GENESIS CORP

Assignee(s): (std): CHOW YI LEI ; HENLEY FRANCOIS ; HENLEY FRANCOIS J ; LAMM AL ; SILICON GENESIS CORP

Assignee(s): SILICON GENESIS CORPROATION

Inventor(s): (std): CHOW YI LEI ; FRANCOIS J HENLEY ; HENLEY FRANCOIS ; HENLEY FRANCOIS J ; LAMM AL

Agent(s): FUJITA KAZUKO; HATZMANN MARTIN; KILPATRICK TOWNSEND AND STOCKTON LLP; TOBIN KENT J ET AL; TOWNSEND AND TOWNSEND AND CREW LLP; WILSON GUNN

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 ZA ZM ZW

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
CN101473446 A	20090701	LSPB	+	published / reissued	
CN101473446 A	20090701	LSPB	+C06	PUBLICATION	
CN101473446 A	20090923		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
CN101473446 B	20120627	LSGT	+	granted / extensions (spc, cpc, pte)	
CN101473446 B	20120627	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN101473446 B	20270910	PEXP		Calculated Patent Term Expiry	
CN101577296 A	20091111	LSPB	+	published / reissued	
CN101577296 A	20091111	LSPB	+C06	PUBLICATION	
CN101577296 A	20110629		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
CN101577296 B	20131225	LSGT	+	granted / extensions (spc, cpc, pte)	
CN101577296 B	20131225	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN101577296 B	20290507	PEXP		Calculated Patent Term Expiry	
CN101969046 A	20110209	LSPB	+	published / reissued	
CN101969046 A	20110209	LSPB	+C06	PUBLICATION	
CN101969046 A	20110323		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
CN101969046 A	20131023	LSDW	-C02	DEEMED WITHDRAWAL OF PATENT APPLICATION AFTER PUBLICATION (PATENT LAW 2001)	
EP2082434 A2	20090729	LSPB	+	published / reissued	
EP2082434 A2	20090729	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20081215
EP2082434 A2	20090729		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC MT NL PL PT RO SE SI SK TR
EP2082434 A2	20091216		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP2082434 A2	20150422	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	Owner: SILICON GENESIS CORPORATION PartyType: owner
EP2082434 A2	20170920	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 20170401
EP2117053 A2	20091111	LSPB	+	published / reissued	
EP2117053 A2	20091111		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: 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 TR
EP2117053 A3	20150121		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A3 Country of Ref document: 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 TR
EP2117053 A3	20150121		+AX	REQUEST FOR	Country of Ref document: AL BA RS

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EP2117053 A3	20150121		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: H01L 21/762 20060101ALI20141217BHEP
EP2117053 A3	20150121		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: H01L 31/18 20060101AFI20141217BHEP
EP2117053 A3	20150422	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	Owner: SILICON GENESIS CORPORATION PartyType: owner
EP2117053 A3	20160316	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 20150722
EP2169730 A2	20100331	LSPB	+	published / reissued	
EP2169730 A2	20100331		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: 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
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EP2169730 A3	20150121		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A3 Country of Ref document: 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
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EP2169730 A3	20150121		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: H01L 21/762 20060101ALI20141217BHEP
EP2169730 A3	20150422	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	Owner: SILICON GENESIS CORPORATION PartyType: owner
EP2169730 A3	20160316	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 20150722
IN00933DE2009 A	20100430	LSPB	+	published / reissued	
IN10247DN2008 A	20090327	LSPB	+	published / reissued	
JP2009295973 A2	20091217	LSPB	+	published / reissued	
JP2009295973 A2	20120807	LSWD	-A300	WITHDRAWAL OF APPLICATION BECAUSE OF NO REQUEST FOR EXAMINATION	Effective date: 20120807 Text: JAPANESE INTERMEDIATE CODE: A300
JP2010103488 A2	20100506	LSPB	+	published / reissued	
JP2010103488 A2	20121010	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20121009 Text: JAPANESE INTERMEDIATE CODE: A131
JP2010103488 A2	20121012		A977	REPORT ON RETRIEVAL	Effective date: 20121011 Text: JAPANESE INTERMEDIATE CODE: A971007
JP2010103488 A2	20130110		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20130109 Text: JAPANESE INTERMEDIATE CODE: A601
JP2010103488 A2	20130116		A602	WRITTEN PERMISSION OF EXTENSION OF TIME	Effective date: 20130115 Text: JAPANESE INTERMEDIATE CODE: A602
JP2010103488 A2	20130209		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20130208 Text: JAPANESE INTERMEDIATE CODE: A601
JP2010103488 A2	20130215		A602	WRITTEN PERMISSION OF EXTENSION OF TIME	Effective date: 20130214 Text: JAPANESE INTERMEDIATE CODE: A602
JP2010103488 A2	20130312		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20130311 Text: JAPANESE INTERMEDIATE CODE: A601
JP2010103488 A2	20130315		A602	WRITTEN	Effective date: 20130314

				PERMISSION OF EXTENSION OF TIME	Text: JAPANESE INTERMEDIATE CODE: A602
JP2010103488 A2	20130612	LSRV	-A02	DECISION OF REFUSAL	Effective date: 20130611 Text: JAPANESE INTERMEDIATE CODE: A02
JP2010503239 T2	20100128	LSPB	+	published / reissued	
JP2010503239 T2	20101207	LSWD	-A300	WITHDRAWAL OF APPLICATION BECAUSE OF NO REQUEST FOR EXAMINATION	Effective date: 20101207 Text: JAPANESE INTERMEDIATE CODE: A300
KR101656097 B1	20160908	LSGT	+	granted / extensions (spc, cpc, pte)	
KR101656097 B1	20190812	LSFE	FPAY	ANNUAL FEE PAYMENT	Payment date: 20190812 Year of fee payment: 4
KR101656097 B1	20290507	PEXP		Calculated Patent Term Expiry	
KR20090025257 A	20081223	LSES	A201	REQUEST FOR EXAMINATION	
KR20090025257 A	20090310	LSPB	+	published / reissued	
KR20090025257 A	20100324	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR20090025257 A	20100601	LSRV	-E601	DECISION TO REFUSE APPLICATION	
KR20090116660 A	20091111	LSPB	+	published / reissued	
KR20090116660 A	20140507	LSES	A201	REQUEST FOR EXAMINATION	
KR20090116660 A	20150417	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR20090116660 A	20160226	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR20090116660 A	20160826	LSGT	+E701	DECISION TO GRANT OR REGISTRATION OF PATENT RIGHT	
KR20090116660 A	20160902	LSGT	+GRNT	WRITTEN DECISION TO GRANT	
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KR20100027046 A	20111011	LSRV	-E601	DECISION TO REFUSE APPLICATION	
US2008179547 AA	20080731	LSPB	+	published / reissued	
US2008179547 AA	20100922	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2009277314 AA	20091112	LSPB	+	published / reissued	
US2009277314 AA	20121206	LSAS	AS	ASSIGNMENT	Effective date: 20090609 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:HENLEY, FRANCOIS J.;REEL/FRAME:029422/0431 Owner: SILICON GENESIS CORPORATION, CALIFORNIA PartyType: owner
US2009277314 AA	20160518	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2010055874 AA	20100304	LSPB	+	published / reissued	
US2010055874 AA	20121003	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE

US2010178723 AA	20100715	LSPB	+	published / reissued	
US2010178723 AA	20120118	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2012058624 AA	20120308	LSPB	+	published / reissued	
US2012058624 AA	20131002	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2012234887 AA	20120920	LSPB	+	published / reissued	
US2012234887 AA	20150311	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2015155422 AA	20150604	LSPB	+	published / reissued	
US2015155422 AA	20160511	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
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US2016247958 AA	20160825	LSPB	+	published / reissued	
US2016247958 AA	20171219	LSES	NFA2	Non Final Action Counted, Not Yet Mailed	
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US2016247958 AA	20180302		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2016247958 AA	20180324	LSES	NFA2	Non Final Action Counted, Not Yet Mailed	
US2016247958 AA	20180327	LSES	NFA1	Non Final Action Mailed	
US2016247958 AA	20190103		FRM1	Final Rejection Mailed	
US2016247958 AA	20190103		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: FINAL REJECTION MAILED
US2016247958 AA	20190805	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2016247958 AA	20190805		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2016276522 AA	20160922	LSPB	+	published / reissued	
US2016276522 AA	20170412	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2019326467 AA	20190718		APP1	Application Dispatched from Preexam, Not Yet Docketed	
US2019326467 AA	20190718		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: APPLICATION DISPATCHED FROM PREEXAM, NOT YET DOCKETED
US2019326467 AA	20191024	LSPB	+	published / reissued	
US2019326467 AA	20191119		RFE1	Docketed New Case - Ready for Examination	
US2019326467 AA	20191119		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US7811900 BB	20080410	LSAS	AS	ASSIGNMENT	Effective date: 20080407 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:HENLEY,

					FRANCOIS J.;REEL/FRAME:020792/0160 Owner: SILICON GENESIS CORPORATION, CALIFORNIA PartyType: owner
US7811900 BB	20100922	LSGT	PAT1	Patented Case	
US7811900 BB	20101012	LSGT	+	granted / extensions (spc, cpc, pte)	
US7811900 BB	20140425	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
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US7811900 BB	20180528	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.)
US7811900 BB	20280519	PEXP		Calculated Patent Term Expiry (PTA 255 days)	
US8110480 BB	20120118	LSGT	PAT1	Patented Case	
US8110480 BB	20120207	LSGT	+	granted / extensions (spc, cpc, pte)	
US8110480 BB	20150918		REMI	MAINTENANCE FEE REMINDER MAILED	
US8110480 BB	20160205	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US8110480 BB	20160205		+SULP	SURCHARGE FOR LATE PAYMENT	
US8110480 BB	20190930	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US8110480 BB	20200316	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	Text: PATENT EXPIRED FOR FAILURE TO PAY MAINTENANCE FEES (ORIGINAL EVENT CODE: EXP.); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US8110480 BB	20200316	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US8110480 BB	20200316	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US8110480 BB	20200407	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20200207
US8110480 BB	20270907	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US8293619 BB	20091022	LSAS	AS	ASSIGNMENT	Effective date: 20090917 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:HENLEY, FRANCOIS J.;REEL/FRAME:023412/0272 Owner: SILICON GENESIS CORPROATION,CALIFORNIA PartyType: owner
US8293619 BB	20091022	LSAS	AS	ASSIGNMENT	Effective date: 20090917 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:HENLEY, FRANCOIS J.;REEL/FRAME:023412/0272 Owner: SILICON GENESIS CORPROATION, CALIFORNIA PartyType: owner
US8293619 BB	20121003	LSGT	PAT1	Patented Case	
US8293619 BB	20121023	LSGT	+	granted / extensions (spc, cpc, pte)	
US8293619 BB	20160603		REMI	MAINTENANCE FEE REMINDER MAILED	
US8293619 BB	20160921	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US8293619 BB	20160921		+SULP	SURCHARGE FOR LATE PAYMENT	
US8293619 BB	20200615	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY

US8293619 BB	20200618	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: 7.5 YR SURCHARGE - LATE PMT W/IN 6 MO, LARGE ENTITY (ORIGINAL EVENT CODE: M1555); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US8293619 BB	20200618	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 8
US8293619 BB	20310401	PEXP		Calculated Patent Term Expiry (PTA 616 days)	
US8563402 BB	20131002	LSGT	PAT1	Patented Case	
US8563402 BB	20131022	LSGT	+	granted / extensions (spc, cpc, pte)	
US8563402 BB	20170602		REMI	MAINTENANCE FEE REMINDER MAILED	
US8563402 BB	20170712	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US8563402 BB	20170712		+SULP	SURCHARGE FOR LATE PAYMENT	
US8563402 BB	20270907	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US8993410 BB	20111115	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:HENLEY, FRANCOIS;LAMM, AL;CHOW, YI-LEI;SIGNING DATES FROM 20111107 TO 20111110;REEL/FRAME:027231/0730 Owner: SILICON GENESIS CORPORATION, CALIFORNIA PartyType: owner
US8993410 BB	20150311	LSGT	PAT1	Patented Case	
US8993410 BB	20150331	LSGT	+	granted / extensions (spc, cpc, pte)	
US8993410 BB	20181119	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US8993410 BB	20190506	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	Text: PATENT EXPIRED FOR FAILURE TO PAY MAINTENANCE FEES (ORIGINAL EVENT CODE: EXP.); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US8993410 BB	20190506	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US8993410 BB	20190506	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US8993410 BB	20190528	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20190331
US8993410 BB	20300101	PEXP		Calculated Patent Term Expiry (PTA 847 days)	
US9356181 BB	20150729		RFE1	Docketed New Case - Ready for Examination	
US9356181 BB	20160511	LSGT	PAT1	Patented Case	
US9356181 BB	20160531	LSGT	+	granted / extensions (spc, cpc, pte)	
US9356181 BB	20200120	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US9356181 BB	20200602	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: SURCHARGE FOR LATE PAYMENT, SMALL ENTITY (ORIGINAL EVENT CODE: M2554); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US9356181 BB	20200602	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 4
US9356181 BB	20270907	PEXP		Calculated Patent Term Expiry	
US9362439 BB	20151011		RSP4	Response to Non-Final Office Action Entered and	

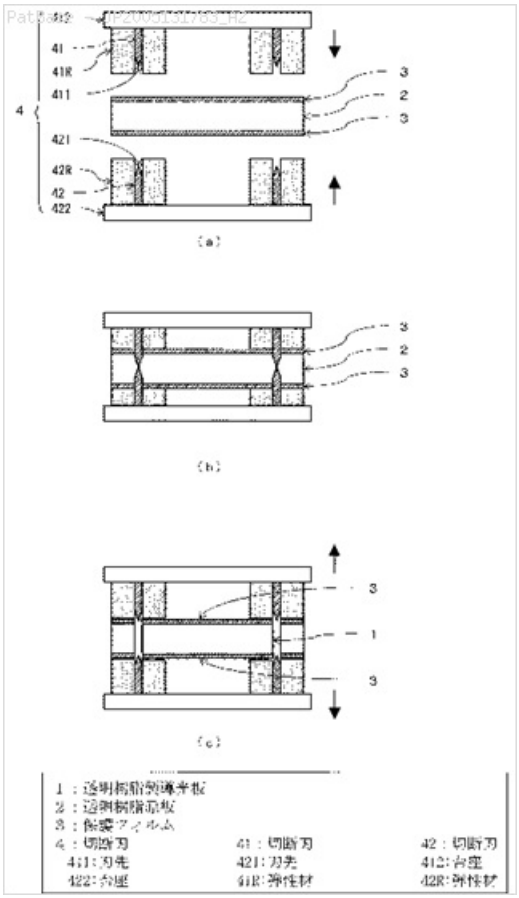
				Forwarded to Examiner	
US9362439 BB	20151209		EQA1	Ex parte Quayle Action Mailed	
US9362439 BB	20160518	LSGT	PAT1	Patented Case	
US9362439 BB	20160607	LSGT	+	granted / extensions (spc, cpc, pte)	
US9362439 BB	20200127	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US9362439 BB	20200602	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: SURCHARGE FOR LATE PAYMENT, SMALL ENTITY (ORIGINAL EVENT CODE: M2554); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US9362439 BB	20200602	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 4
US9362439 BB	20320612	PEXP		Calculated Patent Term Expiry (PTA 1135 days and a terminal disclaimer has been filed)	
US9640711 BB	20170412	LSGT	PAT1	Patented Case	
US9640711 BB	20170502	LSGT	+	granted / extensions (spc, cpc, pte)	
US9640711 BB	20200602	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 4
US9640711 BB	20270907	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
WO08082723 A2	20070910	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 200780022933.9 Country of Ref document: CN
WO08082723 A2	20080710	LSPB	+	published / reissued	
WO08082723 A2	20080903		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A2 Ref document number: 07871066 Country of Ref document: EP
WO08082723 A3	20081210	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 10247/DELNP/2008 Country of Ref document: IN
WO08082723 A3	20081215		+REEP	REQUEST FOR ENTRY INTO THE EUROPEAN PHASE	Ref document number: 2007871066 Country of Ref document: EP
WO08082723 A3	20081215	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2007871066 Country of Ref document: EP
WO08082723 A3	20081223	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 1020087031257 Country of Ref document: KR
WO08082723 A3	20081224	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 2009527609 Country of Ref document: JP
WO08082723 A3	20090310	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE

55) Family number: 31935751 (JP2005131783 A2)

Title: METHOD OF MANUFACTURING TRANSPARENT RESIN LIGHT CONDUCTIVE PLATE

Abstract: PROBLEM TO BE SOLVED: To provide a method capable of easily manufacturing a transparent resin light conductive plate from a transparent resin original plate in a state where a protective film is stuck, without nipping fine cutting chips between the protective films or without thermally fusing the protective films. SOLUTION: This transparent resin light conductive plate 1 is manufactured by cutting together with the protective film by pushing a cutting blade 4 from above this protective film against the transparent resin original plate 2 of sticking the protective film 3 to a surface. For example, the transparent resin original plate is a methacrylic resin plate and a methacrylic acid methyl-styrene copolymer resin plate. The protective film is a thermoplastic resin film.

Classifications:
International (IPC 8-9): B26F1/38 B26F1/44 B29D11/00 G02B5/02 G02B6/00 G02F1/13 G02F1/1335
International (IPC 1-7): B26F1/44 B29D11/00 G02B5/02 G02B6/00 G02B6/10 G02F1/1335
CPC: G02B1/14 G02B6/0065 G02F1/133524



Family:

Publication number	Publication date	Application number	Application date
AU2004214519 AA	20050421	AU20040214519	20040922
CN1605891 A	20050413	CN200410090001	20040930
JP2005131783 A2	20050526	JP20040292340	20041005
KR20050033806 A	20050413	KR20040077827	20040930
TW200517691 A	20050601	TW20040128743	20040922

Priority:
JP20030347996 20031007 JP20040292340 20041005

Probable Assignee: SUMITOMO CHEMICAL CO
Assignee(s): (std): SUMITOMO CHEMICAL CO ; SUMITOMO CHEMICAL CO LTD ; SUMITOMO CHEMICAL IND CO LTD
Assignee(s): SUMITOMO CHEMICAL COMPANY LIMITED
Inventor(s): (std): WATANUKI MUNEHIKO ; WATANUKI YOSHIHIKO ; YOSHIHIKO WATANUKI
Agent(s): DAVIES COLLISON CAVE; DAVIES COLLISON CAVE PTY LTD

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AU2004214519 AA	20050421	LSPB	+	published / reissued	
AU2004214519 AA	20080403	LSLE	-MK1	APPLICATION LAPSED SECTION 142(2)(A) - NO REQUEST FOR EXAMINATION IN RELEVANT PERIOD	
CN1605891 A	20050413	LSPB	+	published / reissued	
CN1605891 A	20050413	LSPB	+C06	PUBLICATION	
CN1605891 A	20070704	LSDW	-C02	DEEMED WITHDRAWAL OF PATENT APPLICATION AFTER PUBLICATION (PATENT LAW 2001)	

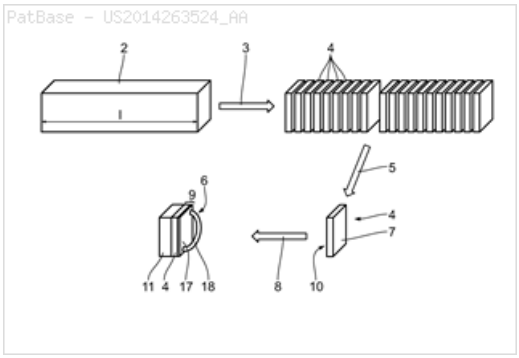
JP2005131783 A2	20050526	LSPB	+	published / reissued	
JP2005131783 A2	20070821		A977	REPORT ON RETRIEVAL	Effective date: 20070821 Text: JAPANESE INTERMEDIATE CODE: A971007
JP2005131783 A2	20070829	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20070828 Text: JAPANESE INTERMEDIATE CODE: A131
JP2005131783 A2	20071027	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20071026 Text: JAPANESE INTERMEDIATE CODE: A523
JP2005131783 A2	20080130	LSRV	-A02	DECISION OF REFUSAL	Effective date: 20080129 Text: JAPANESE INTERMEDIATE CODE: A02
JP2005131783 A2	20080201		RD05	NOTIFICATION OF REVOCATION OF POWER OF ATTORNEY	Effective date: 20080131 Text: JAPANESE INTERMEDIATE CODE: A7425
JP2005131783 A2	20080515		RD05	NOTIFICATION OF REVOCATION OF POWER OF ATTORNEY	Effective date: 20080514 Text: JAPANESE INTERMEDIATE CODE: A7425
KR20050033806 A	20050413	LSPB	+	published / reissued	
KR20050033806 A	20091101	LSDW	-WITN	WITHDRAWAL DUE TO NO REQUEST FOR EXAMINATION	
TW200517691 A	20050601	LSPB	+	published / reissued	

56) Family number: 57414125 (US2014263524 AA)

Title: METHOD AND DEVICE FOR CLEAVING WAFERS

Abstract: A method for cleaving wafers comprising the following steps: providing a slice of a crystalline material with at least a first plane side, providing at least one stressing means to be attached to said slice, wherein said at least one stressing means is at least in parts made of a material with a coefficient of thermal expansion different from that of the slice, attaching said stressing means to said first plane side of said slice to form a stack, inducing a thermal shear stress to said slice by applying a temperature change to said stack.

Classifications:
International (IPC 8-9): B26F3/00 C30B29/06 C30B33/06 H01L21/67 H01L31/18
CPC: B26F3/002 C30B29/06 C30B33/06 H01L21/67092 H01L31/18 Y10T225/12
US: 225/2



Family:

Publication number	Publication date	Application number	Application date
US10421208 BB	20190924	US20130795896	20130312
US2014263524 AA	20140918	US20130795896	20130312

Priority:
US20130795896 20130312

Probable Assignee: SOLARWORLD IND AMERICA INC
Assignee(s): (std): SOLARWORLD IND AMERICA INC ; SUNPOWER CORP
Assignee(s): SOLARWORLD AMERICAS INC ; SUNPOWER MFG OREGON LLC
Inventor(s): (std): SEIPEL BJOERN ; STODDARD NATHAN
Agent(s): XSENSUS LLP

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
US10421208 BB	20130506	LSAS	AS	ASSIGNMENT	Effective date: 20130313 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:STODDARD, NATHAN, DR.;SEIPEL, BJOERN;REEL/FRAME:030352/0779 Owner: SOLARWORLD INDUSTRIES AMERICA INC., OREGON PartyType: owner
US10421208 BB	20190924	LSGT	+	granted / extensions (spc, cpc, pte)	
US10421208 BB	20331223	PEXP		Calculated Patent Term Expiry (PTA 286 days)	
US2014263524 AA	20140918	LSPB	+	published / reissued	
US2014263524 AA	20150422	LSAS	AS	ASSIGNMENT	Owner: SOLARWORLD AMERICAS INC., OREGON PartyType: owner Effective date: 20141021 OldParty: CHANGE OF NAME;ASSIGNOR:SOLARWORLD INDUSTRIES AMERICA INC.;REEL/FRAME:035477/0618
US2014263524 AA	20150915	LSES	NFA1	Non Final Action Mailed	
US2014263524 AA	20160325	LSAS	AS	ASSIGNMENT	Owner: SOLARWORLD AMERICAS INC, OREGON PartyType: owner Effective date: 20141021 OldParty: CORRECTIVE ASSIGNMENT TO CORRECT THE APPLICATION NUMBER PREVIOUSLY RECORDED AT REEL: 035477 FRAME: 0618. ASSIGNOR(S) HEREBY CONFIRMS THE ASSIGNMENT;ASSIGNOR:SOLARWORLD INDUSTRIES AMERICA INC;REEL/FRAME:038254/0041
US2014263524 AA	20160429	LSAS	AS	ASSIGNMENT	Effective date: 20141021

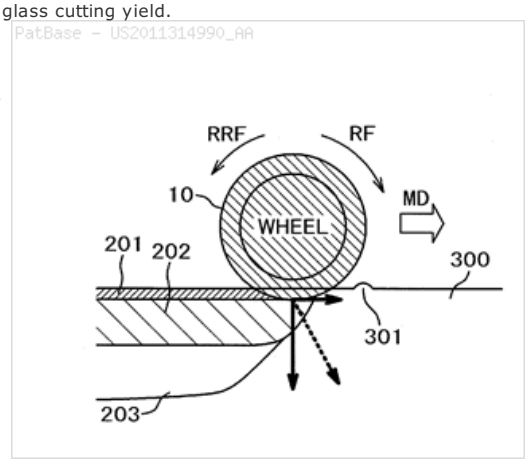
					Owner: SOLARWORLD AMERICAS INC., OREGON PartyType: owner OldParty: CORRECTIVE ASSIGNMENT TO CORRECT THE ASSIGNOR AND ASSIGNEE NAME PREVIOUSLY RECORDED AT REEL: 038254 FRAME: 0041. ASSIGNOR(S) HEREBY CONFIRMS THE CORRECTIVE ASSIGNMENT;ASSIGNOR:SOLARWORLD INDUSTRIES AMERICA INC.;REEL/FRAME:038572/0947
US2014263524 AA	20170312		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2014263524 AA	20170601		FRM1	Final Rejection Mailed	
US2014263524 AA	20190108	LSES	NFA1	Non Final Action Mailed	
US2014263524 AA	20190108		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NON FINAL ACTION MAILED
US2014263524 AA	20190116	LSAS	AS	ASSIGNMENT	PartyType: owner Owner: SUNPOWER CORPORATION, CALIFORNIA OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:SUNPOWER MANUFACTURING OREGON, LLC;REEL/FRAME:048033/0954 Effective date: 20190108
US2014263524 AA	20190116	LSAS	AS	ASSIGNMENT	OldParty: CONFIRMATORY ASSIGNMENT;ASSIGNOR:SOLARWORLD AMERICAS INC.;REEL/FRAME:048079/0119 PartyType: owner Effective date: 20190107 Owner: SUNPOWER MANUFACTURING OREGON, LLC, OREGON
US2014263524 AA	20190405		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2014263524 AA	20190405		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER
US2014263524 AA	20190509	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2014263524 AA	20190509		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NOTICE OF ALLOWANCE MAILED -- APPLICATION RECEIVED IN OFFICE OF PUBLICATIONS
US2014263524 AA	20190809	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2014263524 AA	20190809		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: PUBLICATIONS -- ISSUE FEE PAYMENT VERIFIED
US2014263524 AA	20190904	LSGT	PAT1	Patented Case	
US2014263524 AA	20190904	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE

57) Family number: 50257897 (US2011314990 AA)

Title: GLASS CUTTING MACHINE, GLASS CUTTER, AND GLASS CUTTING METHOD

Abstract: A glass cutter is provided which can form, using a wheel, a uniform crack in glass even when a projection or an earlier-formed scribe line is present on the glass. When the wheel is moved on the glass, a fracture layer is formed causing a rib mark to be formed below the fracture layer and a crack to be formed below the rib mark. To cut the glass, the crack is required to be formed uniformly. Applying a force to resist the rotating force of the wheel makes it possible to form a uniform crack even when a projection is present on the glass. This improves glass cutting yield.

Classifications:
International (IPC 8-9): B26D1/12 B26D3/08 B26F3/00 C03B33/00 C03B33/023 C03B33/027 C03B33/033 C03B33/10 G02F1/1333
CPC: C03B33/10 C03B33/107 Y02P40/57 Y10T83/0333 Y10T83/0341 Y10T83/0385 Y10T83/0393 Y10T83/9372
US: 1/1 83/663 83/663P 83/879 83/880 83/886 83/887



Family:

Publication number	Publication date	Application number	Application date
CN102344243 A	20120208	CN201110176790	20110622
CN102344243 B	20140730	CN201110176790	20110622
EP2399874 A2	20111228	EP20110171049	20110622
EP2399874 A3	20130918	EP20110171049	20110622
JP2012006780 A2	20120112	JP20100142876	20100623
JP5538090 B2	20140702	JP20100142876	20100623
KR101212438 B1	20121213	KR20110060667	20110622
KR20110139662 A	20111229	KR20110060667	20110622
TW201204657 A	20120201	TW20110120763	20110614
TWI474984 B	20150301	TW20110120763	20110614
US2011314990 AA	20111229	US20110167118	20110623
US8997619 BB	20150407	US20110167118	20110623
US2015166398 AA	20150618	US20150630551	20150224
US9458048 BB	20161004	US20150630551	20150224

Priority:
JP20100142876 20100623 US20110167118 20110623 US20150630551 20150224

Probable Assignee: JAPAN DISPLAY INC

Assignee(s): (std): AZUMA HITOSHI ; HAMAMOTO TATSUO ; HITACHI DISPLAY INC ; HITACHI DISPLAY LTD ; HITACHI DISPLAYS LTD ; ISHIGE HIDEAKI ; IWASAKI SHUJI ; JAPAN DISPLAY INC ; KUWAKI KATSUNORI ; PANASONIC LIQUID CRYSTAL DISPL ; SASAKI SUSUMU ; TAKAHASHI KATSUYUU ; TANI HIROYUKI ; TATEMURA MAKOTO ; YAGUCHI TOMIO

Assignee(s): JAPAN DISPLAY EAST INC ; PANASONIC LIQUID CRYSTAL DISPLAY CO ; PANASONIC LIQUID CRYSTAL DISPLAY CO LTD

Inventor(s): (std): AZUMA HITOSHI ; HAMAMOTO TATSUO ; HIDEAKI ISHIGE ; HIROYUKI TANI ; HITOSHI AZUMA ; ISHIGE HIDEAKI ; IWASAKI SHUJI ; KATSUNORI KUWAKI ; KATSUYUU TAKAHASHI ; KUWAKI KATSUNORI ; MAKOTO TATEMURA ; SASAKI SUSUMU ; SHUJI IWASAKI ; SUSUMU SASAKI ; TAKAHASHI KATSUISA ; TAKAHASHI KATSUYUU ; TANI HIROYUKI ; TATEMURA MAKOTO ; TATSUO HAMAMOTO ; TOMIO YAGUCHI ; YAGUCHI TOMIO

Agent(s): BEETZ AND PARTNER; HARUKA PATENT AND TRADEMARK ATTORNEYS; LOWE HAUPTMAN AND HAM LLP; TYPHA IP LLC

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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
CN102344243 A	20120208	LSPB	+	published / reissued	
CN102344243 A	20120208	LSPB	+C06	PUBLICATION	
CN102344243 A	20120321		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
CN102344243 B	20140730	LSGT	+	granted / extensions (spc, cpc, pte)	
CN102344243 B	20140730	LSGT	+C14	GRANT OF PATENT OR	

				UTILITY MODEL	
CN102344243 B	20310622	PEXP		Calculated Patent Term Expiry	
EP2399874 A2	20111228	LSPB	+	published / reissued	
EP2399874 A2	20111228		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: AL 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 RS SE SI SK SM TR
EP2399874 A2	20111228		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: BA ME
EP2399874 A2	20120208	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20111223
EP2399874 A2	20120208		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: SASAKI, SUSUMU PartyType: inventor
EP2399874 A2	20120208		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: KUWAKI, KATSUNORI PartyType: inventor
EP2399874 A2	20120208		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: TATEMURA, MAKOTO PartyType: inventor
EP2399874 A2	20120208		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: TANI, HIROYUKI PartyType: inventor
EP2399874 A2	20120208		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: AZUMA, HITOSHI PartyType: inventor
EP2399874 A2	20120208		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: YAGUCHI, TOMIO PartyType: inventor
EP2399874 A2	20120208		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: HAMAMOTO, TATSUO PartyType: inventor
EP2399874 A2	20120208		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: ISHIGE, HIDEAKI PartyType: inventor
EP2399874 A2	20120208		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: IWASAKI, SHUJI PartyType: inventor
EP2399874 A2	20120208		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: TAKAHASHI, KATSUYUU PartyType: inventor
EP2399874 A3	20130918		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A3 Country of Ref document: AL 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 RS SE SI SK SM TR
EP2399874 A3	20130918		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: BA ME
EP2399874 A3	20130918		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: C03B 33/10 20060101AFI20130809BHEP
EP2399874 A3	20141231	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20141127
EP2399874 A3	20150916	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 20150408

JP2012006780 A2	20120112	LSPB	+	published / reissued	
JP2012006780 A2	20130312	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Effective date: 20130311 Text: JAPANESE INTERMEDIATE CODE: A621
JP2012006780 A2	20131227		A977	REPORT ON RETRIEVAL	Effective date: 20131226 Text: JAPANESE INTERMEDIATE CODE: A971007
JP2012006780 A2	20140108	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20140107 Text: JAPANESE INTERMEDIATE CODE: A131
JP2012006780 A2	20140228	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20140227 Text: JAPANESE INTERMEDIATE CODE: A523
JP2012006780 A2	20140331	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2012006780 A2	20140409	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Effective date: 20140408 Text: JAPANESE INTERMEDIATE CODE: A01
JP2012006780 A2	20140512	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	Effective date: 20140428 Text: JAPANESE INTERMEDIATE CODE: A61
JP5538090 B2	20140410	LSGT	+A01	特許査定書	
JP5538090 B2	20140410	LSGT	+A01	特許査定書	Effective date: 20140408
JP5538090 B2	20140502	LSFE	R100	特許料納付書	
JP5538090 B2	20140502	LSFE	R100	特許料納付書	Effective date: 20140428 Text: 51400908924
JP5538090 B2	20140509	LSGT	+R150	特許証	
JP5538090 B2	20140509	LSGT	+R150	特許証	Effective date: 20140520
JP5538090 B2	20140702	LSGT	+	granted / extensions (spc, cpc, pte)	
JP5538090 B2	20170413	LSFE	R20	特許料納付書	
JP5538090 B2	20170413	LSFE	R20	特許料納付書	Effective date: 20170412 Text: 51700796341
JP5538090 B2	20170418	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP5538090 B2	20170418	LSFE	+R250	年金領収書, 年金領収書 (分納)	
JP5538090 B2	20170418	LSFE	+R250	年金領収書, 年金領収書 (分納)	Effective date: 20170425
JP5538090 B2	20180412	LSFE	R20	特許料納付書	
JP5538090 B2	20180412	LSFE	R20	特許料納付書	Effective date: 20180409 Text: 51800732826
JP5538090 B2	20180417	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP5538090 B2	20180417	LSFE	+R250	年金領収書, 年金領収書 (分納)	
JP5538090 B2	20180417	LSFE	+R250	年金領収書, 年金領収書 (分納)	Effective date: 20180424
JP5538090 B2	20190411	LSFE	R20	特許料納付書	
JP5538090 B2	20190411	LSFE	R20	特許料納付書	Effective date: 20190410 Text: 51900780964
JP5538090 B2	20190416	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP5538090 B2	20190416	LSFE	+R250	年金領収書, 年金領収書 (分納)	
JP5538090 B2	20190416	LSFE	+R250	年金領収書, 年金領収書 (分納)	Effective date: 20190426
JP5538090 B2	20200410	LSFE	R20	特許料納付書	Effective date: 20200409
JP5538090 B2	20200410	LSFE	R20	特許料納付書	Effective date: 20200409 Text: 52000775767
JP5538090 B2	20200413	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250

JP5538090 B2	20200413	LSFE	+R250	年金領収書, 年金領収書 (分納)	Effective date: 20200501
JP5538090 B2	20300623	PEXP		Calculated Patent Term Expiry	
KR101212438 B1	20110622	LSES	A201	REQUEST FOR EXAMINATION	
KR101212438 B1	20121213	LSGT	+	granted / extensions (spc, cpc, pte)	
KR101212438 B1	20151118	LSFE	FPAY	ANNUAL FEE PAYMENT	Payment date: 20151118 Year of fee payment: 4
KR101212438 B1	20161123	LSFE	FPAY	ANNUAL FEE PAYMENT	Payment date: 20161123 Year of fee payment: 5
KR101212438 B1	20171117	LSFE	FPAY	ANNUAL FEE PAYMENT	Payment date: 20171117 Year of fee payment: 6
KR101212438 B1	20181119	LSFE	FPAY	ANNUAL FEE PAYMENT	Payment date: 20181119 Year of fee payment: 7
KR101212438 B1	20191118	LSFE	FPAY	ANNUAL FEE PAYMENT	Payment date: 20191118 Year of fee payment: 8
KR101212438 B1	20310622	PEXP		Calculated Patent Term Expiry	
KR20110139662 A	20111229	LSPB	+	published / reissued	
KR20110139662 A	20121109	LSGT	+E701	DECISION TO GRANT OR REGISTRATION OF PATENT RIGHT	
KR20110139662 A	20121207	LSGT	+GRNT	WRITTEN DECISION TO GRANT	
TW201204657 A	20120201	LSPB	+	published / reissued	
TWI474984 B	20150301	LSGT	+	granted / extensions (spc, cpc, pte)	
TWI474984 B	20310614	PEXP		Calculated Patent Term Expiry	
US2011314990 AA	20111229	LSPB	+	published / reissued	
US2011314990 AA	20140219	LSAS	AS	ASSIGNMENT	Effective date: 20120401 OldParty: CHANGE OF NAME;ASSIGNOR:HITACHI DISPLAYS, LTD.;REEL/FRAME:032279/0001 Owner: JAPAN DISPLAY EAST INC., JAPAN PartyType: owner
US2011314990 AA	20140219	LSAS	AS	ASSIGNMENT	Effective date: 20130401 OldParty: CHANGE OF NAME;ASSIGNOR:JAPAN DISPLAY EAST INC.;REEL/FRAME:032279/0457 Owner: JAPAN DISPLAY INC., JAPAN PartyType: owner
US2011314990 AA	20150318	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2015166398 AA	20150618	LSPB	+	published / reissued	
US2015166398 AA	20160914	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US8997619 BB	20110808	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:SASAKI, SUSUMU;KUWAKI, KATSUNORI;TATEMURA, MAKOTO;AND OTHERS;SIGNING DATES FROM 20110531 TO 20110801;REEL/FRAME:026714/0296 Owner: HITACHI DISPLAYS, LTD., JAPAN PartyType: owner
US8997619 BB	20110808	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:SASAKI, SUSUMU;KUWAKI, KATSUNORI;TATEMURA, MAKOTO;AND OTHERS;SIGNING DATES FROM 20110531 TO 20110801;REEL/FRAME:026714/0296 Owner: PANASONIC LIQUID CRYSTAL

					DISPLAY CO., LTD., JAPAN PartyType: owner
US8997619 BB	20150318	LSGT	PAT1	Patented Case	
US8997619 BB	20150407	LSGT	+	granted / extensions (spc, cpc, pte)	
US8997619 BB	20180920	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 4
US8997619 BB	20321005	PEXP		Calculated Patent Term Expiry (PTA 470 days)	
US9458048 BB	20151014		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US9458048 BB	20160914	LSGT	PAT1	Patented Case	
US9458048 BB	20161004	LSGT	+	granted / extensions (spc, cpc, pte)	
US9458048 BB	20200319	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 4
US9458048 BB	20310623	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	

58) Family number: 3291753 (US5089447 A)

Title: HIGH HARDNESS, WEAR RESISTANT MATERIALS

Abstract: A powdered admixture of a metal and its boron, carbon, nitrogen or silicon derivative is, when subjected to densification conditions, partially reacted and converted to a hard, wear resistant material. The material, when formed from an admixture of tungsten carbide and tungsten, contains tungsten monocarbide and (di-tungsten) carbide. Other choices of metal and metal derivatives produce at least one compound having a stoichiometry which differs from that of starting metal derivative. Articles formed from this material can be useful as, for example, nozzles in abrasive or nonabrasive waterjet cutting machines and various parts of wire drawing apparatus.

Classifications:
International (IPC 8-9): B26F3/00 C04B35/00 C04B35/56 C09K3/14 C22C1/05 C22C29/00 C22C29/02 C22C29/06 C22C29/08 C22C29/10 C22C29/14 C22C29/16 C22C29/18 G03F1/00 G03F1/08 H01L21/02 H01L21/027
International (IPC 1-7): B24C5/04 B26F3/00 C01B21/06 C01B31/30 C01B33/06 C01B35/04 C04B35/00 C04B35/56 C04B35/58 C04B35/64 C04B35/65 C09K3/14 C22C1/05 C22C29/00
CPC: C04B35/5622 C04B35/5626 C04B35/645 C04B35/6455
US: 423/440 501/87 501/96 501/96.1

Family:

Publication number	Publication date	Application number	Application date
AT161813 E	19980115	AT19910309097T	19911003
CA2052977 AA	19920410	CA19912052977	19911008
DE69128595 D1	19980212	DE19916028595T	19911003
DE69128595 T2	19980416	DE19916028595T	19911003
EP0480636 A2	19920415	EP19910309097	19911003
EP0480636 A3	19921014	EP19910309097	19911003
EP0480636 B1	19980107	EP19910309097	19911003
FI914739 A	19920410	FI19910004739	19911008
FI914739 A0	19911008	FI19910004739	19911008
IL99675 A0	19920818	IL19910099675	19911008
JP5209248 A2	19930820	JP19910284092	19911004
KR19920008203 A	19920527	KR19910017571	19911008
NO913944 A	19920410	NO19910003944	19911008
NO913944 A0	19911008	NO19910003944	19911008
NO913944 L	19920410	NO19910003944	19911008
TW223125 B	19940501	TW19910107937	19911008
US5089447 A	19920218	US19900594884	19901009

Priority:
US19900594884 19901009 CA19912052977 19911008

Probable Assignee: THE DOW CHEMICAL COMPANY

Assignee(s): (std): DOW CHEMICAL CO ; DOW CHEMICAL INT CO LTD

Assignee(s): DOW CHEM CO THE ; DOW CHEMICAL COMPANY THE ; GULAU ANN M ; THE DOW CHEMICAL CO ; THE DOW CHEMICAL CO MIDLAND MICH US ; THE DOW CHEMICAL COMPANY ; THE DOW CHEMICAL COMPANYUS ; TIMM EDWARD E

Inventor(s): (std): AN EMU GUROO ; EDOWAADO II TEIMU ; GULAU ANN M ; GULAU MCCOMBS ANN M ; MCCOMBS ANN M ; TIMM EDWARD E

Agent(s): SMART AND BIGGAR

Designated states: AT BE CH DE FR GB IT LI NL SE

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AT161813 E	19980115	LSGT	+	granted / extensions (spc, cpc, pte)	
AT161813 E	19980715	LSLE	-RER	CEASED AS TO PARAGRAPH 5 LIT. 3 LAW INTRODUCING PATENT TREATIES	
AT161813 E	20111003	PEXP		Calculated Patent Term Expiry	
CA2052977 AA	19920410	LSPB	+	published / reissued	
CA2052977 AA	19981006	LSES	+EEER	EXAMINATION REQUEST	
CA2052977 AA	20021008	LSLE	-FZDE	DEAD	
DE69128595 D1	19990211	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE69128595 D1	20021107	LSLE	-8339	CEASED/NON-PAYMENT OF THE ANNUAL FEE	
DE69128595 T2	19980416	LSGT	+	granted / extensions (spc, cpc, pte)	

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DE69128595 T2	20111003	PEXP		Calculated Patent Term Expiry	
EP0480636 A2	19920415	LSPB	+	published / reissued	
EP0480636 A2	19920415		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: AT BE CH DE FR GB IT LI NL SE
EP0480636 A3	19921014		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A3 Country of Ref document: AT BE CH DE FR GB IT LI NL SE
EP0480636 A3	19930602	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 19930403
EP0480636 A3	19950614	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 19950427
EP0480636 A3	19971126	LSAS	RAP3	APPLICANT DATA CHANGED	PartyType: owner Owner: THE DOW CHEMICAL COMPANY
EP0480636 B1	19980107	LSGT	+	granted / extensions (spc, cpc, pte)	
EP0480636 B1	19980107		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: AT BE CH DE FR GB IT LI NL SE
EP0480636 B1	19980107	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 19980107 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: AT
EP0480636 B1	19980107	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 19980107 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: BE
EP0480636 B1	19980107	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 19980107 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: CH
EP0480636 B1	19980107	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 19980107 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: LI
EP0480636 B1	19980107		REF	CORRESPONDS TO:	Date of Ref document: 19980115 Ref document number: 161813 Kind code of Ref document: T Country of Ref document: AT
EP0480636 B1	19980115	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: EP
EP0480636 B1	19980212		REF	CORRESPONDS TO:	Date of Ref document: 19980212 Ref document number: 69128595 Country of Ref document: DE
EP0480636 B1	19980220		+ET	FR: TRANSLATION FILED	
EP0480636 B1	19980312		+ITF	IT: TRANSLATION FOR A EP PATENT FILED	PartyType: owner Owner: ING. A. GIAMBROCONO & C. S.R.L.
EP0480636 B1	19980715	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: PL
EP0480636 B1	19981230	LSGT	+26N	NO OPPOSITION FILED	
EP0480636 B1	20000909	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL	Payment date: 20000909 Year of fee payment: 10

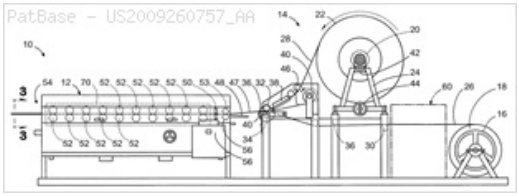
				OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Country of Ref document: FR
EP0480636 B1	20000911	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 10 Payment date: 20000911 Country of Ref document: DE
EP0480636 B1	20000911	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 10 Payment date: 20000911 Country of Ref document: GB
EP0480636 B1	20000911	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 10 Payment date: 20000911 Country of Ref document: SE
EP0480636 B1	20000912	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20000912 Year of fee payment: 10 Country of Ref document: NL
EP0480636 B1	20011003	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20011003 Country of Ref document: GB
EP0480636 B1	20011004	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20011004 Country of Ref document: SE
EP0480636 B1	20020101		REG	REFERENCE TO A NATIONAL CODE	Ref country code: GB Ref legal event code: IF02
EP0480636 B1	20020501	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20020501 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: NL
EP0480636 B1	20020522	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	Ref country code: EP Effective date: 20011003
EP0480636 B1	20020604	LSLE	-EUG	SE: EUROPEAN PATENT HAS LAPSED	Text: 91309097.3 Ref country code: EP
EP0480636 B1	20020628	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20020628 Country of Ref document: FR
EP0480636 B1	20020701	LSLE	-NLV4	NL: LAPSED OR ANULLED DUE TO NON-PAYMENT OF THE ANNUAL FEE	Ref country code: EP Effective date: 20020501
EP0480636 B1	20020702	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20020702 Country of Ref document: DE
EP0480636 B1	20020809	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: ST Ref country code: FR
EP0480636 B1	20051003	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20051003 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: IT
EP0480636 B1	20051003	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL	Lapsed date: 20051003 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES;WARNING: LAPSES OF ITALIAN PATENTS WITH EFFECTIVE DATE BEFORE 2007

				OFFICE TO EPO]	MAY HAVE OCCURRED AT ANY TIME BEFORE 2007. THE CORRECT EFFECTIVE DATE MAY BE DIFFERENT FROM THE ONE RECORDED. Country of Ref document: IT
EP0480636 B1	20111003	PEXP		Calculated Patent Term Expiry	
FI914739 A	19920410	LSPB	+	published / reissued	
JP5209248 A2	19930820	LSPB	+	published / reissued	
KR19920008203 A	19920527	LSPB	+	published / reissued	
KR19920008203 A	19961008	LSDW	-WITN	WITHDRAWAL DUE TO NO REQUEST FOR EXAMINATION	
NO913944 A	19920410	LSPB	+	published / reissued	
TW223125 B	19940501	LSGT	+	granted / extensions (spc, cpc, pte)	
TW223125 B	20111008	PEXP		Calculated Patent Term Expiry	
US5089447 A	19911101	LSAS	AS	ASSIGNMENT	PartyType: owner Owner: DOW CHEMICAL COMPANY, THE A CORPORATION OF DELAWA Effective date: 19901009 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST.;ASSIGNORS:TIMM, EDWARD E.;MC COMBS, ANN M.;REEL/FRAME:005892/0324
US5089447 A	19920206	LSGT	PAT1	Patented Case	
US5089447 A	19920218	LSGT	+	granted / extensions (spc, cpc, pte)	
US5089447 A	19950411	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US5089447 A	19990510	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US5089447 A	20030903		REMI	MAINTENANCE FEE REMINDER MAILED	
US5089447 A	20040218	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US5089447 A	20040413	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20040218
US5089447 A	20101009	PEXP		Calculated Patent Term Expiry	
US5089447 A	20180127	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US5089447 A	20180127	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362

59) Family number: 43872619 (US2009260757 AA)

Title: ROLLFORMER FOR COMBINING AN ARCHITECTURAL SHEET WITH A SOLAR PANEL AND METHOD

Abstract: A machine is provided for combining thin flexible solar film panels with a metal sheet to serve as a roof panel for a building. The machine has reels for holding rolls of metal and solar film. The solar film panel has an adhesive with a backing for protecting the adhesive. Means are provided for unrolling both the metal and solar film and for removing the backing from the solar film panel. A mechanical brake device is provided for parting the solar film panel from the adhesive film at the desired length which is sometimes shorter than the length of the metal sheets. A recoiler is provided for removing the backing from the solar film panel. Pressure rollers are provided for pressing the solar film panel to the metal so that the adhesive binds the film panels to the metal. The rollformer component cuts the metal into sheets and configures the metal into the desired structure for the roofing panel.



Classifications:
International (IPC 8-9): B21B15/00 B21D28/00 B21D5/08 B21F11/00 B23D15/00 B23D36/00 B23P23/00 B26D5/00 B26D5/20 B26D7/00 B26F1/38 B29C65/48 B32B37/00 B32B37/10 B32B38/04 B32B38/18 B32B41/00 B32B43/00 G05G5/00 G06F19/00
CPC: B32B2311/00 B32B2419/06 B32B2457/12 B32B37/12 B32B37/20 B32B38/0004 E04D3/16 F24S2025/601 Y10T156/1343 H02S20/23 Y02B10/10 Y02E10/50 Y10T156/1052 Y10T156/16 Y10T29/5176 B21D5/08 B23D15/005 B23D36/0058 Y10T83/18 Y10T83/2196 Y10T83/6486
US: 156/249 156/250 156/353 156/522 156/522S 156/537 29/56.5 29/56.500P 702/155 702/155S 72/131 72/177 72/339 72/340 72/340S 83/156 83/156S 83/406 83/406S 83/76.9 83/76.900P

Family:

Publication number	Publication date	Application number	Application date
US2009260757 AA	20091022	US20090424979	20090416
US2011174128 AA	20110721	US20100688971	20100118
US8984923 BB	20150324	US20100688971	20100118
US2010242243 AA	20100930	US20100797697	20100610
US8246772 BB	20120821	US20100797697	20100610

Priority:

US20080045454P 20080416 US20090424979 20090416 US20100688971 20100118 US20100797697 20100610

Probable Assignee: METALFORMING INC
Assignee(s): (std): KROSKEY DALE ; LAFORE CURTIS ; METALFORMING INC ; STONE GEOFFREY LOUIS
Assignee(s): SILICON VALLEY BANK
Inventor(s): (std): BEERS MATT ; KROSKEY DALE ; LAFORE CURTIS ; STONE GEOFFREY LOUIS
Agent(s): THOMAS HORSTEMEYER LLP; THOMAS KAYDEN HORSTEMEYER AND RISLEY LLP

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
US2009260757 AA	20090527	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:KROSKEY, DALE;BEERS, MATT;STONE, GEOFFREY LOUIS;REEL/FRAME:022737/0331;SIGNING DATES FROM 20090416 TO 20090422 Owner: METALFORMING, INC., GEORGIA PartyType: owner
US2009260757 AA	20091022	LSPB	+	published / reissued	
US2009260757 AA	20110912	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2009260757 AA	20110912		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2009260757 AA	20190912	LSAS	AS	ASSIGNMENT	Owner: SILICON VALLEY BANK, CALIFORNIA OldParty: SECURITY INTEREST;ASSIGNOR:POINTIVO, INC.;REEL/FRAME:050354/0645 PartyType: owner Effective date: 20190910
US2010242243 AA	20100930	LSPB	+	published / reissued	
US2011174128 AA	20110721	LSPB	+	published / reissued	
US2011174128 AA	20150304	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US8246772 BB	20100610	LSAS	AS	ASSIGNMENT	PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:KROSKEY, DALE;LAFORE, CURTIS;STONE, GEOFFREY LOUIS;SIGNING DATES FROM 20100520 TO 20100524;REEL/FRAME:024514/0134 Owner: METALFORMING, INC., GEORGIA

US8246772 BB	20120801	LSGT	PAT1	Patented Case	
US8246772 BB	20120821	LSGT	+	granted / extensions (spc, cpc, pte)	
US8246772 BB	20160401		REMI	MAINTENANCE FEE REMINDER MAILED	
US8246772 BB	20160821	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US8246772 BB	20160919	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US8246772 BB	20160919	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US8246772 BB	20161011	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20160821
US8246772 BB	20190912	LSAS	AS	ASSIGNMENT	Effective date: 20190910 Owner: SILICON VALLEY BANK, CALIFORNIA OldParty: SECURITY INTEREST;ASSIGNOR:POINTIVO, INC.;REEL/FRAME:050354/0645 PartyType: owner
US8246772 BB	20300204	PEXP		Calculated Patent Term Expiry (PTA 294 days)	
US8984923 BB	20100118	LSAS	AS	ASSIGNMENT	PartyType: owner Owner: METALFORMING, INC., GEORGIA OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:KROSKEY, DALE;LAFORE, CURTIS;STONE, GEOFFREY LOUIS;SIGNING DATES FROM 20100108 TO 20100118;REEL/FRAME:023801/0187
US8984923 BB	20150304	LSGT	PAT1	Patented Case	
US8984923 BB	20150324	LSGT	+	granted / extensions (spc, cpc, pte)	
US8984923 BB	20180801	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 4
US8984923 BB	20190912	LSAS	AS	ASSIGNMENT	OldParty: SECURITY INTEREST;ASSIGNOR:POINTIVO, INC.;REEL/FRAME:050354/0645 PartyType: owner Effective date: 20190910 Owner: SILICON VALLEY BANK, CALIFORNIA
US8984923 BB	20321103	PEXP		Calculated Patent Term Expiry (PTA 1020 days)	

60) Family number: 78886291 (US2020153016 AA)

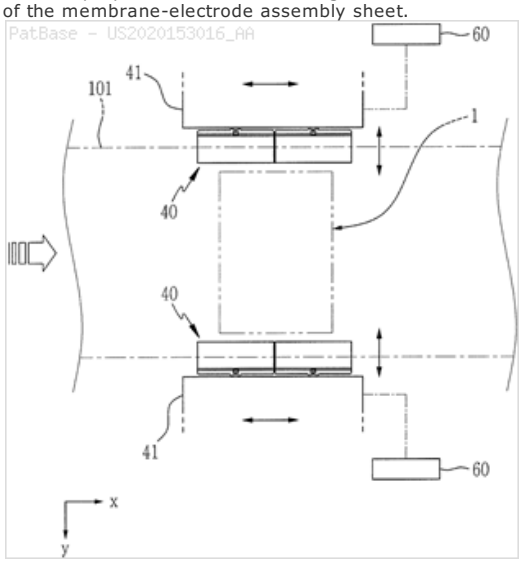
Title: CUTTING APPARATUS AND METHOD OF MANUFACTURING MEA FOR FUEL **CELL**

Abstract: A cutting apparatus of membrane electrode assembly for a fuel **cell** may include a cutting press including a cutting die disposed on a lower side of the feeding path and a driving cutter configured to be upwardly and downwardly movable on the cutting die at an upper side of the feeding path, and the cutting press disposed to a facility frame, a plurality of gripper modules disposed on the facility frame through a base member along a feeding direction of the membrane-electrode assembly sheet, and gripping both side edges of the membrane-electrode assembly sheet and a gripper driving unit disposed in the facility frame and moving the base member in a direction perpendicular to the feeding direction of the membrane-electrode assembly sheet and along the feeding direction of the membrane-electrode assembly sheet.

Classifications:

International (IPC 8-9)**:** B26D5/00 B26D5/26 B26D7/06 B26F1/40 B26F1/44 B65H18/10 B65H23/04 B65H23/26 B65H35/06 H01M8/1004

CPC: B26D5/007 B26F1/40 B26F1/44 B65H23/04 B65H2801/72 B65H35/06 H01M2008/1095 H01M8/0273 H01M8/1004 Y02E60/50 B26D5/26 B26D7/0633 B26F2210/02 B65H18/103 B65H23/26 B65H2701/1752



Family:

Publication number	Publication date	Application number	Application date
CN111168765 A	20200519	CN201910853578	20190910
KR20200055564 A	20200521	KR20180139338	20181113
US2020153016 AA	20200514	US20190436217	20190610

Priority:

KR20180139338 20181113

Probable Assignee: HYUNDAI MOTOR CO LTD

Assignee(s): (std)**:** HYUNDAI MOTOR CO LTD ; KAI MOTORS CORP ; KIA MOTORS CO ; KIA MOTORS CORP

Assignee(s): HYUNDAI MOTOR CO ; HYUNDAI MOTOR COMPANY ; KIA MOTORS CORPORATION

Inventor(s): (std)**:** HONG YOOSUK ; JEONG SUNG HOON

Legal status (INPADOC)

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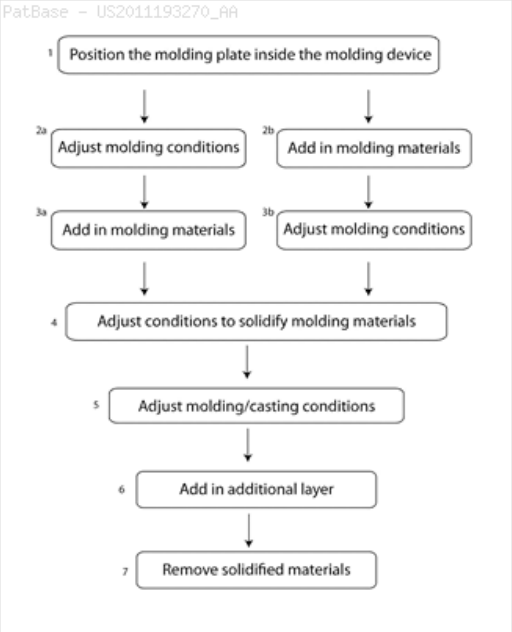
Patent	Date recorded	Event group	Code	Event	Details
CN111168765 A	20200519	LSPB	+	published / reissued	
CN111168765 A	20200519	LSPB	PB01	PUBLICATION	
CN111168765 A	20200519	LSPB	PB01	公开	Text: 公开 (Disclosure)
KR20200055564 A	20200521	LSPB	+	published / reissued	
US2020153016 AA	20191022		RFE1	Docketed New Case - Ready for Examination	
US2020153016 AA	20200514	LSPB	+	published / reissued	

61) Family number: 49389962 (US2011193270 AA)

Title: SYSTEMS FOR AND METHODS OF MANUFACTURING MICRO-STRUCTURES

Abstract: Methods of and devices for making pores, nozzles, and slits are described. In some embodiments, the methods create pattern in the molded substrate by controlling the location and direction of a controlled flow stream through molding plates. The molding plate contains a predefined pattern that is able to be used to create the desired pattern in the molding plate.

Classifications:
International (IPC 8-9): B01D39/00 B26F1/26 B26F1/28 B26F3/00 B29B7/72 B29C31/04 B29C33/00 B29C39/24 B29C39/26 B29C39/42 B29C41/12 B29C41/36 B29C41/38 B29C44/38 B29C45/16 B29C59/00 B29L31/00 B29L31/14 B65D1/22 B81C1/00 B82Y30/00
CPC: B01D39/00 B26F1/26 B26F1/28 B26F3/004 B29C2793/0045 B29C31/042 B29C33/0033 B29C39/24 B29C39/26 B29C39/42 B29C41/12 B29C41/36 B29C41/38 B29C44/385 B29L2031/14 B29L2031/737 B29L2031/7544 B29L2031/756 B81B2201/055 B81C1/00373 B82Y30/00
US: 210/486 264/50 264/504 264/504P 425/149 425/149S 1/1



Family:

Publication number	Publication date	Application number	Application date
CN102858512 A	20130102	CN201180009435	20110211
CN102858512 B	20161207	CN201180009435	20110211
CN106945202 A	20170714	CN201610973868	20110211
EP2533963 A1	20121219	EP20110742884	20110211
EP2533963 A4	20150121	EP20110742884	20110211
US2011193270 AA	20110811	US20110025861	20110211
US2016009008 AA	20160114	US20150865940	20150925
US9855687 BB	20180102	US20150865940	20150925
WO11100576 A1	20110818	WO2011US24566	20110211

Priority:

US20100303613P 20100211 US20100303605P 20100211 US20100325701P 20100419
US20100409799P 20101103 WO2011US24566 20110211 CN201180009435 20110211
US20110025861 20110211 US20150865940 20150925

Probable Assignee: TAN YUNG CHIEH

Assignee(s): (std): TAN YUNG CHIEH

Inventor(s): (std): TAN YUNG CHIEH

Agent(s): DEVILE JONATHAN MARK; JIGANG; OWENS JONATHAN O

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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
CN102858512 A	20130102	LSPB	+	published / reissued	
CN102858512 A	20130102	LSPB	+C06	PUBLICATION	
CN102858512 A	20130327		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
CN102858512 A	20161207	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN102858512 B	20161207	LSGT	+	granted / extensions (spc, cpc, pte)	
CN102858512 B	20310211	PEXP		Calculated Patent Term Expiry	
CN106945202 A	20170714	LSPB	+	published / reissued	

CN106945202 A	20170714	LSPB	PB01	PUBLICATION	
CN106945202 A	20170808		SE01	ENTRY INTO FORCE OF REQUEST FOR SUBSTANTIVE EXAMINATION	
EP2533963 A1	20121219	LSPB	+	published / reissued	
EP2533963 A1	20121219	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20120911
EP2533963 A1	20121219		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AL 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 RS SE SI SK SM TR
EP2533963 A1	20130515		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP2533963 A4	20150121	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20141219
EP2533963 A4	20150121		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: B29C 45/16 20060101AFI20141215BHEP
EP2533963 A4	20150121		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: B65D 1/22 20060101ALI20141215BHEP
EP2533963 A4	20150624	LSWD	-18W	APPLICATION WITHDRAWN	Effective date: 20150519
US2011193270 AA	20110811	LSPB	+	published / reissued	
US2011193270 AA	20151202	LSES	NFA1	Non Final Action Mailed	
US2011193270 AA	20160619	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2011193270 AA	20160619		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2016009008 AA	20160114	LSPB	+	published / reissued	
US2016009008 AA	20170210		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2016009008 AA	20170515	LSES	NFA1	Non Final Action Mailed	
US2016009008 AA	20170523		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2016009008 AA	20170829	LSES	ALW2	Allowed -- Notice of Allowance Not Yet Mailed	
US2016009008 AA	20170829	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2016009008 AA	20171125	LSFE	PPR1	Publications -- Issue Fee Payment Received	
US2016009008 AA	20171127	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2016009008 AA	20171213	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US9855687 BB	20171213	LSGT	PAT1	Patented Case	
US9855687 BB	20180102	LSGT	+	granted / extensions (spc, cpc, pte)	
US9855687 BB	20310211	PEXP		Calculated Patent Term Expiry	
WO11100576 A1	20110211	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 201180009435.7 Country of Ref document: CN
WO11100576 A1	20110818	LSPB	+	published / reissued	
WO11100576 A1	20111005		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A1 Ref document number: 11742884 Country of Ref document: EP
WO11100576 A1	20120813	LSNE	NENP	NON-ENTRY INTO THE	Ref country code: DE

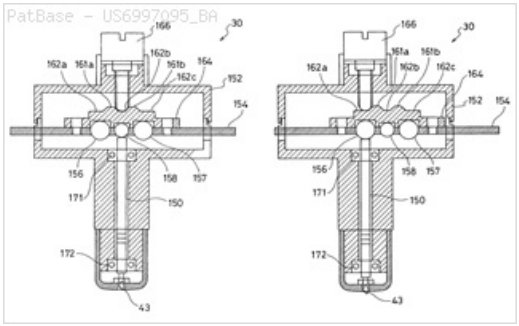
				NATIONAL PHASE	
WO11100576 A1	20120910	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2011742884 Country of Ref document: EP

62) Family number: 13210500 (US6997095 BA)

Title: APPARATUS AND METHOD FOR MAKING LABELS

Abstract: A label making apparatus includes a cutter that cuts sheets along a desired line, the cutter being switchable between a full cutting state and a half cutting state. A controller controls a switching device to switch the cutter between the full cutting state and the half cutting state. A method of making labels includes performing the half cutting on the sheet at least twice before performing the full cutting.

Classifications:
International (IPC 8-9): B26D1/01 B26D1/04 B26D3/00 B26D3/08 B26D3/10 B26D5/02 B26D7/26 B26F1/38 B31D1/00 B31D1/02 B41J11/70
International (IPC 1-7): B26D1/04 B26D3/08 B26D5/02 B31D1/02 B41J11/70
CPC: B26D2007/2678 B26D3/085 B26F1/3806 B41J11/703 B41J11/706 Y10T83/0333 Y10T83/0348 Y10T83/0385 Y10T83/162 Y10T83/6603 Y10T83/949
US: 83/433 83/699.61 83/76.1 83/879 83/881 83/886



Family:

Publication number	Publication date	Application number	Application date
DE60026765 D1	20060511	DE20006026765T	20000913
DE60026765 T2	20061012	DE20006026765T	20000913
EP1084804 A1	20010321	EP20000119924	20000913
EP1084804 B1	20060322	EP20000119924	20000913
JP2001088085 A2	20010403	JP19990261688	19990916
JP4048658 B2	20080220	JP19990261688	19990916
US6997095 BA	20060214	US20000661778	20000914

Priority:
JP19990261688 19990916

Probable Assignee: BROTHER IND LTD
Assignee(s): (std): BROTHER IND LTD
Assignee(s): BROTHER KOGYO K K ; BROTHER KOGYO KABUSHIKI KAISHA
Inventor(s): (std): CHIKAMOTO TADANOBU ; KISHI MOTOSHI
Inventor(s): CHIKAMOTO ; KISHI
Agent(s): OLIFF AND BERRIDGE PLC
Designated states: BE DE FR GB

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
DE60026765 D1	20070412	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE60026765 D1	20100722	LSLE	-8339	CEASED/NON-PAYMENT OF THE ANNUAL FEE	
DE60026765 T2	20061012	LSGT	+	granted / extensions (spc, cpc, pte)	
DE60026765 T2	20070412	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE60026765 T2	20100722	LSLE	-8339	CEASED/NON-PAYMENT OF THE ANNUAL FEE	
DE60026765 T2	20200913	PEXP		Calculated Patent Term Expiry	
EP1084804 A1	20010321	LSPB	+	published / reissued	
EP1084804 A1	20010321		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: BE DE FR GB
EP1084804 A1	20010321		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Text: AL;LT;LV;MK;RO;SI
EP1084804 A1	20010523	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20010326
EP1084804 A1	20010718	LSES	+17Q	FIRST EXAMINATION REPORT	Effective date: 20010601

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EP1084804 A1	20011212	LSFE	+AKX	DESIGNATION FEES PAID	Text: BE DE FR GB
EP1084804 A1	20060322		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: BE DE FR GB
EP1084804 A1	20060322	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20060322 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: BE
EP1084804 A1	20060322	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: GB Ref legal event code: FG4D
EP1084804 A1	20060511		REF	CORRESPONDS TO:	Date of Ref document: 20060511 Kind code of Ref document: P Ref document number: 60026765 Country of Ref document: DE
EP1084804 A1	20060908		+ET	FR: TRANSLATION FILED	
EP1084804 A1	20070228	LSGT	+26N	NO OPPOSITION FILED	Effective date: 20061227
EP1084804 A1	20081128	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20080904 Year of fee payment: 9 Country of Ref document: FR
EP1084804 A1	20081231	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20080808 Year of fee payment: 9 Country of Ref document: GB
EP1084804 A1	20090130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20080930 Year of fee payment: 9 Country of Ref document: DE
EP1084804 A1	20100526	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	Effective date: 20090913 Ref country code: EP
EP1084804 A1	20100625	LSLE	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20100531 Ref country code: FR Ref legal event code: ST
EP1084804 A1	20100730	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20100401 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: DE
EP1084804 A1	20100730	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20090930 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: FR
EP1084804 A1	20101130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20090913 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: GB
EP1084804 B1	20060322	LSGT	+	granted / extensions (spc, cpc, pte)	
EP1084804 B1	20200913	PEXP		Calculated Patent Term Expiry	
JP2001088085 A2	20010403	LSPB	+	published / reissued	
JP2001088085 A2	20040928	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Effective date: 20040927 Text: JAPANESE INTERMEDIATE CODE: A621
JP2001088085 A2	20070208		A977	REPORT ON RETRIEVAL	Effective date: 20070208 Text: JAPANESE INTERMEDIATE CODE: A971007
JP2001088085 A2	20070418	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20070417 Text: JAPANESE INTERMEDIATE CODE: A131
JP2001088085 A2	20070615	LSRE	A521	WRITTEN	Effective date: 20070614

				AMENDMENT	Text: JAPANESE INTERMEDIATE CODE: A523
JP2001088085 A2	20070718	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20070717 Text: JAPANESE INTERMEDIATE CODE: A131
JP2001088085 A2	20070912	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20070911 Text: JAPANESE INTERMEDIATE CODE: A523
JP2001088085 A2	20071029	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2001088085 A2	20071107	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Effective date: 20071106 Text: JAPANESE INTERMEDIATE CODE: A01
JP2001088085 A2	20071206	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	Effective date: 20071119 Text: JAPANESE INTERMEDIATE CODE: A61
JP2001088085 A2	20071210	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 3
JP4048658 B2	20071108	LSGT	+A01	特許査定書	
JP4048658 B2	20071108	LSFE	R1001	特許料納付書 (包括納付)	
JP4048658 B2	20071207	LSGT	+R150	特許証	
JP4048658 B2	20080220	LSGT	+	granted / extensions (spc, cpc, pte)	
JP4048658 B2	20101125	LSFE	R20	特許料納付書	
JP4048658 B2	20101130	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 4
JP4048658 B2	20101130	LSFE	R2501	年金領収書 (一括)	
JP4048658 B2	20111201	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 4
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JP4048658 B2	20111206	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 5
JP4048658 B2	20111206	LSFE	R2501	年金領収書 (一括)	
JP4048658 B2	20121122	LSFE	R20	特許料納付書	
JP4048658 B2	20121127	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 6
JP4048658 B2	20121127	LSFE	R2501	年金領収書 (一括)	
JP4048658 B2	20131128	LSFE	R20	特許料納付書	
JP4048658 B2	20131203	LSFE	R2501	年金領収書 (一括)	
JP4048658 B2	20141127	LSFE	R20	特許料納付書	
JP4048658 B2	20141202	LSFE	R2501	年金領収書 (一括)	
JP4048658 B2	20151203	LSFE	R20	特許料納付書	
JP4048658 B2	20151208	LSFE	R2501	年金領収書 (一括)	
JP4048658 B2	20161201	LSFE	R20	特許料納付書	
JP4048658 B2	20161206	LSFE	R2501	年金領収書 (一括)	
JP4048658 B2	20171130	LSFE	R20	特許料納付書	
JP4048658 B2	20171205	LSFE	R2501	年金領収書 (一括)	
JP4048658 B2	20181207	LSLE	-LAPS	CANCELLATION BECAUSE OF NO PAYMENT OF ANNUAL FEES	
JP4048658 B2	20190916	PEXP		Calculated Patent Term Expiry	

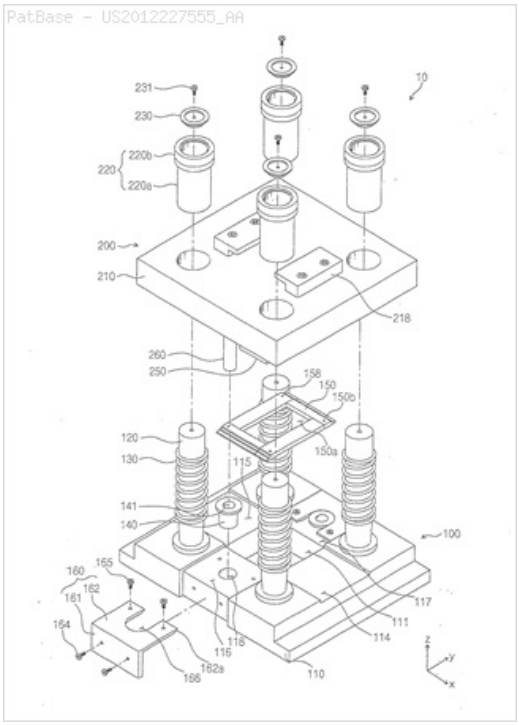
US6997095 BA	20000914	LSAS	AS	ASSIGNMENT	Effective date: 20000914 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:KISHI, MOTOSHI;CHIKAMOTO, TADANOBU;REEL/FRAME:011104/0399 Owner: BROTHER KOGYO KABUSHIKI KAISHA, JAPAN PartyType: owner
US6997095 BA	20060214	LSGT	+	granted / extensions (spc, cpc, pte)	
US6997095 BA	20090921		REMI	MAINTENANCE FEE REMINDER MAILED	
US6997095 BA	20100214	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US6997095 BA	20100315	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US6997095 BA	20100315	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US6997095 BA	20100406	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20100214
US6997095 BA	20210317	PEXP		Calculated Patent Term Expiry (PTA 184 days)	

63) Family number: 51895722 (US2012227555 AA)

Title: INSERT MEMBER, APPARATUS FOR BLANKING PRINTED CIRCUIT FILM HAVING THE SAME AND METHOD OF BLANKING PRINTED CIRCUIT FILM USING THE APPARATUS

Abstract: An apparatus for blanking a printed circuit film includes a die unit and a punch unit movable with respect to the die unit. The die unit includes a plate, and an insert member which is on a top surface of the plate and supports a region of a base film which is punched. The insert member supports the base film including a plurality of printed circuit films, and as a punch is lowered, the punch punches the base film and is inserted in an opening of the insert member so as to blank the printed circuit film. The insert member further includes a plurality of assembled detachable frames which define the opening of the insert member.

Classifications:
International (IPC 8-9)**:** B21D28/24 B26D7/01 B26F1/38 G02F1/13 G02F1/1345 H05K3/00
CPC: B26F1/0007 B26F1/40 G02F1/1345 H05K2201/10681 H05K2203/1545 H05K3/0052 Y10T83/06 Y10T83/929 Y10T83/9447
US: 83/55 83/651 83/694



Family:

Publication number	Publication date	Application number	Application date
KR20120103003 A	20120919	KR20110020976	20110309
US2012227555 AA	20120913	US20110185791	20110719

Priority:
KR20110020976 20110309

Probable Assignee: SAMSUNG DISPLAY CO LTD

Assignee(s): (std)**:** KIM MINILL ; KIM SHIN ; LEE TACKKEUN ; MYUNG SEUNGYU ; SAMSUNG DISPLAY CO LTD ; SAMSUNG ELECTRONICS CO LTD ; SEONG NAKHWAN

Assignee(s): SAMSUNG DISPLAY CO ; SAMSUNG ELECTRONICS CO

Inventor(s): (std)**:** KIM MIN ILL ; KIM SHIN ; LEE TACK KEUN ; MYUNG SEUNG YU ; SEONG NAK HWAN

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
KR20120103003 A	20120912	LSAS	N231	NOTIFICATION OF CHANGE OF APPLICANT	
KR20120103003 A	20120919	LSPB	+	published / reissued	
KR20120103003 A	20160308	LSES	A201	REQUEST FOR EXAMINATION	
KR20120103003 A	20170705	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR20120103003 A	20180103	LSRV	-E601	DECISION TO REFUSE APPLICATION	
US2012227555 AA	20110719	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:KIM, MINILL;MYUNG, SEUNGYU;LEE, TACKKEUN;AND OTHERS;SIGNING DATES FROM 20110704 TO 20110713;REEL/FRAME:026613/0850 Owner: SAMSUNG ELECTRONICS CO., LTD, KOREA, REPUBLIC OF

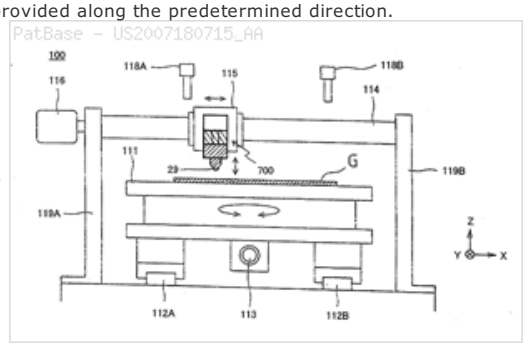
					PartyType: owner
US2012227555 AA	20120913	LSPB	+	published / reissued	
US2012227555 AA	20121011	LSAS	AS	ASSIGNMENT	Effective date: 20120904 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:SAMSUNG ELECTRONICS CO., LTD.;REEL/FRAME:029151/0055 Owner: SAMSUNG DISPLAY CO., LTD., KOREA, REPUBLIC OF PartyType: owner
US2012227555 AA	20151124	LSES	ADV1	Advisory Action Mailed	
US2012227555 AA	20170411		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2012227555 AA	20170713		FRM1	Final Rejection Mailed	
US2012227555 AA	20180402	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2012227555 AA	20180402		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION

64) Family number: 32067546 (US2007180715 AA)

Title: SCRIBE HEAD AND SCRIBE DEVICE

Abstract: A scribing head according to the present invention includes: a scribing line forming means (29) structured so as to form a scribing line on a substrate; and a moving means (502, 503) for moving the scribing line forming means such that the scribing line forming means presses the substrate with a constant magnitude, wherein the moving means includes: a rotation means (502) rotating about a rotation axis, the axial center of the rotation axis being provided so as to align with a predetermined direction in which the scribing line forming means moves, and a motive power transmission means (503) for transmitting a motive power between the motive power transmission means and the scribing line forming means such that the scribing line forming means moves on a straight line along the axial center of the rotation axis in response to the rotation of the rotation means, the motive power transmission means being provided along the predetermined direction.

Classifications:
International (IPC 8-9): B26F3/00 B26F3/02 B28D B28D1/22 B28D1/24 B28D5/00 B28D5/02 B43L13/00 C03B C03B33/00 C03B33/027 C03B33/033 C03B33/037 C03B33/10
International (IPC 1-7): B28D5/02 C03B33/027 C03B33/10
CPC: B28D1/225 C03B33/027 C03B33/10 C03B33/107 Y02P40/57 Y10T225/30 Y10T225/325 Y10T225/371 Y10T83/0333 Y10T83/0393
US: 225/103 225/93 225/93P 225/96.5 225/96.500S 33/18.1 33/32.3 83/879 83/887



Family:

Publication number	Publication date	Application number	Application date
CN1906002 A	20070131	CN200480041125	20041228
CN1906002 B	20110831	CN200480041125	20041228
CN1906003 A	20070131	CN200480041126	20041228
CN1906003 B	20101208	CN200480041126	20041228
EP1700677 A1	20060913	EP20040816695	20041228
EP1700677 A4	20100908	EP20040816695	20041228
EP1700678 A1	20060913	EP20040816696	20041228
EP1700678 A4	20100908	EP20040816696	20041228
HK1100284 A1	20070914	HK20070108332	20070731
HK1100284 A3	20070914	HK20070108332	20070731
JP2005063459 A1	20070719	JP20050516708T	20041228
JP4711829 B1	20110629	JP20050516708T	20041228
JP4711829 B2	20110629	JP20050516708T	20041228
JP2005063460 A1	20070719	JP20050516709T	20041228
JP4948837 B1	20120606	JP20050516709T	20041228
JP4948837 B2	20120606	JP20050516709T	20041228
KR101152763 B1	20120618	KR20067014521	20041228
KR20060127061 A	20061211	KR20067014521	20041228
KR101152758 B1	20120618	KR20067015211	20041228
KR20060127103 A	20061211	KR20067015211	20041228
TW200533615 A	20051016	TW20040141276	20041229
TWI365857 B	20120611	TW20040141276	20041229
TW200536695 A	20051116	TW20040141277	20041229
TWI334819 B	20101221	TW20040141277	20041229
US2007199968 AA	20070830	US20040596878	20041228
US8006599 BB	20110830	US20040596878	20041228
US2007180715 AA	20070809	US20040596879	20041228
US7676937 BB	20100316	US20040596879	20041228
WO05063459 A1	20050714	WO2004JP19654	20041228
WO05063460 A1	20050714	WO2004JP19655	20041228

Priority:

JP20030436932 20031229 WO2004JP19654 20041228 WO2004JP19655 20041228
JP20050516708 20041228 JP20050516709 20041228

Probable Assignee: MITSUBOSHI DIAMOND INDUSTRIAL CO LTD

Assignee(s): (std): MITSUBOSHI DIAMOND IND CO LTD ; MITSUBOSHI DIAMOND IND CO LTDL ; NISHIO YOSHITAKA

Assignee(s): MITSUBOSHI DIAMOND IND CO ; MITSUBOSHI DIAMOND INDUSTRIAL CO ; MITSUBOSHI DIAMOND INDUSTRIAL CO LTD ; MITSUBOSHI DIAMOND INDUSTRIAL CO LTDL

Inventor(s): (std): NISHIO YOSHITAKA ; YOSHITAKA NISHIO

Agent(s): SNELL AND WILMER LLP; SNELL AND WILMER LLP MAIN

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 SN SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
CN1906002 A	20070131	LSPB	+	published /	

				reissued	
CN1906002 A	20070131	LSPB	+C06	PUBLICATION	
CN1906002 A	20070328		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
CN1906002 A	20070914		REG	REFERENCE TO A NATIONAL CODE	Ref country code: HK Ref document number: 1100284 Ref legal event code: DE Country of Ref document: HK
CN1906002 B	20110831	LSGT	+	granted / extensions (spc, cpc, pte)	
CN1906002 B	20110831	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN1906002 B	20130719		REG	REFERENCE TO A NATIONAL CODE	Ref country code: HK Ref document number: 1100284 Ref legal event code: WD Country of Ref document: HK
CN1906002 B	20241228	PEXP		Calculated Patent Term Expiry	
CN1906003 A	20070131	LSPB	+	published / reissued	
CN1906003 A	20070131	LSPB	+C06	PUBLICATION	
CN1906003 A	20070328		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
CN1906003 B	20101208	LSGT	+	granted / extensions (spc, cpc, pte)	
CN1906003 B	20101208	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN1906003 B	20241228	PEXP		Calculated Patent Term Expiry	
EP1700677 A1	20060913	LSPB	+	published / reissued	
EP1700677 A1	20060913	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20060628
EP1700677 A1	20060913		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: 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
EP1700677 A1	20070404		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP1700677 A4	20100908	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20100809
EP1700677 A4	20110105	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20101203
EP1700677 A4	20120509	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 20111122
EP1700678 A1	20060913	LSPB	+	published / reissued	
EP1700678 A1	20060913	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20060628
EP1700678 A1	20060913		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: 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
EP1700678 A1	20070404		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP1700678 A4	20100908	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20100806
EP1700678 A4	20101215	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20101115
EP1700678 A4	20111012	LSDW	-18D	APPLICATION DEEMED TO BE	Effective date: 20110326

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HK1100284 A1	20070914	LSPB	+	published / reissued	
HK1100284 A3	20070914	LSPB	+	published / reissued	
JP2005063459 A1	20070719	LSPB	+	published / reissued	
JP2005063459 A1	20071027	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Effective date: 20071026 Text: JAPANESE INTERMEDIATE CODE: A621
JP2005063459 A1	20110117	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20110114 Text: JAPANESE INTERMEDIATE CODE: A131
JP2005063459 A1	20110219	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20110218 Text: JAPANESE INTERMEDIATE CODE: A523
JP2005063459 A1	20110308	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2005063459 A1	20110311	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Effective date: 20110310 Text: JAPANESE INTERMEDIATE CODE: A01
JP2005063459 A1	20110331	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	Effective date: 20110322 Text: JAPANESE INTERMEDIATE CODE: A61
JP2005063460 A1	20070719	LSPB	+	published / reissued	
JP2005063460 A1	20071027	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Effective date: 20071026 Text: JAPANESE INTERMEDIATE CODE: A621
JP2005063460 A1	20110131	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20110128 Text: JAPANESE INTERMEDIATE CODE: A131
JP2005063460 A1	20111216	LSRV	-A02	DECISION OF REFUSAL	Effective date: 20111215 Text: JAPANESE INTERMEDIATE CODE: A02
JP2005063460 A1	20120118	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20120117 Text: JAPANESE INTERMEDIATE CODE: A523
JP2005063460 A1	20120217	LSAL	A911	TRANSFER OF RECONSIDERATION BY EXAMINER BEFORE APPEAL (ZENCHI)	Effective date: 20120216 Text: JAPANESE INTERMEDIATE CODE: A911
JP2005063460 A1	20120302	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2005063460 A1	20120307	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Effective date: 20120306 Text: JAPANESE INTERMEDIATE CODE: A01
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JP4711829 B1	20110317	LSGT	+A01	特許査定書	
JP4711829 B1	20110329	LSFE	R100	特許料納付書	
JP4711829 B1	20110401	LSGT	+R150	特許証	
JP4711829 B1	20110629	LSGT	+	granted / extensions (spc, cpc, pte)	
JP4711829 B1	20140206	LSFE	R20	特許料納付書	
JP4711829 B1	20140212	LSFE	R2501	年金領収書 (一括)	

JP4711829 B1	20150402	LSFE	R20	特許料納付書	
JP4711829 B1	20150407	LSFE	R2501	年金領収書 (一括)	
JP4711829 B1	20160407	LSFE	R20	特許料納付書	
JP4711829 B1	20160412	LSFE	R2501	年金領収書 (一括)	
JP4711829 B1	20170302	LSFE	R20	特許料納付書	
JP4711829 B1	20170307	LSFE	R2501	年金領収書 (一括)	
JP4711829 B1	20180322	LSFE	R20	特許料納付書	
JP4711829 B1	20180327	LSFE	R2501	年金領収書 (一括)	
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JP4948837 B1	20120606	LSGT	+	granted / extensions (spc, cpc, pte)	
JP4948837 B1	20150219	LSFE	R20	特許料納付書	
JP4948837 B1	20150224	LSFE	R2501	年金領収書 (一括)	
JP4948837 B1	20160204	LSFE	R20	特許料納付書	
JP4948837 B1	20160209	LSFE	R2501	年金領収書 (一括)	
JP4948837 B1	20170202	LSFE	R20	特許料納付書	
JP4948837 B1	20170207	LSFE	R2501	年金領収書 (一括)	
JP4948837 B1	20180215	LSFE	R20	特許料納付書	
JP4948837 B1	20180220	LSFE	R2501	年金領収書 (一括)	
JP4948837 B1	20190207	LSFE	R20	特許料納付書	
JP4948837 B1	20190212	LSFE	R2501	年金領収書 (一括)	
JP4948837 B1	20200122	LSFE	R20	特許料納付書	Effective date: 20200121
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JP4948837 B2	20120606	LSGT	+	granted / extensions (spc, cpc, pte)	
JP4948837 B2	20241228	PEXP		Calculated Patent Term Expiry	
KR101152758 B1	20120618	LSGT	+	granted / extensions (spc, cpc, pte)	
KR101152758 B1	20150430	LSFE	FPAY	ANNUAL FEE PAYMENT	Payment date: 20150430 Year of fee payment: 4
KR101152758 B1	20160427	LSFE	FPAY	ANNUAL FEE PAYMENT	Payment date: 20160427 Year of fee payment: 5
KR101152758 B1	20170504	LSFE	FPAY	ANNUAL FEE PAYMENT	Payment date: 20170504 Year of fee payment: 6
KR101152758 B1	20180427	LSFE	FPAY	ANNUAL FEE PAYMENT	Payment date: 20180427 Year of fee payment: 7
KR101152758 B1	20190429	LSFE	FPAY	ANNUAL FEE PAYMENT	Payment date: 20190429 Year of fee payment: 8
KR101152758 B1	20241228	PEXP		Calculated Patent Term Expiry	
KR101152763 B1	20120618	LSGT	+	granted / extensions (spc, cpc, pte)	
KR101152763 B1	20150430	LSFE	FPAY	ANNUAL FEE PAYMENT	Payment date: 20150430 Year of fee payment: 4
KR101152763 B1	20160427	LSFE	FPAY	ANNUAL FEE PAYMENT	Payment date: 20160427 Year of fee payment: 5
KR101152763 B1	20170504	LSFE	FPAY	ANNUAL FEE PAYMENT	Payment date: 20170504 Year of fee payment: 6

KR101152763 B1	20180427	LSFE	FPAY	ANNUAL FEE PAYMENT	Payment date: 20180427 Year of fee payment: 7
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KR101152763 B1	20241228	PEXP		Calculated Patent Term Expiry	
KR20060127061 A	20061211	LSPB	+	published / reissued	
KR20060127061 A	20091201	LSES	A201	REQUEST FOR EXAMINATION	
KR20060127061 A	20120427	LSGT	+E701	DECISION TO GRANT OR REGISTRATION OF PATENT RIGHT	
KR20060127061 A	20120529	LSGT	+GRNT	WRITTEN DECISION TO GRANT	
KR20060127103 A	20061211	LSPB	+	published / reissued	
KR20060127103 A	20091201	LSES	A201	REQUEST FOR EXAMINATION	
KR20060127103 A	20110927	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR20060127103 A	20120427	LSGT	+E701	DECISION TO GRANT OR REGISTRATION OF PATENT RIGHT	
KR20060127103 A	20120529	LSGT	+GRNT	WRITTEN DECISION TO GRANT	
TW200533615 A	20051016	LSPB	+	published / reissued	
TW200536695 A	20051116	LSPB	+	published / reissued	
TWI334819 B	20101221	LSGT	+	granted / extensions (spc, cpc, pte)	
TWI334819 B	20241229	PEXP		Calculated Patent Term Expiry	
TWI365857 B	20120611	LSGT	+	granted / extensions (spc, cpc, pte)	
TWI365857 B	20200311	LSLE	-MM4A	ANNULMENT OR LAPSE OF PATENT DUE TO NON-PAYMENT OF FEES	
TWI365857 B	20241229	PEXP		Calculated Patent Term Expiry	
US2007180715 AA	20070809	LSPB	+	published / reissued	
US2007199968 AA	20070830	LSPB	+	published / reissued	
US7676937 BB	20061211	LSAS	AS	ASSIGNMENT	Effective date: 20060808 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:NISHIO, YOSHITAKA;REEL/FRAME:018611/0059 Owner: MITSUBOSHI DIAMOND INDUSTRIAL CO., LTD., JAPAN PartyType: owner
US7676937 BB	20061211	LSAS	AS	ASSIGNMENT	Effective date: 20060808 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:NISHIO, YOSHITAKA;REEL/FRAME:018611/0059 Owner: MITSUBOSHI DIAMOND INDUSTRIAL CO., LTD.,JAPAN PartyType: owner
US7676937 BB	20100316	LSGT	+	granted / extensions (spc, cpc, pte)	
US7676937 BB	20131025		REMI	MAINTENANCE FEE REMINDER MAILED	
US7676937 BB	20140316	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US7676937 BB	20140414	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US7676937 BB	20140414	LSLE	-STCH	INFORMATION ON STATUS: PATENT	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES

				DISCONTINUATION	UNDER 37 CFR 1.362
US7676937 BB	20140506	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20140316
US7676937 BB	20260821	PEXP		Calculated Patent Term Expiry (PTA 601 days)	
US8006599 BB	20070305	LSAS	AS	ASSIGNMENT	Effective date: 20060808 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:NISHIO, YOSHITAKA;REEL/FRAME:018958/0341 Owner: MITSUBOSHI DIAMOND INDUSTRIAL CO., LTD., JAPAN PartyType: owner
US8006599 BB	20110830	LSGT	+	granted / extensions (spc, cpc, pte)	
US8006599 BB	20150410		REMI	MAINTENANCE FEE REMINDER MAILED	
US8006599 BB	20150830	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US8006599 BB	20150928	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
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US8006599 BB	20260825	PEXP		Calculated Patent Term Expiry (PTA 605 days)	
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WO05063459 A1	20050907		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
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WO05063459 A1	20060410	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2005516708 Country of Ref document: JP
WO05063459 A1	20060628	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2004816695 Country of Ref document: EP
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WO05063459 A1	20060630	LSWD	-WWW	WIPO INFORMATION: WITHDRAWN IN NATIONAL OFFICE	Text: DE
WO05063459 A1	20060719	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 1020067014521 Country of Ref document: KR
WO05063459 A1	20060728	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 200480041125.3 Country of Ref document: CN

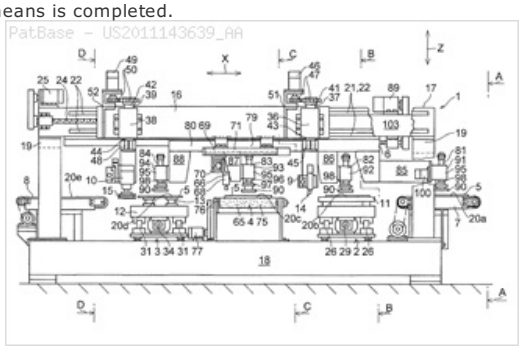
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WO05063459 A1	20070305	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 10596878 Country of Ref document: US
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WO05063459 A1	20070830	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 10596878 Country of Ref document: US
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WO05063460 A1	20050714		+AK	DESIGNATED STATES	Kind code of Ref document: A1 Country of Ref document: AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NA NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW
WO05063460 A1	20050714		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A1 Country of Ref document: AM AT AZ BE BF BG BJ BW BY CF CG CH CI CM CY CZ DE DK EE ES FI FR GA GB GH GM GN GQ GR GW HU IE IS IT KE KG KZ LS LT LU MC MD ML MR MW MZ NA NE NL PL PT RO RU SD SE SI SK SL SN SZ TD TG TJ TM TR TZ UG ZM ZW
WO05063460 A1	20050907		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO05063460 A1	20050915		DPEN	REQUEST FOR PRELIMINARY EXAMINATION FILED PRIOR TO EXPIRATION OF 19TH MONTH FROM PRIORITY DATE (PCT APPLICATION FILED FROM 20040101)	
WO05063460 A1	20060410	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2005516709 Country of Ref document: JP
WO05063460 A1	20060628	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2004816696 Country of Ref document: EP
WO05063460 A1	20060630	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO05063460 A1	20060630	LSWD	-WWW	WIPO INFORMATION: WITHDRAWN IN NATIONAL OFFICE	Text: DE
WO05063460 A1	20060727	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 1020067015211 Country of Ref document: KR
WO05063460 A1	20060728	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 200480041126.8 Country of Ref document: CN
WO05063460 A1	20060913	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 2004816696 Country of Ref document: EP
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WO05063460 A1	20061211	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2007180715 Country of Ref document: US
WO05063460 A1	20061211	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 1020067015211 Country of Ref document: KR

WO05063460 A1	20070809	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 10596879 Country of Ref document: US

65) Family number: 44431204 (US2011143639 AA)

Title: GLASS-PLATE WORKING METHOD AND GLASS-PLATE WORKING APPARATUS

Abstract: A glass-plate working apparatus includes a glass-plate supporting portion 20a of a feed conveyor 7, a glass-plate supporting portion 20b of a cutting section 2, a glass-plate supporting portion 20c of a bend-breaking section 4, a glass-plate supporting portion 20d of a grinding section 3, and a glass-plate supporting portion 20e of a discharge conveyor 8; a cutting head 9, a bend-breaking device 66, and a grinding head 10 for **processing** glass plates 5 which are respectively supported by the supporting portions 20b, 20c, and 20d; and a transporting device 89 for transporting the glass plate 5 on the supporting portion 20a onto the supporting portion 20b, the glass plate 5 on the supporting portion 20b onto the supporting portion 20c, the glass plate 5 on the supporting portion 20c onto the supporting portion 20d, and the glass plate 5 on the supporting portion 20d onto the supporting portion 20e, respectively. The transporting device 89 is adapted to repeat reciprocating movement so as to sequentially transfer the glass plate 5 onto each of the supporting portions 20a, 20b, 20c, 20d, and 20e each time the **processing** operation by **processing** means is completed.



Classifications:
International (IPC 8-9): B24B1/00 B24B37/34 B24B9/10 B26D3/08 B26F3/00 B26F3/02 B28D5/00 B28D7/04 B65G47/91 B65G49/05 B65G49/06 B65H35/10 C03B33/00 C03B33/03 C03B33/037 C03B35/00 H01L21/677
International (IPC 1-7): C03B33/03
CPC: B24B37/345 B26F3/00 B65G2249/04 B65G49/064 B65G49/066 C03B33/03 H01L21/677 Y02P40/57 Y10T225/12 Y10T225/307 Y10T225/321 Y10T83/0333 Y10T83/0341
US: 1/1 225/2 225/2S 225/94 225/94S 225/96 414/225.01 414/225.010S 414/806 414/806S 451/44 451/44P 451/64 451/70 451/70S 83/879 83/879S 83/880 83/880S

Family:

Publication number	Publication date	Application number	Application date
BRPI0917787 A2	20160301	BR2009PI17787	20090603
CN102131739 A	20110720	CN200980133669	20090603
CN102131739 B	20140903	CN200980133669	20090603
CN103382083 A	20131106	CN201310222151	20090603
CN103382083 B	20150722	CN201310222151	20090603
CN104150758 A	20141119	CN201410392714	20090603
CN104150758 B	20170412	CN201410392714	20090603
DE602009054696 D1	20181018	DE200960054696T	20090603
EP2314547 A1	20110427	EP20090808007	20090603
EP2314547 A4	20131023	EP20090808007	20090603
EP2314547 B1	20160810	EP20090808007	20090603
EP3006412 A1	20160413	EP20150193696	20090603
EP3006412 B1	20180919	EP20150193696	20090603
IN00431KN2011 A	20110415	IN2011KN00431	20110127
IN275871 B	20160930	IN2011KN00431	20110127
JP2010047455 A2	20100304	JP20080214687	20080822
JP5434014 B2	20140305	JP20080214687	20080822
JP2013237610 A2	20131128	JP20130130068	20130620
JP5720723 B2	20150520	JP20130130068	20130620
JP2014040371 A2	20140306	JP20130241210	20131121
JP5804028 B2	20151104	JP20130241210	20131121
JP2015013799 A2	20150122	JP20140169949	20140822
JP5776830 B2	20150909	JP20140169949	20140822
KR101515094 B1	20150424	KR20117003669	20090603
KR20110065442 A	20110615	KR20117003669	20090603
KR101321412 B1	20131028	KR20137012056	20090603
KR20130079586 A	20130710	KR20137012056	20090603
KR101492918 B1	20150212	KR20137026346	20090603
KR20130116960 A	20131024	KR20137026346	20090603
KR20140130563 A	20141110	KR20147029360	20090603
US2011143639 AA	20110616	US20090058397	20090603
US9283690 BB	20160315	US20090058397	20090603
US2014106648 AA	20140417	US20130109197	20131217
WO10021071 A1	20100225	WO2009JP02510	20090603

Priority:

JP20080214687 20080822
CN200980133669 20090603
US20110058397 20110210
US20130109197 20131217
JP20130130068 20080822
EP20150193696 20090603
JP20130130068 20130620
JP20140169949 20140822
WO2009JP02510 20090603
EP20090808007 20090603
JP20130241210 20131121

Probable Assignee: BANDO KIKO CO LTD

Assignee(s): (std): BANDO KAZUAKI ; BANDO KIKO CO

Assignee(s): BANDO KIKO CO LTD

Inventor(s): (std): BANDO KAZUAKI ; KAZUAKI BANDO

Inventor(s): BANDO KAZUAKI TOKUSHIMA SHI

Agent(s): ADVOTEC PATENT U RECHTSANWAELTE; HOPKIN TOBIAS J B; HOPKIN TOBIAS JB; J A KEMP; NIXON AND VANDERHYE PC; TAKADA TAKESHI

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 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

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
BRPI0917787 A2	20180417		B06F	OBJECTIONS, DOCUMENTS AND/OR TRANSLATIONS NEEDED AFTER AN EXAMINATION REQUEST ACCORDING ART. 34 INDUSTRIAL PROPERTY LAW	
BRPI0917787 A2	20181016		B06T	FORMAL REQUIREMENTS BEFORE EXAMINATION	Text: O DEPOSITANTE DEVE RESPONDER A EXIGENCIA FORMULADA NESTE PARECER POR MEIO DO SERVICO DE CODIGO 206 EM ATE 60 (SESSENTA) DIAS, A PARTIR DA DATA DE PUBLICACAO NA RPI, SOB PENA DO ARQUIVAMENTO DO PEDIDO, DE ACORDO COM O ART. 34 DA LPI.PUBLIQUE-SE A EXIGENCIA (6.20).
BRPI0917787 A2	20190102	LSRV	B11E	DISMISSAL ACC. ART. 34 OF IPL - REQUIREMENTS FOR EXAMINATION INCOMPLETE	
BRPI0917787 A2	20200924		-B11T	DISMISSAL: DISMISSAL OF APPLICATION MAINTAINED	
CN102131739 A	20110720	LSPB	+	published / reissued	
CN102131739 A	20110720	LSPB	+C06	PUBLICATION	
CN102131739 A	20110914		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
CN102131739 B	20140903	LSGT	+	granted / extensions (spc, cpc, pte)	
CN102131739 B	20140903	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN102131739 B	20290603	PEXP		Calculated Patent Term Expiry	
CN103382083 A	20131106	LSPB	+	published / reissued	
CN103382083 A	20131106	LSPB	+C06	PUBLICATION	
CN103382083 A	20131204		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
CN103382083 B	20150722	LSGT	+	granted / extensions (spc, cpc, pte)	
CN103382083 B	20150722	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN103382083 B	20290603	PEXP		Calculated Patent Term Expiry	
CN104150758 A	20141119	LSPB	+	published / reissued	
CN104150758 A	20141119	LSPB	+C06	PUBLICATION	
CN104150758 A	20141217		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
CN104150758 A	20170412	LSGT	+GR01	PATENT GRANT	
CN104150758 B	20170412	LSGT	+	granted / extensions (spc, cpc, pte)	
CN104150758 B	20290603	PEXP		Calculated Patent Term Expiry	
EP2314547 A1	20110427	LSPB	+	published / reissued	
EP2314547 A1	20110427	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20110131

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EP2314547 A1	20110427		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: AL BA RS
EP2314547 A1	20111130		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP2314547 A4	20131023	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20130925
EP2314547 A4	20131023		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: C03B 33/03 20060101AFI20130919BHEP
EP2314547 A4	20131023		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: B65G 49/06 20060101ALI20130919BHEP
EP2314547 A4	20131023		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: C03B 33/037 20060101ALI20130919BHEP
EP2314547 A4	20131023		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: C03B 35/00 20060101ALI20130919BHEP
EP2314547 A4	20150304	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20150130
EP2314547 A4	20160229		REG	REFERENCE TO A NATIONAL CODE	ClassificationScheme: IPC ClassificationSymbol: B26F0003000000 Ref country code: DE Ref document number: 602009040328 Ref legal event code: R079 Text: PREVIOUS MAIN CLASS: C03B0033030000 Country of Ref document: DE
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EP2314547 A4	20160406		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: H01L 21/677 20060101ALI20160229BHEP
EP2314547 A4	20160406		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: B26F 3/00 20060101AFI20160229BHEP
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EP2314547 A4	20160406		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: C03B 33/03 20060101ALI20160229BHEP
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EP2314547 B1	20160815	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: EP
EP2314547 B1	20160815	LSNP	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20160815 Kind code of Ref document: T Ref country code: AT Ref document number: 818556

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EP2314547 B1	20160907	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: IE Ref legal event code: FG4D
EP2314547 B1	20160922	LSPB	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref document number: 602009040328 Ref legal event code: R096 Country of Ref document: DE
EP2314547 B1	20161212	LSRV	REG	REFERENCE TO A NATIONAL CODE	Ref country code: LT Ref legal event code: MG4D
EP2314547 B1	20161214		REG	REFERENCE TO A NATIONAL CODE	Effective date: 20160810 Ref country code: NL Ref legal event code: MP
EP2314547 B1	20170115	LSRV	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20160810 Kind code of Ref document: T Ref country code: AT Ref document number: 818556 Ref legal event code: MK05 Country of Ref document: AT
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EP2314547 B1	20170131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160810 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: FI
EP2314547 B1	20170131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20161110 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: NO
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EP2314547 B1	20170228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160810 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: PL
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EP2314547 B1	20170228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160810 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SE
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EP2314547 B1	20170511	LSRE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref document number: 602009040328 Ref legal event code: R097 Country of Ref document: DE
EP2314547 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160810 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SK
EP2314547 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160810 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: CZ
EP2314547 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160810 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: DK
EP2314547 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160810 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: BE
EP2314547 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION	Lapsed date: 20161110 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE

				FROM NATIONAL OFFICE TO EPO]	WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: BG
EP2314547 B1	20170719	LSGT	+26N	NO OPPOSITION FILED	Effective date: 20170511
EP2314547 B1	20170731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20170612 Year of fee payment: 9 Country of Ref document: CH
EP2314547 B1	20170831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160810 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SI
EP2314547 B1	20180103	LSDW	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref document number: 602009040328 Ref legal event code: R119 Country of Ref document: DE
EP2314547 B1	20180131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160810 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: MC
EP2314547 B1	20180228	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	Effective date: 20170603 Ref country code: EP
EP2314547 B1	20180321	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: IE Ref legal event code: MM4A
EP2314547 B1	20180330	LSLE	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20180228 Ref country code: FR Ref legal event code: ST
EP2314547 B1	20180430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20170603 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: GB
EP2314547 B1	20180430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20170603 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: IE
EP2314547 B1	20180430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180103 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: DE
EP2314547 B1	20180430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20170603 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: LU
EP2314547 B1	20180531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20170630 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: FR
EP2314547 B1	20180731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20180619 Year of fee payment: 10 Country of Ref document: CH
EP2314547 B1	20180928	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20170603 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: MT
EP2314547 B1	20190628	LSLE	-PG25	LAPSED IN A CONTRACTING	Lapsed date: 20090603 NotificationOfLapse: LAPSE

				STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT; INVALID AB INITIO Country of Ref document: HU
EP2314547 B1	20190930	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190613 Year of fee payment: 11 Country of Ref document: CH
EP2314547 B1	20191031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160810 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: CY
EP2314547 B1	20191129	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160810 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: MK
EP2314547 B1	20200331	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160810 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: TR
EP2314547 B1	20200731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200618 Year of fee payment: 12 Country of Ref document: CH
EP2314547 B1	20290603	PEXP		Calculated Patent Term Expiry	
EP3006412 A1	20160413	LSPB	+	published / reissued	
EP3006412 A1	20160413		AC	DIVISIONAL APPLICATION: REFERENCE TO EARLIER APPLICATION	Kind code of Ref document: P Ref document number: 2314547 Country of Ref document: EP
EP3006412 A1	20160413		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: 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 TR
EP3006412 A1	20161123	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20161012
EP3006412 A1	20161123		+RBV	DESIGNATED CONTRACTING STATES (CORRECTED)	Country of Ref document: 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 TR
EP3006412 A1	20170419	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20170315
EP3006412 A1	20180509	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	Effective date: 20180412
EP3006412 A1	20180509		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: BANDO, KAZUAKI PartyType: inventor
EP3006412 B1	20180919	LSGT	+	granted / extensions (spc, cpc, pte)	
EP3006412 B1	20180919		AC	DIVISIONAL APPLICATION: REFERENCE TO EARLIER APPLICATION	Kind code of Ref document: P Ref document number: 2314547 Country of Ref document: EP
EP3006412 B1	20180919		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: 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 TR
EP3006412 B1	20180919	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: GB Ref legal event code: FG4D
EP3006412 B1	20180928	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: EP

EP3006412 B1	20181015	LSNP	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20181015 Kind code of Ref document: T Ref country code: AT Ref document number: 1043042 Ref legal event code: REF Country of Ref document: AT
EP3006412 B1	20181017	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: IE Ref legal event code: FG4D
EP3006412 B1	20181018	LSPB	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref document number: 602009054696 Ref legal event code: R096 Country of Ref document: DE
EP3006412 B1	20181031		REG	REFERENCE TO A NATIONAL CODE	PartyType: representative Ref country code: CH Ref legal event code: NV Representative: BOVARD AG PATENT- UND MARKENANWAELTE, CH
EP3006412 B1	20190123		REG	REFERENCE TO A NATIONAL CODE	Effective date: 20180919 Ref country code: NL Ref legal event code: MP
EP3006412 B1	20190131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20181219 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: NO
EP3006412 B1	20190131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180919 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SE
EP3006412 B1	20190131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20181220 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: GR
EP3006412 B1	20190131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180919 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: LT
EP3006412 B1	20190131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180919 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: FI
EP3006412 B1	20190131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20181219 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: BG
EP3006412 B1	20190211	LSRV	REG	REFERENCE TO A NATIONAL CODE	Ref country code: LT Ref legal event code: MG4D
EP3006412 B1	20190228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180919 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: LV
EP3006412 B1	20190228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180919 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: HR
EP3006412 B1	20190315	LSRV	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20180919 Kind code of Ref document: T Ref country code: AT Ref document number: 1043042 Ref legal event code: MK05 Country of Ref document: AT

EP3006412 B1	20190430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180919 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: PL
EP3006412 B1	20190430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180919 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: AT
EP3006412 B1	20190430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190119 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: IS
EP3006412 B1	20190430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180919 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: EE
EP3006412 B1	20190430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180919 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: ES
EP3006412 B1	20190430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180919 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: RO
EP3006412 B1	20190430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180919 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: CZ
EP3006412 B1	20190430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180919 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: NL
EP3006412 B1	20190430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180919 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: IT
EP3006412 B1	20190531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180919 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SK
EP3006412 B1	20190531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190119 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: PT
EP3006412 B1	20190620	LSRE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref document number: 602009054696 Ref legal event code: R097 Country of Ref document: DE
EP3006412 B1	20190731	LSLE	-PG25	LAPSED IN A CONTRACTING	Lapsed date: 20180919 NotificationOfLapse: LAPSE

				STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: DK
EP3006412 B1	20190828	LSGT	+26N	NO OPPOSITION FILED	Effective date: 20190620
EP3006412 B1	20190930	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190613 Year of fee payment: 11 Country of Ref document: CH
EP3006412 B1	20191031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180919 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SI
EP3006412 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190822 Year of fee payment: 11 Country of Ref document: DE
EP3006412 B1	20200131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180919 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: MC
EP3006412 B1	20200226	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	Effective date: 20190603 Ref country code: EP
EP3006412 B1	20200327		REG	REFERENCE TO A NATIONAL CODE	Effective date: 20190630 Ref country code: BE Ref legal event code: MM
EP3006412 B1	20200331	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180919 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: TR
EP3006412 B1	20200501	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190603 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: GB
EP3006412 B1	20200501	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190603 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: IE
EP3006412 B1	20200529	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190630 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: BE
EP3006412 B1	20200529	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190603 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: LU
EP3006412 B1	20200630	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190630 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: FR
EP3006412 B1	20200731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200618 Year of fee payment: 12 Country of Ref document: DE
EP3006412 B1	20200731	LSFE	+PGFP	ANNUAL FEE PAID	Payment date: 20200618

				TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 12 Country of Ref document: CH
EP3006412 B1	20290603	PEXP		Calculated Patent Term Expiry	
IN00431KN2011 A	20110415	LSPB	+	published / reissued	
IN275871 B	20160930	LSGT	+	granted / extensions (spc, cpc, pte)	
IN275871 B	20310127	PEXP		Calculated Patent Term Expiry	
JP2010047455 A2	20100304	LSPB	+	published / reissued	
JP2010047455 A2	20110708	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Effective date: 20110707 Text: JAPANESE INTERMEDIATE CODE: A621
JP2010047455 A2	20130423	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20130423 Text: JAPANESE INTERMEDIATE CODE: A131
JP2010047455 A2	20130621	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20130620 Text: JAPANESE INTERMEDIATE CODE: A523
JP2010047455 A2	20131106	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2010047455 A2	20131112	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Effective date: 20131112 Text: JAPANESE INTERMEDIATE CODE: A01
JP2010047455 A2	20131219	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	Effective date: 20131125 Text: JAPANESE INTERMEDIATE CODE: A61
JP2013237610 A2	20131128	LSPB	+	published / reissued	
JP2013237610 A2	20140612		A977	REPORT ON RETRIEVAL	Effective date: 20140612 Text: JAPANESE INTERMEDIATE CODE: A971007
JP2013237610 A2	20140624	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20140624 Text: JAPANESE INTERMEDIATE CODE: A131
JP2013237610 A2	20140823	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20140822 Text: JAPANESE INTERMEDIATE CODE: A523
JP2013237610 A2	20150213	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2013237610 A2	20150224	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Effective date: 20150224 Text: JAPANESE INTERMEDIATE CODE: A01
JP2013237610 A2	20150402	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	Effective date: 20150309 Text: JAPANESE INTERMEDIATE CODE: A61
JP2014040371 A2	20140306	LSPB	+	published / reissued	
JP2014040371 A2	20140711		A977	REPORT ON RETRIEVAL	Effective date: 20140710 Text: JAPANESE INTERMEDIATE CODE: A971007
JP2014040371 A2	20140805	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20140805 Text: JAPANESE INTERMEDIATE CODE: A131
JP2014040371 A2	20141004	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20141003 Text: JAPANESE INTERMEDIATE CODE: A523
JP2014040371 A2	20150512	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20150512 Text: JAPANESE INTERMEDIATE CODE: A131
JP2014040371 A2	20150709	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20150709 Text: JAPANESE INTERMEDIATE CODE: A523
JP2014040371 A2	20150728	LSGT	+TRDD	DECISION OF GRANT OR REJECTION	

				WRITTEN	
JP2014040371 A2	20150804	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Effective date: 20150804 Text: JAPANESE INTERMEDIATE CODE: A01
JP2014040371 A2	20150910	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	Effective date: 20150817 Text: JAPANESE INTERMEDIATE CODE: A61
JP2015013799 A2	20150122	LSPB	+	published / reissued	
JP2015013799 A2	20150513	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20150513 Text: JAPANESE INTERMEDIATE CODE: A523
JP2015013799 A2	20150526		A977	REPORT ON RETRIEVAL	Effective date: 20150526 Text: JAPANESE INTERMEDIATE CODE: A971007
JP2015013799 A2	20150601	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2015013799 A2	20150609	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Effective date: 20150609 Text: JAPANESE INTERMEDIATE CODE: A01
JP2015013799 A2	20150716	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	Effective date: 20150622 Text: JAPANESE INTERMEDIATE CODE: A61
JP5434014 B2	20131114	LSGT	+A01	特許査定書	
JP5434014 B2	20131114	LSFE	R1001	特許料納付書 (包括納付)	
JP5434014 B2	20131220	LSGT	+R150	特許証	
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JP5434014 B2	20161006	LSFE	R20	特許料納付書	
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KR101321412 B1	20130509		A107	DIVISIONAL APPLICATION OF PATENT	
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KR101321412 B1	20131028	LSGT	+	granted / extensions (spc, cpc, pte)	
KR101321412 B1	20161005	LSFE	FPAY	ANNUAL FEE PAYMENT	Payment date: 20161006 Year of fee payment: 4
KR101321412 B1	20170823	LSFE	FPAY	ANNUAL FEE PAYMENT	Payment date: 20170824 Year of fee payment: 5
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KR101321412 B1	20290603	PEXP		Calculated Patent Term Expiry	
KR101492918 B1	20131004		A107	DIVISIONAL APPLICATION OF PATENT	
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KR20110065442 A	20110406	LSRE	AMND	AMENDMENT	
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KR20110065442 A	20110627	LSES	A201	REQUEST FOR EXAMINATION	
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KR20110065442 A	20130509		A107	DIVISIONAL APPLICATION OF PATENT	
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KR20110065442 A	20131004		A107	DIVISIONAL APPLICATION OF PATENT	
KR20110065442 A	20131004		J201	REQUEST FOR TRIAL AGAINST REFUSAL DECISION	
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KR20110065442 A	20141231		J301	TRIAL DECISION	Effective date: 20141231 Text: TRIAL DECISION FOR APPEAL AGAINST DECISION TO DECLINE REFUSAL REQUESTED 20131004
KR20110065442 A	20141231		S901	EXAMINATION BY REMAND OF REVOCATION	
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KR20130116960 A	20131024	LSPB	+	published / reissued	
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KR20130116960 A	20140820	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
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				APPLICATION OF PATENT	
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KR20130116960 A	20150206	LSGT	+GRNT	WRITTEN DECISION TO GRANT	
KR20140130563 A	20141020		A107	DIVISIONAL APPLICATION OF PATENT	
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KR20140130563 A	20150128	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR20140130563 A	20150826	LSRV	-E601	DECISION TO REFUSE APPLICATION	
US2011143639 AA	20110616	LSPB	+	published / reissued	
US2011143639 AA	20160224	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2014106648 AA	20140417	LSPB	+	published / reissued	
US2014106648 AA	20151212		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2014106648 AA	20170508		RFE1	Docketed New Case - Ready for Examination	
US2014106648 AA	20170512	LSES	NFA1	Non Final Action Mailed	
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US2014106648 AA	20170905		FRM1	Final Rejection Mailed	
US2014106648 AA	20180315	LSES	NFA1	Non Final Action Mailed	
US2014106648 AA	20180806		FRM2	Final Rejection Counted, Not Yet Mailed	
US2014106648 AA	20181206	LSWD	PRS1	Prosecution Suspended	
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US2014106648 AA	20190408		RFE1	Docketed New Case - Ready for Examination	
US2014106648 AA	20190408		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2014106648 AA	20190610	LSES	NFA1	Non Final Action Mailed	
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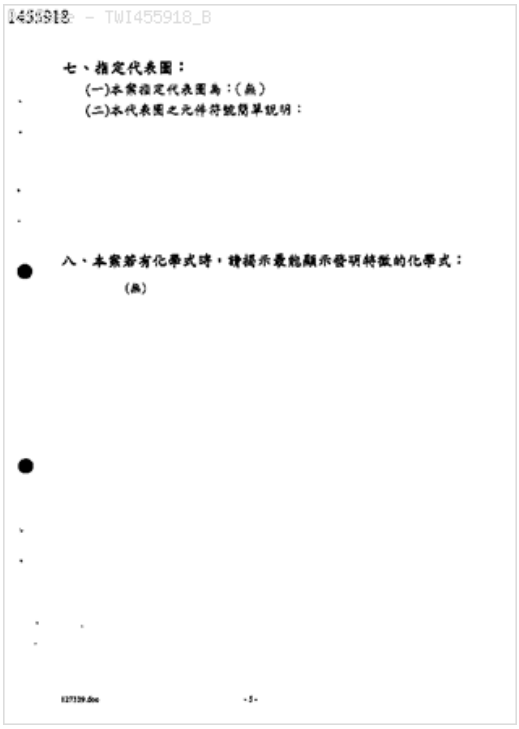
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US2014106648 AA	20200616	LSWD	PRS1	Prosecution Suspended	
US2014106648 AA	20200616		-STCT	INFORMATION ON STATUS: ADMINISTRATIVE PROCEDURE ADJUSTMENT	Text: PROSECUTION SUSPENDED
US9283690 BB	20110210	LSAS	AS	ASSIGNMENT	Effective date: 20110113 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:BANDO, KAZUAKI;REEL/FRAME:025789/0247 Owner: BANDO KIKO CO., LTD., JAPAN PartyType: owner
US9283690 BB	20151104	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US9283690 BB	20160224	LSGT	PAT1	Patented Case	
US9283690 BB	20160315	LSGT	+	granted / extensions (spc, cpc, pte)	
US9283690 BB	20190814	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 4
US9283690 BB	20200603	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO SMALL (ORIGINAL EVENT CODE: SMAL); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US9283690 BB	20300909	PEXP		Calculated Patent Term Expiry (PTA 463 days)	
WO10021071 A1	20090603	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 200980133669.5 Country of Ref document: CN
WO10021071 A1	20100225	LSPB	+	published / reissued	
WO10021071 A1	20100414		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A1 Ref document number: 09808007 Country of Ref document: EP
WO10021071 A1	20110127	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 431/KOLNP/2011 Country of Ref document: IN
WO10021071 A1	20110131		+REEP	REQUEST FOR ENTRY INTO THE EUROPEAN PHASE	Ref document number: 2009808007 Country of Ref document: EP
WO10021071 A1	20110131	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2009808007 Country of Ref document: EP
WO10021071 A1	20110210	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 13058397 Country of Ref document: US
WO10021071 A1	20110217	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 20117003669 Country of Ref document: KR
WO10021071 A1	20110223	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO10021071 A1	20160301	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Effective date: 20110222 Kind code of Ref document: A2 Ref document number: PI0917787 Country of Ref document: BR

66) Family number: 41911083 (US2008139683 AA)

Title: HYDROFLUOROETHER COMPOUNDS AND **PROCESSES** FOR THEIR PREPARATION AND USE

Abstract: A hydrofluoroether compound comprises two terminal, independently fluoroalkyl or perfluoroalkyl groups and an intervening oxytetrafluoroethylidene moiety (-OCF(CF_3)-) bonded through its central carbon atom to an alkoxy- or fluoroalkoxy-substituted fluoromethylene moiety (-CF(OR)-), each of the terminal groups optionally comprising at least one catenated heteroatom.

Classifications:
International (IPC 8-9): B23K35/00 B23K35/36 B26F3/00 B29C44/00 C07C19/08 C07C21/18 C07C41/00 C07C41/01 C07C41/16 C07C43/00 C07C43/12 C07C43/192 C07C45/00 C07C45/69 C07C49/00 C07C49/175 C07D265/00 C07D265/30 C07D295/00 C07D295/088 C07D295/108 C07D307/00 C07D307/12 C07D307/16 C07D307/18 C07D413/12 C08F2/00 C08J9/00 C08J9/04 C08J9/12 C08K5/00 C08K5/06 C08L101/00 C09K3/14 C09K5/00 C09K5/08 C09K5/10 C10M105/00 C10M105/54 C10M105/70 C10M147/04 C10N30/00 C10N30/08 C10N40/22 F24D1/00
CPC: B23K35/3612 C07C43/126 C07D265/30 C07D307/18 C07D413/12 C09K5/10 C10M147/04 C10N2040/22 Y10T83/364
US: 237/81 521/114 521/82 526/206 568/683 568/683S 570/142 83/177



Family:

Publication number	Publication date	Application number	Application date
CN101541723 A	20090923	CN200780044422	20071203
CN101541723 B	20141126	CN200780044422	20071203
EP2094633 A1	20090902	EP20070868968	20071203
EP2094633 B1	20170802	EP20070868968	20071203
JP2010512332 T2	20100422	JP20090540404T	20071203
JP5567344 B2	20140806	JP20090540404T	20071203
KR101445410 B1	20140926	KR20097011613	20071203
KR20090089365 A	20090821	KR20097011613	20071203
TW200838843 A	20081001	TW20070146525	20071206
TWI455918 B	20141011	TW20070146525	20071206
US2008139683 AA	20080612	US20060567643	20061206
US8193397 BB	20120605	US20060567643	20061206
WO08070606 A1	20080612	WO2007US86239	20071203

Priority:
US20060567643 20061206 WO2007US86239 20071203

Probable Assignee: 3M CO

Assignee(s): (std): 3M CO ; 3M INNOVATIVE PROPERTIES CO ; COSTELLO MICHAEL G ; FLYNN RICHARD M ; VITCAK DANIEL R

Assignee(s): 3M INNOVATIVE PROPERTIES COMPANY

Inventor(s): (std): COSTELLO MICHAEL G ; COSTELLO MICHAEL GEORGE ; FLYNN RICHARD M ; FLYNN RICHARD MARK ; VITCAK DANIEL R ; VITCAK DANIEL RALPH

Agent(s): 3M INNOVATIVE PROPERTIES CO; 3M INNOVATIVE PROPERTIES COMPANY; ANN; ISARPATENT; LUCY C; VON KREISLER SELTING WERNER; WEISS LUCY C ET AL

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 ZA ZM ZW

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
CN101541723 A	20090923	LSPB	+	published / reissued	
CN101541723 A	20090923	LSPB	+C06	PUBLICATION	
CN101541723 A	20091111		C10	ENTRY INTO	

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CN101541723 B	20141126	LSGT	+	granted / extensions (spc, cpc, pte)	
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CN101541723 B	20271203	PEXP		Calculated Patent Term Expiry	
EP2094633 A1	20090902	LSPB	+	published / reissued	
EP2094633 A1	20090902	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20090622
EP2094633 A1	20090902		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC MT NL PL PT RO SE SI SK TR
EP2094633 A1	20100317		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP2094633 A1	20100901	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20100730
EP2094633 A1	20170322		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: C07D 307/18 20060101ALI20170215BHEP
EP2094633 A1	20170322		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: C07D 413/12 20060101ALI20170215BHEP
EP2094633 A1	20170322		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: C07D 265/30 20060101ALI20170215BHEP
EP2094633 A1	20170322		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: C09K 5/10 20060101ALI20170215BHEP
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EP2094633 A1	20170322		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: C07C 43/12 20060101AFI20170215BHEP
EP2094633 A1	20170322		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: C10M 147/04 20060101ALI20170215BHEP
EP2094633 A1	20170405	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	Effective date: 20170310
EP2094633 A1	20170405		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: VITCAK, DANIEL, R. PartyType: inventor
EP2094633 A1	20170405		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: COSTELLO, MICHAEL, G. PartyType: inventor
EP2094633 A1	20170405		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: FLYNN, RICHARD, M. PartyType: inventor
EP2094633 B1	20170802	LSGT	+	granted / extensions (spc, cpc, pte)	
EP2094633 B1	20170802		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC MT NL PL PT RO SE SI SK TR
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EP2094633 B1	20170815	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: EP
EP2094633 B1	20170815	LSNP	REG	REFERENCE TO A	Effective date: 20170815

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EP2094633 B1	20170914	LSPB	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref document number: 602007051872 Ref legal event code: R096 Country of Ref document: DE
EP2094633 B1	20171012	LSFE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: FR Ref legal event code: PLFP Year of fee payment: 11
EP2094633 B1	20171206		REG	REFERENCE TO A NATIONAL CODE	Effective date: 20170802 Ref country code: NL Ref legal event code: MP
EP2094633 B1	20171215	LSRV	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20170802 Kind code of Ref document: T Ref country code: AT Ref document number: 914266 Ref legal event code: MK05 Country of Ref document: AT
EP2094633 B1	20171227	LSRV	REG	REFERENCE TO A NATIONAL CODE	Ref country code: LT Ref legal event code: MG4D
EP2094633 B1	20180131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20170802 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: LT
EP2094633 B1	20180131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20170802 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: NL
EP2094633 B1	20180131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20170802 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: AT
EP2094633 B1	20180131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20170802 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: FI
EP2094633 B1	20180131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20170802 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SE
EP2094633 B1	20180131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20171129 Year of fee payment: 11 Country of Ref document: DE
EP2094633 B1	20180131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20171012 Year of fee payment: 11 Country of Ref document: FR
EP2094633 B1	20180228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20170802 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: ES
EP2094633 B1	20180228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20171202 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: IS

EP2094633 B1	20180228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20171103 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: GR
EP2094633 B1	20180228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20170802 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: PL
EP2094633 B1	20180228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20170802 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: LV
EP2094633 B1	20180228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20171102 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: BG
EP2094633 B1	20180228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20171129 Year of fee payment: 11 Country of Ref document: GB
EP2094633 B1	20180430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20170802 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: RO
EP2094633 B1	20180430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20170802 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: CZ
EP2094633 B1	20180430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20170802 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: DK
EP2094633 B1	20180503	LSRE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref document number: 602007051872 Ref legal event code: R097 Country of Ref document: DE
EP2094633 B1	20180531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20170802 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: EE
EP2094633 B1	20180531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20170802 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SK
EP2094633 B1	20180531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20171221 Year of fee payment: 11 Country of Ref document: IT
EP2094633 B1	20180711	LSGT	+26N	NO OPPOSITION FILED	Effective date: 20180503
EP2094633 B1	20180731	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: PL
EP2094633 B1	20180831	LSLE	-PG25	LAPSED IN A	Lapsed date: 20170802

				CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SI
EP2094633 B1	20180919	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: IE Ref legal event code: MM4A
EP2094633 B1	20180928	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20171203 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: MT
EP2094633 B1	20180928	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20171203 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: LU
EP2094633 B1	20181018		REG	REFERENCE TO A NATIONAL CODE	Effective date: 20171231 Ref country code: BE Ref legal event code: MM
EP2094633 B1	20181031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20171203 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: IE
EP2094633 B1	20181130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20171231 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: BE
EP2094633 B1	20181130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20171231 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: LI
EP2094633 B1	20181130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20171231 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: CH
EP2094633 B1	20190131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20181120 Year of fee payment: 12 Country of Ref document: DE
EP2094633 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20181220 Year of fee payment: 12 Country of Ref document: IT
EP2094633 B1	20190628	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20071203 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT; INVALID AB INITIO Country of Ref document: HU
EP2094633 B1	20190628	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20170802 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: MC
EP2094633 B1	20190828	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	Effective date: 20181203 Ref country code: EP
EP2094633 B1	20191031	LSLE	-PG25	LAPSED IN A CONTRACTING	Lapsed date: 20181231 NotificationOfLapse: LAPSE BECAUSE

				STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	OF NON-PAYMENT OF DUE FEES Country of Ref document: FR
EP2094633 B1	20191031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20170802 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: CY
EP2094633 B1	20191231	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20181203 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: GB
EP2094633 B1	20200331	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20170802 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: TR
EP2094633 B1	20200529	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20170802 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: PT
EP2094633 B1	20200701	LSDW	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref document number: 602007051872 Ref legal event code: R119 Country of Ref document: DE
EP2094633 B1	20271203	PEXP		Calculated Patent Term Expiry	
JP2010512332 T2	20100422	LSPB	+	published / reissued	
JP2010512332 T2	20101202	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20101201 Text: JAPANESE INTERMEDIATE CODE: A523
JP2010512332 T2	20101202	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Effective date: 20101201 Text: JAPANESE INTERMEDIATE CODE: A621
JP2010512332 T2	20121226		A977	REPORT ON RETRIEVAL	Effective date: 20121225 Text: JAPANESE INTERMEDIATE CODE: A971007
JP2010512332 T2	20130109	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20130108 Text: JAPANESE INTERMEDIATE CODE: A131
JP2010512332 T2	20130406	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20130405 Text: JAPANESE INTERMEDIATE CODE: A523
JP2010512332 T2	20131120	LSRV	-A02	DECISION OF REFUSAL	Effective date: 20131119 Text: JAPANESE INTERMEDIATE CODE: A02
JP2010512332 T2	20140318	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20140317 Text: JAPANESE INTERMEDIATE CODE: A523
JP2010512332 T2	20140326	LSAL	A911	TRANSFER OF RECONSIDERATION BY EXAMINER BEFORE APPEAL (ZENCHI)	Effective date: 20140325 Text: JAPANESE INTERMEDIATE CODE: A911
JP2010512332 T2	20140421	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2010512332 T2	20140520	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Effective date: 20140520 Text: JAPANESE INTERMEDIATE CODE: A01
JP2010512332 T2	20140626	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	Effective date: 20140619 Text: JAPANESE INTERMEDIATE CODE: A61
JP5567344 B2	20140522	LSGT	+A01	特許査定書	
JP5567344 B2	20140624	LSFE	R100	特許料納付書	

JP5567344 B2	20140627	LSGT	+R150	特許証	
JP5567344 B2	20140806	LSGT	+	granted / extensions (spc, cpc, pte)	
JP5567344 B2	20170601	LSFE	R20	特許料納付書	
JP5567344 B2	20170606	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP5567344 B2	20170606	LSFE	+R250	年金領収書, 年金領収書 (分納)	
JP5567344 B2	20180531	LSFE	R20	特許料納付書	
JP5567344 B2	20180605	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP5567344 B2	20180605	LSFE	+R250	年金領収書, 年金領収書 (分納)	
JP5567344 B2	20190530	LSFE	R20	特許料納付書	
JP5567344 B2	20190604	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP5567344 B2	20190604	LSFE	+R250	年金領収書, 年金領収書 (分納)	
JP5567344 B2	20271203	PEXP		Calculated Patent Term Expiry	
KR101445410 B1	20140926	LSGT	+	granted / extensions (spc, cpc, pte)	
KR101445410 B1	20170818	LSFE	FPAY	ANNUAL FEE PAYMENT	Payment date: 20170818 Year of fee payment: 4
KR101445410 B1	20180903	LSFE	FPAY	ANNUAL FEE PAYMENT	Payment date: 20180903 Year of fee payment: 5
KR101445410 B1	20271203	PEXP		Calculated Patent Term Expiry	
KR20090089365 A	20090821	LSPB	+	published / reissued	
KR20090089365 A	20121105	LSES	A201	REQUEST FOR EXAMINATION	
KR20090089365 A	20131220	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR20090089365 A	20140625	LSGT	+E701	DECISION TO GRANT OR REGISTRATION OF PATENT RIGHT	
KR20090089365 A	20140922	LSGT	+GRNT	WRITTEN DECISION TO GRANT	
TW200838843 A	20081001	LSPB	+	published / reissued	
TWI455918 B	20141011	LSGT	+	granted / extensions (spc, cpc, pte)	
TWI455918 B	20190711	LSLE	-MM4A	ANNULMENT OR LAPSE OF PATENT DUE TO NON-PAYMENT OF FEES	
TWI455918 B	20271206	PEXP		Calculated Patent Term Expiry	
US2008139683 AA	20080612	LSPB	+	published / reissued	
US2008139683 AA	20120516	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US8193397 BB	20061206	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:FLYNN, RICHARD M.;COSTELLO, MICHAEL G.;VITCAK, DANIEL R.;REEL/FRAME:018608/0777;SIGNING DATES FROM 20061110 TO 20061201 Owner: 3M INNOVATIVE PROPERTIES COMPANY, MINNESOTA PartyType: owner
US8193397 BB	20061206	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:FLYNN, RICHARD M.;COSTELLO, MICHAEL G.;VITCAK, DANIEL R.;SIGNING DATES FROM 20061110 TO 20061201;REEL/FRAME:018608/0777 Owner: 3M INNOVATIVE PROPERTIES COMPANY, MINNESOTA PartyType: owner
US8193397 BB	20120516	LSGT	PAT1	Patented Case	

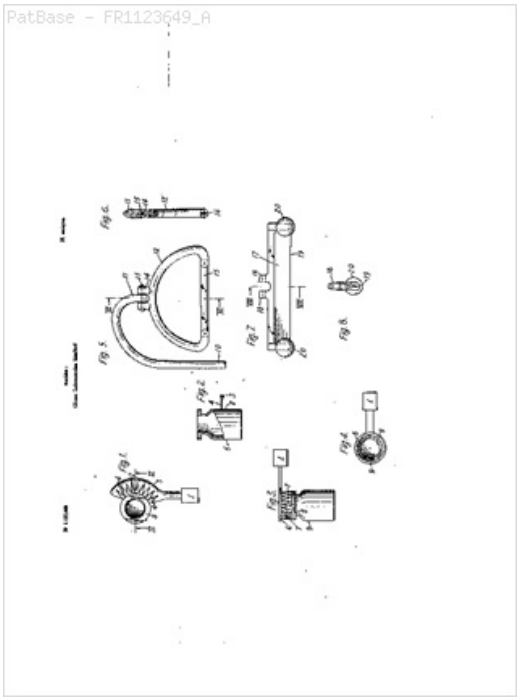
US8193397 BB	20120605	LSGT	+	granted / extensions (spc, cpc, pte)	
US8193397 BB	20120731	LSRE	CC	CERTIFICATE OF CORRECTION	
US8193397 BB	20151119	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US8193397 BB	20200127	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US8193397 BB	20200713	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	Text: PATENT EXPIRED FOR FAILURE TO PAY MAINTENANCE FEES (ORIGINAL EVENT CODE: EXP.); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US8193397 BB	20200713	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US8193397 BB	20200804	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20200605
US8193397 BB	20280516	PEXP		Calculated Patent Term Expiry (PTA 527 days)	
WO08070606 A1	20071203	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 200780044422.7 Country of Ref document: CN
WO08070606 A1	20080612	LSPB	+	published / reissued	
WO08070606 A1	20080806		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A1 Ref document number: 07868968 Country of Ref document: EP
WO08070606 A1	20090603	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 2009540404 Country of Ref document: JP
WO08070606 A1	20090605	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 1020097011613 Country of Ref document: KR
WO08070606 A1	20090609	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO08070606 A1	20090622		+REEP	REQUEST FOR ENTRY INTO THE EUROPEAN PHASE	Ref document number: 2007868968 Country of Ref document: EP
WO08070606 A1	20090622	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2007868968 Country of Ref document: EP

67) Family number: 30171968 (FR1123649 A)

Title: Improved **processing** of coated surfaces (Machine translation)

Abstract: Source: FR1123649 A **Machine translation:** [Source: Claim 1] 1 a method for **processing** surfaces coated with silicone making them capable of supporting by bonding any substance capable of adhering to the surface non-coated, said method being noteworthy in particular by the following characteristics are considered separately or in combination with a. The surface coated with silicone is submitted directly to the action of a high-frequency electrical discharge: b. The application of the discharge over the surface to be treated takes place by means of an electrode having one or more discharge points - proximate imme immediately of this surface: e. the electrode has a shape such that it conforms to the contour of the surface to be treated: d. At the time or the electrical discharge is applied to the surface, the electrode and said on face are in motion relative to one another; e. the electrode is applied to the surface and is in electrical contact with said virtually allon gee surface, the electrical discharge generated in the space formed by the small gaps exist between the surface and the electrode; f. The elongated electrode sweeps over the surface to be treated; g. the surface to be treated is moved to an elongated electrode oscillating mounted such that the edge of the electrode scans said surface.

Classifications:
International (IPC 8-9): B01J19/08 B05D3/14 B08B9/20 B26F1/00 B26F1/28 B29C59/00 B29C59/10 B67B3/00 B67B3/02 C03C17/28 C03C17/30 G09F3/10
International (IPC 1-7): B05D3/00 C08L75/04
CPC: B01J19/088 B05D3/145 B08B9/20 B26F1/28 B29C59/10 B29C59/103 B67B3/023 C03C17/30 G09F3/10



Family:

Publication number	Publication date	Application number	Application date
DE1060750 B	19590702	DE1955G016375	19550201
FR1123649 A	19560925		19550618
NL194758 A	19240217		00000000
NL97863 C	00000000		00000000

Priority:
DE1955G016375 19550201

Probable Assignee: GLAXOSMITHKLINE PLC
Assignee(s): (std): GLAXO LAB LTD ; GLAXOSMITHKLINE PLC
Assignee(s): GLAXO LABORATORIES LIMITED ; GLAXO LABORATORIES LTD
Inventor(s): (std): GREEN JOSEPH

Legal status (INPADOC)

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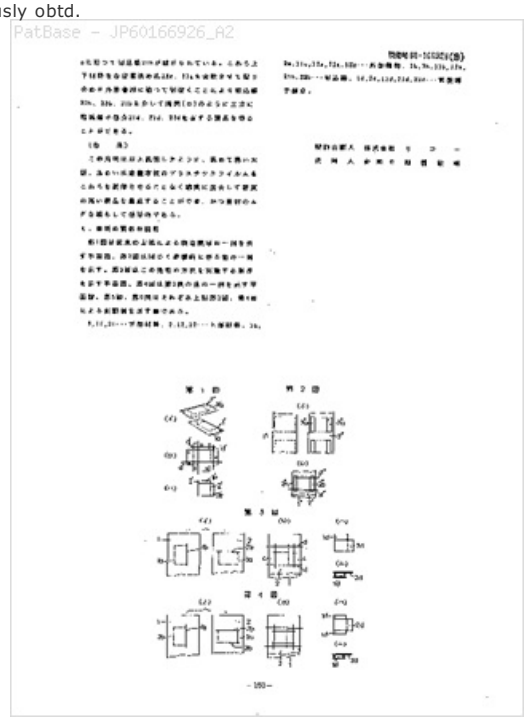
Patent	Date recorded	Event group	Code	Event	Details
DE1060750 B	19590702	LSPB	+	published / reissued	
FR1123649 A	19560925	LSGT	+	granted / extensions (spc, cpc, pte)	
FR1123649 A	19750618	PEXP		Calculated Patent Term Expiry	
NL194758 A	19240217	LSPB	+	published / reissued	
NL97863 C	00000000	LSGT	+	granted / extensions (spc, cpc, pte)	

68) Family number: 8018091 (JP60166926 A2)

Title: **PRODUCTION** OF LIQUID CRYSTAL **DISPLAY** ELEMENT

Abstract: PURPOSE:To superpose surely substrates provided to upper and lower materials consisting of plastic films without deformation and to enable mass **production** of **products** having high accuracy by providing incision lines of which both ends intersect the contour along the required side of the outside contour part of the substrates. CONSTITUTION:An incision line 1b is provided slightly longer than one side along the one side of a contour 1a provided with electrodes and **cell** contour on a tape-shaped lower substrate material 1. On the other hand, an incision line 2b is provided slighly longly along the top side of a **cell** contour 2a of a tape-like upper material 2 provided with electrodes, seasling part and **cell** contour 2a. The material 1 with the sealing part faced downward is superposed on the material 2 by matching respectively the contours 1a, 2a and thereafter slightly longer incision lines (c), (c) exceeding slightly both ends of both sides of the contour 2a of the material 2 are formed along both sides of said contour. The materials are then divided by a slitter at the lines (d), (d) along the upper and lower sides of the contour 1a, by which the individual members are obtd. The members are positioned by means of pins and corners in the case of a large size. The deformation of the large-sized upper and lower materials during the **process** is thus prevented and the sure **products** are continuously obtd.

Classifications:
International (IPC 8-9): B26F1/38 G02F1/13 G02F1/1333 G02F1/1339 G02F1/1345 G09F9/00 G09F9/35
International (IPC 1-7): B26D3/00 B26F1/38 G02F1/13 G02F1/133 G02F1/1333 G02F1/1345 G09F9/00
CPC: G02F1/1339



Family:

Publication number	Publication date	Application number	Application date
JP1845876 C3	19940525	JP19840022689	19840209
JP5055852 B4	19930818	JP19840022689	19840209
JP60166926 A2	19850830	JP19840022689	19840209

Priority:
JP19840022689 19840209

Probable Assignee: RICOH CO LTD
Assignee(s): (std): RICOH CO LTD ; RICOH KK
Inventor(s): (std): SAITO MASATOSHI ; SAITOU MASATOSHI

Legal status (INPADOC)

View legal status timeline

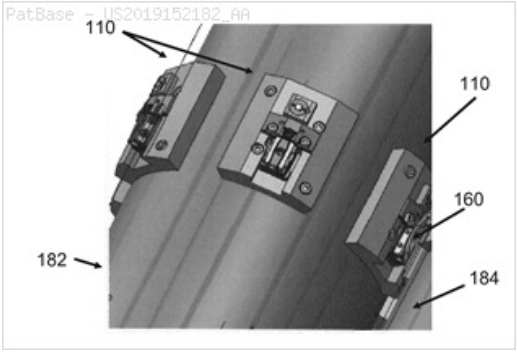
Patent	Date recorded	Event group	Code	Event	Details
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JP1845876 C3	20040209	PEXP		Calculated Patent Term Expiry	
JP5055852 B4	19930818	LSPB	+	published / reissued	
JP60166926 A2	19850830	LSPB	+	published / reissued	

69) Family number: 67555500 (US2019152182 AA)

Title: CUTTING UNIT, WEB OF PACKAGING MATERIAL, AND METHOD FOR CUTTING PREPARATION FEATURES INTO IT

Abstract: A cutting unit for cutting preparation features in a web of sheetlike material is provided. The cutting unit has a first part with a rigid base portion, at least one first cutting tool configured to cut a first preparation feature in the web of sheetlike material, and at least one second cutting tool configured to cut a second preparation feature in the web of sheetlike material. The at least one first and second cutting tools are attached to the base portion and located at a distance from each other, wherein at least one of the at least one first or second cutting tools is supported by a flexible support that is located in the rigid base portion of the first part.

Classifications:
International (IPC 8-9): B26D7/26 B26F1/02 B26F1/08 B26F1/14 B26F1/18 B26F1/20 B26F1/38 B26F1/40 B26F1/44 B31B50/14 B31B50/16 B31B50/25
CPC: B26F1/02 B26F1/08 B26F1/18 B26F1/20 B26F1/384 B26F1/40 B26F1/44 B26F2001/4409 B31B2120/302 B31B50/146 B31B50/16 B31B50/256
US: 1/1



Family:

Publication number	Publication date	Application number	Application date
CN109311178 A	20190205	CN201780030348	20170515
DE602016015796 D1	20190725	DE201660015796T	20160516
EP3246140 A1	20171122	EP20160169773	20160516
EP3246140 B1	20190626	EP20160169773	20160516
JP2019517927 T2	20190627	JP20180560143T	20170515
US2019152182 AA	20190523	US20170302042	20170515
WO17198620 A1	20171123	WO2017EP61616	20170515

Priority:
EP20160169773 20160516 WO2017EP61616 20170515

Probable Assignee: TETRA LAVAL HOLDINGS AND FINANCE SA
Assignee(s): (std): TETRA LAVAL HOLDINGS AND FINANCE ; TETRA PAK LAVAL HOLDINGS AND FINANCES SA
Assignee(s): N A ; TETRA LAVAL HOLDINGS AND FINANCE S A
Inventor(s): (std): HEDBERG TORBJOERN ; HEDBERG TORBJORN
Agent(s): TETRA PAK PATENT ATTORNEYS SE
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 DJ 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 KH KM KN KP KR KW 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

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
CN109311178 A	20190205	LSPB	+	published / reissued	
CN109311178 A	20190205	LSPB	PB01	PUBLICATION	
CN109311178 A	20190205	LSPB	PB01	公开	Text: 公开 (Disclosure)
CN109311178 A	20190426		SE01	ENTRY INTO FORCE OF REQUEST FOR SUBSTANTIVE EXAMINATION	
CN109311178 A	20190426		SE01	实质审查请求的生效	Text: 实质审查的生效 (Force of substantive review)
EP3246140 A1	20171122	LSPB	+	published / reissued	
EP3246140 A1	20171122		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AL 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 RS SE SI SK SM TR
EP3246140 A1	20171122		+AV	REQUEST FOR VALIDATION OF THE EUROPEAN PATENT	Country of Ref document: MA MD
EP3246140 A1	20171122		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: BA ME

EP3246140 A1	20180627	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20180522
EP3246140 A1	20180627		+RBV	DESIGNATED CONTRACTING STATES (CORRECTED)	Country of Ref document: AL 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 RS SE SI SK SM TR
EP3246140 A1	20180725	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20180621
EP3246140 A1	20190206		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: B26F 1/38 20060101ALN20190103BHEP ClassificationScheme: IPC
EP3246140 A1	20190206		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: B26F 1/20 20060101ALN20190103BHEP
EP3246140 A1	20190206		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: B26F 1/44 20060101AFI20190103BHEP ClassificationScheme: IPC
EP3246140 A1	20190206		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: B26F 1/40 20060101ALN20190103BHEP
EP3246140 A1	20190206		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: B26F 1/18 20060101ALN20190103BHEP
EP3246140 A1	20190206		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: B26F 1/02 20060101ALN20190103BHEP ClassificationScheme: IPC
EP3246140 A1	20190206		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: B26F 1/08 20060101ALN20190103BHEP ClassificationScheme: IPC
EP3246140 A1	20190220	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	Effective date: 20190124
EP3246140 B1	20190626	LSGT	+	granted / extensions (spc, cpc, pte)	
EP3246140 B1	20190626		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: AL 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 RS SE SI SK SM TR
EP3246140 B1	20190626	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: FG4D Ref country code: GB
EP3246140 B1	20190628	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: EP
EP3246140 B1	20190715	LSNP	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20190715 Ref country code: AT Ref legal event code: REF Ref document number: 1147774 Kind code of Ref document: T Country of Ref document: AT
EP3246140 B1	20190724	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: FG4D Ref country code: IE
EP3246140 B1	20190725	LSPB	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: R096 Ref country code: DE Ref document number: 602016015796 Country of Ref document: DE
EP3246140 B1	20191030		REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: MP Effective date: 20190626 Ref country code: NL
EP3246140 B1	20191031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION

				[ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20190626 Country of Ref document: FI
EP3246140 B1	20191031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20190926 Country of Ref document: NO
EP3246140 B1	20191031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20190626 Country of Ref document: HR
EP3246140 B1	20191031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190626 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: LT
EP3246140 B1	20191031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190626 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: AL
EP3246140 B1	20191031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190626 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SE
EP3246140 B1	20191111	LSRV	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: MG4D Ref country code: LT
EP3246140 B1	20191129	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190927 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: GR
EP3246140 B1	20191129	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190626 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: LV
EP3246140 B1	20191129	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190626 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: RS

EP3246140 B1	20191129	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190926 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: BG
EP3246140 B1	20200115	LSRV	REG	REFERENCE TO A NATIONAL CODE	Kind code of Ref document: T Effective date: 20190626 Ref country code: AT Ref document number: 1147774 Ref legal event code: MK05 Country of Ref document: AT
EP3246140 B1	20200131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190626 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: RO
EP3246140 B1	20200131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20190626 Country of Ref document: SK
EP3246140 B1	20200131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190626 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: CZ
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EP3246140 B1	20200131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20190626 Country of Ref document: NL
EP3246140 B1	20200131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190626 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: EE
EP3246140 B1	20200131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20190626 Country of Ref document: AT
EP3246140 B1	20200228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA	Lapsed date: 20190626 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE

				POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	PRESCRIBED TIME-LIMIT Country of Ref document: ES
EP3246140 B1	20200228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190626 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SM
EP3246140 B1	20200228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20191026 Country of Ref document: IS
EP3246140 B1	20200331	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20190626 Country of Ref document: TR
EP3246140 B1	20200501	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20190626 Country of Ref document: PL
EP3246140 B1	20200501	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190626 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: DK
EP3246140 B1	20200529	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20200224 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: IS
EP3246140 B1	20200603	LSRE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref document number: 602016015796 Ref legal event code: R097 Country of Ref document: DE
EP3246140 B1	20200730		PG2D	INFORMATION ON LAPSE IN CONTRACTING STATE DELETED	
EP3246140 B1	20200805	LSGT	+26N	NO OPPOSITION FILED	Effective date: 20200603
EP3246140 B1	20200831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190626 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SI
EP3246140 B1	20200831	LSFE	+PGFP	ANNUAL FEE PAID TO	Year of fee payment: 5 Payment date: 20200522

				NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Country of Ref document: IT
EP3246140 B1	20360516	PEXP		Calculated Patent Term Expiry	
JP2019517927 T2	20190308	LSRE	A521	WRITTEN AMENDMENT	Text: JAPANESE INTERMEDIATE CODE: A523 Effective date: 20190117
JP2019517927 T2	20190308		A523	手続補正書	Effective date: 20190117
JP2019517927 T2	20190308		A632	国内書面	Effective date: 20181115
JP2019517927 T2	20190308		A634	国際出願翻訳文提出書	Effective date: 20190110
JP2019517927 T2	20190627	LSPB	+	published / reissued	
JP2019517927 T2	20200508	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Text: JAPANESE INTERMEDIATE CODE: A621 Effective date: 20200508
JP2019517927 T2	20200508	LSES	+A621	出願審査請求書	Effective date: 20200508
US2019152182 AA	20181204	LSAS	AS	ASSIGNMENT	PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:HEDBERG, TORBJOERN;REEL/FRAME:047667/0831 Owner: TETRA LAVAL HOLDINGS & FINANCE S.A., SWITZERLAND Effective date: 20181119
US2019152182 AA	20190312		RFE1	Docketed New Case - Ready for Examination	
US2019152182 AA	20190523	LSPB	+	published / reissued	
WO17198620 A1	20171123	LSPB	+	published / reissued	
WO17198620 A1	20181115	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 2018560143 Country of Ref document: JP
WO17198620 A1	20181117	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO17198620 A1	20181128		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A1 Ref document number: 17722485 Country of Ref document: EP

70) Family number: 34105509 (US2007012146 AA)

Title: ELECTRONIC PAPER CUTTING APPARATUS AND METHOD

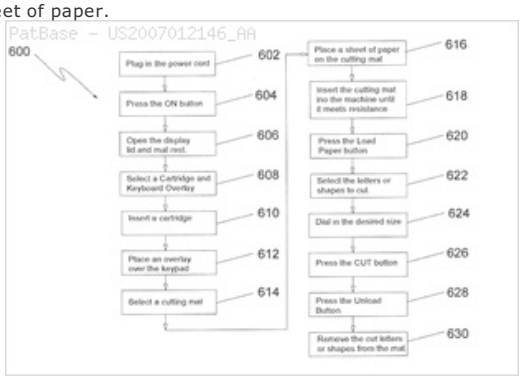
Abstract: A method of using an electronic paper cutting machine includes inserting a sheet of paper into an electronic cutting machine, accessing a user interface fixedly attached to the machine, selecting a desired image to be cut through the user interface and pressing a button to cut the desired image from the sheet of paper.

Classifications:

International (IPC 8-9): B23D25/00 B23Q B23Q15/00 B26D B26D1/00 B26D1/04 B26D1/06 B26D3/08 B26D5/00 B26D5/02 B26D5/06 B26D5/08 B26D5/20 B26D5/34 B26D7/00 B26D7/06 B26D7/26 B26F1/38 B65H35/04

CPC: B26D5/005 B26D5/086 B26F1/3813 Y10T83/166 Y10T83/18 Y10T83/546 B26D5/00 Y10T83/04 Y10T83/0586 B26D2007/2678 B26D7/2614 Y10T83/162 Y10T83/664 B26D7/2628 B26F1/3806 Y10T83/0333 Y10T83/613 Y10T83/7747 Y10T83/8696 Y10T83/8748 Y10T83/8822 Y10T83/8874 Y10T83/9457 Y10T83/9469 Y10T83/9488 Y10T83/95 B26D7/06 Y10T83/0467 B26D2007/0087 B26D5/34 B26D7/015 B26D7/20 Y10T83/8726

US: 30/161 83/13 83/13P 83/27 83/27P 83/373 83/397.1 83/436.3 83/481 83/52 83/527 83/52S 83/548 83/548S 83/563 83/563S 83/614 83/614P 83/646 83/646S 83/698.11 83/698.110S 83/698.51 83/699.51 83/699.510P 83/76.1 83/76.100P 83/76.3 83/76.300P 83/76.300S 83/76.9 83/76.900S 83/859 83/859S 83/879



Family:

Publication number	Publication date	Application number	Application date
AU2006267048 AA	20070118	AU20060267048	20060714
AU2006267057 AA	20070118	AU20060267057	20060714
AU2006270130 AA	20070125	AU20060270130	20060714
AU2006270130 BB	20110929	AU20060270130	20060714
AU2006270131 AA	20070125	AU20060270131	20060714
AU2006270132 AA	20070125	AU20060270132	20060714
AU2008207721 AA	20080731	AU20080207721	20080127
AU2008207722 AA	20080731	AU20080207722	20080127
CA2635241 AA	20080625	CA20062635241	20060714
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CA2635242 C	20120403	CA20062635242	20060714
CA2635483 AA	20080625	CA20062635483	20060714
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CA2635485 C	20110705	CA20062635485	20060714
CA2676565 AA	20090724	CA20082676565	20080127
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CA2676566 C	20120821	CA20082676566	20080127
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CN101237970 B	20110615	CN200680025553	20060714
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CN101237972 B	20110202	CN200680025562	20060714
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EP1901892 A2	20080326	EP20060787421	20060714
EP1901889 A2	20080326	EP20060787423	20060714
EP1901889 A4	20111228	EP20060787423	20060714
EP1901889 B1	20130327	EP20060787423	20060714
EP1901879 A2	20080326	EP20060787424	20060714
EP1901890 A2	20080326	EP20060787425	20060714
EP1901888 A2	20080326	EP20060787464	20060714
EP2114639 A2	20091111	EP20080714035	20080127
EP2114616 A2	20091111	EP20080714036	20080127
JP2009501639 T2	20090122	JP20080521673T	20060714
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US7845259 BB	20101207	US20060457415	20060713
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US2007034061 AA	20070215	US20060457419	20060713
US2007012152 AA	20070118	US20060457420	20060713

US7930958 BB	20110426	US20060457420	20060713
US2009000444 AA	20090101	US20080020545	20080127
US2009000437 AA	20090101	US20080020547	20080127
US2009013838 AA	20090115	US20080122325	20080516
US2011197735 AA	20110818	US20110094454	20110426
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US2011232437 AA	20110929	US20110154136	20110606
US2012048086 AA	20120301	US20110223912	20110901
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WO07011794 A2	20070125	WO2006US27509	20060714
WO07011794 A3	20071213	WO2006US27509	20060714
WO07011795 A2	20070125	WO2006US27511	20060714
WO07011795 A3	20071129	WO2006US27511	20060714
WO07011796 A2	20070125	WO2006US27512	20060714
WO07011796 A3	20071213	WO2006US27512	20060714
WO07009091 A2	20070118	WO2006US27513	20060714
WO07009091 A3	20071129	WO2006US27513	20060714
WO07009100 A2	20070118	WO2006US27560	20060714
WO07009100 A3	20071115	WO2006US27560	20060714
WO08092139 A2	20080731	WO2008US52140	20080127
WO08092139 A3	20081211	WO2008US52140	20080127
WO08092140 A2	20080731	WO2008US52141	20080127
WO08092140 A3	20081218	WO2008US52141	20080127
ZA200801243 A	20090826	ZA20080001243	20080205
ZA200801244 A	20090826	ZA20080001244	20080205
ZA200801245 A	20090826	ZA20080001245	20080205
ZA200801246 A	20100728	ZA20080001246	20080205
ZA200801250 A	20090826	ZA20080001250	20080205

Priority:

US20050699210P 20050714
US20060457413 20060713
US20060457417 20060713
US20060457415 20060713
US20060457420 20060713
US20060457419 20060713
WO2006US27513 20060714
WO2006US27560 20060714
WO2006US27509 20060714
WO2006US27511 20060714
WO2006US27512 20060714
EP20060787423 20060714
US20070897563P 20070126
WO2008US52140 20080127
WO2008US52141 20080127
US20080020547 20080127
US20080020545 20080127
US20080122325 20080516
US20110094454 20110426
US20110154136 20110606
US20110223912 20110901

Probable Assignee: PROVO CRAFT AND NOVELTY INC

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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 SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AU2006267048 AA	20070118	LSPB	+	published / reissued	
AU2006267048 AA	20110602	LSLE	-MK5	APPLICATION LAPSED SECTION 142(2)(E) - PATENT REQUEST AND COMPL. SPECIFICATION NOT ACCEPTED	
AU2006267057 AA	20070118	LSPB	+	published / reissued	

AU2006267057 AA	20110630	LSLE	-MK5	APPLICATION LAPSED SECTION 142(2)(E) - PATENT REQUEST AND COMPL. SPECIFICATION NOT ACCEPTED
AU2006270130 AA	20070125	LSPB	+	published / reissued
AU2006270130 BB	20110929	LSGT	+	granted / extensions (spc, cpc, pte)
AU2006270130 BB	20120202	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)
AU2006270130 BB	20260714	PEXP		Calculated Patent Term Expiry
AU2006270131 AA	20070125	LSPB	+	published / reissued
AU2006270131 AA	20110512	LSLE	-MK5	APPLICATION LAPSED SECTION 142(2)(E) - PATENT REQUEST AND COMPL. SPECIFICATION NOT ACCEPTED
AU2006270132 AA	20070125	LSPB	+	published / reissued
AU2006270132 AA	20110630	LSLE	-MK5	APPLICATION LAPSED SECTION 142(2)(E) - PATENT REQUEST AND COMPL. SPECIFICATION NOT ACCEPTED
AU2008207721 AA	20080731	LSPB	+	published / reissued
AU2008207721 AA	20120809	LSLE	-MK5	APPLICATION LAPSED SECTION 142(2)(E) - PATENT REQUEST AND COMPL. SPECIFICATION NOT ACCEPTED
AU2008207722 AA	20080731	LSPB	+	published / reissued
AU2008207722 AA	20120510	LSLE	-MK5	APPLICATION LAPSED SECTION 142(2)(E) - PATENT REQUEST AND COMPL. SPECIFICATION NOT ACCEPTED
CA2635241 AA	20080625	LSPB	+	published / reissued
CA2635241 AA	20080625	LSES	+EEER	EXAMINATION REQUEST
CA2635241 AA	20110722	LSRE	+FZDC	CORRECTION OF DEAD APPLICATION (REINSTATEMENT)
CA2635241 C	20120403	LSGT	+	granted / extensions (spc, cpc, pte)
CA2635241 C	20260714	PEXP		Calculated Patent Term Expiry
CA2635242 AA	20080625	LSPB	+	published / reissued
CA2635242 AA	20080625	LSES	+EEER	EXAMINATION REQUEST
CA2635242 AA	20110722	LSRE	+FZDC	CORRECTION OF DEAD APPLICATION (REINSTATEMENT)
CA2635242 C	20120403	LSGT	+	granted / extensions (spc, cpc, pte)
CA2635242 C	20260714	PEXP		Calculated Patent Term Expiry
CA2635483 AA	20080625	LSPB	+	published / reissued
CA2635483 AA	20080625	LSES	+EEER	EXAMINATION REQUEST
CA2635483 C	20120403	LSGT	+	granted /

				extensions (spc, cpc, pte)	
CA2635483 C	20260714	PEXP		Calculated Patent Term Expiry	
CA2635484 AA	20080625	LSPB	+	published / reissued	
CA2635484 AA	20080625	LSES	+EEER	EXAMINATION REQUEST	
CA2635484 C	20110607	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2635484 C	20260714	PEXP		Calculated Patent Term Expiry	
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CA2676565 AA	20090724	LSPB	+	published / reissued	
CA2676565 AA	20090724	LSES	+EEER	EXAMINATION REQUEST	
CA2676565 AA	20130717	LSLE	-FZDE	DEAD	Effective date: 20130522
CA2676566 AA	20090724	LSPB	+	published / reissued	
CA2676566 AA	20090724	LSES	+EEER	EXAMINATION REQUEST	
CA2676566 C	20120821	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2676566 C	20280127	PEXP		Calculated Patent Term Expiry	
CN101237959 A	20080806	LSPB	+	published / reissued	
CN101237959 A	20080806	LSPB	+C06	PUBLICATION	
CN101237959 A	20081001		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
CN101237959 B	20101013	LSGT	+	granted / extensions (spc, cpc, pte)	
CN101237959 B	20101013	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN101237959 B	20260714	PEXP		Calculated Patent Term Expiry	
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CN101237970 A	20080806	LSPB	+C06	PUBLICATION	
CN101237970 A	20081001		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
CN101237970 B	20110615	LSGT	+	granted / extensions (spc, cpc, pte)	
CN101237970 B	20110615	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN101237970 B	20130904	LSLE	-C17	CESSATION OF PATENT RIGHT	
CN101237970 B	20260714	PEXP		Calculated Patent Term Expiry	
CN101237971 A	20080806	LSPB	+	published / reissued	
CN101237971 A	20080806	LSPB	+C06	PUBLICATION	
CN101237971 A	20081001		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
CN101237971 A	20111123	LSDW	-C02	DEEMED WITHDRAWAL OF	

				PATENT APPLICATION AFTER PUBLICATION (PATENT LAW 2001)	
CN101237972 A	20080806	LSPB	+	published / reissued	
CN101237972 A	20080806	LSPB	+C06	PUBLICATION	
CN101237972 A	20080806	LSPB	PB01	公开	Text: 公开 (Disclosure)
CN101237972 A	20081001		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
CN101237972 A	20081001		SE01	实质审查请求的生效	Text: 实质审查的生效 (Force of substantive review)
CN101237972 B	20110202	LSGT	+	granted / extensions (spc, cpc, pte)	
CN101237972 B	20110202	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN101237972 B	20110202	LSGT	+GR01	授权	Text: 授权 (Authorization)
CN101237972 B	20190705	LSLE	-CF01	TERMINATION OF PATENT RIGHT DUE TO NON-PAYMENT OF ANNUAL FEE	
CN101237972 B	20190705	LSLE	-CF01	未缴年费专利权终止	Effective date: 20180714 Text: 专利权的终止 (Termination of Patent Right)
CN101237972 B	20260714	PEXP		Calculated Patent Term Expiry	
CN101247927 A	20080820	LSPB	+	published / reissued	
CN101247927 A	20080820	LSPB	+C06	PUBLICATION	
CN101247927 A	20081015		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
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CN101641190 A	20100203	LSPB	+	published / reissued	
CN101641190 A	20100203	LSPB	+C06	PUBLICATION	
CN101641190 A	20100324		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
CN101641190 B	20130710	LSGT	+	granted / extensions (spc, cpc, pte)	
CN101641190 B	20130710	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN101641190 B	20280127	PEXP		Calculated Patent Term Expiry	
CN101821054 A	20100901	LSPB	+	published / reissued	
CN101821054 A	20100901	LSPB	+C06	PUBLICATION	
CN101821054 A	20101020		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
CN101821054 A	20120627	LSDW	-C02	DEEMED WITHDRAWAL OF PATENT APPLICATION AFTER PUBLICATION (PATENT LAW 2001)	
DE602006035321 D1	20120919		R079	AMENDMENT OF IPC MAIN CLASS	ClassificationScheme: IPC ClassificationSymbol: B26D0005080000 Text: PREVIOUS MAIN CLASS: B26D0005080000
DE602006035321 D1	20140201	LSDW	-R119	APPLICATION DEEMED WITHDRAWN, OR IP RIGHT LAPSED,	

				DUE TO NON-PAYMENT OF RENEWAL FEE	
EP1901879 A2	20080326	LSPB	+	published / reissued	
EP1901879 A2	20080326	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20080121
EP1901879 A2	20080326		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: 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
EP1901879 A2	20080326		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: AL BA HR MK YU
EP1901879 A2	20080409		RAX	REQUESTED EXTENSION STATES OF THE EUROPEAN PATENT HAVE CHANGED	Country of Ref document: AL
EP1901879 A2	20080409		RAX	REQUESTED EXTENSION STATES OF THE EUROPEAN PATENT HAVE CHANGED	Country of Ref document: BA
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EP1901879 A2	20080409		RAX	REQUESTED EXTENSION STATES OF THE EUROPEAN PATENT HAVE CHANGED	Country of Ref document: RS
EP1901879 A2	20080618		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: WORKMAN, ROBERT PartyType: inventor
EP1901879 A2	20080618		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: BRINKERHOFF, JASON, B. PartyType: inventor
EP1901879 A2	20080618		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: JOHNSON, JONATHAN, AARON PartyType: inventor
EP1901879 A2	20080618		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: STOCK, RODNEY PartyType: inventor
EP1901879 A2	20080618		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: BEFFREY, PHIL PartyType: inventor
EP1901879 A2	20120725		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP1901879 A2	20130807	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 20130201
EP1901888 A2	20080326	LSPB	+	published / reissued	
EP1901888 A2	20080326	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20080121
EP1901888 A2	20080326		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: 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
EP1901888 A2	20080326		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: AL BA HR MK YU
EP1901888 A2	20080409		RAX	REQUESTED EXTENSION STATES OF THE EUROPEAN PATENT HAVE	Country of Ref document: AL

				CHANGED	
EP1901888 A2	20080409		RAX	REQUESTED EXTENSION STATES OF THE EUROPEAN PATENT HAVE CHANGED	Country of Ref document: BA
EP1901888 A2	20080409		RAX	REQUESTED EXTENSION STATES OF THE EUROPEAN PATENT HAVE CHANGED	Country of Ref document: HR
EP1901888 A2	20080409		RAX	REQUESTED EXTENSION STATES OF THE EUROPEAN PATENT HAVE CHANGED	Country of Ref document: MK
EP1901888 A2	20080409		RAX	REQUESTED EXTENSION STATES OF THE EUROPEAN PATENT HAVE CHANGED	Country of Ref document: RS
EP1901888 A2	20120725		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP1901888 A2	20121017	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 20120201
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EP1901889 A2	20080326		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: 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
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EP1901889 A2	20080409		RAX	REQUESTED EXTENSION STATES OF THE EUROPEAN PATENT HAVE CHANGED	Country of Ref document: AL
EP1901889 A2	20080409		RAX	REQUESTED EXTENSION STATES OF THE EUROPEAN PATENT HAVE CHANGED	Country of Ref document: BA
EP1901889 A2	20080409		RAX	REQUESTED EXTENSION STATES OF THE EUROPEAN PATENT HAVE CHANGED	Country of Ref document: HR
EP1901889 A2	20080409		RAX	REQUESTED EXTENSION STATES OF THE EUROPEAN PATENT HAVE CHANGED	Country of Ref document: MK
EP1901889 A2	20080409		RAX	REQUESTED EXTENSION STATES OF THE EUROPEAN PATENT HAVE CHANGED	Country of Ref document: RS
EP1901889 A2	20161031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20160713 Year of fee payment: 11 Country of Ref document: GB
EP1901889 A4	20111228	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20111125
EP1901889 A4	20111228		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: B26D 5/08 20060101AFI20111121BHEP
EP1901889 A4	20111228		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: B26D 7/26 20060101ALI20111121BHEP
EP1901889 A4	20120725		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP1901889 A4	20121024		RIC1	INFORMATION	ClassificationScheme: IPC

				PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: B26D 7/26 20060101ALI20120919BHEP
EP1901889 A4	20121024		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: B26D 5/08 20060101AFI20120919BHEP
EP1901889 B1	20130327	LSGT	+	granted / extensions (spc, cpc, pte)	
EP1901889 B1	20130327		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: 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
EP1901889 B1	20130327	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: GB Ref legal event code: FG4D
EP1901889 B1	20130328	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: EP
EP1901889 B1	20130415	LSNP	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20130415 Kind code of Ref document: T Ref country code: AT Ref document number: 603069 Ref legal event code: REF Country of Ref document: AT
EP1901889 B1	20130508	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: IE Ref legal event code: FG4D
EP1901889 B1	20130529	LSPB	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20130529 Ref country code: DE Ref document number: 602006035321 Ref legal event code: R096 Country of Ref document: DE
EP1901889 B1	20130731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130327 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SE
EP1901889 B1	20130731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130627 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: BG
EP1901889 B1	20130731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130327 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: LT
EP1901889 B1	20130815	LSRV	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20130327 Kind code of Ref document: T Ref country code: AT Ref document number: 603069 Ref legal event code: MK05 Country of Ref document: AT
EP1901889 B1	20130826	LSRV	REG	REFERENCE TO A NATIONAL CODE	Ref country code: LT Ref legal event code: MG4D
EP1901889 B1	20130830	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130327 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SI
EP1901889 B1	20130830	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130327 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: FI
EP1901889 B1	20130830	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130628 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: GR
EP1901889 B1	20130830	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130327 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: LV
EP1901889 B1	20130918	LSRV	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20130327 Ref country code: NL

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EP1901889 B1	20131031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130327 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: RO
EP1901889 B1	20131031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130327 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: CZ
EP1901889 B1	20131031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130327 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: NL
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EP1901889 B1	20131031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130327 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: EE
EP1901889 B1	20131031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130327 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: AT
EP1901889 B1	20131031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130708 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: ES
EP1901889 B1	20131031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130729 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: PT
EP1901889 B1	20131031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130327 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SK
EP1901889 B1	20131129	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130327 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: CY
EP1901889 B1	20131129	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130327 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: PL
EP1901889 B1	20140131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130327 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: DK
EP1901889 B1	20140228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED	Lapsed date: 20130327 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A

				VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: MC
EP1901889 B1	20140228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130327 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: IT
EP1901889 B1	20140228	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: PL
EP1901889 B1	20140305	LSGT	+26N	NO OPPOSITION FILED	Effective date: 20140103
EP1901889 B1	20140410	LSRE	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20140103 Ref country code: DE Ref document number: 602006035321 Ref legal event code: R097 Country of Ref document: DE
EP1901889 B1	20140423	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: IE Ref legal event code: MM4A
EP1901889 B1	20140424	LSDW	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20140201 Ref country code: DE Ref document number: 602006035321 Ref legal event code: R119 Country of Ref document: DE
EP1901889 B1	20140425	LSLE	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20140331 Ref country code: FR Ref legal event code: ST
EP1901889 B1	20140430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20140201 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: DE
EP1901889 B1	20140430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130731 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: CH
EP1901889 B1	20140430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130731 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: LI
EP1901889 B1	20140530	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130731 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: FR
EP1901889 B1	20140731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130714 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: IE
EP1901889 B1	20150630	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130327 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: TR
EP1901889 B1	20150731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20060714 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT; INVALID AB INITIO Country of Ref document: HU
EP1901889 B1	20150731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130714 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: LU
EP1901889 B1	20171031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM	Payment date: 20170712 Year of fee payment: 12 Country of Ref document: GB

				NATIONAL OFFICE TO EPO]	
EP1901889 B1	20181130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20180718 Year of fee payment: 13 Country of Ref document: GB
EP1901889 B1	20191231	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190710 Year of fee payment: 14 Country of Ref document: GB
EP1901889 B1	20260714	PEXP		Calculated Patent Term Expiry	
EP1901890 A2	20080326	LSPB	+	published / reissued	
EP1901890 A2	20080326	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20080121
EP1901890 A2	20080326		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: 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
EP1901890 A2	20080326		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: AL BA HR MK YU
EP1901890 A2	20080409		RAX	REQUESTED EXTENSION STATES OF THE EUROPEAN PATENT HAVE CHANGED	Country of Ref document: AL
EP1901890 A2	20080409		RAX	REQUESTED EXTENSION STATES OF THE EUROPEAN PATENT HAVE CHANGED	Country of Ref document: BA
EP1901890 A2	20080409		RAX	REQUESTED EXTENSION STATES OF THE EUROPEAN PATENT HAVE CHANGED	Country of Ref document: HR
EP1901890 A2	20080409		RAX	REQUESTED EXTENSION STATES OF THE EUROPEAN PATENT HAVE CHANGED	Country of Ref document: MK
EP1901890 A2	20080409		RAX	REQUESTED EXTENSION STATES OF THE EUROPEAN PATENT HAVE CHANGED	Country of Ref document: RS
EP1901890 A2	20120725		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP1901890 A2	20131002	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 20130201
EP1901892 A2	20080326	LSPB	+	published / reissued	
EP1901892 A2	20080326	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20080121
EP1901892 A2	20080326		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: 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
EP1901892 A2	20080326		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: AL BA HR MK YU
EP1901892 A2	20080409		RAX	REQUESTED EXTENSION STATES OF THE EUROPEAN PATENT HAVE CHANGED	Country of Ref document: AL
EP1901892 A2	20080409		RAX	REQUESTED EXTENSION STATES OF THE EUROPEAN PATENT HAVE CHANGED	Country of Ref document: BA
EP1901892 A2	20080409		RAX	REQUESTED EXTENSION STATES OF THE EUROPEAN PATENT HAVE CHANGED	Country of Ref document: HR

EP1901892 A2	20080409		RAX	REQUESTED EXTENSION STATES OF THE EUROPEAN PATENT HAVE CHANGED	Country of Ref document: MK
EP1901892 A2	20080409		RAX	REQUESTED EXTENSION STATES OF THE EUROPEAN PATENT HAVE CHANGED	Country of Ref document: RS
EP1901892 A2	20080723		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: WORKMAN, ROBERT PartyType: inventor
EP1901892 A2	20080723		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: YOUSE, WILLIAM, CRAIG PartyType: inventor
EP1901892 A2	20080723		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: BRINKERHOFF, JASON B. PartyType: inventor
EP1901892 A2	20080723		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: JOHNSON, JONATHAN AARON PartyType: inventor
EP1901892 A2	20080723		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: YAN, KEN PartyType: inventor
EP1901892 A2	20080723		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: HORITO, MICHAEL PartyType: inventor
EP1901892 A2	20080723		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: AYALA, GERRY PartyType: inventor
EP1901892 A2	20080723		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: GUNTER, JAMES R. PartyType: inventor
EP1901892 A2	20080723		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: STOCK, RODNEY PartyType: inventor
EP1901892 A2	20080723		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: BEFFREY, PHIL PartyType: inventor
EP1901892 A2	20120725		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP1901892 A2	20130807	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 20130201
EP2114616 A2	20091111	LSPB	+	published / reissued	
EP2114616 A2	20091111	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20090805
EP2114616 A2	20091111		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MT NL NO PL PT RO SE SI SK TR
EP2114616 A2	20091230		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: WORKMAN, ROBERT PartyType: inventor
EP2114616 A2	20091230		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: YOUSE, WILLIAM PartyType: inventor
EP2114616 A2	20091230		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: BRINKERHOFF, JASON PartyType: inventor

EP2114616 A2	20091230		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: JOHNSON, JONATHAN PartyType: inventor
EP2114616 A2	20091230		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: YAN, KEN PartyType: inventor
EP2114616 A2	20091230		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: HORITO, MICHAEL PartyType: inventor
EP2114616 A2	20091230		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: AYALA, GERARDO PartyType: inventor
EP2114616 A2	20091230		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: GUNTER, JAMES PartyType: inventor
EP2114616 A2	20100505		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP2114616 A2	20130123	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 20120801
EP2114639 A2	20091111	LSPB	+	published / reissued	
EP2114639 A2	20091111	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20090805
EP2114639 A2	20091111		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MT NL NO PL PT RO SE SI SK TR
EP2114639 A2	20100505		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP2114639 A2	20140115	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 20130801
JP2009501639 T2	20090122	LSPB	+	published / reissued	
JP2009501639 T2	20090618	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Effective date: 20090617 Text: JAPANESE INTERMEDIATE CODE: A621
JP2009501639 T2	20111228	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20111227 Text: JAPANESE INTERMEDIATE CODE: A131
JP2009501639 T2	20120328		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20120327 Text: JAPANESE INTERMEDIATE CODE: A601
JP2009501639 T2	20120404		A602	WRITTEN PERMISSION OF EXTENSION OF TIME	Effective date: 20120403 Text: JAPANESE INTERMEDIATE CODE: A602
JP2009501639 T2	20120428		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20120427 Text: JAPANESE INTERMEDIATE CODE: A601
JP2009501639 T2	20120510		A602	WRITTEN PERMISSION OF EXTENSION OF TIME	Effective date: 20120509 Text: JAPANESE INTERMEDIATE CODE: A602
JP2009501639 T2	20120529		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20120528 Text: JAPANESE INTERMEDIATE CODE: A601
JP2009501639 T2	20120605		A602	WRITTEN PERMISSION OF EXTENSION OF TIME	Effective date: 20120604 Text: JAPANESE INTERMEDIATE CODE: A602
JP2009501639 T2	20121003	LSRV	-A02	DECISION OF REFUSAL	Effective date: 20121002 Text: JAPANESE INTERMEDIATE CODE: A02
JP2009501640 T2	20090122	LSPB	+	published / reissued	
JP2009501640 T2	20090618	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Effective date: 20090617 Text: JAPANESE INTERMEDIATE CODE: A621

JP2009501640 T2	20111228	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20111227 Text: JAPANESE INTERMEDIATE CODE: A131
JP2009501640 T2	20120328		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20120327 Text: JAPANESE INTERMEDIATE CODE: A601
JP2009501640 T2	20120404		A602	WRITTEN PERMISSION OF EXTENSION OF TIME	Effective date: 20120403 Text: JAPANESE INTERMEDIATE CODE: A602
JP2009501640 T2	20120428		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20120427 Text: JAPANESE INTERMEDIATE CODE: A601
JP2009501640 T2	20120510		A602	WRITTEN PERMISSION OF EXTENSION OF TIME	Effective date: 20120509 Text: JAPANESE INTERMEDIATE CODE: A602
JP2009501640 T2	20120529		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20120528 Text: JAPANESE INTERMEDIATE CODE: A601
JP2009501640 T2	20120605		A602	WRITTEN PERMISSION OF EXTENSION OF TIME	Effective date: 20120604 Text: JAPANESE INTERMEDIATE CODE: A602
JP2009501640 T2	20121003	LSRV	-A02	DECISION OF REFUSAL	Effective date: 20121002 Text: JAPANESE INTERMEDIATE CODE: A02
JP2009501641 T2	20090122	LSPB	+	published / reissued	
JP2009501641 T2	20090618	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Effective date: 20090617 Text: JAPANESE INTERMEDIATE CODE: A621
JP2009501641 T2	20111228	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20111227 Text: JAPANESE INTERMEDIATE CODE: A131
JP2009501641 T2	20120328		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20120327 Text: JAPANESE INTERMEDIATE CODE: A601
JP2009501641 T2	20120404		A602	WRITTEN PERMISSION OF EXTENSION OF TIME	Effective date: 20120403 Text: JAPANESE INTERMEDIATE CODE: A602
JP2009501641 T2	20120428		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20120427 Text: JAPANESE INTERMEDIATE CODE: A601
JP2009501641 T2	20120510		A602	WRITTEN PERMISSION OF EXTENSION OF TIME	Effective date: 20120509 Text: JAPANESE INTERMEDIATE CODE: A602
JP2009501641 T2	20120529		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20120528 Text: JAPANESE INTERMEDIATE CODE: A601
JP2009501641 T2	20120605		A602	WRITTEN PERMISSION OF EXTENSION OF TIME	Effective date: 20120604 Text: JAPANESE INTERMEDIATE CODE: A602
JP2009501641 T2	20121003	LSRV	-A02	DECISION OF REFUSAL	Effective date: 20121002 Text: JAPANESE INTERMEDIATE CODE: A02
JP2009501642 T2	20090122	LSPB	+	published / reissued	
JP2009501642 T2	20090618	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Effective date: 20090617 Text: JAPANESE INTERMEDIATE CODE: A621
JP2009501642 T2	20111208	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20111207 Text: JAPANESE INTERMEDIATE CODE: A131
JP2009501642 T2	20120306		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20120305 Text: JAPANESE INTERMEDIATE CODE: A601
JP2009501642 T2	20120313		A602	WRITTEN PERMISSION OF EXTENSION OF TIME	Effective date: 20120312 Text: JAPANESE INTERMEDIATE CODE: A602
JP2009501642 T2	20120410		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20120409 Text: JAPANESE INTERMEDIATE CODE: A601
JP2009501642 T2	20120417		A602	WRITTEN PERMISSION OF EXTENSION OF TIME	Effective date: 20120416 Text: JAPANESE INTERMEDIATE CODE: A602
JP2009501642 T2	20120508		A601	WRITTEN REQUEST	Effective date: 20120507

				FOR EXTENSION OF TIME	Text: JAPANESE INTERMEDIATE CODE: A601
JP2009501642 T2	20120515		A602	WRITTEN PERMISSION OF EXTENSION OF TIME	Effective date: 20120514 Text: JAPANESE INTERMEDIATE CODE: A602
JP2009501642 T2	20120607	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20120606 Text: JAPANESE INTERMEDIATE CODE: A523
JP2009501642 T2	20121121	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20121120 Text: JAPANESE INTERMEDIATE CODE: A131
JP2009501642 T2	20130220		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20130219 Text: JAPANESE INTERMEDIATE CODE: A601
JP2009501642 T2	20130227		A602	WRITTEN PERMISSION OF EXTENSION OF TIME	Effective date: 20130226 Text: JAPANESE INTERMEDIATE CODE: A602
JP2009501642 T2	20130320		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20130319 Text: JAPANESE INTERMEDIATE CODE: A601
JP2009501642 T2	20130328		A602	WRITTEN PERMISSION OF EXTENSION OF TIME	Effective date: 20130327 Text: JAPANESE INTERMEDIATE CODE: A602
JP2009501642 T2	20130420		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20130419 Text: JAPANESE INTERMEDIATE CODE: A601
JP2009501642 T2	20130430		A602	WRITTEN PERMISSION OF EXTENSION OF TIME	Effective date: 20130426 Text: JAPANESE INTERMEDIATE CODE: A602
JP2009501642 T2	20130521	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20130520 Text: JAPANESE INTERMEDIATE CODE: A523
JP2009501642 T2	20131120	LSRV	-A02	DECISION OF REFUSAL	Effective date: 20131119 Text: JAPANESE INTERMEDIATE CODE: A02
JP2009501643 T2	20090122	LSPB	+	published / reissued	
JP2009501643 T2	20090618	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Effective date: 20090617 Text: JAPANESE INTERMEDIATE CODE: A621
JP2009501643 T2	20111228	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20111227 Text: JAPANESE INTERMEDIATE CODE: A131
JP2009501643 T2	20120523	LSRV	-A02	DECISION OF REFUSAL	Effective date: 20120522 Text: JAPANESE INTERMEDIATE CODE: A02
JP2010516489 T2	20100520	LSPB	+	published / reissued	
JP2010516489 T2	20120118	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20120117 Text: JAPANESE INTERMEDIATE CODE: A131
JP2010516489 T2	20120418		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20120417 Text: JAPANESE INTERMEDIATE CODE: A601
JP2010516489 T2	20120425		A602	WRITTEN PERMISSION OF EXTENSION OF TIME	Effective date: 20120424 Text: JAPANESE INTERMEDIATE CODE: A602
JP2010516489 T2	20120518		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20120517 Text: JAPANESE INTERMEDIATE CODE: A601
JP2010516489 T2	20120525		A602	WRITTEN PERMISSION OF EXTENSION OF TIME	Effective date: 20120524 Text: JAPANESE INTERMEDIATE CODE: A602
JP2010516489 T2	20120619		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20120618 Text: JAPANESE INTERMEDIATE CODE: A601
JP2010516489 T2	20120626		A602	WRITTEN PERMISSION OF EXTENSION OF TIME	Effective date: 20120625 Text: JAPANESE INTERMEDIATE CODE: A602
JP2010516489 T2	20120919	LSRV	-A02	DECISION OF REFUSAL	Effective date: 20120918 Text: JAPANESE INTERMEDIATE CODE: A02
JP2010516490 T2	20100520	LSPB	+	published / reissued	
JP2010516490 T2	20120118	LSES	-A131	NOTIFICATION OF REASONS FOR	Effective date: 20120117 Text: JAPANESE INTERMEDIATE

				REFUSAL	CODE: A131
JP2010516490 T2	20120418		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20120417 Text: JAPANESE INTERMEDIATE CODE: A601
JP2010516490 T2	20120425		A602	WRITTEN PERMISSION OF EXTENSION OF TIME	Effective date: 20120424 Text: JAPANESE INTERMEDIATE CODE: A602
JP2010516490 T2	20120518		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20120517 Text: JAPANESE INTERMEDIATE CODE: A601
JP2010516490 T2	20120525		A602	WRITTEN PERMISSION OF EXTENSION OF TIME	Effective date: 20120524 Text: JAPANESE INTERMEDIATE CODE: A602
JP2010516490 T2	20120619		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20120618 Text: JAPANESE INTERMEDIATE CODE: A601
JP2010516490 T2	20120626		A602	WRITTEN PERMISSION OF EXTENSION OF TIME	Effective date: 20120625 Text: JAPANESE INTERMEDIATE CODE: A602
JP2010516490 T2	20120919	LSRV	-A02	DECISION OF REFUSAL	Effective date: 20120918 Text: JAPANESE INTERMEDIATE CODE: A02
US2007012146 AA	20070118	LSPB	+	published / reissued	
US2007012146 AA	20080411	LSAS	AS	ASSIGNMENT	Effective date: 20080222 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:WORKMAN, ROBERT E.;REEL/FRAME:020788/0783 Owner: PROVO CRAFT AND NOVELTY, INC., UTAH PartyType: owner
US2007012146 AA	20080423	LSAS	AS	ASSIGNMENT	Effective date: 20080422 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:JOHNSON, JONATHAN A.;REEL/FRAME:020843/0710 Owner: PROVO CRAFT AND NOVELTY, INC., UTAH PartyType: owner
US2007012146 AA	20080424	LSAS	AS	ASSIGNMENT	Effective date: 20080415 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:STOCK, RODNEY;REEL/FRAME:020848/0142 Owner: PROVO CRAFT AND NOVELTY, INC., UTAH PartyType: owner
US2007012146 AA	20080424	LSAS	AS	ASSIGNMENT	Effective date: 20080327 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:BEFFREY, PHIL;REEL/FRAME:020848/0421 Owner: PROVO CRAFT AND NOVELTY, INC., UTAH PartyType: owner
US2007012146 AA	20080729	LSAS	AS	ASSIGNMENT	Effective date: 20071120 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:BRINKERHOFF, JASON;REEL/FRAME:021306/0122 Owner: PCCRAFTER, INC., UTAH PartyType: owner
US2007012146 AA	20080806	LSAS	AS	ASSIGNMENT	Effective date: 20080805 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:PCCRAFTER, INC.;REEL/FRAME:021343/0806 Owner: PROVO CRAFT AND NOVELTY, INC., UTAH PartyType: owner
US2007012146 AA	20100407	LSAS	AS	ASSIGNMENT	Effective date: 20100322 OldParty: NOTICE OF GRANT OF SECURITY INTEREST IN PATENTS;ASSIGNOR:PROVO CRAFT & NOVELTY, INC.;REEL/FRAME:024202/0038 Owner: CREDIT SUISSE AG, CAYMAN ISLANDS BRANCH,NEW YORK PartyType: owner
US2007012146 AA	20100407	LSAS	AS	ASSIGNMENT	Effective date: 20100322 OldParty: NOTICE OF GRANT OF SECURITY INTEREST IN PATENTS;ASSIGNOR:PROVO CRAFT & NOVELTY, INC.;REEL/FRAME:024202/0038 Owner: CREDIT SUISSE AG, CAYMAN

					ISLANDS BRANCH, NEW YORK PartyType: owner
US2007012146 AA	20110316	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2007012146 AA	20110316		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2007012148 AA	20070118	LSPB	+	published / reissued	
US2007012148 AA	20080411	LSAS	AS	ASSIGNMENT	Effective date: 20080222 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:WORKMAN, ROBERT E.;REEL/FRAME:020788/0783 Owner: PROVO CRAFT AND NOVELTY, INC., UTAH PartyType: owner
US2007012148 AA	20080423	LSAS	AS	ASSIGNMENT	Effective date: 20080422 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:JOHNSON, JONATHAN A.;REEL/FRAME:020843/0710 Owner: PROVO CRAFT AND NOVELTY, INC., UTAH PartyType: owner
US2007012148 AA	20080424	LSAS	AS	ASSIGNMENT	Effective date: 20080415 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:STOCK, RODNEY;REEL/FRAME:020848/0142 Owner: PROVO CRAFT AND NOVELTY, INC., UTAH PartyType: owner
US2007012148 AA	20080424	LSAS	AS	ASSIGNMENT	Effective date: 20080423 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:GUNTER, JAMES R.;REEL/FRAME:020848/0170 Owner: PROVO CRAFT AND NOVELTY, INC., UTAH PartyType: owner
US2007012148 AA	20080424	LSAS	AS	ASSIGNMENT	Effective date: 20080327 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:BEFFREY, PHIL;REEL/FRAME:020848/0421 Owner: PROVO CRAFT AND NOVELTY, INC., UTAH PartyType: owner
US2007012148 AA	20080729	LSAS	AS	ASSIGNMENT	Effective date: 20070201 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:YOUSE, WILLIAM CRAIG;REEL/FRAME:021306/0015 Owner: PROVO CRAFT AND NOVELTY, INC., UTAH PartyType: owner
US2007012148 AA	20080729	LSAS	AS	ASSIGNMENT	Effective date: 20071120 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:BRINKERHOFF, JASON;REEL/FRAME:021306/0122 Owner: PCCRAFTER, INC., UTAH PartyType: owner
US2007012148 AA	20080806	LSAS	AS	ASSIGNMENT	Effective date: 20080805 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:PCCRAFTER, INC.;REEL/FRAME:021343/0806 Owner: PROVO CRAFT AND NOVELTY, INC., UTAH PartyType: owner
US2007012148 AA	20100407	LSAS	AS	ASSIGNMENT	Effective date: 20100322 OldParty: NOTICE OF GRANT OF SECURITY INTEREST IN PATENTS;ASSIGNOR:PROVO CRAFT & NOVELTY, INC.;REEL/FRAME:024202/0038 Owner: CREDIT SUISSE AG, CAYMAN ISLANDS BRANCH,NEW YORK PartyType: owner
US2007012148 AA	20100407	LSAS	AS	ASSIGNMENT	Effective date: 20100322 OldParty: NOTICE OF GRANT OF SECURITY INTEREST IN PATENTS;ASSIGNOR:PROVO CRAFT & NOVELTY, INC.;REEL/FRAME:024202/0038 Owner: CREDIT SUISSE AG, CAYMAN ISLANDS BRANCH, NEW YORK PartyType: owner

US2007012148 AA	20110927	LSAS	AS	ASSIGNMENT	Effective date: 20110915 OldParty: SECURITY AGREEMENT;ASSIGNOR:PROVO CRAFT & NOVELTY, INC.;REEL/FRAME:026971/0551 Owner: PCA INVESTMENT II CORP., AS ADMINISTRATIVE AGENT C PartyType: owner
US2007012148 AA	20120106	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2007012148 AA	20120106		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2007012152 AA	20070118	LSPB	+	published / reissued	
US2007012152 AA	20080411	LSAS	AS	ASSIGNMENT	Effective date: 20080222 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:WORKMAN, ROBERT E.;REEL/FRAME:020788/0783 Owner: PROVO CRAFT AND NOVELTY, INC., UTAH PartyType: owner
US2007012152 AA	20080423	LSAS	AS	ASSIGNMENT	Effective date: 20080422 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:JOHNSON, JONATHAN A.;REEL/FRAME:020843/0710 Owner: PROVO CRAFT AND NOVELTY, INC., UTAH PartyType: owner
US2007012152 AA	20080424	LSAS	AS	ASSIGNMENT	Effective date: 20080415 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:STOCK, RODNEY;REEL/FRAME:020848/0142 Owner: PROVO CRAFT AND NOVELTY, INC., UTAH PartyType: owner
US2007012152 AA	20080424	LSAS	AS	ASSIGNMENT	Effective date: 20080423 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:GUNTER, JAMES R.;REEL/FRAME:020848/0170 Owner: PROVO CRAFT AND NOVELTY, INC., UTAH PartyType: owner
US2007012152 AA	20080424	LSAS	AS	ASSIGNMENT	Effective date: 20080327 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:BEFFREY, PHIL;REEL/FRAME:020848/0421 Owner: PROVO CRAFT AND NOVELTY, INC., UTAH PartyType: owner
US2007012152 AA	20080729	LSAS	AS	ASSIGNMENT	Effective date: 20070201 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:YOUSE, WILLIAM CRAIG;REEL/FRAME:021306/0015 Owner: PROVO CRAFT AND NOVELTY, INC., UTAH PartyType: owner
US2007012152 AA	20080729	LSAS	AS	ASSIGNMENT	Effective date: 20071120 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:BRINKERHOFF, JASON;REEL/FRAME:021306/0122 Owner: PCCRAFTER, INC., UTAH PartyType: owner
US2007012152 AA	20080806	LSAS	AS	ASSIGNMENT	Effective date: 20080805 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:PCCRAFTER, INC.;REEL/FRAME:021343/0806 Owner: PROVO CRAFT AND NOVELTY, INC., UTAH PartyType: owner
US2007012152 AA	20100407	LSAS	AS	ASSIGNMENT	Effective date: 20100322 OldParty: NOTICE OF GRANT OF SECURITY INTEREST IN PATENTS;ASSIGNOR:PROVO CRAFT & NOVELTY, INC.;REEL/FRAME:024202/0038 Owner: CREDIT SUISSE AG, CAYMAN ISLANDS BRANCH,NEW YORK PartyType: owner
US2007012152 AA	20100407	LSAS	AS	ASSIGNMENT	Effective date: 20100322 OldParty: NOTICE OF GRANT OF SECURITY INTEREST IN

					PATENTS;ASSIGNOR:PROVO CRAFT & NOVELTY, INC.;REEL/FRAME:024202/0038 Owner: CREDIT SUISSE AG, CAYMAN ISLANDS BRANCH, NEW YORK PartyType: owner
US2007012152 AA	20110406	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2007017332 AA	20070125	LSPB	+	published / reissued	
US2007017332 AA	20080411	LSAS	AS	ASSIGNMENT	Effective date: 20080222 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:WORKMAN, ROBERT E.;REEL/FRAME:020788/0783 Owner: PROVO CRAFT AND NOVELTY, INC., UTAH PartyType: owner
US2007017332 AA	20080423	LSAS	AS	ASSIGNMENT	Effective date: 20080422 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:JOHNSON, JONATHAN A.;REEL/FRAME:020843/0710 Owner: PROVO CRAFT AND NOVELTY, INC., UTAH PartyType: owner
US2007017332 AA	20080424	LSAS	AS	ASSIGNMENT	Effective date: 20080415 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:STOCK, RODNEY;REEL/FRAME:020848/0142 Owner: PROVO CRAFT AND NOVELTY, INC., UTAH PartyType: owner
US2007017332 AA	20080424	LSAS	AS	ASSIGNMENT	Effective date: 20080423 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:GUNTER, JAMES R.;REEL/FRAME:020848/0170 Owner: PROVO CRAFT AND NOVELTY, INC., UTAH PartyType: owner
US2007017332 AA	20080424	LSAS	AS	ASSIGNMENT	Effective date: 20080327 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:BEFFREY, PHIL;REEL/FRAME:020848/0421 Owner: PROVO CRAFT AND NOVELTY, INC., UTAH PartyType: owner
US2007017332 AA	20080425	LSAS	AS	ASSIGNMENT	Effective date: 20080424 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:HORITO, MICHAEL;REEL/FRAME:020854/0525 Owner: PROVO CRAFT AND NOVELTY, INC., UTAH PartyType: owner
US2007017332 AA	20080425	LSAS	AS	ASSIGNMENT	Effective date: 20071017 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:AYALA, GERARDO D.;REEL/FRAME:020855/0006 Owner: PROVO CRAFT AND NOVELTY, INC., UTAH PartyType: owner
US2007017332 AA	20080729	LSAS	AS	ASSIGNMENT	Effective date: 20070201 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:YOUSE, WILLIAM CRAIG;REEL/FRAME:021306/0015 Owner: PROVO CRAFT AND NOVELTY, INC., UTAH PartyType: owner
US2007017332 AA	20080729	LSAS	AS	ASSIGNMENT	Effective date: 20071120 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:BRINKERHOFF, JASON;REEL/FRAME:021306/0122 Owner: PCCRAFTER, INC., UTAH PartyType: owner
US2007017332 AA	20080806	LSAS	AS	ASSIGNMENT	Effective date: 20080805 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:PCCRAFTER, INC.;REEL/FRAME:021343/0806 Owner: PROVO CRAFT AND NOVELTY, INC., UTAH PartyType: owner
US2007017332 AA	20100407	LSAS	AS	ASSIGNMENT	Effective date: 20100322

					OldParty: NOTICE OF GRANT OF SECURITY INTEREST IN PATENTS;ASSIGNOR:PROVO CRAFT & NOVELTY, INC.;REEL/FRAME:024202/0038 Owner: CREDIT SUISSE AG, CAYMAN ISLANDS BRANCH,NEW YORK PartyType: owner
US2007017332 AA	20100407	LSAS	AS	ASSIGNMENT	Effective date: 20100322 OldParty: NOTICE OF GRANT OF SECURITY INTEREST IN PATENTS;ASSIGNOR:PROVO CRAFT & NOVELTY, INC.;REEL/FRAME:024202/0038 Owner: CREDIT SUISSE AG, CAYMAN ISLANDS BRANCH, NEW YORK PartyType: owner
US2007017332 AA	20101117	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2007034061 AA	20070215	LSPB	+	published / reissued	
US2007034061 AA	20080411	LSAS	AS	ASSIGNMENT	Effective date: 20080222 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:WORKMAN, ROBERT E.;REEL/FRAME:020788/0783 Owner: PROVO CRAFT AND NOVELTY, INC., UTAH PartyType: owner
US2007034061 AA	20080423	LSAS	AS	ASSIGNMENT	Effective date: 20080422 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:JOHNSON, JONATHAN A.;REEL/FRAME:020843/0710 Owner: PROVO CRAFT AND NOVELTY, INC., UTAH PartyType: owner
US2007034061 AA	20080424	LSAS	AS	ASSIGNMENT	Effective date: 20080415 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:STOCK, RODNEY;REEL/FRAME:020848/0142 Owner: PROVO CRAFT AND NOVELTY, INC., UTAH PartyType: owner
US2007034061 AA	20080424	LSAS	AS	ASSIGNMENT	Effective date: 20080327 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:BEFFREY, PHIL;REEL/FRAME:020848/0421 Owner: PROVO CRAFT AND NOVELTY, INC., UTAH PartyType: owner
US2007034061 AA	20080729	LSAS	AS	ASSIGNMENT	Effective date: 20071120 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:BRINKERHOFF, JASON;REEL/FRAME:021306/0122 Owner: PCCRAFTER, INC., UTAH PartyType: owner
US2007034061 AA	20080806	LSAS	AS	ASSIGNMENT	Effective date: 20080805 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:PCCRAFTER, INC.;REEL/FRAME:021343/0806 Owner: PROVO CRAFT AND NOVELTY, INC., UTAH PartyType: owner
US2007034061 AA	20100407	LSAS	AS	ASSIGNMENT	Effective date: 20100322 OldParty: NOTICE OF GRANT OF SECURITY INTEREST IN PATENTS;ASSIGNOR:PROVO CRAFT & NOVELTY, INC.;REEL/FRAME:024202/0038 Owner: CREDIT SUISSE AG, CAYMAN ISLANDS BRANCH,NEW YORK PartyType: owner
US2007034061 AA	20100407	LSAS	AS	ASSIGNMENT	Effective date: 20100322 OldParty: NOTICE OF GRANT OF SECURITY INTEREST IN PATENTS;ASSIGNOR:PROVO CRAFT & NOVELTY, INC.;REEL/FRAME:024202/0038 Owner: CREDIT SUISSE AG, CAYMAN ISLANDS BRANCH, NEW YORK PartyType: owner
US2007034061 AA	20110927	LSAS	AS	ASSIGNMENT	Effective date: 20110915 OldParty: SECURITY AGREEMENT;ASSIGNOR:PROVO CRAFT & NOVELTY, INC.;REEL/FRAME:026971/0551 Owner: PCA INVESTMENT II CORP., AS ADMINISTRATIVE AGENT C PartyType: owner

US2007034061 AA	20111104	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2007034061 AA	20111104		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2009000437 AA	20080411	LSAS	AS	ASSIGNMENT	Effective date: 20080222 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:WORKMAN, ROBERT E.;REEL/FRAME:020788/0783 Owner: PROVO CRAFT AND NOVELTY, INC., UTAH PartyType: owner
US2009000437 AA	20080424	LSAS	AS	ASSIGNMENT	Effective date: 20080415 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:STOCK, RODNEY;REEL/FRAME:020848/0142 Owner: PROVO CRAFT AND NOVELTY, INC., UTAH PartyType: owner
US2009000437 AA	20080424	LSAS	AS	ASSIGNMENT	Effective date: 20080327 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:BEFFREY, PHIL;REEL/FRAME:020848/0421 Owner: PROVO CRAFT AND NOVELTY, INC., UTAH PartyType: owner
US2009000437 AA	20080729	LSAS	AS	ASSIGNMENT	Effective date: 20071120 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:BRINKERHOFF, JASON;REEL/FRAME:021306/0122 Owner: PCCRAFTER, INC., UTAH PartyType: owner
US2009000437 AA	20080806	LSAS	AS	ASSIGNMENT	Effective date: 20080805 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:PCCRAFTER, INC.;REEL/FRAME:021343/0806 Owner: PROVO CRAFT AND NOVELTY, INC., UTAH PartyType: owner
US2009000437 AA	20090101	LSPB	+	published / reissued	
US2009000437 AA	20100407	LSAS	AS	ASSIGNMENT	Effective date: 20100322 OldParty: NOTICE OF GRANT OF SECURITY INTEREST IN PATENTS;ASSIGNOR:PROVO CRAFT & NOVELTY, INC.;REEL/FRAME:024202/0038 Owner: CREDIT SUISSE AG, CAYMAN ISLANDS BRANCH,NEW YORK PartyType: owner
US2009000437 AA	20100407	LSAS	AS	ASSIGNMENT	Effective date: 20100322 OldParty: NOTICE OF GRANT OF SECURITY INTEREST IN PATENTS;ASSIGNOR:PROVO CRAFT & NOVELTY, INC.;REEL/FRAME:024202/0038 Owner: CREDIT SUISSE AG, CAYMAN ISLANDS BRANCH, NEW YORK PartyType: owner
US2009000437 AA	20110714	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2009000437 AA	20110714		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2009000437 AA	20110927	LSAS	AS	ASSIGNMENT	Effective date: 20110915 OldParty: SECURITY AGREEMENT;ASSIGNOR:PROVO CRAFT & NOVELTY, INC.;REEL/FRAME:026971/0551 Owner: PCA INVESTMENT II CORP., AS ADMINISTRATIVE AGENT C PartyType: owner
US2009000437 AA	20111208	LSAS	AS	ASSIGNMENT	Effective date: 20111105 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:JOHNSON, JONATHAN AARON;REEL/FRAME:027347/0208 Owner: PROVO CRAFT AND NOVELTY, INC., UTAH PartyType: owner
US2009000444 AA	20080411	LSAS	AS	ASSIGNMENT	Effective date: 20080222 OldParty: ASSIGNMENT OF

					ASSIGNORS INTEREST;ASSIGNOR:WORKMAN, ROBERT E.;REEL/FRAME:020788/0783 Owner: PROVO CRAFT AND NOVELTY, INC., UTAH PartyType: owner
US2009000444 AA	20080424	LSAS	AS	ASSIGNMENT	Effective date: 20080415 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:STOCK, RODNEY;REEL/FRAME:020848/0142 Owner: PROVO CRAFT AND NOVELTY, INC., UTAH PartyType: owner
US2009000444 AA	20080424	LSAS	AS	ASSIGNMENT	Effective date: 20080327 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:BEFFREY, PHIL;REEL/FRAME:020848/0421 Owner: PROVO CRAFT AND NOVELTY, INC., UTAH PartyType: owner
US2009000444 AA	20080425	LSAS	AS	ASSIGNMENT	Effective date: 20080424 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:HORITO, MICHAEL;REEL/FRAME:020854/0525 Owner: PROVO CRAFT AND NOVELTY, INC., UTAH PartyType: owner
US2009000444 AA	20080729	LSAS	AS	ASSIGNMENT	Effective date: 20070201 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:YOUSE, WILLIAM CRAIG;REEL/FRAME:021306/0015 Owner: PROVO CRAFT AND NOVELTY, INC., UTAH PartyType: owner
US2009000444 AA	20080729	LSAS	AS	ASSIGNMENT	Effective date: 20071120 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:BRINKERHOFF, JASON;REEL/FRAME:021306/0122 Owner: PCCRAFTER, INC., UTAH PartyType: owner
US2009000444 AA	20080806	LSAS	AS	ASSIGNMENT	Effective date: 20080805 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:PCCRAFTER, INC.;REEL/FRAME:021343/0806 Owner: PROVO CRAFT AND NOVELTY, INC., UTAH PartyType: owner
US2009000444 AA	20090101	LSPB	+	published / reissued	
US2009000444 AA	20100407	LSAS	AS	ASSIGNMENT	Effective date: 20100322 OldParty: NOTICE OF GRANT OF SECURITY INTEREST IN PATENTS;ASSIGNOR:PROVO CRAFT & NOVELTY, INC.;REEL/FRAME:024202/0038 Owner: CREDIT SUISSE AG, CAYMAN ISLANDS BRANCH,NEW YORK PartyType: owner
US2009000444 AA	20100407	LSAS	AS	ASSIGNMENT	Effective date: 20100322 OldParty: NOTICE OF GRANT OF SECURITY INTEREST IN PATENTS;ASSIGNOR:PROVO CRAFT & NOVELTY, INC.;REEL/FRAME:024202/0038 Owner: CREDIT SUISSE AG, CAYMAN ISLANDS BRANCH, NEW YORK PartyType: owner
US2009000444 AA	20101206	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2009000444 AA	20101206		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2009013838 AA	20081001	LSAS	AS	ASSIGNMENT	Effective date: 20080516 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:JOHNSON, JONATHAN A.;BEFFREY, PHIL;REEL/FRAME:021613/0041 Owner: PROVO CRAFT AND NOVELTY, INC., UTAH PartyType: owner
US2009013838 AA	20090115	LSPB	+	published / reissued	
US2009013838 AA	20100407	LSAS	AS	ASSIGNMENT	Effective date: 20100322

					OldParty: NOTICE OF GRANT OF SECURITY INTEREST IN PATENTS;ASSIGNOR:PROVO CRAFT & NOVELTY, INC.;REEL/FRAME:024202/0038 Owner: CREDIT SUISSE AG, CAYMAN ISLANDS BRANCH,NEW YORK PartyType: owner
US2009013838 AA	20100407	LSAS	AS	ASSIGNMENT	Effective date: 20100322 OldParty: NOTICE OF GRANT OF SECURITY INTEREST IN PATENTS;ASSIGNOR:PROVO CRAFT & NOVELTY, INC.;REEL/FRAME:024202/0038 Owner: CREDIT SUISSE AG, CAYMAN ISLANDS BRANCH, NEW YORK PartyType: owner
US2009013838 AA	20110927	LSAS	AS	ASSIGNMENT	Effective date: 20110915 OldParty: SECURITY AGREEMENT;ASSIGNOR:PROVO CRAFT & NOVELTY, INC.;REEL/FRAME:026971/0551 Owner: PCA INVESTMENT II CORP., AS ADMINISTRATIVE AGENT C PartyType: owner
US2009013838 AA	20111011	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2009013838 AA	20111011		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2011197735 AA	20110818	LSPB	+	published / reissued	
US2011197735 AA	20110927	LSAS	AS	ASSIGNMENT	Effective date: 20110915 OldParty: SECURITY AGREEMENT;ASSIGNOR:PROVO CRAFT & NOVELTY, INC.;REEL/FRAME:026971/0551 Owner: PCA INVESTMENT II CORP., AS ADMINISTRATIVE AGENT C PartyType: owner
US2011197735 AA	20120530	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2011232437 AA	20110927	LSAS	AS	ASSIGNMENT	Effective date: 20110915 OldParty: SECURITY AGREEMENT;ASSIGNOR:PROVO CRAFT & NOVELTY, INC.;REEL/FRAME:026971/0551 Owner: PCA INVESTMENT II CORP., AS ADMINISTRATIVE AGENT C PartyType: owner
US2011232437 AA	20110929	LSPB	+	published / reissued	
US2011232437 AA	20111208	LSAS	AS	ASSIGNMENT	Effective date: 20111105 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:JOHNSON, JONATHAN AARON;REEL/FRAME:027347/0208 Owner: PROVO CRAFT AND NOVELTY, INC., UTAH PartyType: owner
US2011232437 AA	20120312	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2011232437 AA	20120312		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2012048086 AA	20120301	LSPB	+	published / reissued	
US2012048086 AA	20130312	LSAS	AS	ASSIGNMENT	Effective date: 20130312 OldParty: SECURITY AGREEMENT;ASSIGNORS:PROVO CRAFT HOLDINGS, LLC;PROVO CRAFT & NOVELTY, INC.;PCCRAFTER, INC.;REEL/FRAME:029979/0192 Owner: CREDIT SUISSE AG, CAYMAN ISLANDS BRANCH, NEW YORK PartyType: owner
US2012048086 AA	20131004	LSAS	AS	ASSIGNMENT	Effective date: 20130920 OldParty: NOTICE OF GRANT OF SECURITY INTEREST IN PATENTS;ASSIGNOR:PROVO CRAFT HOLDINGS, LLC;REEL/FRAME:031345/0050 Owner: PETRUS AGENT, LLC, TEXAS PartyType: owner
US2012048086 AA	20131004	LSAS	AS	ASSIGNMENT	Effective date: 20130920 OldParty: NOTICE OF GRANT OF

					SECURITY INTEREST IN PATENTS;ASSIGNOR:PROVO CRAFT HOLDINGS, LLC;REEL/FRAME:031345/0022 Owner: PETRUS AGENT, LLC, TEXAS PartyType: owner
US2012048086 AA	20140122	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US7845259 BB	20101117	LSGT	PAT1	Patented Case	
US7845259 BB	20101207	LSGT	+	granted / extensions (spc, cpc, pte)	
US7845259 BB	20110208	LSRE	CC	CERTIFICATE OF CORRECTION	
US7845259 BB	20110915	LSAS	AS	ASSIGNMENT	Effective date: 20110915 OldParty: SECURITY AGREEMENT;ASSIGNOR:PROVO CRAFT & NOVELTY, INC.;REEL/FRAME:026915/0631 Owner: CREDIT SUISSE AG, CAYMAN ISLAND BRANCH, AS ADMINIS PartyType: owner
US7845259 BB	20110927	LSAS	AS	ASSIGNMENT	Effective date: 20110915 OldParty: SECURITY AGREEMENT;ASSIGNOR:PROVO CRAFT & NOVELTY, INC.;REEL/FRAME:026971/0551 Owner: PCA INVESTMENT II CORP., AS ADMINISTRATIVE AGENT C PartyType: owner
US7845259 BB	20131004	LSAS	AS	ASSIGNMENT	Effective date: 20130920 OldParty: NOTICE OF GRANT OF SECURITY INTEREST IN PATENTS;ASSIGNOR:PROVO CRAFT HOLDINGS, LLC;REEL/FRAME:031345/0050 Owner: PETRUS AGENT, LLC, TEXAS PartyType: owner
US7845259 BB	20131004	LSAS	AS	ASSIGNMENT	Effective date: 20130920 OldParty: NOTICE OF GRANT OF SECURITY INTEREST IN PATENTS;ASSIGNOR:PROVO CRAFT HOLDINGS, LLC;REEL/FRAME:031345/0022 Owner: PETRUS AGENT, LLC, TEXAS PartyType: owner
US7845259 BB	20140221	LSAS	AS	ASSIGNMENT	Effective date: 20130920 OldParty: CORRECTIVE ASSIGNMENT TO CORRECT THE NAME OF THE CONVEYING PARTY PREVIOUSLY RECORDED ON REEL 031345 FRAME 0050. ASSIGNOR(S) HEREBY CONFIRMS THE CORRECT NAME OF THE CONVEYING PARTY IS PROVO CRAFT & NOVELTY, INC. NOT PROVO CRAFT HOLDINGS, LLC AS PREVIOUSLY FILED;ASSIGNOR:PROVO CRAFT & NOVELTY, INC.;REEL/FRAME:032312/0209 Owner: PETRUS AGENT, LLC, TEXAS PartyType: owner
US7845259 BB	20140507	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US7845259 BB	20160108	LSAS	AS	ASSIGNMENT	Effective date: 20160107 OldParty: SECURITY AGREEMENT;ASSIGNOR:PROVO CRAFT & NOVELTY, INC;REEL/FRAME:037463/0723 Owner: NEWSTAR BUSINESS CREDIT, LLC, TEXAS PartyType: owner
US7845259 BB	20180524	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 8
US7845259 BB	20270906	PEXP		Calculated Patent Term Expiry (PTA 420 days)	
US7930958 BB	20110406	LSGT	PAT1	Patented Case	
US7930958 BB	20110426	LSGT	+	granted / extensions (spc, cpc, pte)	
US7930958 BB	20110915	LSAS	AS	ASSIGNMENT	Effective date: 20110915 OldParty: SECURITY AGREEMENT;ASSIGNOR:PROVO CRAFT & NOVELTY, INC.;REEL/FRAME:026915/0631 Owner: CREDIT SUISSE AG, CAYMAN ISLAND BRANCH, AS ADMINIS PartyType: owner
US7930958 BB	20110927	LSAS	AS	ASSIGNMENT	Effective date: 20110915 OldParty: SECURITY

					AGREEMENT;ASSIGNOR:PROVO CRAFT & NOVELTY, INC.;REEL/FRAME:026971/0551 Owner: PCA INVESTMENT II CORP., AS ADMINISTRATIVE AGENT C PartyType: owner
US7930958 BB	20131004	LSAS	AS	ASSIGNMENT	Effective date: 20130920 OldParty: NOTICE OF GRANT OF SECURITY INTEREST IN PATENTS;ASSIGNOR:PROVO CRAFT HOLDINGS, LLC;REEL/FRAME:031345/0050 Owner: PETRUS AGENT, LLC, TEXAS PartyType: owner
US7930958 BB	20131004	LSAS	AS	ASSIGNMENT	Effective date: 20130920 OldParty: NOTICE OF GRANT OF SECURITY INTEREST IN PATENTS;ASSIGNOR:PROVO CRAFT HOLDINGS, LLC;REEL/FRAME:031345/0022 Owner: PETRUS AGENT, LLC, TEXAS PartyType: owner
US7930958 BB	20140221	LSAS	AS	ASSIGNMENT	Effective date: 20130920 OldParty: CORRECTIVE ASSIGNMENT TO CORRECT THE NAME OF THE CONVEYING PARTY PREVIOUSLY RECORDED ON REEL 031345 FRAME 0050. ASSIGNOR(S) HEREBY CONFIRMS THE CORRECT NAME OF THE CONVEYING PARTY IS PROVO CRAFT & NOVELTY, INC. NOT PROVO CRAFT HOLDINGS, LLC AS PREVIOUSLY FILED;ASSIGNOR:PROVO CRAFT & NOVELTY, INC.;REEL/FRAME:032312/0209 Owner: PETRUS AGENT, LLC, TEXAS PartyType: owner
US7930958 BB	20140925	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US7930958 BB	20160108	LSAS	AS	ASSIGNMENT	Effective date: 20160107 OldParty: SECURITY AGREEMENT;ASSIGNOR:PROVO CRAFT & NOVELTY, INC;REEL/FRAME:037463/0723 Owner: NEWSTAR BUSINESS CREDIT, LLC, TEXAS PartyType: owner
US7930958 BB	20181026	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 8
US7930958 BB	20260911	PEXP		Calculated Patent Term Expiry (PTA 60 days)	
US8201484 BB	20120530	LSGT	PAT1	Patented Case	
US8201484 BB	20120619	LSGT	+	granted / extensions (spc, cpc, pte)	
US8201484 BB	20130312	LSAS	AS	ASSIGNMENT	Effective date: 20130312 OldParty: SECURITY AGREEMENT;ASSIGNORS:PROVO CRAFT HOLDINGS, LLC;PROVO CRAFT & NOVELTY, INC.;PCCRAFTER, INC.;REEL/FRAME:029979/0192 Owner: CREDIT SUISSE AG, CAYMAN ISLANDS BRANCH, NEW YORK PartyType: owner
US8201484 BB	20131004	LSAS	AS	ASSIGNMENT	Effective date: 20130920 OldParty: NOTICE OF GRANT OF SECURITY INTEREST IN PATENTS;ASSIGNOR:PROVO CRAFT HOLDINGS, LLC;REEL/FRAME:031345/0022 Owner: PETRUS AGENT, LLC, TEXAS PartyType: owner
US8201484 BB	20131004	LSAS	AS	ASSIGNMENT	Effective date: 20130920 OldParty: NOTICE OF GRANT OF SECURITY INTEREST IN PATENTS;ASSIGNOR:PROVO CRAFT HOLDINGS, LLC;REEL/FRAME:031345/0050 Owner: PETRUS AGENT, LLC, TEXAS PartyType: owner
US8201484 BB	20140221	LSAS	AS	ASSIGNMENT	Effective date: 20130920 OldParty: CORRECTIVE ASSIGNMENT TO CORRECT THE NAME OF THE CONVEYING PARTY PREVIOUSLY RECORDED ON REEL 031345 FRAME 0050. ASSIGNOR(S) HEREBY CONFIRMS THE CORRECT NAME OF THE CONVEYING PARTY IS PROVO CRAFT & NOVELTY, INC. NOT PROVO CRAFT HOLDINGS, LLC AS PREVIOUSLY FILED;ASSIGNOR:PROVO CRAFT & NOVELTY,

					INC.;REEL/FRAME:032312/0209 Owner: PETRUS AGENT, LLC, TEXAS PartyType: owner
US8201484 BB	20151202	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US8201484 BB	20160108	LSAS	AS	ASSIGNMENT	Effective date: 20160107 OldParty: SECURITY AGREEMENT;ASSIGNOR:PROVO CRAFT & NOVELTY, INC;REEL/FRAME:037463/0723 Owner: NEWSTAR BUSINESS CREDIT, LLC, TEXAS PartyType: owner
US8201484 BB	20191205	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 8
US8201484 BB	20260713	PEXP		Calculated Patent Term Expiry	
US8646366 BB	20110927	LSAS	AS	ASSIGNMENT	Effective date: 20110915 OldParty: SECURITY AGREEMENT;ASSIGNOR:PROVO CRAFT & NOVELTY, INC.;REEL/FRAME:026971/0551 Owner: PCA INVESTMENT II CORP., AS ADMINISTRATIVE AGENT C PartyType: owner
US8646366 BB	20140122	LSGT	PAT1	Patented Case	
US8646366 BB	20140211	LSGT	+	granted / extensions (spc, cpc, pte)	
US8646366 BB	20140221	LSAS	AS	ASSIGNMENT	Effective date: 20130920 OldParty: CORRECTIVE ASSIGNMENT TO CORRECT THE NAME OF THE CONVEYING PARTY PREVIOUSLY RECORDED ON REEL 031345 FRAME 0050. ASSIGNOR(S) HEREBY CONFIRMS THE CORRECT NAME OF THE CONVEYING PARTY IS PROVO CRAFT & NOVELTY, INC. NOT PROVO CRAFT HOLDINGS, LLC AS PREVIOUSLY FILED;ASSIGNOR:PROVO CRAFT & NOVELTY, INC.;REEL/FRAME:032312/0209 Owner: PETRUS AGENT, LLC, TEXAS PartyType: owner
US8646366 BB	20160108	LSAS	AS	ASSIGNMENT	Effective date: 20160107 OldParty: SECURITY AGREEMENT;ASSIGNOR:PROVO CRAFT & NOVELTY, INC;REEL/FRAME:037463/0723 Owner: NEWSTAR BUSINESS CREDIT, LLC, TEXAS PartyType: owner
US8646366 BB	20170727	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US8646366 BB	20260818	PEXP		Calculated Patent Term Expiry (PTA 36 days)	
WO07009091 A2	20060714	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 200680025776.2 Country of Ref document: CN
WO07009091 A2	20070118	LSPB	+	published / reissued	
WO07009091 A2	20070418		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO07009091 A2	20070510		DPE2	REQUEST FOR PRELIMINARY EXAMINATION FILED BEFORE EXPIRATION OF 19TH MONTH FROM PRIORITY DATE (PCT APPLICATION FILED FROM 20040101)	
WO07009091 A3	20080111	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2008521676 Country of Ref document: JP
WO07009091 A3	20080115	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO07009091 A3	20080121	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2006787425 Country of Ref document: EP
WO07009091 A3	20080130	LSNP	+WWE	WIPO	Ref document number:

				INFORMATION: ENTRY INTO NATIONAL PHASE	2006267048 Country of Ref document: AU
WO07009091 A3	20080201	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 565687 Country of Ref document: NZ
WO07009091 A3	20080221	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Date of Ref document: 20060714 Kind code of Ref document: A Ref document number: 2006267048 Country of Ref document: AU
WO07009091 A3	20080625	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2635484 Country of Ref document: CA
WO07009100 A2	20060714	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 200680025553.6 Country of Ref document: CN
WO07009100 A2	20070118	LSPB	+	published / reissued	
WO07009100 A2	20070418		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO07009100 A2	20071004		DPE2	REQUEST FOR PRELIMINARY EXAMINATION FILED BEFORE EXPIRATION OF 19TH MONTH FROM PRIORITY DATE (PCT APPLICATION FILED FROM 20040101)	
WO07009100 A3	20080111	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2008521683 Country of Ref document: JP
WO07009100 A3	20080115	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO07009100 A3	20080121	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2006787464 Country of Ref document: EP
WO07009100 A3	20080130	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2006267057 Country of Ref document: AU
WO07009100 A3	20080201	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 565691 Country of Ref document: NZ
WO07009100 A3	20080221	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Date of Ref document: 20060714 Kind code of Ref document: A Ref document number: 2006267057 Country of Ref document: AU
WO07009100 A3	20080625	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2635485 Country of Ref document: CA
WO07011794 A2	20060714	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 200680025562.5 Country of Ref document: CN
WO07011794 A2	20070125	LSPB	+	published / reissued	
WO07011794 A2	20070502		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO07011794 A2	20070621		DPE2	REQUEST FOR PRELIMINARY EXAMINATION FILED BEFORE EXPIRATION OF 19TH MONTH FROM PRIORITY DATE (PCT APPLICATION FILED FROM 20040101)	
WO07011794 A3	20080111	LSNP	+WWE	WIPO	Ref document number:

				INFORMATION: ENTRY INTO NATIONAL PHASE	2008521673 Country of Ref document: JP
WO07011794 A3	20080115	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO07011794 A3	20080121	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2006787421 Country of Ref document: EP
WO07011794 A3	20080131	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2006270130 Country of Ref document: AU
WO07011794 A3	20080201	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 565688 Country of Ref document: NZ
WO07011794 A3	20080228	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Date of Ref document: 20060714 Kind code of Ref document: A Ref document number: 2006270130 Country of Ref document: AU
WO07011794 A3	20080625	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2635241 Country of Ref document: CA
WO07011795 A2	20060714	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 200680025753.1 Country of Ref document: CN
WO07011795 A2	20070125	LSPB	+	published / reissued	
WO07011795 A2	20070425		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO07011795 A2	20070510		DPE2	REQUEST FOR PRELIMINARY EXAMINATION FILED BEFORE EXPIRATION OF 19TH MONTH FROM PRIORITY DATE (PCT APPLICATION FILED FROM 20040101)	
WO07011795 A3	20080111	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2008521674 Country of Ref document: JP
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WO07011795 A3	20080121	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2006787423 Country of Ref document: EP
WO07011795 A3	20080130	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2006270131 Country of Ref document: AU
WO07011795 A3	20080201	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 565689 Country of Ref document: NZ
WO07011795 A3	20080221	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Date of Ref document: 20060714 Kind code of Ref document: A Ref document number: 2006270131 Country of Ref document: AU
WO07011795 A3	20080625	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2635242 Country of Ref document: CA
WO07011796 A2	20060714	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 200680025752.7 Country of Ref document: CN
WO07011796 A2	20070125	LSPB	+	published / reissued	
WO07011796 A2	20070425		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS	

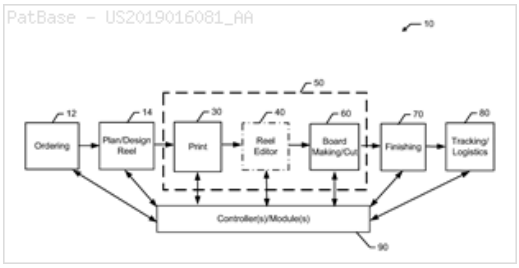
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WO07011796 A2	20070510		DPE2	REQUEST FOR PRELIMINARY EXAMINATION FILED BEFORE EXPIRATION OF 19TH MONTH FROM PRIORITY DATE (PCT APPLICATION FILED FROM 20040101)	
WO07011796 A3	20080111	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2008521675 Country of Ref document: JP
WO07011796 A3	20080115	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO07011796 A3	20080121	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2006787424 Country of Ref document: EP
WO07011796 A3	20080131	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2006270132 Country of Ref document: AU
WO07011796 A3	20080201	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 565690 Country of Ref document: NZ
WO07011796 A3	20080228	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Date of Ref document: 20060714 Kind code of Ref document: A Ref document number: 2006270132 Country of Ref document: AU
WO07011796 A3	20080625	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2635483 Country of Ref document: CA
WO08092139 A2	20080127	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 200880009806.X Country of Ref document: CN
WO08092139 A2	20080731	LSPB	+	published / reissued	
WO08092139 A2	20080917		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A2 Ref document number: 08714035 Country of Ref document: EP
WO08092139 A3	20090724	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 2009547448 Country of Ref document: JP
WO08092139 A3	20090724	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2676565 Country of Ref document: CA
WO08092139 A3	20090728	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO08092139 A3	20090804	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2008207721 Country of Ref document: AU
WO08092139 A3	20090805	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 578909 Country of Ref document: NZ
WO08092139 A3	20090805	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2008714035 Country of Ref document: EP
WO08092139 A3	20090827	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Date of Ref document: 20080127 Kind code of Ref document: A Ref document number: 2008207721 Country of Ref document: AU
WO08092140 A2	20080127	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 200880009800.2 Country of Ref document: CN
WO08092140 A2	20080731	LSPB	+	published / reissued	
WO08092140 A2	20080917		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP	Kind code of Ref document: A2 Ref document number: 08714036 Country of Ref document: EP

				WAS DESIGNATED IN THIS APPLICATION	
WO08092140 A3	20090724	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 2009547449 Country of Ref document: JP
WO08092140 A3	20090724	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2008207722 Country of Ref document: AU
WO08092140 A3	20090724	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2676566 Country of Ref document: CA
WO08092140 A3	20090727	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 578684 Country of Ref document: NZ
WO08092140 A3	20090728	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO08092140 A3	20090805	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2008714036 Country of Ref document: EP
WO08092140 A3	20090820	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Date of Ref document: 20080127 Kind code of Ref document: A Ref document number: 2008207722 Country of Ref document: AU
ZA200801243 A	20090826	LSGT	+	granted / extensions (spc, cpc, pte)	
ZA200801243 A	20280204	PEXP		Calculated Patent Term Expiry	
ZA200801244 A	20090826	LSGT	+	granted / extensions (spc, cpc, pte)	
ZA200801244 A	20280204	PEXP		Calculated Patent Term Expiry	
ZA200801245 A	20090826	LSGT	+	granted / extensions (spc, cpc, pte)	
ZA200801245 A	20280204	PEXP		Calculated Patent Term Expiry	
ZA200801246 A	20100728	LSGT	+	granted / extensions (spc, cpc, pte)	
ZA200801246 A	20280204	PEXP		Calculated Patent Term Expiry	
ZA200801250 A	20090826	LSGT	+	granted / extensions (spc, cpc, pte)	
ZA200801250 A	20280204	PEXP		Calculated Patent Term Expiry	

71) Family number: 72869891 (US2019016081 AA)

Title: CONTROLS FOR PAPER, SHEET, AND BOX MANUFACTURING SYSTEMS

Abstract: Systems for providing efficient manufacturing of sheet or box structures, corrugate sheets, or other **products** of varying size and structure often with pre-applied print ("pre-print") are provided herein. The systems include various features and modules that enable automated control of the corrugator, including the knives, slitters, scorers and cut-to-mark detection system(s), are contemplated. Colored markings may be used to indicate an order change section between two order sections of a roll plan for the manufacturing **process**. The colored markings are detected as the corrugator runs and, once detected, a controller determines a next set of order instructions-e.g., to match the upcoming order. Thus, an order change may occur, thereby enabling automated control of the corrugator based on the new order instructions. Computer readable markings may enable checking of the actual position in the roll plan to an intended position, enabling stopping or changing of the corrugator operation if needed.



Classifications:
International (IPC 8-9): B26D1/02 B26D11/00 B26D5/00 B26D5/30 B26D5/34 B26D7/06 B26D7/18 B26D7/24 B26D7/27 B26F1/00 B31B B31B50/00 B31B50/16 B31B50/26 B31B50/74 B31B50/88 B31B70/00 B31B70/16 B31B70/88 B31F1/00 B31F1/24 B31F1/28 B65B41/12 B65B57/00 B65B61/06 B65H B65H23/18 B65H23/192 B65H35/00 D21F7/02 D21G9/00 G01N21/89 G06F G06F3/12 G06Q10/04 G06Q10/06 G06T7/00
CPC: B26D5/34 B31B50/006 B31B50/10 B31B50/16 B31B50/18 B31B50/25 B31B50/74 B31B50/88 B31F1/24 B31F1/2822 B31F1/2831 B26D7/27 B31F1/28 B65H2301/4148 B65H35/0086 B65H35/02 G06F3/1204 G06F3/1205 G06F3/1215 G06F3/1243 G06F3/1251 G06F3/126 G06F3/1282 G06Q10/043 G06Q10/0631 B31B50/20 B65H23/192 B65H35/008 G06F3/1213 G06T2207/30144 G06T7/0004 Y02P90/80 B26D5/007 B31F1/20 B65H2220/02 B65H23/1806 B65H2301/41702 B65H2301/543 B65H2701/1242 B65H2701/1762 B65H2701/53 B65H2801/21 B65H2801/31 D21F11/12 D21F7/02 D21G9/0036 D21G9/0045 G01N21/89 G06T2207/10024 G06T2207/30124 G06T2207/30204
US: 1/1 242/412.1 358/1.15 493/2

Family:

Publication number	Publication date	Application number	Application date
CA3066111 AA	20191203	CA20183066111	20180713
CA3066115 AA	20191203	CA20183066115	20180713
CA3067157 AA	20191211	CA20183067157	20180713
CA3067158 AA	20191211	CA20183067158	20180713
CN110730714 A	20200124	CN201880037361	20180713
CN110770766 A	20200207	CN201880038587	20180713
CN110914027 A	20200324	CN201880046113	20180713
CN111163909 A	20200515	CN201880046831	20180713
EP3651950 A1	20200520	EP20180749677	20180713
EP3526029 A2	20190821	EP20180750563	20180713
EP3652687 A1	20200520	EP20180750564	20180713
EP3651951 A1	20200520	EP20180753492	20180713
IL271814 AA	20200227	IL20180271814	20180713
IL271819 AA	20200227	IL20180271819	20180713
IL271820 AA	20200227	IL20180271820	20180713
IL271821 AA	20200227	IL20180271821	20180713
JP2020526461 T2	20200831	JP20200500729T	20180713
JP2020527117 T2	20200903	JP20200500840T	20180713
JP2020526424 T2	20200831	JP20200501236T	20180713
JP2020527482 T2	20200910	JP20200501261T	20180713
MX2019014209 A1	20200127	MX20190014209	20180713
MX2019015024 A1	20200127	MX20190015024	20180713
MX2019015025 A1	20200127	MX20190015025	20180713
US2019016081 AA	20190117	US20180033309	20180712
US10642551 BB	20200505	US20180033344	20180712
US2019018628 AA	20190117	US20180033344	20180712
US2019018629 AA	20190117	US20180033348	20180712
US2019016551 AA	20190117	US20180033350	20180712
US2020218479 AA	20200709	US20200826625	20200323
WO19014536 A1	20190117	WO2018US41988	20180713
WO19014537 A1	20190117	WO2018US41990	20180713
WO19014539 A2	20190117	WO2018US41992	20180713
WO19014539 A3	20190221	WO2018US41992	20180713
WO19014544 A1	20190117	WO2018US42000	20180713

Priority:

US20170532483P 20170714
US20170583857P 20171109
US20170597079P 20171211
US20180649942P 20180329
US20180033344 20180712
WO2018US42000 20180713
US20200826625 20200323
US20170583853P 20171109
US20170597005P 20171211
US20170597016P 20171211
US20180033309 20180712
US20180033350 20180712
WO2018US41988 20180713
US20170583845P 20171109
US20170596964P 20171211
US20180619998P 20180122
US20180033348 20180712
WO2018US41992 20180713
WO2018US41990 20180713

Probable Assignee: GEORGIA PACIFIC CORRUGATED LLC

Assignee(s): (std): GEORGIA PACIFIC CORRUGATED LLC

Assignee(s): JAIN AMITH SUBHASH CHANDRA ; SEAY ROBERT DENNIS ; SLOAN CHARLIE BERT IV ; WIDNER ERNEST BARFIELD

Inventor(s): (std): CHARLIE BERT IV SLOAN ; JAIN AMITH SUBHASH ; JAIN AMITH SUBHASH CHANDRA ; ROBERT DENNIS SEAY ; SEAY ROBERT ; SEAY ROBERT D ; SEAY ROBERT DENNIS ; SLOAN CHARLIE ; SLOAN CHARLIE BERT ; SLOAN CHARLIE BERT IV ; SLOAN IV CHARLIE BERT ; WIDNER ERNEST ; WIDNER ERNEST BARFIELD

Agent(s): BLAKE CASSELS AND GRAYDON LLP; CPST INTELLECTUAL PROPERTY INC; GRUENECKER PATENT U RECHTSANWAELTE PARTG MBB; KARTES PATRICK L ET AL; NELSON MULLINS RILEY AND SCARBOROUGH 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 DJ 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 JO JP KE KG KH KM KN KP KR KW 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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
CA3066111 AA	20191203	LSPB	+	published / reissued	
CA3066115 AA	20191203	LSPB	+	published / reissued	
CA3067157 AA	20191211	LSPB	+	published / reissued	
CA3067158 AA	20191211	LSPB	+	published / reissued	
CN110730714 A	20200124	LSPB	+	published / reissued	
CN110730714 A	20200124	LSPB	PB01	PUBLICATION	
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CN110914027 A	20200324	LSPB	+	published / reissued	
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EP3526029 A2	20200108	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20191204
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EP3526029 A2	20200624		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: B31F 1/28 20060101AFI20200520BHEP
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US10642551 BB	20180828		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US10642551 BB	20200505	LSGT	+	granted / extensions (spc, cpc, pte)	
US10642551 BB	20200623	LSRE	CC	CERTIFICATE OF CORRECTION	
US10642551 BB	20380712	PEXP		Calculated Patent Term Expiry	
US2019016081 AA	20180915		RFE1	Docketed New Case - Ready for Examination	
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US2019016081 AA	20181017	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:WIDNER, ERNEST BARFIELD;JAIN, AMITH SUBHASH CHANDRA;SEAY, ROBERT DENNIS;SIGNING DATES FROM 20180727 TO 20180814;REEL/FRAME:047201/0763 Owner: GEORGIA-PACIFIC CORRUGATED LLC, GEORGIA PartyType: owner
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US2019016081 AA	20200424		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: FINAL REJECTION MAILED
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US2019016081 AA	20200801		RFE1	Docketed New Case - Ready for Examination	
US2019016551 AA	20180822		APP1	Application Dispatched from Preexam, Not Yet Docketed	
US2019016551 AA	20181017	LSAS	AS	ASSIGNMENT	Owner: GEORGIA-PACIFIC CORRUGATED LLC, GEORGIA Effective date: 20180814 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:SEAY, ROBERT DENNIS;REEL/FRAME:047199/0154 PartyType: owner
US2019016551 AA	20190117	LSPB	+	published / reissued	
US2019016551 AA	20190313		RFE1	Docketed New Case - Ready for Examination	
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					Owner: GEORGIA-PACIFIC CORRUGATED LLC, GEORGIA PartyType: owner
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US2019018629 AA	20180828		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2019018629 AA	20181017	LSAS	AS	ASSIGNMENT	Effective date: 20180814 Owner: GEORGIA-PACIFIC CORRUGATED LLC, GEORGIA PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:SEAY, ROBERT DENNIS;REEL/FRAME:047202/0400
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US2020218479 AA	20200402		RFE1	Docketed New Case - Ready for Examination	
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WO19014536 A1	20200109	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 2020500840 Country of Ref document: JP
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WO19014537 A1	20190227		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A1 Ref document number: 18749677 Country of Ref document: EP
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WO19014537 A1	20200110	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 2020501261 Country of Ref document: JP
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WO19014537 A1	20200214	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 2018749677 Effective date: 20200214 Country of Ref document: EP
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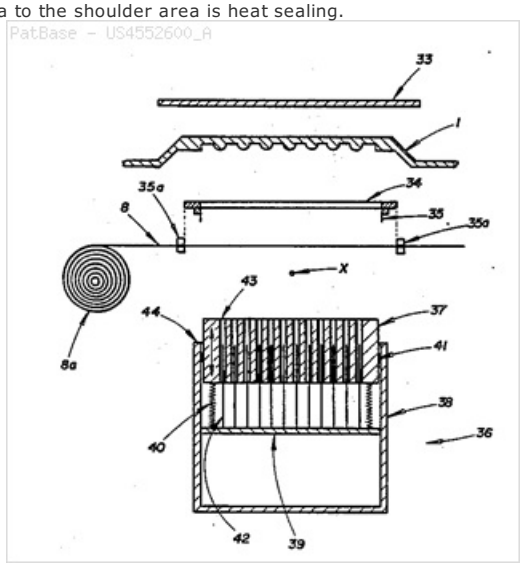
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WO19014544 A1	20200108	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 2020500729 Country of Ref document: JP
WO19014544 A1	20200115	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO19014544 A1	20200214	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 2018750564 Effective date: 20200214 Country of Ref document: EP

72) Family number: 29248140 (US4552600 A)

Title: METHOD AND APPARATUS FOR MANUFACTURING A PURGE TRAP TRAY

Abstract: The present invention is directed to a method and apparatus for manufacturing a tray having an integral purge juice trap. A particularly important step in the method is adhering a border area of a perforated thermoplastic sheet to a raised shoulder area of a tray. Preferably, this step is accomplished simultaneously with the step of perforating the thermoplastic sheet. A preferred method for adhering the border area to the shoulder area is heat sealing.

Classifications:
International (IPC 8-9): B26F1/00 B26F1/24 B29C61/00 B29C65/00 B29C69/00 B29D22/00 B29D31/00 B29D99/00 B65D81/26
International (IPC 1-7): B29C17/00 B29C27/04 B29C27/10 B29C27/14 B29C65/00 B29D31/00 B32B31/04 B65D81/26
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US: 156/196 156/245 156/252 156/261 156/292 156/497 156/500 156/513 156/580.1 156/583.1 156/583.2 156/73.1 206/204 229/2.5R 229/407



Family:

Publication number	Publication date	Application number	Application date
AU198319832 A1	19840531	AU19830019832	19830930
CA1190016 A1	19850709	CA19830432984	19830722
JP1704172 C3	19921014	JP19830214214	19831116
JP3070625 B4	19911108	JP19830214214	19831116
JP59133025 A2	19840731	JP19830214214	19831116
US4552600 A	19851112	US19820443992	19821123

Priority:
US19820443992 19821123 CA19830432984 19830722

Probable Assignee: WR GRACE AND CO CONN A CORP OF CT

Assignee(s): (std): GRACE W R AND CO ; GRACE W R AND CO CRYOVAC DIV ; W R GRACE AND CO

Assignee(s): CRYOVAC INC ; HESSEN THOMAS A ; LAIEWSKI STANISLAUS J ; W R GRACE AND CO CRYOVAC DIV ; WR GRACE AND CO CONN ; WR GRACE AND CO CONN A CORP OF CT

Inventor(s): (std): ARII EFU GIRUBIN ; GILVIN ALLIE F ; HARDY THOMAS R ; HESSEN THOMAS A ; LAIEWSKI STANISLAUS J ; SUTANISURAUSU JIEI REUSUKII ; TOMASU AARU HAADEII ; TOMASU EI HETSUSEN

Inventor(s): ALLIE F GILVIN ; STANISLAUS J LAIEWSKI ; SUTANISURAUSU JEI REUSUKII ; THOMAS A HESSEN ; THOMAS R HARDY

Agent(s): DAVIES COLLISON CAVE; DAVIES COLLISON CAVE PTY LTD; SMART AND BIGGAR

Legal status (INPADOC)

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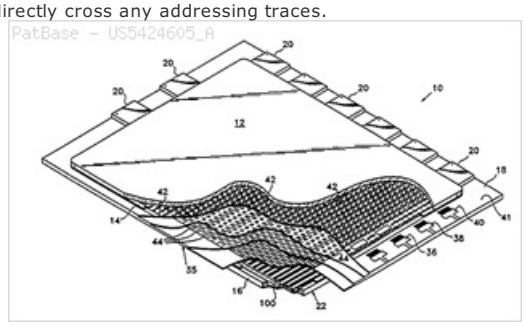
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JP1704172 C3	20031116	PEXP		Calculated Patent Term Expiry	
JP3070625 B4	19911108	LSPB	+	published / reissued	
JP59133025 A2	19840731	LSPB	+	published / reissued	
US4552600 A	19821123	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST.;ASSIGNORS:LAIEWSKI, STANISLAUS J.;HESSEN, THOMAS A.;HARDY, THOMAS R.;AND OTHERS;REEL/FRAME:004071/0391 PartyType: owner

					Owner: W.R. GRACE & CO., DUNCAN, S.C. (P.O. BOX 464), A C Effective date: 19821115
US4552600 A	19850911	LSGT	PAT1	Patented Case	
US4552600 A	19851112	LSGT	+	granted / extensions (spc, cpc, pte)	
US4552600 A	19860408	LSRE	CC	CERTIFICATE OF CORRECTION	
US4552600 A	19890403	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US4552600 A	19890905	LSAS	AS	ASSIGNMENT	Owner: W.R. GRACE & CO.-CONN, A CORP. OF CT OldParty: MERGER;ASSIGNORS:W.R. GRACE & CO.;GRACE MERGER CORPORATION;REEL/FRAME:005169/0141 PartyType: owner Effective date: 19880525
US4552600 A	19930617		REMI	MAINTENANCE FEE REMINDER MAILED	
US4552600 A	19931114	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US4552600 A	19940125	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 19891114
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US4552600 A	20180123	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US4552600 A	20180123	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362

73) Family number: 28680512 (US5424605 A)

Title: SELF SUPPORTING FLAT VIDEO **DISPLAY**

Abstract: A flat screen cathode ray tube is self supporting of a phosphor coated glass face place in that a multiplicity of support points or lines of support extend from an addressing grid structure to contact the inside surface of the face plate between pixels. A cathode or back plate is similarly supported against the addressing structure. The addressing structure itself is formed of a series of ceramic plates or layers, assembled in an unfired state wherein the ceramic and/or glass materials are held together with a plastic binder and are flexible and easily handled. A matrix of very small holes is formed in each plate, one hole for each of the R, G and B components of each pixel in a color **display**. The holes, in registry in the laminated addressing grid structure, each have adjacent conductive metal traces deposited on the ceramic surfaces, and these traces, connected by vias between layers, form a grid of connectors which permit the addressing of each pixel in a sequence in accordance with an input signal such as a video signal. Addressing traces preferably extend between ceramic layers under the hermetic seal of the CRT so that the seal does not directly cross any addressing traces.



Classifications:

International (IPC 8-9): B26F1/26 C04B35/64 H01J11/02 H01J17/04 H01J17/49 H01J19/42 H01J19/44 H01J29/02 H01J29/08 H01J29/18 H01J29/24 H01J29/32 H01J29/46 H01J29/70 H01J29/82 H01J29/86 H01J29/87 H01J3/02 H01J31/12 H01J5/02 H01J5/03 H01J61/30 H01J63/02 H01J9/02 H01J9/14 H01J9/18 H01J9/227 H01J9/24 H01J9/26

International (IPC 1-7): B29D11/00 B29D37/00 B32B31/10 B32B31/18 B32B31/26 C04B35/64 C23F1/00 C25D5/02 H01J11/02 H01J17/04 H01J19/42 H01J19/44 H01J29/04 H01J29/08 H01J29/18 H01J29/32 H01J29/46 H01J29/70 H01J29/82 H01J29/86 H01J29/87 H01J31/12 H01J31/15 H01J5/03 H01J63/02 H01J9/02 H01J9/18 H01J9/20 H01J9/227 H01J9/24 H01J9/26

CPC: H01J17/49 H01J2329/8625 H01J2329/863 H01J2329/864 H01J2329/8645 H01J29/028 H01J29/085 H01J29/467 H01J3/022 H01J31/123 H01J31/126 H01J31/127 H01J61/30 H01J9/14 H01J9/185 Y10S264/91 H01J2329/08 H01J2329/323 H01J2329/8655 H01J29/327 H01J29/864 H01J9/242 Y10T156/1052 Y10T156/1077 Y10T156/1082 Y10T156/1093 H01J2329/28

US: 106/287.19 106/436 106/453 106/456 106/635 156/230 156/248 156/250 156/265 156/268 156/300 156/629 156/629.1 156/644.1 156/89.11 156/89.12 156/89.16 156/89.28 156/901 205/122 216/25 216/41 216/52 216/65 216/75 264/1.21 264/430 264/60 264/614 264/616 264/619 264/620 264/674 264/678 264/681 264/910 313/253 313/256 313/258 313/268 313/292 313/309 313/336 313/422 313/444 313/447 313/463 313/466 313/495 313/496 313/497 315/167 315/169.3 315/169.4 315/366 427/124 427/126.2 445/24 445/25 445/41 445/43 445/58

Family:

Publication number	Publication date	Application number	Application date
AU199340454 A1	19931118	AU19930040454	19930408
AU199461634 A1	19940829	AU19940061634	19940201
AU199653649 A1	19961016	AU19960053649	19960329
DE69334065 D1	20061109	DE19936034065T	19930408
DE69334065 T2	20070419	DE19936034065T	19930408
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DE69430568 T2	20030109	DE19946030568T	19940201
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DE69633054 D1	20040909	DE19966033054T	19960329
DE69633054 T2	20050901	DE19966033054T	19960329
EP0635162 A1	19950125	EP19930911573	19930408
EP0635162 A4	19970416	EP19930911573	19930408
EP0635162 B1	20060927	EP19930911573	19930408
EP0683920 A1	19951129	EP19940908603	19940201
EP0683920 A4	19980415	EP19940908603	19940201
EP0683920 B1	20020508	EP19940908603	19940201
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EP0818051 A1	19980114	EP19960910462	19960329
EP0818051 B1	20040804	EP19960910462	19960329
JP3595336 B2	20041202	JP19940518052T	19940201
JP8508846 T2	19960917	JP19940518052T	19940201
JP11500856 T2	19990119	JP19960529471T	19960329
JP3340440 B2	20021105	JP19960529471T	19960329
KR100352534 B1	20021118	KR19970707024	19970930
KR19980703625 A	19981205	KR19970707024	19960329
US5424605 A	19950613	US19920867044	19920410
US5541473 A	19960730	US19930012297	19930201
US5589731 A	19961231	US19930012542	19930201
US5477105 A	19951219	US19940188856	19940131
US5532548 A	19960702	US19940317205	19941003
US5742117 A	19980421	US19940317299	19941003
US5597518 A	19970128	US19940333450	19941102
US5674351 A	19971007	US19940333924	19941102
US5675212 A	19971007	US19950414408	19950331
US5667418 A	19970916	US19950449036	19950524
US5576596 A	19961119	US19950450458	19950525
US5725787 A	19980310	US19950452609	19950525
US5614781 A	19970325	US19950505841	19950720
US5746635 A	19980505	US19950572348	19951212
US5798604 A	19980825	US19960583323	19960105
US5865930 A	19990202	US19960739773	19961030
US5916396 A	19990629	US19970893407	19970711
US5985067 A	19991116	US19970962088	19971031
US6157123 A	20001205	US19990259391	19990226
US6489718 BA	20021203	US20000617591	20000718

WO9321650 A1	19931028	WO1993US03057	19930408
WO9418694 A1	19940818	WO1994US00602	19940201
WO9630926 A1	19961003	WO1996US03640	19960329

Priority:

US19820867044 19820410
US19930012297 19930201
US19940188857 19940131
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US19950450458 19950525
US19950505841 19950720
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US19970962088 19971031

Probable Assignee: CANON INC

Assignee(s): (std): CANDESCENT INTELLECTUAL PROP ; CANDESCENT INTELLECTUAL PROPER ; CANDESCENT TECH CORP ; CANDESCENT TECHNOLOGIES CORP ; SILICON VIDEO CORP

Assignee(s): CANDESCENT INTELLECTUAL PROPERTY SERVICE INC ; CANDESCENT INTELLECTUAL PROPERTY SERVICES INC ; CANDESCENT TECHNOLOGIES CORPROATION ; CANON INC ; CANON KK ; DARPA ; DARPA OFFICE OF GENERAL COUNSEL ; DEFENSE CONTRACT MANAGEMENT COMMAND US GOV

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Inventor(s): ANTHONY P SCHMID ; CHRISTOPHER J CURTIN ; CHRISTOPHER J SPINDT ; DAVID L MORRIS ; DUBOC ROBERT M ; PAUL A LOVOI ; ROBERT M DUBOC JR ; RONALD S NOWICKI ; THEODORE S FAHLEN ; YU NAN SUN

Designated states: AL AM AT AU AZ BB BE BF BG BJ BR BY CA CF CG CH CI CM CN CZ DE DK EE ES FI FR GA GB GE GN GR HU IE IS IT JP KE KG KP KR KZ 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 SN SZ TD TG TJ TM TT UA UG UZ VN

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AU199340454 A1	19931118	LSPB	+	published / reissued	
AU199461634 A1	19940829	LSPB	+	published / reissued	
AU199653649 A1	19961016	LSPB	+	published / reissued	
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DE69334065 D1	20080430	LSAS	8327	CHANGE IN THE PERSON/NAME/ADDRESS OF THE PATENT OWNER	Owner: CANON K.K., TOKYO, JP PartyType: owner
DE69334065 D1	20080430		8328	CHANGE IN THE PERSON/NAME/ADDRESS OF THE AGENT	Representative: BOEHMERT & BOEHMERT, 28209 BREMEN PartyType: representative
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DE69334065 T2	20130408	PEXP		Calculated Patent Term Expiry	
DE69430568 D1	20030508	LSOP	-8363	OPPOSITION AGAINST THE PATENT	
DE69430568 D1	20060614	LSOP	+8366	RESTRICTED MAINTAINED AFTER OPPOSITION PROCEEDINGS	
DE69430568 D1	20080430	LSAS	8327	CHANGE IN THE PERSON/NAME/ADDRESS OF THE PATENT OWNER	Owner: CANON K.K., TOKYO, JP PartyType: owner
DE69430568 D1	20080430		8328	CHANGE IN THE PERSON/NAME/ADDRESS OF THE AGENT	PartyType: representative Representative: BOEHMERT & BOEHMERT, 28209 BREMEN
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DE69430568 T3	20080430		8328	CHANGE IN THE PERSON/NAME/ADDRESS OF THE AGENT	Representative: BOEHMERT & BOEHMERT, 28209 BREMEN PartyType: representative
DE69430568 T3	20140201	PEXP		Calculated Patent Term Expiry	
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DE69633054 T2	20050901	LSGT	+	granted / extensions (spc, cpc, pte)	
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DE69633054 T2	20080430		8328	CHANGE IN THE PERSON/NAME/ADDRESS OF THE AGENT	Representative: BOEHMERT & BOEHMERT, 28209 BREMEN PartyType: representative
DE69633054 T2	20160329	PEXP		Calculated Patent Term Expiry	
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EP0635162 A1	19950125		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: DE ES FR GB IT NL
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EP0635162 A4	19980506	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 19980319
EP0635162 A4	20000308	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	Owner: CANDESCENT TECHNOLOGIES CORPORATION PartyType: owner
EP0635162 A4	20020116	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	Owner: CANDESCENT INTELLECTUAL PROPERTY SERVICES, INC. PartyType: owner
EP0635162 B1	20060927	LSGT	+	granted / extensions (spc, cpc, pte)	
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EP0635162 B1	20060927	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20060927 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: IT
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EP0635162 B1	20060927	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: GB Ref legal event code: FG4D
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EP0635162 B1	20070502		REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: 732E Ref country code: GB
EP0635162 B1	20070702	LSAS	NLS	NL: ASSIGNMENTS OF EP-PATENTS	PartyType: owner Ref country code: EP Effective date: 20070424 Owner: CANON KABUSHIKI KAISHA
EP0635162 B1	20071005	LSAS	REG	REFERENCE TO A NATIONAL CODE	Ref country code: FR Ref legal event code: TP
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EP0635162 B1	20071123	LSWD	REG	REFERENCE TO A NATIONAL CODE	Ref country code: HK Ref document number: 1015187 Ref legal event code: WD Country of Ref document: HK
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EP0683920 A4	19980729	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 19980616
EP0683920 A4	20001213	LSRE	RTI1	TITLE (CORRECTION)	Text: FLAT PANEL DEVICE WITH INTERNAL SUPPORT STRUCTURE
EP0683920 A4	20010919	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	Owner: CANDESCENT INTELLECTUAL PROPERTY SERVICES, INC. PartyType: owner
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EP0683920 B2	20060412	LSGT	+	granted / extensions (spc, cpc, pte)	
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EP0683920 B2	20071005	LSAS	REG	REFERENCE TO A NATIONAL CODE	Ref country code: FR Ref legal event code: TP
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EP0683920 B2	20130430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 20 Payment date: 20130315 Country of Ref document: FR
EP0683920 B2	20140131	PEXP		Calculated Patent Term Expiry	
EP0683920 B2	20140201	PEXP		Calculated Patent Term Expiry	
EP0683920 B2	20140204	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref document number: 69430568 Ref legal event code: R071 Ref country code: DE Country of Ref document: DE
EP0683920 B2	20140226	LSLE	REG	REFERENCE TO A NATIONAL CODE	Expiry date: 20140131 Ref country code: GB Ref legal event code: PE20
EP0683920 B2	20140430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20140131 NotificationOfLapse: LAPSE BECAUSE OF EXPIRATION OF PROTECTION Country of Ref document: GB
EP0683920 B2	20140430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF EXPIRATION OF PROTECTION Lapsed date: 20140204 Country of Ref document: DE
EP0818051 A1	19980114	LSPB	+	published / reissued	
EP0818051 A1	19980114	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 19971028
EP0818051 A1	19980114		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: DE FR GB
EP0818051 A1	19981202	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 19981019
EP0818051 A1	20020116	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	Owner: CANDESCENT INTELLECTUAL PROPERTY SERVICES, INC. PartyType: owner
EP0818051 B1	20040804	LSGT	+	granted / extensions (spc, cpc, pte)	
EP0818051 B1	20040804		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: DE FR GB
EP0818051 B1	20040804	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: GB Ref legal event code: FG4D
EP0818051 B1	20040909		REF	CORRESPONDS TO:	Kind code of Ref document: P Ref document number: 69633054 Date of Ref document: 20040909 Country of Ref document: DE
EP0818051 B1	20050701		+ET	FR: TRANSLATION FILED	
EP0818051 B1	20050727	LSGT	+26N	NO OPPOSITION FILED	Effective date: 20050506
EP0818051 B1	20070502		REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: 732E Ref country code: GB
EP0818051 B1	20071005	LSAS	REG	REFERENCE TO A NATIONAL CODE	Ref country code: FR Ref legal event code: TP
EP0818051 B1	20130430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20130320 Year of fee payment: 18 Country of Ref document: GB
EP0818051 B1	20130430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20130331 Year of fee payment: 18 Country of Ref document: DE
EP0818051 B1	20130830	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 18 Payment date: 20130417 Country of Ref document: FR
EP0818051 B1	20141001	LSDW	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref legal event code: R119 Ref document number: 69633054 Country of Ref document: DE
EP0818051 B1	20141126	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	Effective date: 20140329 Ref country code: EP

EP0818051 B1	20141226	LSLE	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20141128 Ref country code: FR Ref legal event code: ST
EP0818051 B1	20150130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20140329 Country of Ref document: GB
EP0818051 B1	20150130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20140331 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: FR
EP0818051 B1	20150130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20141001 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: DE
EP0818051 B1	20150212	LSDW	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref legal event code: R119 Effective date: 20141001 Ref document number: 69633054 Country of Ref document: DE
EP0818051 B1	20160329	PEXP		Calculated Patent Term Expiry	
JP11500856 T2	19990119	LSPB	+	published / reissued	
JP3340440 B2	20021105	LSGT	+	granted / extensions (spc, cpc, pte)	
JP3340440 B2	20050809	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP3340440 B2	20060315		S631	WRITTEN REQUEST FOR REGISTRATION OF RECLAMATION OF DOMICILE	Text: JAPANESE INTERMEDIATE CODE: R313631
JP3340440 B2	20060403		R360	WRITTEN NOTIFICATION FOR DECLINING OF TRANSFER OF RIGHTS	Text: JAPANESE INTERMEDIATE CODE: R360
JP3340440 B2	20060515		R370	WRITTEN MEASURE OF DECLINING OF TRANSFER PROCEDURE	Text: JAPANESE INTERMEDIATE CODE: R370
JP3340440 B2	20061130	LSAS	S111	REQUEST FOR CHANGE OF OWNERSHIP OR PART OF OWNERSHIP	Text: JAPANESE INTERMEDIATE CODE: R313113
JP3340440 B2	20061130		S531	WRITTEN REQUEST FOR REGISTRATION OF CHANGE OF DOMICILE	Text: JAPANESE INTERMEDIATE CODE: R313531
JP3340440 B2	20061208	LSAS	R350	WRITTEN NOTIFICATION OF REGISTRATION OF TRANSFER	Text: JAPANESE INTERMEDIATE CODE: R350
JP3340440 B2	20070726	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 5
JP3340440 B2	20070731	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 6
JP3340440 B2	20080731	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 6
JP3340440 B2	20080805	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 7
JP3340440 B2	20090730	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 7
JP3340440 B2	20090804	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 8
JP3340440 B2	20100803	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 9

JP3340440 B2	20110726	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 10
JP3340440 B2	20120726	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 10
JP3340440 B2	20120731	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 11
JP3340440 B2	20130816	LSLE	-LAPS	CANCELLATION BECAUSE OF NO PAYMENT OF ANNUAL FEES	
JP3340440 B2	20160329	PEXP		Calculated Patent Term Expiry	
JP3595336 B2	20041202	LSGT	+	granted / extensions (spc, cpc, pte)	
JP3595336 B2	20061130	LSAS	S111	REQUEST FOR CHANGE OF OWNERSHIP OR PART OF OWNERSHIP	Text: JAPANESE INTERMEDIATE CODE: R313113
JP3595336 B2	20061208	LSAS	R350	WRITTEN NOTIFICATION OF REGISTRATION OF TRANSFER	Text: JAPANESE INTERMEDIATE CODE: R350
JP3595336 B2	20070906	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 3
JP3595336 B2	20070911	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 4
JP3595336 B2	20080909	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 5
JP3595336 B2	20090827	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 5
JP3595336 B2	20090901	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 6
JP3595336 B2	20100902	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 6
JP3595336 B2	20100907	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 7
JP3595336 B2	20110825	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 7
JP3595336 B2	20110830	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 8
JP3595336 B2	20120823	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 8
JP3595336 B2	20120828	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 9
JP3595336 B2	20130910	LSLE	-LAPS	CANCELLATION BECAUSE OF NO PAYMENT OF ANNUAL FEES	
JP3595336 B2	20140201	PEXP		Calculated Patent Term Expiry	
JP8508846 T2	19960917	LSPB	+	published / reissued	
JP8508846 T2	20040113	LSRV	-A02	DECISION OF REFUSAL	Text: JAPANESE INTERMEDIATE CODE: A02 Effective date: 20040113
JP8508846 T2	20040407	LSRE	A521	WRITTEN AMENDMENT	Text: JAPANESE INTERMEDIATE CODE: A523 Effective date: 20040406
JP8508846 T2	20040519	LSAL	A911	TRANSFER OF RECONSIDERATION BY	Effective date: 20040520 Text: JAPANESE INTERMEDIATE CODE: A911

				EXAMINER BEFORE APPEAL (ZENCHI)	
JP8508846 T2	20040616	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20040615 Text: JAPANESE INTERMEDIATE CODE: A131
JP8508846 T2	20040722	LSRE	A521	WRITTEN AMENDMENT	Text: JAPANESE INTERMEDIATE CODE: A523 Effective date: 20040721
JP8508846 T2	20040817	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP8508846 T2	20040825	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Text: JAPANESE INTERMEDIATE CODE: A01 Effective date: 20040824
JP8508846 T2	20040909	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	Effective date: 20040903 Text: JAPANESE INTERMEDIATE CODE: A61
KR100352534 B1	20021118	LSGT	+	granted / extensions (spc, cpc, pte)	
KR100352534 B1	20170930	PEXP		Calculated Patent Term Expiry	
KR19980703625 A	19971215	LSES	A201	REQUEST FOR EXAMINATION	
KR19980703625 A	19981205	LSPB	+	published / reissued	
KR19980703625 A	20000331	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR19980703625 A	20000829	LSRE	AMND	AMENDMENT	
KR19980703625 A	20010330	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR19980703625 A	20010830	LSRE	AMND	AMENDMENT	
KR19980703625 A	20011015	LSAS	N231	NOTIFICATION OF CHANGE OF APPLICANT	
KR19980703625 A	20020320	LSRV	-E601	DECISION TO REFUSE APPLICATION	
KR19980703625 A	20020419	LSRE	AMND	AMENDMENT	
KR19980703625 A	20020419		J201	REQUEST FOR TRIAL AGAINST REFUSAL DECISION	
KR19980703625 A	20020725	LSGT	+B701	DECISION TO GRANT	
KR19980703625 A	20020830	LSGT	+GRNT	WRITTEN DECISION TO GRANT	
KR19980703625 A	20030124	LSRE	G170	PUBLICATION OF CORRECTION	
KR19980703625 A	20120718	LSFE	FPAY	ANNUAL FEE PAYMENT	Payment date: 20120719 Year of fee payment: 11
KR19980703625 A	20130725	LSFE	FPAY	ANNUAL FEE PAYMENT	Payment date: 20130726 Year of fee payment: 12
KR19980703625 A	20140831	LSLE	-LAPS	LAPSE DUE TO UNPAID ANNUAL FEE	
US5424605 A	19920410	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST.;ASSIGNOR:LOVOI, PAUL A.;REEL/FRAME:006093/0142 Owner: SILICON VIDEO CORPORATION, CALIFORNIA PartyType: owner Effective date: 19920410
US5424605 A	19950602	LSGT	PAT1	Patented Case	
US5424605 A	19950602	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US5424605 A	19950613	LSGT	+	granted / extensions (spc, cpc, pte)	
US5424605 A	19961224	LSRE	CC	CERTIFICATE OF CORRECTION	
US5424605 A	19961227	LSAS	AS	ASSIGNMENT	Owner: CANDESCENT TECHNOLOGIES CORPORATION, CALIFORNIA Effective date: 19960809 OldParty: CHANGE OF NAME;ASSIGNOR:SILICON VIDEO CORPORATION;REEL/FRAME:008274/0650 PartyType: owner
US5424605 A	19980914	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US5424605 A	20010524	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:011871/0045 Owner: CANDESCENT INTELLECTUAL

					PROPERTY SERVICES, INC., C Effective date: 20001205 PartyType: owner
US5424605 A	20021212	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US5424605 A	20030102		REMI	MAINTENANCE FEE REMINDER MAILED	
US5424605 A	20061101	LSAS	AS	ASSIGNMENT	Owner: CANDESCENT TECHNOLOGIES CORPORATION, CALIFORNIA Effective date: 20001205 OldParty: CORRECTIVE ASSIGNMENT TO CORRECT THE ASSIGNEES. THE NAME OF AN ASSIGNEE WAS INADVERTENTLY OMITTED FROM THE RECORDATION FORM COVER SHEET PREVIOUSLY RECORDED ON REEL 011871 FRAME 0045;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:018463/0221 PartyType: owner
US5424605 A	20061101	LSAS	AS	ASSIGNMENT	Effective date: 20001205 Owner: CANDESCENT INTELLECTUAL PROPERTY SERVICES, INC., C OldParty: CORRECTIVE ASSIGNMENT TO CORRECT THE ASSIGNEES. THE NAME OF AN ASSIGNEE WAS INADVERTENTLY OMITTED FROM THE RECORDATION FORM COVER SHEET PREVIOUSLY RECORDED ON REEL 011871 FRAME 0045;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:018463/0221 PartyType: owner
US5424605 A	20061117	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
US5424605 A	20070320	LSAS	AS	ASSIGNMENT	PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:CANDESCENT INTELLECTUAL PROPERTY SERVICES, INC.;REEL/FRAME:019035/0114 Effective date: 20060801 Owner: CANON KABUSHIKI KAISHA, JAPAN
US5424605 A	20070624	LSAS	AS	ASSIGNMENT	OldParty: NUNC PRO TUNC ASSIGNMENT;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:019466/0345 PartyType: owner Effective date: 20061207 Owner: CANON KABUSHIKI KAISHA, JAPAN
US5424605 A	20120613	PEXP		Calculated Patent Term Expiry	
US5477105 A	19940411	LSAS	AS	ASSIGNMENT	PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:CURTIN, CHRISTOPHER J.;NOWICKI, RONALD S.;FAHLEN, THEODORE S.;AND OTHERS;REEL/FRAME:006951/0278;SIGNING DATES FROM 19940314 TO 19940401 Owner: SILICON VIDEO CORPORATION, CALIFORNIA
US5477105 A	19951208	LSGT	PAT1	Patented Case	
US5477105 A	19951208	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US5477105 A	19951219	LSGT	+	granted / extensions (spc, cpc, pte)	
US5477105 A	19961227	LSAS	AS	ASSIGNMENT	Effective date: 19960809 PartyType: owner OldParty: CHANGE OF NAME;ASSIGNOR:SILICON VIDEO CORPORATION;REEL/FRAME:008280/0076 Owner: CANDESCENT TECHNOLOGIES CORPORATION, CALIFORNIA
US5477105 A	19990617	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US5477105 A	20010524	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:011871/0045 Owner: CANDESCENT INTELLECTUAL PROPERTY SERVICES, INC., C Effective date: 20001205 PartyType: owner
US5477105 A	20020321	LSAS	AS	ASSIGNMENT	PartyType: owner Effective date: 20020301 OldParty: CONFIRMATORY LICENSE;ASSIGNOR:CANDESCENT TECHNOLOGIES CORP.;REEL/FRAME:012745/0828 Owner: DARPA, VIRGINIA
US5477105 A	20020909	LSAS	AS	ASSIGNMENT	Effective date: 20010907 OldParty: CONFIRMATORY LICENSE;ASSIGNOR:CANDESCENT TECHNOLOGIES

					CORPORATION;REEL/FRAME:013221/0444 PartyType: owner Owner: UNITED STATES GOVERNMENT DEFENSE CONTRACT MANAGEME
US5477105 A	20030619	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US5477105 A	20061101	LSAS	AS	ASSIGNMENT	Effective date: 20001205 Owner: CANDESCENT TECHNOLOGIES CORPORATION, CALIFORNIA OldParty: CORRECTIVE ASSIGNMENT TO CORRECT THE ASSIGNEES. THE NAME OF AN ASSIGNEE WAS INADVERTENTLY OMITTED FROM THE RECORDATION FORM COVER SHEET PREVIOUSLY RECORDED ON REEL 011871 FRAME 0045;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:018463/0221 PartyType: owner
US5477105 A	20061101	LSAS	AS	ASSIGNMENT	Owner: CANDESCENT INTELLECTUAL PROPERTY SERVICES, INC., C Effective date: 20001205 OldParty: CORRECTIVE ASSIGNMENT TO CORRECT THE ASSIGNEES. THE NAME OF AN ASSIGNEE WAS INADVERTENTLY OMITTED FROM THE RECORDATION FORM COVER SHEET PREVIOUSLY RECORDED ON REEL 011871 FRAME 0045;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:018463/0221 PartyType: owner
US5477105 A	20070320	LSAS	AS	ASSIGNMENT	PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:CANDESCENT INTELLECTUAL PROPERTY SERVICES, INC.;REEL/FRAME:019035/0114 Effective date: 20060801 Owner: CANON KABUSHIKI KAISHA, JAPAN
US5477105 A	20070525	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
US5477105 A	20070624	LSAS	AS	ASSIGNMENT	OldParty: NUNC PRO TUNC ASSIGNMENT;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:019466/0345 Effective date: 20061207 Owner: CANON KABUSHIKI KAISHA, JAPAN PartyType: owner
US5477105 A	20140131	PEXP		Calculated Patent Term Expiry	
US5532548 A	19941003	LSAS	AS	ASSIGNMENT	Effective date: 19940928 Owner: SILICON VIDEO CORPORATION, CALIFORNIA OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:SPINDT, CHRISTOPHER J.;FIELD, JOHN E.;MORRIS, DAVID L.;AND OTHERS;REEL/FRAME:007209/0856 PartyType: owner
US5532548 A	19960620	LSGT	PAT1	Patented Case	
US5532548 A	19960620	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US5532548 A	19960702	LSGT	+	granted / extensions (spc, cpc, pte)	
US5532548 A	19991230	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US5532548 A	20001211	LSAS	AS	ASSIGNMENT	PartyType: owner OldParty: CHANGE OF NAME;ASSIGNOR:SILICON VIDEO CORPORATION;REEL/FRAME:011332/0013 Owner: CANDESCENT TECHNOLOGIES CORPORATION, CALIFORNIA Effective date: 19960809
US5532548 A	20010524	LSAS	AS	ASSIGNMENT	Effective date: 20001205 PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:011821/0569 Owner: CANDESCENT INTELLECTUAL PROPERTY SERVICES, INC., C
US5532548 A	20020909	LSAS	AS	ASSIGNMENT	Effective date: 20010907 Owner: UNITED STATES GOVERNMENT DEFENSE CONTRACT MANAGEME OldParty: CONFIRMATORY LICENSE;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:013221/0444 PartyType: owner
US5532548 A	20040105	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US5532548 A	20040105		+SULP	SURCHARGE FOR LATE PAYMENT	Year of fee payment: 7

US5532548 A	20040920	LSAS	AS	ASSIGNMENT	Effective date: 20040916 Owner: DARPA, VIRGINIA OldParty: CONFIRMAATORY LICENSE;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:015796/0585 PartyType: owner
US5532548 A	20070625	LSAS	AS	ASSIGNMENT	Owner: CANON KABUSHIKI KAISHA, JAPAN PartyType: owner Effective date: 20070104 OldParty: NUNC PRO TUNC ASSIGNMENT EFFECTIVE AS OF AUGUST 26, 2004;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:019466/0437
US5532548 A	20070722	LSAS	AS	ASSIGNMENT	Effective date: 20061226 Owner: CANON KABUSHIKI KAISHA, JAPAN PartyType: owner OldParty: NUNC PRO TUNC ASSIGNMENT;ASSIGNOR:CANDESCENT INTELLECTUAL PROPERTY SERVICES, INC.;REEL/FRAME:019580/0723
US5532548 A	20070813	LSAS	AS	ASSIGNMENT	Effective date: 20001205 Owner: CANDESCENT TECHNOLOGIES CORPORATION, CALIFORNIA OldParty: CORRECTIVE ASSIGNMENT TO CORRECT THE ASSIGNEE. THE NAME OF ONE ASSIGNEE WAS INADVERTENTLY OMITTED FROM THE RECORDATION FORM COVER SHEET PREVIOUSLY RECORDED ON REEL 011821 FRAME 0569;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:019679/0375 PartyType: owner
US5532548 A	20070813	LSAS	AS	ASSIGNMENT	Owner: CANDESCENT INTELLECTUAL PROPERTY SERVICES, INC., C Effective date: 20001205 OldParty: CORRECTIVE ASSIGNMENT TO CORRECT THE ASSIGNEE. THE NAME OF ONE ASSIGNEE WAS INADVERTENTLY OMITTED FROM THE RECORDATION FORM COVER SHEET PREVIOUSLY RECORDED ON REEL 011821 FRAME 0569;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:019679/0375 PartyType: owner
US5532548 A	20071211	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
US5532548 A	20141003	PEXP		Calculated Patent Term Expiry	
US5541473 A	19930409	LSAS	AS	ASSIGNMENT	Owner: SILICON VIDEO CORPORATION, CALIFORNIA PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST.;ASSIGNORS:DUBOC, ROBERT M. JR.;LOVOI, PAUL A.;REEL/FRAME:006479/0558;SIGNING DATES FROM 19930324 TO 19930329
US5541473 A	19960719	LSGT	PAT1	Patented Case	
US5541473 A	19960719	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US5541473 A	19960730	LSGT	+	granted / extensions (spc, cpc, pte)	
US5541473 A	19961227	LSAS	AS	ASSIGNMENT	Owner: CANDESCENT TECHNOLOGIES CORPORATION, CALIFORNIA PartyType: owner Effective date: 19960809 OldParty: CHANGE OF NAME;ASSIGNOR:SILICON VIDEO CORPORATION;REEL/FRAME:008274/0823
US5541473 A	19991115	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US5541473 A	20010524	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:011871/0045 Owner: CANDESCENT INTELLECTUAL PROPERTY SERVICES, INC., C Effective date: 20001205 PartyType: owner
US5541473 A	20020321	LSAS	AS	ASSIGNMENT	Owner: DARPA, VIRGINIA Effective date: 20020301 PartyType: owner OldParty: CONFIRMATORY LICENSE;ASSIGNOR:CANDESCENT TECHNOLOGIES CORP.;REEL/FRAME:012745/0840
US5541473 A	20020909	LSAS	AS	ASSIGNMENT	Owner: UNITED STATES GOVERNMENT DEFENSE CONTRACT MANAGEME PartyType: owner Effective date: 20010907 OldParty: CONFIRMATORY

					LICENSE;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:013221/0444
US5541473 A	20040130	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US5541473 A	20061101	LSAS	AS	ASSIGNMENT	Effective date: 20001205 OldParty: CORRECTIVE ASSIGNMENT TO CORRECT THE ASSIGNEES. THE NAME OF AN ASSIGNEE WAS INADVERTENTLY OMITTED FROM THE RECORDATION FORM COVER SHEET PREVIOUSLY RECORDED ON REEL 011871 FRAME 0045;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:018463/0221 Owner: CANDESCENT TECHNOLOGIES CORPORATION, CALIFORNIA PartyType: owner
US5541473 A	20061101	LSAS	AS	ASSIGNMENT	Effective date: 20001205 Owner: CANDESCENT INTELLECTUAL PROPERTY SERVICES, INC., C OldParty: CORRECTIVE ASSIGNMENT TO CORRECT THE ASSIGNEES. THE NAME OF AN ASSIGNEE WAS INADVERTENTLY OMITTED FROM THE RECORDATION FORM COVER SHEET PREVIOUSLY RECORDED ON REEL 011871 FRAME 0045;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:018463/0221 PartyType: owner
US5541473 A	20070320	LSAS	AS	ASSIGNMENT	PartyType: owner Effective date: 20060801 Owner: CANON KABUSHIKI KAISHA, JAPAN OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:CANDESCENT INTELLECTUAL PROPERTY SERVICES, INC.;REEL/FRAME:019035/0114
US5541473 A	20070624	LSAS	AS	ASSIGNMENT	Effective date: 20061207 OldParty: NUNC PRO TUNC ASSIGNMENT;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:019466/0345 Owner: CANON KABUSHIKI KAISHA, JAPAN PartyType: owner
US5541473 A	20080104	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
US5541473 A	20130730	PEXP		Calculated Patent Term Expiry	
US5576596 A	19961015	LSGT	PAT1	Patented Case	
US5576596 A	19961015	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US5576596 A	19961119	LSGT	+	granted / extensions (spc, cpc, pte)	
US5576596 A	19961227	LSAS	AS	ASSIGNMENT	Owner: CANDESCENT TECHNOLOGIES CORPORATION, CALIFORNIA OldParty: CHANGE OF NAME;ASSIGNOR:SILICON VIDEO CORPORATION;REEL/FRAME:008274/0654 Effective date: 19960809 PartyType: owner
US5576596 A	20000327	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US5576596 A	20010524	LSAS	AS	ASSIGNMENT	Effective date: 20001205 Owner: CANDESCENT INTELLECTUAL PROPERTY SERVICES, INC., C OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:011871/0045 PartyType: owner
US5576596 A	20020909	LSAS	AS	ASSIGNMENT	Effective date: 20010907 OldParty: CONFIRMATORY LICENSE;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:013221/0444 PartyType: owner Owner: UNITED STATES GOVERNMENT DEFENSE CONTRACT MANAGEME
US5576596 A	20040519	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US5576596 A	20040927	LSAS	AS	ASSIGNMENT	OldParty: CONFIRMATORY LICENSE;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:015819/0405 Owner: DARPA, VIRGINIA PartyType: owner Effective date: 20040917
US5576596 A	20061101	LSAS	AS	ASSIGNMENT	Effective date: 20001205 OldParty: CORRECTIVE ASSIGNMENT TO CORRECT THE ASSIGNEES. THE NAME OF AN ASSIGNEE WAS INADVERTENTLY OMITTED FROM THE RECORDATION FORM COVER SHEET PREVIOUSLY RECORDED ON REEL

					011871 FRAME 0045;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:018463/0221 PartyType: owner Owner: CANDESCENT TECHNOLOGIES CORPORATION, CALIFORNIA
US5576596 A	20061101	LSAS	AS	ASSIGNMENT	Effective date: 20001205 OldParty: CORRECTIVE ASSIGNMENT TO CORRECT THE ASSIGNEES. THE NAME OF AN ASSIGNEE WAS INADVERTENTLY OMITTED FROM THE RECORDATION FORM COVER SHEET PREVIOUSLY RECORDED ON REEL 011871 FRAME 0045;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:018463/0221 PartyType: owner Owner: CANDESCENT INTELLECTUAL PROPERTY SERVICES, INC., C
US5576596 A	20070320	LSAS	AS	ASSIGNMENT	PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:CANDESCENT INTELLECTUAL PROPERTY SERVICES, INC.;REEL/FRAME:019035/0114 Effective date: 20060801 Owner: CANON KABUSHIKI KAISHA, JAPAN
US5576596 A	20070624	LSAS	AS	ASSIGNMENT	PartyType: owner OldParty: NUNC PRO TUNC ASSIGNMENT;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:019466/0345 Effective date: 20061207 Owner: CANON KABUSHIKI KAISHA, JAPAN
US5576596 A	20080509	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
US5576596 A	20150525	PEXP		Calculated Patent Term Expiry	
US5589731 A	19930405	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST.;ASSIGNORS:FAHLEN, THEODORE S.;DUBOC, ROBERT M., JR.;LOVOI, PAUL A.;REEL/FRAME:006492/0682;SIGNING DATES FROM 19930324 TO 19930329 PartyType: owner Owner: SILICON VIDEO CORPORATION, CALIFORNIA
US5589731 A	19961219	LSGT	PAT1	Patented Case	
US5589731 A	19961219	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US5589731 A	19961227	LSAS	AS	ASSIGNMENT	Effective date: 19960809 PartyType: owner Owner: CANDESCENT TECHNOLOGIES CORPORATION, CALIFORNIA OldParty: CHANGE OF NAME;ASSIGNOR:SILICON VIDEO CORPORATION;REEL/FRAME:008280/0319
US5589731 A	19961231	LSGT	+	granted / extensions (spc, cpc, pte)	
US5589731 A	20000628	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US5589731 A	20010524	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:011871/0045 PartyType: owner Effective date: 20001205 Owner: CANDESCENT INTELLECTUAL PROPERTY SERVICES, INC., C
US5589731 A	20020321	LSAS	AS	ASSIGNMENT	OldParty: CONFIRMATORY LICENSE;ASSIGNOR:CANDESCENT TECHNOLOGIES CORP.;REEL/FRAME:012745/0824 PartyType: owner Effective date: 20020301 Owner: DARPA, VIRGINIA
US5589731 A	20020909	LSAS	AS	ASSIGNMENT	PartyType: owner Effective date: 20010907 OldParty: CONFIRMATORY LICENSE;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:013221/0444 Owner: UNITED STATES GOVERNMENT DEFENSE CONTRACT MANAGEME
US5589731 A	20040630	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US5589731 A	20061101	LSAS	AS	ASSIGNMENT	OldParty: CORRECTIVE ASSIGNMENT TO CORRECT THE ASSIGNEES. THE NAME OF AN ASSIGNEE WAS INADVERTENTLY OMITTED FROM THE RECORDATION FORM COVER SHEET PREVIOUSLY RECORDED ON REEL 011871 FRAME 0045;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:018463/0221

					PartyType: owner Effective date: 20001205 Owner: CANDESCENT TECHNOLOGIES CORPORATION, CALIFORNIA
US5589731 A	20061101	LSAS	AS	ASSIGNMENT	OldParty: CORRECTIVE ASSIGNMENT TO CORRECT THE ASSIGNEES. THE NAME OF AN ASSIGNEE WAS INADVERTENTLY OMITTED FROM THE RECORDATION FORM COVER SHEET PREVIOUSLY RECORDED ON REEL 011871 FRAME 0045;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:018463/0221 PartyType: owner Effective date: 20001205 Owner: CANDESCENT INTELLECTUAL PROPERTY SERVICES, INC., C
US5589731 A	20070320	LSAS	AS	ASSIGNMENT	Owner: CANON KABUSHIKI KAISHA, JAPAN PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:CANDESCENT INTELLECTUAL PROPERTY SERVICES, INC.;REEL/FRAME:019035/0114 Effective date: 20060801
US5589731 A	20070624	LSAS	AS	ASSIGNMENT	OldParty: NUNC PRO TUNC ASSIGNMENT;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:019466/0345 PartyType: owner Effective date: 20061207 Owner: CANON KABUSHIKI KAISHA, JAPAN
US5589731 A	20080620	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
US5589731 A	20131231	PEXP		Calculated Patent Term Expiry	
US5597518 A	19961223	LSGT	PAT1	Patented Case	
US5597518 A	19961223	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US5597518 A	19961227	LSAS	AS	ASSIGNMENT	Owner: CANDESCENT TECHNOLOGIES CORPORATION, CALIFORNIA Effective date: 19960809 OldParty: CHANGE OF NAME;ASSIGNOR:SILICON VIDEO CORPORATION;REEL/FRAME:008280/0018 PartyType: owner
US5597518 A	19970128	LSGT	+	granted / extensions (spc, cpc, pte)	
US5597518 A	20000628	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US5597518 A	20010524	LSAS	AS	ASSIGNMENT	Effective date: 20001205 Owner: CANDESCENT INTELLECTUAL PROPERTY SERVICES, INC., C PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:011871/0045
US5597518 A	20040728	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US5597518 A	20061101	LSAS	AS	ASSIGNMENT	OldParty: CORRECTIVE ASSIGNMENT TO CORRECT THE ASSIGNEES. THE NAME OF AN ASSIGNEE WAS INADVERTENTLY OMITTED FROM THE RECORDATION FORM COVER SHEET PREVIOUSLY RECORDED ON REEL 011871 FRAME 0045;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:018463/0221 PartyType: owner Effective date: 20001205 Owner: CANDESCENT TECHNOLOGIES CORPORATION, CALIFORNIA
US5597518 A	20061101	LSAS	AS	ASSIGNMENT	Effective date: 20001205 OldParty: CORRECTIVE ASSIGNMENT TO CORRECT THE ASSIGNEES. THE NAME OF AN ASSIGNEE WAS INADVERTENTLY OMITTED FROM THE RECORDATION FORM COVER SHEET PREVIOUSLY RECORDED ON REEL 011871 FRAME 0045;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:018463/0221 PartyType: owner Owner: CANDESCENT INTELLECTUAL PROPERTY SERVICES, INC., C
US5597518 A	20070320	LSAS	AS	ASSIGNMENT	Effective date: 20060801 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:CANDESCENT INTELLECTUAL PROPERTY SERVICES, INC.;REEL/FRAME:019035/0114 Owner: CANON KABUSHIKI KAISHA, JAPAN PartyType: owner
US5597518 A	20070624	LSAS	AS	ASSIGNMENT	Effective date: 20061207 Owner: CANON KABUSHIKI KAISHA, JAPAN

					PartyType: owner OldParty: NUNC PRO TUNC ASSIGNMENT;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:019466/0345
US5597518 A	20080716	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
US5597518 A	20141102	PEXP		Calculated Patent Term Expiry	
US5614781 A	19961025	LSAS	AS	ASSIGNMENT	Owner: CANDESCENT TECHNOLOGIES CORPORATION, CALIFORNIA OldParty: CHANGE OF NAME;ASSIGNOR:SILICON VIDEO CORPORATION;REEL/FRAME:008199/0218 Effective date: 19960809 PartyType: owner
US5614781 A	19970121	LSGT	PAT1	Patented Case	
US5614781 A	19970121	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US5614781 A	19970325	LSGT	+	granted / extensions (spc, cpc, pte)	
US5614781 A	20000925	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US5614781 A	20010524	LSAS	AS	ASSIGNMENT	Effective date: 20001205 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:011871/0045 Owner: CANDESCENT INTELLECTUAL PROPERTY SERVICES, INC., C PartyType: owner
US5614781 A	20020909	LSAS	AS	ASSIGNMENT	Owner: UNITED STATES GOVERNMENT DEFENSE CONTRACT MANAGEME Effective date: 20010907 OldParty: CONFIRMATORY LICENSE;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:013221/0444 PartyType: owner
US5614781 A	20040927	LSAS	AS	ASSIGNMENT	Effective date: 20040917 OldParty: CONFIRMATORY LICENSE;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:015819/0407 Owner: DARPA, VIRGINIA PartyType: owner
US5614781 A	20040927	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US5614781 A	20061101	LSAS	AS	ASSIGNMENT	OldParty: CORRECTIVE ASSIGNMENT TO CORRECT THE ASSIGNEES. THE NAME OF AN ASSIGNEE WAS INADVERTENTLY OMITTED FROM THE RECORDATION FORM COVER SHEET PREVIOUSLY RECORDED ON REEL 011871 FRAME 0045;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:018463/0221 PartyType: owner Effective date: 20001205 Owner: CANDESCENT TECHNOLOGIES CORPORATION, CALIFORNIA
US5614781 A	20061101	LSAS	AS	ASSIGNMENT	Effective date: 20001205 Owner: CANDESCENT INTELLECTUAL PROPERTY SERVICES, INC., C OldParty: CORRECTIVE ASSIGNMENT TO CORRECT THE ASSIGNEES. THE NAME OF AN ASSIGNEE WAS INADVERTENTLY OMITTED FROM THE RECORDATION FORM COVER SHEET PREVIOUSLY RECORDED ON REEL 011871 FRAME 0045;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:018463/0221 PartyType: owner
US5614781 A	20070320	LSAS	AS	ASSIGNMENT	Owner: CANON KABUSHIKI KAISHA, JAPAN Effective date: 20060801 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:CANDESCENT INTELLECTUAL PROPERTY SERVICES, INC.;REEL/FRAME:019035/0114 PartyType: owner
US5614781 A	20070624	LSAS	AS	ASSIGNMENT	OldParty: NUNC PRO TUNC ASSIGNMENT;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:019466/0345 Owner: CANON KABUSHIKI KAISHA, JAPAN PartyType: owner Effective date: 20061207
US5614781 A	20080917	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
US5614781 A	20150720	PEXP		Calculated Patent Term Expiry	
US5667418 A	19961227	LSAS	AS	ASSIGNMENT	Effective date: 19960809 OldParty: CHANGE OF

					NAME;ASSIGNOR:SILICON VIDEO CORPORATION;REEL/FRAME:008280/0123 PartyType: owner Owner: CANDESCENT TECHNOLOGIES CORPORATION, CALIFORNIA
US5667418 A	19970714	LSGT	PAT1	Patented Case	
US5667418 A	19970714	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US5667418 A	19970916	LSGT	+	granted / extensions (spc, cpc, pte)	
US5667418 A	20010213	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US5667418 A	20010524	LSAS	AS	ASSIGNMENT	Effective date: 20001205 Owner: CANDESCENT INTELLECTUAL PROPERTY SERVICES, INC., C OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:011871/0045 PartyType: owner
US5667418 A	20020909	LSAS	AS	ASSIGNMENT	PartyType: owner Owner: UNITED STATES GOVERNMENT DEFENSE CONTRACT MANAGEME Effective date: 20010907 OldParty: CONFIRMATORY LICENSE;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:013221/0444
US5667418 A	20040927	LSAS	AS	ASSIGNMENT	Effective date: 20040917 PartyType: owner Owner: DARPA, VIRGINIA OldParty: CONFIRMATORY LICENSE;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:015819/0409
US5667418 A	20050223	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US5667418 A	20061101	LSAS	AS	ASSIGNMENT	Owner: CANDESCENT TECHNOLOGIES CORPORATION, CALIFORNIA OldParty: CORRECTIVE ASSIGNMENT TO CORRECT THE ASSIGNEES. THE NAME OF AN ASSIGNEE WAS INADVERTENTLY OMITTED FROM THE RECORDATION FORM COVER SHEET PREVIOUSLY RECORDED ON REEL 011871 FRAME 0045;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:018463/0221 Effective date: 20001205 PartyType: owner
US5667418 A	20061101	LSAS	AS	ASSIGNMENT	OldParty: CORRECTIVE ASSIGNMENT TO CORRECT THE ASSIGNEES. THE NAME OF AN ASSIGNEE WAS INADVERTENTLY OMITTED FROM THE RECORDATION FORM COVER SHEET PREVIOUSLY RECORDED ON REEL 011871 FRAME 0045;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:018463/0221 PartyType: owner Effective date: 20001205 Owner: CANDESCENT INTELLECTUAL PROPERTY SERVICES, INC., C
US5667418 A	20070320	LSAS	AS	ASSIGNMENT	Owner: CANON KABUSHIKI KAISHA, JAPAN OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:CANDESCENT INTELLECTUAL PROPERTY SERVICES, INC.;REEL/FRAME:019035/0114 Effective date: 20060801 PartyType: owner
US5667418 A	20070624	LSAS	AS	ASSIGNMENT	Effective date: 20061207 OldParty: NUNC PRO TUNC ASSIGNMENT;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:019466/0345 Owner: CANON KABUSHIKI KAISHA, JAPAN PartyType: owner
US5667418 A	20090211	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
US5667418 A	20150524	PEXP		Calculated Patent Term Expiry	
US5674351 A	19961227	LSAS	AS	ASSIGNMENT	Owner: CANDESCENT TECHNOLOGIES CORPORATION, CALIFORNIA OldParty: CHANGE OF NAME;ASSIGNOR:SILICON VIDEO CORPORATION;REEL/FRAME:008280/0089 Effective date: 19960809 PartyType: owner
US5674351 A	19970804	LSGT	PAT1	Patented Case	
US5674351 A	19970804	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE

US5674351 A	19971007	LSGT	+	granted / extensions (spc, cpc, pte)	
US5674351 A	20010322	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US5674351 A	20010524	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:011871/0045 Effective date: 20001205 Owner: CANDESCENT INTELLECTUAL PROPERTY SERVICES, INC., C PartyType: owner
US5674351 A	20050309	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US5674351 A	20061101	LSAS	AS	ASSIGNMENT	Effective date: 20001205 OldParty: CORRECTIVE ASSIGNMENT TO CORRECT THE ASSIGNEES. THE NAME OF AN ASSIGNEE WAS INADVERTENTLY OMITTED FROM THE RECORDATION FORM COVER SHEET PREVIOUSLY RECORDED ON REEL 011871 FRAME 0045;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:018463/0221 Owner: CANDESCENT TECHNOLOGIES CORPORATION, CALIFORNIA PartyType: owner
US5674351 A	20061101	LSAS	AS	ASSIGNMENT	Effective date: 20001205 Owner: CANDESCENT INTELLECTUAL PROPERTY SERVICES, INC., C OldParty: CORRECTIVE ASSIGNMENT TO CORRECT THE ASSIGNEES. THE NAME OF AN ASSIGNEE WAS INADVERTENTLY OMITTED FROM THE RECORDATION FORM COVER SHEET PREVIOUSLY RECORDED ON REEL 011871 FRAME 0045;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:018463/0221 PartyType: owner
US5674351 A	20070320	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:CANDESCENT INTELLECTUAL PROPERTY SERVICES, INC.;REEL/FRAME:019035/0114 PartyType: owner Owner: CANON KABUSHIKI KAISHA, JAPAN Effective date: 20060801
US5674351 A	20070624	LSAS	AS	ASSIGNMENT	Effective date: 20061207 OldParty: NUNC PRO TUNC ASSIGNMENT;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:019466/0345 Owner: CANON KABUSHIKI KAISHA, JAPAN PartyType: owner
US5674351 A	20090311	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
US5674351 A	20141102	PEXP		Calculated Patent Term Expiry	
US5675212 A	19950331	LSAS	AS	ASSIGNMENT	Owner: SILICON VIDEO CORPORATION, CALIFORNIA Effective date: 19950323 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:SCHMID, ANTHONY P.;SPINDT, CHRISTOPHER J.;MORRIS, DAVID L.;AND OTHERS;REEL/FRAME:007422/0642 PartyType: owner
US5675212 A	19961227	LSAS	AS	ASSIGNMENT	OldParty: CHANGE OF NAME;ASSIGNOR:SILICON VIDEO CORPORATION;REEL/FRAME:008280/0362 Owner: CANDESCENT TECHNOLOGIES CORPORATION, CALIFORNIA PartyType: owner Effective date: 19960809
US5675212 A	19970924	LSGT	PAT1	Patented Case	
US5675212 A	19970924	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US5675212 A	19971007	LSGT	+	granted / extensions (spc, cpc, pte)	
US5675212 A	20010313	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US5675212 A	20010524	LSAS	AS	ASSIGNMENT	Effective date: 20001205 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:011871/0045 Owner: CANDESCENT INTELLECTUAL PROPERTY SERVICES, INC., C PartyType: owner
US5675212 A	20020321	LSAS	AS	ASSIGNMENT	Owner: DARPA, VIRGINIA PartyType: owner Effective date: 20020301 OldParty: CONFIRMATORY LICENSE;ASSIGNOR:CANDESCENT TECHNOLOGIES

					CORP.;REEL/FRAME:012745/0821
US5675212 A	20020909	LSAS	AS	ASSIGNMENT	Effective date: 20010907 PartyType: owner Owner: UNITED STATES GOVERNMENT DEFENSE CONTRACT MANAGEME OldParty: CONFIRMATORY LICENSE;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:013221/0444
US5675212 A	20050309	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US5675212 A	20061101	LSAS	AS	ASSIGNMENT	OldParty: CORRECTIVE ASSIGNMENT TO CORRECT THE ASSIGNEES. THE NAME OF AN ASSIGNEE WAS INADVERTENTLY OMITTED FROM THE RECORDATION FORM COVER SHEET PREVIOUSLY RECORDED ON REEL 011871 FRAME 0045;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:018463/0221 PartyType: owner Effective date: 20001205 Owner: CANDESCENT TECHNOLOGIES CORPORATION, CALIFORNIA
US5675212 A	20061101	LSAS	AS	ASSIGNMENT	Effective date: 20001205 Owner: CANDESCENT INTELLECTUAL PROPERTY SERVICES, INC., C OldParty: CORRECTIVE ASSIGNMENT TO CORRECT THE ASSIGNEES. THE NAME OF AN ASSIGNEE WAS INADVERTENTLY OMITTED FROM THE RECORDATION FORM COVER SHEET PREVIOUSLY RECORDED ON REEL 011871 FRAME 0045;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:018463/0221 PartyType: owner
US5675212 A	20070320	LSAS	AS	ASSIGNMENT	Effective date: 20060801 Owner: CANON KABUSHIKI KAISHA, JAPAN PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:CANDESCENT INTELLECTUAL PROPERTY SERVICES, INC.;REEL/FRAME:019035/0114
US5675212 A	20070624	LSAS	AS	ASSIGNMENT	Effective date: 20061207 Owner: CANON KABUSHIKI KAISHA, JAPAN PartyType: owner OldParty: NUNC PRO TUNC ASSIGNMENT;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:019466/0345
US5675212 A	20090311	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
US5675212 A	20150331	PEXP		Calculated Patent Term Expiry	
US5725787 A	19961227	LSAS	AS	ASSIGNMENT	PartyType: owner OldParty: CHANGE OF NAME;ASSIGNOR:SILICON VIDEO CORPORATION;REEL/FRAME:008280/0098 Owner: CANDESCENT TECHNOLOGIES CORPORATION, CALIFORNIA Effective date: 19960809
US5725787 A	19980225	LSGT	PAT1	Patented Case	
US5725787 A	19980225	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US5725787 A	19980310	LSGT	+	granted / extensions (spc, cpc, pte)	
US5725787 A	20010524	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:011871/0045 Effective date: 20001205 PartyType: owner Owner: CANDESCENT INTELLECTUAL PROPERTY SERVICES, INC., C
US5725787 A	20010801	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US5725787 A	20020909	LSAS	AS	ASSIGNMENT	OldParty: CONFIRMATORY LICENSE;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:013221/0444 PartyType: owner Owner: UNITED STATES GOVERNMENT DEFENSE CONTRACT MANAGEME Effective date: 20010907
US5725787 A	20040927	LSAS	AS	ASSIGNMENT	PartyType: owner Owner: DARPA, VIRGINIA Effective date: 20040917 OldParty: CONFIRMATORY LICENSE;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:015819/0412
US5725787 A	20050817	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8

US5725787 A	20061101	LSAS	AS	ASSIGNMENT	Owner: CANDESCENT TECHNOLOGIES CORPORATION, CALIFORNIA OldParty: CORRECTIVE ASSIGNMENT TO CORRECT THE ASSIGNEES. THE NAME OF AN ASSIGNEE WAS INADVERTENTLY OMITTED FROM THE RECORDATION FORM COVER SHEET PREVIOUSLY RECORDED ON REEL 011871 FRAME 0045;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:018463/0221 PartyType: owner Effective date: 20001205
US5725787 A	20061101	LSAS	AS	ASSIGNMENT	Effective date: 20001205 Owner: CANDESCENT INTELLECTUAL PROPERTY SERVICES, INC., C OldParty: CORRECTIVE ASSIGNMENT TO CORRECT THE ASSIGNEES. THE NAME OF AN ASSIGNEE WAS INADVERTENTLY OMITTED FROM THE RECORDATION FORM COVER SHEET PREVIOUSLY RECORDED ON REEL 011871 FRAME 0045;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:018463/0221 PartyType: owner
US5725787 A	20070320	LSAS	AS	ASSIGNMENT	PartyType: owner Effective date: 20060801 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:CANDESCENT INTELLECTUAL PROPERTY SERVICES, INC.;REEL/FRAME:019035/0114 Owner: CANON KABUSHIKI KAISHA, JAPAN
US5725787 A	20070624	LSAS	AS	ASSIGNMENT	OldParty: NUNC PRO TUNC ASSIGNMENT;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:019466/0345 Effective date: 20061207 Owner: CANON KABUSHIKI KAISHA, JAPAN PartyType: owner
US5725787 A	20090812	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
US5725787 A	20150525	PEXP		Calculated Patent Term Expiry	
US5742117 A	19941003	LSAS	AS	ASSIGNMENT	Owner: SILICON VIDEO CORPORATION, CALIFORNIA Effective date: 19940928 PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:SPINDT, CHRISTOPHER J.;MORRIS, DAVID L.;REEL/FRAME:007231/0004
US5742117 A	19971204	LSAS	AS	ASSIGNMENT	Effective date: 19960809 OldParty: CHANGE OF NAME;ASSIGNOR:SILICON VIDEO CORPORATION;REEL/FRAME:008845/0746 PartyType: owner Owner: CANDESCENT TECHNOLOGIES CORPROATION, CALIFORNIA
US5742117 A	19980409	LSGT	PAT1	Patented Case	
US5742117 A	19980409	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US5742117 A	19980421	LSGT	+	granted / extensions (spc, cpc, pte)	
US5742117 A	20010524	LSAS	AS	ASSIGNMENT	PartyType: owner Effective date: 20001205 Owner: CANDESCENT INTELLECTUAL PROPERTY SERVICES, INC., C OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:011821/0569
US5742117 A	20011115		REMI	MAINTENANCE FEE REMINDER MAILED	
US5742117 A	20011212	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US5742117 A	20011212		+SULP	SURCHARGE FOR LATE PAYMENT	
US5742117 A	20020909	LSAS	AS	ASSIGNMENT	PartyType: owner Effective date: 20010907 OldParty: CONFIRMATORY LICENSE;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:013221/0444 Owner: UNITED STATES GOVERNMENT DEFENSE CONTRACT MANAGEME
US5742117 A	20040920	LSAS	AS	ASSIGNMENT	Effective date: 20040916 OldParty: CONFIRMATORY LICENSE;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:015796/0576 Owner: DARPA, VIRGINIA

					PartyType: owner
US5742117 A	20050923	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US5742117 A	20061204	LSAS	AS	ASSIGNMENT	Owner: CANDESCENT TECHNOLOGIES CORPORATION, CALIFORNIA OldParty: DOCUMENT RE-RECORDED TO REMOVE PROPERTY NUMBERS 5,218,783; 5,910,791; AND 6,176,741 THAT WERE ERRONEOUSLY INCLUDED WITH, AND TO ADD CANDESCENT TECHNOLOGIES CORPORTION AS AN ASSIGNEE TO THE ASSIGNMENT PREVIOUSLY RECORDED ON, REEL 011821, FRAME 0569. ASSIGNOR HEREBY CONFIRMS THE ASSIGNMENT OF THE ENTIRE INTEREST.;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:018584/0001 Effective date: 20001205 PartyType: owner
US5742117 A	20061204	LSAS	AS	ASSIGNMENT	OldParty: DOCUMENT RE-RECORDED TO REMOVE PROPERTY NUMBERS 5,218,783; 5,910,791; AND 6,176,741 THAT WERE ERRONEOUSLY INCLUDED WITH, AND TO ADD CANDESCENT TECHNOLOGIES CORPORTION AS AN ASSIGNEE TO THE ASSIGNMENT PREVIOUSLY RECORDED ON, REEL 011821, FRAME 0569. ASSIGNOR HEREBY CONFIRMS THE ASSIGNMENT OF THE ENTIRE INTEREST.;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:018584/0001 Effective date: 20001205 Owner: CANDESCENT INTELLECTUAL PROPERTY SERVICES, INC., C PartyType: owner
US5742117 A	20070625	LSAS	AS	ASSIGNMENT	Effective date: 20070104 OldParty: NUNC PRO TUNC ASSIGNMENT EFFECTIVE AS OF AUGUST 26, 2004;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:019466/0437 Owner: CANON KABUSHIKI KAISHA, JAPAN PartyType: owner
US5742117 A	20070722	LSAS	AS	ASSIGNMENT	Owner: CANON KABUSHIKI KAISHA, JAPAN PartyType: owner Effective date: 20061226 OldParty: NUNC PRO TUNC ASSIGNMENT;ASSIGNOR:CANDESCENT INTELLECTUAL PROPERTY SERVICES, INC.;REEL/FRAME:019580/0723
US5742117 A	20090923	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
US5742117 A	20150421	PEXP		Calculated Patent Term Expiry	
US5746635 A	19961227	LSAS	AS	ASSIGNMENT	Effective date: 19960809 OldParty: CHANGE OF NAME;ASSIGNOR:SILICON VIDEO CORPORATION;REEL/FRAME:008280/0104 Owner: CANDESCENT TECHNOLOGIES CORPORATION, CALIFORNIA PartyType: owner
US5746635 A	19980306	LSGT	PAT1	Patented Case	
US5746635 A	19980306	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US5746635 A	19980505	LSGT	+	granted / extensions (spc, cpc, pte)	
US5746635 A	20010524	LSAS	AS	ASSIGNMENT	Effective date: 20001205 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:011871/0045 Owner: CANDESCENT INTELLECTUAL PROPERTY SERVICES, INC., C PartyType: owner
US5746635 A	20011030	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US5746635 A	20011127		REMI	MAINTENANCE FEE REMINDER MAILED	
US5746635 A	20020909	LSAS	AS	ASSIGNMENT	Effective date: 20010907 OldParty: CONFIRMATORY LICENSE;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:013221/0444 PartyType: owner Owner: UNITED STATES GOVERNMENT DEFENSE CONTRACT MANAGEME
US5746635 A	20040927	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:015822/0883 PartyType: owner Owner: DARPA, VIRGINIA Effective date: 20040917

US5746635 A	20051014	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US5746635 A	20061101	LSAS	AS	ASSIGNMENT	OldParty: CORRECTIVE ASSIGNMENT TO CORRECT THE ASSIGNEES. THE NAME OF AN ASSIGNEE WAS INADVERTENTLY OMITTED FROM THE RECORDATION FORM COVER SHEET PREVIOUSLY RECORDED ON REEL 011871 FRAME 0045;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:018463/0221 Effective date: 20001205 Owner: CANDESCENT TECHNOLOGIES CORPORATION, CALIFORNIA PartyType: owner
US5746635 A	20061101	LSAS	AS	ASSIGNMENT	Effective date: 20001205 OldParty: CORRECTIVE ASSIGNMENT TO CORRECT THE ASSIGNEES. THE NAME OF AN ASSIGNEE WAS INADVERTENTLY OMITTED FROM THE RECORDATION FORM COVER SHEET PREVIOUSLY RECORDED ON REEL 011871 FRAME 0045;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:018463/0221 PartyType: owner Owner: CANDESCENT INTELLECTUAL PROPERTY SERVICES, INC., C
US5746635 A	20070320	LSAS	AS	ASSIGNMENT	Effective date: 20060801 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:CANDESCENT INTELLECTUAL PROPERTY SERVICES, INC.;REEL/FRAME:019035/0114 Owner: CANON KABUSHIKI KAISHA, JAPAN PartyType: owner
US5746635 A	20070624	LSAS	AS	ASSIGNMENT	Effective date: 20061207 Owner: CANON KABUSHIKI KAISHA, JAPAN PartyType: owner OldParty: NUNC PRO TUNC ASSIGNMENT;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:019466/0345
US5746635 A	20091007	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
US5746635 A	20151212	PEXP		Calculated Patent Term Expiry	
US5798604 A	19961227	LSAS	AS	ASSIGNMENT	Effective date: 19960809 OldParty: CHANGE OF NAME;ASSIGNOR:SILICON VIDEO CORPORATION;REEL/FRAME:008280/0208 Owner: CANDESCENT TECHNOLOGIES CORPORATION, CALIFORNIA PartyType: owner
US5798604 A	19980720	LSGT	PAT1	Patented Case	
US5798604 A	19980720	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US5798604 A	19980825	LSGT	+	granted / extensions (spc, cpc, pte)	
US5798604 A	20010524	LSAS	AS	ASSIGNMENT	Effective date: 20001205 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:011871/0045 Owner: CANDESCENT INTELLECTUAL PROPERTY SERVICES, INC., C PartyType: owner
US5798604 A	20020110	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US5798604 A	20020321	LSAS	AS	ASSIGNMENT	Effective date: 20020301 OldParty: CONFIRMATORY LICENSE;ASSIGNOR:CANDESCENT TECHNOLOGIES CORP.;REEL/FRAME:012745/0837 Owner: DARPA, VIRGINIA PartyType: owner
US5798604 A	20020909	LSAS	AS	ASSIGNMENT	Effective date: 20010907 OldParty: CONFIRMATORY LICENSE;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:013221/0444 Owner: UNITED STATES GOVERNMENT DEFENSE CONTRACT MANAGEME PartyType: owner
US5798604 A	20060203	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US5798604 A	20061101	LSAS	AS	ASSIGNMENT	Effective date: 20001205 OldParty: CORRECTIVE ASSIGNMENT TO CORRECT THE ASSIGNEES. THE NAME OF AN ASSIGNEE WAS INADVERTENTLY OMITTED FROM THE RECORDATION FORM COVER SHEET PREVIOUSLY RECORDED ON REEL 011871 FRAME 0045;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:018463/0221

					Owner: CANDESCENT TECHNOLOGIES CORPORATION, CALIFORNIA PartyType: owner
US5798604 A	20061101	LSAS	AS	ASSIGNMENT	Effective date: 20001205 OldParty: CORRECTIVE ASSIGNMENT TO CORRECT THE ASSIGNEES. THE NAME OF AN ASSIGNEE WAS INADVERTENTLY OMITTED FROM THE RECORDATION FORM COVER SHEET PREVIOUSLY RECORDED ON REEL 011871 FRAME 0045;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:018463/0221 Owner: CANDESCENT INTELLECTUAL PROPERTY SERVICES, INC., C PartyType: owner
US5798604 A	20070320	LSAS	AS	ASSIGNMENT	Effective date: 20060801 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:CANDESCENT INTELLECTUAL PROPERTY SERVICES, INC.;REEL/FRAME:019035/0114 Owner: CANON KABUSHIKI KAISHA, JAPAN PartyType: owner
US5798604 A	20070624	LSAS	AS	ASSIGNMENT	Effective date: 20061207 OldParty: NUNC PRO TUNC ASSIGNMENT;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:019466/0345 Owner: CANON KABUSHIKI KAISHA, JAPAN PartyType: owner
US5798604 A	20100129	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
US5798604 A	20160105	PEXP		Calculated Patent Term Expiry	
US5865930 A	19990122	LSGT	PAT1	Patented Case	
US5865930 A	19990122	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US5865930 A	19990202	LSGT	+	granted / extensions (spc, cpc, pte)	
US5865930 A	20010524	LSAS	AS	ASSIGNMENT	Effective date: 20001205 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:011871/0045 Owner: CANDESCENT INTELLECTUAL PROPERTY SERVICES, INC., C PartyType: owner
US5865930 A	20020725	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US5865930 A	20020909	LSAS	AS	ASSIGNMENT	Owner: UNITED STATES GOVERNMENT DEFENSE CONTRACT MANAGEME PartyType: owner Effective date: 20010907 OldParty: CONFIRMATORY LICENSE;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:013221/0444
US5865930 A	20040927	LSAS	AS	ASSIGNMENT	Effective date: 20040917 PartyType: owner Owner: DARPA, VIRGINIA OldParty: CONFIRMATORY LICENSE;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:015819/0414
US5865930 A	20060707	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US5865930 A	20061101	LSAS	AS	ASSIGNMENT	OldParty: CORRECTIVE ASSIGNMENT TO CORRECT THE ASSIGNEES. THE NAME OF AN ASSIGNEE WAS INADVERTENTLY OMITTED FROM THE RECORDATION FORM COVER SHEET PREVIOUSLY RECORDED ON REEL 011871 FRAME 0045;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:018463/0221 Owner: CANDESCENT TECHNOLOGIES CORPORATION, CALIFORNIA Effective date: 20001205 PartyType: owner
US5865930 A	20061101	LSAS	AS	ASSIGNMENT	Effective date: 20001205 PartyType: owner OldParty: CORRECTIVE ASSIGNMENT TO CORRECT THE ASSIGNEES. THE NAME OF AN ASSIGNEE WAS INADVERTENTLY OMITTED FROM THE RECORDATION FORM COVER SHEET PREVIOUSLY RECORDED ON REEL 011871 FRAME 0045;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:018463/0221 Owner: CANDESCENT INTELLECTUAL PROPERTY SERVICES, INC., C
US5865930 A	20070320	LSAS	AS	ASSIGNMENT	Owner: CANON KABUSHIKI KAISHA, JAPAN PartyType: owner

					OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:CANDESCENT INTELLECTUAL PROPERTY SERVICES, INC.;REEL/FRAME:019035/0114 Effective date: 20060801
US5865930 A	20070624	LSAS	AS	ASSIGNMENT	PartyType: owner Owner: CANON KABUSHIKI KAISHA, JAPAN Effective date: 20061207 OldParty: NUNC PRO TUNC ASSIGNMENT;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:019466/0345
US5865930 A	20100701	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
US5865930 A	20161030	PEXP		Calculated Patent Term Expiry	
US5916396 A	19990621	LSGT	PAT1	Patented Case	
US5916396 A	19990621	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US5916396 A	19990629	LSGT	+	granted / extensions (spc, cpc, pte)	
US5916396 A	20010524	LSAS	AS	ASSIGNMENT	Effective date: 20001205 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:011871/0045 Owner: CANDESCENT INTELLECTUAL PROPERTY SERVICES, INC., C PartyType: owner
US5916396 A	20020909	LSAS	AS	ASSIGNMENT	Effective date: 20010907 OldParty: CONFIRMATORY LICENSE;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:013221/0444 Owner: UNITED STATES GOVERNMENT DEFENSE CONTRACT MANAGEME PartyType: owner
US5916396 A	20021227	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US5916396 A	20040927	LSAS	AS	ASSIGNMENT	Effective date: 20040917 OldParty: CONFIRMATORY LICENSE;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:015819/0418 Owner: DARPA, VIRGINIA PartyType: owner
US5916396 A	20061101	LSAS	AS	ASSIGNMENT	Effective date: 20001205 OldParty: CORRECTIVE ASSIGNMENT TO CORRECT THE ASSIGNEES. THE NAME OF AN ASSIGNEE WAS INADVERTENTLY OMITTED FROM THE RECORDATION FORM COVER SHEET PREVIOUSLY RECORDED ON REEL 011871 FRAME 0045;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:018463/0221 Owner: CANDESCENT TECHNOLOGIES CORPORATION, CALIFORNIA PartyType: owner
US5916396 A	20061101	LSAS	AS	ASSIGNMENT	Effective date: 20001205 OldParty: CORRECTIVE ASSIGNMENT TO CORRECT THE ASSIGNEES. THE NAME OF AN ASSIGNEE WAS INADVERTENTLY OMITTED FROM THE RECORDATION FORM COVER SHEET PREVIOUSLY RECORDED ON REEL 011871 FRAME 0045;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:018463/0221 Owner: CANDESCENT INTELLECTUAL PROPERTY SERVICES, INC., C PartyType: owner
US5916396 A	20061201	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US5916396 A	20070320	LSAS	AS	ASSIGNMENT	Effective date: 20060801 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:CANDESCENT INTELLECTUAL PROPERTY SERVICES, INC.;REEL/FRAME:019035/0114 Owner: CANON KABUSHIKI KAISHA, JAPAN PartyType: owner
US5916396 A	20070624	LSAS	AS	ASSIGNMENT	Effective date: 20061207 OldParty: NUNC PRO TUNC ASSIGNMENT;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:019466/0345 Owner: CANON KABUSHIKI KAISHA, JAPAN PartyType: owner
US5916396 A	20101203	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
US5916396 A	20170711	PEXP		Calculated Patent Term Expiry	
US5985067 A	19991108	LSGT	PAT1	Patented Case	

US5985067 A	19991108	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US5985067 A	19991116	LSGT	+	granted / extensions (spc, cpc, pte)	
US5985067 A	20010524	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:011871/0045 Owner: CANDESCENT INTELLECTUAL PROPERTY SERVICES, INC., C Effective date: 20001205 PartyType: owner
US5985067 A	20020909	LSAS	AS	ASSIGNMENT	PartyType: owner OldParty: CONFIRMATORY LICENSE;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:013221/0444 Effective date: 20010907 Owner: UNITED STATES GOVERNMENT DEFENSE CONTRACT MANAGEME
US5985067 A	20030604		REMI	MAINTENANCE FEE REMINDER MAILED	
US5985067 A	20030612	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US5985067 A	20030612		+SULP	SURCHARGE FOR LATE PAYMENT	
US5985067 A	20040927	LSAS	AS	ASSIGNMENT	Owner: DARPA, VIRGINIA PartyType: owner OldParty: CONFIRMATORY LICENSE;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:015822/0900 Effective date: 20040917
US5985067 A	20061101	LSAS	AS	ASSIGNMENT	Effective date: 20001205 Owner: CANDESCENT TECHNOLOGIES CORPORATION, CALIFORNIA PartyType: owner OldParty: CORRECTIVE ASSIGNMENT TO CORRECT THE ASSIGNEES. THE NAME OF AN ASSIGNEE WAS INADVERTENTLY OMITTED FROM THE RECORDATION FORM COVER SHEET PREVIOUSLY RECORDED ON REEL 011871 FRAME 0045;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:018463/0221
US5985067 A	20061101	LSAS	AS	ASSIGNMENT	PartyType: owner Effective date: 20001205 Owner: CANDESCENT INTELLECTUAL PROPERTY SERVICES, INC., C OldParty: CORRECTIVE ASSIGNMENT TO CORRECT THE ASSIGNEES. THE NAME OF AN ASSIGNEE WAS INADVERTENTLY OMITTED FROM THE RECORDATION FORM COVER SHEET PREVIOUSLY RECORDED ON REEL 011871 FRAME 0045;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:018463/0221
US5985067 A	20070320	LSAS	AS	ASSIGNMENT	PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:CANDESCENT INTELLECTUAL PROPERTY SERVICES, INC.;REEL/FRAME:019035/0114 Owner: CANON KABUSHIKI KAISHA, JAPAN Effective date: 20060801
US5985067 A	20070420	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US5985067 A	20070624	LSAS	AS	ASSIGNMENT	Owner: CANON KABUSHIKI KAISHA, JAPAN PartyType: owner Effective date: 20061207 OldParty: NUNC PRO TUNC ASSIGNMENT;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:019466/0345
US5985067 A	20110414	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
US5985067 A	20171031	PEXP		Calculated Patent Term Expiry	
US6157123 A	20001205	LSGT	+	granted / extensions (spc, cpc, pte)	
US6157123 A	20010524	LSAS	AS	ASSIGNMENT	Owner: CANDESCENT INTELLECTUAL PROPERTY SERVICES, INC., C PartyType: owner Effective date: 20001205 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:011871/0045
US6157123 A	20020909	LSAS	AS	ASSIGNMENT	PartyType: owner Owner: UNITED STATES GOVERNMENT DEFENSE CONTRACT MANAGEME

					Effective date: 20010907 OldParty: CONFIRMATORY LICENSE;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:013221/0444
US6157123 A	20040607	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US6157123 A	20040927	LSAS	AS	ASSIGNMENT	PartyType: owner Effective date: 20040917 OldParty: CONFIRMATORY LICENSE;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:015819/0416 Owner: DARPA, VIRGINIA
US6157123 A	20061101	LSAS	AS	ASSIGNMENT	Owner: CANDESCENT TECHNOLOGIES CORPORATION, CALIFORNIA PartyType: owner OldParty: CORRECTIVE ASSIGNMENT TO CORRECT THE ASSIGNEES. THE NAME OF AN ASSIGNEE WAS INADVERTENTLY OMITTED FROM THE RECORDATION FORM COVER SHEET PREVIOUSLY RECORDED ON REEL 011871 FRAME 0045;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:018463/0221 Effective date: 20001205
US6157123 A	20061101	LSAS	AS	ASSIGNMENT	OldParty: CORRECTIVE ASSIGNMENT TO CORRECT THE ASSIGNEES. THE NAME OF AN ASSIGNEE WAS INADVERTENTLY OMITTED FROM THE RECORDATION FORM COVER SHEET PREVIOUSLY RECORDED ON REEL 011871 FRAME 0045;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:018463/0221 PartyType: owner Effective date: 20001205 Owner: CANDESCENT INTELLECTUAL PROPERTY SERVICES, INC., C
US6157123 A	20070320	LSAS	AS	ASSIGNMENT	Effective date: 20060801 Owner: CANON KABUSHIKI KAISHA, JAPAN OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:CANDESCENT INTELLECTUAL PROPERTY SERVICES, INC.;REEL/FRAME:019035/0114 PartyType: owner
US6157123 A	20070624	LSAS	AS	ASSIGNMENT	OldParty: NUNC PRO TUNC ASSIGNMENT;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:019466/0345 Effective date: 20061207 Owner: CANON KABUSHIKI KAISHA, JAPAN PartyType: owner
US6157123 A	20080523	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US6157123 A	20120716		REMI	MAINTENANCE FEE REMINDER MAILED	
US6157123 A	20121205	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US6157123 A	20121231	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US6157123 A	20121231	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US6157123 A	20130122	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20121205
US6157123 A	20190226	PEXP		Calculated Patent Term Expiry	
US6489718 BA	20010524	LSAS	AS	ASSIGNMENT	Effective date: 20001205 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:011838/0589 Owner: CANDESCENT INTELLECTUAL PROPERTY SERVICES, INC., C PartyType: owner
US6489718 BA	20021203	LSGT	+	granted / extensions (spc, cpc, pte)	
US6489718 BA	20060512	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US6489718 BA	20061019	LSAS	AS	ASSIGNMENT	Owner: CANDESCENT TECHNOLOGIES CORPORATION, CALIFORNIA OldParty: CORRECTIVE ASSIGNMENT TO CORRECT THE ASSIGNEES. THE NAME OF AN ASSIGNEE WAS INADVERTETNLY OMITTED FROM THE RECORDATION FORM COVER SHEET PREVIOUSLY RECORDED ON REEL 011838 FRAME 0589;ASSIGNOR:CANDESCENT TECHNOLOGIES

					CORPORATION;REEL/FRAME:018411/0757 PartyType: owner Effective date: 20001205
US6489718 BA	20061019	LSAS	AS	ASSIGNMENT	Effective date: 20001205 OldParty: CORRECTIVE ASSIGNMENT TO CORRECT THE ASSIGNEES. THE NAME OF AN ASSIGNEE WAS INADVERTETNLY OMITTED FROM THE RECORDATION FORM COVER SHEET PREVIOUSLY RECORDED ON REEL 011838 FRAME 0589;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:018411/0757 PartyType: owner Owner: CANDESCENT INTELLECTUAL PROPERTY SERVICES, INC., C
US6489718 BA	20070319	LSAS	AS	ASSIGNMENT	Effective date: 20060801 Owner: CANON KABUSHIKI KAISHA, JAPAN PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:CANDESCENT INTELLECTUAL PROPERTY SERVICES, INC.;REEL/FRAME:019028/0705
US6489718 BA	20070624	LSAS	AS	ASSIGNMENT	Effective date: 20061207 OldParty: NUNC PRO TUNC ASSIGNMENT;ASSIGNOR:CANDESCENT TECHNOLOGIES CORPORATION;REEL/FRAME:019466/0517 Owner: CANON KABUSHIKI KAISHA, JAPAN PartyType: owner
US6489718 BA	20100507	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US6489718 BA	20140711		REMI	MAINTENANCE FEE REMINDER MAILED	
US6489718 BA	20141203	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US6489718 BA	20141229	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US6489718 BA	20141229	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US6489718 BA	20150120	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20141203
US6489718 BA	20200718	PEXP		Calculated Patent Term Expiry	
WO9321650 A1	19931028	LSPB	+	published / reissued	
WO9321650 A1	19931028		+AK	DESIGNATED STATES	Kind code of Ref document: A1 Country of Ref document: AT AU BB BG BR CA CH CZ DE DK ES FI GB HU JP KP KR LK LU MG MN MW NL NO NZ PL PT RO RU SD SE SK UA VN
WO9321650 A1	19931028		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A1 Country of Ref document: AT BE BF BJ CF CG CH CI CM DE DK ES FR GA GB GN GR IE IT LU MC ML MR NE NL PT SE SN TD TG
WO9321650 A1	19940106		DFPE	REQUEST FOR PRELIMINARY EXAMINATION FILED PRIOR TO EXPIRATION OF 19TH MONTH FROM PRIORITY DATE (PCT APPLICATION FILED BEFORE 20040101)	
WO9321650 A1	19940202		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO9321650 A1	19941110	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 1993911573 Country of Ref document: EP
WO9321650 A1	19950125	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 1993911573 Country of Ref document: EP
WO9321650 A1	19950202	LSWD	REG	REFERENCE TO NATIONAL CODE	Ref legal event code: 8642 Ref country code: DE
WO9321650 A1	19951210	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: CA
WO9321650 A1	20060927	LSGT	+WWG	WIPO INFORMATION: GRANT IN NATIONAL OFFICE	Ref document number: 1993911573 Country of Ref document: EP
WO9418694 A1	19940818	LSPB	+	published / reissued	
WO9418694 A1	19940818		+AK	DESIGNATED STATES	Kind code of Ref document: A1 Country of Ref document: AT AU BB BG BR BY CA CH CZ DE DK ES FI GB HU JP KP KR KZ LK LU MG MN MW NL NO NZ PL PT RO RU SD SE SK UA VN

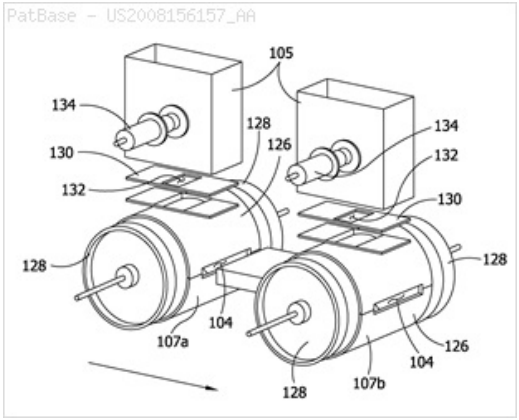
WO9418694 A1	19940818		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A1 Country of Ref document: AT BE BF BJ CF CG CH CI CM DE DK ES FR GA GB GN GR IE IT LU MC ML MR NE NL PT SE SN TD TG
WO9418694 A1	19941110		DFPE	REQUEST FOR PRELIMINARY EXAMINATION FILED PRIOR TO EXPIRATION OF 19TH MONTH FROM PRIORITY DATE (PCT APPLICATION FILED BEFORE 20040101)	
WO9418694 A1	19941123		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO9418694 A1	19950830	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 1994908603 Country of Ref document: EP
WO9418694 A1	19951116	LSWD	REG	REFERENCE TO NATIONAL CODE	Ref legal event code: 8642 Ref country code: DE
WO9418694 A1	19951129	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 1994908603 Country of Ref document: EP
WO9418694 A1	19961001	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: CA
WO9418694 A1	20020508	LSGT	+WWG	WIPO INFORMATION: GRANT IN NATIONAL OFFICE	Ref document number: 1994908603 Country of Ref document: EP
WO9630926 A1	19961003	LSPB	+	published / reissued	
WO9630926 A1	19961003		+AK	DESIGNATED STATES	Kind code of Ref document: A1 Country of Ref document: AL AM AT AU AZ BB BG BR BY CA CH CN CZ DE DK EE ES FI GB GE HU IS JP KE KG KP KR KZ LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK TJ TM TT UA UG UZ VN
WO9630926 A1	19961003		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A1 Country of Ref document: AT BE BF BJ CF CG CH CI CM DE DK ES FI FR GA GB GN GR IE IT KE LS LU MC ML MR MW NL PT SD SE SZ UG
WO9630926 A1	19961218		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO9630926 A1	19961219		DFPE	REQUEST FOR PRELIMINARY EXAMINATION FILED PRIOR TO EXPIRATION OF 19TH MONTH FROM PRIORITY DATE (PCT APPLICATION FILED BEFORE 20040101)	
WO9630926 A1	19970929	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 1996 529471 Kind code of Ref document: A Country of Ref document: JP
WO9630926 A1	19970930	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 1019970707024 Country of Ref document: KR
WO9630926 A1	19971028	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 1996910462 Country of Ref document: EP
WO9630926 A1	19980114	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 1996910462 Country of Ref document: EP
WO9630926 A1	19980205	LSWD	REG	REFERENCE TO NATIONAL CODE	Ref country code: DE Ref legal event code: 8642
WO9630926 A1	19980930	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: CA
WO9630926 A1	19981205	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 1019970707024 Country of Ref document: KR
WO9630926 A1	20020320	LSRV	-WWR	WIPO INFORMATION: REFUSED IN NATIONAL OFFICE	Ref document number: 1019970707024 Country of Ref document: KR
WO9630926 A1	20040804	LSGT	+WWG	WIPO INFORMATION: GRANT IN NATIONAL OFFICE	Ref document number: 1996910462 Country of Ref document: EP

74) Family number: 41976670 (US2008156157 AA)

Title: **PROCESS** FOR CUTTING TEXTILE WEBS WITH IMPROVED MICROWAVE ABSORBING COMPOSITIONS

Abstract: The present disclosure provides for methods of using compositions having improved microwave absorbing properties to cut textile webs. Specifically, the compositions utilized in the methods of the present disclosure absorb the microwave energy as heat, thereby cutting through the textile web.

Classifications:
International (IPC 8-9): B23D25/00 B23D25/02 B26F1/00 B26F1/31 B29C67/00 D06H7/00 D06H7/22
CPC: B26F3/16 Y10T83/0515 D06H7/223
US: 264/489 83/37



Family:

Publication number	Publication date	Application number	Application date
US2008156157 AA	20080703	US20060617405	20061228
US2008157442 AA	20080703	US20070777124	20070712
WO08081362 A1	20080710	WO2007IB54903	20071203

Priority:
US20060617405 20061228 US20070777124 20070712

Probable Assignee: KIMBERLY CLARK CORP

Assignee(s): (std): DEGROOT DENNIS JOHN ; GARVEY MICHAEL JOSEPH ; JANSSEN ROBERT ALLEN ; KIMBERLY CLARK CO ; MCCRAW EARL C JR

Assignee(s): KIMBERLY CLARK CORP ; KIMBERLY CLARK WORLDWIDE INC

Inventor(s): (std): DEGROOT DENNIS JOHN ; GARVEY MICHAEL JOSEPH ; JANSSEN ROBERT ALLEN ; MCCRAW EARL C ; MCCRAW EARL C JR

Agent(s): CHRISTOPHER M GOFF 27839 ARMSTRONG TEASDALE LLP; GOFF CHRISTOPHER M

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 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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
US2008156157 AA	20070328	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:JANSSEN, ROBERT ALLEN;GARVEY, MICHAEL JOSEPH;DEGROOT, DENNIS JOHN;AND OTHERS;REEL/FRAME:019079/0653;SIGNING DATES FROM 20070301 TO 20070327 Owner: KIMBERLY-CLARK WORLDWIDE, INC., WISCONSIN PartyType: owner
US2008156157 AA	20080703	LSPB	+	published / reissued	
US2008156157 AA	20100506	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2008156157 AA	20100506		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2008157442 AA	20071024	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:JANSSEN, ROBERT ALLEN;GARVEY, MICHAEL JOSEPH;DEGROOT, DENNIS JOHN;AND OTHERS;REEL/FRAME:020007/0521;SIGNING DATES FROM 20070824 TO 20070925 Owner: KIMBERLY-CLARK WORLDWIDE, INC., WISCONSIN PartyType: owner
US2008157442 AA	20080703	LSPB	+	published / reissued	
US2008157442 AA	20100614	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	

US2008157442 AA	20100614		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
WO08081362 A1	20080710	LSPB	+	published / reissued	
WO08081362 A1	20080827		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A1 Ref document number: 07849320 Country of Ref document: EP
WO08081362 A1	20090630	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO08081362 A1	20100303	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	Kind code of Ref document: A1 Ref document number: 07849320 Country of Ref document: EP

75) Family number: 15315875 (US2003129907 AA)

Title: FABRIC PADS WITH A PRINTED DESIGN AND A METHOD OF MAKING FABRIC PADS WITH A PRINTED DESIGN

Abstract: The present invention is directed to a pad for carrying liquid having a piece of non-woven material wherein the piece of material is capable of absorbing an amount of the liquid at least about 1.5 times the weight of the piece of material, a first printed ink on a first surface of the material, and a second printed ink on either the first or a second surface of the material, and wherein the first ink is substantially in register with the second ink. The present invention is also directed to a method for making a printed pad for carrying a liquid including the steps of feeding a web of non-woven material into a rotogravure press, wherein the material is capable of absorbing at least about 1.5 times its own weight of the liquid, printing a first ink with the press on a first surface of the web, printing a second ink with the press substantially in register with the first ink on the first surface or a second surface of the web. The present invention is also directed to a system for cutting printed designs from a web of elastic material to form printed pads wherein the printed designs are printed on the web at a repeat length having: a braked unwind station having a variable braking tension; an infeed station having an adjustable speed; a diecutter having a diecutting cylinder and a cylinder correction gearbox capable of correcting the position of the diecutting cylinder in a positive or negative rotational direction, wherein the circumference of the diecutting cylinder is greater than the repeat length; a first sensor for sensing the position of the printed designs on the web; a second sensor for sensing the position of the diecutting cylinder; a processor electronically coupled to the first sensor, the second sensor, the infeed station and the diecutter for controlling the infeed station and the diecutter in response to signals received from the sensors, wherein the processor sends a correction signal to the diecutting cylinder in response to signals from the sensors, the processor comprises a first counter for counting the number of consecutive corrections of the diecutting cylinder in the same direction and sending a correction signal to the infeed station when a predetermined number of consecutive corrections of the diecutting cylinder is reached.

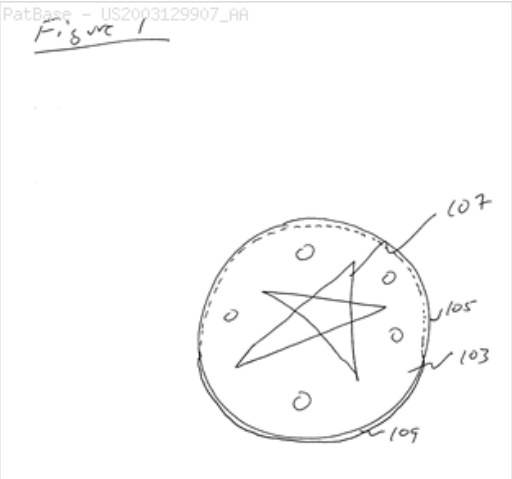
Classifications:

International (IPC 8-9): A45D44/00 A47L13/16 A47L13/17 B26D5/20 B26D5/32 B26D7/00 B26D7/08 B26D7/14 B26D7/32 B26F1/38 D06P5/00 D06Q1/00

International (IPC 1-7): A45D44/00 A47L13/16 A47L13/17 A61K7/48 B26D5/32 B26D7/08 B26D7/14 B26D7/32 B26F1/38 B32B13/00 B32B3/00 B32B3/18 B32B31/00 B32B5/02 B32B5/20 D04H1/00 D04H3/00 D06P3/00 D06P5/00 D06Q1/00

CPC: A45D44/00 B26D2007/322 B26D5/32 B26D7/08 B26D7/14 B26D7/32 B26F1/384 B41P2200/10 B41P2233/52 D06P5/001 D06Q1/00 Y10T442/652 Y10T428/24802 Y10T428/2481 Y10T442/20 Y10T442/60 Y10T442/697

US: 156/39 156/39S 156/42 156/42S 156/43 156/43S 427/243 427/243S 428/195.1 428/195.100P 428/196 428/196S 442/327 442/327S 442/374 442/374P 442/415 442/415S 442/59 442/59P



Family:

Publication number	Publication date	Application number	Application date
AU200040305 A1	20001114	AU20000040305	20000324
AU200040305 A5	20001114	AU20000040305D	20000324
BRPI0009272 A	20020108	BR2000PI09272	20000324
CA2368837 AA	20010924	CA20002368837	20000324
EP1185733 A2	20020313	EP20000919652	20000324
MXPA01009607 A1	20050224	MX2001PA09607	20000324
US2003129907 AA	20030710	US19990349737	19990708
US2004175546 AA	20040909	US20030388303	20030313
US2004171320 AA	20040902	US20030662014	20030912
WO0060916 A2	20001019	WO2000US07985	20000324
WO0060916 A3	20010426	WO2000US07985	20000324

Priority:

US19990125847P 19990324 US19990349737 19990708 WO2000US07985 20000324
US20030388303 20030313 US20030662014 20030912

Probable Assignee: LUX GLOBAL LABEL CO

Assignee(s): (std): IMHOF GABRIEL ; MUNDY JAMES ; NAT LABEL CO ; NAT LABEL CO INC ; NAT LABEL COMPANY ; NAT LABEL COMPANY INC ; SELLARS NEIL G ; SHACKLET DEAN R ; SNYDER RICHARD ; WALLACE DAVID

Assignee(s): FIRST UNION NATIONAL BANK SUCCESSOR BY MERGER TO C ; FIRST UNION NATIONAL BANK SUCCESSOR BY MERGER TO CORESTATES BANK NA AND MERIDIAN BANK ; JAMES LICENSING CO ; LBC CREDIT PARTNERS III LP AGENT AS ; LBC CREDIT PARTNERS III LP AGENT FOR LENDERS UNDER SECOND LIEN TERM LOAN AND SECURITY AGREEMENT AS ; LUX GLOBAL LABEL CO ; LUX GLOBAL LABEL CO LLC ; MOLLITIAM CREDIT OPPORTUNITIES NATIONAL LABEL LLC ; NATIONAL LABEL CO ; NATIONAL LABEL CO INC ; NATIONAL LABEL COMPANY ; NATIONAL LABEL COMPANY INC ; PNC BANK NATIONAL ASSOCIATION ; SHACKLETT DEAN R

Inventor(s): (std): IMHOF GABRIEL ; MUNDY JAMES ; SELLARS NEIL G ; SHACKLET DEAN R ; SHACKLETT DEAN R ; SNYDER RICHARD ; WALLACE DAVID

Inventor(s): DAVID WALLACE ; DEAN R SHACKLET ; DEAN R SHACKLETT ; GABRIEL IMHOF ; JAMES MUNDY ; NEIL G SELLARS ; RICHARD SNYDER

Agent(s): BLAKE CASSELS AND GRAYDON LLP

Designated states: AE 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 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 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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AU200040305 A1	20001114	LSPB	+	published / reissued	
AU200040305 A5	20020228	LSLE	-MK6	APPLICATION LAPSED SECTION 142(2)(F)/REG. 8.3(3) - PCT APPLIC. NOT ENTERING NATIONAL PHASE	
BRPI0009272 A	20020108	LSPB	+	published / reissued	
BRPI0009272 A	20070717	LSFE	-B08F	APPLICATION FEES: DISMISSAL - ARTICLE 86 OF INDUSTRIAL PROPERTY LAW	Text: REFERENTE A 5A, 6A E 7A ANUIDADES.
BRPI0009272 A	20111129	LSLE	-B08K	LAPSE AS NO EVIDENCE OF PAYMENT OF THE ANNUAL FEE HAS BEEN FURNISHED TO INPI (ACC. ART. 87)	Text: REFERENTE AO DESPACHO 8.6 PUBLICADO NA RPI 1906 DE 17/07/2007.
BRPI0009272 A	20180327		B15K	OTHERS CONCERNING APPLICATIONS: ALTERATION OF CLASSIFICATION	ClassificationScheme: IPC ClassificationSymbol: B26D 5/32 (2006.01), A45D 44/00 (2006.01), B26D 7/
CA2368837 AA	20010924	LSPB	+	published / reissued	
CA2368837 AA	20050324	LSLE	-FZDE	DEAD	
EP1185733 A2	20020313	LSPB	+	published / reissued	
EP1185733 A2	20020313	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20011024
EP1185733 A2	20020313		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE
EP1185733 A2	20050406	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 20041001
MXPA01009607 A1	20050224	LSPB	+	published / reissued	
US2003129907 AA	19990823	LSAS	AS	ASSIGNMENT	Effective date: 19990713 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:SHACKLETT, DEAN R.;WALLACE, DAVID;SELLARS, NEIL G.;AND OTHERS;REEL/FRAME:010183/0373 Owner: NATIONAL LABEL CO., PENNSYLVANIA PartyType: owner
US2003129907 AA	19990823	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:SHACKLETT, DEAN R.;WALLACE, DAVID;SELLARS, NEIL G.;AND OTHERS;REEL/FRAME:010220/0128;SIGNING DATES FROM 19990713 TO 19990715 Owner: NATIONAL LABEL COMPANY, PENNSYLVANIA PartyType: owner
US2003129907 AA	20001010	LSAS	AS	ASSIGNMENT	Effective date: 20001010 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:NATIONAL LABEL COMPANY;REEL/FRAME:011170/0189 Owner: JAMES LICENSING COMPANY, PENNSYLVANIA PartyType: owner
US2003129907 AA	20001031	LSAS	AS	ASSIGNMENT	Effective date: 20001011 OldParty: SECURITY INTEREST;ASSIGNOR:JAMES LICENSING COMPANY;REEL/FRAME:011238/0015 Owner: FIRST UNION NATIONAL BANK, SUCCESSOR BY MERGER TO PartyType: owner
US2003129907 AA	20030710	LSPB	+	published / reissued	
US2003129907 AA	20070131	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2003129907 AA	20070131		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2003129907 AA	20140521	LSAS	AS	ASSIGNMENT	Effective date: 20140520 OldParty: SECURITY INTEREST;ASSIGNORS:NATIONAL LABEL COMPANY;JAMES LICENSING

					COMPANY;REEL/FRAME:032981/0946 Owner: LBC CREDIT PARTNERS III, L.P., AS AGENT FOR LENDER PartyType: owner
US2003129907 AA	20140521	LSAS	AS	ASSIGNMENT	Effective date: 20140520 OldParty: SECURITY INTEREST;ASSIGNORS:NATIONAL LABEL COMPANY;JAMES LICENSING COMPANY;REEL/FRAME:032972/0144 Owner: PNC BANK, NATIONAL ASSOCIATION, PENNSYLVANIA PartyType: owner
US2003129907 AA	20140620	LSAS	AS	ASSIGNMENT	Effective date: 20140612 OldParty: TERMINATION OF PATENT SECURITY AGREEMENT;ASSIGNOR:WELLS FARGO BANK, NATIONAL ASSOCIATION, SUCCESSOR BY MERGER TO FIRST UNION NATIONAL BANK;REEL/FRAME:033203/0520 Owner: JAMES LICENSING COMPANY, PENNSYLVANIA PartyType: owner
US2003129907 AA	20170414	LSAS	AS	ASSIGNMENT	Effective date: 20170414 OldParty: SECURITY INTEREST;ASSIGNOR:LUX GLOBAL LABEL COMPANY, LLC;REEL/FRAME:042017/0248 Owner: LBC CREDIT PARTNERS III, L.P., AS AGENT, PENNSYLVA PartyType: owner
US2003129907 AA	20170424	LSAS	AS	ASSIGNMENT	Effective date: 20170414 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:JAMES LICENSING COMPANY;REEL/FRAME:042127/0236 Owner: LUX GLOBAL LABEL COMPANY, OHIO PartyType: owner
US2003129907 AA	20170501	LSAS	AS	ASSIGNMENT	Effective date: 20170414 OldParty: CORRECTIVE ASSIGNMENT TO CORRECT THE ASSIGNEE NAME PREVIOUSLY RECORDED AT REEL: 042127 FRAME: 0236. ASSIGNOR(S) HEREBY CONFIRMS THE ASSIGNMENT;ASSIGNOR:JAMES LICENSING COMPANY;REEL/FRAME:042374/0062 Owner: LUX GLOBAL LABEL COMPANY, LLC, OHIO PartyType: owner
US2003129907 AA	20170609	LSAS	AS	ASSIGNMENT	Effective date: 20170414 OldParty: FIRST-LIEN PATENT AND TRADEMARK SECURITY AGREEMENT;ASSIGNOR:LUX GLOBAL LABEL COMPANY, LLC;REEL/FRAME:042744/0760 Owner: MOLLITIAM CREDIT OPPORTUNITIES-NATIONAL LABEL LLC, PartyType: owner
US2003129907 AA	20180404	LSAS	AS	ASSIGNMENT	Effective date: 20170414 OldParty: NOTICE OF RELEASE OF SECURITY INTEREST;ASSIGNOR:PNC BANK, NATIONAL ASSOCIATION;REEL/FRAME:045835/0750 Owner: NATIONAL LABEL COMPANY, PENNSYLVANIA PartyType: owner
US2003129907 AA	20180404	LSAS	AS	ASSIGNMENT	Effective date: 20170414 OldParty: NOTICE OF RELEASE OF SECURITY INTEREST;ASSIGNOR:PNC BANK, NATIONAL ASSOCIATION;REEL/FRAME:045835/0750 Owner: JAMES LICENSING COMPANY, PENNSYLVANIA PartyType: owner
US2003129907 AA	20180618	LSAS	AS	ASSIGNMENT	Effective date: 20180615 OldParty: ASSIGNMENT OF SECURITY INTEREST IN PATENTS AND TRADEMARKS;ASSIGNOR:MOLLITIAM CREDIT OPPORTUNITIES-NATIONAL LABEL LLC;REEL/FRAME:046379/0124 Owner: LBC CREDIT PARTNERS III, L.P., AS AGENT, PENNSYLVA PartyType: owner
US2004171320 AA	20040902	LSPB	+	published / reissued	
US2004171320 AA	20060710	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2004171320 AA	20060710		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2004175546 AA	20040909	LSPB	+	published / reissued	
US2004175546 AA	20051031	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2004175546 AA	20051031		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION

WO0060916 A2	20001019	LSPB	+	published / reissued	
WO0060916 A2	20001019		+AK	DESIGNATED STATES	Kind code of Ref document: A2 Country of Ref document: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZA ZW
WO0060916 A2	20001019		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A2 Country of Ref document: AM AT AZ BE BF BJ BY CF CG CH CI CM CY DE DK ES FI FR GA GB GH GM GN GR GW IE IT KE KG KZ LS LU MC MD ML MR MW NE NL PT RU SD SE SL SN SZ TD TG TJ TM TZ UG ZW
WO0060916 A2	20001207		DFPE	REQUEST FOR PRELIMINARY EXAMINATION FILED PRIOR TO EXPIRATION OF 19TH MONTH FROM PRIORITY DATE (PCT APPLICATION FILED BEFORE 20040101)	
WO0060916 A2	20001213		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO0060916 A3	20010426		+AK	DESIGNATED STATES	Kind code of Ref document: A3 Country of Ref document: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZA ZW
WO0060916 A3	20010426		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A3 Country of Ref document: AM AT AZ BE BF BJ BY CF CG CH CI CM CY DE DK ES FI FR GA GB GH GM GN GR GW IE IT KE KG KZ LS LU MC MD ML MR MW NE NL PT RU SD SE SL SN SZ TD TG TJ TM TZ UG ZW
WO0060916 A3	20010921	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2000919652 Country of Ref document: EP
WO0060916 A3	20010924	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 2368837 Country of Ref document: CA
WO0060916 A3	20010924	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 2368837 Country of Ref document: CA
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WO0060916 A3	20020124	LSWD	REG	REFERENCE TO NATIONAL CODE	Ref country code: DE Ref legal event code: 8642
WO0060916 A3	20020313	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 2000919652 Country of Ref document: EP
WO0060916 A3	20040105	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: JP
WO0060916 A3	20041001	LSWD	-WWW	WIPO INFORMATION: WITHDRAWN IN NATIONAL OFFICE	Ref document number: 2000919652 Country of Ref document: EP

76) Family number: 29338242 (US4617325 A)

Title: ORGANIC POLYMERS CONTAINING ANTISTATIC AGENTS COMPRISING THE POLYMER HAVING DISPERSED THEREIN A NON-VOLATILE IONIZABLE METAL SALT AND A PHOSPHATE ESTER

Abstract: An antistatic agent for polymers, particularly polyurethanes is disclosed comprising an ionizable metal salt and an enhancer comprising a phosphate ester.

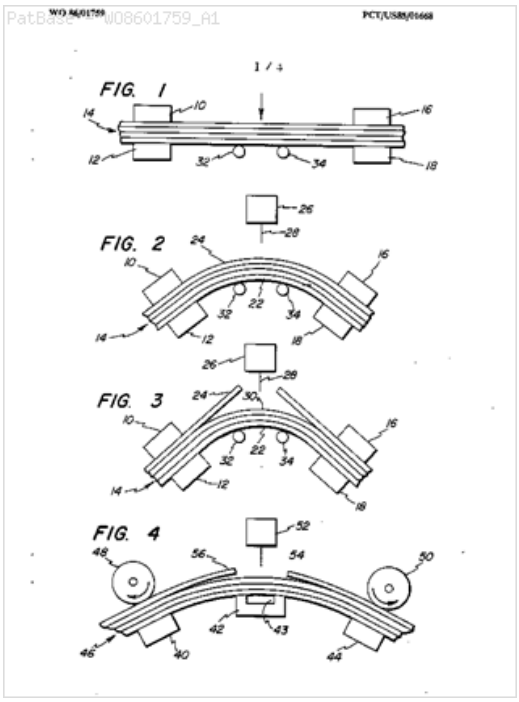
Classifications:

International (IPC 8-9): B23K15/00 B23K15/08 B23K26/00 B23K26/36 B23K26/38 B23K26/40 B26D3/00 B26D3/06 C08G18/00 C08K13/00 C08K13/02 C08K3/00 C08K3/10 C08K5/00 C08K5/04 C08K5/09 C08K5/10 C08K5/36 C08K5/55 C08L23/00 C08L23/08 C08L75/00 C08L75/04 H01B1/12 H01M6/18

International (IPC 1-7): B23K15/00 B23K26/00 B26F3/08 B26F3/12 B26F3/16 C08G18/00 C08G18/06 C08G18/14 C08K13/02 C08K3/00 C08K3/10 C08K5/00 C08K5/04 C08K5/09 C08K5/10 C08K5/36 C08K5/55 C08L23/08 C08L75/04

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US: 219/121.18 219/121EH 219/121LN 225/93.5 252/1 252/182 252/182.24 521/105 521/107 521/114 521/116 521/120 521/123 521/124 521/125 521/126 521/130 524/127 524/141 524/142 524/143 524/144 524/145 524/184 524/285 524/295 524/296 524/297 524/298 524/300 524/306 524/311 524/312 524/313 524/314 524/315 524/39 524/394 524/395 524/397 524/398 524/399 524/400 524/701 524/710 524/711 524/712 524/760 524/773 524/774 524/775 524/776 524/777 524/778 524/910 524/912 83/175



Family:

Publication number	Publication date	Application number	Application date
AU198547764 A1	19860408	AU19850047764	19850905
AU582387 B2	19890323	AU19850047764	19850905
AU198547784 A1	19860324	AU19850047784	19850827
AU564708 B2	19870820	AU19850047784	19850827
BRPI8506893 A	19861209	BR1985PI06893	19850827
BRPI8506927 A	19861223	BR1985PI06927	19850905
CA1284243 A1	19910514	CA19850489405	19850826
DE3580472 D1	19901213	DE19853580472	19850827
DE3583608 D1	19910829	DE19853583608	19850905
DK189486 A	19860424	DK19860001894	19860424
DK189486 A0	19860424	DK19860001894	19860424
EP0191845 A1	19860827	EP19850904383	19850827
EP0191845 A4	19870122	EP19850904383	19850827
EP0191845 B1	19901107	EP19850904383	19850827
EP0195026 A1	19860924	EP19850904392	19850905
EP0195026 A4	19880128	EP19850904392	19850905
EP0195026 B1	19910724	EP19850904392	19850905
ES546413 A0	19861001	ES19850546413	19850826
ES8700280 A1	19861001	ES19850546413	19850826
HK125593 A	19931119	HK19930001255	19931111
JP3044578 B4	19910708	JP19850503914	19850827
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JP62500644 T2	19870319	JP19850503938T	19850905
KR19860700225 A	19860801	KR19860700273	19860517
KR930001227 B1	19930222	KR19860700273	19860517
NO171413 B	19921130	NO19860001634	19860425
NO171413 C	19930310	NO19860001634	19860425
NO861634 A	19860425	NO19860001634	19860425
NO861634 L	19860425	NO19860001634	19860425
SG9391169 A	19940415	SG19930091169	19931023
US4670636 A	19870602	US19840651973	19840919
US4618630 A	19861021	US19850751351	19850702
US4617325 A	19861014	US19850751352	19850702
WO8601521 A1	19860313	WO1985US01635	19850827
WO8601759 A1	19860327	WO1985US01668	19850905

Priority:

US19840644586 19840827 US19840651973 19840919 US19850751351 19850702
US19850751352 19850702 CA19850489405 19850826 WO1985US01635 19850827
WO1985US01668 19850905 SG19930091169 19931023

Probable Assignee: DOW CHEMICAL CO

Assignee(s): (std): DOW CHEMICAL CO ; GEN ELECTRIC ; GENERAL ELECTRIC CO ; THE DOW CHEMICAL COMPANY

Assignee(s): DOW CHEMICAL CO THE ; DOW CHEMICAL COMPANY THE ; GENERAL ELECTRIC CO ANY CORP ; GENERAL ELECTRIC CO SCHENECTADY N Y US ; GENERAL ELECTRIC COMPANY ; KENNEDY EARL E ; KNOBEL THOMAS M ; THE DOW CHEMICAL CO ; THE DOW CHEMICAL CO MIDLAND MICH US ; WALKER MARY A

Inventor(s): (std): DOUGLAS EDWARD ; DOUGLAS T E ; DOUGLAS THOMAS E ; DOUGLAS THOMAS EDWARD ; FRISCHMANN GEORGE ; FRISCHMANN P G ; FRISCHMANN PETER G ; FRISCHMANN PETER GEORGE ; KENEDEI AARU II ; KENNEDY E ; KENNEDY E E ; KENNEDY EARL E ; KNOBEL M ; KNOBEL T M ; KNOBEL T M WALKER M A KENNEDY ; KNOBEL THOMAS M ; NOBERU TOOMASU EMU ; TAUB A I ; TAUB ALAN I ; TAUB ALAN IRWIN ; TAUB IRWIN ; UOOKAA MEARII EE ; WALKER A ; WALKER M A ; WALKER MARY A

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Agent(s): DAVIES COLLISON CAVE; DAVIES COLLISON CAVE PTY LTD; PHILLIPS ORMONDE FITZPATRICK; SMART AND BIGGAR

Designated states: AU BE BR CH DE DK FR GB IT JP KR LI NL NO SE

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
AU198547764 A1	19860408	LSPB	+	published / reissued	
AU198547784 A1	19860324	LSPB	+	published / reissued	
AU564708 B2	19870820	LSGT	+	granted / extensions (spc, cpc, pte)	
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AU582387 B2	19890323	LSGT	+	granted / extensions (spc, cpc, pte)	
AU582387 B2	20050905	PEXP		Calculated Patent Term Expiry	
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BRPI8506893 A	20080715	LSLE	-B21A	EXPIRY ACC. ART. 78, ITEM I OF IPL- EXPIRY OF THE TERM OF PROTECTION	Text: PATENTE EXTINTA EM 27/08/2000
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DE3583608 D1	19930114		8128	NEW PERSON/NAME/ADDRESS OF THE AGENT	PartyType: representative Representative: SIEB, R., DIPL.-CHEM. DR.RER.NAT., PAT.-ANW., 6947
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DK189486 A	19980420	LSWD	-AHB	APPLICATION SHELVED DUE TO NON-PAYMENT	
EP0191845 A1	19860827	LSPB	+	published / reissued	
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EP0191845 A4	19890308	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 19890124
EP0191845 B1	19901107	LSGT	+	granted / extensions (spc, cpc, pte)	
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EP0191845 B1	19910114		+ITF	IT: TRANSLATION FOR A EP PATENT FILED	Owner: ING. A. GIAMBROCONO & C. S.R.L. PartyType: owner
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EP0191845 B1	19960523	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 19960523 Year of fee payment: 12 Country of Ref document: FR
EP0191845 B1	19960528	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 19960528 Year of fee payment: 12 Country of Ref document: DE
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HK125593 A	20041215	LSLE	-PC	PATENT CEASED (I.E. PATENT HAS LAPSED DUE TO THE FAILURE TO PAY THE RENEWAL FEE)	
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JP62500644 T2	19870319	LSPB	+	published / reissued	
KR19860700225 A	19860801	LSPB	+	published / reissued	
KR19860700225 A	19900824	LSES	A201	REQUEST FOR EXAMINATION	
KR19860700225 A	19921112	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR19860700225 A	19930126	LSPB	G160	DECISION TO PUBLISH PATENT APPLICATION	
KR930001227 B1	19930222	LSGT	+	granted / extensions (spc, cpc, pte)	
KR930001227 B1	19930513	LSGT	+E701	DECISION TO GRANT OR REGISTRATION OF PATENT RIGHT	
KR930001227 B1	19930604	LSGT	+GRNT	WRITTEN DECISION TO GRANT	
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US4617325 A	19860728	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST.;ASSIGNORS:KNOBEL, THOMAS M.;KENNEDY, EARL E.;WALKER, MARY A.;REEL/FRAME:004583/0143;SIGNING DATES FROM 19850626 TO 19850628 Owner: DOW CHEMICAL COMPANY THE PartyType: owner
US4617325 A	19860814	LSGT	PAT1	Patented Case	
US4617325 A	19860814	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US4617325 A	19861014	LSGT	+	granted / extensions (spc, cpc, pte)	
US4617325 A	19900116	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US4617325 A	19940121	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US4617325 A	19980224	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
US4617325 A	20050702	PEXP		Calculated Patent Term Expiry	
US4618630 A	19860729	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST.;ASSIGNORS:KNOBEL, THOMAS M.;KENNEDY, EARL E.;WALKER, MARY A.;REEL/FRAME:004584/0179;SIGNING DATES FROM 19850626 TO 19850628 Owner: DOW CHEMICAL COMPANY THE PartyType: owner
US4618630 A	19860729	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:KNOBEL, THOMAS M.;KENNEDY, EARL E.;WALKER, MARY A.;SIGNING DATES FROM 19850626 TO 19850628;REEL/FRAME:004584/0179 Owner: DOW CHEMICAL COMPANY, THE,MICHIGAN PartyType: owner
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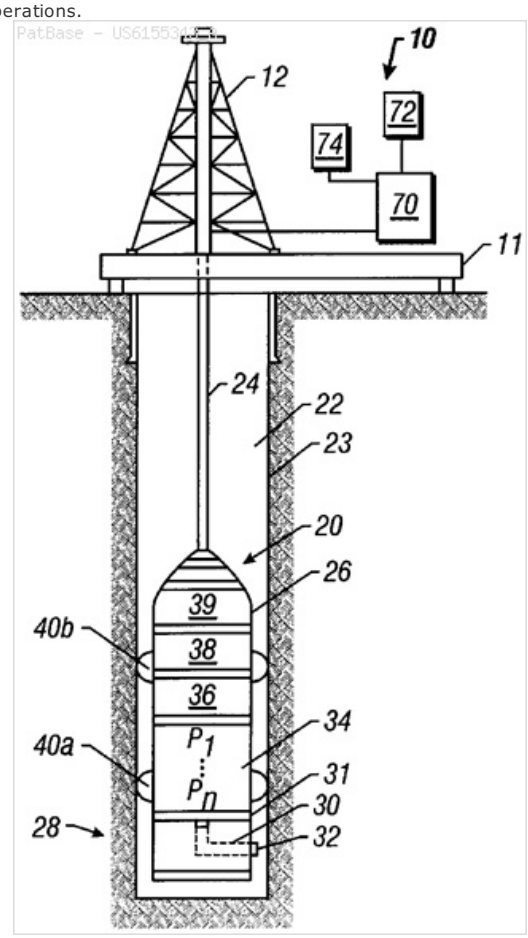
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US4618630 A	19861021	LSGT	+	granted / extensions (spc, cpc, pte)	
US4618630 A	19900116	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US4618630 A	19940121	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US4618630 A	19980224	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
US4618630 A	20050702	PEXP		Calculated Patent Term Expiry	
US4670636 A	19840919	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST.;ASSIGNORS:TAUB, ALAN I.;FRISCHMANN, PETER G.;DOUGLAS, THOMAS E.;REEL/FRAME:004316/0046;SIGNING DATES FROM 19840913 TO 19840914 Owner: GENERAL ELECTRIC COMPANY ANY CORP. PartyType: owner
US4670636 A	19840919	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:TAUB, ALAN I.;FRISCHMANN, PETER G.;DOUGLAS, THOMAS E.;SIGNING DATES FROM 19840913 TO 19840914;REEL/FRAME:004316/0046 Owner: GENERAL ELECTRIC COMPANY ANY CORP.,NEW YORK PartyType: owner
US4670636 A	19870402	LSGT	PAT1	Patented Case	
US4670636 A	19870602	LSGT	+	granted / extensions (spc, cpc, pte)	
US4670636 A	19901001	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US4670636 A	19950110		REMI	MAINTENANCE FEE REMINDER MAILED	
US4670636 A	19950604	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US4670636 A	19950815	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 19950607
US4670636 A	20040919	PEXP		Calculated Patent Term Expiry	
US4670636 A	20180123	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US4670636 A	20180123	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
WO8601521 A1	19860313	LSPB	+	published / reissued	
WO8601521 A1	19860313		+AK	DESIGNATED STATES	Kind code of Ref document: A1 Country of Ref document: AU BR DK JP NO
WO8601521 A1	19860313		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A1 Country of Ref document: BE CH DE FR GB IT NL SE
WO8601521 A1	19860414	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 1985904383 Country of Ref document: EP
WO8601521 A1	19860827	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 1985904383 Country of Ref document: EP
WO8601521 A1	19901107	LSGT	+WWG	WIPO INFORMATION: GRANT IN NATIONAL OFFICE	Ref document number: 1985904383 Country of Ref document: EP
WO8601759 A1	19860327	LSPB	+	published / reissued	
WO8601759 A1	19860327		+AK	DESIGNATED STATES	Kind code of Ref document: A1 Country of Ref document: AU BR JP KR
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WO8601759 A1	19860506	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 1985904392 Country of Ref document: EP
WO8601759 A1	19860924	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 1985904392 Country of Ref document: EP
WO8601759 A1	19910724	LSGT	+WWG	WIPO INFORMATION: GRANT IN NATIONAL OFFICE	Ref document number: 1985904392 Country of Ref document: EP

77) Family number: 29587798 (US6155343 A)

Title: System for cutting materials in wellbores

Abstract: The present invention provides a downhole cutting tool for cutting materials at a worksite in a wellbore. The cutting tool includes a cutting end that is adapted to discharge a high pressure fluid therefrom. A power unit in the tool includes a plurality of serially arranged pressure stages, wherein each such stage increases the fluid pressure above its preceding stage until the desired high pressure has been obtained. The high pressure fluid is discharged through the cutting end to effect cutting of a material. A pulsar in the tool is provided to pulse the fluid before it is discharged through the nozzle, which enables the use of lower pressure compared to the pressure required without pulsation of the fluid. A control unit controls the position and orientation of the cutting end relative to the material and may be programmed to cut the material according a predetermined pattern provided to the control unit. An imaging device may be included in the downhole cutting tool to obtain images of the worksite prior to and after the cutting operations.

Classifications:
International (IPC 8-9): E21B29/00 E21B29/06 E21B43/11 E21B43/114 E21B7/18
International (IPC 1-7): B26F3/00 E21B E21B29/00 E21B29/06 E21B43/114 E21B7/18
CPC: E21B29/00 E21B29/06 E21B43/114
US: 166/222 166/50 166/55 166/55.1 166/551



Family:

Publication number	Publication date	Application number	Application date
AU199740779 A1	19980306	AU19970040779	19970820
AU731454 B2	20010329	AU19970040779	19970820
AU200118248 A1	20010405	AU20010018248	20010202
AU761103 B2	20030529	AU20010018248	20010202
AU200118248 A5	20010405	AU20010018248D	20010202
CA2233322 AA	19980327	CA19972233322	19970820
CA2233322 C	20041109	CA19972233322	19970820
GB2322888 A1	19980909	GB19980006245	19970820
GB2322888 B2	20010509	GB19980006245	19970820
GB9806245 A0	19980520	GB19980006245	19970820
GB200100157 A0	20010214	GB20010000157	19970820
GB2354546 A1	20010328	GB20010000157	19970820
GB2354546 B2	20010509	GB20010000157	19970820
NO314096 B1	20030127	NO19980001735	19980417
NO981735 A	19980616	NO19980001735	19980417
NO981735 A0	19980417	NO19980001735	19980417
NO981735 L	19980616	NO19980001735	19980417
NO20005475 A	19980616	NO20000005475	20001031
NO20005475 A0	20001031	NO20000005475	20001031
NO20005475 L	19980616	NO20000005475	20001031
NO322952 B1	20061218	NO20000005475	20001031
US6155343 A	20001205	US19970848961	19970502
WO9807955 A2	19980226	WO1997US14654	19970820
WO9807955 A3	19980507	WO1997US14654	19970820

Priority:

US19960026456P 19960820
US19970848961 19970502
GB19980006245 19970820
US19960040883P 19961025
WO1997US14654 19970820
AU20010018248 20010202
US19960040833P 19961025
AU19970040779 19970820

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Inventor(s): GERALD D LYNDE ; GERALD DAVID LYNDE ; GREG NAZZAL ; GREGORY R NAZZAL
Agent(s): FPA PATENT ATTORNEYS PTY LTD; FREEHILLS PATENT AND TRADE MARK ATTORNEYS; FREEHILLS PATENT ATTORNEYS; SIM AND MCBURNEY
Designated states: AU CA GB NO

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AU199740779 A1	19980306	LSPB	+	published / reissued	
AU200118248 A1	20010405	LSPB	+	published / reissued	
AU731454 B2	20010329	LSGT	+	granted / extensions (spc, cpc, pte)	
AU731454 B2	20010726	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	
AU731454 B2	20170820	PEXP		Calculated Patent Term Expiry	
AU761103 B2	20030529	LSGT	+	granted / extensions (spc, cpc, pte)	
AU761103 B2	20030925	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	
AU761103 B2	20210202	PEXP		Calculated Patent Term Expiry	
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CA2233322 AA	20010110	LSES	+EEER	EXAMINATION REQUEST	
CA2233322 C	20041109	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2233322 C	20170820	PEXP		Calculated Patent Term Expiry	
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GB2322888 A1	20170913	LSLE	-PE20	PATENT EXPIRED AFTER TERMINATION OF 20 YEARS	Expiry date: 20170819
GB2322888 B2	20010509	LSGT	+	granted / extensions (spc, cpc, pte)	
GB2322888 B2	20170819	PEXP		Calculated Patent Term Expiry	
GB2354546 A1	20010328	LSPB	+	published / reissued	
GB2354546 A1	20170913	LSLE	-PE20	PATENT EXPIRED AFTER TERMINATION OF 20 YEARS	Expiry date: 20170819
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NO20005475 A	19980616	LSPB	+	published / reissued	
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NO314096 B1	20170911	LSLE	-MK1K	PATENT EXPIRED	
NO314096 B1	20180417	PEXP		Calculated Patent Term Expiry	
NO322952 B1	20061218	LSGT	+	granted / extensions (spc, cpc, pte)	
NO322952 B1	20170911	LSLE	-MK1K	PATENT EXPIRED	
NO322952 B1	20201031	PEXP		Calculated Patent Term Expiry	
NO981735 A	19980616	LSPB	+	published / reissued	
US6155343 A	20001116	LSGT	PAT1	Patented Case	
US6155343 A	20001116	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US6155343 A	20001205	LSGT	+	granted / extensions (spc, cpc, pte)	
US6155343 A	20040602	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US6155343 A	20080411	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US6155343 A	20120605	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
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WO9807955 A2	19980226	LSPB	+	published / reissued	

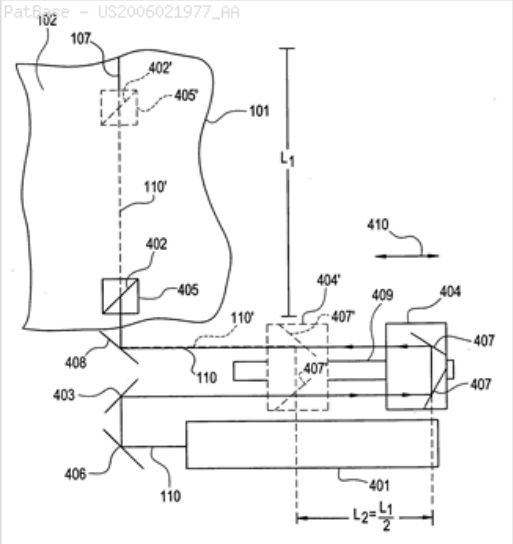
WO9807955 A2	19980226		+AK	DESIGNATED STATES	Kind code of Ref document: A2 Country of Ref document: AU CA GB NO
WO9807955 A2	19980325	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 9806245.8 Country of Ref document: GB
WO9807955 A2	19980327	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 2233322 Country of Ref document: CA
WO9807955 A2	19980327	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 2233322 Country of Ref document: CA
WO9807955 A3	19980507		+AK	DESIGNATED STATES	Kind code of Ref document: A3 Country of Ref document: AU CA GB NO

78) Family number: 32585047 (US2006021977 AA)

Title: **PROCESS** AND APPARATUS FOR SCORING A BRITTLE MATERIAL INCORPORATING MOVING OPTICAL ASSEMBLY

Abstract: A method for scoring flat glass sheet includes moving an optical assembly, which is adapted to direct electromagnetic radiation from a radiation source. The method also includes impinging the electromagnetic radiation on a glass sheet, forming an elongated heating zone on the sheet, wherein a distance from the radiation source to the glass sheet is substantially constant during the moving. An apparatus is also described.

Classifications:
International (IPC 8-9): B23K26/00 B23K26/06 B23K26/36 B23K26/00 B23K26/06 B23K26/14 B23K26/16 B23K26/18 B23K26/36 B25H7/00 B25H7/04 B26F3/00 C03B33/00 C03B33/02 C03B33/09 C03C15/00
International (IPC 1-7): B23K26/00 C03B33/02
CPC: B23K2103/50 B23K26/06 B23K26/0738 B23K26/0869 B23K26/40 C03B33/091 Y10T225/10 Y10T225/304 B23K26/0736 B23K26/0892
US: 219/121.67 219/121.68 219/121.69 219/121.690P 219/121.72 219/121.78 219/121.780S 219/121.84 225/1 225/1P 225/93.5 225/93.500S



Family:

Publication number	Publication date	Application number	Application date
CN100515651 C	20090722	CN200580025738	20050706
CN101005915 A	20070725	CN200580025738	20050706
CN101258112 A	20080903	CN200680013907	20060419
EP1771283 A2	20070411	EP20050770158	20050706
EP1771283 A4	20090422	EP20050770158	20050706
EP1874702 A2	20080109	EP20060758443	20060419
JP2008508180 T2	20080321	JP20070523586T	20050706
JP5016488 B2	20120905	JP20070523586T	20050706
JP2008539161 T2	20081113	JP20080508940T	20060419
KR101148637 B1	20120521	KR20077004693	20050706
KR20070041599 A	20070418	KR20077004693	20050706
KR20080010446 A	20080130	KR20077027927	20071129
TW200615244 A	20060516	TW20050123826	20050713
TWI274743 B	20070301	TW20050123826	20050713
TW200704605 A	20070201	TW20060115158	20060426
US2006022008 AA	20060202	US20040903701	20040730
US7820941 BB	20101026	US20040903701	20040730
US2006021977 AA	20060202	US20050119018	20050429
WO06023133 A2	20060302	WO2005US23986	20050706
WO06023133 A3	20070125	WO2005US23986	20050706
WO06118809 A2	20061109	WO2006US14922	20060419
WO06118809 A3	20070503	WO2006US14922	20060419

Priority:

US20040903701 20040730 US20050903701 20040730 US20050119018 20050429
WO2005US23986 20050706 WO2006US14922 20060419

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Inventor(s): BROWN JAMES ; HARRY E. MENEGUS ; JAMES WILLIAM BROWN ; MENEGUS HARRY

Agent(s): BOON GRAHAM ANTHONY; CORNING INC; KEVIN M

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 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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
CN100515651 C	20090722	LSGT	+	granted / extensions (spc, cpc, pte)	

CN100515651 C	20090722	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN100515651 C	20090722	LSGT	+GR01	授权	Text: 授权 (Authorization)
CN100515651 C	20200623	LSLE	-CF01	TERMINATION OF PATENT RIGHT DUE TO NON-PAYMENT OF ANNUAL FEE	
CN100515651 C	20200623	LSLE	-CF01	未缴年费专利权终止	Effective date: 20190706 Text: 专利权的终止 (Termination of Patent Right)
CN100515651 C	20250706	PEXP		Calculated Patent Term Expiry	
CN101005915 A	20070725	LSPB	+	published / reissued	
CN101005915 A	20070725	LSPB	+C06	PUBLICATION	
CN101005915 A	20070725	LSPB	PB01	公开	Text: 公开 (Disclosure)
CN101005915 A	20070926		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
CN101005915 A	20070926		SE01	实质审查请求的生效	Text: 实质审查的生效 (Force of substantive review)
CN101258112 A	20080903	LSPB	+	published / reissued	
CN101258112 A	20080903	LSPB	+C06	PUBLICATION	
CN101258112 A	20081029		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
CN101258112 A	20110615	LSDW	-C02	DEEMED WITHDRAWAL OF PATENT APPLICATION AFTER PUBLICATION (PATENT LAW 2001)	
EP1771283 A2	20070411	LSPB	+	published / reissued	
EP1771283 A2	20070411	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20070125
EP1771283 A2	20070411		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: 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
EP1771283 A2	20070411		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: AL BA HR MK YU
EP1771283 A2	20071107		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP1771283 A2	20080326		+RBV	DESIGNATED CONTRACTING STATES (CORRECTED)	Country of Ref document: DE FR
EP1771283 A4	20090422	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20090319
EP1771283 A4	20090708	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20090604
EP1771283 A4	20100414	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 20091015
EP1874702 A2	20080109	LSPB	+	published / reissued	
EP1874702 A2	20080109	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20071108
EP1874702 A2	20080109		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: DE FR
EP1874702 A2	20080806		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP1874702 A2	20080806		+RBV	DESIGNATED CONTRACTING	Country of Ref document: DE FR

				STATES (CORRECTED)	
EP1874702 A2	20100714	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 20091031
JP2008508180 T2	20080321	LSPB	+	published / reissued	
JP2008508180 T2	20080705	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Effective date: 20080704 Text: JAPANESE INTERMEDIATE CODE: A621
JP2008508180 T2	20110831	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20110830 Text: JAPANESE INTERMEDIATE CODE: A131
JP2008508180 T2	20120508	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2008508180 T2	20120516	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Effective date: 20120515 Text: JAPANESE INTERMEDIATE CODE: A01
JP2008508180 T2	20120517	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Text: JAPANESE INTERMEDIATE CODE: A01
JP2008508180 T2	20120614	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	Effective date: 20120608 Text: JAPANESE INTERMEDIATE CODE: A61
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JP2008539161 T2	20081113	LSPB	+	published / reissued	
JP2008539161 T2	20090707	LSWD	-A300	WITHDRAWAL OF APPLICATION BECAUSE OF NO REQUEST FOR EXAMINATION	Effective date: 20090707 Text: JAPANESE INTERMEDIATE CODE: A300
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JP5016488 B2	20120612	LSFE	R100	特許料納付書	
JP5016488 B2	20120615	LSGT	+R150	特許証	
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JP5016488 B2	20150528	LSFE	R20	特許料納付書	
JP5016488 B2	20150602	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
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JP5016488 B2	20160607	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP5016488 B2	20160607	LSFE	+R250	年金領収書, 年金領収書(分納)	
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JP5016488 B2	20180605	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
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KR101148637 B1	20120521	LSGT	+	granted / extensions (spc,	

				cpc, pte)	
KR101148637 B1	20150424	LSFE	FPAY	ANNUAL FEE PAYMENT	Payment date: 20150427 Year of fee payment: 4
KR101148637 B1	20160425	LSFE	FPAY	ANNUAL FEE PAYMENT	Payment date: 20160426 Year of fee payment: 5
KR101148637 B1	20170425	LSFE	FPAY	ANNUAL FEE PAYMENT	Payment date: 20170426 Year of fee payment: 6
KR101148637 B1	20180329	LSFE	FPAY	ANNUAL FEE PAYMENT	Payment date: 20180329 Year of fee payment: 7
KR101148637 B1	20190512	LSLE	-LAPS	LAPSE DUE TO UNPAID ANNUAL FEE	
KR101148637 B1	20250706	PEXP		Calculated Patent Term Expiry	
KR20070041599 A	20070418	LSPB	+	published / reissued	
KR20070041599 A	20100518	LSES	A201	REQUEST FOR EXAMINATION	
KR20070041599 A	20120402	LSGT	+E701	DECISION TO GRANT OR REGISTRATION OF PATENT RIGHT	
KR20070041599 A	20120511	LSGT	+GRNT	WRITTEN DECISION TO GRANT	
KR20080010446 A	20080130	LSPB	+	published / reissued	
KR20080010446 A	20110520	LSDW	-WITN	WITHDRAWAL DUE TO NO REQUEST FOR EXAMINATION	
TW200615244 A	20060516	LSPB	+	published / reissued	
TW200704605 A	20070201	LSPB	+	published / reissued	
TWI274743 B	20070301	LSGT	+	granted / extensions (spc, cpc, pte)	
TWI274743 B	20250713	PEXP		Calculated Patent Term Expiry	
US2006021977 AA	20050429	LSAS	AS	ASSIGNMENT	Effective date: 20050429 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:MENEGUS, HARRY E;REEL/FRAME:016521/0649 Owner: CORNING INCORPORATED, NEW YORK PartyType: owner
US2006021977 AA	20060202	LSPB	+	published / reissued	
US2006021977 AA	20090406	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2006021977 AA	20090406		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2006022008 AA	20060202	LSPB	+	published / reissued	
US7820941 BB	20040730	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:BROWN, JAMES W.;MENEGUS, HARRY E.;REEL/FRAME:015644/0594;SIGNING DATES FROM 20040729 TO 20040730 Owner: CORNING INCORPORATED, NEW YORK PartyType: owner
US7820941 BB	20040730	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:BROWN, JAMES W.;MENEGUS, HARRY E.;SIGNING DATES FROM 20040729 TO 20040730;REEL/FRAME:015644/0594 Owner: CORNING INCORPORATED, NEW YORK PartyType: owner
US7820941 BB	20101006	LSGT	PAT1	Patented Case	
US7820941 BB	20101026	LSGT	+	granted / extensions (spc, cpc, pte)	
US7820941 BB	20140428	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US7820941 BB	20180611	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.)

US7820941 BB	20181203	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	Text: PATENT EXPIRED FOR FAILURE TO PAY MAINTENANCE FEES (ORIGINAL EVENT CODE: EXP.); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US7820941 BB	20181203	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US7820941 BB	20181203	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US7820941 BB	20181225	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20181026
US7820941 BB	20260312	PEXP		Calculated Patent Term Expiry (PTA 590 days)	
WO06023133 A2	20060302	LSPB	+	published / reissued	
WO06023133 A2	20060302		+AK	DESIGNATED STATES	Kind code of Ref document: A2 Country of Ref document: AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KM KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NA NG NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SM SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW
WO06023133 A2	20060302		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A2 Country of Ref document: AM AT AZ BE BF BG BJ BW BY CF CG CH CI CM CY CZ DE DK EE ES FI FR GA GB GH GM GN GQ GR GW HU IE IS IT KE KG KZ LS LT LU LV MC MD ML MR MW MZ NA NE NL PL PT RO RU SD SE SI SK SL SN SZ TD TG TJ TM TR TZ UG ZM ZW
WO06023133 A2	20060823		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO06023133 A3	20070125	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2005770158 Country of Ref document: EP
WO06023133 A3	20070129	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 200580025738.2 Country of Ref document: CN
WO06023133 A3	20070130	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2007523586 Country of Ref document: JP
WO06023133 A3	20070131	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO06023133 A3	20070227	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 1020077004693 Country of Ref document: KR
WO06023133 A3	20070411	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 2005770158 Country of Ref document: EP
WO06118809 A2	20060419	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 200680013907.5 Country of Ref document: CN
WO06118809 A2	20061109	LSPB	+	published / reissued	
WO06118809 A2	20070103		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO06118809 A3	20071029	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 2008508940 Country of Ref document: JP
WO06118809 A3	20071030	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO06118809 A3	20071108	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2006758443 Country of Ref document: EP
WO06118809 A3	20071129	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: RU
WO06118809 A3	20071129	LSNP	+WWE	WIPO	Ref document number:

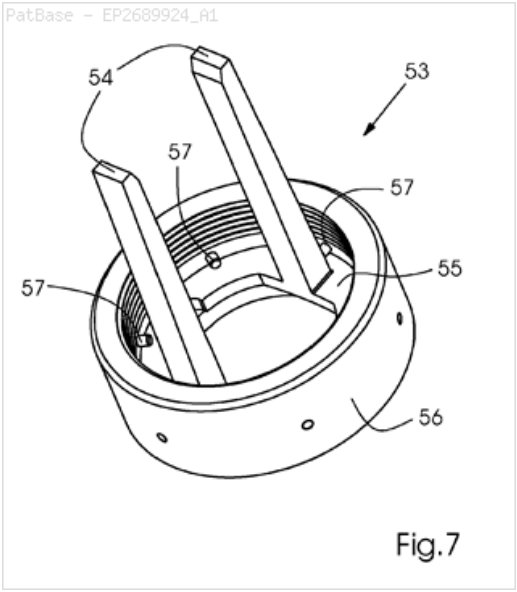
	INFORMATION: ENTRY INTO NATIONAL PHASE	1020077027927 Country of Ref document: KR

79) Family number: 55625208 (EP2689924 A1)

Title: TOOL HOLDING DEVICE

Abstract: The device has a hub with a bore complementary to the outer contour of the drive shaft. The bore has two inwardly inclined grooves, and the hub is provided with an external thread at its one end, so that a clamping device in the form of a screw-mountable clamping jaw is fixed in the grooves for fastening the rotary tool or the tool holder to the drive shaft. The clamping jaw has two clamping claws, which are attached to a common ring at one end. An independent claim is included for a sheet-like material **processing** module with counter tools.

Classifications:
International (IPC 8-9): B23Q3/12 B26D7/26 B26F1/42 B31B1/14 B31B1/25 B31B1/26 B31B1/74 B31B3/14 B31B49/00 B31B50/00 B31B50/25 B31B50/26 B31B50/74 B31F1/10 F16D1/09
CPC: B26D7/2635 B31B50/146 B31B50/256 B31F1/10 B31F2201/0753



Family:

Publication number	Publication date	Application number	Application date
CN103538286 A	20140129	CN201310280900	20130705
CN103538286 B	20170503	CN201310280900	20130705
DE102012013757 A1	20140116	DE201210013757	20120712
DE502013000398 D1	20150416	DE201350000398T	20130611
EP2689924 A1	20140129	EP20130171340	20130611
EP2689924 B1	20150304	EP20130171340	20130611
ES2538249 T3	20150618	ES20130171340T	20130611

Priority:
DE201210013757 20120712 EP20130171340 20130611

Probable Assignee: MASTERWORK MACHINERY CO
Assignee(s): (std): HEIDELBERGER DRUCKMASCH AG ; MASTERWORK MACHINERY CO LTD
Assignee(s): HEIDELBERGER DRUCKMASCHINEN AG ; MASTERWORK MACHINERY CO
Inventor(s): (std): OLLEK TOMASZ ; TOMASZ OLLEK
Agent(s): DE ELZABURU ALBERTO; PATENTANWAELTE STREHL SCHUEBEL HOPF AND PARTNER; STREHL SCHUEBEL HOPF AND PARTNER MBB PATENTANWAELTE EUROPEAN PATENT ATTORNEYS
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

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
CN103538286 A	20140129	LSPB	+	published / reissued	
CN103538286 A	20140129	LSPB	+C06	PUBLICATION	
CN103538286 A	20150617	LSAS	ASS	SUCCESSION OR ASSIGNMENT OF PATENT RIGHT	PartyType: owner OldParty: FORMER OWNER: HEIDELBERGER DRUCKMASCHINEN AKTIENGESELLSCHAFT Owner: TIANJIN CHANGRONG PRINTING EQUIPMENT CO., LTD. Effective date: 20150526
CN103538286 A	20150617	LSAS	C41	TRANSFER OF PATENT APPLICATION OR PATENT RIGHT OR UTILITY MODEL	
CN103538286 A	20150729		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
CN103538286 B	20170503	LSGT	+	granted / extensions (spc, cpc, pte)	

CN103538286 B	20170503	LSGT	+GR01	PATENT GRANT	
CN103538286 B	20171222	LSAS	CP03	CHANGE OF NAME, TITLE OR ADDRESS	
CN103538286 B	20330705	PEXP		Calculated Patent Term Expiry	
DE102012013757 A1	20130213		R079	AMENDMENT OF IPC MAIN CLASS	Text: PREVIOUS MAIN CLASS: B31F0001100000 ClassificationScheme: IPC ClassificationSymbol: F16D0001090000
DE102012013757 A1	20130319		+R163	IDENTIFIED PUBLICATIONS NOTIFIED	
DE102012013757 A1	20140116	LSPB	+	published / reissued	
DE102012013757 A1	20150513	LSAS	R081	CHANGE OF APPLICANT/PATENTEE	PartyType: owner Effective date: 20150402 OldParty: FORMER OWNER: HEIDELBERGER DRUCKMASCHINEN AKTIENGESELLSCHAFT, 69115 HEIDELBERG, DE Owner: MASTERWORK MACHINERY CO., LTD., CN
DE102012013757 A1	20180201	LSDW	-R119	APPLICATION DEEMED WITHDRAWN, OR IP RIGHT LAPSED, DUE TO NON-PAYMENT OF RENEWAL FEE	
DE502013000398 D1	20150508	LSAS	R081	CHANGE OF APPLICANT/PATENTEE	Owner: Masterwork Machinery Co., Ltd., Tianjin, CN OldParty: Heidelberger Druckmaschinen AG, 69115 Heidelberg, DE PartyType: Owner
DE502013000398 D1	20161129		R079	AMENDMENT OF IPC MAIN CLASS	ClassificationSymbol: B31B0050250000 ClassificationScheme: IPC Text: PREVIOUS MAIN CLASS: B31B0001250000
EP2689924 A1	20140129	LSPB	+	published / reissued	
EP2689924 A1	20140129		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AL 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 RS SE SI SK SM TR
EP2689924 A1	20140129		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: BA ME
EP2689924 A1	20140903	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20140729
EP2689924 A1	20140903		+RBV	DESIGNATED CONTRACTING STATES (CORRECTED)	Country of Ref document: AL 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 RS SE SI SK SM TR
EP2689924 A1	20141008		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: B31B 1/25 20060101AFI20140829BHEP
EP2689924 A1	20141008		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: B26D 7/26 20060101ALI20140829BHEP ClassificationScheme: IPC
EP2689924 A1	20141008		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: B31F 1/10 20060101ALI20140829BHEP ClassificationScheme: IPC
EP2689924 A1	20141112	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	Effective date: 20141014
EP2689924 A1	20160729	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20160623 Year of fee payment: 4 Country of Ref document: CH
EP2689924 A1	20160729	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20160621 Year of fee payment: 4 Country of Ref document: ES
EP2689924 A1	20160831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20160630 Year of fee payment: 4 Country of Ref document: IT
EP2689924 A1	20160831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE	Year of fee payment: 4 Payment date: 20160623

				[ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Country of Ref document: FR
EP2689924 A1	20161031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20160704 Year of fee payment: 4 Country of Ref document: DE
EP2689924 B1	20150304	LSGT	+	granted / extensions (spc, cpc, pte)	
EP2689924 B1	20150304		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: AL 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 RS SE SI SK SM TR
EP2689924 B1	20150304	LSGT	REG	REFERENCE TO A NATIONAL CODE	Text: NOT ENGLISH Ref country code: GB Ref legal event code: FG4D
EP2689924 B1	20150313	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: EP
EP2689924 B1	20150325	LSGT	REG	REFERENCE TO A NATIONAL CODE	Text: LANGUAGE OF EP DOCUMENT: GERMAN Ref country code: IE Ref legal event code: FG4D
EP2689924 B1	20150415	LSNP	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20150415 Ref document number: 713463 Kind code of Ref document: T Ref country code: AT Ref legal event code: REF Country of Ref document: AT
EP2689924 B1	20150416	LSPB	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20150416 Ref document number: 502013000398 Ref legal event code: R096 Ref country code: DE Country of Ref document: DE
EP2689924 B1	20150422	LSAS	RAP2	RIGHTS OF A PATENT TRANSFERRED	PartyType: owner Owner: MASTERWORK MACHINERY CO., LTD.
EP2689924 B1	20150618	LSAS	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Owner: MASTERWORK MACHINERY CO., LTD., CN OldParty: FORMER OWNER: HEIDELBERGER DRUCKMASCHINEN AG, 69115 HEIDELBERG, DE PartyType: owner Ref legal event code: R081 Ref document number: 502013000398 Effective date: 20150508 Country of Ref document: DE
EP2689924 B1	20150618	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: ES Ref document number: 2538249 Ref legal event code: FG2A Kind code of Ref document: T3 Effective date: 20150618 Country of Ref document: ES
EP2689924 B1	20150715	LSRV	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: VDEP Ref country code: NL Effective date: 20150304
EP2689924 B1	20150731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20150304 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: FI
EP2689924 B1	20150731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20150304 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: HR
EP2689924 B1	20150731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20150304 Country of Ref document: SE
EP2689924 B1	20150731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE	Lapsed date: 20150604 NotificationOfLapse: LAPSE

				[ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: NO
EP2689924 B1	20150731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20150304 Country of Ref document: LT
EP2689924 B1	20150825	LSRV	REG	REFERENCE TO A NATIONAL CODE	Ref country code: LT Ref legal event code: MG4D
EP2689924 B1	20150831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20150304 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: RS
EP2689924 B1	20150831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20150605 Country of Ref document: GR
EP2689924 B1	20150831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20150304 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: LV
EP2689924 B1	20150930	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20150304 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: NL
EP2689924 B1	20150930		REG	REFERENCE TO A NATIONAL CODE	Text: REGISTERED BETWEEN 20150903 AND 20150909 Ref country code: GB Ref legal event code: 732E
EP2689924 B1	20151030	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20150304 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: RO
EP2689924 B1	20151030	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20150706 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: PT
EP2689924 B1	20151030	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20150304 Country of Ref document: CZ
EP2689924 B1	20151030	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20150304 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: EE
EP2689924 B1	20151030	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20150304 Country of Ref document:

					SK
EP2689924 B1	20151130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20150304 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: PL
EP2689924 B1	20151130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20150704 Country of Ref document: IS
EP2689924 B1	20151207	LSRE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref legal event code: R097 Ref document number: 502013000398 Country of Ref document: DE
EP2689924 B1	20160129	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20150304 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: MC
EP2689924 B1	20160129	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20150304 Country of Ref document: DK
EP2689924 B1	20160210	LSGT	+26N	NO OPPOSITION FILED	Effective date: 20151207
EP2689924 B1	20160229	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20150304 Country of Ref document: SI
EP2689924 B1	20160229	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20150611 Country of Ref document: LU
EP2689924 B1	20160323	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: MM4A Ref country code: IE
EP2689924 B1	20160429	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20150611 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: IE
EP2689924 B1	20160623	LSFE	REG	REFERENCE TO A NATIONAL CODE	Year of fee payment: 4 Ref legal event code: PLFP Ref country code: FR Country of Ref document: FR
EP2689924 B1	20161129		REG	REFERENCE TO A NATIONAL CODE	ClassificationSymbol: B31B0050250000 Ref country code: DE Text: PREVIOUS MAIN CLASS: B31B0001250000 ClassificationScheme: IPC Ref legal event code: R079 Ref document number: 502013000398 Country of Ref document: DE
EP2689924 B1	20161230	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20150304 Country of Ref document: MT
EP2689924 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM	Lapsed date: 20150304 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO

				NATIONAL OFFICE TO EPO]	PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: BG
EP2689924 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130611 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT; INVALID AB INITIO Country of Ref document: HU
EP2689924 B1	20170626	LSFE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: FR Year of fee payment: 5 Ref legal event code: PLFP
EP2689924 B1	20170630	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20150304 Country of Ref document: CY
EP2689924 B1	20170731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20150630 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: BE
EP2689924 B1	20170731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 5 Payment date: 20170626 Country of Ref document: FR
EP2689924 B1	20170731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 5 Payment date: 20170622 Country of Ref document: CH
EP2689924 B1	20170731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 5 Payment date: 20170626 Country of Ref document: GB
EP2689924 B1	20170831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20150304 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: TR
EP2689924 B1	20171031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 5 Payment date: 20170627 Country of Ref document: DE
EP2689924 B1	20171031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 5 Payment date: 20170630 Country of Ref document: IT
EP2689924 B1	20171031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20170717 Year of fee payment: 5 Country of Ref document: ES
EP2689924 B1	20180531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20150304 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SM
EP2689924 B1	20180622	LSFE	REG	REFERENCE TO A NATIONAL CODE	Year of fee payment: 6 Ref legal event code: PLFP Ref country code: FR
EP2689924 B1	20180629	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20150304 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: MK
EP2689924 B1	20180731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM	Payment date: 20180622 Year of fee payment: 6 Country of Ref document:

				NATIONAL OFFICE TO EPO]	CH
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EP2689924 B1	20181031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20150304 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: AL
EP2689924 B1	20181031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 6 Payment date: 20180625 Country of Ref document: DE
EP2689924 B1	20181031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 6 Payment date: 20180629 Country of Ref document: IT
EP2689924 B1	20181031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 6 Payment date: 20180720 Country of Ref document: ES
EP2689924 B1	20181031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20180403 Year of fee payment: 6 Country of Ref document: GB
EP2689924 B1	20190815	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: AT Ref document number: 713463 Kind code of Ref document: T Ref legal event code: MM01 Effective date: 20180611 Country of Ref document: AT
EP2689924 B1	20190830	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 7 Payment date: 20190625 Country of Ref document: FR
EP2689924 B1	20190930	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190627 Year of fee payment: 7 Country of Ref document: CH
EP2689924 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 7 Payment date: 20190702 Country of Ref document: DE
EP2689924 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190628 Year of fee payment: 7 Country of Ref document: IT
EP2689924 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190627 Year of fee payment: 7 Country of Ref document: GB
EP2689924 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190712 Year of fee payment: 7 Country of Ref document: ES
EP2689924 B1	20191231	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180611 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: AT
EP2689924 B1	20200731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200618 Year of fee payment: 8 Country of Ref document: CH
EP2689924 B1	20200731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 8 Payment date: 20200620 Country of Ref document: FR
EP2689924 B1	20200831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE	Payment date: 20200620 Year of fee payment: 8

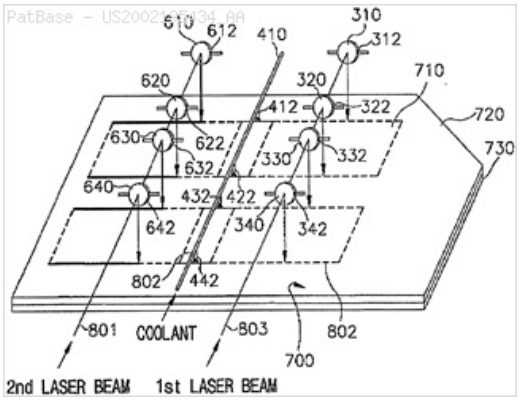
				[ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Country of Ref document: GB
EP2689924 B1	20330611	PEXP		Calculated Patent Term Expiry	
ES2538249 T3	20150618	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2538249 T3	20330611	PEXP		Calculated Patent Term Expiry	

80) Family number: 28271376 (US2002195434 AA)

Title: METHOD AND APPARATUS FOR CUTTING A SUBSTRATE INTO MULTIPLE PIECES WITH A SINGLE IRRADIATION OF A LASER BEAM

Abstract: A method and apparatus for multiple-cutting a substrate into a plurality of pieces with a single irradiation of a laser beam are disclosed. At least two light reflectivity/transmittance control plates are placed on a path through which the light passes such that light reflectivity/transmittance is varied depending on an angle between the generated light and the plates. Plural surface portions of the substrate are heated simultaneously and are then cooled by a sprayed coolant so that the substrate is cut into a plurality of pieces simultaneously. Resultantly, a cutting time is substantially shortened and the **productivity** is enhanced.

Classifications:
International (IPC 8-9): B23K26/00 B23K26/067 B23K26/14 B26F3/16 C03B33/00 C03B33/02 C03B33/023 C03B33/033 C03B33/09 C03B33/10 G02F1/1333
International (IPC 1-7): B23K2/600 B23K26/00 B23K26/067 B23K26/38 B26F3/16 C03B33/00 C03B33/02 C03B33/023 C03B33/033 C03B33/09
CPC: B23K26/067 B23K26/0673 B23K26/146 C03B33/093 C03B33/102 G02F1/133351 Y02P40/57
US: 219/121.67 219/121.670P 219/121.72 219/121.720P 219/121.77 219/121.770S 219/121.85



Family:

Publication number	Publication date	Application number	Application date
CN100421860 C	20081001	CN20011040821	20010924
CN1393317 A	20030129	CN20011040821	20010924
JP2003020237 A2	20030124	JP20010327242	20011025
KR100700997 B1	20070328	KR20010035479	20010621
KR20020096673 A	20021231	KR20010035479	20010621
TW558551 B	20031021	TW20010116148	20010702
US2002195434 AA	20021226	US20020176041	20020621
US6770842 BB	20040803	US20020176041	20020621
US2004262273 AA	20041230	US20040891118	20040715

Priority:
KR20010035479 20010621 US20020176041 20020621 US20040891118 20040715

Probable Assignee: SAMSUNG DISPLAY CO LTD
Assignee(s): (std): SAMSUNG ELECTRONICS CO LTD
Assignee(s): CHOO DAE HO ; JEON BAEK KYUN ; NAM HYUNG WOO ; SAMSUNG DISPLAY CO LTD ; SAMSUNG ELECTRONICS CO ; SAMSUNG ELECTRONICS COMPANY LIMITED
Inventor(s): (std): BAIK GYUN CHON ; CHOO DAE HO ; DAI HO CHOO ; JEON BAEK KYUN ; JUN BAEK GYUN ; NAM HYEONG U ; NAM HYONG U ; NAM HYUNG WOO ; SHU DAIKO
Inventor(s): BAEK KYUN JEON ; CHON BAIK GYUN ; CHOO DAI HO ; DAE HO CHOO ; HYUNG WOO NAM
Agent(s): MCGUIREWOODS LLP; TAKAHASHI HAYASHI AND PARTNER PATENT ATTORNEYS INC

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
CN100421860 C	20081001	LSGT	+	granted / extensions (spc, cpc, pte)	
CN100421860 C	20081001	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN100421860 C	20081001	LSGT	+GR01	授权	Text: 授权 (Authorization)
CN100421860 C	20121128	LSAS	ASS	SUCCESSION OR ASSIGNMENT OF PATENT RIGHT	Effective date: 20121029 OldParty: FORMER OWNER: SAMSUNG ELECTRONICS CO., LTD. Owner: SAMSUNG MONITOR CO., LTD. PartyType: owner
CN100421860 C	20121128	LSAS	C41	TRANSFER OF PATENT APPLICATION OR PATENT RIGHT OR UTILITY MODEL	
CN100421860 C	20121128	LSAS	TR01	专利权的转移	Effective date: 20121029 Patentee After Change: 三星显示有限公司 (SAMSUNG DISPLAY CO LTD) Patentee Before Change: 三星电子株式会社 (SAMSUNG ELECTRONICS CO LTD) Text: 专利申请权、专利权的转移 (Transfer of Patent Application or Patent Right)
CN100421860 C	20171110	LSLE	-CF01	TERMINATION OF	

				PATENT RIGHT DUE TO NON-PAYMENT OF ANNUAL FEE	
CN100421860 C	20171110	LSLE	-CF01	未缴年费专利权终止	Effective date: 20160924 Text: 专利权的终止 (Termination of Patent Right)
CN100421860 C	20210924	PEXP		Calculated Patent Term Expiry	
CN1393317 A	20030129	LSPB	+	published / reissued	
CN1393317 A	20030129	LSPB	+C06	PUBLICATION	
CN1393317 A	20030129	LSPB	PB01	公开	Text: 公开 (Disclosure)
CN1393317 A	20040901		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
CN1393317 A	20040901		SE01	实质审查请求的生效	Text: 实质审查的生效 (Force of substantive review)
JP2003020237 A2	20030124	LSPB	+	published / reissued	
JP2003020237 A2	20040621	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Effective date: 20040618 Text: JAPANESE INTERMEDIATE CODE: A621
JP2003020237 A2	20060106		RD03	NOTIFICATION OF APPOINTMENT OF POWER OF ATTORNEY	Effective date: 20060105 Text: JAPANESE INTERMEDIATE CODE: A7423
JP2003020237 A2	20060204		RD04	NOTIFICATION OF RESIGNATION OF POWER OF ATTORNEY	Effective date: 20060106 Text: JAPANESE INTERMEDIATE CODE: A7424
JP2003020237 A2	20070815	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20070814 Text: JAPANESE INTERMEDIATE CODE: A131
JP2003020237 A2	20071115	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20071114 Text: JAPANESE INTERMEDIATE CODE: A523
JP2003020237 A2	20071120	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20071114 Text: JAPANESE INTERMEDIATE CODE: A523
JP2003020237 A2	20071219	LSRV	-A02	DECISION OF REFUSAL	Effective date: 20071218 Text: JAPANESE INTERMEDIATE CODE: A02
KR100700997 B1	20060621	LSES	A201	REQUEST FOR EXAMINATION	
KR100700997 B1	20070319	LSGT	+E701	DECISION TO GRANT OR REGISTRATION OF PATENT RIGHT	
KR100700997 B1	20070322	LSGT	+GRNT	WRITTEN DECISION TO GRANT	
KR100700997 B1	20070328	LSGT	+	granted / extensions (spc, cpc, pte)	
KR100700997 B1	20130228	LSFE	FPAY	ANNUAL FEE PAYMENT	Payment date: 20130228 Year of fee payment: 7
KR100700997 B1	20140303	LSFE	FPAY	ANNUAL FEE PAYMENT	Year of fee payment: 8 Payment date: 20140303
KR100700997 B1	20150227	LSFE	FPAY	ANNUAL FEE PAYMENT	Payment date: 20150227 Year of fee payment: 9
KR100700997 B1	20160323	LSLE	-LAPS	LAPSE DUE TO UNPAID ANNUAL FEE	
KR100700997 B1	20210621	PEXP		Calculated Patent Term Expiry	
KR20020096673 A	20021231	LSPB	+	published / reissued	
TW558551 B	20031021	LSGT	+	granted / extensions (spc, cpc, pte)	
TW558551 B	20040308	LSGT	+GD4A	ISSUE OF PATENT CERTIFICATE FOR GRANTED INVENTION PATENT	
TW558551 B	20160721	LSLE	-MM4A	ANNULMENT OR LAPSE OF PATENT DUE TO NON-PAYMENT OF FEES	
TW558551 B	20210702	PEXP		Calculated Patent Term Expiry	

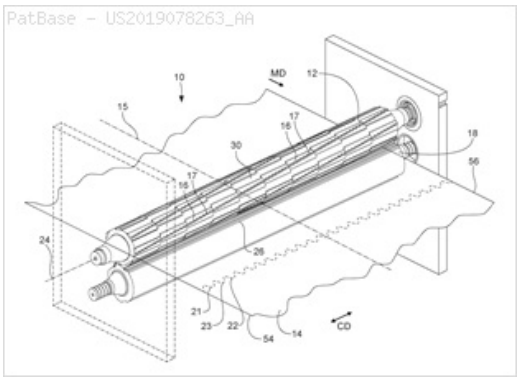
US2002195434 AA	20021226	LSPB	+	published / reissued	
US2004262273 AA	20041230	LSPB	+	published / reissued	
US2004262273 AA	20091007	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2004262273 AA	20091007		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US6770842 BB	20020621	LSAS	AS	ASSIGNMENT	PartyType: owner Owner: SAMSUNG ELECTRONICS CO., LTD., KOREA, REPUBLIC OF OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:NAM, HYUNG-WOO;CHOO, DAE-HO;JEON, BAEK-KYUN;REEL/FRAME:013037/0405;SIGNING DATES FROM 20020617 TO 20020618
US6770842 BB	20040715	LSGT	PAT1	Patented Case	
US6770842 BB	20040803	LSGT	+	granted / extensions (spc, cpc, pte)	
US6770842 BB	20041130	LSRE	CC	CERTIFICATE OF CORRECTION	
US6770842 BB	20080111	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US6770842 BB	20110922	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US6770842 BB	20120828	LSAS	AS	ASSIGNMENT	Owner: SAMSUNG DISPLAY CO., LTD., KOREA, REPUBLIC OF Effective date: 20120403 OldParty: CHANGE OF NAME;ASSIGNOR:SAMSUNG ELECTRONICS CO., LTD.;REEL/FRAME:028863/0858 PartyType: owner
US6770842 BB	20160311		REMI	MAINTENANCE FEE REMINDER MAILED	
US6770842 BB	20160803	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US6770842 BB	20160829	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US6770842 BB	20160829	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US6770842 BB	20160920	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20160803
US6770842 BB	20220621	PEXP		Calculated Patent Term Expiry	

81) Family number: 73499323 (US2019078263 AA)

Title: SANITARY TISSUE **PRODUCT** WITH A SHAPED LINE OF WEAKNESS

Abstract: A web of toilet tissue that includes a shaped line of weakness, wherein the toilet tissue exhibits a LWP Factor of greater than about 7, and a Geometric Mean Peak Elongation of greater than about 15 percent, as measured according to the Dry Tensile Strength Test Method.

Classifications:
International (IPC 8-9): B26D1/08 B26D1/38 B26D3/10 B26D7/20 B26F1/14 B26F1/20 B26F1/38 B26F1/44 D21F11/00 D21H25/00 D21H27/00
CPC: A47K10/16 A61K8/0208 B26D1/385 B26D7/204 B26F1/08 B26F1/14 B26F1/20 B26F1/384 B26F1/44 B26F2001/4472 D21F11/006 D21F11/008 D21H25/005 D21H27/004 D21H27/005
US: 1/1



Family:

Publication number	Publication date	Application number	Application date
CA3072259 AA	20200205	CA20183072259	20180911
CA3072361 AA	20200206	CA20183072361	20180911
CA3072516 AA	20200207	CA20183072516	20180911
CA3072603 AA	20200210	CA20183072603	20180911
CA3072779 AA	20200211	CA20183072779	20180911
US2019078265 AA	20190314	US20180127417	20180911
US2019078263 AA	20190314	US20180127450	20180911
US2019078266 AA	20190314	US20180127519	20180911
US2019078267 AA	20190314	US20180127540	20180911
US2019078264 AA	20190314	US20180127561	20180911
WO19051458 A1	20190314	WO2018US50373	20180911
WO19051459 A1	20190314	WO2018US50376	20180911
WO19051460 A1	20190314	WO2018US50378	20180911
WO19051461 A1	20190314	WO2018US50381	20180911
WO19051462 A1	20190314	WO2018US50382	20180911

Priority:

US20170556720P 20170911 WO2018US50373 20180911 WO2018US50376 20180911
WO2018US50378 20180911 WO2018US50381 20180911 WO2018US50382 20180911
US20180127450 20180911 US20180127561 20180911 US20180127417 20180911
US20180127519 20180911 US20180127540 20180911

Probable Assignee: PROCTER AND GAMBLE CO

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Assignee(s): GLASS KATIE KRISTINE ; LEIMBACH ANGELA MARIE ; MELLIN GUSTAV ANDRE ; PROCTER AND GAMBLE CO

Inventor(s): (std): GLASS KATIE ; GLASS KATIE KRISTINE ; LEIMBACH ANGELA ; LEIMBACH ANGELA MARIE ; MELLIN GUSTAV ; MELLIN GUSTAV ANDRE

Agent(s): KREBS JAY A; WILSON LUE 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 DJ 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 JO JP KE KG KH KM KN KP KR KW 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

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
CA3072259 AA	20200205	LSPB	+	published / reissued	
CA3072259 AA	20200217	LSES	+EEER	EXAMINATION REQUEST	Effective date: 20200205
CA3072361 AA	20200206	LSPB	+	published / reissued	
CA3072361 AA	20200218	LSES	+EEER	EXAMINATION REQUEST	Effective date: 20200206
CA3072516 AA	20200207	LSPB	+	published / reissued	
CA3072516 AA	20200218	LSES	+EEER	EXAMINATION REQUEST	Effective date: 20200207
CA3072603 AA	20200210	LSPB	+	published / reissued	

CA3072603 AA	20200220	LSES	+EEER	EXAMINATION REQUEST	Effective date: 20200210
CA3072779 AA	20200211	LSPB	+	published / reissued	
CA3072779 AA	20200220	LSES	+EEER	EXAMINATION REQUEST	Effective date: 20200211
US2019078263 AA	20181001	LSAS	AS	ASSIGNMENT	PartyType: owner Effective date: 20180925 Owner: THE PROCTER & GAMBLE COMPANY, OHIO OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:GLASS, KATIE KRISTINE;LEIMBACH, ANGELA MARIE;REEL/FRAME:047018/0312
US2019078263 AA	20190102		RFE1	Docketed New Case - Ready for Examination	
US2019078263 AA	20190102		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2019078263 AA	20190314	LSPB	+	published / reissued	
US2019078263 AA	20200327	LSES	NFA1	Non Final Action Mailed	
US2019078263 AA	20200327		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NON FINAL ACTION MAILED
US2019078263 AA	20200701		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2019078263 AA	20200701		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER
US2019078263 AA	20200722		FRM1	Final Rejection Mailed	
US2019078263 AA	20200722		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: FINAL REJECTION MAILED
US2019078264 AA	20181001	LSAS	AS	ASSIGNMENT	Owner: THE PROCTER & GAMBLE COMPANY, OHIO OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:GLASS, KATIE KRISTINE;LEIMBACH, ANGELA MARIE;MELLIN, GUSTAV ANDRE;SIGNING DATES FROM 20180914 TO 20180925;REEL/FRAME:047018/0381 PartyType: owner
US2019078264 AA	20190223		RFE1	Docketed New Case - Ready for Examination	
US2019078264 AA	20190223		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2019078264 AA	20190314	LSPB	+	published / reissued	
US2019078264 AA	20200625	LSES	NFA1	Non Final Action Mailed	
US2019078264 AA	20200625		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NON FINAL ACTION MAILED
US2019078265 AA	20181001	LSAS	AS	ASSIGNMENT	Owner: THE PROCTER & GAMBLE COMPANY, OHIO PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:GLASS, KATIE KRISTINE;LEIMBACH, ANGELA MARIE;MELLIN, GUSTAV ANDRE;SIGNING DATES FROM

					20180914 TO 20180925;REEL/FRAME:047018/0302
US2019078265 AA	20190102		RFE1	Docketed New Case - Ready for Examination	
US2019078265 AA	20190102		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2019078265 AA	20190314	LSPB	+	published / reissued	
US2019078265 AA	20200327	LSES	NFA1	Non Final Action Mailed	
US2019078265 AA	20200327		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NON FINAL ACTION MAILED
US2019078265 AA	20200705		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2019078265 AA	20200705		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER
US2019078265 AA	20200722		FRM1	Final Rejection Mailed	
US2019078265 AA	20200722		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: FINAL REJECTION MAILED
US2019078266 AA	20181001	LSAS	AS	ASSIGNMENT	PartyType: owner Owner: THE PROCTER & GAMBLE COMPANY, OHIO OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:GLASS, KATIE KRISTINE;LEIMBACH, ANGELA MARIE;MELLIN, GUSTAV ANDRE;SIGNING DATES FROM 20180914 TO 20180925;REEL/FRAME:047018/0330
US2019078266 AA	20190102		RFE1	Docketed New Case - Ready for Examination	
US2019078266 AA	20190102		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2019078266 AA	20190314	LSPB	+	published / reissued	
US2019078266 AA	20200327	LSES	NFA1	Non Final Action Mailed	
US2019078266 AA	20200327		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NON FINAL ACTION MAILED
US2019078266 AA	20200701		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2019078266 AA	20200701		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER
US2019078266 AA	20200722		FRM1	Final Rejection Mailed	
US2019078266 AA	20200722		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: FINAL REJECTION MAILED
US2019078267 AA	20181001	LSAS	AS	ASSIGNMENT	PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:GLASS, KATIE

					KRISTINE;LEIMBACH, ANGELA MARIE;MELLIN, GUSTAV ANDRE;SIGNING DATES FROM 20180914 TO 20180925;REEL/FRAME:047018/0355 Owner: THE PROCTER & GAMBLE COMPANY, OHIO
US2019078267 AA	20190223		RFE1	Docketed New Case - Ready for Examination	
US2019078267 AA	20190223		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2019078267 AA	20190314	LSPB	+	published / reissued	
US2019078267 AA	20200623	LSES	NFA1	Non Final Action Mailed	
US2019078267 AA	20200623		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NON FINAL ACTION MAILED
WO19051458 A1	20190314	LSPB	+	published / reissued	
WO19051458 A1	20190424		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Ref document number: 18779514 Kind code of Ref document: A1 Country of Ref document: EP
WO19051458 A1	20200205	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 3072259 Country of Ref document: CA
WO19051458 A1	20200312	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO19051459 A1	20190314	LSPB	+	published / reissued	
WO19051459 A1	20190424		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A1 Ref document number: 18779898 Country of Ref document: EP
WO19051459 A1	20200206	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 3072361 Country of Ref document: CA
WO19051459 A1	20200312	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO19051460 A1	20190314	LSPB	+	published / reissued	
WO19051460 A1	20190424		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Ref document number: 18779515 Kind code of Ref document: A1 Country of Ref document: EP
WO19051460 A1	20200207	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 3072516 Country of Ref document: CA
WO19051460 A1	20200312	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO19051461 A1	20190314	LSPB	+	published / reissued	
WO19051461 A1	20190424		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Ref document number: 18779516 Kind code of Ref document: A1 Country of Ref document: EP
WO19051461 A1	20200210	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 3072603 Country of Ref document: CA
WO19051461 A1	20200312	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO19051462 A1	20190314	LSPB	+	published / reissued	
WO19051462 A1	20190424		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Ref document number: 18779174 Kind code of Ref document: A1 Country of Ref document: EP

WO19051462 A1	20200211	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 3072779 Country of Ref document: CA
WO19051462 A1	20200312	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE

82) Family number: 43628449 (EP2091005 A1)

Title: VERIFICATION OF THE PUNCHING OF SIGNATURES BASED ON DIGITAL IMAGES

Abstract: A solution is proposed for verifying a punching of bookbinding articles (110) - such as signatures. Each article includes one or more pages (205), which are punched to define a row of through-holes (215); the row of through-holes is adapted to receive a binding element (such as a coil) for binding a block of articles (125). For each article, a corresponding method (A1-A11) starts with the step of acquiring (A1u-A2u,A1d-A2d) one or more images (305u,305d) of the article; each image provides a digital representation of at least an edge portion of the article, which includes the row of through-holes (or a part thereof). The images are **processed** (A3u,A2d'-A3d) to determine a position (Ds,Db,Ds',Db') of the row of through-holes. It is then possible to verify (A4-A7) a correctness of the article according to the position of the row of through-holes.

Classifications:
International (IPC 8-9): B26F1/02 B42B5/00 G06K9/03
CPC: B26D5/00 B26F1/02 B42B5/08 B42D1/004 G06T2207/30108 G06T7/0006

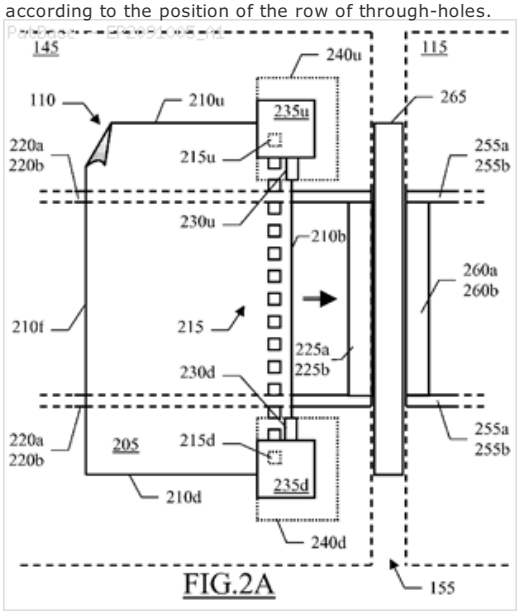


FIG.2A

Family:

Publication number	Publication date	Application number	Application date
DE602008017050 D1	20120906	DE200860017050T	20080215
EP2091005 A1	20090819	EP20080101650	20080215
EP2091005 B1	20120711	EP20080101650	20080215

Priority:

EP20080101650 20080215

Probable Assignee: MECCANOTECNICA SPA
Assignee(s): (std): MECCANOTECNICA SPA
Assignee(s): MECCANOTECNICA GAZZANIGA SPA
Inventor(s): (std): BOCCALARI DAVIDE ; CORDELLA ALFREDO
Agent(s): PEZZOLI ENNIO
Designated states: AL BA CH DE IT LI MK RS

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
EP2091005 A1	20090819	LSPB	+	published / reissued	
EP2091005 A1	20090819	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20090205
EP2091005 A1	20090819		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MT NL NO PL PT RO SE SI SK TR
EP2091005 A1	20090819		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: AL BA MK RS
EP2091005 A1	20100428	LSFE	+AKX	DESIGNATION FEES PAID	Country of Ref document: CH DE IT LI
EP2091005 B1	20120711	LSGT	+	granted / extensions (spc, cpc, pte)	
EP2091005 B1	20120711		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: CH DE IT LI
EP2091005 B1	20120713	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: EP
EP2091005 B1	20120906	LSPB	REG	REFERENCE TO A NATIONAL	Effective date: 20120906

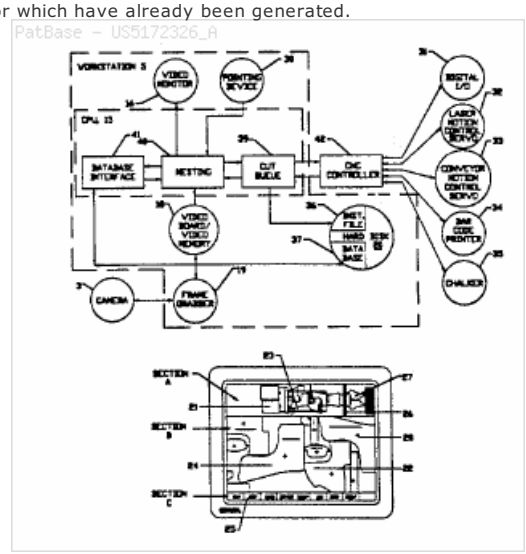
				CODE	Ref country code: DE Ref document number: 602008017050 Ref legal event code: R096 Country of Ref document: DE
EP2091005 B1	20130430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20130125 Year of fee payment: 6 Country of Ref document: CH
EP2091005 B1	20130619	LSGT	+26N	NO OPPOSITION FILED	Effective date: 20130412
EP2091005 B1	20130731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20130429 Year of fee payment: 6 Country of Ref document: DE
EP2091005 B1	20130808	LSRE	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20130412 Ref country code: DE Ref document number: 602008017050 Ref legal event code: R097 Country of Ref document: DE
EP2091005 B1	20140902	LSDW	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref document number: 602008017050 Ref legal event code: R119 Country of Ref document: DE
EP2091005 B1	20140930	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: PL
EP2091005 B1	20141031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20140228 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: LI
EP2091005 B1	20141031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20140228 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: CH
EP2091005 B1	20141204	LSDW	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20140902 Ref country code: DE Ref document number: 602008017050 Ref legal event code: R119 Country of Ref document: DE
EP2091005 B1	20150130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20140902 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: DE
EP2091005 B1	20160630	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20140215 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: IT
EP2091005 B1	20280215	PEXP		Calculated Patent Term Expiry	

83) Family number: 10972213 (US5172326 A)

Title: PATTERNED WEB CUTTING METHOD AND SYSTEM FOR OPERATION MANIPULATION OF **DISPLAYED** NESTED TEMPLATES RELATIVE TO A **DISPLAYED** IMAGE OF A PATTERNED WEB

Abstract: A method and system for cutting a web, such as a patterned fabric, **displays** a nested template pattern for the fabric along with a superimposed image of the fabric on a **display** screen, to allow the nested template pattern to be moved relative to the fabric image, under operator control. The nested template pattern may be moved as a whole, and individual templates may be moved, rotated or warped, so that a new template pattern is produced which is aligned to the fabric image, notwithstanding defects such as skew, bow or uneven repeat in the fabric. Once produced, the new template pattern is converted into customized cutting instructions for the fabric. The customized instructions are used to control a cutting station, for example a laser cutting station, to cut each section of fabric according to its customized cutting instructions. High speed cutting of patterned fabric may be provided by simultaneously capturing the image of a first section of fabric, generating a customized template pattern for a second section of fabric, the image of which has already been captured, and cutting a third section of fabric, the customized cutting instructions for which have already been generated.

Classifications:
International (IPC 8-9): B26D5/00 B26F1/38 G06Q10/00 G06Q10/04
International (IPC 1-7): G06F15/46
CPC: B23K2101/16 B23K2103/38 B23K2103/50 B23K26/032 B23K26/0838 B23K26/38 B26D2005/002 B26D5/00 B26D5/005 B26D5/007 B26F1/38 B26F1/382 B26F3/004 G06Q10/043
US: 364/470 364/474.08 364/494.09 700/134 700/167



Family:

Publication number	Publication date	Application number	Application date
US5172326 A	19921215	US19900495716	19900319

Priority:
US19900495716 19900319

Probable Assignee: AUTOMATED SOLUTIONS LLC
Assignee(s): (std): FORCAM INC
Assignee(s): AUTOMATED SOLUTIONS LLC ; FORCAM INCORPORATED
Inventor(s): (std): CAMPBELL JR ROBERT L ; HICKMAN II HARRY S ; HOLSHOUSER THOMAS E ; ICENHOUR GARY L

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
US5172326 A	19900319	LSAS	AS	ASSIGNMENT	Effective date: 19900316 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST.;ASSIGNORS:CAMPBELL, ROBERT LE ROY JR.;HICKMAN, HARRY S. II;HOLSHOUSER, THOMAS E.;AND OTHERS;REEL/FRAME:005255/0547 Owner: FORCAM INCORPORATED, NORTH CAROLINA PartyType: owner
US5172326 A	19921202	LSGT	PAT1	Patented Case	
US5172326 A	19921215	LSGT	+	granted / extensions (spc, cpc, pte)	
US5172326 A	19940111	LSRE	CC	CERTIFICATE OF CORRECTION	
US5172326 A	19960606	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US5172326 A	19960830	LSAS	AS	ASSIGNMENT	Effective date: 19960501 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:FORCAM, INC.;REEL/FRAME:008104/0788 Owner: AUTOMATED SOLUTIONS, L.L.C., NORTH CAROLINA PartyType: owner
US5172326 A	20000711		REMI	MAINTENANCE FEE REMINDER MAILED	
US5172326 A	20001217	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	

US5172326 A	20010220	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20001215
US5172326 A	20100319	PEXP		Calculated Patent Term Expiry	
US5172326 A	20180128	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US5172326 A	20180128	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362

84) Family number: 509345 (FR2089139 A5)

Title: THERMAL TREATMENT OF WORKPIECES

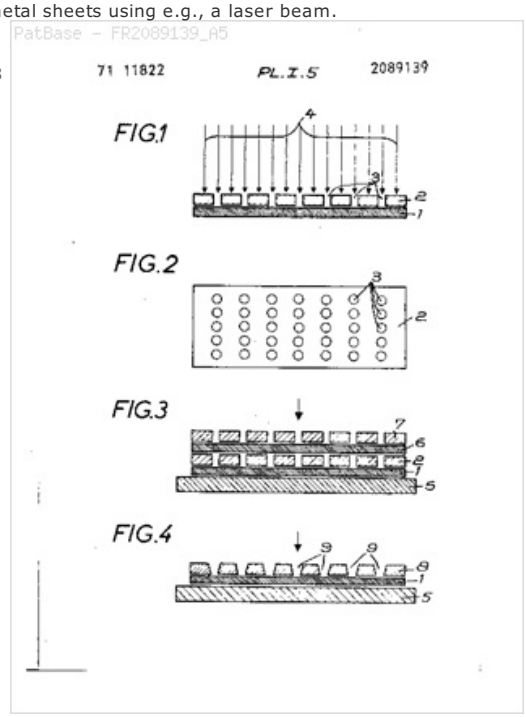
Abstract: A workpiece is only made accessible for a thermal energy source via free apertures which are housed in an auxiliary tool in the immediate vicinity of the workpiece,whilst the energy is simultaneously distributed over the appropriate aperture area. Method may be used for perforating thin plastics or metal sheets using e.g., a laser beam.

Classifications:

International (IPC 8-9): B23K15/08 B23K26/00 B23K26/38 B23K26/382 B23K26/40 B23K26/402 B26F1/00 B26F1/26 B29C35/08 B29C59/00 B29C59/16 B29C71/00 B29C71/04 B32B27/00 G21K1/02

International (IPC 1-7): B01J1/12 B23K15/00 B23K29/00 B23P1/00 B26F1/00 B29C17/10 B29C25/00 B29D7/22 G21K1/00

CPC: B23K15/085 B23K2101/16 B23K2103/42 B23K2103/50 B23K26/382 B23K26/40 B26F1/26 B29C2035/0822 B29C2035/0838 B29C2035/0877 B29C59/16 B29C71/04 B29L2007/008 B29L2031/737 B32B27/00 G21K1/025



Family:

Publication number	Publication date	Application number	Application date
DE2016093 A1	19720210	DE19702016093	19700403
FR2089139 A5	19720107	FR19710011822	19710402
NL7104456 A	19711005	NL19710004456	19710402

Priority:

DE19702016093 19700403

Probable Assignee: STEIGERWALD STRAHLTECH

Assignee(s): (std)**:** STEIGERWALD STRAHLTECH

Assignee(s): STEIGERWALD STRAHLTECHNI

Legal status (INPADOC)

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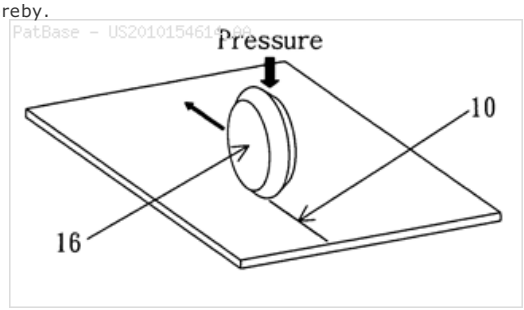
Patent	Date recorded	Event group	Code	Event	Details
DE2016093 A1	19720210	LSPB	+	published / reissued	
FR2089139 A5	19720107	LSGT	+	granted / extensions (spc, cpc, pte)	
FR2089139 A5	19750613	LSLE	-ST	NOTIFICATION OF LAPSE	
FR2089139 A5	19910402	PEXP		Calculated Patent Term Expiry	
NL7104456 A	19711005	LSPB	+	published / reissued	

85) Family number: 45551971 (US2010154614 AA)

Title: METHOD AND DEVICE FOR VIBRATION ASSISTED SCRIBING **PROCESS** ON A SUBSTRATE

Abstract: The present invention provides a vibration assistant scribing apparatus for generating an indentation having a median crack of a depth on a substrate and the method for the same. The provided vibration assistant scribing apparatus includes a clamping device clamping a scribing wheel for scribing the substrate; a moving pedestal having a pressure device configured thereon, the pressure device providing a pressure to the scribing wheel through the clamping device; and a vibration generator configured on the clamping device and providing a vibration force to the scribing wheel through the clamping device, so as to increase the depth of the median crack thereby.

Classifications:
International (IPC 8-9): B26D3/08 B26F3/00 B28D1/22 C03B33/02 C03B33/027
CPC: B26D3/08 B26D7/086 B26F3/002 B28D5/0011 C03B33/027 C03B33/107 Y10T225/12 Y10T225/321 Y10T83/0341 Y10T83/0385
US: 225/2 225/96 83/880 83/886



Family:

Publication number	Publication date	Application number	Application date
TW201024238 A	20100701	TW20080149349	20081218
TWI365175 B	20120601	TW20080149349	20081218
US2010154614 AA	20100624	US20090591811	20091202

Priority:
TW20080149349 20081218

Probable Assignee: LIAO YUNN SHIUAN
Assignee(s): (std): LIAO YUNN SHIUAN ; NATIONAL TAIWAN UNIV ; UNIV NAT TAIWAN
Assignee(s): NATIONAL TAIWAN UNIVERSITY
Inventor(s): (std): HSU YU SHENG ; LIAO YUNN SHIUAN ; MYA SAW CHI
Agent(s): BACON AND THOMAS PLLC

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
TW201024238 A	20100701	LSPB	+	published / reissued	
TWI365175 B	20120601	LSGT	+	granted / extensions (spc, cpc, pte)	
TWI365175 B	20281218	PEXP		Calculated Patent Term Expiry	
US2010154614 AA	20091202	LSAS	AS	ASSIGNMENT	PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:LIAO, YUNN-SHIUAN;HSU, YU-SHENG;MYA, SAW CHI;SIGNING DATES FROM 20091013 TO 20091014;REEL/FRAME:023630/0361 Owner: LIAO, YUNN-SHIUAN,TAIWAN
US2010154614 AA	20100624	LSPB	+	published / reissued	
US2010154614 AA	20120925	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2010154614 AA	20120925		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION

86) Family number: 46420724 (US2010194011 AA)

Title: MATERIAL SHEET HANDLING SYSTEM AND **PROCESSING** METHODS

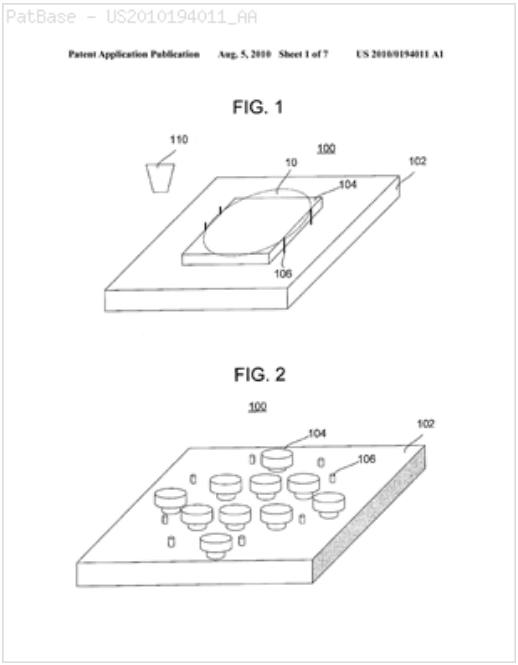
Abstract: Methods and apparatus provide for delivering a controlled supply of gas to at least one aero-mechanical device to impart a gas flow to suspend a material sheet; preventing lateral movement of the material sheet in at least one direction when suspended; and imparting a stream of water, from a side of the material sheet opposite the at least one aero-mechanical device, to dice the material sheet when suspended.

Classifications:

International (IPC 8-9): B23K26/14 B23Q3/00 B23Q3/02 B24B49/00 B24C1/00 B24C1/04 B24C3/00 B24C3/04 B25B1/00 B25B11/00 B26F3/00 B28D5/00 B65G25/00 H01L21/00 H01L21/302 H01L21/304 H01L21/683 H01L21/78

CPC: B28D5/0047 B28D5/0052 B33Y80/00 H01L21/67017 H01L21/67092 H01L21/6838 H01L21/78 Y10T83/0591 Y10T83/364

US: 269/20 269/20P 269/21 414/160 438/460 438/745 451/11 451/8 83/177 83/177S 83/53 83/53S



Family:

Publication number	Publication date	Application number	Application date
CN102301446 A	20111228	CN201080007074	20100129
EP2392024 A2	20111207	EP20100704254	20100129
TW201036774 A	20101016	TW20100102745	20100129
US2010194011 AA	20100805	US20090364183	20090202
US8528886 BB	20130910	US20090364183	20090202
US2013302971 AA	20131114	US20130946490	20130719
WO10088501 A2	20100805	WO2010US22558	20100129
WO10088501 A3	20110512	WO2010US22558	20100129

Priority:

US20090364183 20090202 WO2010US22558 20100129 US20130946490 20130719

Probable Assignee: CORNING INC

Assignee(s): (std): CHANG CHESTER H ; CHANG CHESTER HANN HUEI ; CORNING CO LTD ; CORNING INC ; MOORE MICHAEL J ; MOORE MICHAEL JOHN ; NISHIMOTO MICHAEL Y ; NISHIMOTO MICHAEL YOSHIYA ; ZHANG CHUNHE

Assignee(s): CORNING INCORPORATED ; CORNING INCORPORATEDUS

Inventor(s): (std): CHANG CHESTER H ; CHANG CHESTER HANN HUEI ; MOORE MICHAEL J ; MOORE MICHAEL JOHN ; NISHIMOTO MICHAEL Y ; NISHIMOTO MICHAEL YOSHIYA ; ZHANG CHUNHE

Agent(s): CORNING INC; RYAN T; SCOTT STEVEN J; STURM CHRISTOPH

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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
CN102301446 A	20111228	LSPB	+	published / reissued	
CN102301446 A	20111228	LSPB	+C06	PUBLICATION	
CN102301446 A	20120215		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
CN102301446 A	20140827	LSDW	-C02	DEEMED WITHDRAWAL OF PATENT APPLICATION AFTER PUBLICATION (PATENT LAW	

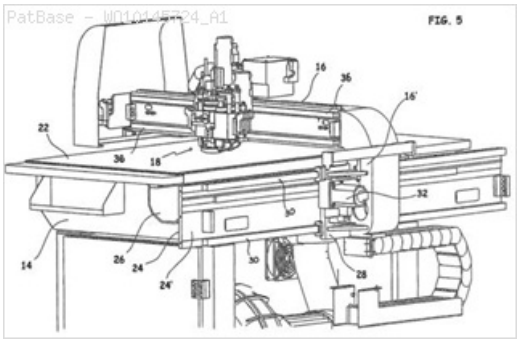
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EP2392024 A2	20111207	LSPB	+	published / reissued	
EP2392024 A2	20111207	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20110803
EP2392024 A2	20111207		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: 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
EP2392024 A2	20120509		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP2392024 A2	20141231	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 20140801
TW201036774 A	20101016	LSPB	+	published / reissued	
US2010194011 AA	20100805	LSPB	+	published / reissued	
US2013302971 AA	20131114	LSPB	+	published / reissued	
US2013302971 AA	20150727	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2013302971 AA	20150727		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US8528886 BB	20090202	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:CHANG, CHESTER HANN HUEI;MOORE, MICHAEL JOHN;NISHIMOTO, MICHAEL YOSHIYA;AND OTHERS;SIGNING DATES FROM 20090120 TO 20090123;REEL/FRAME:022190/0531 Owner: CORNING INCORPORATED, NEW YORK PartyType: owner
US8528886 BB	20130821	LSGT	PAT1	Patented Case	
US8528886 BB	20130910	LSGT	+	granted / extensions (spc, cpc, pte)	
US8528886 BB	20170421		REMI	MAINTENANCE FEE REMINDER MAILED	
US8528886 BB	20171009	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	Text: PATENT EXPIRED FOR FAILURE TO PAY MAINTENANCE FEES (ORIGINAL EVENT CODE: EXP.)
US8528886 BB	20171009	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
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US8528886 BB	20171031	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20170910
US8528886 BB	20300812	PEXP		Calculated Patent Term Expiry (PTA 556 days)	
WO10088501 A2	20100129	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 201080007074.8 Country of Ref document: CN
WO10088501 A2	20100805	LSPB	+	published / reissued	
WO10088501 A2	20100929		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A2 Ref document number: 10704254 Country of Ref document: EP
WO10088501 A3	20110802	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO10088501 A3	20110803	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2010704254 Country of Ref document: EP

87) Family number: 47897114 (WO10145724 A1)

Title: TABLE FOR BLADE CUTTING OF MATERIALS, FOR EXAMPLE LEATHER, HIDE AND SYNTHETIC MATERIALS

Abstract: A table (10) for blade cutting of materials, especially suitable for shearing leather, hide and synthetic materials for obtaining, for example, semi-finished parts constituting parts of shoes, comprises a support base (12) for a working surface (14) with quadrangular plan whereon at least one cutting unit (18) works, carried by one or more arms (16); the structure forming said working surface (14) consists of at least one self-bearing single block of metal or other suitable material that comprises a beam (24) supporting said arm.

Classifications:
International (IPC 8-9): B23Q1/62 B26D7/20 B26D7/26 B26F1/38 C14B5/00
International (IPC 1-7): B23Q7/62 B26D7/20 B26D7/26 B26F1/38 C14B5/00
CPC: B26D7/20 B26D7/2614 B26F1/3813 C14B5/00



Family:

Publication number	Publication date	Application number	Application date
BRPI1010100 A2	20160315	BR2010PI10100	20100120
BRPI1010100 B1	20200714	BR2010PI10100	20100120
CN102481696 A	20120530	CN201080026849	20100120
CN102481696 B	20150722	CN201080026849	20100120
DE602010006292 D1	20130613	DE201060006292T	20100120
EP2442951 A1	20120425	EP20100702998	20100120
EP2442951 B1	20130417	EP20100702998	20100120
ITMI20090206 U1	20101218	IT2009MI00206U	20090617
VN14707 A1	20151125	VN20120000130	20100120
WO10145724 A1	20101223	WO2010EP00311	20100120

Priority:
IT2009MI00206U 20090617 WO2010EP00311 20100120 EP20100702998 20100120

Probable Assignee: ATOM SPA
Assignee(s): (std): ATOM SPA ; MIRABELLO ERNESTO
Assignee(s): ATOM VIGEVANO SPA
Inventor(s): (std): ERNESTO MIRABELLO ; MIRABELLO ERNESTO
Agent(s): LECCE GIOVANNI
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

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
BRPI1010100 A2	20160607	LSFE	-B08F	APPLICATION FEES: DISMISSAL - ARTICLE 86 OF INDUSTRIAL PROPERTY LAW	Text: REFERENTE A 6A ANUIDADE.
BRPI1010100 A2	20160913	LSFE	+B08G	APPLICATION FEES: RESTORATION	
BRPI1010100 A2	20190115		B06F	OBJECTIONS, DOCUMENTS AND/OR TRANSLATIONS NEEDED AFTER AN EXAMINATION REQUEST ACCORDING ART. 34 INDUSTRIAL PROPERTY LAW	
BRPI1010100 A2	20191008		B06U	PRELIMINARY REQUIREMENT: REQUESTS WITH SEARCHES PERFORMED BY OTHER PATENT OFFICES: SUSPENSION OF THE PATENT APPLICATION PROCEDURE	
BRPI1010100 A2	20200519	LSGT	B09A	DECISION: INTENTION TO	

				GRANT	
BRPI1010100 A2	20200714	LSGT	+B16A	PATENT OR CERTIFICATE OF ADDITION OF INVENTION GRANTED	Text: PRAZO DE VALIDADE: 10 (DEZ) ANOS CONTADOS A PARTIR DE 14/07/2020, OBSERVADAS AS CONDICOES LEGAIS.
BRPI1010100 B1	20300120	PEXP		Calculated Patent Term Expiry	
CN102481696 A	20120530	LSPB	+	published / reissued	
CN102481696 A	20120530	LSPB	+C06	PUBLICATION	
CN102481696 A	20120711		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
CN102481696 B	20150722	LSGT	+	granted / extensions (spc, cpc, pte)	
CN102481696 B	20150722	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN102481696 B	20300120	PEXP		Calculated Patent Term Expiry	
DE602010006292 D1	20121011		R079	AMENDMENT OF IPC MAIN CLASS	ClassificationScheme: IPC ClassificationSymbol: C14B0005000000 Text: PREVIOUS MAIN CLASS: B26D0007200000
EP2442951 A1	20120425	LSPB	+	published / reissued	
EP2442951 A1	20120425	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20111130
EP2442951 A1	20120425		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: 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
EP2442951 A1	20120926		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP2442951 A1	20121011		REG	REFERENCE TO A NATIONAL CODE	ClassificationScheme: IPC ClassificationSymbol: C14B0005000000 Ref country code: DE Ref document number: 602010006292 Ref legal event code: R079 Text: PREVIOUS MAIN CLASS: B26D0007200000 Country of Ref document: DE
EP2442951 A1	20121114		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: B23Q 1/62 20060101ALI20121011BHEP
EP2442951 A1	20121114		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: B26D 7/20 20060101ALI20121011BHEP
EP2442951 A1	20121114		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: B26D 7/26 20060101ALI20121011BHEP
EP2442951 A1	20121114		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: C14B 5/00 20060101AFI20121011BHEP
EP2442951 A1	20121114		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: B26F 1/38 20060101ALI20121011BHEP
EP2442951 A1	20160429	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20160125 Year of fee payment: 7 Country of Ref document: IT
EP2442951 A1	20160429	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20160104 Year of fee payment: 7 Country of Ref document: TR
EP2442951 A1	20170630	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20170112 Year of fee payment: 8 Country of Ref document: TR
EP2442951 A1	20170630	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO	Payment date: 20170131 Year of fee payment: 8 Country of Ref document: IT

				EPO]	
EP2442951 B1	20130417	LSGT	+	granted / extensions (spc, cpc, pte)	
EP2442951 B1	20130417		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: 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
EP2442951 B1	20130417	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: GB Ref legal event code: FG4D
EP2442951 B1	20130430	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: EP
EP2442951 B1	20130508	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: IE Ref legal event code: FG4D
EP2442951 B1	20130515	LSNP	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20130515 Kind code of Ref document: T Ref country code: AT Ref document number: 607360 Ref legal event code: REF Country of Ref document: AT
EP2442951 B1	20130613	LSPB	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20130613 Ref country code: DE Ref document number: 602010006292 Ref legal event code: R096 Country of Ref document: DE
EP2442951 B1	20130915	LSRV	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20130417 Kind code of Ref document: T Ref country code: AT Ref document number: 607360 Ref legal event code: MK05 Country of Ref document: AT
EP2442951 B1	20130925	LSRV	REG	REFERENCE TO A NATIONAL CODE	Ref country code: LT Ref legal event code: MG4D
EP2442951 B1	20131009	LSRV	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20130417 Ref country code: NL Ref legal event code: VDEP
EP2442951 B1	20131031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130417 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: AT
EP2442951 B1	20131031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130817 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: IS
EP2442951 B1	20131031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130718 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: GR
EP2442951 B1	20131031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130717 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: NO
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EP2442951 B1	20131031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130728 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: ES
EP2442951 B1	20131031	LSLE	-PG25	LAPSED IN A	Lapsed date: 20130417

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EP2442951 B1	20131031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130819 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: PT
EP2442951 B1	20131031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130417 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: FI
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EP2442951 B1	20131031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130417 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SE
EP2442951 B1	20131129	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130417 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: LV
EP2442951 B1	20131129	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130717 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: BG
EP2442951 B1	20131129	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130417 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: CY
EP2442951 B1	20131129	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130417 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: PL
EP2442951 B1	20131129	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130417 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: HR
EP2442951 B1	20140131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130417 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: EE
EP2442951 B1	20140131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130417 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SK

EP2442951 B1	20140131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130417 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: CZ
EP2442951 B1	20140131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130417 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: DK
EP2442951 B1	20140228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130417 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: RO
EP2442951 B1	20140228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130417 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: NL
EP2442951 B1	20140326	LSGT	+26N	NO OPPOSITION FILED	Effective date: 20140120
EP2442951 B1	20140430	LSRE	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20140120 Ref country code: DE Ref document number: 602010006292 Ref legal event code: R097 Country of Ref document: DE
EP2442951 B1	20140801	LSDW	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref document number: 602010006292 Ref legal event code: R119 Country of Ref document: DE
EP2442951 B1	20140829	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20140120 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: LU
EP2442951 B1	20140829	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: PL
EP2442951 B1	20140924	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	Effective date: 20140120 Ref country code: EP
EP2442951 B1	20141030	LSDW	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20140801 Ref country code: DE Ref document number: 602010006292 Ref legal event code: R119 Country of Ref document: DE
EP2442951 B1	20141031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20140801 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: DE
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EP2442951 B1	20141031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20140131 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: LI
EP2442951 B1	20141031	LSLE	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20140930 Ref country code: FR Ref legal event code: ST

EP2442951 B1	20141105	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: IE Ref legal event code: MM4A
EP2442951 B1	20141128	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20140131 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: FR
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EP2442951 B1	20150130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20140120 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: IE
EP2442951 B1	20150430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130417 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: MC
EP2442951 B1	20160229	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130417 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: MT
EP2442951 B1	20160429	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130417 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SM
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EP2442951 B1	20180531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20180122 Year of fee payment: 9 Country of Ref document: TR
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EP2442951 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190130 Year of fee payment: 10 Country of Ref document: IT
EP2442951 B1	20190531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190107 Year of fee payment: 10 Country of Ref document: TR
EP2442951 B1	20200501	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200131 Year of fee payment: 11 Country of Ref document: IT

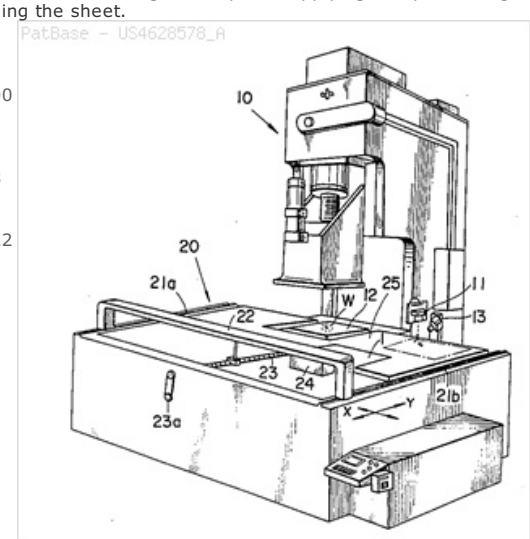
EP2442951 B1	20200630	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200107 Year of fee payment: 11 Country of Ref document: TR
EP2442951 B1	20300120	PEXP		Calculated Patent Term Expiry	
ITMI20090206 U1	20101218	LSPB	+	published / reissued	
VN14707 A1	20151125	LSGT	+	granted / extensions (spc, cpc, pte)	
WO10145724 A1	20100120	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 201080026849.6 Country of Ref document: CN
WO10145724 A1	20101223	LSPB	+	published / reissued	
WO10145724 A1	20110209		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A1 Ref document number: 10702998 Country of Ref document: EP
WO10145724 A1	20111130	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2010702998 Country of Ref document: EP
WO10145724 A1	20111219	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO10145724 A1	20121127		REG	REFERENCE TO NATIONAL CODE	Ref country code: BR Ref document number: PI1010100 Ref legal event code: B01A Country of Ref document: BR
WO10145724 A1	20160315	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Effective date: 20111216 Kind code of Ref document: A2 Ref document number: PI1010100 Country of Ref document: BR

88) Family number: 29760596 (US4628578 A)

Title: METHOD AND APPARATUS FOR AUTOMATIC PUNCHING

Abstract: A sheet of material is printed with a plurality of printed portions to be punched as a plurality of positioning marks near said printed portions. A camera is provided for a press machine for detecting center positions of the mark and the printed portions are positioned at a punching portion of the press based on the detected center positions Vacuum sucking means are provided to such the sheet mounted on a table and obliquely moving the sheet until its edge engages a stop member which corrects the attitude of the sheet. When a defective printed portion is detected, punching thereof is prevented. The apparatus is constructed to minimize the stroke of movement of the sheet during the steps of supplying and positioning it to the press machine and discharging a scrap remaining after punching the sheet.

Classifications:
International (IPC 8-9): B21D28/00 B21D28/02 B21D28/06 B21D28/24 B21D28/26 B21D43/00 B21D43/04 B21D43/10 B21D43/18 B23Q15/20 B23Q15/22 B23Q15/24 B26D7/06 B65G43/00 B65H5/08 B65H5/10 B65H9/00 B65H9/02 G02B7/28 G03B13/32 G03B3/00 G03B3/04
International (IPC 1-7): B21D28/00 B21D43/00 B21D43/04 B21D43/10 B21D43/18 B23Q15/22 B23Q17/00 B26D5/00 B26D5/38 B26D7/06 B26F1/00 B65G43/00 B65H5/10 B65H9/02 G03B3/00
CPC: B21D28/06 B21D28/265 B21D43/003 B23Q15/24 G05B2219/50386 Y10T29/49764 Y10T83/536 Y10T83/543 B23Q15/22
US: 29/407 29/407.01 83/367 83/371



Family:

Publication number	Publication date	Application number	Application date
DE3430463 A1	19850307	DE19843430463	19840818
JP60038630 U1	19850318	JP19830131565U	19830825
JP60044141 A2	19850309	JP19830151376	19830819
JP60094335 U1	19850627	JP19830184454U	19831129
JP60100730 U1	19850709	JP19830192814U	19831214
KR19850001859 A	19850410	KR19840004989	19840818
KR850001859 A	19850410	KR19840004989	19840818
KR890002789 B1	19890731	KR19840004989	19840818
US4628578 A	19861216	US19840640772	19840814

Priority:

JP19830151376 19830819 JP19830131565U 19830825 JP19830184454U 19831129 JP19830192814U 19831214

Probable Assignee: KOMATSU MFG CO LTD

Assignee(s): (std): KOMATSU MFG CO LTD ; KOMATSU SEISAKUSHO KK ; KOMATSU SEISHAKUSHYO CO LTD

Assignee(s): KABUSHIKI KAISHA KOMATSU SEISAKUSHO ; KOMATSU SEISAKUSHO A CORP KK ; KOMATSU SEISAKUSHO A CORP OF JAPAN KK ; KOMATSU SEISHAKUSHYO CO

Inventor(s): (std): YAJIMA TOSHIO ; YAZIMA TOSHIO

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
DE3430463 A1	19850307	LSPB	+	published / reissued	
DE3430463 A1	19850307	LSES	OR8	REQUEST FOR SEARCH AS TO PARAGRAPH 43 LIT. 1 SENTENCE 1 PATENT LAW	
DE3430463 A1	19850523	LSES	+8105	SEARCH REPORT AVAILABLE	
DE3430463 A1	19850814	LSES	+8110	REQUEST FOR EXAMINATION PARAGRAPH 44	
DE3430463 A1	19890601		8125	CHANGE OF THE MAIN CLASSIFICATION	ClassificationScheme: IPC ClassificationSymbol: B21D 43/11
DE3430463 A1	19940811	LSLE	-8139	DISPOSAL/NON-PAYMENT OF THE ANNUAL FEE	
JP60038630 U1	19850318	LSPB	+	published / reissued	

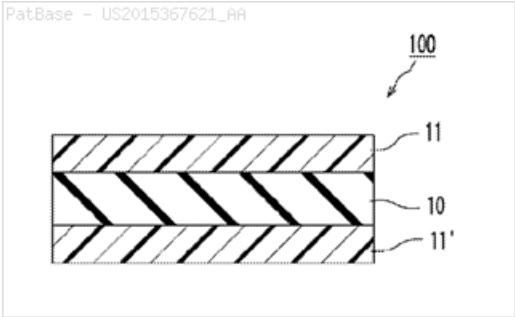
JP60044141 A2	19850309	LSPB	+	published / reissued	
JP60094335 U1	19850627	LSPB	+	published / reissued	
JP60100730 U1	19850709	LSPB	+	published / reissued	
KR19850001859 A	19850410	LSPB	+	published / reissued	
KR850001859 A	19850410	LSPB	+	published / reissued	
KR850001859 A	19860701	LSES	A201	REQUEST FOR EXAMINATION	
KR850001859 A	19881130	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR850001859 A	19890704	LSPB	G160	DECISION TO PUBLISH PATENT APPLICATION	
KR890002789 B1	19890731	LSGT	+	granted / extensions (spc, cpc, pte)	
KR890002789 B1	19891025	LSGT	+E701	DECISION TO GRANT OR REGISTRATION OF PATENT RIGHT	
KR890002789 B1	19891109	LSGT	+GRNT	WRITTEN DECISION TO GRANT	
KR890002789 B1	19920801	LSLE	-LAPS	LAPSE DUE TO UNPAID ANNUAL FEE	
KR890002789 B1	19990818	PEXP		Calculated Patent Term Expiry	
US4628578 A	19840814	LSAS	AS	ASSIGNMENT	Owner: KABUSHIKI KAISHA KOMATSU SEISAKUSHO, 3-6, AKASAKA OldParty: ASSIGNMENT OF ASSIGNORS INTEREST.;ASSIGNOR:YAJIMA, TOSHIO;REEL/FRAME:004299/0483 PartyType: owner Effective date: 19840801
US4628578 A	19861014	LSGT	PAT1	Patented Case	
US4628578 A	19861216	LSGT	+	granted / extensions (spc, cpc, pte)	
US4628578 A	19900608	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US4628578 A	19940726		REMI	MAINTENANCE FEE REMINDER MAILED	
US4628578 A	19941218	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US4628578 A	19950228	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 19951221
US4628578 A	20180123	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US4628578 A	20180123	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362

89) Family number: 57267732 (US2015367621 AA)

Title: METHOD FOR PRODUCING FLEXIBLE FILM

Abstract: There is provided a method of producing a flexible film (fragmented laminate) which has a smooth cut surface and is suppressed in breakage of a thin glass, the method including cutting a laminate having the thin glass and a resin layer. The method of producing a flexible film of the present invention includes cutting a laminate including a thin glass having a thickness of 100 micro m or less and a resin layer arranged on one side, or each of both sides, of the thin glass. The method of producing a flexible film includes the steps of forming a groove from an outer surface side of the resin layer and cutting the laminate along the groove.

Classifications:
International (IPC 8-9): B23K26/36 B23K26/364 B23K26/40 B26F3/00 B28D1/22 B28D5/00 B32B17/10 B32B37/00 B32B38/00 C03B33/02 C03B33/07 C03B33/08 G02F1/1333
CPC: B23K2103/172 B23K2103/54 B23K26/364 B23K26/40 B28D1/22 B32B17/064 B32B2037/1253 B32B2038/168 B32B2307/72 B32B2309/02 B32B2309/04 B32B2309/10 B32B2309/105 B32B2310/0831 B32B2310/0843 B32B2367/00 B32B2457/202 B32B2457/206 B32B38/0004 B32B38/145 C03B33/074 C03B33/082 G02F1/133305 Y10T156/1052 B23K26/367 B23K26/409 B32B17/10
US: 156/250



Family:

Publication number	Publication date	Application number	Application date
CN105073660 A	20151118	CN201480009734	20140220
EP2960216 A1	20151230	EP20140754843	20140220
EP2960216 A4	20161026	EP20140754843	20140220
JP2014159352 A2	20140904	JP20130031279	20130220
JP2017145188 A2	20170824	JP20170049199	20170314
JP6355783 B2	20180711	JP20170049199	20170314
KR20150105998 A	20150918	KR20157021841	20140220
US2015367621 AA	20151224	US20140767710	20140220
WO14129525 A1	20140828	WO2014JP53979	20140220

Priority:
JP20130031279 20130220 WO2014JP53979 20140220 JP20170049199 20170314

Probable Assignee: NITTO DENKO CORP
Assignee(s): (std): NITTO DENKO CORP
Inventor(s): (std): CUN ZHONGYI ; HATTORI DAISUKE ; KAMEYAMA TADAYUKI ; MURASHIGE TAKESHI
Agent(s): HOFFMANN EITLE; MOMII TAKAFUMI
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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
CN105073660 A	20151118	LSPB	+	published / reissued	
CN105073660 A	20151118	LSPB	+C06	PUBLICATION	
CN105073660 A	20151216		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
CN105073660 A	20171013	LSDW	-WD01	INVENTION PATENT APPLICATION DEEMED WITHDRAWN AFTER PUBLICATION	
EP2960216 A1	20151230	LSPB	+	published / reissued	
EP2960216 A1	20151230	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20150819
EP2960216 A1	20151230		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AL 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 RS SE SI SK SM TR
EP2960216 A1	20151230		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: BA ME
EP2960216 A1	20160525		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	

EP2960216 A1	20161026	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20160923
EP2960216 A1	20161026		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: B32B 37/00 20060101ALI20160919BHEP
EP2960216 A1	20161026		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: C03B 33/02 20060101AFI20160919BHEP
EP2960216 A1	20161026		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: B32B 17/10 20060101ALI20160919BHEP
EP2960216 A1	20171018	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 20170422
JP2014159352 A2	20140904	LSPB	+	published / reissued	
JP2014159352 A2	20151125	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Effective date: 20151125 Text: JAPANESE INTERMEDIATE CODE: A621
JP2014159352 A2	20160615	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20160615 Text: JAPANESE INTERMEDIATE CODE: A131
JP2014159352 A2	20161214	LSRV	-A02	DECISION OF REFUSAL	Effective date: 20161214 Text: JAPANESE INTERMEDIATE CODE: A02
JP2017145188 A2	20170609	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20170609 Text: JAPANESE INTERMEDIATE CODE: A523
JP2017145188 A2	20170824	LSPB	+	published / reissued	
JP2017145188 A2	20180117	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20180117 Text: JAPANESE INTERMEDIATE CODE: A131
JP2017145188 A2	20180122		A977	REPORT ON RETRIEVAL	Effective date: 20180118 Text: JAPANESE INTERMEDIATE CODE: A971007
JP2017145188 A2	20180314	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20180314 Text: JAPANESE INTERMEDIATE CODE: A523
JP2017145188 A2	20180516	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2017145188 A2	20180523	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Effective date: 20180523 Text: JAPANESE INTERMEDIATE CODE: A01
JP2017145188 A2	20180621	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	Effective date: 20180612 Text: JAPANESE INTERMEDIATE CODE: A61
JP6355783 B2	20180531	LSGT	+A01	特許査定書	
JP6355783 B2	20180619	LSFE	R100	特許料納付書	
JP6355783 B2	20180622	LSGT	+R150	特許証	
JP6355783 B2	20180711	LSGT	+	granted / extensions (spc, cpc, pte)	
JP6355783 B2	20370314	PEXP		Calculated Patent Term Expiry	
KR20150105998 A	20150812	LSES	A201	REQUEST FOR EXAMINATION	
KR20150105998 A	20150918	LSPB	+	published / reissued	
KR20150105998 A	20160629	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR20150105998 A	20160919	LSRV	-E601	DECISION TO REFUSE APPLICATION	
US2015367621 AA	20150914	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:MURASHIGE, TAKESHI;HATTORI, DAISUKE;KAMEYAMA, TADAYUKI;SIGNING DATES FROM 20150803 TO

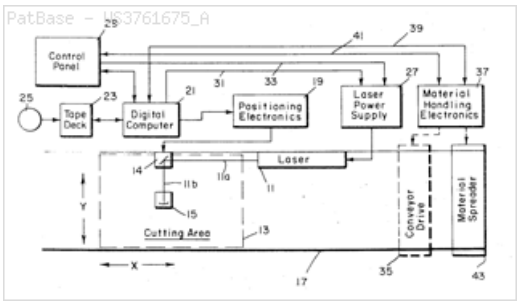
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US2015367621 AA	20170317	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2015367621 AA	20170317		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
WO14129525 A1	20140220	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 201480009734.4 Country of Ref document: CN
WO14129525 A1	20140828	LSPB	+	published / reissued	
WO14129525 A1	20141015		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A1 Ref document number: 14754843 Country of Ref document: EP
WO14129525 A1	20150812	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 20157021841 Country of Ref document: KR
WO14129525 A1	20150813	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 14767710 Country of Ref document: US
WO14129525 A1	20150819		+REEP	REQUEST FOR ENTRY INTO THE EUROPEAN PHASE	Ref document number: 2014754843 Country of Ref document: EP
WO14129525 A1	20150819	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2014754843 Country of Ref document: EP
WO14129525 A1	20150820	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE

90) Family number: 1201819 (US3761675 A)

Title: MATERIAL CUTTING AND PRINTING SYSTEM

Abstract: A cloth cutting system wherein cloth is carried in a single layer into a cutting area wherein a laser beam is focused on the cloth and is directed by computer commands to travel within the cutting area so as to cut a plurality of patterns through the cloth rapidly and accurately.

Classifications:
International (IPC 8-9): A41H3/00 B23K26/00 B23K26/04 B23K26/08 B23K26/14 B23K26/16 B23K26/18 B23K26/40 B23Q15/00 B26D5/00 B26F1/00 D06H7/00 D06H7/22
International (IPC 1-7): A41H43/00 B23K26/08 B23K27/00 B26F3/06 B26F3/14 D06H7/22 D06H7/24 G05B15/02 H01S
CPC: B23K2103/38 B23K2103/50 B23K26/04 B23K26/082 B23K26/0846 B23K26/147 B23K26/16 B23K26/18 B26F2210/12 B23K2203/38 B23K2203/50 B23K26/0807 B23K26/4055 B23K26/08 B23K26/142 B23K26/1438 B26D7/015 B26D7/0625 B26D7/1863 B26F3/16 D06H7/00 G06Q10/043 Y10S83/937 Y10S83/94 A41H3/00 B23K26/0006 B23K26/0853 B26F1/00
US: 219/12.1LM 219/121.61 219/121.67 219/121.72 219/121.74 219/121.8 219/121.82 347/106 347/4 700/134 700/135 700/166 700/167 83/937 83/940 219/-12.1LM



Family:

Publication number	Publication date	Application number	Application date
BE794242 A	19730516		00000000
BE794242 A1	19730516	BE19732052464	19730119
CH547157 A	19740329	CH19730000631	19730117
DE2301736 A1	19730802	DE19732301736	19730113
DE2301736 B2	19761223	DE19732301736	19730113
DE2301736 C3	19770804	DE19732301736	19730113
FR2173951 A1	19731012	FR19730001733	19730118
FR2173951 B1	19781124	FR19730001733	19730118
GB1382541 A	19750205	GB19730002445	19730117
IT976922 A	19740910	IT19730047732	19730117
JP48082491 A2	19731105	JP19730008503	19730119
JP4882491 A2	19731105	JP19730008503	19730119
NO139420 B	19781127	NO19730000229	19730118
NO139420 C	19790321	NO19730000229	19730118
SE414465 B	19800804	SE19730000588	19730116
SE414465 C	19801120	SE19730000588	19730116
US3769488 A	19731030	US19720218958	19720119
US3761675 A	19730925	US19720219007	19720119

Priority:
US19720218958 19720119 US19720219007 19720119

Probable Assignee: HUGHES AIRCRAFT CO

Assignee(s): (std): HUGHES AIRCRAFT CO

Assignee(s): HUGHES AIRCRAFT CO CULVER CITY CALIF (V ST A) ; HUGHES AIRCRAFT CO CULVER CITY CALIF V ST A ; HUGHES AIRCRAFT CO US ; HUGHES AIRCRAFT COMPANY ; HUGHES AIRCRAFT CY ; HUGHES AIRCRAFT CY CENTINELA AVENUE AND TEALE STREET CULVER CITY CALIFORNIE E U A ; HUGHES AIRCRAFT CY US

Inventor(s): (std): CONSIDINE D ; CONSIDINE D M ; CONSIDINE DOUGLAS M ; CONSIDINE DOUGLAS MAXWELL ; HASSLINGER R ; HASSLINGER R L ; HASSLINGER ROBERT L ; HASSLINGER ROBERT LEO ; MASON W ; MASON W J ; MASON WILLIAM J ; MASON WILLIAM JAMES ; VIOSCA F ; VIOSCA F J ; VIOSCA FELIX J ; VIOSCA FELIX JEROME ; WADE J ; WADE J P ; WADE J PH ; WADE JAMES P ; WADE JAMES PHILIP ; WILSON D ; WILSON D W ; WILSON DOUGLAS W ; WILSON DOUGLAS WESLEY

Inventor(s): CALIF ; CONSIDINE D US ; D M CONSIDINE ; D W WILSON ; F J VIOSCA ; HASSLINGER R US ; J P WADE ; J PH WADE ; MASON W US ; R L HASSLINGER ; SIMI ; VIOSCA F US ; W J MASON ; WADE J US ; WILSON D US

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
BE794242 A	19730516	LSPB	+	published / reissued	
BE794242 A1	19730516	LSPB	+	published / reissued	
CH547157 A	19740329	LSGT	+	granted / extensions (spc, cpc, pte)	
CH547157 A	19910930	LSLE	-PL	PATENT CEASED	
CH547157 A	19930117	PEXP		Calculated Patent Term Expiry	
DE2301736 A1	19730802	LSPB	+	published / reissued	
DE2301736 B2	19761223	LSPB	+	published / reissued	
DE2301736 B2	19770804	LSGT	+C3	GRANT AFTER TWO PUBLICATION STEPS (3RD PUBLICATION)	
DE2301736 B2	19771231		+E77	VALID PATENT AS TO THE HEYMANNS-INDEX 1977	
DE2301736 C3	19770804	LSGT	+	granted / extensions (spc, cpc, pte)	

FR2173951 A1	19731012	LSPB	+	published / reissued
FR2173951 B1	19781124	LSGT	+	granted / extensions (spc, cpc, pte)
FR2173951 B1	19911129	LSLE	-ST	NOTIFICATION OF LAPSE
FR2173951 B1	19930118	PEXP		Calculated Patent Term Expiry
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GB1382541 A	19750618	LSGT	+PS	PATENT SEALED
GB1382541 A	19910911	LSLE	-PCNP	PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE
GB1382541 A	19930117	PEXP		Calculated Patent Term Expiry
IT976922 A	19740910	LSGT	+	granted / extensions (spc, cpc, pte)
IT976922 A	19930117	PEXP		Calculated Patent Term Expiry
JP48082491 A2	19731105	LSPB	+	published / reissued
JP4882491 A2	19731105	LSPB	+	published / reissued
NO139420 B	19781127	LSPB	+	published / reissued
NO139420 C	19790321	LSGT	+	granted / extensions (spc, cpc, pte)
NO139420 C	19930118	PEXP		Calculated Patent Term Expiry
SE414465 B	19800804	LSPB	+	published / reissued
SE414465 C	19801120	LSGT	+	granted / extensions (spc, cpc, pte)
SE414465 C	19930116	PEXP		Calculated Patent Term Expiry
US3761675 A	19730925	LSGT	+	granted / extensions (spc, cpc, pte)
US3761675 A	19920119	PEXP		Calculated Patent Term Expiry
US3769488 A	19731030	LSGT	+	granted / extensions (spc, cpc, pte)
US3769488 A	19920119	PEXP		Calculated Patent Term Expiry

91) Family number: 30788443 (US2006148641 AA)

Title: METHOD AND DEVICE FOR SEPARATING PASTY MATERIALS

Abstract: A pasty molding material is divided by a **process** wherein, for the division, the pasty molding material is brought into contact with at least on stream containing at least one fluid medium.

Classifications:
International (IPC 8-9): B01J B01J2/20 B01J29/00 B01J29/04 B26F B26F3/00 B29B B29B9/02 B29B9/06 B29C49/08 C01B39/00 C01B39/02
International (IPC 1-7): B01J2/20 B26F3/00 B29B9/06 B29C37/00 B29C49/08 C01B39/02
CPC: B01J2/20 B26F3/004 B29B9/06
US: 264/140 264/142 264/143 264/157 264/504 264/628 264/638 264/640 264/646 264/82 423/700 502/60 264/140S 264/157S 264/504S 502/60P

Family:

Publication number	Publication date	Application number	Application date
AT491558 E	20110115	AT20040707925T	20040204
BRPI0406940 A	20060103	BR2004PI06940	20040204
CA2514943 AA	20050801	CA20042514943	20040204
CN100575028 C	20091230	CN200480003573	20040204
CN1747821 A	20060315	CN200480003573	20040204
DE10304611 A1	20040819	DE20031004611	20030205
DE502004011998 D1	20110127	DE200450011998T	20040204
EP1597045 A1	20051123	EP20040707925	20040204
EP1597045 B1	20101215	EP20040707925	20040204
IN01774CN2005 A	20070810	IN2005CN01774	20050802
IN220029 B	20080725	IN2005CN01774	20050802
JP2006516490 T2	20060706	JP20050518658T	20040204
KR101055717 B1	20110811	KR20057014282	20050803
KR20050105996 A	20051108	KR20057014282	20040204
MX280379 B	20101027	MX2005PA07907	20040204
MXPA05007907 A1	20050930	MX2005PA07907	20040204
MY162135 A	20170531	MY20040000325	20040204
RU2005127552 A	20060220	RU20050127552	20040204
RU2325994 C2	20080610	RU20050127552	20040204
SG169237 A1	20110330	SG20080081861	20040204
TH39551 B	20140403	TH20041000322	20040203
TH68333 A	20050427	TH20041000322	20040203
TW200507999 A	20050301	TW20040102607	20040205
US2006148641 AA	20060706	US20050543497	20050727
US7662320 BB	20100216	US20050543497	20050727
WO04069507 A1	20040819	WO2004EP01004	20040204
ZA200506231 A	20061025	ZA20050006231	20050804

Priority:
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Probable Assignee: BASF SE

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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 SN SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AT491558 E	20110115	LSGT	+	granted / extensions (spc, cpc, pte)	
AT491558 E	20240204	PEXP		Calculated Patent Term Expiry	
BRPI0406940 A	20060103	LSPB	+	published / reissued	
BRPI0406940 A	20120522	LSFE	-B08F	APPLICATION FEES: DISMISSAL - ARTICLE 86 OF INDUSTRIAL PROPERTY LAW	Text: REFERENTE AS 4A, 5A, 6A, 7A E 8A ANUIDADES.
BRPI0406940 A	20121030	LSLE	-B08K	LAPSE AS NO EVIDENCE OF PAYMENT OF THE ANNUAL FEE HAS BEEN FURNISHED TO INPI (ACC. ART. 87)	Text: REFERENTE AO DESPACHO 8.6 PUBLICADO NA RPI 2159 DE 22/05/2012.

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CA2514943 AA	20080204	LSLE	-FZDE	DEAD	
CN100575028 C	20091230	LSGT	+	granted / extensions (spc, cpc, pte)	
CN100575028 C	20091230	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN100575028 C	20240204	PEXP		Calculated Patent Term Expiry	
CN1747821 A	20060315	LSPB	+	published / reissued	
CN1747821 A	20060315	LSPB	+C06	PUBLICATION	
CN1747821 A	20060510		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
DE10304611 A1	20040819	LSPB	+	published / reissued	
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DE502004011998 D1	20101118	LSAS	R081	CHANGE OF APPLICANT/PATENTEE	OldParty: BASF AG, 67063 Ludwigshafen, DE Owner: BASF SE, 67063 Ludwigshafen, DE PartyType: Owner
EP1597045 A1	20051123	LSPB	+	published / reissued	
EP1597045 A1	20051123	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20050905
EP1597045 A1	20051123		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: 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
EP1597045 A1	20051123		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: AL LT LV MK
EP1597045 A1	20060524		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP1597045 A1	20071003	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20070904
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EP1597045 A1	20100317	LSRE	RTI1	TITLE (CORRECTION)	Text: METHOD FOR SEPARATING PASTY MATERIALS
EP1597045 A1	20160429	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20160224 Year of fee payment: 13 Country of Ref document: IT
EP1597045 A1	20160429	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20160225 Year of fee payment: 13 Country of Ref document: NL
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EP1597045 A1	20160531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20160225 Year of fee payment: 13 Country of Ref document: BE
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EP1597045 A1	20160729	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20160502 Year of fee payment: 13 Country of Ref document: DE
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EP1597045 B1	20101215		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: 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
EP1597045 B1	20101215	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: GB Ref legal event code: FG4D Text: NOT ENGLISH

EP1597045 B1	20101215	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: EP
EP1597045 B1	20110119	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: IE Ref legal event code: FG4D
EP1597045 B1	20110127		REF	CORRESPONDS TO:	Date of Ref document: 20110127 Kind code of Ref document: P Ref document number: 502004011998 Country of Ref document: DE
EP1597045 B1	20110316	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref country code: NL Ref legal event code: T3
EP1597045 B1	20110531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20110315 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: BG
EP1597045 B1	20110531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20101215 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: FI
EP1597045 B1	20110531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20101215 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: CY
EP1597045 B1	20110531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20101215 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SI
EP1597045 B1	20110531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20101215 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SE
EP1597045 B1	20110706	LSWD	REG	REFERENCE TO A NATIONAL CODE	Ref country code: IE Ref legal event code: FD4D
EP1597045 B1	20110729	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20101215 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: EE
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EP1597045 B1	20110930	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20110228 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: MC
EP1597045 B1	20111031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20101215 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: DK
EP1597045 B1	20111123	LSGT	+26N	NO OPPOSITION FILED	Effective date: 20110916
EP1597045 B1	20111123	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	Effective date: 20110315 Ref country code: EP
EP1597045 B1	20120112	LSRE	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20110916 Ref country code: DE Ref document number: 502004011998 Ref legal event code: R097 Country of Ref document: DE
EP1597045 B1	20120229	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20110315 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: GB
EP1597045 B1	20121215	LSLE	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20110204 Kind code of Ref document: T Ref country code: AT Ref document number: 491558 Ref legal event code: MM01 Country of Ref document: AT
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EP1597045 B1	20160229	LSFE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: FR Ref legal event code: PLFP Year of fee payment: 13 Country of Ref document: FR
EP1597045 B1	20170227	LSFE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: FR Ref legal event code: PLFP Year of fee payment: 14 Country of Ref document: FR
EP1597045 B1	20170428	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20170224 Year of fee payment: 14 Country of Ref document: CH
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IN220029 B	20250802	PEXP		Calculated Patent Term Expiry	
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JP2006516490 T2	20080611	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20080610 Text: JAPANESE INTERMEDIATE CODE: A131
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JP2006516490 T2	20100310	LSRV	-A02	DECISION OF REFUSAL	Effective date: 20100309 Text: JAPANESE INTERMEDIATE CODE: A02
KR101055717 B1	20110811	LSGT	+	granted / extensions (spc, cpc, pte)	
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KR20050105996 A	20100910	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
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RU2325994 C2	20240204	PEXP		Calculated Patent Term Expiry	
SG169237 A1	20110330	LSPB	+	published / reissued	
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TH39551 B	20240203	PEXP		Calculated Patent Term Expiry	
TH68333 A	20050427	LSPB	+	published / reissued	
TW200507999 A	20050301	LSPB	+	published / reissued	
US2006148641 AA	20060706	LSPB	+	published / reissued	
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					AKTIENGESELLSCHAFT,GERMANY PartyType: owner
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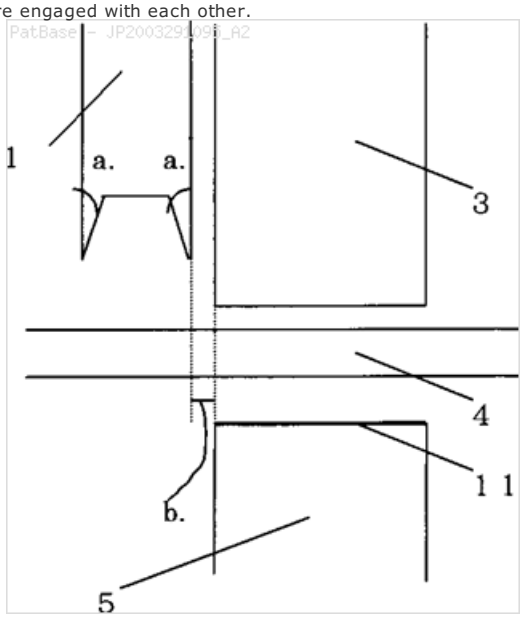
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ZA200506231 A	20061025	LSGT	+	granted / extensions (spc, cpc, pte)	
ZA200506231 A	20250803	PEXP		Calculated Patent Term Expiry	

92) Family number: 29404479 (JP2003291095 A2)

Title: **PROCESSING** METHOD FOR DIVIDING PLASTIC FILM SHEET OR **CELL**

Abstract: PROBLEM TO BE SOLVED: To provide a **processing** method for dividing a plastic film or plastic sheet free of occurrence of an exfoliation and excellent in the **productivity** and to provide a manufacturing method for **display** elements using this method. SOLUTION: The **processing** method for dividing a plastic film sheet 4 or a **cell** works with dies having cutting blades 1 arranged opposingly to be engaged with each other, wherein one blade is positioned on one plane while the confronting blade is fitted with a holddown plate 3 having a surface parallel with the first named blade and slidable in the vertical direction, whereby cutting of any work to be **processed** is conducted in such a condition that the work is held down by the first named blade and the holddown plate before the blades are engaged with each other.

Classifications:
International (IPC 8-9): B26F1/38 B26F1/40
International (IPC 1-7): B26F1/40



Family:

Publication number	Publication date	Application number	Application date
JP2003291095 A2	20031014	JP20020094221	20020329

Priority:

JP20020094221 20020329

Probable Assignee: SUMITOMO BAKELITE CO
Assignee(s): (std): SUMITOMO BAKELITE CO
Assignee(s): SUMITOMO BAKELITE CO LTD
Inventor(s): (std): KOSAKA WATARU ; TAKAHASHI MASARU

Legal status (INPADOC)

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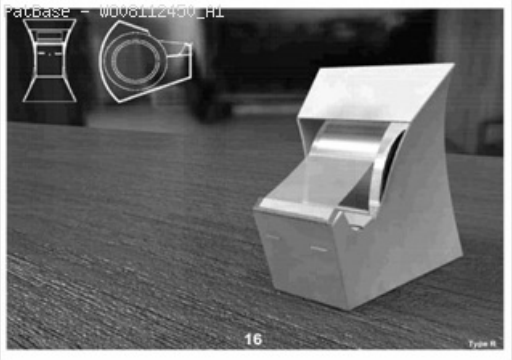
Patent	Date recorded	Event group	Code	Event	Details
JP2003291095 A2	20031014	LSPB	+	published / reissued	

93) Family number: 42160131 (WO08112450 A1)

Title: RECYCLABLE ADHESIVE TAPE DISPENSING **PRODUCT**

Abstract: A tape dispenser which is recyclable as a paper **product** is provided. The dispenser is fabricated from paperboard, molded pulp, and polylactide elements entirely or almost entirely, whereby, once the tape is exhausted, the dispenser may be easily recycled.

Classifications:
International (IPC 8-9): B26F3/00 B65H35/00
CPC: B65H35/0026



Family:

Publication number	Publication date	Application number	Application date
WO08112450 A1	20080918	WO2008US55639	20080303

Priority:

US20070894103P 20070309 US20070894137P 20070309 US20070894103 20070309

Probable Assignee: HENKEL CORP

Assignee(s): (std): CHUNG CHANSEOL ; HENKEL CORP ; TAYLOR CURTIS P ; WALSH DIANE L

Inventor(s): (std): CHUNG CHANSEOL ; TAYLOR CURTIS P ; WALSH DIANE L

Agent(s): YOUNG THOMAS E

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 LK LR LS LT LU LV LY MA MC MD ME 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

Legal status (INPADOC)

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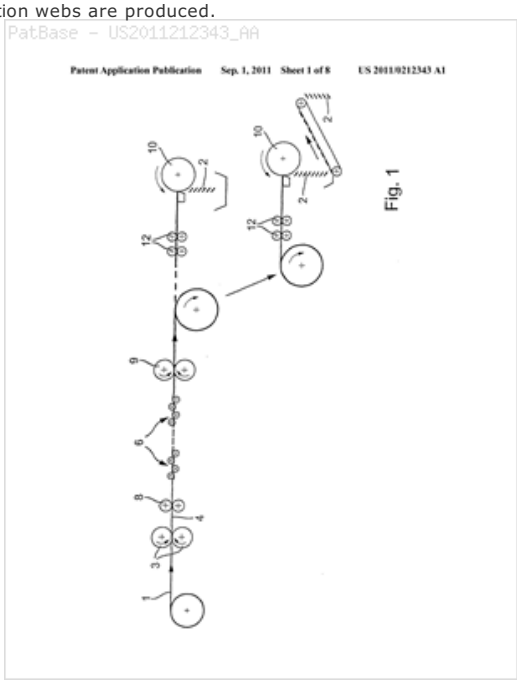
Patent	Date recorded	Event group	Code	Event	Details
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WO08112450 A1	20081105		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A1 Ref document number: 08731234 Country of Ref document: EP
WO08112450 A1	20090910	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO08112450 A1	20100505	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	Kind code of Ref document: A1 Ref document number: 08731234 Country of Ref document: EP

94) Family number: 44263391 (US2011212343 AA)

Title: METHOD FOR PRODUCING STEEL FIBERS

Abstract: A method of making steel fibers, preferably for use as a concrete additive, and for the supply thereof in making steel fiber concrete, characterized in that to form the steel fibers (2) first a sheet-metal strip (1) is notched either on one face or both faces so as to form steel-fiber wires (4) that are initially connected together by webs (5), and that further, for subsequently converting the webs (5) into thin easily mutually separable separation webs forming separation surfaces that are fracture-rough and low in burring upon separation, the steel-fiber strip is subjected to a flexing **process** in which each web (5) is subjected to multiple bending deformations about its longitudinal axis in such a way that incipient cracks are produced at the webs (5) due to fatigue fracture and thus the separation webs are produced.

Classifications:
International (IPC 8-9): B21B1/16 B21C37/00 B21D31/00 B23D B23D31/00 B23P B23P17/00 B23P17/06 B26F3/00 B32B3/12 C04B14/48 D01F9/08 D04H1/42 E04C E04C5/00 E04C5/01
International (IPC 1-7): B23D31/00 B23P17/06 E04C5/01
CPC: B21B1/163 B23D31/002 B23P17/06 B26F3/00 C04B14/48 E04C5/012 Y10T225/12 Y10T428/1234 Y10T428/12444
US: 1/1 225/2 225/2S 428/593 428/593P 428/608 72/199 72/362



Family:

Publication number	Publication date	Application number	Application date
AT551148 E	20120415	AT20090775880T	20090523
AU2009273628 AA	20100128	AU20090273628	20090523
AU2009273628 BB	20131205	AU20090273628	20090523
BRPI0916384 A2	20170822	BR2009PI16384	20090523
BRPI0916384 B1	20200714	BR2009PI16384	20090523
CA2730702 AA	20110112	CA20092730702	20090523
CA2730702 C	20130924	CA20092730702	20090523
CN102105262 A	20110622	CN200980128593	20090523
CN102105262 B	20140702	CN200980128593	20090523
DE102008034250 A1	20100128	DE200810034250	20080723
DE502009003157 D1	20120524	DE200950003157T	20090523
DK2310165 T3	20120529	DK20090775880T	20090523
EA018742 B1	20131030	EA20110070245	20090523
EA201170245 A1	20110830	EA20110070245	20090523
EG26197 A	20130415	EG20110010094	20110116
EP2310165 A1	20110420	EP20090775880	20090523
EP2310165 B1	20120328	EP20090775880	20090523
ES2385187 T3	20120719	ES20090775880T	20090523
HK1153983 A1	20120420	HK20110108327	20110809
HK1153983 B	20141121	HK20110108327	20110809
HR20120357 T1	20120531	HR20120000357	20120423
IL210654 A0	20110331	IL20090210654	20090523
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IN00323KN2011 A	20111125	IN2011KN00323	20110120
IN314021 B	20190614	IN2011KN00323	20110120
JP2011528626 T2	20111124	JP20110519021T	20090523
JP5432256 B2	20140305	JP20110519021T	20090523
KR101606952 B1	20160328	KR20117001866	20090523
KR20110050628 A	20110516	KR20117001866	20090523
MX2011000731 A1	20110601	MX20110000731	20090523
MY159987 A	20170215	MY20110000156	20090523
PL2310165 T3	20120928	PL20090775880T	20090523
PT2310165 T	20120412	PT20090775880T	20090523
RS52320 B	20121231	RS20120000237	20090523
SI2310165 T1	20120629	SI20090030250T	20090523
UA101387 C2	20130325	UA20110002104	20090523
US2011212343 AA	20110901	US20090002734	20090523
US2015202670 AA	20150723	US20150631297	20150225
US9630226 BB	20170425	US20150631297	20150225
VN13198 A1	20141027	VN20110000483	20090523

WO10009687 A1	20100128	WO2009DE000736	20090523
ZA201100886 A	20111026	ZA20110000886	20110203

Priority:

DE200810034250 20080723 WO2009DE000736 20090523 WO2009DE00736 20090523
EP20090775880 20090523 US20110002734 20110513 US20150631297 20150225

Probable Assignee: CENT AND CENT GMBH AND CO KG

Assignee(s): (std): CENT AND CENT GMBH AND CO KG ; STAHL KARL HERMANN

Assignee(s): D 89155 ERBACH

Inventor(s): (std): KARL HERMANN STAHL ; STAHL KARL HERMANN

Agent(s): CHINA PATENT AGENT HK LTD; DR YITZHAK HESS AND PARTNERS; DZIEWIOR JOACHIM; JA LINDEMAN AND CO PLLC; KIRBY EADES GALE BAKER; NAKAMURA SATOSHI; PATENTANWAELTE FAY AND DZIEWIOR; PU SEJIN; SPRUSON AND FERGUSON; TOMITA KATSUYUKI; TSUTADA AKIKO; TSUTADA MASATO

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

Legal status (INPADOC)

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AU2009273628 BB	20140403	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	
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CN102105262 A	20110622	LSPB	+	published / reissued	
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EG26197 A	20310116	PEXP		Calculated Patent Term Expiry	
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EP2310165 A1	20111026		RAX	REQUESTED EXTENSION STATES OF THE EUROPEAN PATENT HAVE CHANGED	Payment date: 20110112 Country of Ref document: BA
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EP2310165 A1	20160729	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20160511 Year of fee payment: 8 Country of Ref document: CH
EP2310165 A1	20160729	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20160520 Year of fee payment: 8 Country of Ref document: NO
EP2310165 A1	20160729	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM	Payment date: 20160509 Year of fee payment: 8 Country of Ref document: IE

				NATIONAL OFFICE TO EPO]	
EP2310165 A1	20160729	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20160518 Year of fee payment: 8 Country of Ref document: FI
EP2310165 A1	20160729	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20160523 Year of fee payment: 8 Country of Ref document: GB
EP2310165 A1	20160831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20160509 Year of fee payment: 8 Country of Ref document: AT
EP2310165 A1	20160831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20160203 Year of fee payment: 8 Country of Ref document: LV
EP2310165 A1	20160831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20160530 Year of fee payment: 8 Country of Ref document: NL
EP2310165 A1	20160831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20160527 Year of fee payment: 8 Country of Ref document: IT
EP2310165 A1	20160831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20160524 Year of fee payment: 8 Country of Ref document: SE
EP2310165 A1	20160831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20160307 Year of fee payment: 8 Country of Ref document: SI
EP2310165 A1	20160831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20160504 Year of fee payment: 8 Country of Ref document: DK
EP2310165 A1	20160831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20160428 Year of fee payment: 8 Country of Ref document: BE
EP2310165 A1	20160831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20160229 Year of fee payment: 8 Country of Ref document: HU
EP2310165 A1	20160831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20160518 Year of fee payment: 8 Country of Ref document: RO
EP2310165 A1	20161031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20160713 Year of fee payment: 8 Country of Ref document: DE
EP2310165 B1	20120328	LSGT	+	granted / extensions (spc, cpc, pte)	
EP2310165 B1	20120328		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: 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 TR
EP2310165 B1	20120328		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: BA RS
EP2310165 B1	20120328	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: GB Ref legal event code: FG4D

					Text: NOT ENGLISH
EP2310165 B1	20120330		REG	REFERENCE TO A NATIONAL CODE	PartyType: representative Ref country code: CH Ref legal event code: NV Representative: ISLER & PEDRAZZINI AG
EP2310165 B1	20120330	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: EP
EP2310165 B1	20120412		REG	REFERENCE TO A NATIONAL CODE	Effective date: 20120330 Ref country code: PT Ref legal event code: SC4A Text: AVAILABILITY OF NATIONAL TRANSLATION
EP2310165 B1	20120415	LSNP	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20120415 Kind code of Ref document: T Ref country code: AT Ref document number: 551148 Ref legal event code: REF Country of Ref document: AT
EP2310165 B1	20120423		REG	REFERENCE TO A NATIONAL CODE	Ref country code: HR Ref document number: P20120357 Ref legal event code: TUEP Country of Ref document: HR
EP2310165 B1	20120425	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: IE Ref legal event code: FG4D Text: LANGUAGE OF EP DOCUMENT: GERMAN
EP2310165 B1	20120523	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref country code: NL Ref legal event code: T3
EP2310165 B1	20120524	LSPB	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20120524 Ref country code: DE Ref document number: 502009003157 Ref legal event code: R096 Country of Ref document: DE
EP2310165 B1	20120529		REG	REFERENCE TO A NATIONAL CODE	Ref country code: DK Ref legal event code: T3
EP2310165 B1	20120531		REG	REFERENCE TO A NATIONAL CODE	Ref country code: HR Ref document number: P20120357 Ref legal event code: T1PR Country of Ref document: HR
EP2310165 B1	20120615		REG	REFERENCE TO A NATIONAL CODE	Effective date: 20120328 Ref country code: EE Ref document number: E006471 Ref legal event code: FG4A Country of Ref document: EE
EP2310165 B1	20120618	LSRE	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20120518 Ref country code: GR Ref document number: 20120400900 Ref legal event code: EP Country of Ref document: GR
EP2310165 B1	20120628	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref country code: RO Ref legal event code: EPE
EP2310165 B1	20120703		REG	REFERENCE TO A NATIONAL CODE	Ref country code: SK Ref document number: E 11613 Ref legal event code: T3 Country of Ref document: SK
EP2310165 B1	20120710		REG	REFERENCE TO A NATIONAL CODE	Ref country code: SE Ref legal event code: TRGR
EP2310165 B1	20120716	LSNP	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20120328 Ref country code: NO Ref legal event code: T2
EP2310165 B1	20120719	LSGT	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20120719 Kind code of Ref document: T3 Ref country code: ES Ref document number: 2385187 Ref legal event code: FG2A Country of Ref document: ES
EP2310165 B1	20120928	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20120328 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: CY
EP2310165 B1	20120928		REG	REFERENCE TO A NATIONAL CODE	Ref country code: PL Ref legal event code: T3
EP2310165 B1	20121031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20120728 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: IS
EP2310165 B1	20121231	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED	Lapsed date: 20120531 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES

				VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Country of Ref document: MC
EP2310165 B1	20130306	LSGT	+26N	NO OPPOSITION FILED	Effective date: 20130103
EP2310165 B1	20130425	LSRE	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20130103 Ref country code: DE Ref document number: 502009003157 Ref legal event code: R097 Country of Ref document: DE
EP2310165 B1	20130429	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref country code: HU Ref document number: E014583 Ref legal event code: AG4A Country of Ref document: HU
EP2310165 B1	20130731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20120328 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: MT
EP2310165 B1	20150630	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20150523 Year of fee payment: 7 Country of Ref document: MK
EP2310165 B1	20160210	LSFE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: FR Ref legal event code: PLFP Year of fee payment: 8 Country of Ref document: FR
EP2310165 B1	20170216	LSFE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: FR Ref legal event code: PLFP Year of fee payment: 9 Country of Ref document: FR
EP2310165 B1	20170428	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20170209 Year of fee payment: 9 Country of Ref document: EE
EP2310165 B1	20170428	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20170216 Year of fee payment: 9 Country of Ref document: FR
EP2310165 B1	20170428	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20170328 Year of fee payment: 9 Country of Ref document: LT
EP2310165 B1	20170428	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20170213 Year of fee payment: 9 Country of Ref document: GR
EP2310165 B1	20170531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20170210 Year of fee payment: 9 Country of Ref document: PT
EP2310165 B1	20170531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20170214 Year of fee payment: 9 Country of Ref document: PL
EP2310165 B1	20170531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20170221 Year of fee payment: 9 Country of Ref document: SK
EP2310165 B1	20170531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20170216 Year of fee payment: 9 Country of Ref document: BG
EP2310165 B1	20170531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20170220 Year of fee payment: 9 Country of Ref document: HR

EP2310165 B1	20170531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20170221 Year of fee payment: 9 Country of Ref document: CZ
EP2310165 B1	20170630	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20170308 Year of fee payment: 9 Country of Ref document: ES
EP2310165 B1	20170630	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20170317 Year of fee payment: 9 Country of Ref document: TR
EP2310165 B1	20170731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20170502 Year of fee payment: 9 Country of Ref document: DK
EP2310165 B1	20170731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20170509 Year of fee payment: 9 Country of Ref document: IE
EP2310165 B1	20170731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20170524 Year of fee payment: 9 Country of Ref document: GB
EP2310165 B1	20170731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20170518 Year of fee payment: 9 Country of Ref document: RO
EP2310165 B1	20170731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20170523 Year of fee payment: 9 Country of Ref document: NO
EP2310165 B1	20170731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20170511 Year of fee payment: 9 Country of Ref document: CH
EP2310165 B1	20170831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20170519 Year of fee payment: 9 Country of Ref document: FI
EP2310165 B1	20170831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20170215 Year of fee payment: 9 Country of Ref document: LV
EP2310165 B1	20170831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20170403 Year of fee payment: 9 Country of Ref document: SI
EP2310165 B1	20170831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20170515 Year of fee payment: 9 Country of Ref document: AT
EP2310165 B1	20170831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20170526 Year of fee payment: 9 Country of Ref document: IT
EP2310165 B1	20170831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20170428 Year of fee payment: 9 Country of Ref document: BE
EP2310165 B1	20170831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM	Payment date: 20170523 Year of fee payment: 9 Country of Ref document: SE

				NATIONAL OFFICE TO EPO]	
EP2310165 B1	20170831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20170414 Year of fee payment: 9 Country of Ref document: LU
EP2310165 B1	20170831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20170529 Year of fee payment: 9 Country of Ref document: NL
EP2310165 B1	20170929	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20170503 Year of fee payment: 9 Country of Ref document: HU
EP2310165 B1	20171031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20170712 Year of fee payment: 9 Country of Ref document: DE
EP2310165 B1	20180216	LSFE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: FR Ref legal event code: PLFP Year of fee payment: 10
EP2310165 B1	20180430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20180308 Year of fee payment: 10 Country of Ref document: LU
EP2310165 B1	20180430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20180326 Year of fee payment: 10 Country of Ref document: LT
EP2310165 B1	20180430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20180215 Year of fee payment: 10 Country of Ref document: CZ
EP2310165 B1	20180531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20180219 Year of fee payment: 10 Country of Ref document: TR
EP2310165 B1	20180531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20180202 Year of fee payment: 10 Country of Ref document: PT
EP2310165 B1	20180531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20180202 Year of fee payment: 10 Country of Ref document: HR
EP2310165 B1	20180531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20180215 Year of fee payment: 10 Country of Ref document: GR
EP2310165 B1	20180531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20180201 Year of fee payment: 10 Country of Ref document: EE
EP2310165 B1	20180531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20180216 Year of fee payment: 10 Country of Ref document: FR
EP2310165 B1	20180531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20180131 Year of fee payment: 10 Country of Ref document: BG
EP2310165 B1	20180531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM	Payment date: 20180201 Year of fee payment: 10 Country of Ref document: PL

				NATIONAL OFFICE TO EPO]	
EP2310165 B1	20180531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20180209 Year of fee payment: 10 Country of Ref document: SK
EP2310165 B1	20180629	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20170220 Year of fee payment: 9 Country of Ref document: MK
EP2310165 B1	20180731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20180502 Year of fee payment: 10 Country of Ref document: DK
EP2310165 B1	20180731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20180522 Year of fee payment: 10 Country of Ref document: NO
EP2310165 B1	20180731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20180601 Year of fee payment: 10 Country of Ref document: ES
EP2310165 B1	20180731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20180515 Year of fee payment: 10 Country of Ref document: CH
EP2310165 B1	20180731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20180510 Year of fee payment: 10 Country of Ref document: IE
EP2310165 B1	20180731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20180517 Year of fee payment: 10 Country of Ref document: FI
EP2310165 B1	20180831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20180504 Year of fee payment: 10 Country of Ref document: AT
EP2310165 B1	20180831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20180529 Year of fee payment: 10 Country of Ref document: IT
EP2310165 B1	20180831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20180522 Year of fee payment: 10 Country of Ref document: NL
EP2310165 B1	20180831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20180521 Year of fee payment: 10 Country of Ref document: RO
EP2310165 B1	20180831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20180213 Year of fee payment: 10 Country of Ref document: SI
EP2310165 B1	20180831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20180430 Year of fee payment: 10 Country of Ref document: BE
EP2310165 B1	20180831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20180130 Year of fee payment: 10 Country of Ref document: LV
EP2310165 B1	20180928	LSFE	+PGFP	ANNUAL FEE PAID	Payment date: 20180220

				TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 10 Country of Ref document: HU
EP2310165 B1	20180928	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20180523 Year of fee payment: 10 Country of Ref document: SE
EP2310165 B1	20181031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20180523 Year of fee payment: 10 Country of Ref document: GB
EP2310165 B1	20181031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20180714 Year of fee payment: 10 Country of Ref document: DE
EP2310165 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20180214 Year of fee payment: 10 Country of Ref document: MK
EP2310165 B1	20190419		REG	REFERENCE TO A NATIONAL CODE	Payment date: 20190402 Ref country code: HR Ref document number: P20120357 Ref legal event code: ODRP Year of fee payment: 11 Country of Ref document: HR
EP2310165 B1	20190628	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190523 Year of fee payment: 11 Country of Ref document: NL
EP2310165 B1	20190628	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190510 Year of fee payment: 11 Country of Ref document: LU
EP2310165 B1	20190731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190502 Year of fee payment: 11 Country of Ref document: DK
EP2310165 B1	20190731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190419 Year of fee payment: 11 Country of Ref document: LT
EP2310165 B1	20190731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190528 Year of fee payment: 11 Country of Ref document: IT
EP2310165 B1	20190731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190509 Year of fee payment: 11 Country of Ref document: IE
EP2310165 B1	20190731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190610 Year of fee payment: 11 Country of Ref document: ES
EP2310165 B1	20190731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190522 Year of fee payment: 11 Country of Ref document: NO
EP2310165 B1	20190731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190405 Year of fee payment: 11 Country of Ref document: PT
EP2310165 B1	20190731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM	Payment date: 20190410 Year of fee payment: 11 Country of Ref document: CZ

				NATIONAL OFFICE TO EPO]	
EP2310165 B1	20190731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190517 Year of fee payment: 11 Country of Ref document: FI
EP2310165 B1	20190731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190403 Year of fee payment: 11 Country of Ref document: PL
EP2310165 B1	20190830	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190425 Year of fee payment: 11 Country of Ref document: BE
EP2310165 B1	20190830	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190523 Year of fee payment: 11 Country of Ref document: SE
EP2310165 B1	20190830	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190404 Year of fee payment: 11 Country of Ref document: LV
EP2310165 B1	20190830	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190403 Year of fee payment: 11 Country of Ref document: EE
EP2310165 B1	20190830	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190408 Year of fee payment: 11 Country of Ref document: BG
EP2310165 B1	20190830	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190415 Year of fee payment: 11 Country of Ref document: SI
EP2310165 B1	20190830	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190506 Year of fee payment: 11 Country of Ref document: TR
EP2310165 B1	20190830	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190404 Year of fee payment: 11 Country of Ref document: GR
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EP2310165 B1	20190830	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190510 Year of fee payment: 11 Country of Ref document: HU
EP2310165 B1	20190830	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190515 Year of fee payment: 11 Country of Ref document: RO
EP2310165 B1	20190930	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190424 Year of fee payment: 11 Country of Ref document: SK

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EP2310165 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190523 Year of fee payment: 11 Country of Ref document: GB
EP2310165 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190507 Year of fee payment: 11 Country of Ref document: AT
EP2310165 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190715 Year of fee payment: 11 Country of Ref document: DE
EP2310165 B1	20191129	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190415 Year of fee payment: 11 Country of Ref document: MK
EP2310165 B1	20200501	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200207 Year of fee payment: 12 Country of Ref document: LV
EP2310165 B1	20200501	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200219 Year of fee payment: 12 Country of Ref document: GR
EP2310165 B1	20200501	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200217 Year of fee payment: 12 Country of Ref document: PL
EP2310165 B1	20200501	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200217 Year of fee payment: 12 Country of Ref document: PT
EP2310165 B1	20200501	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200217 Year of fee payment: 12 Country of Ref document: EE
EP2310165 B1	20200501	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200323 Year of fee payment: 12 Country of Ref document: LT
EP2310165 B1	20200501	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200213 Year of fee payment: 12 Country of Ref document: BG
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EP2310165 B1	20200529	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200214 Year of fee payment: 12 Country of Ref document: SK
EP2310165 B1	20200529	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200212 Year of fee payment: 12 Country of Ref document: CZ
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EP2310165 B1	20200630	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200302 Year of fee payment: 12 Country of Ref document: MK
EP2310165 B1	20200731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200519 Year of fee payment: 12 Country of Ref document: NO
EP2310165 B1	20200731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200520 Year of fee payment: 12 Country of Ref document: LU
EP2310165 B1	20200731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200513 Year of fee payment: 12 Country of Ref document: TR
EP2310165 B1	20200731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200519 Year of fee payment: 12 Country of Ref document: RO
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EP2310165 B1	20200731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200603 Year of fee payment: 12 Country of Ref document: ES
EP2310165 B1	20200731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200513 Year of fee payment: 12 Country of Ref document: CH
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EP2310165 B1	20200831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200525 Year of fee payment: 12 Country of Ref document: IT
EP2310165 B1	20200831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200522 Year of fee payment: 12 Country of Ref document: GB
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EP2310165 B1	20200831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200504 Year of fee payment: 12 Country of Ref document: HU
EP2310165 B1	20200831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200430 Year of fee payment: 12 Country of Ref document: BE
EP2310165 B1	20200930	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200312 Year of fee payment: 12 Country of Ref document: AT
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ES2385187 T3	20120719	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2385187 T3	20290523	PEXP		Calculated Patent Term Expiry	
HK1153983 A1	20120420	LSPB	+	published / reissued	
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HK1153983 B	20310809	PEXP		Calculated Patent Term Expiry	
HR20120357 T1	20120531	LSPB	+	published / reissued	
IL210654 A1	20150924	LSPB	+	published / reissued	
IL210654 A1	20160131	LSGT	+FF	PATENT GRANTED	
IL210654 A1	20160331	LSFE	+KB	PATENT RENEWED	
IL210654 A1	20190430	LSFE	+KB	PATENT RENEWED	
IN00323KN2011 A	20111125	LSPB	+	published / reissued	
IN314021 B	20190614	LSGT	+	granted / extensions (spc, cpc, pte)	
IN314021 B	20310120	PEXP		Calculated Patent Term Expiry	
JP2011528626 T2	20111124	LSPB	+	published / reissued	
JP2011528626 T2	20130220		A977	REPORT ON RETRIEVAL	Effective date: 20130220 Text: JAPANESE INTERMEDIATE CODE: A971007
JP2011528626 T2	20130227	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20130226 Text: JAPANESE INTERMEDIATE CODE: A131
JP2011528626 T2	20130523	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20130522 Text: JAPANESE INTERMEDIATE CODE: A523
JP2011528626 T2	20131118	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2011528626 T2	20131127	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Effective date: 20131126 Text: JAPANESE INTERMEDIATE CODE: A01
JP2011528626 T2	20131212	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	Effective date: 20131205 Text: JAPANESE INTERMEDIATE CODE: A61
JP5432256 B2	20131128	LSGT	+A01	特許査定書	
JP5432256 B2	20131128	LSGT	+A01	特許査定書	Effective date: 20131126
JP5432256 B2	20131210	LSFE	R100	特許料納付書	

JP5432256 B2	20131210	LSFE	R100	特許料納付書	Effective date: 20131205 Text: 51302549053
JP5432256 B2	20131213	LSGT	+R150	特許証	
JP5432256 B2	20131213	LSGT	+R150	特許証	Effective date: 20131224
JP5432256 B2	20140305	LSGT	+	granted / extensions (spc, cpc, pte)	
JP5432256 B2	20160923	LSFE	R20	特許料納付書	
JP5432256 B2	20160923	LSFE	R20	特許料納付書	Effective date: 20160921 Text: 51601973876
JP5432256 B2	20160927	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP5432256 B2	20160927	LSFE	+R250	年金領収書, 年金領収書 (分納)	
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JP5432256 B2	20170921	LSFE	R20	特許料納付書	
JP5432256 B2	20170921	LSFE	R20	特許料納付書	Effective date: 20170920 Text: 51701982697
JP5432256 B2	20170926	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP5432256 B2	20170926	LSFE	+R250	年金領収書, 年金領収書 (分納)	
JP5432256 B2	20170926	LSFE	+R250	年金領収書, 年金領収書 (分納)	Effective date: 20171003
JP5432256 B2	20181004	LSFE	R20	特許料納付書	
JP5432256 B2	20181004	LSFE	R20	特許料納付書	Effective date: 20180927 Text: 51801993863
JP5432256 B2	20181009	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP5432256 B2	20181009	LSFE	+R250	年金領収書, 年金領収書 (分納)	
JP5432256 B2	20181009	LSFE	+R250	年金領収書, 年金領収書 (分納)	Effective date: 20181016
JP5432256 B2	20190919	LSFE	R20	特許料納付書	
JP5432256 B2	20190919	LSFE	R20	特許料納付書	Effective date: 20190918 Text: 51901972347
JP5432256 B2	20190924	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP5432256 B2	20190924	LSFE	+R250	年金領収書, 年金領収書 (分納)	Effective date: 20191004
JP5432256 B2	20201001	LSFE	R20	特許料納付書	Effective date: 20200930 Text: 52002006189
JP5432256 B2	20290523	PEXP		Calculated Patent Term Expiry	
KR101606952 B1	20160328	LSGT	+	granted / extensions (spc, cpc, pte)	
KR101606952 B1	20181219	LSFE	FPAY	ANNUAL FEE PAYMENT	Payment date: 20181220 Year of fee payment: 4
KR101606952 B1	20191211	LSFE	FPAY	ANNUAL FEE PAYMENT	Payment date: 20191212 Year of fee payment: 5
KR101606952 B1	20290523	PEXP		Calculated Patent Term Expiry	
KR20110050628 A	20110516	LSPB	+	published / reissued	
KR20110050628 A	20140314	LSES	A201	REQUEST FOR EXAMINATION	
KR20110050628 A	20150819	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR20110050628 A	20160302	LSGT	+E701	DECISION TO GRANT OR REGISTRATION OF PATENT RIGHT	
KR20110050628 A	20160322	LSGT	+GRNT	WRITTEN DECISION TO GRANT	
MX2011000731 A1	20110601	LSPB	+	published / reissued	
MX2011000731 A1	20130627	LSGT	+FG	GRANT OR REGISTRATION	
MY159987 A	20170215	LSGT	+	granted /	

				extensions (spc, cpc, pte)	
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PL2310165 T3	20120928	LSGT	+	granted / extensions (spc, cpc, pte)	
PT2310165 T	20120412	LSGT	+	granted / extensions (spc, cpc, pte)	
PT2310165 T	20290523	PEXP		Calculated Patent Term Expiry	
RS52320 B	20121231	LSGT	+	granted / extensions (spc, cpc, pte)	
RS52320 B	20290523	PEXP		Calculated Patent Term Expiry	
SI2310165 T1	20120629	LSGT	+	granted / extensions (spc, cpc, pte)	
SI2310165 T1	20290523	PEXP		Calculated Patent Term Expiry	
UA101387 C2	20130325	LSGT	+	granted / extensions (spc, cpc, pte)	
UA101387 C2	20290523	PEXP		Calculated Patent Term Expiry	
US2011212343 AA	20110513	LSAS	AS	ASSIGNMENT	Effective date: 20110112 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:STAHL, KARL-HERMANN;REEL/FRAME:026275/0190 Owner: CENT & CENT GMBH & CO KG, GERMANY PartyType: owner
US2011212343 AA	20110901	LSPB	+	published / reissued	
US2011212343 AA	20150227	LSWD	ABD1	Abandoned -- After Examiner's Answer or Board of Appeals Decision	
US2011212343 AA	20150227		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- AFTER EXAMINER'S ANSWER OR BOARD OF APPEALS DECISION
US2015202670 AA	20150723	LSPB	+	published / reissued	
US2015202670 AA	20161220	LSAS	AS	ASSIGNMENT	Effective date: 20111201 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:STAHL, KARL-HERMANN;REEL/FRAME:040689/0603 Owner: CENT & CENT GMBH & CO. KG, GERMANY PartyType: owner
US2015202670 AA	20170405	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US9630226 BB	20150915	LSES	NFA1	Non Final Action Mailed	
US9630226 BB	20170405	LSGT	PAT1	Patented Case	
US9630226 BB	20170425	LSGT	+	granted / extensions (spc, cpc, pte)	
US9630226 BB	20200924	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 4
US9630226 BB	20350225	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
VN13198 A1	20141027	LSGT	+	granted / extensions (spc, cpc, pte)	
WO10009687 A1	20090523	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 200980128593.7 Country of Ref document: CN
WO10009687 A1	20100128	LSPB	+	published / reissued	
WO10009687 A1	20100317		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED	Kind code of Ref document: A1 Ref document number: 09775880 Country of Ref document: EP

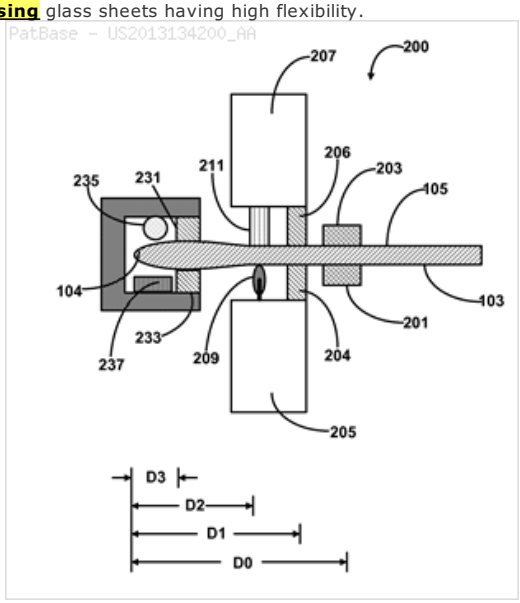
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WO10009687 A1	20110112	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 2730702 Country of Ref document: CA
WO10009687 A1	20110112	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2009775880 Country of Ref document: EP
WO10009687 A1	20110116	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2011010094 Country of Ref document: EG
WO10009687 A1	20110119	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: MX/A/2011/000731 Country of Ref document: MX
WO10009687 A1	20110120	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 323/KOLNP/2011 Country of Ref document: IN
WO10009687 A1	20110120	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 12011500140 Country of Ref document: PH
WO10009687 A1	20110121	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 0124011 Country of Ref document: KE
WO10009687 A1	20110124	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 2011519021 Country of Ref document: JP
WO10009687 A1	20110125	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 20117001866 Country of Ref document: KR
WO10009687 A1	20110216	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2009273628 Country of Ref document: AU
WO10009687 A1	20110222	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 201170245 Country of Ref document: EA
WO10009687 A1	20110223	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 12116 Country of Ref document: GE
WO10009687 A1	20110310	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Date of Ref document: 20090523 Kind code of Ref document: A Ref document number: 2009273628 Country of Ref document: AU
WO10009687 A1	20110513	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 13002734 Country of Ref document: US
WO10009687 A1	20120606	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: P-2012/0237 Country of Ref document: RS
WO10009687 A1	20170822	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Effective date: 20110121 Kind code of Ref document: A2 Ref document number: PI0916384 Country of Ref document: BR
ZA201100886 A	20111026	LSGT	+	granted / extensions (spc, cpc, pte)	
ZA201100886 A	20310202	PEXP		Calculated Patent Term Expiry	

95) Family number: 53855618 (US2013134200 AA)

Title: METHOD AND APPARATUS FOR REMOVING PERIPHERAL PORTION OF A GLASS SHEET

Abstract: **Process** for removing peripheral portions such as bead regions of a glass sheet including a step of pushing the glass sheet in the peripheral portion using a pushing mechanism such as a pushing bar, and corresponding apparatus. As a result of the use of the pushing mechanism, the engagement completion time for suction cups, if used, are reduced significantly. A **process** without using suction cups is enabled with enhanced yield. The increased **process** stability and enlarged **process** window are particularly advantageous for **processing** glass sheets having high flexibility.

Classifications:
International (IPC 8-9): B23K26/38 B26F3/00 B28D5/00 B67B7/00 C03B33/02 C03B33/03 C03B33/033 C03B33/09 C03B35/00
CPC: B65G2249/04 C03B33/0215 C03B33/0235 C03B33/033 C03B33/09 C03B33/091 Y02P40/57 Y10T225/12 Y10T225/321 B26F3/00
US: 225/2 225/96 30/2 30/96



Family:

Publication number	Publication date	Application number	Application date
CN104854044 A	20150819	CN201280068035	20121128
CN104854044 B	20170721	CN201280068035	20121128
JP2015502907 T2	20150129	JP20140544833T	20121128
JP6152530 B2	20170628	JP20140544833T	20121128
KR102022134 B1	20190917	KR20147017462	20121128
KR20140098202 A	20140807	KR20147017462	20121128
TW201332919 A	20130816	TW20120144766	20121129
TWI598307 B	20170911	TW20120144766	20121129
US2013134200 AA	20130530	US20110307503	20111130
US8756817 BB	20140624	US20110307503	20111130
WO13082089 A1	20130606	WO2012US66763	20121128

Priority:
US20110307503 20111130 WO2012US66763 20121128

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Assignee(s): (std): CAVALLARO III NICHOLAS DOMINIC ; CAVALLARO NICHOLAS DOMINIC III ; CORNING CO LTD ; CORNING INC ; HILL KEITH MITCHELL ; REIDY HARRY J ; REIDY HARRY JOSEPH ; WANG LIMING ; ZHENG ZHEMING ; ZHOU NAIYUE

Inventor(s): (std): CAVALLARO III NICHOLAS DOMINIC ; CAVALLARO NICHOLAS DOMINI III ; CAVALLARO NICHOLAS DOMINIC III ; HILL KEITH MITCHELL ; L WANG ; REIDY HARRY J ; REIDY HARRY JOSEPH ; WANG LIMING ; ZHENG ZHE MING ; ZHOU NAIYUE

Agent(s): BEALL THOMAS R; MATTHEW J; WILLIAM J

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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
CN104854044 A	20150819	LSPB	+	published / reissued	
CN104854044 A	20150916		EXSB	DECISION MADE BY SIPO TO INITIATE SUBSTANTIVE EXAMINATION	
CN104854044 B	20170721	LSGT	+	granted / extensions (spc, cpc, pte)	
CN104854044 B	20321128	PEXP		Calculated Patent Term Expiry	
JP2015502907 T2	20150129	LSPB	+	published /	

				reissued	
JP2015502907 T2	20151125	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Effective date: 20151125 Text: JAPANESE INTERMEDIATE CODE: A621
JP2015502907 T2	20161012		A977	REPORT ON RETRIEVAL	Effective date: 20161012 Text: JAPANESE INTERMEDIATE CODE: A971007
JP2015502907 T2	20161122	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20161122 Text: JAPANESE INTERMEDIATE CODE: A131
JP2015502907 T2	20170217	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20170217 Text: JAPANESE INTERMEDIATE CODE: A523
JP2015502907 T2	20170313	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2015502907 T2	20170321	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Effective date: 20170321 Text: JAPANESE INTERMEDIATE CODE: A01
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JP6152530 B2	20170425	LSFE	R100	特許料納付書	
JP6152530 B2	20170609	LSGT	+R150	特許証	
JP6152530 B2	20170628	LSGT	+	granted / extensions (spc, cpc, pte)	
JP6152530 B2	20321128	PEXP		Calculated Patent Term Expiry	
KR102022134 B1	20190917	LSGT	+	granted / extensions (spc, cpc, pte)	
KR102022134 B1	20321128	PEXP		Calculated Patent Term Expiry	
KR20140098202 A	20140807	LSPB	+	published / reissued	
KR20140098202 A	20171110	LSES	A201	REQUEST FOR EXAMINATION	
KR20140098202 A	20190225	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR20140098202 A	20190618	LSGT	+E701	DECISION TO GRANT OR REGISTRATION OF PATENT RIGHT	
KR20140098202 A	20190909	LSGT	+GRNT	WRITTEN DECISION TO GRANT	
TW201332919 A	20130816	LSPB	+	published / reissued	
TWI598307 B	20170911	LSGT	+	granted / extensions (spc, cpc, pte)	
TWI598307 B	20321129	PEXP		Calculated Patent Term Expiry	
US2013134200 AA	20130530	LSPB	+	published / reissued	
US8756817 BB	20120314	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:CAVALLARO III, NICHOLAS DOMINIC;HILL, KEITH MITCHELL;REIDY, HARRY J.;AND OTHERS;SIGNING DATES FROM 20111128 TO 20111130;REEL/FRAME:027863/0306 Owner: CORNING INCORPORATED, NEW YORK PartyType: owner
US8756817 BB	20140604	LSGT	PAT1	Patented Case	
US8756817 BB	20140624	LSGT	+	granted / extensions (spc, cpc, pte)	
US8756817 BB	20180205	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.)
US8756817 BB	20180723	LSLE	-LAPS	LAPSE FOR FAILURE	Text: PATENT EXPIRED FOR FAILURE

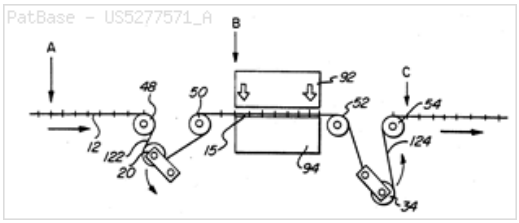
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US8756817 BB	20180723	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US8756817 BB	20180814	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20180624
US8756817 BB	20320802	PEXP		Calculated Patent Term Expiry (PTA 246 days)	
WO13082089 A1	20130606	LSPB	+	published / reissued	
WO13082089 A1	20130724		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A1 Ref document number: 12853304 Country of Ref document: EP
WO13082089 A1	20140529	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 2014544833 Country of Ref document: JP
WO13082089 A1	20140530	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO13082089 A1	20140625	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 20147017462 Country of Ref document: KR
WO13082089 A1	20141224	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	Kind code of Ref document: A1 Ref document number: 12853304 Country of Ref document: EP

96) Family number: 30862681 (US5277571 A)

Title: APPARATUS FOR PERFORATION OF A SHEET MATERIAL

Abstract: An apparatus for perforating a sheet material provides for a perforating die located intermediate two orbital rollers. The two orbital rollers move in orbital paths in the same orbital direction at the same speed and in positions which are 180 degrees apart. Each roller acts as a temporary storage input and output in opposite phase from each other so that incoming sheet material is alternately stored and dispensed as a loop on the orbital roller. Since the rollers are out of phase, this permits a segment of the sheet material to be stopped intermediate the orbital rollers so that the perforating die can act on the stopped segment.

Classifications:
International (IPC 8-9): B26D5/20 B26D5/22 B26F1/02 B65H20/00 B65H20/24 G01N33/577
International (IPC 1-7): B26D5/20 G01N33/558 G01N33/561 G01N33/564 G01N33/577
CPC: B26D5/22 B26F1/02 B65H20/24 B65H2301/4491 Y10T83/04 Y10T83/0481 Y10T83/444 Y10T83/4526 Y10T83/4529
US: 264/156 425/289 425/290 83/13 83/130 83/202 83/235 83/236 83/30



Family:

Publication number	Publication date	Application number	Application date
AU199338769 A1	19940120	AU19930038769	19930524
AU665677 B2	19960111	AU19930038769	19930524
US5277571 A	19940111	US19920916213	19920717
US5373761 A	19941220	US19930101320	19930802

Priority:
US19920916213 19920717 US19930101320 19930802

Probable Assignee: SCHMITT GEORGE AND CO INC
Assignee(s): (std): BECKMAN INSTRUMENTS INC ; GEORGE SCHMITT AND CO INC ; SCHMITT GEORGE AND CO INC
Assignee(s): GEORGE SCHMITT AND CO
Inventor(s): (std): BRINING RICHARD J ; CHEN FU TAI ALBERT ; KLEIN GERALD L ; LIU CHENG MING ; STERNBERG JAMES C ; WANG HANN PING
Inventor(s): CHENG MING LIU ; FU TAI ALBERT CHEN ; GERALD L KLEIN ; HANN PING WANG ; JAMES C STERNBERG
Agent(s): SHELSTON IP; SHELSTON IP PTY LTD

Legal status (INPADOC)

View legal status timeline

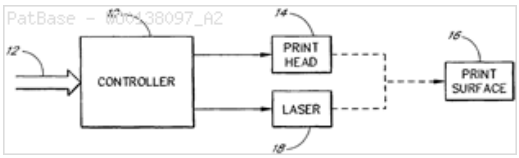
Patent	Date recorded	Event group	Code	Event	Details
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AU665677 B2	19960111	LSGT	+	granted / extensions (spc, cpc, pte)	
AU665677 B2	20130524	PEXP		Calculated Patent Term Expiry	
US5277571 A	19920717	LSAS	AS	ASSIGNMENT	Effective date: 19920622 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST.;ASSIGNOR:BRINING, RICHARD J.;REEL/FRAME:006217/0621 Owner: GEORGE SCHMITT & CO., INC., CONNECTICUT PartyType: owner
US5277571 A	19940111	LSGT	+	granted / extensions (spc, cpc, pte)	
US5277571 A	19970609	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US5277571 A	20010709	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US5277571 A	20050727		REMI	MAINTENANCE FEE REMINDER MAILED	
US5277571 A	20060111	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US5277571 A	20060208	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US5277571 A	20060208	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US5277571 A	20060307	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20060111
US5277571 A	20120717	PEXP		Calculated Patent Term Expiry	

US5373761 A	19941220	LSGT	+	granted / extensions (spc, cpc, pte)	
US5373761 A	19980618	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US5373761 A	20020709		REMI	MAINTENANCE FEE REMINDER MAILED	
US5373761 A	20020823	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US5373761 A	20020823		+SULP	SURCHARGE FOR LATE PAYMENT	Year of fee payment: 7
US5373761 A	20060705		REMI	MAINTENANCE FEE REMINDER MAILED	
US5373761 A	20061220	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US5373761 A	20070117	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US5373761 A	20070117	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US5373761 A	20070213	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20061220
US5373761 A	20130802	PEXP		Calculated Patent Term Expiry	

97) Family number: 30654546 (WO0138097 A2)

Title: DIGITAL MEDIA CUTTER

Abstract: A printer includes a rasterized laser illumination system. The printer may be an ink jet type and the application of laser light may be controlled digitally along with the ink droplet ejection. The media may be cut or etched with the laser, or heat may be applied to previously deposited ink.



Classifications:
International (IPC 8-9): B23K101/36 B23K26/00 B23K26/04 B23K26/067 B23K26/38 B23K26/40 B26D7/27 B26F1/38 B26F3/16 B41J11/66 B41J2/01 B41J2/44 B41J3/407 D21H27/00
International (IPC 1-7): B23K101/36 B23K26/00 B23K26/04 B41G7/00 B41J11/66 B41J11/68 B41J11/70 B41J2/01 B41J2/44 D21H27/00
CPC: B23K2101/22 B23K2103/38 B23K2103/40 B23K2103/42 B23K2103/50 B23K26/0608 B23K26/067 B23K26/382 B23K26/389 B26D7/27 B26F1/3806 B26F3/16 B41J11/66 B41J11/663 B41J2/01 B41J3/407 B23K2201/22 B23K2203/38 B23K2203/40 B23K2203/42 B23K2203/50

Family:

Publication number	Publication date	Application number	Application date
AU200143042 A1	20010604	AU20010043042	20001108
AU200143042 A5	20010604	AU20010043042	20001108
DE60018593 D1	20050414	DE20006018593T	20001108
DE60018593 T2	20060309	DE20006018593T	20001108
EP1227936 A2	20020807	EP20000992333	20001108
EP1227936 B1	20050309	EP20000992333	20001108
EP1428671 A1	20040616	EP20040005788	20001108
JP2003535713 T2	20031202	JP20010539683T	20001108
JP4869528 B2	20120208	JP20010539683T	20001108
WO0138097 A2	20010531	WO2000US42070	20001108
WO0138097 A3	20020502	WO2000US42070	20001108

Priority:

US19990436877 19991108 US19990436877 19991109 WO2000US42070 20001108 EP20000992333 20001108

Probable Assignee: ENCAD INC

Assignee(s): (std): EASTMAN KODAK CO ; ENCAD INC

Inventor(s): (std): SPANN DONALD E ; SPANN E

Inventor(s): DONALD E SPANN

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 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 UZ VN YU ZA ZW

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
AU200143042 A1	20010604	LSPB	+	published / reissued	
AU200143042 A5	20020718	LSLE	-MK6	APPLICATION LAPSED SECTION 142(2) (F)/REG. 8.3(3) - PCT APPLIC. NOT ENTERING NATIONAL PHASE	
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DE60018593 D1	20080403	LSAS	8327	CHANGE IN THE PERSON/NAME/ADDRESS OF THE PATENT OWNER	Owner: EASTMAN KODAK COMPANY, ROCHESTER, N.Y., US PartyType: owner
DE60018593 T2	20060309	LSGT	+	granted / extensions (spc, cpc, pte)	
DE60018593 T2	20060427	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE60018593 T2	20080403	LSAS	8327	CHANGE IN THE PERSON/NAME/ADDRESS OF THE PATENT OWNER	Owner: EASTMAN KODAK COMPANY, ROCHESTER, N.Y., US PartyType: owner
DE60018593 T2	20201108	PEXP		Calculated Patent Term Expiry	
EP1227936 A2	20020807	LSPB	+	published / reissued	
EP1227936 A2	20020807	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20020422
EP1227936 A2	20020807		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR

EP1227936 A2	20020807		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Text: AL;LT;LV;MK;RO;SI
EP1227936 A2	20030423	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20030306
EP1227936 A2	20050119		+RBV	DESIGNATED CONTRACTING STATES (CORRECTED)	Country of Ref document: DE FR GB
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EP1227936 B1	20050309		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: DE FR GB
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EP1227936 B1	20050406	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: IE Ref legal event code: FG4D
EP1227936 B1	20050414		REF	CORRESPONDS TO:	Date of Ref document: 20050414 Kind code of Ref document: P Ref document number: 60018593 Country of Ref document: DE
EP1227936 B1	20060224		+ET	FR: TRANSLATION FILED	
EP1227936 B1	20060301	LSGT	+26N	NO OPPOSITION FILED	Effective date: 20051212
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EP1227936 B1	20120131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20111103 Year of fee payment: 12 Country of Ref document: FR
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EP1227936 B1	20130912	LSDW	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20130601 Ref country code: DE Ref document number: 60018593 Ref legal event code: R119 Country of Ref document: DE
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EP1227936 B1	20131129	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20121108 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: GB
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EP1428671 A1	20040616	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20040311
EP1428671 A1	20040616		AC	DIVISIONAL	Kind code of Ref document:

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EP1428671 A1	20041103	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20040915
EP1428671 A1	20050309	LSFE	+AKX	DESIGNATION FEES PAID	Country of Ref document: DE GB
EP1428671 A1	20050803	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 20050126
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JP2003535713 T2	20071101	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20071003 Text: JAPANESE INTERMEDIATE CODE: A821
JP2003535713 T2	20100602	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20100601 Text: JAPANESE INTERMEDIATE CODE: A131
JP2003535713 T2	20100902	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20100901 Text: JAPANESE INTERMEDIATE CODE: A523
JP2003535713 T2	20110216	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20110215 Text: JAPANESE INTERMEDIATE CODE: A131
JP2003535713 T2	20110517	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20110516 Text: JAPANESE INTERMEDIATE CODE: A523
JP2003535713 T2	20111025	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
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JP2003535713 T2	20111124	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	Effective date: 20111116 Text: JAPANESE INTERMEDIATE CODE: A61
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JP4869528 B2	20201108	PEXP		Calculated Patent Term Expiry	
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WO0138097 A2	20010531		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A2 Country of Ref document: AM

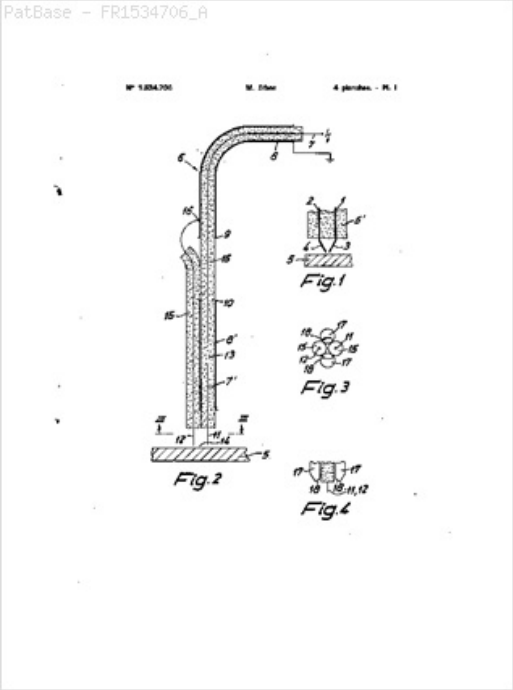
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WO0138097 A2	20020422	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2000992333 Country of Ref document: EP
WO0138097 A3	20020502		+AK	DESIGNATED STATES	Kind code of Ref document: A3 Country of Ref document: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW
WO0138097 A3	20020502		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A3 Country of Ref document: AM AT AZ BE BF BJ BY CF CG CH CI CM CY DE DK ES FI FR GA GB GH GM GN GR GW IE IT KE KG KZ LS LU MC MD ML MR MW MZ NE NL PT RU SD SE SL SN SZ TD TG TJ TM TR TZ UG ZW
WO0138097 A3	20020509	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 2001 539683 Country of Ref document: JP
WO0138097 A3	20020807	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 2000992333 Country of Ref document: EP
WO0138097 A3	20021017	LSWD	REG	REFERENCE TO NATIONAL CODE	Ref country code: DE Ref legal event code: 8642
WO0138097 A3	20050309	LSGT	+WWG	WIPO INFORMATION: GRANT IN NATIONAL OFFICE	Ref document number: 2000992333 Country of Ref document: EP

98) Family number: 21149327 (FR1534706 A)

Title: METHOD AND DEVICE FOR SURFACE MATERIALS (Machine translation)

Abstract: Source: FR1534706 A **Machine translation:** (Claim 1) 1. An electric discharge between the electrodes has engendered using a voltage electric is guided along, the surface of a workpiece, the way that the discharge along the insulator couche.limite occurs between the surface said piece - the gaseous medium and in contact with it;

Classifications:
International (IPC 8-9): B23K9/00 B26F1/00 B26F1/28
International (IPC 1-7): B29C17/10 B29C25/00 B29D7/22
CPC: B23K9/00 B26F1/28



Family:

Publication number	Publication date	Application number	Application date
FR1534706 A	19680802	FR19670091100	19670113

Priority:
FR19670091100 19670113

Inventor(s): (std): ERBEN DIETRICH

Legal status (INPADOC)

View legal status timeline

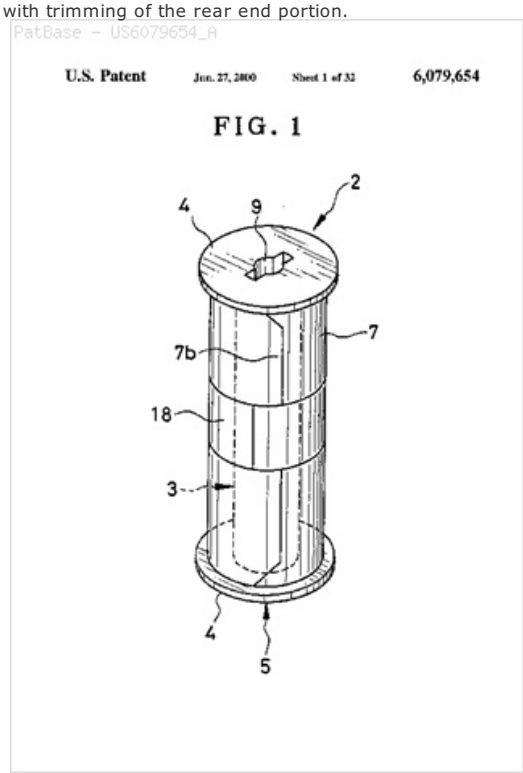
Patent	Date recorded	Event group	Code	Event	Details
FR1534706 A	19680802	LSGT	+	granted / extensions (spc, cpc, pte)	
FR1534706 A	19870113	PEXP		Calculated Patent Term Expiry	

99) Family number: 29932037 (US6079654 A)

Title: Method and apparatus for producing roll photo film

Abstract: A roll photo film includes a spool which has a cylindrical core. A light-shielding sheet has a front end portion and a rear end portion. The front end portion is secured to the core. A first end of a photo filmstrip is secured to one securing position on the light-shielding sheet. The photo filmstrip is wound about the core in a roll form with the light-shielding sheet. A roll photo film producing apparatus includes a punch/die set, which has a trimming punch and a trimming die, and trims the rear end portion with a reduced width. A hole-forming punch and a hole-forming die are incorporated in the punch/die set, and cut a retaining hole through the rear end portion simultaneously with trimming of the rear end portion.

Classifications:
International (IPC 8-9): B26D7/18 B26F1/00 B26F1/02 B26F1/14 B65H18/08 G03B17/26 G03C3/00 G03C3/02
International (IPC 1-7): B26D7/18 B26F1/00 B26F1/14 B65H18/08 G03B17/26 G03B23/02 G03C3/00 G03C3/02 G11B23/107
CPC: G03B17/26 G03C3/02
US: 242/332.4 242/332.8 242/348.1 242/532.6 242/532.7



Family:

Publication number	Publication date	Application number	Application date
DE69726359 D1	20040108	DE19976026359T	19970903
DE69726359 T2	20040527	DE19976026359T	19970903
DE69737426 D1	20070412	DE19976037426T	19970903
DE69737426 T2	20070614	DE19976037426T	19970903
EP0828186 A1	19980311	EP19970115274	19970903
EP0828186 B1	20031126	EP19970115274	19970903
EP1338916 A2	20030827	EP20030011370	19970903
EP1338916 A3	20050406	EP20030011370	19970903
EP1338916 B1	20070228	EP20030011370	19970903
JP10078635 A2	19980324	JP19960234237	19960904
JP3617736 B2	20050209	JP19960234237	19960904
JP10083044 A2	19980331	JP19960236556	19960906
JP3576714 B2	20041013	JP19960236556	19960906
US6079654 A	20000627	US19970923415	19970904
US6367727 BA	20020409	US20000550177	20000414

Priority:

JP19960234237 19960904 JP19960236556 19960906 EP19970115274 19970903
US19970923415 19970904 US20000550177 20000414

Probable Assignee: FUJIFILM HOLDINGS CORP
Assignee(s): (std): FUJI PHOTO FILM CO LTD
Assignee(s): FUJI PHOTO FILM CO ; FUJIFILM CORP ; FUJIFILM HOLDINGS CORP
Inventor(s): (std): MAKINO TERUYOSHI ; SASO MASAMI ; SASOU MASAMI
Designated states: DE NL

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
DE69726359 D1	20041223	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE69726359 D1	20070920	LSAS	8327	CHANGE IN THE PERSON/NAME/ADDRESS OF THE PATENT OWNER	Owner: FUJIFILM CORP., TOKIO/TOKYO, JP PartyType: owner

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DE69726359 T2	20041223	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE69726359 T2	20070920	LSAS	8327	CHANGE IN THE PERSON/NAME/ADDRESS OF THE PATENT OWNER	Owner: FUJIFILM CORP., TOKIO/TOKYO, JP PartyType: owner
DE69726359 T2	20170903	PEXP		Calculated Patent Term Expiry	
DE69737426 D1	20070920	LSAS	8327	CHANGE IN THE PERSON/NAME/ADDRESS OF THE PATENT OWNER	Owner: FUJIFILM CORP., TOKIO/TOKYO, JP PartyType: owner
DE69737426 D1	20080320	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE69737426 T2	20070614	LSGT	+	granted / extensions (spc, cpc, pte)	
DE69737426 T2	20070920	LSAS	8327	CHANGE IN THE PERSON/NAME/ADDRESS OF THE PATENT OWNER	Owner: FUJIFILM CORP., TOKIO/TOKYO, JP PartyType: owner
DE69737426 T2	20080320	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE69737426 T2	20170903	PEXP		Calculated Patent Term Expiry	
EP0828186 A1	19980311	LSPB	+	published / reissued	
EP0828186 A1	19980311		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: DE NL
EP0828186 A1	19980617	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 19980417
EP0828186 A1	19981125	LSFE	+AKX	DESIGNATION FEES PAID	Text: DE NL
EP0828186 A1	19981125		+RBV	DESIGNATED CONTRACTING STATES (CORRECTED)	Country of Ref document: DE NL
EP0828186 A1	20020731	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20020618
EP0828186 B1	20031126	LSGT	+	granted / extensions (spc, cpc, pte)	
EP0828186 B1	20031126		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: DE NL
EP0828186 B1	20031126	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20031126 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: NL
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EP0828186 B1	20040503	LSLE	-NLV1	NL: LAPSED OR ANNULLED DUE TO FAILURE TO FULFILL THE REQUIREMENTS OF ART. 29P AND 29M OF THE PATENTS ACT	Ref country code: EP
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EP0828186 B1	20110228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20100812 Year of fee payment: 14 Country of Ref document: DE
EP0828186 B1	20120719	LSDW	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20120403 Ref country code: DE Ref document number: 69726359 Ref legal event code: R119 Country of Ref document: DE
EP0828186 B1	20120731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20120403 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: DE
EP0828186 B1	20170903	PEXP		Calculated Patent Term Expiry	
EP1338916 A2	20030827	LSPB	+	published / reissued	
EP1338916 A2	20030827		AC	DIVISIONAL APPLICATION:	Kind code of Ref document: P Ref document number: 0828186

				REFERENCE TO EARLIER APPLICATION	Country of Ref document: EP
EP1338916 A2	20030827		+AK	DESIGNATED CONTRACTING STATES	Country of Ref document: DE NL
EP1338916 A3	20050406		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A3 Country of Ref document: DE NL
EP1338916 A3	20050817	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20050616
EP1338916 A3	20051228	LSFE	+AKX	DESIGNATION FEES PAID	Country of Ref document: DE NL
EP1338916 B1	20070228	LSGT	+	granted / extensions (spc, cpc, pte)	
EP1338916 B1	20070228		AC	DIVISIONAL APPLICATION: REFERENCE TO EARLIER APPLICATION	Kind code of Ref document: P Ref document number: 0828186 Country of Ref document: EP
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EP1338916 B1	20070314	LSAS	RAP2	RIGHTS OF A PATENT TRANSFERRED	Owner: FUJIFILM CORPORATION PartyType: owner
EP1338916 B1	20070412		REF	CORRESPONDS TO:	Date of Ref document: 20070412 Kind code of Ref document: P Ref document number: 69737426 Country of Ref document: DE
EP1338916 B1	20070501		NLT2	NL: MODIFICATIONS (OF NAMES), TAKEN FROM THE EUROPEAN PATENT PATENT BULLETIN	Effective date: 20070314 Owner: FUJIFILM CORPORATION PartyType: owner
EP1338916 B1	20070801	LSLE	-NLV1	NL: LAPSED OR ANNULLED DUE TO FAILURE TO FULFILL THE REQUIREMENTS OF ART. 29P AND 29M OF THE PATENTS ACT	Ref country code: EP
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EP1338916 B1	20110228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20100812 Year of fee payment: 14 Country of Ref document: DE
EP1338916 B1	20120719	LSDW	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20120403 Ref country code: DE Ref document number: 69737426 Ref legal event code: R119 Country of Ref document: DE
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JP10078635 A2	19980324	LSPB	+	published / reissued	
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JP10078635 A2	20040617	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20040616 Text: JAPANESE INTERMEDIATE CODE: A131
JP10078635 A2	20040813	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20040812 Text: JAPANESE INTERMEDIATE CODE: A523
JP10078635 A2	20041025	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
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JP10078635 A2	20041118	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	Effective date: 20041104 Text: JAPANESE INTERMEDIATE CODE: A61

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JP10083044 A2	20040408	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20040407 Text: JAPANESE INTERMEDIATE CODE: A131
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JP10083044 A2	20040623	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP10083044 A2	20040701	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Effective date: 20040630 Text: JAPANESE INTERMEDIATE CODE: A01
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JP3576714 B2	20070704	LSAS	S111	REQUEST FOR CHANGE OF OWNERSHIP OR PART OF OWNERSHIP	Text: JAPANESE INTERMEDIATE CODE: R313111
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JP3576714 B2	20090618	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 5
JP3576714 B2	20090623	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 6
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JP3617736 B2	20050209	LSGT	+	granted / extensions (spc, cpc, pte)	
JP3617736 B2	20070704	LSAS	S111	REQUEST FOR CHANGE OF OWNERSHIP OR PART OF OWNERSHIP	Text: JAPANESE INTERMEDIATE CODE: R313111
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JP3617736 B2	20101019	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 7
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US6079654 A	19970904	LSAS	AS	ASSIGNMENT	Effective date: 19970827 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:SASOU, MASAMI;MAKINO, TERUYOSHI;REEL/FRAME:008702/0429 Owner: FUJI PHOTO FILM CO., LTD., JAPAN PartyType: owner
US6079654 A	20000627	LSGT	+	granted / extensions (spc, cpc, pte)	
US6079654 A	20031126	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US6079654 A	20070215	LSAS	AS	ASSIGNMENT	Effective date: 20070130 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:FUJIFILM HOLDINGS CORPORATION (FORMERLY FUJI PHOTO FILM CO., LTD.);REEL/FRAME:018904/0001 Owner: FUJIFILM CORPORATION, JAPAN PartyType: owner
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US6079654 A	20120627	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US6079654 A	20120723	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
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US6079654 A	20120814	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20120627
US6079654 A	20170904	PEXP		Calculated Patent Term Expiry	
US6367727 BA	20020409	LSGT	+	granted / extensions (spc, cpc, pte)	
US6367727 BA	20050916	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US6367727 BA	20070215	LSAS	AS	ASSIGNMENT	Effective date: 20070130 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:FUJIFILM HOLDINGS CORPORATION (FORMERLY FUJI PHOTO FILM CO., LTD.);REEL/FRAME:018904/0001 Owner: FUJIFILM CORPORATION, JAPAN PartyType: owner
US6367727 BA	20070215	LSAS	AS	ASSIGNMENT	Effective date: 20070130 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:FUJIFILM HOLDINGS CORPORATION (FORMERLY FUJI PHOTO FILM CO., LTD.);REEL/FRAME:018904/0001 Owner: FUJIFILM

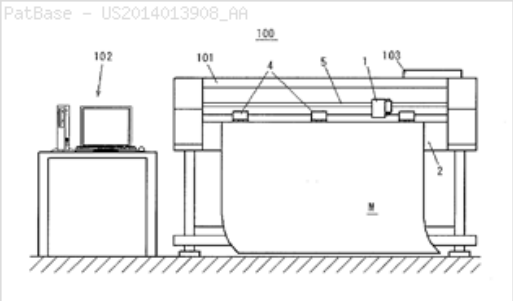
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US6367727 BA	20140527	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20140409
US6367727 BA	20200414	PEXP		Calculated Patent Term Expiry	

100) Family number: 51933044 (US2014013908 AA)

Title: CUTTING APPARATUS, CUTTING METHOD, AND NON-TRANSITORY COMPUTER-READABLE RECORDING MEDIUM

Abstract: A cutting apparatus includes a blade relatively movable with respect to a media to cut the media along a cutting line. The blade is so constructed to pre-cut the media along the cutting line to leave non-cutting portions and to cut the non-cutting portions after pre-cutting the media.

Classifications:
International (IPC 8-9): B26D3/08 B26D3/14 B26D5/00 B26D5/20 B26F1/38
CPC: B26D3/08 B26D3/14 B26D5/00 B26D5/005 B26F1/3813 Y10T83/0529 Y10T83/6572 Y10T83/929 Y10T83/9372
US: 83/40 83/418 83/651 83/663



Family:

Publication number	Publication date	Application number	Application date
CN103429403 A	20131204	CN201180069306	20111227
CN103429403 B	20160420	CN201180069306	20111227
DE602011030861 D1	20161110	DE201160030861T	20111227
EP2687343 A1	20140122	EP20110860977	20111227
EP2687343 A4	20150701	EP20110860977	20111227
EP2687343 B1	20160928	EP20110860977	20111227
JP2012192493 A2	20121011	JP20110058503	20110316
JP5791926 B2	20151007	JP20110058503	20110316
KR101549998 B1	20150911	KR20137024201	20111227
KR20130122685 A	20131107	KR20137024201	20111227
US10016905 BB	20180710	US20130024640	20130912
US2014013908 AA	20140116	US20130024640	20130912
WO12124237 A1	20120920	WO2011JP80187	20111227

Priority:

JP20110058503 20110316 WO2011JP80187 20111227 EP20110860977 20111227
US20130024640 20130912

Probable Assignee: MIMAKI ENG KK

Assignee(s): (std): KOBAYASHI HISAYUKI ; MIMAKI ENG CO LTD ; MIMAKI ENG KK

Assignee(s): MIMAKI ENGINEERING CO ; MIMAKI ENGINEERING CO LTD ; MIMAKI ENGINEERING CO LTD TOMI CITY

Inventor(s): (std): KOBAYASHI HISASHI ; KOBAYASHI HISAYUKI

Agent(s): JCIPRNET; MATSUSHITA KEIZO; TAKEUCHI MAYA

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 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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
CN103429403 A	20131204	LSPB	+	published / reissued	
CN103429403 A	20131204	LSPB	+C06	PUBLICATION	
CN103429403 A	20131225		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
CN103429403 B	20160420	LSGT	+	granted / extensions (spc, cpc, pte)	
CN103429403 B	20160420	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN103429403 B	20311227	PEXP		Calculated Patent Term Expiry	
EP2687343 A1	20140122	LSPB	+	published / reissued	
EP2687343 A1	20140122	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20131016
EP2687343 A1	20140122		+AK	DESIGNATED CONTRACTING	Kind code of Ref document: A1 Country of Ref document: AL AT BE BG CH

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EP2687343 A1	20140625		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP2687343 A4	20150701	LSES	+RA4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED (CORRECTED)	Effective date: 20150602
EP2687343 A4	20150701		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: B26D 5/00 20060101AFI20150527BHEP
EP2687343 A4	20160316	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20160210
EP2687343 A4	20160615	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	Effective date: 20160518
EP2687343 B1	20160928	LSGT	+	granted / extensions (spc, cpc, pte)	
EP2687343 B1	20160928		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: AL 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 RS SE SI SK SM TR
EP2687343 B1	20160928	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: GB Ref legal event code: FG4D
EP2687343 B1	20160930	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: EP
EP2687343 B1	20161015	LSNP	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20161015 Kind code of Ref document: T Ref country code: AT Ref document number: 832343 Ref legal event code: REF Country of Ref document: AT
EP2687343 B1	20161102	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: IE Ref legal event code: FG4D
EP2687343 B1	20161110	LSPB	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref document number: 602011030861 Ref legal event code: R096 Country of Ref document: DE
EP2687343 B1	20161111	LSFE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: FR Ref legal event code: PLFP Year of fee payment: 6 Country of Ref document: FR
EP2687343 B1	20170125	LSRV	REG	REFERENCE TO A NATIONAL CODE	Ref country code: LT Ref legal event code: MG4D
EP2687343 B1	20170131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160928 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: HR
EP2687343 B1	20170131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160928 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: RS
EP2687343 B1	20170131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160928 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: LT
EP2687343 B1	20170131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT	Lapsed date: 20160928 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE

				INFORMATION FROM NATIONAL OFFICE TO EPO]	PRESCRIBED TIME-LIMIT Country of Ref document: FI
EP2687343 B1	20170131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20161228 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: NO
EP2687343 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20161111 Year of fee payment: 6 Country of Ref document: FR
EP2687343 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20161220 Year of fee payment: 6 Country of Ref document: DE
EP2687343 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20161221 Year of fee payment: 6 Country of Ref document: GB
EP2687343 B1	20170201		REG	REFERENCE TO A NATIONAL CODE	Effective date: 20160928 Ref country code: NL Ref legal event code: MP
EP2687343 B1	20170215	LSRV	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20160928 Kind code of Ref document: T Ref country code: AT Ref document number: 832343 Ref legal event code: MK05 Country of Ref document: AT
EP2687343 B1	20170228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20161229 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: GR
EP2687343 B1	20170228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160928 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: LV
EP2687343 B1	20170228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160928 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: NL
EP2687343 B1	20170228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160928 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SE
EP2687343 B1	20170428	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160928 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: RO
EP2687343 B1	20170428	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION	Lapsed date: 20160928 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT

				FROM NATIONAL OFFICE TO EPO]	Country of Ref document: EE
EP2687343 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20170128 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: IS
EP2687343 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160928 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SM
EP2687343 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20161228 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: BG
EP2687343 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160928 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: ES
EP2687343 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160928 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: CZ
EP2687343 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160928 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: BE
EP2687343 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160928 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SK
EP2687343 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160928 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: PL
EP2687343 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160928 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: AT
EP2687343 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20170130 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: PT
EP2687343 B1	20170629	LSRE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref document number: 602011030861 Ref legal event code: R097 Country of Ref document: DE

EP2687343 B1	20170630	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160928 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: IT
EP2687343 B1	20170731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160928 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: DK
EP2687343 B1	20170731	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: PL
EP2687343 B1	20170906	LSGT	+26N	NO OPPOSITION FILED	Effective date: 20170629
EP2687343 B1	20170929	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160928 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: MC
EP2687343 B1	20171004	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: IE Ref legal event code: MM4A
EP2687343 B1	20171031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20161231 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: LI
EP2687343 B1	20171031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20161227 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: LU
EP2687343 B1	20171031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20161231 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: CH
EP2687343 B1	20171113	LSFE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: FR Ref legal event code: PLFP Year of fee payment: 7
EP2687343 B1	20171130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160928 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SI
EP2687343 B1	20171130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20161227 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: IE
EP2687343 B1	20180131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20171113 Year of fee payment: 7 Country of Ref document: FR
EP2687343 B1	20180228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE	Payment date: 20171227 Year of fee payment: 7 Country of Ref document: GB

				[ANNOUNCED FROM NATIONAL OFFICE TO EPO]	
EP2687343 B1	20180430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20171220 Year of fee payment: 7 Country of Ref document: DE
EP2687343 B1	20180531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20111227 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT; INVALID AB INITIO Country of Ref document: HU
EP2687343 B1	20180531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160928 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: CY
EP2687343 B1	20180629	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160928 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: MK
EP2687343 B1	20180928	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20161227 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: MT
EP2687343 B1	20181031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160928 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: TR
EP2687343 B1	20181031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160928 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: AL
EP2687343 B1	20190131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20181211 Year of fee payment: 8 Country of Ref document: DE
EP2687343 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20181120 Year of fee payment: 8 Country of Ref document: FR
EP2687343 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20181227 Year of fee payment: 8 Country of Ref document: GB
EP2687343 B1	20200131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20191217 Year of fee payment: 9 Country of Ref document: DE

EP2687343 B1	20200228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20191115 Year of fee payment: 9 Country of Ref document: FR
EP2687343 B1	20200501	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20191224 Year of fee payment: 9 Country of Ref document: GB
EP2687343 B1	20311227	PEXP		Calculated Patent Term Expiry	
JP2012192493 A2	20121011	LSPB	+	published / reissued	
JP2012192493 A2	20131123	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Effective date: 20131122 Text: JAPANESE INTERMEDIATE CODE: A621
JP2012192493 A2	20141203	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20141202 Text: JAPANESE INTERMEDIATE CODE: A131
JP2012192493 A2	20150202	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20150202 Text: JAPANESE INTERMEDIATE CODE: A523
JP2012192493 A2	20150708	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2012192493 A2	20150715	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Effective date: 20150714 Text: JAPANESE INTERMEDIATE CODE: A01
JP2012192493 A2	20150813	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	Effective date: 20150805 Text: JAPANESE INTERMEDIATE CODE: A61
JP5791926 B2	20120925		RD02	NOTIFICATION OF ACCEPTANCE OF POWER OF ATTORNEY	Effective date: 20120924 Text: JAPANESE INTERMEDIATE CODE: A7422
JP5791926 B2	20150716	LSGT	+A01	特許査定書	
JP5791926 B2	20150716	LSGT	+A01	特許査定書	Effective date: 20150714
JP5791926 B2	20150811	LSFE	R100	特許料納付書	
JP5791926 B2	20150811	LSFE	R100	特許料納付書	Effective date: 20150805 Text: 51501569400
JP5791926 B2	20150814	LSGT	+R150	特許証	
JP5791926 B2	20150814	LSGT	+R150	特許証	Effective date: 20150825
JP5791926 B2	20151007	LSGT	+	granted / extensions (spc, cpc, pte)	
JP5791926 B2	20180712	LSFE	R20	特許料納付書	
JP5791926 B2	20180712	LSFE	R20	特許料納付書	Effective date: 20180710 Text: 51801423528
JP5791926 B2	20180724	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP5791926 B2	20180724	LSFE	+R250	年金領収書, 年金領収書 (分納)	
JP5791926 B2	20180724	LSFE	+R250	年金領収書, 年金領収書 (分納)	Effective date: 20180731
JP5791926 B2	20190711	LSFE	R20	特許料納付書	
JP5791926 B2	20190711	LSFE	R20	特許料納付書	Effective date: 20190710 Text: 51901467611
JP5791926 B2	20190723	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP5791926 B2	20190723	LSFE	+R250	年金領収書, 年金領収書 (分納)	
JP5791926 B2	20190723	LSFE	+R250	年金領収書, 年金領収書 (分納)	Effective date: 20190802

JP5791926 B2	20200710	LSFE	R20	特許料納付書	Effective date: 20200709 Text: 52001407479
JP5791926 B2	20200713	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP5791926 B2	20200713	LSFE	+R250	年金領収書, 年金領収書 (分納)	Effective date: 20200807
JP5791926 B2	20310316	PEXP		Calculated Patent Term Expiry	
KR101549998 B1	20130912	LSES	A201	REQUEST FOR EXAMINATION	
KR101549998 B1	20150911	LSGT	+	granted / extensions (spc, cpc, pte)	
KR101549998 B1	20180829	LSLE	-LAPS	LAPSE DUE TO UNPAID ANNUAL FEE	
KR101549998 B1	20311227	PEXP		Calculated Patent Term Expiry	
KR20130122685 A	20131107	LSPB	+	published / reissued	
KR20130122685 A	20141126	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR20130122685 A	20150625	LSGT	+E701	DECISION TO GRANT OR REGISTRATION OF PATENT RIGHT	
KR20130122685 A	20150828	LSGT	+GRNT	WRITTEN DECISION TO GRANT	
US10016905 BB	20130912	LSAS	AS	ASSIGNMENT	Effective date: 20130905 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:KOBAYASHI, HISAYUKI;REEL/FRAME:031187/0838 Owner: MIMAKI ENGINEERING CO., LTD., JAPAN PartyType: owner
US10016905 BB	20180620	LSGT	PAT1	Patented Case	
US10016905 BB	20180710	LSGT	+	granted / extensions (spc, cpc, pte)	
US10016905 BB	20320111	PEXP		Calculated Patent Term Expiry (PTA 15 days)	
US2014013908 AA	20140116	LSPB	+	published / reissued	
US2014013908 AA	20150722	LSES	NFA1	Non Final Action Mailed	
US2014013908 AA	20170414		FRM1	Final Rejection Mailed	
US2014013908 AA	20170818		RFE1	Docketed New Case - Ready for Examination	
US2014013908 AA	20171002	LSES	NFA1	Non Final Action Mailed	
US2014013908 AA	20180214		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2014013908 AA	20180418	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2014013908 AA	20180608	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2014013908 AA	20180620	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
WO12124237 A1	20111227	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 201180069306.7 Country of Ref document: CN

WO12124237 A1	20120920	LSPB	+	published / reissued	
WO12124237 A1	20121107		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A1 Ref document number: 11860977 Country of Ref document: EP
WO12124237 A1	20130912	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 20137024201 Country of Ref document: KR
WO12124237 A1	20130913		+REEP	REQUEST FOR ENTRY INTO THE EUROPEAN PHASE	Ref document number: 2011860977 Country of Ref document: EP
WO12124237 A1	20130916	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE