

[SS 5] Cartridge and developer

Results in EPODOC 10.227

[SS 6] electrophotographic

Results in EPODOC 77.528

[SS 7] coupling or attachment

Results in EPODOC 1.267.541

[SS 8] /c G03G21/18 or G03G21/1814 or G03G21/1821

Results in EPODOC 4.024

[SS 9] 5 and 6 and 7 and 8

Results in EPODOC 18

[SS 10] ..li



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PN - [TW201723688](#) A 20170701

PR - JP20060332837
20061211; JP20070259660
20071003

AP - TW20170103317 20071109

DT - I

CCI - [G03G21/1609](#) ; [G03G21/186](#)

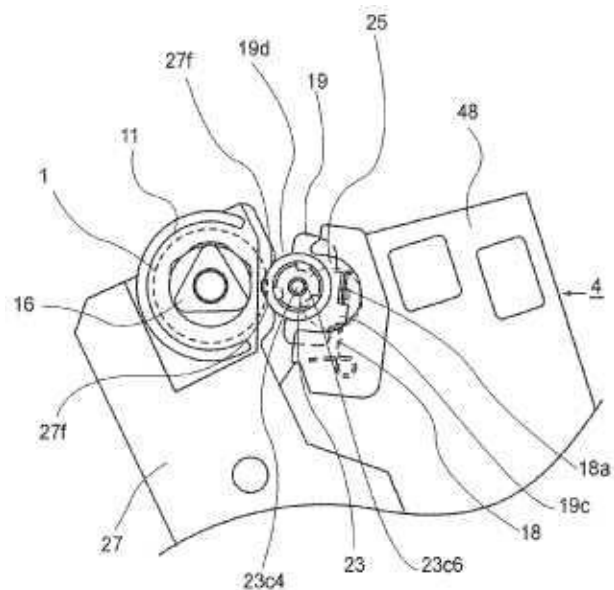
CUI - [G03G21/1821](#) ; [G03G21/1839](#)

CCA - [G03G2221/1657](#) ;
[G03G2221/1853](#) ;
[G03G2221/1884](#)

PA - CANON KK [JP]

TI - Process **cartridge** and image
forming apparatus

AB - A process **cartridge** detachably
mountable to a main assembly of
an **electrophotographic** image
forming apparatus, wherein the
main assembly includes a
rotatable first main assembly
drive transmission member and a

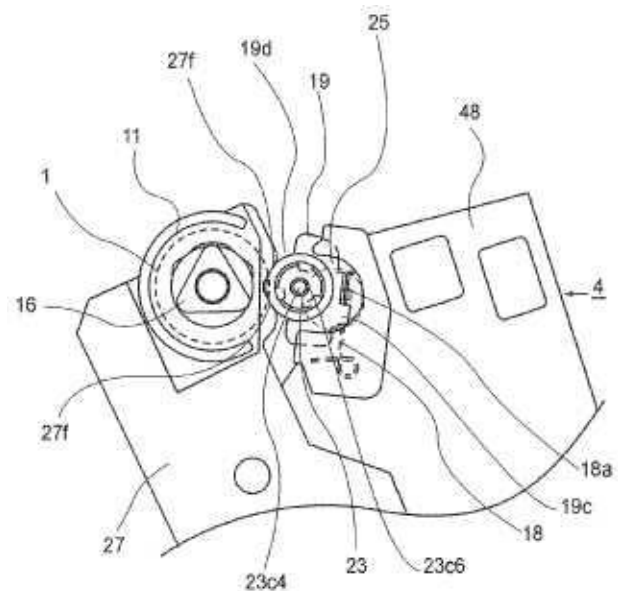


rotatable second main assembly drive transmission member, the process **cartridge** includes an **electrophotographic** photosensitive drum; a drum unit containing the **electrophotographic** drum; a developing roller for developing an electrostatic latent image formed on the **electrophotographic** photosensitive drum with a **developer**; a developing unit containing the developing roller and movably connected with the drum unit, the developing unit being movable relative to the drum unit between a contact position in which the developing roller is contacted to the **electrophotographic** photosensitive drum and a spaced position in which the developing roller is spaced from the **electrophotographic** photosensitive drum; a drum **coupling** member, provided on one axial end of the **electrophotographic** photosensitive drum, for engaging with the first main assembly drive transmission member and transmitting a first rotational driving force to the **electrophotographic** photosensitive drum, when the process **cartridge** is mounted to the main assembly of the apparatus along an axial direction of the **electrophotographic** photosensitive drum; a shaft **coupling** member, provided on one axial end of the developing roller, for transmitting a second rotational driving force with a deviation permitted between an axis of the second main assembly drive transmission member and

an axis of the developing roller, wherein the shaft **coupling** member includes an engaging portion for engaging with the second main assembly drive transmission member and receiving the second rotational driving force, when the process **cartridge** is mounted to the main assembly of the apparatus; the engaging portion is movable in a direction crossing with the axial direction of the developing roller; and when the process **cartridge** enters the main assembly of the apparatus with the developing unit positioned in the spaced position, an axis of the engaging portion is deviated from the axis of the developing roller with respect to the crossing direction.

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- PN - [TW201631418](#) A 20160901
- PNFP - TWI582550B B 20170511
- PR - JP20060332837
20061211; JP20070259660
20071003
- AP - TW20150135826 20071109
- DT - I
- CCI - [G03G21/1609](#) ; [G03G21/186](#)
- CUI - [G03G21/1821](#) ; [G03G21/1839](#)
- CCA - [G03G2221/1657](#) ;
[G03G2221/1853](#) ;
[G03G2221/1884](#)
- PA - (A B)
CANON KK [JP]
- TI - (A B)
Process **cartridge** and image
forming apparatus
- AB - (A)
A process **cartridge** detachably
mountable to a main assembly of
an **electrophotographic** image
forming apparatus, wherein the

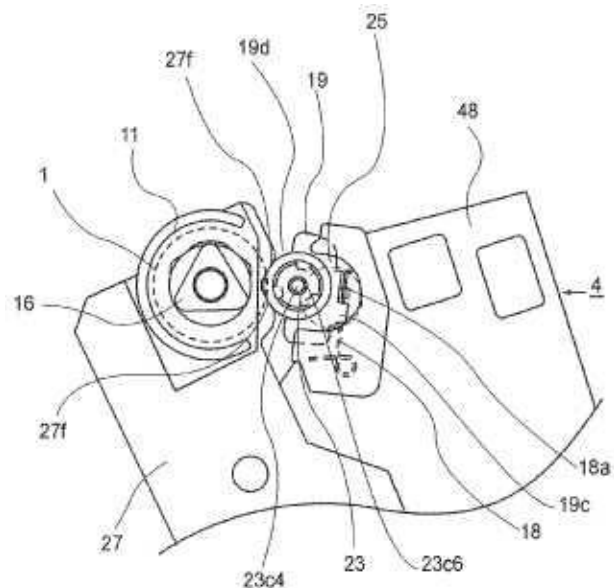


main assembly includes a rotatable first main assembly drive transmission member and a rotatable second main assembly drive transmission member, the process **cartridge** includes an **electrophotographic** photosensitive drum; a drum unit containing the **electrophotographic** drum; a developing roller for developing an electrostatic latent image formed on the **electrophotographic** photosensitive drum with a **developer**; a developing unit containing the developing roller and movably connected with the drum unit, the developing unit being movable relative to the drum unit between a contact position in which the developing roller is contacted to the **electrophotographic** photosensitive drum and a spaced position in which the developing roller is spaced from the **electrophotographic** photosensitive drum; a drum **coupling** member, provided on one axial end of the **electrophotographic** photosensitive drum, for engaging with the first main assembly drive transmission member and transmitting a first rotational driving force to the **electrophotographic** photosensitive drum, when the process **cartridge** is mounted to the main assembly of the apparatus along an axial direction of the **electrophotographic** photosensitive drum; a shaft **coupling** member, provided on one axial end of the developing roller, for transmitting a second rotational driving force with a

deviation permitted between an axis of the second main assembly drive transmission member and an axis of the developing roller, wherein the shaft **coupling** member includes an engaging portion for engaging with the second main assembly drive transmission member and receiving the second rotational driving force, when the process **cartridge** is mounted to the main assembly of the apparatus; the engaging portion is movable in a direction crossing with the axial direction of the developing roller; and when the process **cartridge** enters the main assembly of the apparatus with the developing unit positioned in the spaced position, an axis of the engaging portion is deviated from the axis of the developing roller with respect to the crossing direction.

3/18 © EPODOC / EPO

PN - [CA2854285](#) A1 20080619
 PNFP - CA2854285 C 20160927
 PR - JP20070259660
 20071003; JP20060332837
 20061211; CA20072667787
 20071101
 AP - CA20072854285 20071101
 DT - I
 CCI - [G03G21/1609](#) ; [G03G21/186](#)
 CUI - [G03G21/1821](#) ; [G03G21/1839](#)
 CCA - [G03G2221/1657](#) ;
[G03G2221/1853](#) ;
[G03G2221/1884](#)
 PA - (A1 C)
 CANON KK [JP]
 TI - (A1 C)
 PROCESS **CARTRIDGE** AND IMAGE
 FORMING APPARATUS
 AB - (C)

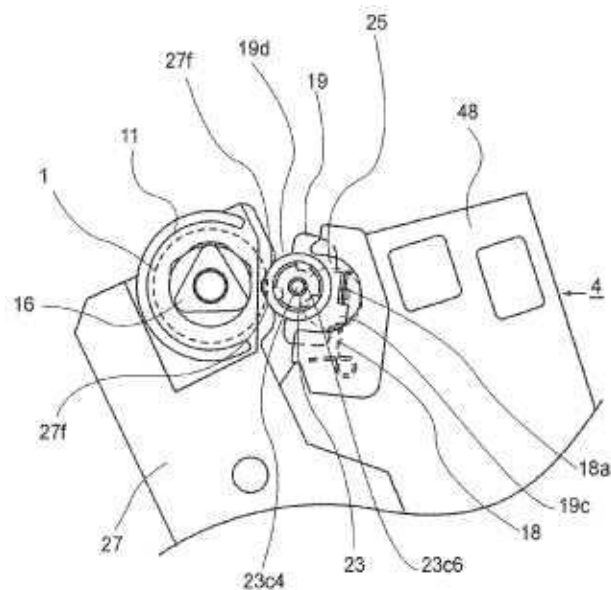


A process **cartridge** detachably mountable to a main assembly of an **electrophotographic** image forming apparatus, wherein the main assembly includes a rotatable first main assembly drive transmission member and a rotatable second main assembly drive transmission member, the process **cartridge** includes an **electrophotographic** photosensitive drum; a drum unit containing the **electrophotographic** drum; a developing roller for developing an electrostatic latent image formed on the **electrophotographic** photosensitive drum with a **developer**; a developing unit containing the developing roller and movably connected with the drum unit, the developing unit being movable relative to the drum unit between a contact position in which the developing roller is contacted to the **electrophotographic** photosensitive drum and a spaced position in which the developing roller is spaced from the **electrophotographic** photosensitive drum; a drum **coupling** member, provided on one axial end of the **electrophotographic** photosensitive drum, for engaging with the first main assembly drive transmission member and transmitting a first rotational driving force to the **electrophotographic** photosensitive drum, when the process **cartridge** is mounted to the main assembly of the apparatus along an axial direction of the **electrophotographic** photosensitive drum; a

shaft **coupling** member, provided on one axial end of the developing roller, for transmitting a second rotational driving force with a deviation permitted between an axis of the second main assembly drive transmission member and an axis of the developing roller, wherein the shaft **coupling** member includes an engaging portion for engaging with the second main assembly drive transmission member and receiving the second rotational driving force, when the process **cartridge** is mounted to the main assembly of the apparatus; the engaging portion is movable in a direction crossing with the axial direction of the developing roller; and when the process **cartridge** enters the main assembly of the apparatus with the developing unit positioned in the spaced position, an axis of the engaging portion is deviated from the axis of the developing roller with respect to the crossing direction.

4/18 © EPDOC / EPO

PN - [CA2854170](#) A1 20080619
 PNFP - CA2854170 C 20160705
 PR - JP20060332837
 20061211; JP20070259660
 20071003; CA20072667787
 20071101
 AP - CA20072854170 20071101
 DT - I
 CCI - [G03G21/1609](#) ; [G03G21/186](#)
 CUI - [G03G21/1821](#) ; [G03G21/1839](#)
 CCA - [G03G2221/1657](#) ;
[G03G2221/1853](#) ;
[G03G2221/1884](#)
 PA - (A1 C)
 CANON KK [JP]
 TI - (A1 C)



PROCESS **CARTRIDGE** AND IMAGE
FORMING APPARATUS

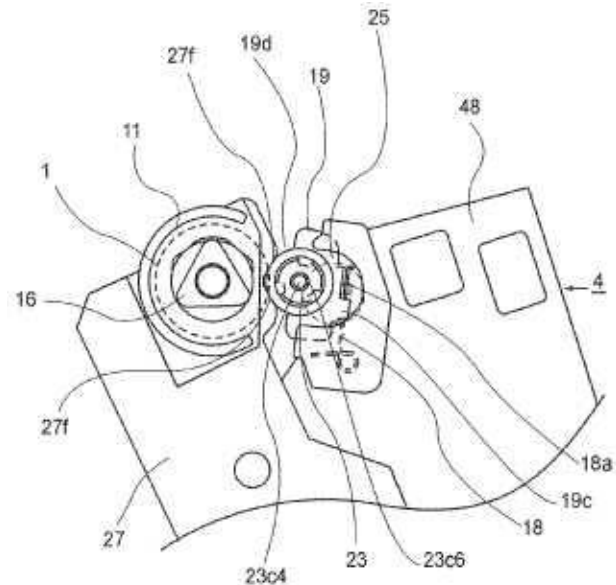
AB

- (C)

A process **cartridge** detachably mountable to a main assembly of an **electrophotographic** image forming apparatus, wherein the main assembly includes a rotatable first main assembly drive transmission member and a rotatable second main assembly drive transmission member, the process **cartridge** includes an **electrophotographic** photosensitive drum; a drum unit containing the **electrophotographic** drum; a developing roller for developing an electrostatic latent image formed on the **electrophotographic** photosensitive drum with a **developer**; a developing unit containing the developing roller and movably connected with the drum unit, the developing unit being movable relative to the drum unit between a contact position in which the developing roller is contacted to the **electrophotographic** photosensitive drum and a spaced position in which the developing roller is spaced from the **electrophotographic** photosensitive drum; a drum **coupling** member, provided on one axial end of the **electrophotographic** photosensitive drum, for engaging with the first main assembly drive transmission member and transmitting a first rotational driving force to the **electrophotographic** photosensitive drum, when the process **cartridge** is mounted to the main assembly of the apparatus along an axial

direction of
the **electrophotographic**
photosensitive drum; a
shaft **coupling** member, provided
on one axial end of the developing
roller, for transmitting a second
rotational driving force with a
deviation permitted between an
axis of the second main assembly
drive transmission member and
an axis of the developing roller,
wherein the shaft **coupling**
member includes an engaging
portion for engaging with the
second main assembly drive
transmission member and
receiving the second rotational
driving force, when the
process **cartridge** is mounted to
the main assembly of the
apparatus; the engaging portion is
movable in a direction crossing
with the axial direction of the
developing roller; and when the
process **cartridge** enters the main
assembly of the apparatus with
the developing unit positioned in
the spaced position , an axis of
the engaging portion is deviated
from the axis of the developing
roller with respect to the crossing
direction.

PN - [CA2854168](#) A1 20080619
 PNFP - CA2854168 C 20160628
 PR - JP20060332837
 20061211; JP20070259660
 20071003; CA20072667787
 20071101
 AP - CA20072854168 20071101
 DT - I
 CCI - [G03G21/1609](#) ; [G03G21/186](#)
 CUI - [G03G21/1821](#) ; [G03G21/1839](#)
 CCA - [G03G2221/1657](#) ;
[G03G2221/1853](#) ;
[G03G2221/1884](#)
 PA - (A1 C)
 CANON KK [JP]
 TI - (A1 C)
 PROCESS **CARTRIDGE** AND IMAGE
 FORMING APPARATUS
 AB - (C)
 A process **cartridge** detachably
 mountable to a main assembly of
 an **electrophotographic** image
 forming apparatus, wherein the
 main assembly includes a
 rotatable first main assembly
 drive transmission member and a
 rotatable second main assembly
 drive transmission member, the
 process **cartridge** includes
 an **electrophotographic**
 photosensitive drum; a drum unit
 containing
 the **electrophotographic** drum; a
 developing roller for developing
 an electrostatic latent image
 formed on
 the **electrophotographic**
 photosensitive drum with
 a **developer**; a developing unit
 containing the developing roller
 and movably connected with the
 drum unit, the developing unit
 being movable relative to the
 drum unit between a contact
 position in which the developing
 roller is contacted to
 the **electrophotographic**



photosensitive drum and a spaced position in which the developing roller is spaced from the **electrophotographic** photosensitive drum; a drum **coupling** member, provided on one axial end of the **electrophotographic** photosensitive drum, for engaging with the first main assembly drive transmission member and transmitting a first rotational driving force to the **electrophotographic** photosensitive drum, when the process **cartridge** is mounted to the main assembly of the apparatus along an axial direction of the **electrophotographic** photosensitive drum; a shaft **coupling** member, provided on one axial end of the developing roller, for transmitting a second rotational driving force with a deviation permitted between an axis of the second main assembly drive transmission member and an axis of the developing roller, wherein the shaft **coupling** member includes an engaging portion for engaging with the second main assembly drive transmission member and receiving the second rotational driving force, when the process **cartridge** is mounted to the main assembly of the apparatus; the engaging portion is movable in a direction crossing with the axial direction of the developing roller; and when the process **cartridge** enters the main assembly of the apparatus with the developing unit positioned in the spaced position, an axis of the engaging portion is deviated from the axis of the developing roller with respect to the crossing

direction.

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PN - [TW201308032](#) A 20130216

PNFP - TWI519911B B 20160201

PR - JP20060332837
20061211; JP20070259660
20071003

AP - TW20120138907 20071109

DT - I

CCI - [G03G21/1609](#) ; [G03G21/186](#)

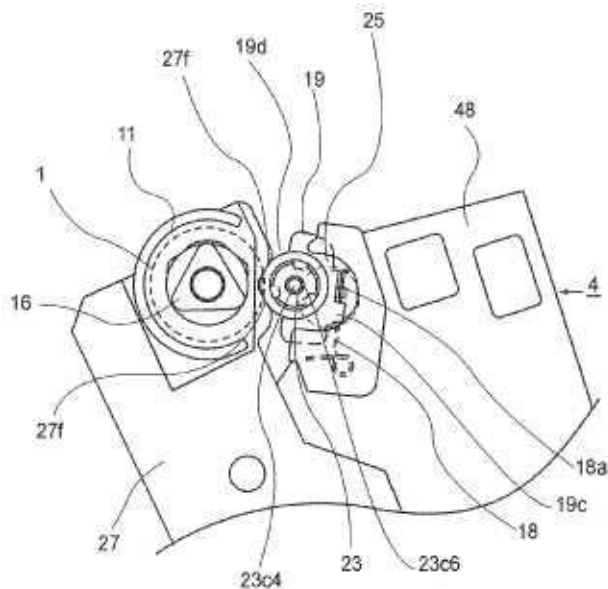
CUI - [G03G21/1821](#) ; [G03G21/1839](#)

CCA - [G03G2221/1657](#) ;
[G03G2221/1853](#) ;
[G03G2221/1884](#)

PA - (A B)
CANON KK [JP]

TI - (A B)
Process **cartridge** and image
forming apparatus

AB - (A)
A process **cartridge** detachably
mountable to a main assembly of
an **electrophotographic** image
forming apparatus, wherein the
main assembly includes a
rotatable first main assembly
drive transmission member and a
rotatable second main assembly
drive transmission member, the
process **cartridge** includes
an **electrophotographic**
photosensitive drum; a drum unit
containing
the **electrophotographic** drum; a
developing roller for developing
an electrostatic latent image
formed on
the **electrophotographic**
photosensitive drum with
a **developer**; a developing unit
containing the developing roller
and movably connected with the
drum unit, the developing unit
being movable relative to the
drum unit between a contact



position in which the developing roller is contacted to the **electrophotographic** photosensitive drum and a spaced position in which the developing roller is spaced from the **electrophotographic** photosensitive drum; a drum **coupling** member, provided on one axial end of the **electrophotographic** photosensitive drum, for engaging with the first main assembly drive transmission member and transmitting a first rotational driving force to the **electrophotographic** photosensitive drum, when the process **cartridge** is mounted to the main assembly of the apparatus along an axial direction of the **electrophotographic** photosensitive drum; a shaft **coupling** member, provided on one axial end of the developing roller, for transmitting a second rotational driving force with a deviation permitted between an axis of the second main assembly drive transmission member and an axis of the developing roller, wherein the shaft **coupling** member includes an engaging portion for engaging with the second main assembly drive transmission member and receiving the second rotational driving force, when the process **cartridge** is mounted to the main assembly of the apparatus; the engaging portion is movable in a direction crossing with the axial direction of the developing roller; and when the process **cartridge** enters the main assembly of the apparatus with the developing unit positioned in the spaced position, an axis of the

engaging portion is deviated from the axis of the developing roller with respect to the crossing direction.

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PN - [JP2012088686](#) A 20120510

PNFP - JP5264965B B2 20130814

PR - JP20100212400
20100922; JP20110160154
20110721

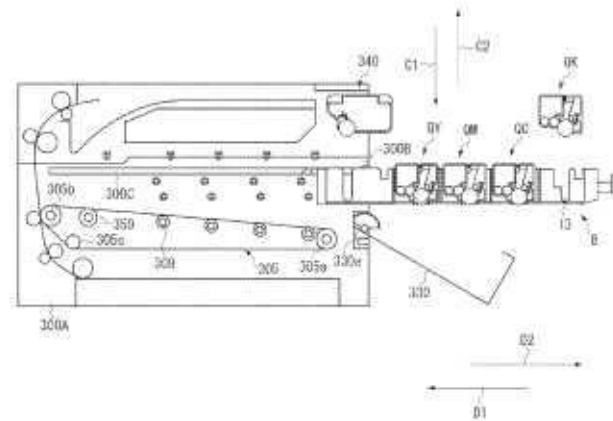
AP - JP20110160154 20110721

DT - I

CCI - [G03G21/1821](#)

FI - G03G15/00&554;
G03G15/00&556; G03G15/01&L;
G03G21/00&326; G03G21/12;
G03G21/16&133;
G03G21/16&171;
G03G21/16&176; G03G21/16&190

FT - 2H134/GA01; 2H134/GA06;
2H134/GB02; 2H134/JB02;
2H134/KG07; 2H134/KH03;
2H134/KH12; 2H171/FA01;
2H171/FA02; 2H171/FA03;
2H171/FA10; 2H171/FA17;
2H171/FA28; 2H171/GA06;
2H171/GA11; 2H171/GA12;
2H171/HA17; 2H171/HA22;
2H171/HA23; 2H171/HA24;
2H171/HA33; 2H171/HA39;
2H171/JA23; 2H171/JA26;
2H171/JA29; 2H171/JA31;
2H171/JA40; 2H171/JA43;
2H171/JA44; 2H171/JA48;
2H171/JA52; 2H171/JA59;
2H171/KA05; 2H171/KA06;
2H171/KA17; 2H171/KA22;
2H171/KA23; 2H171/KA27;
2H171/KA29; 2H171/QA04;
2H171/QA08; 2H171/QA24;
2H171/QC03; 2H171/QC22;
2H171/QC26; 2H171/SA11;
2H171/SA14; 2H171/SA18;
2H171/SA22; 2H171/SA26;
2H171/WA02; 2H171/WA03;
2H171/WA07; 2H171/WA21;



2H300/EA01; 2H300/EA05;
2H300/EA17; 2H300/EB04;
2H300/EB07; 2H300/EB12;
2H300/EC02; 2H300/EF03;
2H300/EH16; 2H300/EJ09;
2H300/EJ47; 2H300/EK03;
2H300/EL06; 2H300/GG33;
2H300/GG34; 2H300/GG35;
2H300/GG49; 2H300/HH03;
2H300/HH22; 2H300/HH26;
2H300/HH29

- PA - (A)
CANON KK
- TI - (A)
ELECTROPHOTOGRAPHIC IMAGE
FORMING APPARATUS
- AB - (A)
PROBLEM TO BE SOLVED: To
provide an **electrophotographic**
image forming apparatus that
allows a user to replace both
a **cartridge** for
accommodating **developer** and a
waste **developer** container for
accommodating waste **developer**
with an easier operation.
SOLUTION: An **electrophotographic**
image processing apparatus
includes a support member 13
with cartridges Q mounted
thereon, and a waste **developer**
container 340 for accommodating
waste **developer**; and a cleaning
member 342 for
removing **developer** on a transfer
body 305 is provided to the
support member 13. The support
member 13 is moved to
an **attachment**/detachment
position so that both the
cartridges Q and the
waste **developer** container 340
can be replaced.

respect to the supporting member,
having a cleaning member
configured to remove
the **developer** from a surface of
the transfer member, and
configured to store the **developer**
removed by the cleaning member.

9/18 © EPODOC / EPO

PN - [CN102323730](#) A 20120118

PNFP - CN102323730B B 20140806

PR - JP20080161117 20080620

AP - CN20111267924 20090619

DT - I

CCI - [G03G21/186](#)

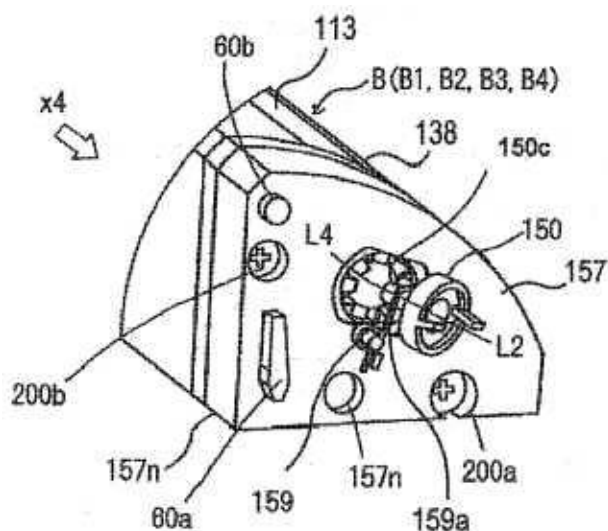
CUI - [G03G15/08](#) ; [G03G15/0806](#) ;
[G03G21/1647](#) ; [G03G21/1814](#)

PA - (A B)
CANON KK

TI - (A)
Cartridge, assembling method
for **cartridge**, and disassembling
method for **cartridge**

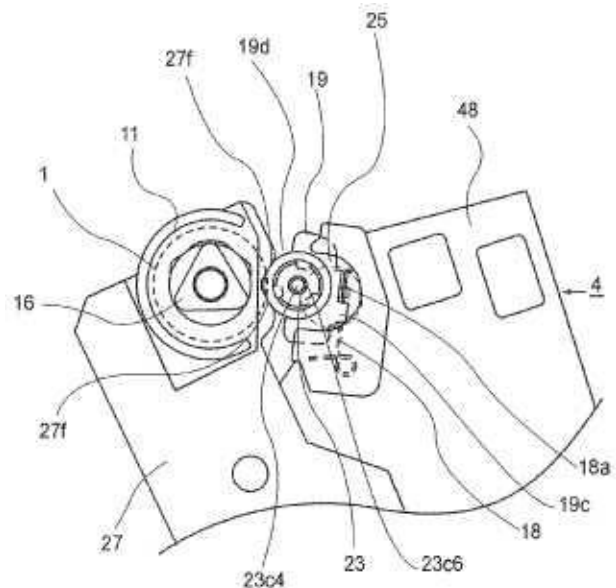
- (B)
Cartridge detachably mountable
to a main assembly of
an **electrophotographic** image
forming apparatus

AB - (A)
A **cartridge** detachably mountable
to a main assembly of
an **electrophotographic** image
forming apparatus, includes
a **developer** accommodating
portion for accommodating
a **developer**; a developing roller
for developing an electrostatic
latent image formed on
an **electrophotographic**
photosensitive drum with
the **developer** accommodated in
the **developer** accommodating
portion; a **coupling** member for
receiving a rotational force for
rotating the developing roller
from the main assembly, in a state
in which the **cartridge** is mounted



to the main assembly; a cylindrical member movably supporting one end portion of the **coupling** member inside of the cylindrical member; a cylindrical member side force receiving portion, provided inside the cylindrical member, for receiving the rotational force received from the main assembly by the **coupling** member; a first regulating portion, provided inside of the cylindrical member and deformable in a radial direction of the cylindrical member, for preventing one end portion of the **coupling** member from disengaging in an axial direction of the cylindrical member; and a second regulating portion for regulating deformation of the first regulating portion in a state in which one end portion of the **coupling** is mounted to an inside of the cylindrical member with deformation of the first regulating portion.

10/18 © EPODOC / EPO
 PN - [TW200832092](#) A 20080801
 PNFP - TWI388946B B 20130311
 PR - JP20060332837
 20061211; JP20070259660
 20071003
 AP - TW20070142484 20071109
 DT - I
 CCI - [G03G21/1609](#) ; [G03G21/186](#)
 CUI - [G03G21/1821](#) ; [G03G21/1839](#)
 CCA - [G03G2221/1657](#) ;
[G03G2221/1853](#) ;
[G03G2221/1884](#)
 PA - (A B)
 CANON KK [JP]
 TI - (A B)
 Process **cartridge** and image
 forming apparatus



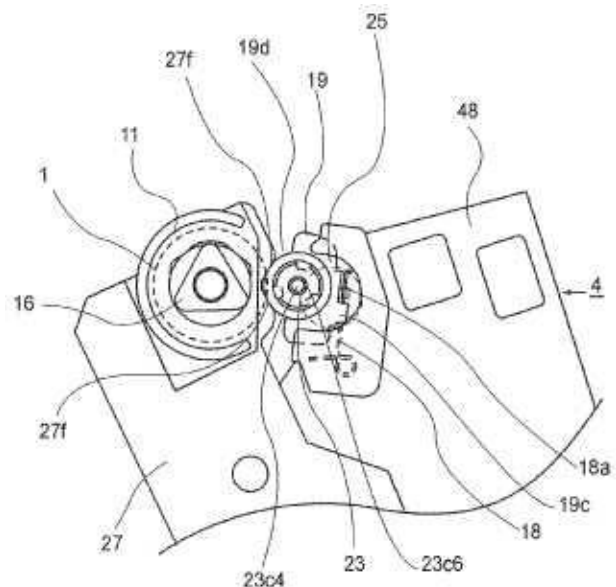
AB

- (A)

A process **cartridge** detachably mountable to a main assembly of an **electrophotographic** image forming apparatus, wherein the main assembly includes a rotatable first main assembly drive transmission member and a rotatable second main assembly drive transmission member, the process **cartridge** includes an **electrophotographic** photosensitive drum; a drum unit containing the **electrophotographic** drum; a developing roller for developing an electrostatic latent image formed on the **electrophotographic** photosensitive drum with a **developer**; a developing unit containing the developing roller and movably connected with the drum unit, the developing unit being movable relative to the drum unit between a contact position in which the developing roller is contacted to the **electrophotographic** photosensitive drum and a spaced position in which the developing roller is spaced from the **electrophotographic** photosensitive drum; a drum **coupling** member, provided on one axial end of the **electrophotographic** photosensitive drum, for engaging with the first main assembly drive transmission member and transmitting a first rotational driving force to the **electrophotographic** photosensitive drum, when the process **cartridge** is mounted to the main assembly of the apparatus along an axial direction of the **electrophotographic**

photosensitive drum; a shaft **coupling** member, provided on one axial end of the developing roller, for transmitting a second rotational driving force with a deviation permitted between an axis of the second main assembly drive transmission member and an axis of the developing roller, wherein the shaft **coupling** member includes an engaging portion for engaging with the second main assembly drive transmission member and receiving the second rotational driving force, when the process **cartridge** is mounted to the main assembly of the apparatus; the engaging portion is movable in a direction crossing with the axial direction of the developing roller; and when the process **cartridge** enters the main assembly of the apparatus with the developing unit positioned in the spaced position, an axis of the engaging portion is deviated from the axis of the developing roller with respect to the crossing direction.

11/18 © EPODOC / EPO
 PN - [MX2009005097](#) A 20090527
 PR - JP20060332837
 20061211; JP20070259660
 20071003; WO2007JP71674
 20071101
 AP - MX20090005097 20071101
 DT - I
 CCI - [G03G21/1609](#) ; [G03G21/186](#)
 CUI - [G03G21/1821](#) ; [G03G21/1839](#)
 CCA - [G03G2221/1657](#) ;
[G03G2221/1853](#) ;
[G03G2221/1884](#)
 PA - CANON KK [JP]
 TI - PROCESS **CARTRIDGE** AND IMAGE FORMING APPARATUS.



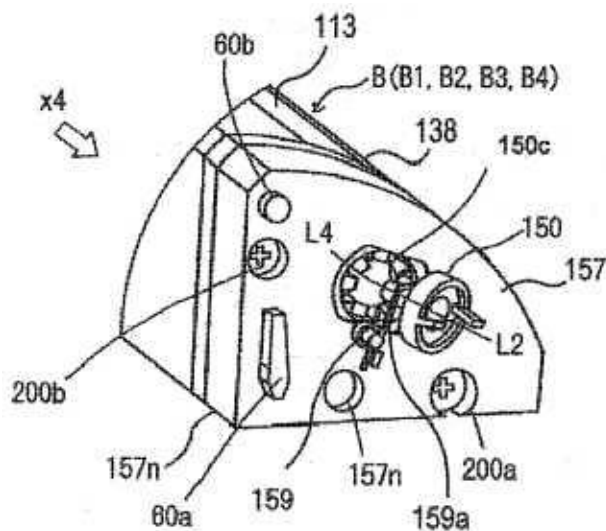
AB

- A process **cartridge** detachably mountable to a main assembly of an **electrophotographic** image forming apparatus, wherein the main assembly includes a rotatable first main assembly drive transmission member and a rotatable second main assembly drive transmission member, the process **cartridge** includes an **electrophotographic** photosensitive drum; a drum unit containing the **electrophotographic** drum; a developing roller for developing an electrostatic latent image formed on the **electrophotographic** photosensitive drum with a **developer**; a developing unit containing the developing roller and movably connected with the drum unit, the developing unit being movable relative to the drum unit between a contact position in which the developing roller is contacted to the **electrophotographic** photosensitive drum and a spaced position in which the developing roller is spaced from the **electrophotographic** photosensitive drum; a drum **coupling** member, provided on one axial end of the **electrophotographic** photosensitive drum, for engaging with the first main assembly drive transmission member and transmitting a first rotational driving force to the **electrophotographic** photosensitive drum, when the process **cartridge** is mounted to the main assembly of the apparatus along an axial direction of the **electrophotographic** photosensitive drum; a

shaft **coupling** member, provided on one axial end of the developing roller, for transmitting a second rotational driving force with a deviation permitted between an axis of the second main assembly drive transmission member and an axis of the developing roller, wherein the shaft **coupling** member includes an engaging portion for engaging with the second main assembly drive transmission member and receiving the second rotational driving force, when the process **cartridge** is mounted to the main assembly of the apparatus; the engaging portion is movable in a direction crossing with the axial direction of the developing roller; and when the process **cartridge** enters the main assembly of the apparatus with the developing unit positioned in the spaced position, an axis of the engaging portion is deviated from the axis of the developing roller with respect to the crossing direction.

12/18 © EPODOC / EPO

- PN - [US2009317135](#) A1 20091224
- PNFP - US8433219 B2 20130430
- PR - JP20080161117
20080620; JP20090116175
20090513
- AP - US20090486199 20090617
- DT - **
- CT - || R141 (A1)
[US2008240796](#) A1 20081002 [
] (MORIOKA MASANARI [JP], et al);
[US2009317129](#) A1 20091224 [
] (ABE DAISUKE [JP], et al);
[US2009317131](#) A1 20091224 [
] (MORIOKA MASANARI [JP], et al);
[US2009317132](#) A1 20091224 [
] (ASANUMA NAOYA [JP], et al);
[US2009317134](#) A1 20091224 [
]



	] (MIYABE SHIGEO [JP], et al); US2005115043 A1 20050602 [] (MAESHIMA HIDEKI [JP], et al); US2005232654 A1 20051020 [] (KARAKAMA TOSHIYUKI [JP], et al); US2008260428 A1 20081023 [] (UENO TAKAHITO [JP], et al); US2010054778 A1 20100304 [] (ADACHI MOTOKI [JP], et al); US2010054823 A1 20100304 [] (TAKASAKA ATSUSHI [JP], et al); US2011091239 A1 20110421 [] (UENO TAKAHITO [JP], et al); US2011103812 A1 20110505 [] (TAKASAKA ATSUSHI [JP], et al)
	- STSE (B2) US2008240796 A1 20081002 [] (MORIOKA MASANARI [JP], et al); US2008260428 A1 20081023 [] (UENO TAKAHITO [JP], et al); US2009317129 A1 20091224 [] (ABE DAISUKE [JP], et al); US2009317131 A1 20091224 [] (MORIOKA MASANARI [JP], et al); US2009317132 A1 20091224 [] (ASANUMA NAOYA [JP], et al); US2009317134 A1 20091224 [] (MIYABE SHIGEO [JP], et al); US2010054778 A1 20100304 [] (ADACHI MOTOKI [JP], et al); US2010054823 A1 20100304 [] (TAKASAKA ATSUSHI [JP], et al); US2011091239 A1 20110421 [] (UENO TAKAHITO [JP], et al); US2011103812 A1 20110505 [] (TAKASAKA ATSUSHI [JP], et al)
CCI	- G03G21/186
CUI	- G03G15/08 ; G03G15/0806 ; G03G21/1647 ; G03G21/1814
PA	- (A1) CANON KK [JP] - (B2) MIYABE SHIGEO [JP]; UENO TAKAHITO [JP]; TAKASAKA ATSUSHI [JP]; CANON KK [JP]
TI	- (A1) CARTRIDGE , MOUNTING METHOD

FOR **COUPLING** MEMBER, AND
DISASSEMBLING METHOD
FOR **COUPLING** MEMBER

- (B2)

Cartridge, mounting method
for **coupling** member, and
disassembling method
for **coupling** member

AB

- (A1)

A **cartridge** detachably mountable
to a main assembly of
an **electrophotographic** image
forming apparatus, includes
a **developer** accommodating
portion for accommodating
a **developer**; a developing roller
for developing an electrostatic
latent image formed on
an **electrophotographic**
photosensitive drum with
the **developer** accommodated in
the **developer** accommodating
portion; a **coupling** member for
receiving a rotational force for
rotating the developing roller
from the main assembly, in a state
in which the **cartridge** is mounted
to the main assembly; a
cylindrical member movably
supporting one end portion of
the **coupling** member inside of the
cylindrical member; a cylindrical
member side force receiving
portion, provided inside the
cylindrical member, for receiving
the rotational force received from
the main assembly by the **coupling**
member; a gear, provided on an
outer periphery of the cylindrical
member, for transmitting the
rotational force received by the
cylindrical member side force
receiving portion to the
developing roller; a first
regulating portion, provided
inside of the cylindrical member
and deformable in a radial
direction of the cylindrical
member, for preventing one end

portion of the **coupling** member from disengaging in an axial direction of the cylindrical member; and a second regulating portion for regulating deformation of the first regulating portion in a state in which one end portion of the **coupling** is mounted to an inside of the cylindrical member with deformation of the first regulating portion.

- (B2)

A **cartridge** includes a **coupling** member for receiving a rotational force for rotating a developing roller. A cylindrical member movably supports one end portion of the **coupling** member inside of the cylindrical member. A cylindrical member side force receiving portion is provided inside the cylindrical member, with the cylindrical member side force receiving portion receiving the rotational force received by the **coupling** member. A first regulating portion is provided inside of the cylindrical member for preventing one end portion of the **coupling** member from disengaging in an axial direction of the cylindrical member. The first regulating portion is deformable outwardly in a radial direction of the cylindrical member so as to allow the one end portion of the **coupling** member to disengage in the axial direction of the cylindrical member.

PN - [KR20090080120](#) A 20090723

PNFP - KR101163831B B1 20120709

PR - WO2007JP71674
20071101; JP20060332837
20061211; JP20070259660
20071003

AP - KR20097011949 20071101

DT - I

CCI - [G03G21/1609](#) ; [G03G21/186](#)

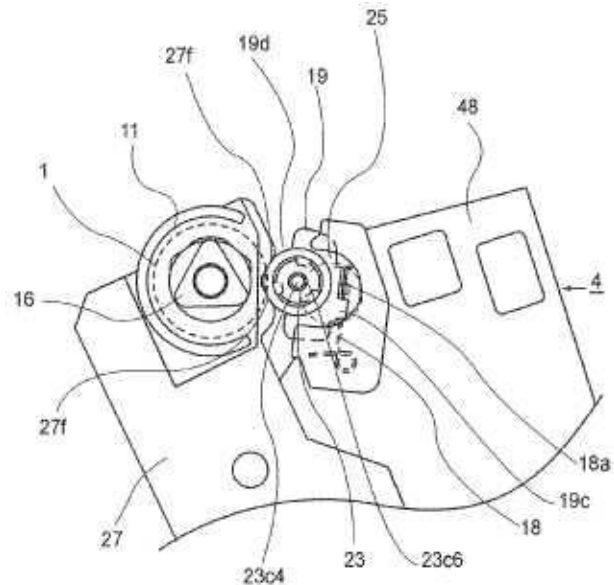
CUI - [G03G21/1821](#) ; [G03G21/1839](#)

CCA - [G03G2221/1657](#) ;
[G03G2221/1853](#) ; [G03G2221/1884](#)

PA - (A)
CANON KK [JP]

TI - (A)
PROCESS **CARTRIDGE** AND IMAGE
FORMING APPARATUS
(B1)
PROCESS **CARTRIDGE**,
ELECTROPHOTOGRAPHIC IMAGE
FORMING APPARATUS AND
DEVELOPING ROLLER

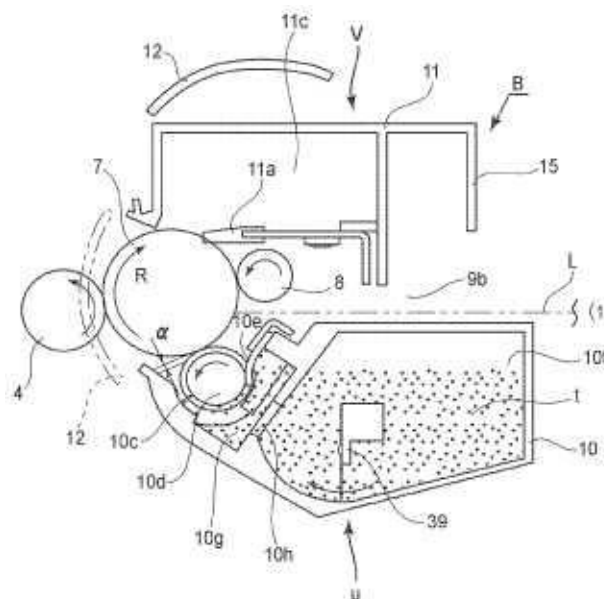
AB - (A)
A process **cartridge** detachably
mountable to a main assembly of
an **electrophotographic** image
forming apparatus, wherein the
main assembly includes a
rotatable first main assembly drive
transmission member and a
rotatable second main assembly
drive transmission member, the
process **cartridge** includes
an **electrophotographic**
photosensitive drum; a drum unit
containing the **electrophotographic**
drum; a developing roller for
developing an electrostatic latent
image formed on
the **electrophotographic**
photosensitive drum with
a **developer**; a developing unit
containing the developing roller
and movably connected with the
drum unit, the developing unit
being movable relative to the drum
unit between a contact position in



which the developing roller is contacted to the **electrophotographic** photosensitive drum and a spaced position in which the developing roller is spaced from the **electrophotographic** photosensitive drum; a drum **coupling** member, provided on one axial end of the **electrophotographic** photosensitive drum, for engaging with the first main assembly drive transmission member and transmitting a first rotational driving force to the **electrophotographic** photosensitive drum, when the process **cartridge** is mounted to the main assembly of the apparatus along an axial direction of the **electrophotographic** photosensitive drum; a shaft **coupling** member, provided on one axial end of the developing roller, for transmitting a second rotational driving force with a deviation permitted between an axis of the second main assembly drive transmission member and an axis of the developing roller, wherein the shaft **coupling** member includes an engaging portion for engaging with the second main assembly drive transmission member and receiving the second rotational driving force, when the process **cartridge** is mounted to the main assembly of the apparatus; the engaging portion is movable in a direction crossing with the axial direction of the developing roller; and when the process **cartridge** enters the main assembly of the apparatus with the developing unit positioned in the spaced position, an axis of the engaging portion is deviated from the axis of the developing roller with respect to

the crossing direction.

- 14/18** © EPODOC / EPO
- PN - [JP2009109848](#) A 20090521
- PNFP - JP4440295B B2 20100324
- PR - JP20070283422 20071031
- AP - JP20070283422 20071031
- DT - I
- CCI - [G03G15/0813](#) ; [G03G15/0894](#) ;
[G03G15/751](#) ; [G03G21/1821](#) ;
[G03G21/1825](#)
- CCA - [G03G2221/1687](#)
- FI - G03G15/00&550;
G03G15/00&556;
G03G21/00&510;
G03G21/18&110
- FT - 2H171/FA02; 2H171/FA07;
2H171/FA09; 2H171/FA13;
2H171/GA15; 2H171/GA19;
2H171/JA23; 2H171/JA27;
2H171/JA29; 2H171/JA31;
2H171/JA40; 2H171/PA17;
2H171/PA18; 2H171/PA19;
2H171/PA20; 2H171/QA02;
2H171/QA08; 2H171/QB03;
2H171/QB15; 2H171/QB19;
2H171/QB32; 2H171/QC03;
2H171/QC22; 2H171/QC36;
2H171/SA11; 2H171/SA14;
2H171/SA19; 2H171/SA22;
2H171/SA26; 2H270/LA80;
2H270/LD05; 2H270/MF13;
2H270/MF25; 2H270/ZD05
- PA - (A)
CANON KK
- TI - (A)
REPRODUCTION METHOD FOR
PROCESS **CARTRIDGE**
- AB - (A)
PROBLEM TO BE SOLVED: To
provide a simple reproduction
method for a process **cartridge**
capable of remerchandizing a
used process **cartridge**.
- SOLUTION: This reproduction
method for the process **cartridge**



has a support member removing process for removing a support member 13 from a drum frame body 11, a frame body separating process for separating a developing frame body 10 and the drum frame body 11, a drum attaching process for attaching a new **electrophotographic** photoreceptor drum 7 to the drum frame body 11, a **developer** refilling process for refilling a **developer** into a **developer** storage part 10f of the developing frame body 10, and a frame body **coupling** process for **coupling** swingably the developing frame body 10 and the drum frame body 11 each other.

- COPYRIGHT: (C)2009,JPO&INPIT

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PN - [US2005238395](#) A1 20051027

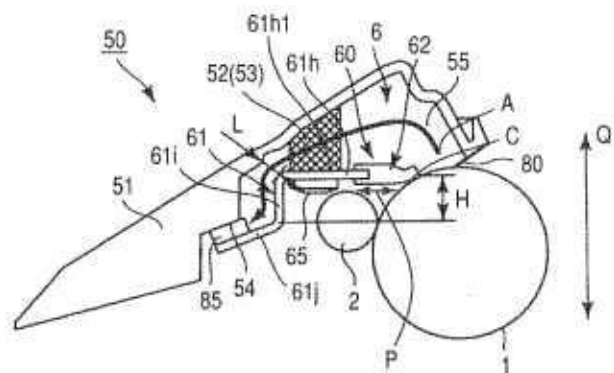
PNFP - US7158749 B2 20070102

PR - JP20040129672
20040426; JP20040134643
20040428; JP20040274205 20040921

AP - US20040957701 20041005

DT - *; Rep

CT - || STSE (B2)
[US4702591](#) A 19871027 [] (TSUDA TADAYUKI [JP], et al)
[US5066983](#) A 19911119 [] (TONOMOTO YOSHIHIRO [JP])
[US5298953](#) A 19940329 [] (LINDBLAD NERO R [US], et al)
[US6137973](#) A 20001024 [] (NISHIUWATOKO TSUTOMU [JP], et al)
[US6175701](#) B1 20010116 [] (KWON TAI-EUN [KR])
[US6459866](#) B1 20021001 [] (MEGURO TAKEHIRO [JP])
[US6640070](#) B2 20031028 [] (SANMONJI YOSHINORI [JP])
[US2002025181](#) A1 20020228 [] (MEGURO TAKEHIRO [JP])



- || R141 (A1)
 - [US5383011](#) A [];
 - [US6016413](#) A [];
 - [US6169866](#) B1 [];
 - [US6175701](#) B1 [];
 - [US6029032](#) A [];
 - [US2002025181](#) A1 [];
 - [US5298953](#) A [];
 - [US5500714](#) A [];
 - [US6714752](#) B2 [];
 - [US6236821](#) B1 [];
 - [US6246848](#) B1 [];
 - [US6246849](#) B1 [];
 - [US6577831](#) B1 [];
 - [US5920753](#) A [];
 - [US6266500](#) B1 [];
 - [US2002085854](#) A1 [];
 - [US2004126131](#) A1 [];
 - [US5543898](#) A [];
 - [US5790923](#) A [];
 - [US5937239](#) A [];
 - [US6097909](#) A [];
 - [US6101354](#) A [];
 - [US6272299](#) B1 [];
 - [US6442359](#) B1 [];
 - [US6608980](#) B2 [];
 - [US6289189](#) B1 [];
 - [US4702591](#) A [];
 - [US5966566](#) A [];
 - [US5966568](#) A [];
 - [US6131007](#) A [];
 - [US6137973](#) A [];
 - [US6459866](#) B1 [];
 - [US6463233](#) B2 [];
 - [US6640070](#) B2 [];
 - [US5066983](#) A [];
 - [US5689774](#) A [];
 - [US5585895](#) A [];
 - [US6006058](#) A [];
 - [US6330409](#) B1 [];
 - [US6829455](#) B2 []
- CCI - [G03G21/0029](#) ; [G03G21/181](#) ;
[G03G21/1814](#)
- CCA - [G03G2215/0119](#) ; [G03G2221/183](#)
- PA - (A1 B2)
 CANON KK [JP]
- TI - (A1)
 Cleaning device, process cartiridge,

cleaning member and
electrophotographic image forming
apparatus

- (B2)
Cleaning device, process **cartridge**,
cleaning member
and **electrophotographic** image
forming apparatus

AB

- (A1)
A cleaning device to be used in an
electrophotographic image forming
apparatus, the cleaning device
including a frame, an elastic blade
elastically contacting
an **electrophotographic** photosensitive
drum to remove a **developer**
remaining thereon, a supporting
member for supporting the blade, and
a removed **developer** containing
portion for containing therein
the **developer** removed from the drum
by the blade. The supporting member
includes: a supporting portion
attached to the frame for supporting
the blade; a first bent portion bent
from the supporting portion to an
opposite side to an **attachment**
surface where the supporting portion
is attached to the frame, in an
orthogonal direction to the supporting
portion; a connecting portion
extending from the first bent portion to
the opposite side in the orthogonal
direction; a second bent portion bent
from the connecting portion to a side
opposite to a blade side, in the
orthogonal direction and in a lateral
direction of the supporting portion;
and an extension portion extending
from the second bent portion to the
side opposite to the blade side, in the
orthogonal direction and in the lateral
direction. A part of the containing
portion is constituted by the blade and
the supporting member.
- (B2)
A cleaning device used in
an **electrophotographic** image forming
apparatus includes a frame, an elastic

blade contacting
 an **electrophotographic** photosensitive
 drum to remove a **developer**
 remaining thereon, a blade supporting
 member, and a removed **developer**
 containing portion containing
 the **developer** removed from the drum
 by the blade. The supporting member
 includes: a supporting portion
 attached to the frame for supporting
 the blade; a first bent portion bent
 from the supporting portion to an
 opposite side to an **attachment**
 surface where the supporting portion
 is attached to the frame; a connecting
 portion extending from the first bent
 portion to the opposite side in the
 orthogonal direction; a second bent
 portion bent from the connecting
 portion in the orthogonal direction
 and in a lateral direction of the
 supporting portion; and an extension
 portion extending from the second
 bent portion, in the orthogonal
 direction and in the lateral direction.

16/18 © EPODOC / EPO

PN - [US6584293](#) B1 20030624

PR - US20020171035 20020611; DE2002209842U 20020626

AP - US20020171035 20020611

DT - **

CT - || STSE (B1)
[US4456154](#) A 19840626 [] (XEROX CORP [US]);
[US5111976](#) A 19920512 [] (CANON KK [JP]);
[US5475469](#) A 19951212 [] (SEIKO EPSON CORP [JP]);
[US6009289](#) A 19991228 [] (CANON KK [JP]);
[JPH07168435](#) A 19950704 [] (SEIKO EPSON CORP);
[JPH08179611](#) A 19960712 [] (SEIKO EPSON CORP)

CCI - [B29C73/163](#) ; [B29C73/22](#) ; [B29D30/0685](#) ; [B60C1/00](#) ; [G03G15/0865](#) ; [G03G15/0875](#) ;
[G03G15/0886](#) ; [G03G21/1814](#) ; [G03G15/0855](#)

CCA - [B29L2030/00](#) ; [B29K2105/0058](#) ; [B29D2030/069](#) ; [G03G2215/00987](#) ; [G03G2215/068](#) ;
[G03G2215/0692](#) ; [G03G2221/1853](#)

PA - GEN PLASTIC IND CO LTD [TW]

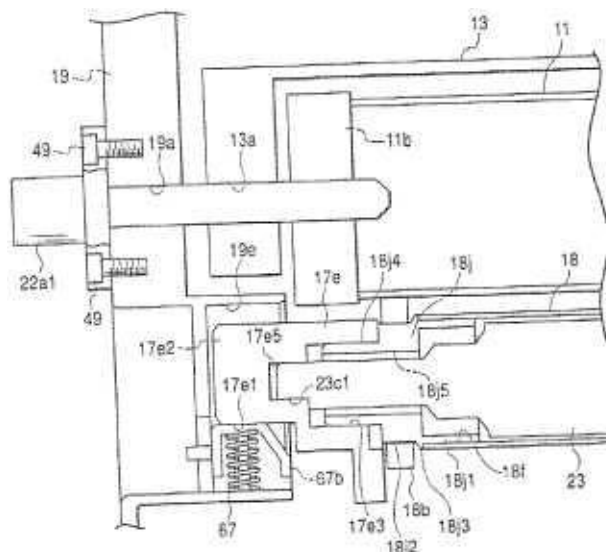
TI - Process **cartridge** and **developer** container assembly

AB - A process **cartridge** and **developer** container assembly is constructed to include a
 main **cartridge** holding an **electrophotographic** photosensitive member, developing
 means, charging means, and cleaning means, a **developer** container holding **developer**

and detachably secured to the main **cartridge**, and a **coupling** member for enabling the **developer** container to be detachably coupled to the main **cartridge**. The main **cartridge** has a plurality of **developer** receiving openings, and a first sliding cover, which opens the **developer** receiving openings upon installation of the **developer** container in the main **cartridge**, or closes the **developer** receiving openings after removal of the **developer** container.

17/18 © EPODOC / EPO

- PN - [US2003228171](#) A1 20031211
- PNFP - US6836629 B2 20041228
- PR - JP20000392334 20001225
- AP - US20010023875 20011221
- DT - *; Rep
- CT - || STSE (B2)
[US4835565](#) A 19890530 [] (NAGATSUNA SHINZI [JP], et al)
[US4951093](#) A 19900821 [] (ISHII KOHJI [JP], et al)
[US5812918](#) A 19980922 [] (NAKAUE TAKAHISA [JP], et al)
[US6208818](#) B1 20010327 [] (NODA SHINYA [JP])
[US6442359](#) B1 20020827 [] (NUMAGAMI ATSUSHI [JP], et al)
[US6542706](#) B2 20030401 [] (TOBA SHINJIRO [JP], et al)
[US2001026707](#) A1 20011004 [] (MIYABE SHIGEO [JP], et al)
[JPH05107822](#) A 19930430 [] (YASHIRO MASAHIKO)
- || R141 (A1)
[US2001026707](#) A1 []
- CCI - [G03G21/1814](#)
- CCA - [G03G2221/1861](#)
- PA - (B2)
CANON KK [JP]
- TI - (A1 B2)
Developing blade,
process **cartridge**,
and **electrophotographic** image
forming apparatus
- AB - (A1)
A developing blade for use in a
process **cartridge** for regulating
an amount of **developer** on a
peripheral surface of a developing



roller, the process **cartridge** including: an **electrophotographic** photosensitive drum; a developing roller for developing an electrostatic latent image formed on the **electrophotographic** photosensitive drum; a developing frame that rotatably supports the developing roller; a drum frame that rotatably supports the **electrophotographic** photosensitive drum, and that is connected to the developing frame, wherein the developing frame and the drum frame are rockable with respect to each other; and a biasing member for biasing the developing roller toward the **electrophotographic** photosensitive drum, wherein the developing blade is supported by a supporting member and is attached to the developing frame, and wherein at least one end of the supporting member in a lengthwise direction of the developing roller is provided with an **attachment** portion to which the biasing member is attached.

- (B2)

A developing blade for use in a process **cartridge** regulates the amount of **developer** on a peripheral surface of a developing roller. The process **cartridge** includes: an **electrophotographic** photosensitive drum; a developing roller for developing an electrostatic latent image formed on the **electrophotographic** photosensitive drum; a developing frame that rotatably supports the developing roller; a drum frame that rotatably supports the **electrophotographic** photosensitive drum, and that is connected to the developing frame, wherein the developing frame and the drum frame are

rockable with respect to each other; and a biasing member for biasing the developing roller toward the **electrophotographic** photosensitive drum. The developing blade is supported by a supporting member and is attached to the developing frame, and wherein at least one end of the supporting member in a lengthwise direction of the developing roller is provided with an **attachment** portion to which the biasing member is attached.

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PN - [WO2008072431](#) A2 20080619

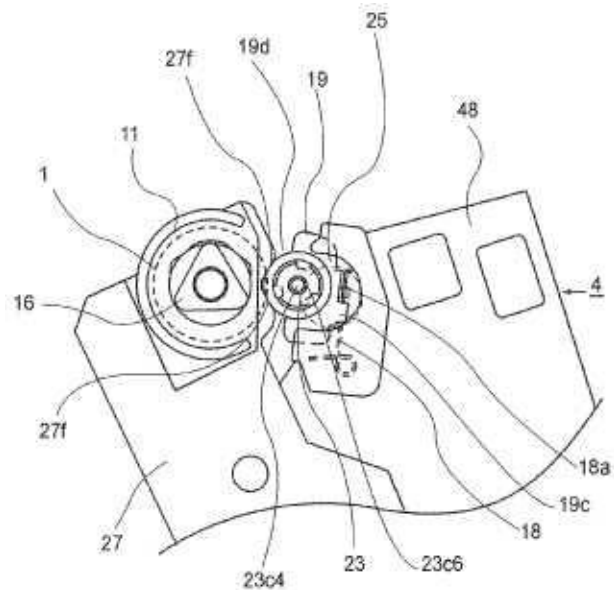
PNFP - WO2008072431 A3 20080731

PR - JP20060332837
20061211; JP20070259660
20071003

AP - WO2007JP71674 20071101

DT - **

CT - |EP| ISR (A3)
[US2006034637](#) A1 20060216
[XAY] (KIM YOUNG-MIN [KR], et al)
[X] 1,2,11-21
* the whole document *
[A] 3-9
[Y] 10;
[US4835565](#) A 19890530
[XA] (NAGATSUNA SHINZI [JP], et al)
[X] 1,2,11-21
* abstract *
* page 1, line 1 - page 2, line 38 *
[A] 3-9;
[US6285847](#) B1 20010904
[A] (TANIZAKI JUNICHI [JP], et al)
[A] 1
* abstract *
* column 1, line 67 - column 2, line 4 *
* column 2, lines 28-34 *
* column 4, lines 28-67 *;
[GB2141520](#) A 19841219
[A] (XEROX CORP)



[A] 1
 * abstract *
 * page 1, line 1 - page 2,
 line 38 *;
[US2005025522](#) A1 20050203
 [Y] (TSUZUKI MASATOMO [JP], et
 al)
 [Y] 10
 * paragraphs [0153] , [0154];
 figures 17,18 *

- CCI - [G03G21/1609](#) ; [G03G21/186](#)
- CUI - [G03G21/1821](#) ; [G03G21/1839](#)
- CCA - [G03G2221/1657](#) ;
[G03G2221/1853](#) ;
[G03G2221/1884](#)
- PA - (A2 A3)
 CANON KK [JP]; CHADANI KAZUO
 [JP]; MORI TOMONORI [JP];
 HASHIMOTO KOJI [JP]
- TI - (A2 A3)
 PROCESS **CARTRIDGE** AND IMAGE
 FORMING APPARATUS
- AB - (A2)
 A process **cartridge** detachably
 mountable to a main assembly of
 an **electrophotographic** image
 forming apparatus, wherein the
 main assembly includes a
 rotatable first main assembly
 drive transmission member and a
 rotatable second main assembly
 drive transmission member, the
 process **cartridge** includes
 an **electrophotographic**
 photosensitive drum; a drum unit
 containing
 the **electrophotographic** drum; a
 developing roller for developing
 an electrostatic latent image
 formed on
 the **electrophotographic**
 photosensitive drum with
 a **developer**; a developing unit
 containing the developing roller
 and movably connected with the
 drum unit, the developing unit
 being movable relative to the
 drum unit between a contact

position in which the developing roller is contacted to the **electrophotographic** photosensitive drum and a spaced position in which the developing roller is spaced from the **electrophotographic** photosensitive drum; a drum **coupling** member, provided on one axial end of the **electrophotographic** photosensitive drum, for engaging with the first main assembly drive transmission member and transmitting a first rotational driving force to the **electrophotographic** photosensitive drum, when the process **cartridge** is mounted to the main assembly of the apparatus along an axial direction of the **electrophotographic** photosensitive drum; a shaft **coupling** member, provided on one axial end of the developing roller, for transmitting a second rotational driving force with a deviation permitted between an axis of the second main assembly drive transmission member and an axis of the developing roller, wherein the shaft **coupling** member includes an engaging portion for engaging with the second main assembly drive transmission member and receiving the second rotational driving force, when the process **cartridge** is mounted to the main assembly of the apparatus; the engaging portion is movable in a direction crossing with the axial direction of the developing roller; and when the process **cartridge** enters the main assembly of the apparatus with the developing unit positioned in the spaced position, an axis of the

engaging portion is deviated from the axis of the developing roller with respect to the crossing direction.

- (A3)

A process **cartridge** (7) detachably mountable to a main assembly of an **electrophotographic** image forming apparatus, wherein the main assembly includes a first drive transmission member (66) and a second main drive transmission member (53), the process **cartridge** includes a drum unit (26) containing an **electrophotographic** drum (1); a developing unit (4) containing a developing roller (25) and movably connected with the drum unit, movable relative to the drum unit between a contact position and a spaced position; a drum **coupling** member (16), provided on one axial end of the drum, for engaging with the first drive transmission member (66), when the process **cartridge** is mounted, along an axial direction of the drum; a shaft **coupling** member (20), provided on one axial end of the developing roller (25), with a deviation permitted between an axis of the second drive transmission member (53) and an axis of the developing roller (25), wherein the shaft **coupling** member (20) includes an engaging portion (23) for engaging with the second drive transmission member (53), when the process **cartridge** is mounted; the engaging portion (23) is movable in a direction crossing with the axial direction of the developing roller; and when the process cartridge enters the main assembly with the developing unit positioned in the spaced position, an axis of the engaging portion

(23) is deviated from the axis of the developing roller with respect to the crossing direction.

[SS 10] ..v

[EPODOC: SS 10]