CLASS 399, ELECTROPHOTOGRAPHY

SECTION I - CLASS DEFINITION

This class provides for electrophotographically reproducing an original (e.g., document) by the action of light directly from the original to a photoconductive member whose electrical conductivity, electrical charge, magnetic condition, or electrical emissivity of a photoconductive medium is selectively altered by the action of light to produce an electrostatic latent image which persists after imaging based upon differences in such electrical property. The latent image is made visible by development; and the developed image may be made permanent by transfer and fixing, or fixing. This class provides for the subcombinations directed to charging, developing, transferring, fixing, cleaning, or sheet feeding for an electrophotographic apparatus whether or not the imaging light is directly from the original. This class also provides for methods and means for perfecting the apparatus provided above (e.g., control of electrophotographic process, diagnostics, operator interface, etc.).

(1) Note. The apparatus herein classified generally involves the application of a uniform electrostatic charge to a photoresponsive medium comprising a conductive support coated with a photoconductive insulator. Latent electrostatic images are formed by exposure of an original directly onto the photoresponsive medium through an optical lens system. The charge applied to the light sensitive medium is selectively discharged by exposure and remains only on selected portions of the photoresponsive medium (i.e., those areas which correspond to the original image). The photoresponsive medium is moved to a developing station where toner is applied to the charged areas of the photoresponsive medium forming a visible image thereupon. The photoresponsive medium is then moved to a transfer station where the toned image is transferred to a copy substrate (e.g., a piece of paper). The toned substrate is then fed to a fixing station where the toner is permanently affixed to the paper, usually by heat or pressure. The photoresponsive medium is then moved to a cleaning station where untransferred toner and any leftover electrical charge are removed so another copy cycle can begin.

(2) Note. The use of the limitation “directly” above excludes image formation systems in which an image of an original is detected and converted to electrical signals which are subsequently utilized to generate further illumination signals to optically form an image of the original on the medium. This excluded subject matter may be found, for example, in Class 347, subclasses 112+, and in Class 358, subclasses 400-304 and more specifically 401. However, the nominal recitation of a light image to an electrical signal or an equivalent statement would not serve to exclude subject matter from Class 399. Also, Electrophotography has no modification of converted electrical signals.

OTHER CLASSIFICATION SYSTEMS

Each subclass definition may contain an OTHER CLASSIFICATION SYSTEMS listing that is to be used for informational purposes only. These classification listings may change at any time after their publication and are therefore not guaranteed to be current. In addition, the classification listing does not necessarily indicate the sole relationship between the U.S. Patent Classification System and foreign classifications. Even where a single classification is listed for a single U.S. subclass, a one-to-one correlation should not be inferred. As a result, information contained therein is considered to be only a guide to related subject matter.

Types of other classification systems may include IPC^{6} which indicates an International Patent Classification (sixth edition) of the World Intellectual Property Organization (WIPO), JPO/FI which indicates the Japanese Patent Office and its File Index (FI is a subdivision of the IPC with related subject matter) classifications, or the European Patent Classification (EPC) which indicates the European Patent Office"s classification and also further subdivides the IPC into related subject matter.

SECTION II - LINES WITH OTHER CLASSES AND WITHIN THIS CLASS

ELECTROPHOTOGRAPHY APPARATUS CLASSIFIED ELSEWHERE

In Class 250, Radiant Energy, subclass 315.3 provides for xerographic copying methods and apparatus which utilize invisible radiation, subclass 317.1 provides for infrared or thermal image document pattern copying methods or apparatus, and subclasses 582 and 583 provides for methods and apparatus to expose by radiant energy a recording detector. Copying methods are classified in Class 430, Radiation Imagery Chemistry: Process, Composition, or Product Thereof.

ELECTROPHOTOGRAPHY APPARATUS COMBINED WITH ANOTHER STRUCTURE OR STRUCTURES AND CLASSIFIED ELSEWHERE

Claims which recite apparatus for photographing something other than an original or carrier as herein defined and also for copying an original or carrier are classified in Class 396, Photography, especially subclasses 310+, 322+, and 429+, or Class 346, Recorders. Class 386, Motion Video Signal Processing for Recording or Reproducing, provides for claims directed generally to recording or reproducing of a motion video signal, especially subclass 342, which is directed to photocopying that includes forming a television image by utilizing a cathode-ray tube. Class 396, Photography, subclasses 429+, provides for patents where only a nominal cathode-ray tube is recited. The combination of a detailed register with a broadly or specifically claimed copier is classified in Class 235, Registers. (See the first paragraph of the Class 235 class definition.)

ELECTROPHOTOGRAPHY SUBCOMBINATIONS CLASSIFIED ELSEWHERE

Class 226, Advancing Material of Indeterminate Length, especially subclasses 52+, provides for film advancing mechanisms where no more than a nominal optical or photocopying element is claimed. Photographic lights and projection lights, per se, are in Class 362, Illumination, subclasses 3+ and 257+. Class 271, Sheet Feeding or Delivering, provides for sheet feeding or delivering means where no specific electrophotographic structure is recited. Class 359, Optics: Systems (Including Communication) and Elements, provides for lenses in subclasses 642+, reflectors in subclasses 838+, and optical absorption filters in subclasses 885+.

SECTION III - REFERENCES TO OTHER CLASSES

SEE OR SEARCH CLASS:

15, Brushing, Scrubbing, and General Cleaning, for devices for merely cleaning the photosensitive medium, particularly subclasses 1.51+ for electrostatic cleaning.

34, Drying and Gas or Vapor Contact With Solids, for devices for treating a coating, including fusing or coalescing a particulate coating by solvent vapor treatment, per se.

74, Machine Element or Mechanism, subclasses 2+ for related subject matter concerning automatic operation or control of machine elements and mechanisms.

101, Printing, for printers where the ink or imaging material is affected by an electrostatic field.

118, Coating Apparatus, for apparatus for producing configured coatings applied to a support material under the control or direction of electrical, magnetic, or radiant energy applied to the coating material in a predetermined pattern; for applying a light sensitive coating to a support material; for development or transfer, by a coating operation, of images made by electric photography, or for applying protective coatings to the developed or transferred image; also any or all of these combined with aftertreatment of the developed image or cleaning of the light sensitive medium, especially subclasses 51, 58+, 72+, 200+, 308+, 620+, 720+, and 722+.

134, Cleaning and Liquid Contact With Solids, for methods of cleaning the photosensitive medium, particularly subclasses 1+ for cleaning including the application of electrical, radiant, or wave energy.

137, Fluid Handling, appropriate subclasses for generic fluid handling apparatus which may be used to apply liquid toner to a latent image to make it visible.

178, Telegraphy, subclasses 77+ for telegraphic devices combined with other instruments (e.g., an electrophotographic copier).

188, Brakes, subclasses 381+ for generic braking devices which may be used to stop scanning devices, for example, while minimizing vibrations.

192, Clutches and Power-Stop Control, subclasses 116.5+ for generic stop mechanisms which may be used for power stop control of electrophotographic movable platen scanners.

204, Chemistry: Electrical and Wave Energy, appropriate subclasses for methods and apparatus for forming or developing an image by

electrolysis, electro-osmosis, electrophoresis, or cathode sputtering, and combinations of electric photographic apparatus therewith.

206, Special Receptacle or Package, subclass 316.1 for special receptacles for an optical or photographic means.

226, Advancing Material of Indeterminate Length, especially subclasses 52+ for film advancing means in a copier where no more than one optical element is claimed and where no detailed optics are recited, and appropriate subclasses for means to advance, for example, photoresponsive electrophotographic copy paper on rolls.

235, Registers, for a detailed register in combination with a broadly or specifically claimed copier.

236, Automatic Temperature and Humidity Regulation, subclasses 44+ for means to control the humidity of paper used in an electrophotographic copier or the atmosphere within the copier, for example.

239, Fluid Sprinkling, Spraying, and Diffusing, appropriate subclasses for apparatus used to apply liquid developer to latent image-bearing material.

242, Winding, Tensioning, or Guiding, subclasses 159+ and 324+ for apparatus used to wind or unwind rolls of photoresponsive electrographic material, reeling and unreeling means of the type employed in still picture apparatus and for the type used in motion picture devices, for subject matter where no cooperation between an optical element and reeling mechanism is recited, where no detailed optical element is set forth, and where only one nominally claimed optical element is present.

250, Radiant Energy, subclass 315.3 for methods and apparatus for xerographic copying by use of invisible radiation, subclass 316.1 for related electrostatic recorders using infrared or thermal radiation to form the latent image of an original which is copied by electrophotography, subclasses 317.1+ for document copies relying upon infrared or thermal patterns of the document transferred to the copy paper, and subclasses 582 and 583 for an apparatus to expose, by invisible radiation generally, a recording detector generally.

252, Compositions, for subject matter, especially subclass 501.1 photosensitive electrically conductive or emissive compounds, used as electrophotographic photoresponsive media, as well as for other compositions used in electrophotographic devices.

261, Gas and Liquid Contact Apparatus, subclasses 75+ for generic apparatus which places a document or item to be developed in contact with liquid developer or vice versa.

269, Work Holders, subclasses 289+ for detailed holders for an original.

270, Sheet-Material Associating, subclasses 1.1+ for generic sheet material associating with printing.

271, Sheet Feeding or Delivering, for generic sheet feeding or delivering apparatus, where no specific optical or photographic structure is set forth.

323, Electricity: Power Supply or Regulation Systems, for power supplies, per se.

346, Recorders, subclasses 74.2+ for related magnetographic recording devices, subclasses 107.1+ for light or beam recording, and subclasses 150.1+ for related electrostatic recording apparatus and processes.

347, Incremental Printing and Symbolic Information, subclasses 1 through 109 for ink jets, particularly subclass 55 for applying an electric field ejection intermittently; subclasses 111 through 170 for electric marking, particularly subclass 158 for delivering to the recording medium visible particles to develop a latent image; subclasses 171 through 223 for thermal printers; and subclasses 224 through 264 for light (i.e., ROS scanners).

352, Optics: Motion Pictures, for photocopying apparatus and methods involving a motion picture camera or motion picture projector.

353, Optics: Image Projectors, appropriate subclasses for picture carriers, projection printing of composite images, and for editing or auxiliary viewing devices associated with image projectors.

356, Optics: Measuring and Testing, appropriate subclasses for optical measurement and test instruments used in diagnostic testing of an electrophotographic copier.

358, Facsimile and Static Presentation Processing, subclasses 1.1 through 1.18 for static presentation processing (e.g., processing data for printer, etc.) and subclass 300 for electrostatic or electrolytic facsimile recording apparatus which may be combined with electrophotographic copiers. Class 399, Electrophotography, has no modification of converted electrical signals.

359, Optics: Systems (Including Communication) and Elements, appropriate subclasses for optical elements of an electrophotographic

copier"s illumination and image formation system, especially subclasses 642+ for lenses, in subclasses 838+ for reflectors, and subclasses 885+ for optical absorption filters.

361, Electricity: Electrical Systems and Devices, subclasses 212+ for means to discharge or prevent accumulation of static electric charge and subclasses 225+ for electric charge generating or conducting means.

362, Illumination, subclasses 3+ and 257+ for photographic and projection light source subcombinations which may include condenser lenses having no other photocopying structure, and subclasses 227+ for plural sources of illumination.

365, Static Information Storage and Retrieval, subclasses 48+ for subject matter related to magnetographic electrophotography.

369, Dynamic Information Storage and Retrieval, subclass 125 for having photographic storage medium (e.g., variable density or area).

374, Thermal Measuring and Testing, subclasses 1+ for thermal calibration devices.

377, Electrical Pulse Counters, Pulse Dividers, or Shift Registers: Circuits and Systems, subclasses 1+ for applications of counters, including subclass 8 for counting flat articles (e.g., sheets).

378, X-Ray or Gamma Ray Systems or Devices, subclasses 28+ for xeroradiographic subject matter.

380, Cryptography, subclass 54 for changing the visible appearance of an object to encrypt visible markings.

386, Motion Video Signal Processing for Recording or Reproducing, subclasses 224, 233, 242, and 314-342 for recording of motion video signal on a medium in general.

396, Photography, especially subclasses 310+, 322+, and 429+ for photocopying in combination with photographing of an object other than a sheet or film strip and also for copying a sheet or film strip by first transmitting an image of the original to the surface of a nominally claimed cathode-ray tube and then photographing the image on the surface of the cathode-ray tube.

427, Coating Processes, especially subclasses 458+ for related subject matter involving the direct application of electrical, magnetic, or wave energy to form, cure, or otherwise affect electrophotographic coatings.

430, Radiation Imagery Chemistry: Process, Composition, or Product Thereof, appropriate subclasses for radiation imagery chemistry, process, composition, or product, especially subclasses 31+ for related electrophotographic processes; for purposes of classification, Class 430, subclasses 31+, controls over Class 399; where the process claimed is expressed in terms of Class 399 apparatus or subcombinations thereof, placement is appropriate in Class 399.

454, Ventilation, subclasses 49+ for ventilation systems used as part of an electrophotographic machine to remove harmful vapors produced by the machine.

474, Endless Belt Power Transmission Systems or Components, appropriate subclasses for generic systems and components which may be used to drive electrophotographic, photoresponsive, endless webs or belts.

492, Roll or Roller, subclass 8 for specific magnet or electromagnetic structure.

700, Data Processing: Generic Control Systems or Specific Applications, subclasses 1+ for generic data processing control systems.

702, Data Processing: Measuring, Calibrating, or Testing, appropriate subclasses for computer data processing for measuring, calibrating, or testing that may include photographic devices.

713, Electrical Computers and Digital Processing Systems: Support, subclasses 182 through 186 for system access control based on cryptographic user identification.

714, Error Detection/Correction and Fault Detection/Recovery, appropriate subclasses for generic diagnostic testing involving data processing.

SECTION IV - GLOSSARY

ELECTROSTATOGRAPHY

The formation and utilization of latent electrostatic charge patterns for recording or reproducing patterns in viewable form, for example: reproducing information from an original or carrier by selectively exposing a photoconductive member to an electrical or magnetic condition that produces a latent image whereby the image is developed to a visible image, then transferred and fixed from the photoconductive member to a medium.

LIGHT SOURCE

The source of illumination for the copier. The light source includes filters, reflectors, screens, and other light modifiers used to affect the spectral distribution, spatial distribution, and intensity of the illumination.

IMAGE

The representation of an object (e.g.,original, carrier) produced by the transmission or reflection of light incident upon the original.

IMAGE-BEARING MEMBER

A substrate for holding an electrostatic charge pattern or a toner image.

IMAGE, LATENT

The invisible image produced by the action of light alone or with other electrostatic charge-producing means on, or in, a photoreceptor. A latent image may be made visible by development.

IMAGING

Forming an image that is a reproduction of an original.

MACHINE

A complete unit, in itself, for imaging an original or carrier onto a receiver. It may also include means for developing, transferring, and fixing the image, as well as means for handling the record carrier on which the image is fixed.

MASTER

(a) The negative or positive original from which reproductions are made, (b) a microform copy used for the production of copies, or (c) a copy from which additional reproductions are made.

NEGATIVE

A visible image on a copy material in which the dark portions of an original appear light and the light portions appear dark.

ORIGINAL

Any object (generally two-dimensional) from which a copy is made by forming an image thereof on a photoconductor.

PHOTOCONDUCTIVE MATERIAL

A material that is an insulator in the dark and conducts electricity in proportion to the amount of impinging light or actinic radiation. This is usually provided as a layer of electrically conductive material on a conductive support. During use, the electrical conductor is charged (sensitized) in the dark, and light (in image configuration) allows or causes the electrically conductive layer to conduct so that the charge leaks through to the conductive layer leaving a charge pattern corresponding to the original image (electrostatic latent image).

PHOTOCONDUCTIVE MEMBER

A medium whose electrical conductivity, electrical charge, magnetic condition, or electrical emissivity is selectively altered by the action of electromagnetic radiation during imaging.

PLATEN

A flat or curved piece of rigid material on or against which an original is placed for imaging the original onto a photoconductive member.

TONER

Charged material (e.g., finely divided powder; i.e., usually thermoplastic or pigmented polymer particles), ink, or magnetic particles used in electrostatic processes to make visible a latent image and which may be treated (e.g., fused, dried, etc.) to render the image permanent. Toner can be charged by triboelectric action, by the direct application of charge (e.g., corona), or by inducing the charge through the action of the electrostatic latent image. The material may include or exclude a carrier element and may also be called “marking particles” or “developer material.”

SUBCLASSES

1 COMBINED WITH DIVERSE SUBJECT MATTER:

This subclass is indented under the class definition. Subject matter wherein an electrophotographic device is combined with another art device or structure having an added purpose or independent utility other than to perfect an electrophotographic device and which combination is not provided for elsewhere.

SEE OR SEARCH CLASS:

178, Telegraphy, subclasses 77+ for an electrophotographic copier combined with means for electronically sending a copy of the original from the copier as well as making a copy thereof.

347, Incremental Printing of Symbolic Information, for diverse printers (i.e., ink-jet, thermal, LED, LCD), per se.

358, Facsimile and Static Presentation Processing, subclass 300 for electrostatic or electrolytic facsimile recording apparatus.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/00, for an electrographic process using a charge pattern.

G03G 15/04, for exposing (i.e., transmitting the information given by the original image to the recording material).

G03G 15/22, involving multiple steps.

JPOFI G03G 15/22 103D, for integrating in a facsimile.

2 With diverse image formation:

This subclass is indented under subclass 1. Subject matter wherein a means or method is provided for forming an image by an apparatus other than that provided for in this class.

(1) Note. This subject matter, for example, may include an electrophotographic device that is combined with a raster output scanner used as an alternative exposure unit.

(2) Note. Diverse subject matter may have techniques of image formation using an embossing.

3 Electrostatic:

This subclass is indented under subclass 2. Subject matter wherein the diverse image is formed by a charge pattern deposited onto or discharged from a medium forming a latent image.

SEE OR SEARCH CLASS:

346, Recorders, subclasses 107.1+ for related photographic subject matter.

347, Incremental Printing of Symbolic Information, subclasses 112+ wherein an image is formed by depositing an electrostatic charge on or removing an electrostatic charge from a medium.

358, Facsimile and Static Presentation Processing, subclass 300 for electrostatic or electrolytic facsimile recording apparatus.

4 Light (e.g., laser, LED, LCD):

This subclass is indented under subclass 3. Subject matter wherein the discharge is caused by visible radiant energy.

SEE OR SEARCH CLASS:

347, Incremental Printing of Symbolic Information, subclasses 129+ for LED's, subclasses 134+ for LCD's, and subclasses 224+ for lasers.

5 Shared optics:

This subclass is indented under subclass 4. Subject matter wherein a common optical component or light source is used for the image formation of this class and the diverse image.

6 Composite image:

This subclass is indented under subclass 4. Subject matter wherein an image produced by diverse imaging apparatus is combined with an image that is produced by the action of light directly from an original.

SEE OR SEARCH THIS CLASS, SUBCLASS:

194, for a composite image by light exposure directly from an original.

7 On or adjacent to platen:

This subclass is indented under subclass 4. Subject matter wherein an image source, other than an original provided for in this class, is used in addition to or in place of the original.

8 REMOTE MONITORING:

This subclass is indented under the class definition. Subject matter wherein a means or method is provided for transmitting or receiving data about a condition of an electrophotographic device or component thereof to an external location.

SEE OR SEARCH CLASS:

340, Communications: Electrical, appropriate subclasses for related subject matter.

379, Telephonic Communications, subclasses 102+ for signalling over a telephone line for control of a nontelephone device at a remote location.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/00, for an electrographic process using a charge pattern.

JPOFI G03G 21/00 396, for central control or remote control over multiple apparatus.

EPC G03G 15/00C10, for remote control machines (e.g., by a host).

9 DIAGNOSTICS:

This subclass is indented under the class definition. Subject matter wherein a means or method is provided for detecting or analyzing (a) a condition that is outside the normal operating condition or (b) a malfunction or potential malfunction of an electrophotographic device or component thereof.

(1) Note. For example, this subject matter may include detection of an access door not being closed.

SEE OR SEARCH THIS CLASS, SUBCLASS:

8, for remote monitoring of an electrophotographic device.

38+, for control of the electrophotographic processes (e.g., charging, exposure, developing, transferring, fixing, and cleaning).

75+, for control of machine operations.

91+, for internal machine environmental control.

107+, for an electrophotographic device having particular structure.

127+, for supplemental electrophotographic processes.

130+, for image formation, per se.

343+, for cleaning an imaging surface.

361+, for document handling.

SEE OR SEARCH CLASS:

73, Measuring and Testing, subclasses 1.01+ for generic instrument calibration devices and methods.

324, Electricity: Measuring and Testing, subclasses 452+ for testing a material property using electrostatic phenomenon (this type of test may be employed to determine the humidity or electrical insulating properties of copy paper, a photosensitive material, etc.) and subclasses 457+ which employ means to measure an electrostatic field, such a field being an integral property of the electrophotographic process.

356, Optics: Measuring and Testing, subclasses 445+ for testing the reflectivity of the copy paper, for example, to determine proper exposure, toner concentration, etc.

374, Thermal Measuring and Testing, subclasses 1+ for thermal calibration devices.

377, Electrical Pulse Counters, Pulse Dividers, or Shift Registers: Circuits and Systems, subclasses 28+ for diagnostic testing of counters.

714, Error Detection/Correction and Fault Detection/Recovery, subclasses 100+ for generic diagnostic testing involving data processing.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/00, for an electrographic process using a charge pattern.

JPOFI G03G 21/00 386, for displaying and alarming.

G03G 21/00 388, for control of electrographic apparatus.

G03G 21/00 500, for special measures to malfunction.

G03G 21/00 520, for a safety device of electrographic apparatus.

EPC G03G 15/00D, for self-diagnostics, malfunction, and lifetime display.

10 Log report:

This subclass is indented under subclass 9. Subject matter wherein data is recorded or stored (e.g., in memory) of an analyzed perfor-

mance, a malfunction, or a series of abnormal events of an electrophotographic device or component.

(1) Note. For example, this subject matter may include printing of status.

SEE OR SEARCH THIS CLASS, SUBCLASS:
83, for job mode selection with memory.

SEE OR SEARCH CLASS:
365, Static Information Storage and Retrieval, subclass 48 for subject matter related to magnetographic electrophotography.
369, Dynamic Information Storage and Retrieval, subclass 125 for a photographic storage medium (e.g., variable density or area).

11 Service mode:
This subclass is indented under subclass 9. Subject matter wherein a technician operates or tests or calibrates the machine.

(1) Note. For example, this subject matter may include operating the apparatus or component without producing a copy.

SEE OR SEARCH THIS CLASS, SUBCLASS:
8, for operating or testing the machine from a remote location (i.e., over a network or phone line).
107+, for removal or insertion of components.
126, for mechanical adjustments.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/00, for an electrographic process using a charge pattern.
JPOFI G03G 21/00 510, for check and maintenance of electrographic apparatus.

12 Unit or part identification:
This subclass is indented under subclass 9. Subject matter wherein a means or method is provided for detecting or distinguishing an attachable or replaceable part of a particular type or color or manufacturer or condition.

(1) Note. For example, this subject matter may include a product identification of a replacement part that would otherwise be physically attachable to the apparatus (e.g., toner cartridges for different colors).

(2) Note. For example, this subject matter may include determining if a component is new or used.

13 Component present or mounted:
This subclass is indented under subclass 9. Subject matter wherein a means or method is provided for distinguishing whether or not a component is either present or properly attached in an operative manner.

SEE OR SEARCH THIS CLASS, SUBCLASS:
9, for detecting an access door ajar.
16, for diagnostics of document handling.
24+, for diagnostics of consumable materials.

14 Unacceptable copy coverage
This subclass is indented under subclass 9. Subject matter wherein a means or method is provided for determining that an acceptable copy cannot be produced because of the condition or nature of the original or an unsuitable feature selection or a machine default condition.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/00, for an electrographic process using a charge pattern.
JPOFI G03G 21/00 390, for applicability and inapplicability.

15 By inspection of copied image:
This subclass is indented under subclass 9. Subject matter wherein an image on a copy medium is analyzed.

(1) Note. This subject matter may include a special test image for visual inspection by the operator.

SEE OR SEARCH THIS CLASS, SUBCLASS:

72, for controlling formation of a test image.

16 Document handling:

This subclass is indented under subclass 9. Subject matter wherein a means or method is provided for analyzing a movement of a sheet medium through a traveled path of an electrophotographic device or component; or for analyzing the presence or absence of a sheet or recording medium, or holder therefor.

(1) Note. For example, this subject matter may include forms of movement such as feeding, inverting, stacking, sorting, collating, and conveying.

SEE OR SEARCH THIS CLASS, SUBCLASS:

361+, for normal machine operation for handling documents.

SEE OR SEARCH CLASS:

226, Advancing Material of Indeterminate Length, appropriate subclasses for means to advance electrophotographic photoresponsive copy paper.

236, Automatic Temperature and Humidity Regulation, subclasses 44+ for means to control the humidity of paper used in an electrophotographic copier, or the atmosphere within the copier to improve performance of the apparatus.

242, Winding, Tensioning, or Guiding, appropriate subclasses for subject matter related to winding and unwinding electrophotographic photoresponsive webs, etc.

270, Sheet-Material Associating, subclasses 1.1+ for related document handling subject matter.

271, Sheet Feeding or Delivering, appropriate subclasses for related subject matter.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/00, for an electrographic process using a charge pattern.

JPOFI G03G 15/00 526, by detecting and correcting malfunctions related to paper handling.

G03G 15/00 530, by measuring the characteristics of a means of discharging copies, of a sorter, and of a collator.

EPC G03G 15/00J, for detecting malfunctions relating to paper handling (e.g., jams).

G03G 15/00J1, for detecting multiple sheets.

17 Of original:

This subclass is indented under subclass 16. Subject matter wherein the handling of the document to be reproduced is analyzed.

SEE OR SEARCH THIS CLASS, SUBCLASS:

14, for analyzing the condition of the image to be reproduced.

18 Malfunction detection responsive:

This subclass is indented under subclass 16. Subject matter wherein the electrophotographic device performs a corrective operation in addition to or beyond displaying a warning or shuts down in response to the document handling abnormality.

(1) Note. This subject matter may include, for example, performing a cleaning operation in response to a jam or the automatic displacement of parts.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/00, for an electrographic process using a charge pattern.

EPC G03G 15/00C3, for machine control (e.g., microprocessor control).

19 Job recovery:

This subclass is indented under subclass 18. Subject matter wherein a means or method is provided for completing a job run in progress or accounting for lost copies after an interruption or shutdown.

20 Purge:
This subclass is indented under subclass 18. Subject matter wherein a means or method is provided for continuing sheet feeding despite a malfunction.

(1) Note. This subject matter may include, for example, continued feeding of a sheet downstream from a jam.

(2) Note. This subject matter may also include feeding out sheets left in an intermediate tray.

21 Jam:
This subclass is indented under subclass 16. Subject matter wherein a means or method is provided for analyzing whether or not a sheet medium is traveling normally through a path.

22 Misstrip of copy:
This subclass is indented under subclass 21. Subject matter wherein a means or method is provided for detecting whether or not the copy medium has failed to separate from an imaging or fixing member.

SEE OR SEARCH THIS CLASS, SUBCLASS:
315, for details of the separation discharger (i.e., passive separation by neutralizing the transfer charge).
323, for stripping a copy during fixing.
398, for stripping from photoconductive member when delivering from transfer position.

OTHER CLASSIFICATION SYSTEMS:
IPC[6] G03G 15/00, for an electrographic process using a charge pattern.
EPC G03G 15/00J2, for detecting missed stripping from a xerographic drum, band, or platen.

23 Copy medium supply:
This subclass is indented under subclass 16. Subject matter wherein a means or method is provided for determining the need for replacement of copy medium.

24 Consumable:
This subclass is indented under subclass 9. Subject matter wherein a means or method is provided for determining the usable lifespan or exhaustion of a component or perishable material.

(1) Note. For example, this subject matter may also include maintenance counters.

SEE OR SEARCH THIS CLASS, SUBCLASS:
13, for component present or mounted.
23, for "out of paper" maintenance.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/00, for an electrographic process using a charge pattern.
JPOFI G03G 21/00 512, for determining the time for repairing and replacing.

25 Process cartridge:
This subclass is indented under subclass 24. Subject matter wherein the component is a single unit that contains both a photoconductive member and an apparatus for one or more of charging, exposing, developing, transferring, and cleaning.

SEE OR SEARCH THIS CLASS, SUBCLASS:
111+, for process cartridge unit having particular modular or displaceable structure.

26 Photoconductive member:
This subclass is indented under subclass 24. Subject matter wherein a means or method is provided that determines whether or not a light-responsive member or a portion thereof is defective or needs replacement.

(1) Note. A light-responsive member has a particular physical, electrical, or magnetic characteristic which enables the member to change its (a) electrical resistivity or (b) conductivity or (c) charge or (d) emissivity or (e) magnetic condition or (f) persistent internal polarization upon exposure to radiant energy in the form of light.

SEE OR SEARCH THIS CLASS, SUBCLASS:

116+, for photoconductive member having particular modular or displaceable structure.

161, for advancing a renewable section of photoconductor.

27 Toner:

This subclass is indented under subclass 24. Subject matter wherein a means or method is provided for determining whether or not replenishment or replacement is, or may be, required for developer material.

(1) Note. For example, this subject matter may include carrier particles.

SEE OR SEARCH THIS CLASS, SUBCLASS:

35, for diagnostics of cleaning a waste toner container.

49, for detection of toner involving plural control processes.

61+, for detection of toner in a developing unit.

99+, for toner removal.

106, for a toner cartridge.

120, for a new and waste toner container.

129, for supplemental exposure or charging of residual toner.

134, for image formation with photoconductive toner.

224, for adding colored toner.

239+, for application of liquid developer.

253, for conditioning dry toner.

254+, for mixing dry toner.

258+, for supplying new toner.

265+, for application of dry developer.

359, for supplying reclaimed toner to the developing device.

409, for binding copies by toner.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/08, for solid developer.

JPOFI G03G 15/08 114, for detection of a toner level.

EPC G03G 15/08H2, for detection of toner level.

28 Color:

This subclass is indented under subclass 27. Subject matter wherein an analysis is made of plural colors of toner.

29 Deterioration or developability of toner:

This subclass is indented under subclass 27. Subject matter wherein a means or method is provided for determining defects or abnormalities in material used to visualize a latent image.

SEE OR SEARCH THIS CLASS, SUBCLASS:

27, for an out-of-toner condition.

30, for the out-of-toner condition being determined by the concentration detector.

30 By concentration detector:

This subclass is indented under subclass 27. Subject matter wherein the need for replenishment or replacement is determined by a means or method that analyzes a ratio of toner particles to carrier particles.

SEE OR SEARCH THIS CLASS, SUBCLASS:

58+, for concentration control.

31 Image forming component:

This subclass is indented under subclass 9. Subject matter wherein a means or method is provided that analyzes an abnormal condition for forming a latent or toner image.

SEE OR SEARCH THIS CLASS, SUBCLASS:

50, for controlling charging in response to a detected condition.

66, for controlling a charge applied for transferring an image.

32 Of exposure system (e.g., lamp, scanning, erase):

This subclass is indented under subclass 31. Subject matter wherein a means or method is provided for analyzing a light source, light projection, or scanning system.

33 Fixing (e.g., over-temperature protection):

This subclass is indented under subclass 9. Subject matter wherein a means or method is provided for analyzing an abnormal condition

of permanently fixing a toner image to a copy medium or substrate.

SEE OR SEARCH THIS CLASS, SUBCLASS:

67+, for condition-responsive control of fusing.
91, for a fire extinguisher internal to the machine.
122, for fixing unit with particular modular or displaceable structure.
320+, for fixing (e.g., fusing), per se.

SEE OR SEARCH CLASS:

374, Thermal Measuring and Testing, subclasses 1+ for thermal calibration devices.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/20, for fixing.
JPOFI G03G 15/20 110, for preventing burn damage of the copy sheet.

34 Cleaning:

This subclass is indented under subclass 9. Subject matter wherein a means or method is provided for analyzing the performance of a residual toner removal system.

SEE OR SEARCH THIS CLASS, SUBCLASS:

71, for control of cleaning during the electrophotography process.
123, for particular structure of a cleaning unit.
149, for combined development and cleaning by a single component.
245, for self-cleaning, with electrodes, a liquid development application member.
327, for cleaning of a fixing member.
343+, for cleaning an imaging surface (i.e., photoconductive member), including a cleaning member cyclically movable into and out of contact with the imaging surface.

SEE OR SEARCH CLASS:

15, Brushing, Scrubbing, and General Cleaning, subclasses 1.51+ for electrostatic cleaning and subclasses 300.1+ for air blast or suction which may be used to clean electrophotographic, photoresponsive imaging surfaces.
134, Cleaning and Liquid Contact With Solids, subclass 1 for cleaning applications of electric, wave, ray, or radiant energy.

35 Waste toner container:

This subclass is indented under subclass 34. Subject matter wherein a means or method is provided for determining the condition (e.g., fullness, presence, absence, etc.) of a holder for removed toner.

SEE OR SEARCH THIS CLASS, SUBCLASS:

13, for a component present or mounted.
27, for diagnostic of consumables (e.g., toner).
49, for detection of toner involving plural control processes.
61+, for detection of toner in a developing unit.
99+, for toner removal.
106, for a toner cartridge.
120, for a new and waste toner container.
129, for supplemental exposure or charging of residual toner.
134, for image formation with photoconductive toner.
224, for adding colored toner.
239+, for application of liquid development.
253, for conditioning dry toner.
254+, for mixing dry toner.
258+, for supplying new toner.
265+, for application of dry development.
359, for supplying reclaimed toner to the developing device.
409, for binding copies by toner.

SEE OR SEARCH CLASS:

340, Communications: Electrical, subclass 612 for condition responsive indication of fluent material levels.

36 Of motive power or driven unit:

This subclass is indented under subclass 9. Subject matter wherein a means or method is provided that analyzes the mechanical movement of a motor operation or motor-driven component.

(1) Note. The component being driven may be a drum or the belts of a photoconductive member.

SEE OR SEARCH THIS CLASS, SUBCLASS:

167, for driving a photoconductive member.

37 Power supply:

This subclass is indented under subclass 9. Subject matter wherein a means or method is provided that analyzes an electrical source or its connection to an electrophotographic device or component.

SEE OR SEARCH THIS CLASS, SUBCLASS:

88+, for machine operations with power supply.

168+, for charging of a photoconductive member.

SEE OR SEARCH CLASS:

323, Electricity: Power Supply or Regulation Systems, for a power supply, per se.

361, Electricity: Electrical Systems and Devices, subclasses 212+ for means to discharge or prevent accumulation of static electric charge and subclasses 225+ for electric charge generating or conducting means.

38 CONTROL OF ELECTROPHOTOGRAPHY PROCESS:

This subclass is indented under the class definition. Subject matter wherein a means or method is provided that senses a condition or change of condition and effects an image-forming operation of an electrophotography process (e.g., charging, exposing, developing, transfer, fixing, or cleaning), component, or device in response to the sensed or changed condition.

(1) Note. For example, this subject matter includes the following controlling arrangements: control of ion modulation, forming a new latent image for plural developing or transferring in response to voltage detection, control of treatment of developed image prior to transfer, reformation of latent image for producing multiple copies, and enablement of image formation in response to detection of charge, exposure, or concentration. For other controlling arrangements within the electrophotographic apparatus which do not involve the electrophotographic process, see SEARCH THIS CLASS, SUBCLASS in this subclass.

SEE OR SEARCH THIS CLASS, SUBCLASS:

9+, for diagnostics of an electrophotographic device.

75+, for control of machine operations.

92, for controlling a cooling fan in response to sensed temperature.

107+, for electrophotographic device having particular structure.

128, for condition responsive control of fatigue treatment (e.g., supplemental charge or exposure).

130+, for image formation, per se.

187, for condition responsive control of erase light.

343+, for cleaning an imaging surface.

361+, for control of an automatic document feeder in response to detection of original.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/00, for an electrographic process using a charge pattern.

JPOFI G03G 15/00 303, for image quality control.

EPC G03G 15/00C6, for measuring the copy material characteristics (e.g., weight, thickness).

G03G 15/00C7, for measuring the photoconductor characteristics (e.g., temperature, a test patch).

39 Color balance:

This subclass is indented under subclass 38. Subject matter wherein a means or method is provided for controlling each of a group of individual image formations that are combined to produce a color copy.

(1) Note. This subject matter may include controlling charging or exposure or developing.

SEE OR SEARCH THIS CLASS, SUBCLASS:

28, for analyzing a malfunction or potential malfunction of color reproduction.
54, for color selection control.
112, for modular or displaceable color process cartridge unit.
178+, for formation of color separation images.
184, for color image editing of a selectable area.
223+, for development (e.g., applicators) of a color image.
298+, for transfer of a color image.
326, for fixing or fusing a color image.
344, for cleaning a color-image-bearing surface.

SEE OR SEARCH CLASS:

430, Radiation Imagery Chemistry: Process, Composition, or Product Thereof, subclasses 42.1 through 47.5 to produce a multicolor production (i.e., plural colors named or more than one color identified).

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/01, for producing multicolored copies.
JPOFI G03G 15/01, for producing multicolored copies.
EPC G03G 15/01D, for details of unit.
G03G 15/01D6, for developing.

40 Of overlapped toner images:

This subclass is indented under subclass 39. Subject matter wherein a second or subsequent color toner image is developed on the previously developed image(s).

41 Single detector for plural toners:

This subclass is indented under subclass 39. Subject matter wherein color balance is achieved by regulating the amount of colored toner being applied to a latent image.

SEE OR SEARCH THIS CLASS, SUBCLASS:

27, for diagnostic of consumables (e.g., toner).
35, for diagnostics of cleaning a waste toner container.
61+, for detection of toner in a developing unit.
224, for adding colored toner.
253, for conditioning dry toner.
254+, for mixing dry toner.
258+, for supplying new toner.
359, for supplying reclaimed toner to the developing device.

42 Artificial intelligence:

This subclass is indented under subclass 38. Subject matter wherein an electrophotography system or method has the capacity to perform one or more of the functions of recognition, speech signal processing, knowledge processing (i.e., propositional logic, reasoning, learning, self-improvement), complex operations of a manipulator (e.g., robot* control), or inexact reasoning (e.g., fuzzy logic).

SEE OR SEARCH CLASS:

706, Data Processing: Artificial Intelligence, appropriate subclasses for artificial intelligence, per se.

43 Responsive to number of copies or passage of time:

This subclass is indented under subclass 38. Subject matter wherein a means or method is provided that effects a change in condition-responsive control according to an amount of copies produced or a passage of time.

(1) Note. A control cycle being run every (n) times a copy is produced is classified with that control.

(2) Note. A change in the set value of a process (e.g., charging, exposure, mode according to number of copies, etc.) that is otherwise not condition-responsive controlled is classified below. See SEARCH THIS CLASS, SUBCLASS below.

SEE OR SEARCH THIS CLASS, SUBCLASS:

237, for adding liquid toner in response to the number of copies.
258, for adding dry toner in response to the number of copies.

44 Having temperature or humidity detection:
This subclass is indented under subclass 38. Subject matter wherein a means or method is provided that compensates or adjusts a control parameter in response to a temperature or humidity condition within the electrophotographic device.

(1) Note. This subclass does not include temperature control of fusing in response to fusing temperature detection. For fusing temperature control subject matter, see SEARCH THIS CLASS, SUBCLASS below.

(2) Note. For example, a voltage applied to the charger is adjusted according to the temperature of the photoconductive member.

SEE OR SEARCH THIS CLASS, SUBCLASS:
69+, for temperature control of fusing.
94+, for internal machine temperature.
97, for internal machine humidity.

45 Responsive to copy media characteristic:
This subclass is indented under subclass 38. Subject matter wherein a means or method is provided that compensates or adjusts a control parameter of the electrophotographic device in response to the detection of copy media type or attribute.

46 Of plural processes:
This subclass is indented under subclass 38. Subject matter wherein a means or method is provided for a controlling operation of two or more image-forming processes (i.e., charging, exposing, developing, or transfer) in response to a sensed or changed condition.

SEE OR SEARCH THIS CLASS, SUBCLASS:
39+, for control of color balance controlling two or more processes.

47 Having detection of exposure light:
This subclass is indented under subclass 46. Subject matter wherein the sensed condition is light reflected from or passed through an original.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/00, for an electrographic process using a charge pattern.
EPC G03G 15/00C5, for measuring the original characteristics (e.g., contrast, density).

48 Having detection of photoconductor potential:
This subclass is indented under subclass 46. Subject matter wherein the sensed condition is an electrostatic potential of a photoconductive member.

SEE OR SEARCH THIS CLASS, SUBCLASS:
73, for sensing means (e.g., electrometer or electrostatic voltmeter).

SEE OR SEARCH CLASS:
324, Electricity: Measuring and Testing, subclasses 452+ for testing a material property using electrostatic phenomenon (this type of test may be employed to determine the humidity or electrical insulating properties of copy paper, a photosensitive material, etc.) and subclasses 457+ which employ means to measure an electrostatic field, such a field being an integral property of the electrophotographic process.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/00, for an electrographic process using a charge pattern.
EPC G03G 15/00C7E, for characteristics for an electrical parameter (e.g., voltage).

49 Having detection of toner (e.g., patch):
This subclass is indented under subclass 46. Subject matter wherein a means or method is provided that senses developing material.

(1) Note. Developing material may be applied in the form of a test patch or a developed image.

(2) Note. Developing material may be detected in a developing apparatus before application to the latent image.

SEE OR SEARCH THIS CLASS, SUBCLASS:

27, for diagnostic of consumables (e.g., toner).
35, for diagnostics of cleaning a waste toner container.
41, for detecting plural colors of toner for concentration control.
61+, for detection of toner in a developing unit.
99+, for toner removal.
106, for a toner cartridge.
120, for a new and waste toner container.
129, for supplemental exposure or charging of residual toner.
134, for image formation with photoconductive toner.
224, for adding colored toner.
239+, for application of liquid developer.
253, for conditioning dry toner.
254+, for mixing dry toner.
258+, for supplying new toner.
265+, for application of dry developer.
359, for supplying reclaimed toner to the developing device.
409, for binding copies by toner.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/00, for an electrographic process using a charge pattern.
EPC G03G 15/00C7, for measuring photoconductor characteristics (e.g., temperature, a test patch).
G03G 15/00C8, for measuring the characteristics of an image on the copy material.

50 Control of charging:

This subclass is indented under subclass 38. Subject matter wherein a charge or potential level of a photoconductive member is adjusted in response to the sensed condition.

(1) Note. This subject matter is for the charging of a photoconductive member only. For other charging (e.g., charging of toner), see SEARCH THIS CLASS, SUBCLASS below.

(2) Note. This subject matter includes, for example, using light exposure to control the charge level.

SEE OR SEARCH THIS CLASS, SUBCLASS:

88+, for machine operations with power supply.
100, for particle or contaminant control in removal of toner from a charging member (e.g., corona wire).
115, for charging unit having a modular or displaceable structure.
128+, for supplemental process (e.g., fatigue treatment) involving charging.
153, for simultaneous charging and exposure.
168+, for charging, per se.
296, for exposure or charging of a developed image prior to transfer.

SEE OR SEARCH CLASS:

323, Electricity: Power Supply or Regulation Systems, for power supply, per se.
361, Electricity: Electrical Systems and Devices, for subclasses 212+ for means to discharge or prevent accumulation of static electric charge and subclasses 225+ for electric charge generating or conducting means.
430, Radiation Imagery Chemistry: Process, Composition, or Product Thereof, appropriate subclasses for radiation imagery chemistry, process, composition, or product, especially Cross-Reference Art Collection 902 for cross-reference art collections involving charging.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/02, for sensitizing (i.e., laying down a uniform charge).
JPOFI G03G 15/02 102, for arrangements for the control or the circuits.
EPC G03G 15/02C, for an arrangement for controlling the amount of a charge.

51 Control of exposure:
This subclass is indented under subclass 38. Subject matter wherein a means or method is provided for controlling the illumination of an original in response to the sensed condition.

(1) Note. This subject matter includes regulating the amount of voltage or current to a lamp that illuminates an original or to a shutter in the optical path, or regulating the amount of light used in the formation of the latent image.

SEE OR SEARCH THIS CLASS, SUBCLASS:
177+, for exposure, per se.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/043, for controlling illumination or exposure.
JPOFI G03G 15/04 120, for controlling the exposure.
EPC G03G 15/052E, for controlling illumination or exposure.

52 In response to light from original:
This subclass is indented under subclass 51. Subject matter wherein the illumination is controlled in response to the detected image density of an original.

53 Control of developing:
This subclass is indented under subclass 38. Subject matter wherein a means or method is provided that controls the application of toner to the latent image in response to detection of an image-forming condition.

(1) Note. This subject matter may include, for example, dispensing toner in response to a sensed condition.

SEE OR SEARCH THIS CLASS, SUBCLASS:
222+, for developing, per se.

SEE OR SEARCH CLASS:
118, Coating Apparatus, for coating, per se.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/08, for using a solid developer (e.g., powder developer).
EPC G03G 15/08H6, for testing or measuring developer properties or quality (e.g., charge, size, flowability).

54 Color selection:
This subclass is indented under subclass 53. Subject matter wherein color of toner is selected in response to the sensed condition.

SEE OR SEARCH THIS CLASS, SUBCLASS:
28, for analyzing a malfunction or potential malfunction of color reproduction.
39+, for balance control of color.
112, for modular or displaceable color process cartridge unit.
178+, for formation of color separation images.
184, for color image editing of a selectable area.
223+, for development (e.g., applicators) of a color image.
298+, for transfer of a color image.
326, for fixing or fusing of a color image.
344, for cleaning a color-image-bearing surface.

55 Bias control:
This subclass is indented under subclass 53. Subject matter wherein voltage or current used to aid or influence development is controlled.

SEE OR SEARCH THIS CLASS, SUBCLASS:
240, for liquid application member with applied bias.
241, for liquid development with electrode influencing the attraction of liquid developer.
270+, for magnetic brush-type application member with applied bias.
285, for roller-type application member with applied bias.
291, for powder cloud applicator with electrode(s) influencing the attraction of dry developer.
293, for fluidized bed applicator with electrode(s) influencing the attraction of dry developer.

295, for cascade applicator with electrode(s) influencing the attraction of dry developer.
314, for electrostatic transfer with applied bias.
354, for cleaning an imaging surface by a fibrous brush with applied voltage.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/06, for developing.
EPC G03G 15/06C, for controlling the potential of the developing electrode.

56 In response to potential of latent image:
This subclass is indented under subclass 55. Subject matter wherein the bias is controlled in response to the sensed potential of a latent image to be developed.

(1) Note. This subject matter also includes a "self-biased" electrode.

57 Liquid:
This subclass is indented under subclass 53. Subject matter wherein a liquid level, concentration, or additive is controlled in response to a detected condition.

SEE OR SEARCH THIS CLASS, SUBCLASS:
237+, for liquid development.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/10, for using a liquid developer.
JPOFI G03G 15/10 115, for detecting the liquid developer concentration.
EPC G03G 15/10D1, for detection or control of the toner (liquid) concentration.

58 Concentration control:
This subclass is indented under subclass 53. Subject matter wherein an amount or percentage of toner within the toner and carrier mixture is controlled.

(1) Note. The concentration is generally effected by adding new toner to the developing unit.

SEE OR SEARCH THIS CLASS, SUBCLASS:
30, for toner concentration detector.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/10, for using a liquid developer.
JPOFI G03G 15/08 115, for detecting and controlling the toner concentration.
EPC G03G 15/08H1, for detection or control of the toner concentration.

59 Setting of reference value:
This subclass is indented under subclass 58. Subject matter wherein a means or method is provided for designating a threshold level in response to a toner-carrier concentration.

60 Detection of developed image:
This subclass is indented under subclass 58. Subject matter wherein the concentration control is effected according to the sensed amount or density of toner that has been applied to a latent image.

SEE OR SEARCH THIS CLASS, SUBCLASS:
74, for a densitometer detail in an electrophotographic device.

61 Detection of toner in developing unit:
This subclass is indented under subclass 58. Subject matter wherein the concentration is controlled in response to detecting a property of the developer.

(1) Note. For example, this subject matter includes electrical property of toner or charge/mass ratio (Q/M).

SEE OR SEARCH THIS CLASS, SUBCLASS:
27, for diagnostic of consumables (e.g., toner).
35, for diagnostics of cleaning a waste toner container.
49, for detection of toner involving plural control processes.
99+, for toner removal.
106, for a toner cartridge.
120, for a new and waste toner container.

129, for supplemental exposure or charging of residual toner.
134, for image formation with photoconductive toner.
224, for adding colored toner.
239+, for application of liquid developer.
253, for conditioning dry toner.
254+, for mixing dry toner.
258+, for supplying new toner.
265+, for application of dry developer.
359, for supplying reclaimed toner to the developing device.
409, for binding copies by toner.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/10, for using a liquid developer.
JPOFI G03G 15/08 507K, for detecting and testing.

62 Concentration detection:
This subclass is indented under subclass 61. Subject matter wherein the concentration is controlled in response to a detected toner and carrier mixture ratio.

SEE OR SEARCH THIS CLASS, SUBCLASS:
30, for toner concentration detector.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/10, for using a liquid developer.
EPC G03G 15/08H1E, for a concentration being measured by electrical means.

63 Magnetic detector:
This subclass is indented under subclass 62. Subject matter wherein a means or method is provided for detecting the concentration by using the magnetic properties of toner or carrier material.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/10, for using a liquid developer.
EPC G03G 15/08H1M, for a concentration being measured by magnetic means.

64 Optical detector:
This subclass is indented under subclass 62. Subject matter wherein a means or method is provided for detecting concentration by using a light source.

SEE OR SEARCH THIS CLASS, SUBCLASS:
118, for optics with particular modular or displaceable structure.
137, for optical intermediate storage of original image.
196+, for variable magnification during exposure.
200+, for automatic adjustment of an optical component due to a change in magnification.
209, for a repositioning of a scanning carriage due to a change in scanning length.
216, for slit exposure by pivoting mirror.
218, for specific lens during exposure.
219, for fiber optics used during exposure.

SEE OR SEARCH CLASS:
206, Special Receptacle or Package, subclass 316.1 for special receptacles for an optical or photographic means.
356, Optics: Measuring and Testing, appropriate subclasses for optical measurement and test instruments.
359, Optics: Systems (Including Communication) and Elements, subclass 12 for copying by holographic means.
385, Optical Waveguides, for optical waveguiding element, per se, particularly subclass 116 for imaging (i.e., with coherent fiber structure and includes shaping, enhancing, and correcting).

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/10, for using a liquid developer.
EPC G03G 15/08H1L, for a concentration being measured by optical means.

65 Including sample holder:
This subclass is indented under subclass 64. Subject matter wherein the toner to be detected is attracted to a detection location by an applied voltage.

66 Control of transfer:
This subclass is indented under subclass 38. Subject matter wherein a means or method is provided for controlling a parameter which causes a toner image to move from one surface or member to another.

(1) Note. A parameter may be for example voltage, current, or pressure.

(2) Note. Included herewithin is control of separation and electrical discharge of copy medium to remove charge applied by transfer.

SEE OR SEARCH THIS CLASS, SUBCLASS:
101, for particle or contaminant control of toner on a transfer member.
121, for transfer unit with particular modular or displaceable structure.
154, for image formation with transfer of latent image.
297+, for transferring a toner image, per se.
388+, for feeding a copy to the transfer position.
397+, for delivering a copy from the transfer position.

67 Control of fixing:
This subclass is indented under subclass 38. Subject matter wherein a means or method is provided for controlling a parameter which causes a developed image to be permanently attached to a copy medium or substrate.

(1) Note. A parameter may be, for example, voltage, current, or pressure.

(2) Note. Common applications for attaching an image to a copy medium are heat, pressure, and solvent.

SEE OR SEARCH THIS CLASS, SUBCLASS:
33, for over-temperature protection during fixing.
91, for a fire extinguisher internal to the machine.
122, for fixing unit with particular modular or displaceable structure.
320+, for fixing (e.g., fusing), per se.

SEE OR SEARCH CLASS:
374, Thermal Measuring and Testing, subclasses 1+ for thermal calibration devices.

68 Conveyance of copy:
This subclass is indented under subclass 67. Subject matter wherein a speed at which the copy is transported through the fixing arrangement is regulated.

SEE OR SEARCH THIS CLASS, SUBCLASS:
361+, for document handling, per se.

SEE OR SEARCH CLASS:
374, Thermal Measuring and Testing, subclasses 1+ for thermal calibration devices.

69 Temperature control:
This subclass is indented under subclass 67. Subject matter wherein a means or method is provided for controlling the amount of thermal energy that is applied to permanently fix a developed image to a copy medium or substrate.

SEE OR SEARCH THIS CLASS, SUBCLASS:
33, for over-temperature protection during fixing.
91, for a fire extinguisher internal to the machine.
122, for fixing unit with particular modular or displaceable structure.
320+, for fixing (e.g., fusing), per se.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/20, for fixing (e.g., by using heat).
JPOFI G03G 15/20 109, for detecting and regulating the fixing temperature.
EPC G03G 15/20H2P3, for controlling or regulating the fixing temperature.
G03G 15/20H2P3A, especially the axial heat repartition.

70 Warmup or standby mode:
This subclass is indented under subclass 69. Subject matter wherein the temperature of a fixing unit is (a) controlled on power initiation or (b) set to a predetermined temperature when the fixing unit is idle.

SEE OR SEARCH CLASS:
374, Thermal Measuring and Testing, subclasses 1+ for thermal calibration devices.

71 Control of cleaning:
This subclass is indented under subclass 38. Subject matter wherein a means or method is provided for controlling a parameter which causes removal of developed material from an imaging surface after an image is transferred to a copy medium.

(1) Note. A parameter may be, for example, voltage, current, or pressure.

SEE OR SEARCH THIS CLASS, SUBCLASS:
34+, for cleaning diagnostics.
123, for particular structure of cleaning unit.
149, for combined development and cleaning by a single component.
245, for self-cleaning with electrodes a liquid development application member.
327, for cleaning of fixing member.
343+, for cleaning an imaging surface (i.e. photoconductive member), including a cleaning member cyclically movable into and out of contact with the imaging surface.

SEE OR SEARCH CLASS:
15, Brushing, Scrubbing, and General Cleaning, subclasses 1.51+ for electrostatic cleaning and subclasses 300.1+ for air blast or suction which may be used to clean electrophotographic, photoresponsive imaging surfaces.
134, Cleaning and Liquid Contact With Solids, subclasses 1+ for cleaning applications of electric, wave, ray, or radiant energy.

72 Forming test image:
This subclass is indented under subclass 38. Subject matter wherein a means or method is provided for creating a latent or toner test image that can be detected.

SEE OR SEARCH THIS CLASS, SUBCLASS:
15, for inspection of copied image.

73 Electrometer detail:
This subclass is indented under subclass 38. Subject matter wherein a means or method is provided for measuring a potential or charge level of a photoconductive member.

(1) Note. The electrometer may also be called an electrostatic voltmeter.

SEE OR SEARCH THIS CLASS, SUBCLASS:
48, for detection of photoconductor potential.

SEE OR SEARCH CLASS:
324, Electricity: Measuring and Testing, for electrical measuring and testing, per se.

74 Densitometer detail:
This subclass is indented under subclass 38. Subject matter wherein an arrangement is provided for measuring an optical density of toner.

(1) Note. The optical density is the negative logarithm of the percent transmittance (or reflectance) or a transparent material (or opaque). For example, photographic transmission, photographic reflection, visual transmission of a material, etc.

SEE OR SEARCH CLASS:
356, Optics: Measuring and Testing, for optical measuring and testing, per se.

75 MACHINE OPERATION:

This subclass is indented under the class definition. Subject matter wherein a means or method is provided for performing the basic cyclic operation necessary for the apparatus to run.

SEE OR SEARCH THIS CLASS, SUBCLASS:

9+, for diagnostics of an electrophotographic device.

38+, for control of the electrophotographic processes (e.g., charging, exposure, developing, transferring, fixing, and cleaning).

91+, for internal machine environmental control.

107+, for electrophotographic device having particular structure.

127+, for supplemental electrophotographic processes.

130+, for image formation, per se.

343+, for cleaning an imaging surface.

361+, for document handling.

SEE OR SEARCH CLASS:

235, Registers, for registers, per se, include attachments to machines where the purpose is to ascertain or count the number of movements thereof.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/00, for an electrographic process using a charge pattern.

G03G 21/00, for an arrangement not provided for by groups 13/00 to 19/00 (e.g., cleaning or elimination of residue).

JPOFI G03G 21/00 370, for control shared by components in the electrographic apparatus and control of the entire apparatus.

G03G 21/00 388, for control of electrographic apparatus.

G03G 21/00 502, for structure of a mechanical means adapted for controlling the electrographic apparatus.

EPC G03G 15/00C, for machine (e.g., regulating different parts of the machine, multimode copiers, microprocessor control).

76 Sequential control:

This subclass is indented under subclass 75. Subject matter wherein the cyclic operation actuates the various components of the apparatus in the proper timing and sequence for producing a copy.

(1) Note. Normal electrophotographic device functions, such as xerographic and paper handling, are classified below.

SEE OR SEARCH CLASS:

235, Registers, for registers, per se, include attachments to machines where the purpose is to ascertain or count the number of movements thereof.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 21/14, for an electronic sequencing control.

JPOFI G03G 21/00 372, for timing by simultaneous control.

77 Programmed:

This subclass is indented under subclass 76. Subject matter wherein the timing and sequence are provided by computer processing by a list of software instructions.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 21/14, for electronic sequencing control.

EPC G03G 21/14, for electronic sequencing control.

78 Reference signal (e.g., pulse train):

This subclass is indented under subclass 76. Subject matter wherein the timing and sequence are provided by a generated series of clock pulses or a plurality of timed control signals.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 21/14, for electronic sequencing control.

EPC G03G 21/14B, for sequencing control wherein control pulses are generated by the

mechanical movement of parts of the machine.

79 Accounting:

This subclass is indented under subclass 75. Subject matter wherein a means or method is provided that authorizes, counts, or registers an amount of copy medium produced from an electrophotographic device.

(1) Note. For example, this subject matter may include vending, renting, or charging a customer.

SEE OR SEARCH CLASS:

235, Registers, for registers, per se, include attachments to machines where the purpose is to ascertain or count the number of movements thereof.

377, Electrical Pulse Counters, Pulse Dividers, or Shift Registers: Circuits and Systems, subclasses 13 through 16 for accounting of machine or apparatus operating or monitoring time.

705, Data Processing: Financial, Business Practice, Management, or Cost/Price Determination, subclasses 400+ for cost or price calculations.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 21/02, for counting the number of copies, Billing.

JPOFI G03G 21/00 392, for control on producing multiple number of copies; arrangement for collecting the coping fees.

G03G 21/00 394, for structure of the counter used for electrographic apparatus.

EPC G03G 21/02, for counting the number of copies, Billing.

80 User access:

This subclass is indented under subclass 79. Subject matter wherein the authorization is provided by identification (e.g., ID number or key card).

SEE OR SEARCH THIS CLASS, SUBCLASS:

366, for restricted use based only on a property of a document or original to be copied.

81 Operator interface (e.g., display control panel):

This subclass is indented under subclass 75. Subject matter wherein an input or output arrangement is provided for communicating with an operator of the electrophotographic device.

SEE OR SEARCH THIS CLASS, SUBCLASS:

138, for operator adjusted density of an image formation.

158, for display of developed image.

182+, for editing color images.

387, for copy length adjustment.

SEE OR SEARCH CLASS:

361, Electricity: Electrical Systems and Devices, subclasses 679.21 through 679.3 for computer related housing or mounting assemblies with display support.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/00, for electrographic process using a charge pattern.

EPC G03G 15/00C4, for user-machine interface; Display panels; Control console.

82 Job mode:

This subclass is indented under subclass 75. Subject matter wherein a means or method is provided for selecting document handling functions to be performed on a group of documents by a sequence of operations.

(1) Note. For example, document handling functions may include simplex or duplex, one or both sides, transparencies, number of copies, collate or stack, magnification, etc.

(2) Note. This subject matter may include selection of a color to be used or a

"default mode setting," in addition to other attributes.

SEE OR SEARCH THIS CLASS, SUBCLASS:

203, for plural exposure modes.

367, for plural modes of operation for an automatic document feeder.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/00, for electrographic process using a charge pattern.

JPOFI G03G 15/01R, for setting, changing, and displaying the mode.

G03G 21/00 376, for selection and display of copy mode.

G03G 21/00 378, for automatic selection of mode.

G03G 21/00 380, for guidance selecting a copy mode.

G03G 21/00 384, for changing the control according to changes of copy mode.

83 Having memory:

This subclass is indented under subclass 82. Subject matter wherein the job mode is selected from or retained in an electronic storage unit.

(1) Note. This subject matter may include a removable device (e.g., integrated circuit card).

SEE OR SEARCH THIS CLASS, SUBCLASS:

10, for storage of data on the operation of an electrophotographic device (i.e., log report).

SEE OR SEARCH CLASS:

365, Static Information Storage and Retrieval, subclass 48 for subject matter related to magnetos:graphic electrophotography.

369, Dynamic Information Storage and Retrieval, subclass 125 for having photographic storage medium (e.g., variable density or area).

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/00, for electrographic process using a charge pattern.

EPC G03G 15/00C9, for using information from an external support (e.g., a magnetic card).

84 Key sheet:

This subclass is indented under subclass 82. Subject matter wherein a job mode is determined in response to detection of indicia or a mark on an original or other medium.

(1) Note. A mode is set, initiated, or changed by detection of a key sheet, marked original, or record card. The key sheet is generally on top of a stack of originals.

SEE OR SEARCH CLASS:

382, Image Analysis, subclass 317 for image sensor control (e.g., OCR sheet controls copier or fax).

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/00, for electrographic process using a charge pattern.

EPC G03G 15/00C9F, for being interleaved with the original or directly written on the original (e.g., using a control sheet).

85 Having mode change:

This subclass is indented under subclass 82. Subject matter wherein the job mode is changeable to a different setting automatically or during operation.

86 Auto copy size or magnification:

This subclass is indented under subclass 85. Subject matter wherein the job mode is automatic selection of the size of the copy medium or the magnification.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/00, for an electrographic process using a charge pattern.

EPC G03G 15/00C11, for matching the image with the size of the copy material

(e.g., by calculating the magnification or selecting the adequate copy material size).

87 Having priority interrupt:
This subclass is indented under subclass 85. Subject matter wherein an operating mode is stopped to allow a second job mode to be run and the original mode is returned to after the completion of the second job mode.

(1) Note. Generally a first mode of operation is interrupted before completion to enter a second job mode. This includes returning to the first mode after completing the second.

SEE OR SEARCH THIS CLASS, SUBCLASS:
19, for job recovery after interruption.

88 Having power supply:
This subclass is indented under subclass 75. Subject matter wherein a means or method is provided for feeding electrical energy to an electrophotographic device.

SEE OR SEARCH THIS CLASS, SUBCLASS:
37, for diagnostics of power supplied to an electrophotographic device or component.
168+, for charging a photoconductive member.

SEE OR SEARCH CLASS:
323, Electricity: Power Supply or Regulation Systems, for power supply, per se.
361, Electricity: Electrical Systems and Devices, for subclasses 212+ for means to discharge or prevent accumulation of static electric charge and subclasses 225+ for electric charge generating or conducting means.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/00, for an electrographic process using a charge pattern.
JPOFI G03G 21/00 398, for electrical power source control, (e.g., arrangement for electrical power sources).
EPC G03G 15/00P, for details relating to power supplies, circuit boards, and electrical connections.

89 Supplying power to charger:
This subclass is indented under subclass 88. Subject matter wherein the power is supplied to a charging unit for charging a photoconductive member.

SEE OR SEARCH THIS CLASS, SUBCLASS:
168+, for charging, per se.

SEE OR SEARCH CLASS:
361, Electricity: Electrical Systems and Devices, subclass 235 for specific power supply of electric charge generating or conducting means.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/00, for an electrographic process using a charge pattern.
EPC G03G 15/02E, for supplying power to the sensitizing device.

90 Electrical connection:
This subclass is indented under subclass 75. Subject matter wherein a means or method is provided for connecting electrical signals or power between operative components or for a ground connection to a photoconductive member.

SEE OR SEARCH THIS CLASS, SUBCLASS:
88, for having a power supply.

SEE OR SEARCH CLASS:
340, Communications: Electrical, subclasses 309.16 through 309.9 for timer controlled systems.
368, Horology: Time Measuring Systems or Devices, subclasses 1+ for a timer controlled by a disparate device and

subclasses 10+ for a timer combined with a disparate device.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/00, for an electrographic process using a charge pattern.

EPC G03G 15/00P, for details relating to power supplies, circuit boards, and electrical connections.

91 INTERNAL MACHINE ENVIRONMENT: This subclass is indented under the class definition. Subject matter wherein method or apparatus is provided that prevents or ameliorates adverse conditions of the machine interior atmosphere.

(1) Note. For example, adverse conditions include high or low temperature, vibration, noise, humidity, scattered toner, or contaminants.

SEE OR SEARCH THIS CLASS, SUBCLASS:

9+, for diagnostics of an electrophotographic device.

33, for over-temperature protection during fixing.

38+, for control of the electrophotographic processes (e.g., charging, exposure, developing, transferring, fixing, and cleaning).

67+, for condition-responsive control of fusing.

75+, for control of machine operations.

107+, for electrophotographic device having particular structure.

122, for fixing unit with particular modular or displaceable structure.

127+, for supplemental electrophotographic processes.

130+, for image formation, per se.

320+, for fixing (e.g., fusing), per se.

343+, for cleaning an imaging surface.

361+, for document handling.

SEE OR SEARCH CLASS:

236, Automatic Temperature and Humidity Regulation, for humidity and temperature control, per se.

374, Thermal Measuring and Testing, subclasses 1+ for thermal calibration devices.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 21/20, for humidity or temperature control.

JPOFI G03G 21/00 530, for internal apparatus environment control of the electrographic apparatus.

EPC G03G 21/20, for humidity or temperature control, also ozone evacuation; internal apparatus environment control.

92 Forced air circulation: This subclass is indented under subclass 91. Subject matter wherein a means or method is provided for generating air flow within the electrophotographic device.

SEE OR SEARCH THIS CLASS, SUBCLASS:

343, for cleaning an imaging member by air or vacuum.

355, for air circulation used in conjunction with a cleaning brush.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 21/20, for humidity or temperature control.

JPOFI G03G 21/00 538, for removal of unnecessary substances from atmospheric air.

JPOFI G03G 21/00 540, for ozone evaluation.

93 Having filtering (e.g., ozone removal): This subclass is indented under subclass 92. Subject matter wherein a means or method is provided for screening out particles or gas within the atmosphere of the electrophotographic device.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 21/20, for humidity or temperature control.
JPOFI G03G 21/00 534, for humidity or temperature control (e.g., by using a heater or a fan).

94 Temperature:
This subclass is indented under subclass 91. Subject matter wherein a means or method is provided for adjusting or dealing with adverse temperature within the electrophotographic device.

SEE OR SEARCH THIS CLASS, SUBCLASS:
33, for over-temperature protection of a fuser.
44, for having temperature or humidity detection.
69+, for condition-responsive temperature control of fusing.

SEE OR SEARCH CLASS:
374, Thermal Measuring and Testing, subclasses 1+ for thermal calibration devices.

95 Platen:
This subclass is indented under subclass 94. Subject matter wherein a means or method is provided to prevent overheating of a structure for supporting an original during exposure.

96 Photoconductive member:
This subclass is indented under subclass 94. Subject matter wherein a means or method is provided for heating or cooling a photoconductive member.

(1) Note. For example, this subject matter includes detecting a temperature of a photoconductive member for controlling the heating or cooling thereof.

97 Humidity:
This subclass is indented under subclass 91. Subject matter wherein an arrangement is provided for regulating or ameliorating adverse conditions due to the moisture content of the environment within the electrophotographic device.

SEE OR SEARCH THIS CLASS, SUBCLASS:
44, for temperature or humidity detection.

SEE OR SEARCH CLASS:
236, Automatic Temperature and Humidity Regulation, for humidity control, per se.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 21/20, for humidity or temperature control.
JPOFI G03G 21/00 534, for humidity or temperature control (e.g., by using a heater or a fan).

98 Particle or contaminant control:
This subclass is indented under subclass 91. Subject matter wherein an arrangement is provided that limits the harmful effects caused by toner dust, mist, or other airborne fragments.

(1) Note. This subject matter also includes applying a voltage or electrical connection to part(s) of the apparatus to prevent the attraction or settling of airborne particles.

SEE OR SEARCH THIS CLASS, SUBCLASS:
343+, for cleaning a photoconductive member.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 21/00, for an arrangement not provided for by groups 13/00 to 19/00 (e.g., cleaning or elimination of residue).
JPOFI G03G 21/00 310, for cleaning (e.g., elimination of residual magnetic powder or elimination of paper residue).

99 Toner removal:
This subclass is indented under subclass 98. Subject matter wherein an arrangement is provided for the cleaning of scattered, airborne, or spilled toner from parts of the electrophotographic device other than the surface bearing a developed electrostatic latent image.

(1) Note. This subject matter also includes an arrangement for cleaning toner from the surface of the photoconductive member that does not receive toner for imaging. For cleaning toner from parts that normally come in contact with toner (e.g., developing, doctor blade, etc.), see SEARCH THIS CLASS, SUBCLASS below.

SEE OR SEARCH THIS CLASS, SUBCLASS:

27, for diagnostic of consumables (e.g., toner).
35, for diagnostics of cleaning a waste toner container.
49, for detection of toner involving plural control processes.
61+, for detection of toner in a developing unit.
106, for a toner cartridge.
120, for a new and waste toner container.
129, for supplemental exposure or charging of residual toner.
134, for image formation with photoconductive toner.
222+, for cleaning toner from a developing unit.
224, for adding colored toner.
239+, for application of liquid developer.
253, for conditioning dry toner.
254+, for mixing dry toner.
258+, for supplying new toner.
265+, for application of dry developer.
359, for supplying reclaimed toner to the developing device.
409, for binding copies by toner.

100 Charging member (e.g., corona wire):

This subclass is indented under subclass 99. Subject matter wherein particles or contaminants are removed from the apparatus for applying charge to the photoconductive member.

SEE OR SEARCH THIS CLASS, SUBCLASS:

50, for control of charging.
115, for charging unit having a modular or displaceable structure.
128+, for supplemental process (e.g., fatigue treatment) involving charging.
153, for simultaneous charging and exposure.
168+, for charging, per se.
296, for exposure or charging of a developed image prior to transfer.

SEE OR SEARCH CLASS:

323, Electricity: Power Supply or Regulation Systems, for power supply, per se.
361, Electricity: Electrical Systems and Devices, for subclasses 212+ for means to discharge or prevent accumulation of static electric charge and subclasses 225+ for electric charge generating or conducting means.
430, Radiation Imagery Chemistry: Process, Composition, or Product Thereof, appropriate subclasses for radiation imagery chemistry, process, composition, or product, especially Cross-Reference Art Collection 902 for charging.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/02, for laying down a uniform charge (e.g., for sensitizing; corona discharge device).
JPOFI G03G 15/02 103, for safety and cleaning arrangement.
EPC G03G 15/02B, for the maintenance of the charging device (e.g., cleaning device or ozone removing device).

101 Transfer member:

This subclass is indented under subclass 99. Subject matter wherein particles or contaminants are removed from the apparatus for transferring a latent image to a copy medium.

SEE OR SEARCH THIS CLASS, SUBCLASS:

66, for condition responsive control of transfer.
121, for transfer unit with particular modular or displaceable structure.
154, for image formation with transfer of latent image.
297+, for transferring a toner image, per se.
388+, for feeding a copy to the transfer position.

397+, for delivering a copy from the transfer position.

102 Seal:
This subclass is indented under subclass 98. Subject matter wherein an arrangement is provided that prevents the escape of toner or developer material from an internal unit.

103 Developer seal:
This subclass is indented under subclass 102. Subject matter wherein an arrangement is provided for preventing toner from escaping the developing unit.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/08, for using solid developer or powder developer.
JPOFI G03G 15/08 505, for preventing the toner scattering.
G03G 15/09, for preventing the toner scattering using a magnetic brush.
EPC G03G 15/08S1, for preventing toner scattering (e.g. seals).

104 Magnetic:
This subclass is indented under subclass 103. Subject matter wherein the developer seal is a magnetic arrangement.

105 Elastic material:
This subclass is indented under subclass 103. Subject matter wherein the developer seal is a flexible material.

106 Toner cartridge:
This subclass is indented under subclass 103. Subject matter wherein an arrangement is provided for preventing toner from escaping a removable, sealed container.

SEE OR SEARCH THIS CLASS, SUBCLASS:
27, for diagnostic of consumables (e.g., toner).
35, for diagnostics of cleaning a waste toner container.
49, for detection of toner involving plural control processes.
61+, for detection of toner in a developing unit.
99+, for toner removal.
120, for a new and waste toner container.
129, for supplemental exposure or charging of residual toner.
134, for image formation with photoconductive toner.
224, for adding colored toner.
239+, for application of liquid developer.
253, for conditioning dry toner.
254+, for mixing dry toner.
258+, for supplying new toner.
265+, for application of dry developer.
359, for supplying reclaimed toner to the developing device.
409, for binding copies by toner.

107 HAVING PARTICULAR STRUCTURE:
This subclass is indented under the class definition. Subject matter wherein a housing arrangement of the electrophotographic component or device has a replaceable or displaceable configuration for transporting, reconfiguration, maintenance, service, or repair.

(1) Note. For parts of the apparatus undergoing displacement during normal operation, see SEARCH THIS CLASS, SUBCLASS below.

SEE OR SEARCH THIS CLASS, SUBCLASS:
9+, for diagnostics of an electrophotographic device.
38+, for control of the electrophotographic processes (e.g., charging, exposure, developing, transferring, fixing, and cleaning).
75+, for control of machine operations.
91+, for internal machine environmental control.
127+, for supplemental electrophotographic processes.
130+, for image formation, per se.
317, for a displaceable transfer member with copy medium guide.
332, for a cyclically displaceable fixing nip.
345, for a cleaning arrangement disengageable from the imaging surface.
361+, for document handling.

SEE OR SEARCH CLASS:

206, Special Receptacle or Package, subclass 316.1 for special receptacles for an optical or photographic means.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/00, for an electrographic process using a charge pattern.

JPOFI G03G 15/00 550, for a housing and its components.

EPC G03G 15/00, for an electrographic process using a charge pattern.

108 Portable:

This subclass is indented under subclass 107. Subject matter wherein an electrophotography device has an ability to be transported or moved by hand (i.e., carried).

(1) Note. This may also include an electrophotographic device that operates from a battery power supply, solar power supply, or portable energy source.

SEE OR SEARCH CLASS:

206, Special Receptacle or Package, subclass 316.1 for special receptacles for an optical or photographic means.

109 Remanufacturing:

This subclass is indented under subclass 107. Subject matter wherein parts of the apparatus, such as a process cartridge, are serviced, reconditioned, or modified for further use.

SEE OR SEARCH CLASS:

29, Metal Working, subclass 895.1 for repairing or servicing a roller.

156, Adhesive Bonding and Miscellaneous Chemical Manufacture, subclass 94 for renewing or repairing articles for use.

110 Modular or displaceable:

This subclass is indented under subclass 107. Subject matter wherein parts of the apparatus are removable or movable to gain access to the interior or other parts of the electrophotographic device.

SEE OR SEARCH THIS CLASS, SUBCLASS:

258, for a toner cartridge.

360, for toner waste container.

391, for plural copy-medium sources having interchangeable trays.

393, for copy-medium input trays that are interchangeable.

SEE OR SEARCH CLASS:

206, Special Receptacle or Package, subclass 316.1 for special receptacles for an optical or photographic means.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 21/16, mechanical means for facilitating the maintenance of the apparatus (e.g., modular arrangement).

JPOFI G03G 15/00 554, mechanical means which makes the maintenance of the apparatus easy, (e.g., positioning the components).

EPC G03G 21/16, mechanical means for facilitating the maintenance of the apparatus (e.g., modular arrangement).

111 Process cartridge unit:

This subclass is indented under subclass 110. Subject matter wherein the particular structure provides a photoconductive member and one or more means for charging, exposing, developing, transferring, etc., as a contained, separate unit.

SEE OR SEARCH THIS CLASS, SUBCLASS:

25, for diagnostics of consumable process cartridge.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 21/18, for using a processing cartridge.

JPOFI G03G 15/00 556, for housing and its components using a processing cartridge.

EPC G03G 21/18, for using a processing cartridge.

112 Color:
This subclass is indented under subclass 111. Subject matter wherein the process cartridge unit is capable of producing a copy that has more than one color.

SEE OR SEARCH THIS CLASS, SUBCLASS:
28, for analyzing a malfunction or potential malfunction of color reproduction.
39+, for balance control of color.
54, for color selection control.
178+, for formation of color separation images.
184, for color image editing of a selectable area.
223+, for development (e.g., applicators) of a color image.
298+, for transfer of a color image.
326, for fixing or fusing of a color image.
344, for cleaning a color-image-bearing surface.

113 Having subunit separation:
This subclass is indented under subclass 111. Subject matter wherein the process cartridge is designed or arranged to be disassembled or separated into component parts.

SEE OR SEARCH THIS CLASS, SUBCLASS:
109, for remanufacturing a process cartridge.

114 Including cover:
This subclass is indented under subclass 111. Subject matter wherein an arrangement is provided for a protective encasement to the process cartridge unit.

115 Charging unit:
This subclass is indented under subclass 110. Subject matter wherein the means for applying a charge to or removing it from an imaging member is displaceable, removable, or adjustable.

(1) Note. This subject matter may include, for example, an arrangement for manually positioning or replacing a corona wire.

SEE OR SEARCH THIS CLASS, SUBCLASS:
50, for control of charging.
88+, for machine operations with power supply.
100, for particle or contaminant control in removal of toner from a charging member (e.g., corona wire).
128+, for supplemental process (e.g., fatigue treatment) involving charging.
153, for simultaneous charging and exposure.
168+, for charging, per se.
296, for exposure or charging of a developed image prior to transfer.

SEE OR SEARCH CLASS:
323, Electricity: Power Supply or Regulation Systems, for power supply, per se.
361, Electricity: Electrical Systems and Devices, for subclasses 212+ for means to discharge or prevent accumulation of static electric charge and subclasses 225+ for electric charge generating or conducting means.
430, Radiation Imagery Chemistry: Process, Composition, or Product Thereof, appropriate subclasses for radiation imagery chemistry, process, composition, or product, especially subclass 902 for charging.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/02, for sensitizing (i.e., laying down a uniform charge).
JPOFI G03G 15/02 102, for arrangements for the control or the circuits.
EPC G03G 15/02C, for an arrangement for controlling the amount of a charge.

116 Photoconductive member:
This subclass is indented under subclass 110. Subject matter wherein the removable or replaceable unit is an electrostatic, latent, image-bearing member.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/00, for an electrographic process using a charge pattern.
JPOFI G03G 21/00 354, structure arranged for replacing a photosensitive material.

117 Drum mount:
This subclass is indented under subclass 116. Subject matter wherein an arrangement is provided for bearing support of a cylindrically shaped photoconductive member.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/00, for an electrographic process using a charge pattern.
EPC G03G 15/00H1, for replacement, testing, etc., relating to drum.

118 Optics:
This subclass is indented under subclass 110. Subject matter wherein an arrangement is provided that allows an alignment of an optical component between an original and a photoconductive member.

(1) Note. The optical components may consist of reflectors, mirrors, or lens, or holders therefor, to guide a light from an original to a photoconductive member.

SEE OR SEARCH THIS CLASS, SUBCLASS:
64, for optical detector of toner in a developing unit.
137, for optical intermediate storage of original image.
196+, for variable magnification during exposure.
200+, for automatic adjustment of an optical component due to a change in magnification.
209, for a repositioning of a scanning carriage due to a change in scanning length.
216, for slit exposure by pivoting mirror.
218, for specific lens during exposure.
219, for fiber optics used during exposure.

SEE OR SEARCH CLASS:
206, Special Receptacle or Package, subclass 316.1 for special receptacles for an optical or photographic means.
359, Optics: Systems (Including Communication) and Elements, subclass 12 for copying by holographic means.
385, Optical Waveguides, for optical waveguiding element, per se, particularly subclass 116 for imaging (i.e., with coherent fiber structure and includes shaping, enhancing, and correcting).

119 Developing unit:
This subclass is indented under subclass 110. Subject matter wherein the removable or replaceable unit applies toner to a latent image to render the image visible.

SEE OR SEARCH THIS CLASS, SUBCLASS:
222+, for development, per se.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/08, for using solid developer, powder developer.
JPOFI G03G 15/08 506, for mounting/dismounting.
EPC G03G 15/08S, for details concerning the developer unit structure (e.g., arrangement for removing or positioning the unit).

120 New and waste toner container:
This subclass is indented under subclass 119. Subject matter wherein the removable or replaceable unit contains both new and used toner.

SEE OR SEARCH THIS CLASS, SUBCLASS:
27, for diagnostic of consumables (e.g., toner).
35, for diagnostics of cleaning waste toner container.
49, for detection of toner involving plural control processes.
61+, for detection of toner in developing unit.
99+, for toner removal.
106, for toner cartridge.

129, for supplemental exposure or charging of residual toner.
134, for image formation with photoconductive toner.
224, for adding colored toner.
239+, for application of liquid developer.
253, for conditioning of dry toner.
254+, for mixing of dry toner.
258+, for supplying new toner.
265+, for application of dry developer.
359, for supplying reclaimed toner to the developing device.
409, for binding copies by toner.

SEE OR SEARCH CLASS:
53, Package Making, for package making, per se.
206, Special Receptacle or Package, subclasses 449+ for plate or sheet.
220, Receptacles, for receptacles, per se.
222, Dispensing, for dispensing material from a container.
401, Coating Implements With Material Supply, subclass 132 for rupturable seals.

121 Transfer unit:
This subclass is indented under subclass 110. Subject matter wherein the displaceable or removable part is an arrangement for transferring an image from one surface or medium to another.

SEE OR SEARCH THIS CLASS, SUBCLASS:
66, for condition responsive control of transfer.
101, for particle or contaminant control of toner on a transfer member.
154, for image formation with transfer of latent image.
297+, for transferring a toner image, per se.
388+, for feeding a copy to the transfer position.
397+, for delivering a copy from the transfer position.

122 Fixing unit:
This subclass is indented under subclass 110. Subject matter wherein the displaceable or removable part is an arrangement for permanently adhering toner to a copy medium.

SEE OR SEARCH THIS CLASS, SUBCLASS:
33, for over-temperature protection during fixing.
67+, for condition-responsive control of fusing.
91, for a fire extinguisher internal to the machine.
320+, for fixing (e.g., fusing), per se.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/20, for fixing (e.g., by using heat).
EPC G03G 15/20H2P1M, for maintenance purpose (e.g., for removing a jammed sheet).

123 Cleaning unit:
This subclass is indented under subclass 110. Subject matter wherein the displaceable or removable part is provided for cleaning a surface of an image-bearing member.

SEE OR SEARCH THIS CLASS, SUBCLASS:
34, for cleaning diagnostics.
71, for control of cleaning during the electrophotography process.
149, for combined development and cleaning by a single component.
245, for self-cleaning with electrodes a liquid development application member.
327, for cleaning a fixing member.
343+, for cleaning an imaging surface (i.e., photoconductive member), including a cleaning member cyclically movable into and out of contact with the imaging surface.

SEE OR SEARCH CLASS:
15, Brushing, Scrubbing, and General Cleaning, subclasses 1.51+ for electrostatic cleaning and subclasses 300.1+ for air blast or suction which may be used to clean electrophotographic, photoresponsive, imaging surfaces.
134, Cleaning and Liquid Contact With Solids, subclasses 1+ for cleaning applications of electric, wave, ray, or radiant energy.

124 Paper path access:
This subclass is indented under subclass 110. Subject matter wherein the displaceable part gives access to a traveled path of the original or copy medium.

(1) Note. The copy-medium path of travel may be before or after image transfer.

125 Clamshell type:
This subclass is indented under subclass 110. Subject matter wherein a housing arrangement is provided with an upper frame and a lower frame that opens and closes about a pivot point.

126 Adjustment:
This subclass is indented under subclass 107. Subject matter wherein a mechanical means such as a screw or cam is provided for setting or changing the position of a component.

127 SUPPLEMENTAL ELECTROPHOTOGRAPHIC PROCESS:
This subclass is indented under the class definition. Subject matter wherein one or more of charging, exposing, developing, or cleaning is performed other than during, or directly for, copying or reproduction.

(1) Note. This subject matter may include, for example, prewetting, prerotation, or postrotation.

SEE OR SEARCH THIS CLASS, SUBCLASS:
9+, for diagnostics of an electrophotographic device.
38+, for control of the electrophotographic processes (e.g., charging, exposure, developing, transferring, fixing, and cleaning).
75+, for control of machine operations.
91+, for internal machine environmental control.
107+, for electrophotographic device having particular structure.
130+, for image formation, per se.
156, for modification of latent image.
343+, for cleaning an imaging surface.
361+, for document handling.

OTHER CLASSIFICATION SYSTEMS:
IPC[6] G03G 21/00, for an arrangement not provided for by groups 13/00 to 19/00 (e.g., cleaning, elimination of residue).
G03G 21/06, for eliminating residual charges from a reusable imaging member.
G03G 21/08, for using optical radiation.

128 Exposure or charging (e.g., fatigue treatment):
This subclass is indented under subclass 127. Subject matter wherein a photoconductive member is exposed or charged other than for image formation.

(1) Note. For example, this subject matter may include fatigue treatments used to stabilize the photoconductive member for its next application.

SEE OR SEARCH THIS CLASS, SUBCLASS:
50, for control of charging.
100, for particle or contaminant control in removal of toner from a charging member (e.g., corona wire).
115, for charging unit having a modular or displaceable structure.
153, for simultaneous charging and exposure.
168+, for charging, per se.
296, for exposure or charging a developed image prior to transfer.

SEE OR SEARCH CLASS:
323, Electricity: Power Supply or Regulation Systems, for power supply, per se.
361, Electricity: Electrical Systems and Devices, for subclasses 212+ for means to discharge or prevent accumulation of static electric charge and subclasses 225+ for electric charge generating or conducting means.
430, Radiation Imagery Chemistry: Process, Composition, or Product Thereof, appropriate subclasses for radiation imagery chemistry, process, composition, or product, especially Cross-Reference Art Collection 902 for charging.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 21/00, for an arrangement not provided for by groups 13/00 to 19/00 (e.g., cleaning, elimination of residue).
G03G 21/06, for eliminating residual charges from a reusable imaging member.
G03G 21/08, for using optical radiation.
JPOFI G03G 21/00 340, for eliminating residual charge.
G03G 21/00 342, for using optical radiation.
G03G 21/00 345, for fatigue treatment of the photosensitive material.
EPC G03G 21/00F, for fatigue treatment of the photoconductor.

129 Of residual toner:
This subclass is indented under subclass 128. Subject matter wherein the charging or exposure is of untransferred toner to be removed.

SEE OR SEARCH THIS CLASS, SUBCLASS:
27, for diagnostic of consumables (e.g., toner).
35, for diagnostics of cleaning a waste toner container.
49, for detection of toner involving plural control processes.
61+, for detection of toner in a developing unit.
99+, for toner removal.
106, for a toner cartridge.
120, for a new and waste toner container.
134, for image formation with photoconductive toner.
224, for adding colored toner.
239+, for application of liquid developer.
253, for conditioning dry toner.
254+, for mixing dry toner.
258+, for supplying new toner.
265+, for application of dry developer.
359, for supplying reclaimed toner to the developing device.
409, for binding copies by toner.

130 IMAGE FORMATION:
This subclass is indented under the class definition. Subject matter wherein a copy is produced by making a latent image visible with toner or marking particles.

(1) Note. This subject matter also includes a second or subsequent exposure or development of the same image to enhance the reproduction.

SEE OR SEARCH THIS CLASS, SUBCLASS:
9+, for diagnostics of an electrophotographic device.
38+, for control of the electrophotographic processes (e.g., charging, exposure, developing, transferring, fixing, and cleaning).
75+, for control of machine operations.
91+, for internal machine environmental control.
107+, for electrophotographic device having particular structure.
127+, for supplemental electrophotographic processes.
343+, for cleaning an imaging surface.
361+, for document handling.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/22, for involving the combination of more than one step according to groups G03G 13/02 to 13/20.
JPOFI G03G 15/22, for involving the combination of more than one step according to groups G03G 13/02 to 13/20.
EPC G03G 15/22, for involving the combination of more than one step according to groups G03G 13/02 to 13/20.

131 Photoelectrophoretic:
This subclass is indented under subclass 130. Subject matter wherein particles suspended in an insulative liquid carrier between electrodes migrate in an image configuration in response to both an electrical potential difference between electrodes across the suspension and light exposure in image configuration.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 17/04, for using photoelectrophoresis.
G03G 17/06, apparatus using photoelectrophoresis.
JPOFI G03G 17/04, for using photoelectrophoresis.
G03G 17/06, apparatus using photoelectrophoresis.
EPC G03G 17/04, for using photoelectrophoresis.
G03G 17/06, apparatus using photoelectrophoresis.

132 Thermoplastic deformation:
This subclass is indented under subclass 130. Subject matter wherein a latent electrostatic image is made visible by the deformation of a thermoplastic layer.

(1) Note. The deformation is usually by heat or solvent.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 16/00, for electrographic processes using deformation of thermoplastic layers.
JPOFI G03G 16/00, for electrographic processes using deformation of thermoplastic layers.
EPC G03G 16/00, for electrographic processes using deformation of thermoplastic layers.

133 Having layer separation (e.g., manifold imaging):
This subclass is indented under subclass 130. Subject matter wherein is provided an imaging layer between a donor sheet and a receiver sheet that is structurally fracturable in response to the combined effect of an applied electrical field and exposure that provides a negative image on one of the sheets and a positive image on the other.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 17/08, for using an electrophoto-adhesive process (e.g., manifold imaging).
JPOFI G03G 17/08, for using an electrophoto-adhesive process (e.g., manifold imaging).
EPC G03G 17/08, for using an electrophoto-adhesive process (e.g., manifold imaging).

134 Having photoconductive toner:
This subclass is indented under subclass 130. Subject matter wherein the photoconductive medium is in the form of toner or particles.

SEE OR SEARCH THIS CLASS, SUBCLASS:
27, for diagnostic of consumables (e.g., toner).
35, for diagnostics of cleaning a waste toner container.
49, for detection of toner involving plural control processes.
61+, for detection of toner in a developing unit.
99+, for toner removal.
106, for a toner cartridge.
120, for a new and waste toner container.
129, for supplemental exposure or charging of residual toner.
224, for adding colored toner.
239+, for application of liquid developer.
253, for conditioning dry toner.
254+, for mixing dry toner.
258+, for supplying new toner.
265+, for application of dry developer.
359, for supplying reclaimed toner to the developing device.
409, for binding copies by toner.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/00, for an electrographic process using a charge pattern.
G03G 15/22, for involving the combination of more than one step according to groups G03G 13/02 to 13/20.
JPOFI G03G 15/00 119, for using photoconductive toner.
EPC G03G 15/22G, for using photoconductive toner particles.

135 Ion modulation (e.g., screen):

This subclass is indented under subclass 130. Subject matter wherein the photoconductive member is in the form of a screen or grid or apertures and, after formation of a latent image as per the class definition, serves to modulate the flow of ions or charged particles to produce a similar or the same latent image on a second member.

SEE OR SEARCH CLASS:

347, Incremental Printing and Symbolic Information, subclass 55 for applying an electric field ejection intermittently.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/05, for imagewise charging (e.g., photoconductive control screen, optically activated charging means).

JPOFI G03G 15/05, for imagewise charging (e.g., photoconductive control screen, optically activated charging means).

G03G 15/22 107, for machines handling xeroradiographic images and for machines using a photocontrolled ion flow.

EPC G03G 15/22H, for using a photocontrolled ion flow.

136 Simultaneously with charge transfer:

This subclass is indented under subclass 130. Subject matter wherein a latent electrostatic image in or on a photoconductive member is transferred to or reproduced on a separate second member, generally dielectric and in contact or separated by a small gap, by conduction of electrical charges across the gap or by direct transfer of charge between the members under the influence of light in imagewise configuration, where one or both of the members are precharged or a voltage is applied therebetween during imaging.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/05, for imagewise charging (e.g., photoconductive control screen, optically activated charging means).

JPOFI G03G 15/044, by charge transfer onto the recording material in accordance with the image.

G03G 15/18 101, by simultaneously performing the exposure and the latent image transfer.

EPC G03G 15/044, by charge transfer onto the recording material in accordance with the image.

137 Optical intermediate storage of original image:

This subclass is indented under subclass 130. Subject matter wherein the original image is stored in a light image memory in an optical component between the original and photoconductive member.

SEE OR SEARCH THIS CLASS, SUBCLASS:

64, for optical detector of toner in a developing unit.

118, for optics with particular modular or displaceable structure.

196+, for variable magnification during exposure.

200+, for automatic adjustment of an optical component due to a change in magnification.

209, for a repositioning of a scanning carriage due to a change in scanning length.

216, for slit exposure by pivoting mirror.

218, for specific lens during exposure.

219, for fiber optics used during exposure.

SEE OR SEARCH CLASS:

206, Special Receptacle or Package, subclass 316.1 for special receptacles for an optical or photographic means.

359, Optics: Systems (Including Communication) and Elements, subclass 12 for copying by holographic means.

385, Optical Waveguides, for optical waveguiding element, per se, particularly subclass 116 for imaging (i.e., with coherent fiber structure and includes shaping, enhancing, and correcting).

138 Operator adjusted density:
This subclass is indented under subclass 130. Subject matter wherein a means or method is provided for an operator to select or adjust the relative lightness or darkness of a reproduced image.

(1) Note. This subject matter also includes adjustment for line image or photo image.

SEE OR SEARCH THIS CLASS, SUBCLASS:
81, for operator interface panel.

139 Formation of master, photocopy-printer:
This subclass is indented under subclass 130. Subject matter wherein a toner image is formed and subsequently used as the original for further reproduction.

SEE OR SEARCH THIS CLASS, SUBCLASS:
145, for plural copies from the same latent image.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/22, for involving the combination of more than one step according to groups G03G 13/02 to 13/20.
EPC G03G 15/22M, for a process involving the formation of a master (e.g., photocopy-printer machine).

140 To produce microimage:
This subclass is indented under subclass 130. Subject matter wherein formation of an electrophotographic image is reproduced in miniature (e.g., microfilm or microfiche) on a thin flexible cellulose material.

(1) Note. For example, this subject matter includes multiframe microfiche film that may be used in conjunction with a microphotographic copying machine.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/22, for involving the combination of more than one step according to groups G03G 13/02 to 13/20.
EPC G03G 15/22A2, for machines handling microimages (e.g., microfilm copiers).

141 Film process head:
This subclass is indented under subclass 140. Subject matter wherein an apparatus is provided for engaging multiple frames of film at a time.

(1) Note. Separate sections of the process head are for charging, exposing, developing, fixing, drying, etc.

142 Development:
This subclass is indented under subclass 141. Subject matter wherein a section of the film process head is directed to applying toner to a latent image.

143 Selectively positive or negative:
This subclass is indented under subclass 130. Subject matter wherein method or apparatus is provided for automatically or selectively producing either a positive copy (relative light and dark portions are the same in original and copy) or a negative copy (light and dark portions are reversed between original and copy).

(1) Note. The negative copy mode is generally used for producing a copy with a white background where the original has a black background (e.g., negative film).

144 Reader-printer
This subclass is indented under subclass 130. Subject matter wherein an apparatus is provided for making a full-size reproduction from a microfilm or microfiche original.

(1) Note. This subject matter may include an arrangement for viewing the image to be reproduced.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/22, for involving the combination of more than one step according to groups G03G 13/02 to 13/20.
JPOFI G03G 15/22 104, for reader-printers.

145 Plural copies from same latent image:
This subclass is indented under subclass 130. Subject matter wherein apparatus is provided for developing the same electrostatic latent image more than one time to produce plural copies.

SEE OR SEARCH THIS CLASS, SUBCLASS:
139, for formation of original used for reproduction.

146 Contact exposure:
This subclass is indented under subclass 130. Subject matter wherein an original and a photoconductive member are adjacent or in close proximity to each other during exposure.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/22, for involving the combination of more than one step according to groups G03G 13/02 to 13/20.
EPC G03G 15/22C, for using contact-printing.

147 Having overlayer:
This subclass is indented under subclass 130. Subject matter wherein a separate film is provided between a photoconductive member and a developing unit for indirect development or development on a reverse side of a photosensitive sheet bearing a latent image.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/22, for involving the combination of more than one step according to groups G03G 13/02 to 13/20.
EPC G03G 15/048D, for the image being formed on a dielectric cover layer.

148 Combined or plural functions by single component:
This subclass is indented under subclass 130. Subject matter wherein a means or method is provided that performs two or more electrophotographic functions (e.g., charging, exposing, developing, transferring, fixing, and cleaning).

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/22, for involving the combination of more than one step according to groups G03G 13/02 to 13/20.
G03G 15/24, whereby at least two steps are performed simultaneously.
JPOFI G03G 15/22 101C, by two revolutions, one copy type.
G03G 15/24, whereby at least two steps are performed simultaneously.
EPC G03G 15/24, whereby at least two steps are performed simultaneously.
G03G 15/30C, with more than one photoconductor revolution for each copying cycle.

149 Development and cleaning:
This subclass is indented under subclass 148. Subject matter wherein a single electrophotographic component performs the functions of developing a latent image and cleaning the photoconductive member.

SEE OR SEARCH THIS CLASS, SUBCLASS:
34, for cleaning diagnostics.
71, for control of cleaning during the electrophotography process.
123, for particular structure of cleaning unit.
245, for self-cleaning with electrodes a liquid development application member.
327, for cleaning of fixing member.
343+, for cleaning an imaging surface (i.e., photoconductive member), including for a cleaning member cyclically movable into and out of contact with the imaging surface.

SEE OR SEARCH CLASS:
15, Brushing, Scrubbing, and General Cleaning, subclasses 1.51+ for electrostatic cleaning and subclasses

300.1+ for air blast or suction which may be used to clean electrophotographic, photoresponsive imaging surfaces.

134, Cleaning and Liquid Contact With Solids, subclasses 1+ for cleaning applications of electric, wave, ray, or radiant energy.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/30, in which projection is formed on a drum.

EPC G03G 15/30C, with more than one photoconductor revolution for each copying cycle.

150 Simultaneously:

This subclass is indented under subclass 149. Subject matter wherein the single component performs the developing and cleaning at the same time.

(1) Note. This subject matter may include a means or method for distributing or disorienting a residual toner image to be cleaned.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/24, whereby at least two steps are performed simultaneously.

JPOFI G03G 15/08 507B, for special methods and devices without a cleaner.

151 Combined with scanning:

This subclass is indented under subclass 130. Subject matter wherein one or more electrophotographic process units (e.g., a charger) is attached to or integrated with a movable scanning carriage for exposing the original.

(1) Note. Other electrophotographic process units may be a developing unit, transfer unit, fixing unit, or cleaning unit.

152 Simultaneous exposure and development:

This subclass is indented under subclass 130. Subject matter wherein an apparatus is provided for developing a latent image on a photoconductive member while it is being exposed in image configuration.

SEE OR SEARCH CLASS:

430, Radiation Imagery Chemistry: Process, Composition, or Product Thereof, subclass 120.5 for processes of simultaneously imaging and developing.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/24, whereby at least two steps are performed simultaneously.

JPOFI G03G 15/24, whereby at least two steps are performed simultaneously.

EPC G03G 15/24, whereby at least two steps are performed simultaneously.

153 Simultaneous charging and exposure:

This subclass is indented under subclass 130. Subject matter wherein an apparatus is provided for applying a charge to the photoconductive member at the same time it is being exposed, typically through an aperture in the frame of a corona charging device.

SEE OR SEARCH THIS CLASS, SUBCLASS:

296, for exposure or charging of a developed image prior to transfer.

SEE OR SEARCH CLASS:

430, Radiation Imagery Chemistry: Process, Composition, or Product Thereof, appropriate subclasses for radiation imagery chemistry, process, composition, or product.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/056, for using internal polarization.

G03G 15/24, whereby at least two steps are performed simultaneously.

JPOFI G03G 15/24, whereby at least two steps are performed simultaneously.

EPC G03G 15/24, whereby at least two steps are performed simultaneously.

154 Having transfer of latent image:

This subclass is indented under subclass 130. Subject matter wherein an apparatus is provided for transferring an electrostatic latent

image from one medium or substrate to another.

SEE OR SEARCH THIS CLASS, SUBCLASS:

66, for condition responsive control of transfer.

101, for particle or contaminant control of toner on a transfer member.

121, for transfer unit with particular modular or displaceable structure.

297+, for transferring a toner image, per se.

388+, for feeding a copy to the transfer position.

397+, for delivering a copy from the transfer position.

SEE OR SEARCH CLASS:

101, Printing, subclass 489 for electric or magnetic transfer process by using a difference in electrostatic or magnetic attraction.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/18, for transferring a pattern to a second base of a charge pattern.

JPOFI G03G 15/18, for transferring a pattern to a second base of a charge pattern.

G03G 15/01A, for producing multicolored copies by latent image transfer.

EPC G03G 15/18, for transferring a pattern to a second base of a charge pattern.

155 Having reciprocating imaging member:
This subclass is indented under subclass 130. Subject matter wherein the photoconductor moves in a back-and-forth motion during the electrophotographic process.

156 Having modification of latent image:
This subclass is indented under subclass 130. Subject matter wherein an apparatus is provided for supplemental charging or exposure of an electrostatic latent image.

(1) Note. The additional charging or exposure may occur before or after the latent image is completely formed.

SEE OR SEARCH THIS CLASS, SUBCLASS:

127+, for supplemental electrophotographic processes.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/045, with means for charging or discharging distinct portions of the charge pattern on the recording material (e.g., for contrast enhancement or discharging nonimage areas).

JPOFI G03G 15/052, by charging or discharging after sensitizing.

EPC G03G 15/052, by charging or discharging after sensitizing (e.g., contrast enhancing processes).

157 To produce outline image:
This subclass is indented under subclass 156. Subject matter wherein the modification of the latent image produces an outlined shape of the original image.

158 Display of developed image:
This subclass is indented under subclass 130. Subject matter wherein a method or apparatus is provided that allows a developed image to be observed that has not been fixed or fused to a copy medium.

SEE OR SEARCH THIS CLASS, SUBCLASS:

81, for operator interface panel.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/00, for an electrographic process using a charge pattern.

JPOFI G03G 15/22 106, for involving the combination of more than one step according to groups.

G03G 13/02 to 13/20, for electrophotographic projectors.

159 Photoconductive member:
This subclass is indented under subclass 130. Subject matter wherein a light responsive member has a particular physical, electrical, or magnetic characteristic which enables the member to change its (a) electrical resistivity

or (b) conductivity or (c) charge or (d) emissivity or (e) magnetic condition or (f) persistent internal polarization upon exposure to radiant energy in the form of light.

(1) Note. The light sensitive member may have, for example, a distinctive shape, width, orientation angle, etc.

(2) Note. This subject matter may include an arrangement for interior exposure (i.e., from within a belt or drum) of the photoconductive member.

SEE OR SEARCH THIS CLASS, SUBCLASS:
26, for a diagnostic of consumable photoconductive member.
116+, for a photoconductive member having particular modular or displaceable structure.

SEE OR SEARCH CLASS:
101, Printing, subclass 415.1 for a flexible sheet clamping device.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/00, for an electrographic process using a charge pattern.
JPOFI G03G 21/00 350, for mechanical constitution of the recording medium or photosensitive.
G03G 21/00 352, for mechanical means of mounting a thin photosensitive sheet.
EPC G03G 15/00H, for details relating to xerographic drum, band, or platen (e.g., replacing, testing).
G03G 15/00H1, relating to drum.

160 Selection of image frame area:
This subclass is indented under subclass 159. Subject matter wherein a means or method is provided for positioning or locating an image area in relation to a point along a rotational path.

(1) Note. This subject matter may include compensation for a seam in the photoconductive member.

161 Renewable layer:
This subclass is indented under subclass 159. Subject matter wherein a means or method is provided for advancing unused portions of a photoconductive member to an operative position.

(1) Note. This subject matter includes a rotatable hollow cylinder and guiding apparatus around the periphery of the cylinder including a portion located inside the cylinder for supplying and taking up a web or belt and one or more openings in the periphery of the cylinder through which the web or belt may be supplied and collected.

SEE OR SEARCH CLASS:
242, Winding, Tensioning, or Guiding, subclasses 324+ for unwinding photographic film.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/00, for an electrographic process using a charge pattern.
EPC G03G 15/00H1R, with renewable photoconductive layer.

162 Belt:
This subclass is indented under subclass 159. Subject matter wherein the photoconductive member is in the form of a flexible web.

SEE OR SEARCH CLASS:
474, Endless Belt Power Transmission Systems or Components, for belt power transmission, per se.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/00, for an electrographic process using a charge pattern.
JPOFI G03G 15/00 117, for using a photoconductive film type photosensitive material.
EPC G03G 15/00H2, for relating to band (e.g., tensioning).

163 Having nonuniform motion:
This subclass is indented under subclass 162. Subject matter wherein different portions of the photoconductive belt move at various speeds.

(1) Note. This subject matter may include stopping the photoconductive belt during exposure.

164 Having backing support:
This subclass is indented under subclass 162. Subject matter wherein a means or method is provided to support a photoconductive belt at the point of engagement with an operative component.

(1) Note. An operative component, for example, may be an exposure or developing device.

165 Alignment or tensioning:
This subclass is indented under subclass 162. Subject matter wherein a means or method is provided for restricting the tracking motion of the photoconductive belt.

(1) Note. This subject matter also includes tension adjustment of the photoconductive belt.

SEE OR SEARCH CLASS:
242, Winding, Tensioning, or Guiding, for a process or apparatus for tensioning (i.e., applying or regulating longitudinal stress) and for guiding (i.e., establishing or confining the path of movement of a running material of indefinite length).

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/00, for an electrographic process using a charge pattern.
EPC G03G 15/00H2, for relating to band (e.g., tensioning).
G03G 15/00H2A, for maintaining the lateral alignment of the band.

166 Plate:
This subclass is indented under subclass 159. Subject matter wherein the photoconductive member is in the form of a plate or a sheet attached to a rectangular plate.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/00, for an electrographic process using a charge pattern.
EPC G03G 15/00H4, relating to plate or sheet.

167 Drive apparatus:
This subclass is indented under subclass 159. Subject matter wherein a driving arrangement is provided that imparts motion to a photoconductive member.

(1) Note. This subject matter may include recitation of a particular speed.

SEE OR SEARCH CLASS:
198, Conveyors: Power-Driven, for power driven conveyors, per se.
474, Endless Belt Power Transmission Systems or Components, for belt power transmission, per se.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/00, for an electrographic process using a charge pattern.
EPC G03G 15/00H3, for a drive mechanism for photosensitive medium.

168 Charging:
This subclass is indented under subclass 130. Subject matter wherein a method or apparatus is provided that applies a voltage or current to a photoconductive member to produce or remove an electrostatic charge potential.

(1) Note. The applied voltage or current may remove a charge from a photoconductive member. This subject matter does not include removing a charge by the action of light.

SEE OR SEARCH THIS CLASS, SUBCLASS:

50, for control of charging.

88+, for machine operations with power supply.

100, for particle or contaminant control in removal of toner from a charging member (e.g., corona wire).

115, for a charging unit having a modular or displaceable structure.

128+, for a supplemental process (e.g., fatigue treatment) involving charging.

153, for simultaneous charging and exposure.

296, for exposure or charging of a developed image prior to transfer.

SEE OR SEARCH CLASS:

323, Electricity: Power Supply or Regulation Systems, for power supply, per se.

361, Electricity: Electrical Systems and Devices, for subclasses 212+ for means to discharge or prevent accumulation of static electric charge and subclasses 225+ for electric charge generating or conducting means.

430, Radiation Imagery Chemistry: Process, Composition, or Product Thereof, appropriate subclasses for radiation imagery chemistry, process, composition, or product, especially Cross-Reference Art Collection 902 for charging.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/02, for sensitizing (i.e., laying down a uniform charge).

JPOFI G03G 15/02, for laying down a uniform charge (e.g., for sensitizing; Corona discharge devices).

G03G 15/02 101, for using the characteristics of the structure.

G03G 15/02 102, for arrangements for the control or the circuits.

EPC G03G 15/02, for sensitizing (i.e., laying down a uniform charge).

169 Having selection of area to be charged:

This subclass is indented under subclass 168. Subject matter wherein a means or method is provided for limiting an electrical charge application to a selected area on the photoconductive member.

SEE OR SEARCH THIS CLASS, SUBCLASS:

187+, for light exposure to reduce the charged area.

170 Corona:

This subclass is indented under subclass 168. Subject matter wherein a high voltage is applied to a conductor (e.g., wire) which causes a current to flow to the member to be charged by ionization of the air or gas surrounding the conductor.

(1) Note. This condition is not sufficient to cause sparking.

(2) Note. This subject matter may include an arrangement to supply new corona wire.

SEE OR SEARCH CLASS:

250, Radiant Energy, subclasses 324 through 325 for corona irradiation and charging of moving objects.

361, Electricity: Electrical Systems and Devices, subclasses 225+ for electrical charging of objects and materials, particularly subclass 235 for having a specific power supply.

171 Having grid:

This subclass is indented under subclass 170. Subject matter wherein a screen or wire electrode is provided between the conductor (e.g., corona wire) and photoconductive member.

172 Having case:

This subclass is indented under subclass 170. Subject matter wherein a shield is placed around a corona arrangement.

173 Needle type:

This subclass is indented under subclass 170. Subject matter wherein the corona is produced by a pin electrode or electrodes.

174 Contact:

This subclass is indented under subclass 168. Subject matter wherein an electrical charge is applied to a photoconductor by a contacting member.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/02, for laying down a uniform charge (e.g., for sensitizing; Corona discharge device).

EPC G03G 15/02A, for sensitizing (i.e., laying-down a uniform charge by contact, friction, or induction; e.g., roller, brush chargers).

175 Brush:

This subclass is indented under subclass 174. Subject matter wherein the contact charger is brushlike or fibrous.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/02, for laying down a uniform charge (e.g., for sensitizing; Corona discharge device).

EPC G03G 15/02A, for sensitizing (i.e., laying-down a uniform charge by contact, friction or induction; e.g., roller, brush chargers).

176 Roller:

This subclass is indented under subclass 174. Subject matter wherein the contact charger is a rotatable cylinder.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/02, for laying down a uniform charge (e.g., for sensitizing; Corona discharge device).

EPC G03G 15/02A, for sensitizing (i.e., laying-down a uniform charge by contact, friction or induction; e.g., roller, brush chargers).

177 Exposure:

This subclass is indented under subclass 130. Subject matter wherein a method or apparatus is provided that conducts radiant energy in the form of light directly from an original to an image-bearing member.

(1) Note. The use of the limitation "directly" excludes image formation systems in which an image of an original is detected and converted to electrical signals which are subsequently utilized to generate further illumination signals to optically form an image of the original on the medium. This excluded subject matter may be found, for example, in Class 346, subclasses 74.2+, and in Class 358, subclasses 300 and 301.

(2) Note. Exposure of a charged photoconductive member to a pattern of light results in an electrostatic latent image.

SEE OR SEARCH THIS CLASS, SUBCLASS:

51, for control of exposure.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/04, for exposing (i.e., imagewise exposure by optically projecting the original image on a photoconductive recording material).

JPOFI G03G 15/04, for exposing (i.e., imagewise exposure projecting the original image on a recording material).

G03G 15/04 111, for using the characteristics of the optical system.

EPC G03G 15/04, for exposing (i.e., transmitting the information given by the original image to the recording material; electron beam tubes for electrography for transferring a charge pattern through the face platen to the recording material).

178 Formation of color separation images:

This subclass is indented under subclass 177. Subject matter wherein a colored original is exposed to a plurality of different colored lights to produce separation images.

(1) Note. The plurality of different colors may be produced by filters or different colored light sources.

(2) Note. Rather than forming a total light image of an original, the light image is

filtered (or different colored exposure lights are used) to produce a single-colored light image which is a light image of the original. A succession of latent images are thus produced, each corresponding to a separate, different-colored, single light image. Each latent image is developed with toner complementary in color to the color of the filtered light image. The toner images are superimposed in registration to produce a color copy corresponding to the latent image formed with red light developed with cyan toner. A blue light image is developed with yellow toner. A green light image is developed with magenta. Also, another term for color separation images is color resolved images.

SEE OR SEARCH THIS CLASS, SUBCLASS:

28, for analyzing a malfunction or potential malfunction of color reproduction.
39+, for balance control of color.
54, for color selection control.
112, for modular or displaceable color process cartridge unit.
184, for color image editing of a selectable area.
223+, for development (e.g., applicators) of a color image.
298+, for transfer of a color image.
326, for fixing or fusing of a color image.
344, for cleaning a color-image-bearing surface.

SEE OR SEARCH CLASS:

430, Radiation Imagery Chemistry: Process, Composition, or Product Thereof, subclasses 42.1 through 47.5 to produce a multicolor production (i.e., plural colors named or more than one color identified).

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/01, for producing multicolored copies.
JPOFI G03G 15/01 112, for producing multicolored copies using the characteristics related to the exposure process.
EPC G03G 15/01D4, for exposing.

179 To plural photoconductive members:

This subclass is indented under subclass 178. Subject matter wherein color separation images are exposed to a plurality of photoconductive members.

180 Having halftone screen:

This subclass is indented under subclass 178. Subject matter wherein a means or method is provided that reproduces an original image in lines, segments, or dots by enabling an original to appear as if it were projected through a screen having a lattice of parallel lines at a specified angle.

(1) Note. Line or halftone images may be formed electrostatically (e.g., via a photoconductive member with a line or periodic dot pattern thereon).

(2) Note. Color images are frequently exposed onto a photoconductive member as line images formed at different specified angles for different colors.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/01, for producing multicolored copies.
EPC G03G 15/01D4H, for exposing and forming a halftone image.

181 Halftone image:

This subclass is indented under subclass 177. Subject matter wherein a means or method is provided that reproduces an original image in lines, segments, or dots.

(1) Note. Lines or halftone images may be formed electrostatically (e.g., via a photoconductive member with a line or periodic dot pattern thereon).

SEE OR SEARCH CLASS:

430, Radiation Imagery Chemistry: Process, Composition, or Product Thereof, subclasses 42.1 through 47.5 to produce a multicolor production (i.e., plural colors named or more than one color identified).

182 Having image editing:

This subclass is indented under subclass 177. Subject matter wherein a means or method is provided that allows a particular or selected area of an original image to be modified or reproduced.

(1) Note. This subject matter includes an area of an original for reproduction in a specific or selected color.

SEE OR SEARCH THIS CLASS, SUBCLASS:

81, for operator interface panel.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/36, for editing (i.e., producing a composite image by copying one or more original images or parts thereof).

EPC G03G 15/04C, for image composition (e.g., adding or superposing information on the original image).

183 Selectable area:

This subclass is indented under subclass 182. Subject matter wherein a means or method is provided that designates a specific portion of an original image to be edited.

(1) Note. This subject matter may include a composite image produced by masking or trimming, and also detection of a marked portion (area) of the original.

SEE OR SEARCH THIS CLASS, SUBCLASS:

194, for a composite image without masking or trimming.

184 Color:

This subclass is indented under subclass 183. Subject matter wherein a means or method is provided for selecting the color developer material being applied to a selected portion of an image-bearing member to produce a copy having a different color than the original.

(1) Note. This subject matter also including the achromatic colors -- black, gray, and white -- or transparent areas.

(2) Note. Developer material may be magnetic or nonmagnetic toner particles, or toner particles mixed with a liquid carrier material, or magnetic or nonmagnetic toner particles mixed with magnetic particles that act as carriers under the influence of a magnetic field.

(3) Note. The apparatus can also be selectively operated to produce a copy with only one color of toner present in the reproduction.

(4) Note. In most cases the units not being selected are inoperative after the time of selection. Selection may be done by an operator or automatically.

(5) Note. A full color reproduction contains all of the chromatic colors in the original. It is usually achieved by using substractive color primaries (e.g., cyan, magenta, and yellow).

SEE OR SEARCH THIS CLASS, SUBCLASS:

28, for analyzing a malfunction or potential malfunction of color reproduction.
39+, for balance control of color.
54, for color selection control.
112, for a modular or displaceable color process cartridge unit.
178+, for formation of color separation images.
223+, for development (e.g., applicators) of a color image.
298+, for transfer of a color image.
326, for fixing or fusing of a color image.
344, for cleaning a color-image-bearing surface.

SEE OR SEARCH CLASS:

430, Radiation Imagery Chemistry: Process, Composition, or Product Thereof, subclasses 42.1 through 47.5 to produce a multicolor production (i.e., plural colors named or more than one color identified).

185 Touch pad:
This subclass is indented under subclass 183. Subject matter wherein a pressure sensitive surface is used to input the area of the original to be selected.

(1) Note. The touch pad orientation may be in graphical terms of a two-dimensional x,y coordinate system.

186 Details of erase light:
This subclass is indented under subclass 182. Subject matter wherein an illumination is applied to remove charge from a latent image by an array of individually controllable light sources.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/04, for exposing (i.e., image-wise exposure by optically projecting the original image on a photoconductive recording material).
EPC G03G 15/052A, for discharging non-image areas (e.g., erasing, producing margins).

187 Edge or interframe erase:
This subclass is indented under subclass 182. Subject matter wherein an illumination is applied to remove an electrostatic charge from an area corresponding to a border of an original image.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/04, for exposing (i.e., image-wise exposure by optically projecting the original image on a photoconductive recording material).
EPC G03G 15/052A, for discharging non-image areas (e.g., erasing, producing margins).

188 Copy blank leading edge:
This subclass is indented under subclass 187. Subject matter wherein the charge-removing illumination is operated to produce a front portion free of toner on a copy medium.

(1) Note. This subject matter may also include changes to the feed timing of the copy medium.

SEE OR SEARCH THIS CLASS, SUBCLASS:
394, for changes to the feed timing of the copy medium where no erase lights are involved.

189 Cover position:
This subclass is indented under subclass 187. Subject matter wherein the charge-removing illumination is operated in response to detection of the position of a cover member.

190 Variable size:
This subclass is indented under subclass 187. Subject matter wherein the charge-removing illumination is applied to a region that is changeable in size.

(1) Note. This size variation may include an area that varies due to a change in magnification or an area that is determined by detecting an original or its image.

191 Using exposure light:
This subclass is indented under subclass 187. Subject matter wherein the charge-removing illumination is light emitted from a light source that also exposes an original.

192 Side edge lamps:
This subclass is indented under subclass 187. Subject matter wherein the charge-removing illumination is provided by an erase light source that is positioned at the lateral sides of the photoconductive member.

193 Binding offset:
This subclass is indented under subclass 177. Subject matter wherein a means or method is provided for shifting the position of an image with respect to a copy medium.

(1) Note. This subject matter may include erasing a portion of the latent image to produce the offset.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/04, for exposing (i.e., image-wise exposure by optically projecting the original image on a photoconductive recording material).

EPC G03G 15/052A, for discharging non-image areas (e.g., erasing, producing margins).

194 Composite:

This subclass is indented under subclass 177. Subject matter wherein a means or method is provided that reproduces exposures of several documents or portions thereof onto one copy medium as one image.

(1) Note. This subject matter may also include two separate exposures of the same original where the entire image is copied twice.

SEE OR SEARCH THIS CLASS, SUBCLASS:

183, for a composite image produced by masking or trimming.

195 Generating paper feed signal:

This subclass is indented under subclass 177. Subject matter wherein a copy medium actuation or control signal is produced by a moving original or optical component (e.g., scanning carriage).

SEE OR SEARCH THIS CLASS, SUBCLASS:

361+, for document handling, per se.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/30, in which projection is formed on a drum.

EPC G03G 15/30B, with special means to synchronize the scanning optic to the operation of other parts of the machine (e.g., photoreceptor, copy paper).

196 Variable magnification:

This subclass is indented under subclass 177. Subject matter wherein a means or method is provided for selectively producing a copy in more than one magnification ratio.

SEE OR SEARCH THIS CLASS, SUBCLASS:

64, for optical detector of toner in a developing unit.

118, for optics with particular modular or displaceable structure.

137, for optical intermediate storage of original image.

140, for producing a microimage not variable in size.

200+, for automatic adjustment of an optical component due to a change in magnification.

209, for a repositioning of a scanning carriage due to a change in scanning length.

216, for slit exposure by pivoting mirror.

218, for specific lens during exposure.

219, for fiber optics used during exposure.

SEE OR SEARCH CLASS:

206, Special Receptacle or Package, subclass 316.1 for special receptacles for an optical or photographic means.

359, Optics: Systems (Including Communication) and Elements, subclass 12 for copying by holographic means.

385, Optical Waveguides, for optical waveguiding element, per se, particularly subclass 116 for imaging (i.e., with coherent fiber structure and includes shaping, enhancing, and correcting).

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/041, for exposing with variable magnification.

JPOFI G03G 15/04 117, for exposing using variable magnification.

EPC G03G 15/052B, for exposing using variable magnification.

197 Having calculation:

This subclass is indented under subclass 196. Subject matter wherein a means or method is provided that calculates the magnification ratio.

(1) Note. The input parameter may be, for example, enlargement or reduction ratios, size of copy medium, etc.

198 Exposure adjustment:
This subclass is indented under subclass 196. Subject matter wherein a means or method is provided for varying an amount of light reaching a photoconductive member to compensate for the change in magnification.

(1) Note. An amount of light may be varied by intensity or cross-sectional area.

199 Additional lens:
This subclass is indented under subclass 196. Subject matter wherein copy magnification is varied through an alternative optical component that focuses light by refraction.

(1) Note. An additional lens may also include a lens that is a substitute lens.

SEE OR SEARCH THIS CLASS, SUBCLASS:
118, for optics with particular modular or displaceable structure.
137, for optical intermediate storage of original image.
196+, for variable magnification during exposure.
200+, for automatic adjustment of an optical component due to a change in magnification.
209, for a repositioning of a scanning carriage due to a change in scanning length.
216, for slit exposure by pivoting mirror.
218, for specific lens during exposure.
219, for fiber optics used during exposure.

SEE OR SEARCH CLASS:
206, Special Receptacle or Package, subclass 316.1 for special receptacles for an optical or photographic means.
359, Optics: Systems (Including Communication) and Elements, subclass 12 for copying by holographic means.

200 Having scanning modification:
This subclass is indented under subclass 196. Subject matter wherein copy magnification is varied by changing the movement of a sweeping exposure.

(1) Note. This modification may also include a change in the speed of the moving photoconductive member.

SEE OR SEARCH THIS CLASS, SUBCLASS:
64, for optical detector of toner in a developing unit.
118, for optics with particular modular or displaceable structure.
137, for optical intermediate storage of original image.
196+, for variable magnification during exposure.
209, for a repositioning of a scanning carriage due to a change in scanning length.
216, for slit exposure by pivoting mirror.
218, for specific lens during exposure.
219, for fiber optics.

SEE OR SEARCH CLASS:
206, Special Receptacle or Package, subclass 316.1 for special receptacles for an optical or photographic means.
359, Optics: Systems (Including Communication) and Elements, subclass 12 for copying by holographic means.
385, Optical Waveguides, for optical waveguiding element, per se, particularly subclass 116 for imaging (i.e., with coherent fiber structure and includes shaping, enhancing, and correcting).

201 Lens positioning:
This subclass is indented under subclass 200. Subject matter wherein copy magnification is varied by moving the location of an optical component that focuses light by refraction.

202 Mirror or scanning carriage positioning:
This subclass is indented under subclass 200. Subject matter wherein an optical component that reflects light is repositioned to compensate for a change in magnification.

203 Selective or convertible:
This subclass is indented under subclass 177. Subject matter wherein a means or method is provided that selectively operates among different exposure configurations.

(1) Note. An original may take the form of a film, book, different weight paper, etc. The most common exposure configurations are (a) an arrangement for thick or thin originals or (b) an arrangement where a book is exposed by a moving scanning carriage or (c) an arrangement where the scanning carriage is moved to a separate position and parked or (d) an arrangement where an original is moved through the exposure station by rollers.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/30, in which projection is formed on a drum.
EPC G03G 15/30A, with arrangements for copying different kinds of originals (e.g., sheets, books).

204 Two-up copying:
This subclass is indented under subclass 177. Subject matter wherein a means or method is provided for separately exposing two originals on a platen.

(1) Note. Two originals being copied may be, for example, the open pages of a book.

SEE OR SEARCH THIS CLASS, SUBCLASS:
368, for feeding two originals to exposure position.

205 Having reference position (relative positioning):
This subclass is indented under subclass 177. Subject matter wherein a means or method is provided for movement of an optical component with relative positioning to a corresponding location for an original or photoconductive member.

206 Slit exposure:
This subclass is indented under subclass 177. Subject matter wherein a portion of an original image is projected onto a photoconductive member continuously from one end of an original to the other until the entire original is exposed.

(1) Note. This subject matter may include, for example, either producing plural latent images from one exposure by splitting the light from the original into two or more portions or producing latent images on back and forth scanning.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/04, for exposing (i.e., imagewise exposure by optically projecting the original image on a photoconductive recording material).
G03G 15/28, in which projection is obtained by line scanning.
G03G 15/30, in which projection is formed on a drum.
JPOFI G03G 15/04 113, for slit exposure (e.g., movement of the drum and movement of the original image).
G03G 15/28, in which projection is obtained by line scanning.
G03G 15/30, in which projection is formed on a drum.
EPC G03G 15/28, in which projection is obtained by line scanning.
G03G 15/30, in which projection is formed on a drum.

207 Diaphragm, shutter, shading board:
This subclass is indented under subclass 206. Subject matter wherein a means or method is provided between an original and a photoconductive member for regulating or adjusting the cross-sectional area of the light reaching the photoconductive member.

SEE OR SEARCH CLASS:
355, Photocopying, subclass 71 for a projection-type copier with a shutter in the illumination system.

208 Speed or acceleration control:
This subclass is indented under subclass 206. Subject matter wherein a means or method is provided for regulating a velocity of a drive component involved in exposing an original.

(1) Note. A drive component may be an optical component, platen, or scanning carriage which may be operated by

open-loop or feedback response circuitry.

SEE OR SEARCH THIS CLASS, SUBCLASS:
210, for damping or braking.

209 Variable scanning (e.g., length):
This subclass is indented under subclass 206. Subject matter wherein a means or method is provided for changing the distance moved by a platen or a scanning carriage.

SEE OR SEARCH THIS CLASS, SUBCLASS:
64, for optical detector of toner in a developing unit.
118, for optics with particular modular or displaceable structure.
137, for optical intermediate storage of original image.
196+, for variable magnification during exposure.
200+, for automatic adjustment of an optical component due to a change in magnification.
216, for slit exposure by pivoting mirror.
218, for specific lens during exposure.
219, for fiber optics used during exposure.

SEE OR SEARCH CLASS:
206, Special Receptacle or Package, subclass 316.1 for special receptacles for an optical or photographic means.
359, Optics: Systems (Including Communication) and Elements, subclass 12 for copying by holographic means.
385, Optical Waveguides, for optical waveguiding element, per se, particularly subclass 116 for imaging (i.e., with coherent fiber structure and includes shaping, enhancing, and correcting).

210 Damping or braking:
This subclass is indented under subclass 206. Subject matter wherein a means or method is provided for stopping the motion of a scanning carriage.

SEE OR SEARCH CLASS:
188, Brakes, subclass 381 where vibration is restrained or dissipated by resistance to sliding between the surfaces of the members.
192, Clutches and Power-Stop Control, subclasses 116.5+ for automatic operation for stopping a machine when a predetermined result is reached.

211 Scanning carriage parallel to original:
This subclass is indented under subclass 206. Subject matter wherein a means or method is provided for scanning an original by moving a light source or reflective apparatus in parallel to a flat original.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/04, for exposing (i.e., imagewise exposure by optically projecting the original image on a photoconductive recording material).
G03G 15/28, in which projection is obtained by line scanning.
G03G 15/30, in which projection is formed on a drum.
JPOFI G03G 15/04 115, moving the platen for the original.

212 Having half-rate carriage:
This subclass is indented under subclass 211. Subject matter wherein a reflector for directing light from an original to a photoconductive member is provided on a member moving in coordination with the scanning carriage and at one-half the speed thereof.

(1) Note. This subject matter provides a constant optical path length as the scanning carriage moves along the original.

213 Movable platen:
This subclass is indented under subclass 206. Subject matter wherein a holder for an original moves relative to the optical system.

SEE OR SEARCH THIS CLASS, SUBCLASS:
206, for a movable platen and moving optical system.

214 Lock or clamp:
This subclass is indented under subclass 213. Subject matter wherein a means or method is provided for restraining the movement of the platen.

215 By conveying original:
This subclass is indented under subclass 206. Subject matter wherein a means or method is provided for transporting an original past a stationary optical system.

(1) Note. The moving of the original may be accomplished by rollers, belts, rotating drum, etc.

SEE OR SEARCH THIS CLASS, SUBCLASS:
206, for moving an original and moving an optical system.

216 By pivoting mirror:
This subclass is indented under subclass 206. Subject matter wherein a means or method is provided for rotating a reflective apparatus about a stationary pivot point for scanning an original.

(1) Note. For a pivoting mirror on a moving scanning carriage, see the appropriate subclass under scanning.

SEE OR SEARCH THIS CLASS, SUBCLASS:
64, for optical detector of toner in a developing unit.
118, for optics with particular modular or displaceable structure.
137, for optical intermediate storage of original image.
196+, for variable magnification during exposure.
200+, for automatic adjustment of an optical component due to a change in magnification.
209, for a repositioning of a scanning carriage due to a change in scanning length.
218, for specific lens during exposure.
219, for fiber optics used during exposure.

SEE OR SEARCH CLASS:
206, Special Receptacle or Package, subclass 316.1 for special receptacles for an optical or photographic means.
359, Optics: Systems (Including Communication) and Elements, subclass 12 for copying by holographic means.
385, Optical Waveguides, for optical waveguiding element, per se, particularly subclass 116 for imaging (i.e., with coherent fiber structure and includes shaping, enhancing, and correcting).

217 Full frame exposure (entire original at once):
This subclass is indented under subclass 177. Subject matter wherein a means or method is provided for exposing the entire original at one time.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/26, in which the charge pattern is obtained by projection of the entire image (i.e., whole-frame projection).
JPOFI G03G 15/04 112, by exposure of entire surface.
G03G 15/26, in which the charge pattern is obtained by projection of the entire image (i.e., whole-frame projection).
EPC G03G 15/26, in which the charge pattern is obtained by projection of the entire image (i.e., whole-frame projection).

218 Lens:
This subclass is indented under subclass 177. Subject matter wherein a particular optical component which focuses light by refraction is used during the exposure process.

SEE OR SEARCH THIS CLASS, SUBCLASS:
64, for optical detector of toner in a developing unit.
118, for optics with particular modular or displaceable structure.
137, for optical intermediate storage of original image.
196+, for variable magnification during exposure.

200+, for automatic adjustment of an optical component due to a change in magnification.
209, for a repositioning of a scanning carriage due to a change in scanning length.
216, for slit exposure by pivoting mirror.
219, for fiber optics used during exposure.

SEE OR SEARCH CLASS:
206, Special Receptacle or Package, subclass 316.1 for special receptacles for an optical or photographic means.
359, Optics: Systems (Including Communication) and Elements, subclass 12 for copying by holographic means and subclasses 642+ for lens, per se.
385, Optical Waveguides, for optical waveguiding element, per se, particularly subclass 116 for imaging (i.e., with coherent fiber structure and includes shaping, enhancing, and correcting).

219 Fiber optics:
This subclass is indented under subclass 177. Subject matter wherein a means or method is provided for conveying light from an original image through a particular configuration of glass or plastic fibers to a photoconductive member.

SEE OR SEARCH THIS CLASS, SUBCLASS:
64, for an optical detector of toner in a developing unit.
118, for optics with particular modular or displaceable structure.
137, for optical intermediate storage of an original image.
196+, for variable magnification during exposure.
200+, for automatic adjustment of an optical component due to a change in magnification.
209, for a repositioning of a scanning carriage due to a change in scanning length.
216, for slit exposure by pivoting mirror.
218, for specific lens during exposure.

SEE OR SEARCH CLASS:
206, Special Receptacle or Package, subclass 316.1 for special receptacles for an optical or photographic means.
359, Optics: Systems (Including Communication) and Elements, subclass 12 for copying by holographic means.
385, Optical Waveguides, for optical waveguiding element, per se, particularly subclass 116 for imaging (i.e., with coherent fiber structure and includes shaping, enhancing, and correcting).

220 Light source:
This subclass is indented under subclass 177. Subject matter wherein a means or method is provided for emitting light to illuminate an original.

(1) Note. Types of light sources may be halogen, fluorescent, etc.

(2) Note. This subject matter may also include on-and-off timing or temperature regulation of the lamp.

SEE OR SEARCH THIS CLASS, SUBCLASS:
95, for controlling the on-and-off condition of the light source to prevent overheating the platen.

SEE OR SEARCH CLASS:
355, Photocopying, subclasses 67+ for photocopying illumination not particular to electrophotography.
362, Illumination, for illumination, per se.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/04, for exposing (i.e., imagewise exposure by optically projecting the original image on a photoconductive recording material).
EPC G03G 15/04L, for details of illuminating systems (e.g., lamps, reflectors).

221 Modifier (e.g., reflector, filter):
This subclass is indented under subclass 220. Subject matter wherein a means or method is provided between a light source and an original for changing the emitted light.

SEE OR SEARCH THIS CLASS, SUBCLASS:
207, for a light-aperture modifier between the original and the photoconductive member.

222 Development:
This subclass is indented under subclass 130. Subject matter wherein an apparatus is provided for making visible a latent image by the application of developer material.

(1) Note. Developer material may consist of magnetic or nonmagnetic toner particles, toner particles mixed with a liquid carrier material, or magnetic or nonmagnetic toner particles mixed with magnetic particles that act as carriers under the influence of a magnetic field. Toner may also be called marking particles.

SEE OR SEARCH CLASS:
347, Incremental Printing and Symbolic Information, subclass 158 for delivering to the recording medium visible particles to develop a latent image.
427, Coating Processes, subclasses 457+ for related processes used to achieve the same result as the apparatus herewithin. Processes primarily classifiable in Class 427, subclasses 457+, focus on developing and fixing and other coating steps, but may also claim latent image-forming steps. For purposes of classification, claims which recite significant amounts of apparatus of the type used in electrophotography are not properly classifiable in Class 427, but may be classified herewithin depending on whether or not an image formation apparatus is claimed.
430, Radiation Imagery Chemistry: Process, Composition, or Product Thereof, for developing methods, subclasses 105 through 111.41 for developing composition or products and subclasses 137.1-137.22 for processes of making the developing compositions.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/06, for developing.
JPOFI G03G 15/06, for developing.
EPC G03G 15/06, for developing.

223 Plural diverse (e.g., color):
This subclass is indented under subclass 222. Subject matter wherein more than one color of developer material is provided for developing one or more latent images.

(1) Note. The apparatus can also be selectively operated to produce a copy with only one color of toner present in the reproduction.

SEE OR SEARCH THIS CLASS, SUBCLASS:
28, for analyzing a malfunction or potential malfunction of color reproduction.
39+, for balance control of color.
54, for color selection control.
112, for modular or displaceable color process cartridge unit.
178+, for formation of color separation images.
184, for color image editing of a selectable area.
298+, for transfer of a color image.
321, for fixing or fusing of a color image.
344, for cleaning a color-image-bearing surface.

SEE OR SEARCH CLASS:
118, Coating Apparatus, for coating,per se.
430, Radiation Imagery Chemistry: Process, Composition, or Product Thereof, subclass 45.2 to produce a multicolor reproduction by a liquid developing process or composition used to form the multicolor image and subclass 45.4 to produce a multicolor reproduction using developing com-

position having five or more different color toners (e.g., pentachrome, hexachrome, etc.) used to form the multicolor image.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/01, for producing multicolored copies.
JPOFI G03G 15/01 111, by superposing the toners of three primary colors.
G03G 15/01 113, using the characteristics related to the development process.
G03G 15/01 115, for correcting colors.
G03G 15/01 116, using a one-shot color method (e.g., a mosaic method in which the toner is composed of toners of three primary colors).
G03G 15/01 117, for producing two-colored copies.
G03G 15/08 503, using a solid developer concerning colors.
EPC G03G 15/01, for producing multicolored copies.

224 Adding toner:
This subclass is indented under subclass 223. Subject matter wherein developer materials of different colors are added separately to an applicator or applicators.

SEE OR SEARCH THIS CLASS, SUBCLASS:
27, for diagnostic of consumables (e.g., toner).
35, for diagnostics of cleaning a waste toner container.
49, for detection of toner involving plural control processes.
61+, for detection of toner in a developing unit.
99+, for toner removal.
106, for a toner cartridge.
120, for a new and waste toner container.
129, for supplemental exposure or charging of residual toner.
134, for image formation with photoconductive toner.
239+, for application of liquid development.
253, for conditioning dry toner.
254+, for mixing dry toner.
258+, for supplying new toner.
265+, for application of dry development.
359, for supplying reclaimed toner to the developing device.
409, for binding copies by toner.

225 Single applicator:
This subclass is indented under subclass 223. Subject matter wherein an individual applicator selectively or sequentially applies developer material of different colors.

226 Plural applicators single position:
This subclass is indented under subclass 223. Subject matter wherein a plurality of applicators are exchangeable in relation to a single developing position.

227 Rotary type:
This subclass is indented under subclass 226. Subject matter wherein the plurality of applicators revolve about a common axis.

228 Selectively active:
This subclass is indented under subclass 223. Subject matter wherein an arrangement is provided for activating an applicator from a plurality of applicators that are all in developing positions for applying colored developer material.

(1) Note. This subject matter is usually provided to prevent the nonselected device from applying toner to the photoconductive member. This subject matter may also include movement away from the photoconductor.

SEE OR SEARCH THIS CLASS, SUBCLASS:
234, for similar subject matter involving one applicator.

229 By magnetic means:
This subclass is indented under subclass 228. Subject matter wherein the selective activation means includes a magnetic member.

230 By diverting toner:
This subclass is indented under subclass 228. Subject matter wherein the selective activation means includes changing or stopping the flow of developing material.

231 Toner images overlapped:
This subclass is indented under subclass 223. Subject matter wherein a second or subsequent toner image is developed on the previously developed image(s).

SEE OR SEARCH CLASS:
118, Coating Apparatus, for coating, per se.
430, Radiation Imagery Chemistry: Process, Composition, or Product Thereof, subclasses 42.1 through 47.5 to produce a multicolor production (i.e., plural colors named or more than one color identified).

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/01, for producing multicolored copies.
EPC G03G 15/01S1B, onto which the monocolor images are superposed before common transfer.
G03G 15/01S1B1, with special treatment between monocolor image formation.

232 Opposite polarity:
This subclass is indented under subclass 231. Subject matter wherein the overlapped toner image is of a different polarity then the previous latent image or toner charge polarity.

SEE OR SEARCH CLASS:
430, Radiation Imagery Chemistry: Process, Composition, or Product Thereof, subclasses 42.1 through 47.5 to produce a multicolor production (i.e., plural colors named or more than one color identified).

233 Liquid:
This subclass is indented under subclass 223. Subject matter wherein a latent image is developed with different color liquid developer material.

(1) Note. Liquid developer material (i.e., liquid toner) is usually toner particles mixed with a liquid carrier material.

SEE OR SEARCH CLASS:
430, Radiation Imagery Chemistry: Process, Composition, or Product Thereof, subclasses 42+ for related subject matter (i.e., colored image products).

234 Development prevention:
This subclass is indented under subclass 222. Subject matter wherein means or method is provided for restraining the flow of toner to prevent unwanted development (e.g., nonimage areas).

(1) Note. This subject matter includes the prevention of applying toner on a photoconductive member and does not include using erase lights for limiting development of a latent image. For prevention of development by use of erase lights, see SEARCH THIS CLASS, SUBCLASS below.

SEE OR SEARCH THIS CLASS, SUBCLASS:
98, for preventing deposition of airborne contaminant toner.
169, for preventing development by controlling the area to be charged.
186, for preventing development of part of the a latent image by using erase lights.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/08, for using solid developer, powder developer.
JPOFI G03G 15/08 507H, for driving and stopping.

235 Bias voltage:
This subclass is indented under subclass 234. Subject matter wherein an electrical potential prevents unwanted toner from being applied.

SEE OR SEARCH CLASS:
427, Coating Processes, subclasses 457+ for related processes used to achieve the same result as the apparatus herewithin. Processes primarily classifiable in Class 427, subclasses 457+, focus on developing and fixing and

other coating steps, but may also claim latent image-forming steps. For purposes of classification, claims which recite significant numbers of apparatus of the type used in electrophotography are not properly classifiable in Class 427, but may be classified herewithin depending on whether or not an image-formation apparatus is claimed.

236 Applicator speed:

This subclass is indented under subclass 222. Subject matter wherein a driving arrangement is provided that sets or regulates a velocity at which developer is applied to developing means.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/08, for using solid developer, powder developer.
G03G 15/09, for using a magnetic brush.
G03G 15/10, for using a liquid developer.
JPOFI G03G 15/08 507H, for driving and stopping.

237 Liquid development:

This subclass is indented under subclass 222. Subject matter wherein a liquid developer is applied to render the latent image visible.

(1) Note. Liquid developer material (i.e., liquid toner) is usually toner particles mixed with a liquid carrier material.

(2) Note. The liquid carrier may be an insulator hydrocarbon liquid (e.g., kerosine).

(3) Note. This subject matter does not include dry toner of granular or particle type even though it may possess fluid properties. For dry toner, see SEARCH THIS CLASS, SUBCLASS in this subclass.

SEE OR SEARCH THIS CLASS, SUBCLASS:
233, for liquid color development.
252+, for dry toner.

SEE OR SEARCH CLASS:
118, Coating Apparatus, for coating, per se.
137, Fluid Handling, for fluid handling, per se.
141, Fluent Material Handling, With Receiver or Receiver Coacting Means, for fluid handling.
204, Chemistry: Electrical and Wave Energy, subclasses 194 through 297.16 for electrolytic apparatus, subclasses 600-650 for electrophoretic or electro-osmotic apparatus, and subclasses 660-674 for apparatus for electrical (including simultaneous electrical and magnetic) separation or purification of liquid or magnetic treatment of liquid (other than separation).
210, Liquid Purification or Separation, subclasses 222+ for magnetic liquid separation, per se.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/10, for using a liquid developer.
JPOFI G03G 15/10 116, using a liquid developer for wetting the recording material.
EPC G03G 15/10, for using a liquid developer.

238 Having dispensing:

This subclass is indented under subclass 237. Subject matter wherein liquid toner is supplied or transported to an apparatus for applying toner.

SEE OR SEARCH THIS CLASS, SUBCLASS:
239+, for applying liquid developer by application member.
246+, for spraying liquid developer.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/10, for using a liquid developer.
JPOFI G03G 15/10 114, using a liquid developer for supplying a new developer.
EPC G03G 15/10, for using a liquid developer.

239 Application member (e.g., roller, belt):
This subclass is indented under subclass 237. Subject matter wherein an apparatus is provided for applying the liquid developer material to a latent image.

(1) Note. Liquid developer material (i.e., liquid toner) is usually toner particles mixed with a liquid carrier material.

SEE OR SEARCH THIS CLASS, SUBCLASS:
27, for diagnostic of consumables (e.g., toner).
35, for diagnostics of cleaning a waste toner container.
49, for detection of toner involving plural control processes.
61+, for detection of toner in a developing unit.
99+, for toner removal.
106, for a toner cartridge.
120, for a new and waste toner container.
129, for supplemental exposure or charging of residual toner.
134, for image formation with photoconductive toner.
224, for adding colored toner.
253, for conditioning dry toner.
254+, for mixing dry toner.
258+, for supplying new toner.
265+, for application of dry development.
359, for supplying reclaimed toner to the developing device.
409, for binding copies by toner.

SEE OR SEARCH CLASS:
118, Coating Apparatus, for coating, per se.
137, Fluid Handling, for fluid handling, per se.
141, Fluent Material Handling, With Receiver or Receiver Coacting Means, for fluid handling.
204, Chemistry: Electrical and Wave Energy, subclasses 194 through 297.16 for electrolytic apparatus, subclasses 600-650 for electrophoretic or electro-osmotic apparatus, and subclasses 660-674 for apparatus for electrical (including simultaneous electrical and magnetic) separation or purification of liquid or magnetic treatment of liquid (other than separation).
210, Liquid Purification or Separation, subclasses 222+ for magnetic liquid separation, per se.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/10, for using a liquid developer.
JPOFI G03G 15/10 112, using a developer roller.

240 Having applied bias:
This subclass is indented under subclass 239. Subject matter wherein the application member is maintained at a predetermined electrical potential to aid in or influence the development.

SEE OR SEARCH THIS CLASS, SUBCLASS:
55, for controlling a bias which influences development.
241, for liquid development with an electrode influencing the attraction of liquid developer.
270+, for a magnetic brush-type application member with applied bias.
285, for a roller-type application member with applied bias.
291, for a powder cloud applicator with electrode(s) influencing the attraction of dry developer.
293, for a fluidized bed applicator with electrode(s) influencing the attraction of dry developer.
295, for a cascade applicator with electrode(s) influencing the attraction of dry developer.
314, for an electrostatic transfer with applied bias.
354, for cleaning an imaging surface using a fibrous brush with applied voltage.

SEE OR SEARCH CLASS:

430, Radiation Imagery Chemistry: Process, Composition, or Product Thereof, subclass 118.4 for processes of applying electrical bias in liquid development processes.

241 Having electrode:

This subclass is indented under subclass 237. Subject matter wherein a bias voltage is provided to influence the attraction of liquid developer material to a latent image-bearing member.

(1) Note. For example, this apparatus may include wires or a screen having an applied voltage.

(2) Note. Liquid developer material (i.e., liquid toner) is usually toner particles mixed with a liquid carrier material.

SEE OR SEARCH THIS CLASS, SUBCLASS:

55, for controlling a bias which influences development.

240, for a liquid application member with applied bias.

270+, for a magnetic brush-type application member with applied bias.

285, fora roller-type application member with applied bias.

291, for a powder cloud applicator with electrode(s) influencing the attraction of dry developer.

293, for a fluidized bed applicator with electrode(s) influencing the attraction of dry developer.

295, for a cascade applicator with electrode(s) influencing the attraction of dry developer.

314, for an electrostatic transfer with applied bias.

354, for cleaning an imaging surface using a fibrous brush with applied voltage.

SEE OR SEARCH CLASS:

204, Chemistry: Electrical and Wave Energy, subclasses 194 through 297.16 for electrolytic apparatus, subclasses 600-650 for electrophoretic or electro-osmotic apparatus, and subclasses 660-674 for apparatus for electrical (including simultaneous electrical and magnetic) separation or purification of liquid or magnetic treatment of liquid (other than separation).

210, Liquid Purification or Separation, subclasses 222+ for magnetic liquid separation, per se.

430, Radiation Imagery Chemistry: Process, Composition, or Product Thereof, subclass 118.4 for processes of applying electrical bias in liquid development processes.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/10, for using a liquid developer.

JPOFI G03G 15/06 102, for developing using electrode bias for a liquid developer.

EPC G03G 15/06, for developing.

242 Sequential:

This subclass is indented under subclass 241. Subject matter wherein the electrode is in the form of a plurality of sections or elements which each affects the development in turn.

243 Flexible:

This subclass is indented under subclass 241. Subject matter wherein the electrode is pliant.

244 Screen:

This subclass is indented under subclass 241. Subject matter wherein the electrode is a wire mesh or a plate with holes therethrough.

245 Self-cleaning:

This subclass is indented under subclass 241. Subject matter wherein an arrangement is provided for maintaining the electrode free from excessive deposits of liquid developer material.

SEE OR SEARCH THIS CLASS, SUBCLASS:

34+, for cleaning diagnostics.

71, for control of cleaning during the electrophotography process.

123, for a particular structure of a cleaning unit.

149, for combined development and cleaning by a single component.

327, for cleaning a fixing member.

343+, for cleaning an imaging surface (i.e., photoconductive member), including for a cleaning member cyclically movable into and out of contact with the imaging surface.

SEE OR SEARCH CLASS:

15, Brushing, Scrubbing, and General Cleaning, subclasses 1.51+ for electrostatic cleaning and subclasses 300.1+ for air blast or suction which may be used to clean electrophotographic, photoresponsive imaging surfaces.

134, Cleaning and Liquid Contact With Solids, subclasses 1+ for cleaning applications of electric, wave, ray, or radiant energy.

246 Sprayed:

This subclass is indented under subclass 237. Subject matter wherein the liquid developer material is forced under pressure onto a latent image-bearing member.

(1) Note. The liquid developer material is usually unsupported at the moment of contact with the image surface.

(2) Note. Liquid developer material (i.e., liquid toner) is usually toner particles mixed with a liquid carrier material.

SEE OR SEARCH CLASS:

118, Coating Apparatus, for coating, per se.

137, Fluid Handling, for fluid handling, per se.

141, Fluent Material Handling, With Receiver or Receiver Coacting Means, for fluid handling.

204, Chemistry: Electrical and Wave Energy, subclasses 194 through 297.16 for electrolytic apparatus, subclasses 600-650 for electrophoretic or electro-osmotic apparatus, and subclasses 660-674 for apparatus for electrical (including simultaneous electrical and magnetic) separation or purification of liquid or magnetic treatment of liquid (other than separation).

210, Liquid Purification or Separation, subclasses 222+ for magnetic liquid separation, per se.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/10, for using a liquid developer.

JPOFI G03G 15/10 117, using a liquid developer for applying mist by using a liquid.

247 Fountain:

This subclass is indented under subclass 246. Subject matter wherein the liquid developer material is pumped against the force of gravity to a point where it contacts a latent image-bearing member and subsequently flows into a drainage outlet.

248 Immersion:

This subclass is indented under subclass 237. Subject matter wherein a latent image-bearing member is passed through a pool of the liquid developer material.

SEE OR SEARCH CLASS:

118, Coating Apparatus, for coating, per se.

137, Fluid Handling, for fluid handling, per se.

141, Fluent Material Handling, With Receiver or Receiver Coacting Means, for fluid handling.

204, Chemistry: Electrical and Wave Energy, subclasses 194 through 297.16 for electrolytic apparatus, subclasses 600-650 for electrophoretic or electro-osmotic apparatus, and subclasses 660-674 for apparatus for electrical (including simultaneous electrical and magnetic) separation or purification of liquid or magnetic treatment of liquid (other than separation).

210, Liquid Purification or Separation, subclass 222 for magnetic liquid separation, per se.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/10, for using a liquid developer.
JPOFI G03G 15/10 111, using a developer tray.
EPC G03G 15/10I, for using a liquid developer with which the recording material is brought in contact (e.g., immersion or surface immersion development).

249 Removing excess developer (e.g., squeegee):
This subclass is indented under subclass 237. Subject matter wherein an arrangement is provided for removing excess liquid developer material from a developed image before transfer.

(1) Note. Liquid developer material (i.e., liquid toner) is usually toner particles mixed with a liquid carrier material.

SEE OR SEARCH CLASS:
430, Radiation Imagery Chemistry: Process, Composition, or Product Thereof, subclass 117.3 for processes of liquid developer removal.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/10, for using a liquid developer.
JPOFI G03G 15/10 113, for removing excess toner from developed images.
EPC G03G 15/10E, for removing excess developer.

250 Liquid carrier condensation:
This subclass is indented under subclass 237. Subject matter wherein liquid developer material is condensed to recover the liquid carrier material.

SEE OR SEARCH CLASS:
204, Chemistry: Electrical and Wave Energy, subclasses 194 through 297.16 for electrolytic apparatus, subclasses 600-650 for electrophoretic or electro-osmotic apparatus, and subclasses 660-674 for apparatus for electrical (including simultaneous electrical and magnetic) separation or purification of liquid or magnetic treatment of liquid (other than separation).
210, Liquid Purification or Separation, subclasses 222+ for magnetic liquid separation, per se.
261, Gas and Liquid Contact Apparatus, for an intimate contact between gases and liquids to exchange properties or mutually modify conditions.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/10, for using a liquid developer.
EPC G03G 15/10F, for condensing developer fumes.

251 Drying (e.g., warming, heating):
This subclass is indented under subclass 237. Subject matter wherein an arrangement is provided for removing liquid carrier moisture content from a copy medium.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/11, for removing excess liquid developer (e.g., by heat).
JPOFI G03G 15/11, for removing excess liquid developer (e.g., by heat).
G03G 15/12, heating device.
EPC G03G 15/12, for warming (i.e., drying or recording material developed with a liquid developer).

252 Dry development:
This subclass is indented under subclass 222. Subject matter wherein a dry developer material is applied to render the latent image visible.

(1) Note. Dry developer material may be toner particles (magnetic or nonmagnetic) mixed with magnetic particles that act as carriers under the influence of a magnetic field.

(2) Note. For example, this subject matter may include immersion of the latent image in dry toner. For immersion with liquid toner, see SEARCH THIS CLASS, SUBCLASS in this subclass.

SEE OR SEARCH THIS CLASS, SUBCLASS:

248, for liquid toner immersion of an image-bearing member.

SEE OR SEARCH CLASS:

118, Coating Apparatus, for coating, per se.

141, Fluent Material Handling, With Receiver or Receiver Coacting Means, for fluent material handling.

430, Radiation Imagery Chemistry: Process, Composition, or Product Thereof, subclasses 120.1 through 123.58 for the processes of dry powder developing.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/08, for using solid developer, powder developer.

JPOFI G03G 15/08 502, for a developing method.

G03G 15/08 507, for special methods and devices.

EPC G03G 15/08, for using solid developer, powder developer.

G03G 15/08G, for immersion.

253 Conditioning of toner:

This subclass is indented under subclass 252. Subject matter wherein an arrangement is provided for treating impurities or unwanted effects and properties of dry developer material.

(1) Note. For example, this subject matter may include filtered toner being recycled from a cleaning unit.

(2) Note. For example, this subject matter may include an arrangement for preventing wrongly charged toner from being applied to a latent image.

(3) Note. The toner may be treated when fed into or when in the developing unit (e.g., treated to remove impurities or heated to remove moisture or coating).

SEE OR SEARCH THIS CLASS, SUBCLASS:

27, for diagnostic of consumables (e.g., toner).

35, for diagnostics of cleaning a waste toner container.

49, for detection of toner involving plural control processes.

61+, for detection of toner in a developing unit.

99+, for toner removal.

106, for a toner cartridge.

120, for a new and waste toner container.

129, for supplemental exposure or charging of residual toner.

134, for image formation with photoconductive toner.

224, for adding colored toner.

239+, for application of liquid development.

254+, for mixing dry toner.

258+, for supplying new toner.

265+, for application of dry development.

359, for supplying reclaimed toner to the developing device.

409, for binding copies by toner.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/08, for using solid developer, powder developer.

EPC G03G 15/08H5, arrangement for conditioning developer in the developing sump (e.g., removing impurities or humidity).

254 Mixing:

This subclass is indented under subclass 252. Subject matter wherein the dry developer material is stirred or agitated in a developing unit.

(1) Note. For example, this subject matter may include blending toner with carrier particles, and it may also include stirring toner before the start of image formation.

SEE OR SEARCH THIS CLASS, SUBCLASS:

27, for diagnostic of consumables (e.g., toner).

35, for diagnostics of cleaning a waste toner container.

49, for detection of toner involving plural control processes.

61+, for detection of toner in a developing unit.
99+, for toner removal.
106, for a toner cartridge.
120, for a new and waste toner container.
129, for supplemental exposure or charging of residual toner.
134, for image formation with photoconductive toner.
224, for adding colored toner.
239+, for application of liquid development.
253, for conditioning dry toner.
258+, for supplying new toner.
262, for stirring developing material (toner) in a supply hopper or cartridge.
265+, for application of dry development.
359, for supplying reclaimed toner to the developing device.
409, for binding copies by toner.

SEE OR SEARCH CLASS:
366, Agitating, for mixing or agitating materials together.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/08, for using solid developer, powder developer.
JPOFI G03G 15/08 110, for agitating.
G03G 15/08 507D, for circulating and transporting.
EPC G03G 15/08H, arrangement for preparing, mixing, transporting, or dispensing developer.
G03G 15/08H3D, arrangement for metering and dispensing toner into the development sump; Toner hoppers; Augers.

255 Having new toner:
This subclass is indented under subclass 254. Subject matter wherein additional new developer material is mixed with developer material in the developing unit.

SEE OR SEARCH CLASS:
366, Agitating, for mixing or agitating materials together.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/08, for using solid developer, powder developer.
JPOFI G03G 15/08 507E, for supplying and agitating.

256 Auger:
This subclass is indented under subclass 254. Subject matter wherein the mixing is provided by a rotating spiral member.

SEE OR SEARCH CLASS:
366, Agitating, for mixing or agitating materials together.

257 Purging:
This subclass is indented under subclass 252. Subject matter wherein an arrangement is provided for removing dry developer material from the developing device.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/08, for using solid developer, powder developer.
JPOFI G03G 15/08 507C, for collecting.
EPC G03G 15/08H4, arrangement for purging used developer from the developing unit.

258 Supplying new toner:
This subclass is indented under subclass 252. Subject matter wherein an arrangement is provided for supplying unused dry developer from a supply hopper to a sump.

(1) Note. This subject matter may include supplying carrier particles and feeding back toner to a supply hopper.

SEE OR SEARCH THIS CLASS, SUBCLASS:
27, for diagnostic of consumables (e.g., toner).
35, for diagnostics of cleaning a waste toner container.
49, for detection of toner involving plural control processes.
61+, for detection of toner in a developing unit.
99+, for toner removal.
106, for a toner cartridge.

120, for a new and waste toner container.
129, for supplemental exposure or charging of residual toner.
134, for image formation with photoconductive toner.
224, for adding colored toner.
239+, for application of liquid development.
253, for conditioning dry toner.
254+, for mixing dry toner.
265+, for application of dry development.
359, for supplying reclaimed toner to the developing device.
409, for binding copies by toner.

SEE OR SEARCH CLASS:
53, Package Making, for package making, per se.
222, Dispensing, for dispensing material from a container.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/08, for using solid developer, powder developer.
JPOFI G03G 15/08 507C, for collecting.
EPC G03G 15/08H, arrangement for preparing, mixing, transporting, or dispensing developer.
G03G 15/08H3, arrangement for supplying new toner; Toner cartridges.
G03G 15/08H3D, arrangement for metering and dispensing toner into the development sump; Toner hoppers; Augers.

259 Diverse (e.g., carrier and toner):
This subclass is indented under subclass 258. Subject matter wherein an arrangement is provided for supplying plural types (not color) or components of developer material.

SEE OR SEARCH THIS CLASS, SUBCLASS:
224, for supplying plural colors of toner.

260 Metering (regulating, gate, discharge ports):
This subclass is indented under subclass 258. Subject matter wherein an arrangement is provided for controlling the amount of dispensed toner.

SEE OR SEARCH THIS CLASS, SUBCLASS:
53+, for controlling the dispensed amount in response to a sensed condition.

261 Vibration:
This subclass is indented under subclass 258. Subject matter wherein an arrangement is provided for dispensing toner by shaking its container.

262 Cartridge:
This subclass is indented under subclass 258. Subject matter wherein an arrangement is provided for a removable container that holds and dispenses dry developer material.

SEE OR SEARCH THIS CLASS, SUBCLASS:
119, for a modular or displaceable developing unit having a particular structure.

SEE OR SEARCH CLASS:
53, Package Making, for package making, per se.
206, Special Receptacle or Package, subclasses 449+ for a plate or sheet.
220, Receptacles, for receptacles, per se.
222, Dispensing, for dispensing material from a container.
401, Coating Implements With Material Supply, subclass 132 for rupturable seals.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/08, for using solid developer, powder developer.
EPC G03G 15/08H3D, arrangement for metering and dispensing toner into the development sump; Toner hoppers; Augers.
G03G 15/08H3R, for using a sealing film to be ruptured or cut.

263 Having internal rotary member:
This subclass is indented under subclass 262. Subject matter wherein the removable cartridge provides an arrangement for stirring or mixing the dry developer material.

SEE OR SEARCH THIS CLASS, SUBCLASS:
254, for mixing dry developer.

264 Removing excess developer:
This subclass is indented under subclass 252. Subject matter wherein an arrangement is provided for removing surplus dry developer material or carrier particles from a developed image.

SEE OR SEARCH THIS CLASS, SUBCLASS:
249, for similar subject matter used with a liquid developed image.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/095, for removing excess solid developer.
JPOFI G03G 15/08 507R, for removing excess solid toner from developer images.
EPC G03G 15/08R, arrangement for removing carriers or excess toner from a developed image (e.g., fog preventing).

265 Application member:
This subclass is indented under subclass 252. Subject matter wherein an apparatus is provided for transporting dry developer material to a position where it is attracted to a latent image by an electrostatic force.

(1) Note. Dry developer material may be toner particles mixed with magnetic particles that act as carriers under the influence of a magnetic field.

SEE OR SEARCH THIS CLASS, SUBCLASS:
27, for diagnostic of consumables (e.g., toner).
35, for diagnostics of cleaning a waste toner container.
49, for detection of toner involving plural control processes.
61+, for detection of toner in a developing unit.
99+, for toner removal.
106, for a toner cartridge.
120, for a new and waste toner container.
129, for supplemental exposure or charging of residual toner.
134, for image formation with photoconductive toner.
224, for adding colored toner.
239+, for application of liquid development.
253, for conditioning dry toner.
254+, for mixing dry toner.
258+, for supplying new toner.
359, for supplying reclaimed toner to the developing device.
409, for binding copies by toner.

SEE OR SEARCH CLASS:
118, Coating Apparatus, for coating, per se.

266 Having cloud-forming application:
This subclass is indented under subclass 265. Subject matter wherein an alternating current electrode or magnetic field generating member creates a nebulous mass of toner between the application member and the latent image.

(1) Note. The electrode may be, for example, a wire (or wires) or screen.

267 Magnetic brush:
This subclass is indented under subclass 265. Subject matter wherein the application member aligns the dry developer material by its magnetic field in the form of a brushlike configuration.

(1) Note. For example, this subject matter may include an arrangement for electrically discharging the surface of a magnetic brushlike structure.

(2) Note. For example, this subject matter may include vibrating the magnetic brush.

(3) Note. For example, this subject matter may include details for housing or casing, per se.

(4) Note. For example, this subject matter may include magnetic structures on opposing sides of a latent image-bearing member.

SEE OR SEARCH THIS CLASS, SUBCLASS:

272, for a magnetic brush used to load a magnetic brush application member.

281, for a magnetic bush used to load a developing roller application member.

SEE OR SEARCH CLASS:

430, Radiation Imagery Chemistry: Process, Composition, or Product Thereof, subclasses 122.1 through 122.8 for processes of magnetic brush developing.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/09, for using a magnetic brush.

JPOFI G03G 15/09, for using a magnetic brush.

EPC G03G 15/09, for using a magnetic brush.

G03G 15/09D, with one-component toner.

268 Having sheet guide:

This subclass is indented under subclass 267. Subject matter wherein an arrangement is provided for positioning a latent image-bearing copy medium in relation to a magnetic brush developing device.

269 Plural:

This subclass is indented under subclass 267. Subject matter wherein two or more magnetic brushes apply dry developer material to a latent image.

270 Having applied bias:

This subclass is indented under subclass 267. Subject matter wherein the magnetic brush is maintained at a predetermined electrical potential to aid in or influence the development.

SEE OR SEARCH THIS CLASS, SUBCLASS:

55, for controlling a bias which influences development.

240, for a liquid application member with applied bias.

241, for liquid development with electrode influencing the attraction of liquid developer.

285, for a roller-type application member with applied bias.

291, for a powder cloud applicator with electrode(s) influencing the attraction of dry developer.

293, for a fluidized bed applicator with electrode(s) influencing the attraction of dry developer.

295, for a cascade applicator with electrode(s) influencing the attraction of dry developer.

314, for an electrostatic transfer with applied bias.

354, for cleaning an imaging surface using a fibrous brush with applied voltage.

SEE OR SEARCH CLASS:

430, Radiation Imagery Chemistry: Process, Composition, or Product Thereof, subclass 122.8 for processes of magnetic developing by application of an identified voltage.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/09, for using a magnetic brush.

EPC G03G 15/09B, for using a magnetic brush with bias voltage.

271 Auxiliary electrode:

This subclass is indented under subclass 270. Subject matter wherein a developing bias is applied to a member separate from and in addition to the magnetic brush.

272 Loading:

This subclass is indented under subclass 267. Subject matter wherein an arrangement is provided for applying dry developer material onto the magnetic brush.

SEE OR SEARCH THIS CLASS, SUBCLASS:

281+, for loading a roller.

273 Unloading (e.g., scraper):

This subclass is indented under subclass 267. Subject matter wherein an arrangement is provided for removing dry developer material from the magnetic brush after development.

SEE OR SEARCH THIS CLASS, SUBCLASS:
283, for unloading a roller.

274 Regulating (e.g., doctor):
This subclass is indented under subclass 267. Subject matter wherein an arrangement is provided for leveling or removing excess dry developer material on the magnetic brush before applying it to a latent image-bearing member.

SEE OR SEARCH THIS CLASS, SUBCLASS:
284, for regulating a roller.

SEE OR SEARCH CLASS:
118, Coating Apparatus, subclass 261 for a doctor or film distributing engaging applicator.

275 Having stationary magnet:
This subclass is indented under subclass 274. Subject matter wherein the regulating member is a magnetic brush having a fixed (i.e., nonrotating) magnet structure.

(1) Note. For example, this subject matter may include a stated spatial relationship between the application member and one or more magnetic poles.

276 Sleeve:
This subclass is indented under subclass 267. Subject matter wherein the magnetic brush is surrounded by a nonmagnetic shell.

(1) Note. For example, this subject matter may include the composition, structure (e.g., layer), or surface properties (e.g., roughness) of the sleeve.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/09, for using a magnetic brush.
EPC G03G 15/09E1, for relating to the shell structure (e.g., structure composition of a magnetic brush).

277 Magnet:
This subclass is indented under subclass 267. Subject matter wherein the magnet structure has a particular construction, orientation, or strength.

SEE OR SEARCH CLASS:
335, Electricity: Magnetically Operated Switches, Magnets, and Electromagnets, for magnets and electromagnets, per se.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/09, for using a magnetic brush.
JPOFI G03G 15/09A, for structuring and manufacturing the magnetic roller.
EPC G03G 15/09E, for details concerning the magnetic brush roller structure (e.g., magnet configuration).

278 Web or belt:
This subclass is indented under subclass 277. Subject matter wherein the magnetic brush applicator is in the form of a web or belt.

279 Roller:
This subclass is indented under subclass 265. Subject matter wherein the application member is a rotatable cylinder.

SEE OR SEARCH CLASS:
29, Metal Working, subclasses 895+ for roller making.
430, Radiation Imagery Chemistry: Process, Composition, or Product Thereof, subclass 123.3 for developing processes using a chemically identified developer application member.
492, Roll or Roller, for structure of rollers, per se.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/08, for using solid developer, powder developer.
JPOFI G03G 15/08 501, for developer carriers (using a magnetic brush 15/09).
EPC G03G 15/08F, on a donor element (e.g., web, roller).

280 Having eccentric film:
This subclass is indented under subclass 279. Subject matter wherein the roller is surrounded with a thin, flexible member of larger circumference than the roller used for applying the dry developer material to a latent image-bearing member.

281 Loading:
This subclass is indented under subclass 279. Subject matter wherein an arrangement is provided for applying dry developer material onto the roller.

SEE OR SEARCH THIS CLASS, SUBCLASS:
272, for loading a magnetic brush.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/08, for using solid developer, powder developer.
JPOFI G03G 15/08 501A, for a supply roller.

282 By magnetic brush:
This subclass is indented under subclass 281. Subject matter wherein the loading is by a member that conveys or aligns developer material in its magnetic field.

SEE OR SEARCH THIS CLASS, SUBCLASS:
267, for a magnetic brush that applies developer to a latent image.

283 Unloading (e.g., scraper):
This subclass is indented under subclass 279. Subject matter wherein an arrangement is provided for removing dry developer material from the roller after development.

SEE OR SEARCH THIS CLASS, SUBCLASS:
273, for unloading a magnetic brush.

284 Regulating (e.g., doctor):
This subclass is indented under subclass 279. Subject matter wherein an arrangement is provided for leveling or removing excess dry developer material on the roller before applying it to a latent image-bearing member.

SEE OR SEARCH THIS CLASS, SUBCLASS:
274+, for regulating a magnetic brush.

SEE OR SEARCH CLASS:
118, Coating Apparatus, subclass 261 for a doctor or film distributing engaging applicator.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/08, for using solid developer, powder developer.
JPOFI G03G 15/08 504, for controlling toner layer thickness (using a magnetic brush 15/09).

285 Having applied bias:
This subclass is indented under subclass 279. Subject matter wherein the roller is maintained at a predetermined electrical potential to aid in or influence the development.

SEE OR SEARCH THIS CLASS, SUBCLASS:
55, for controlling a bias which influences development.
240, for a liquid application member with applied bias.
241, for liquid development with electrode influencing the attraction of liquid developer.
270+, for a magnetic brush-type application member with applied bias.
291, for a powder cloud applicator with electrode(s) influencing the attraction of dry developer.
293, for a fluidized bed applicator with electrode(s) influencing the attraction of dry developer.
295, for a cascade applicator with electrode(s) influencing the attraction of dry developer.
314, for an electrostatic transfer with applied bias.
354, for cleaning an imaging surface using a fibrous brush with applied voltage.

286 Details:

This subclass is indented under subclass 279. Subject matter wherein the roller consists of a specific composition or of specific surface properties.

SEE OR SEARCH CLASS:

29, Metal Working, subclasses 895+ for roller making.

492, Roll or Roller, for structure of rollers, per se.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/08, for using solid developer, powder developer.

JPOFI G03G 15/08 501C, for a roller with surface roughness.

G03G 15/08 501D, for a roller, per se.

287 Fiber brush:

This subclass is indented under subclass 265. Subject matter wherein the application member is a fibrous brush.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/08, for using solid developer, powder developer.

JPOFI G03G 15/08 501, for developer carriers (using a magnetic brush 15/09).

EPC G03G 15/08E, on a brush.

288 Web or belt:

This subclass is indented under subclass 265. Subject matter wherein the application member is a broad, continuous flat surface.

SEE OR SEARCH CLASS:

430, Radiation Imagery Chemistry: Process, Composition, or Product Thereof, subclass 123.3 for developing processes using a chemically identified developer application member.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/08, for using solid developer, powder developer.

JPOFI G03G 15/08 501F, for a developing belt (using a magnetic brush 15/09).

EPC G03G 15/08F, on a donor element (e.g., web, roller).

289 Having field curtain:

This subclass is indented under subclass 252. Subject matter wherein toner (developing material) is transported by an alternating electric field.

SEE OR SEARCH CLASS:

361, Electricity: Electrical Systems and Devices, subclass 233 for toner conveyors with use of forces of electric charge or field.

290 Powder cloud:

This subclass is indented under subclass 252. Subject matter wherein the development is by a nebulous mass of toner particles finely dispersed in a body of gas.

(1) Note. For example, this subject matter includes air suspension of toner.

SEE OR SEARCH CLASS:

430, Radiation Imagery Chemistry: Process, Composition, or Product Thereof, subclass 123.2 for processes of developing using powder cloud.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/08, for using solid developer, powder developer.

EPC G03G 15/08D, in a powder cloud.

291 Having electrode:

This subclass is indented under subclass 290. Subject matter wherein the powder cloud arrangement uses a conductor with an applied bias to aid in or influence development.

SEE OR SEARCH THIS CLASS, SUBCLASS:

55, for controlling a bias which influences development.

240, for a liquid application member with applied bias.
241, for liquid development with electrode influencing the attraction of liquid developer.
266, for cloud-forming electrode application of toner.
270+, for a magnetic brush-type application member with applied bias.
285, for a roller-type application member with applied bias.
293, for a fluidized bed applicator with electrode(s) influencing the attraction of dry developer.
295, for a cascade applicator with electrode(s) influencing the attraction of dry developer.
314, for an electrostatic transfer with applied bias.
354, for cleaning an imaging surface using a fibrous brush with applied voltage.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/08, for using solid developer, powder developer.
JPOFI G03G 15/06 101, for using electrode bias for a solid developer.

292 Fluidized bed:

This subclass is indented under subclass 252. Subject matter wherein the development is by an agitated pool of dry developer material.

(1) Note. This subject matter also includes a fluidized bed that is agitated by stirring or by a vibration arrangement. For agitation of toner caused only by the movement of a photoconductor member, see SEARCH THIS CLASS, SUBCLASS in this subclass.

SEE OR SEARCH THIS CLASS, SUBCLASS:
252, for agitation of toner caused by movement of the photoconductor member.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/08, for using solid developer, powder developer.
JPOFI G03G 15/08 111, for cascading (including a fluid bed).
EPC G03G 15/08C, for cascading.

293 Having electrode:

This subclass is indented under subclass 292. Subject matter wherein the fluidized bed arrangement uses a conductor with an applied bias to aid in or influence development.

SEE OR SEARCH THIS CLASS, SUBCLASS:
55, for controlling a bias which influences development.
240, for a liquid application member with applied bias.
241, for liquid development with electrode influencing the attraction of liquid developer.
266, for a cloud-forming electrode application of toner.
270+, for a magnetic brush-type application member with applied bias.
285, for a roller-type application member with applied bias.
291, for a powder cloud applicator with electrode(s) influencing the attraction of dry developer.
295, for a cascade applicator with electrode(s) influencing the attraction of dry developer.
314, for an electrostatic transfer with applied bias.
354, for cleaning an imaging surface using a fibrous brush with applied voltage.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/08, for using solid developer, powder developer.
JPOFI G03G 15/06 101, for using electrode bias for a solid developer.

294 Cascade:

This subclass is indented under subclass 252. Subject matter wherein the development is by dry developer material either poured or allowed to fall under the influence of gravity onto the latent image.

(1) Note. For example, this subject matter includes bucket conveyors.

SEE OR SEARCH CLASS:

430, Radiation Imagery Chemistry: Process, Composition, or Product Thereof, subclass 121.1 for processes wherein the powder developer material is cascading.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/08, for using solid developer, powder developer.

JPOFI G03G 15/08 111, for cascading (including a fluid bed).

EPC G03G 15/08C, for cascading.

295 Having electrode:

This subclass is indented under subclass 294. Subject matter wherein the cascade arrangement uses a conductor with an applied bias to aid in or influence development.

SEE OR SEARCH THIS CLASS, SUBCLASS:

55, for controlling a bias which influences development.

240, for liquid application member with applied bias.

241, for liquid development with electrode influencing the attraction of liquid developer.

266, for cloud-forming electrode application of toner.

270+, for a magnetic brush-type application member with applied bias.

285, for a roller-type application member with applied bias.

291, for a powder cloud applicator with electrode(s) influencing the attraction of dry developer.

293, for a fluidized bed applicator with electrode(s) influencing the attraction of dry developer.

314, for an electrostatic transfer with applied bias.

354, for cleaning an imaging surface using a fibrous brush with applied voltage.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/08, for using solid developer, powder developer.

JPOFI G03G 15/06 101, for using electrode bias for a solid developer.

296 Treatment of developed image prior to transfer:

This subclass is indented under subclass 130. Subject matter wherein an apparatus is provided that charges, exposes, applies pressure to the toner, or otherwise aids in the transfer of a developed toner image.

SEE OR SEARCH THIS CLASS, SUBCLASS:

100, for particle or contaminant control in removal of toner from a charging member (e.g., corona wire).

128+, for supplemental process (e.g., fatigue treatment) involving charging.

153, for simultaneous charging and exposure.

SEE OR SEARCH CLASS:

430, Radiation Imagery Chemistry: Process, Composition, or Product Thereof, appropriate subclasses for radiation imagery chemistry, process, composition, or product.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/16, of a toner pattern (e.g., a powder pattern).

EPC G03G 15/16P, with means for preconditioning the toner image before the transfer.

297 Transfer:

This subclass is indented under subclass 130. Subject matter wherein an apparatus is provided for transferring a developed image from an image-bearing member to another medium or surface.

(1) Note. This subclass may also include cleaning the transfer drum.

SEE OR SEARCH THIS CLASS, SUBCLASS:

66, for condition responsive control of transfer.

101, for particle or contaminant control of toner on a transfer member.
121, for a transfer unit with particular modular or displaceable structure.
154, for image formation with transfer of latent image.
388+, for feeding a copy to the transfer position.
397+, for delivering a copy from the transfer position.

SEE OR SEARCH CLASS:
101, Printing, subclass 489 for an electric or magnetic transfer process using a difference in electrostatic or magnetic attraction.
430, Radiation Imagery Chemistry: Process, Composition, or Product Thereof, subclass 117.4 for processes of transferring a liquid developed image and subclasses 125.2-125.6 for processes of transferring a dry developed image.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/16, of a toner pattern (e.g., a powder pattern).
JPOFI G03G 15/16, of a toner pattern (e.g., a powder pattern).
EPC G03G 15/16B, of a toner pattern (e.g., a powder pattern on a base other than paper).

298 Color:

This subclass is indented under subclass 297. Subject matter wherein an arrangement is provided for either sequentially or simultaneously transferring a developed image having two or more different colors from one surface to another.

SEE OR SEARCH THIS CLASS, SUBCLASS:
28, for analyzing a malfunction or potential malfunction of color reproduction.
39+, for balance control of color.
54, for color selection control.
112, for a modular or displaceable color process cartridge unit.
178+, for formation of color separation images.
184, for color image editing of a selectable area.
223+, for development (e.g., applicators) of a color image.
326, for fixing or fusing a color image.
344, for cleaning a color-image-bearing surface.

SEE OR SEARCH CLASS:
430, Radiation Imagery Chemistry: Process, Composition, or Product Thereof, subclasses 47.1 through 47.5 for multicolor reproduction using an identified receptor or image transfer processes.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/01, for producing multicolored copies.
JPOFI G03G 15/01 114, using the characteristics related to the image transfer process.
EPC G03G 15/01D14, for transferring a pattern to a second base.

299 From plural photoconductive members (e.g.,drums):

This subclass is indented under subclass 298. Subject matter wherein the transfer is from more than one discrete image-bearing member (e.g., plural photoconductive drums).

SEE OR SEARCH CLASS:
430, Radiation Imagery Chemistry: Process, Composition, or Product Thereof, subclasses 47.1 through 47.5 for multicolor reproduction using an identified receptor or image transfer processes.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/01, for producing multicolored copies.
EPC G03G 15/01S2, using more than one reusable intermediate recording medium (e.g., one for every monocolour image).

300 From multiple positions:

This subclass is indented under subclass 298. Subject matter wherein an arrangement is provided for receiving toner images from two or more different positions of an image-bearing member.

SEE OR SEARCH CLASS:

430, Radiation Imagery Chemistry: Process, Composition, or Product Thereof, subclasses 42.1 through 47.5 to produce a multicolor production (i.e., plural colors named or more than one color identified).

301 Registration:

This subclass is indented under subclass 298. Subject matter wherein an arrangement is provided for producing correct alignment of the overlapped or superposed multiple toner images.

SEE OR SEARCH CLASS:

430, Radiation Imagery Chemistry: Process, Composition, or Product Thereof, subclass 47.2 for a multicolor reproduction process wherein plural color images are formed and transferred to a receptor to produce a multicolor image.

302 By intermediate transfer member:

This subclass is indented under subclass 298. Subject matter wherein an arrangement is provided for transferring a developed color image to an intermediary surface or medium before transferring it to a final medium.

SEE OR SEARCH THIS CLASS, SUBCLASS:

308, for intermediate transfer member of a developed noncolor image.

SEE OR SEARCH CLASS:

430, Radiation Imagery Chemistry: Process, Composition, or Product Thereof, subclass 47.4 for a multicolor reproduction process using an identified intermediate receptor to produce a multicolor image.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/01, for producing multicolored copies.

JPOFI G03G 15/01 114A, using the characteristics related to the image transfer process using an intermediate recording medium.

303 Copy medium carrier (e.g., drum or belt):

This subclass is indented under subclass 298. Subject matter wherein an arrangement is provided for transporting a copy medium to a single transfer position a plurality of times for receiving a toner image each time.

SEE OR SEARCH THIS CLASS, SUBCLASS:

381+, for document handling of copy medium.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/01, for producing multicolored copies.

JPOFI G03G 15/01N, for process of sheet-transporting.

304 Having gripper:

This subclass is indented under subclass 303. Subject matter wherein an arrangement is provided for attaching a copy medium to the drum or belt.

(1) Note. This subject matter may also use the same basic arrangement for detaching the copy medium from the transfer member.

SEE OR SEARCH CLASS:

101, Printing, subclass 415.1 for a flexible sheet clamping device.

305 Vacuum or pneumatic:

This subclass is indented under subclass 304. Subject matter wherein the attachment is by suction or forced air.

SEE OR SEARCH CLASS:

430, Radiation Imagery Chemistry: Process, Composition, or Product Thereof, subclasses 42.1 through 47.5 to produce a multicolor reproduction (i.e., plural colors named or more than one color identified).

306 From plural photoconductive members (e.g., duplex):

This subclass is indented under subclass 297. Subject matter wherein an image is transferred from multiple discrete photoconductive members onto both sides of a copy medium.

SEE OR SEARCH THIS CLASS, SUBCLASS:

309, for transferring developed images to both sides of a copy medium, wherein an intermediate member is used.

307 Having simultaneous fixing:

This subclass is indented under subclass 297. Subject matter wherein the toner image is permanently attached to the copy medium at the same time it is transferred.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/16, of a toner pattern (e.g., a powder pattern).

G03G 15/20, for fixing, (e.g., by using heat).

JPOFI G03G 15/24, whereby at least two steps are performed simultaneously.

EPC G03G 15/24, whereby at least two steps are performed simultaneously.

308 By intermediate transfer member:

This subclass is indented under subclass 297. Subject matter wherein an arrangement is provided for transferring a developed image to an intermediary surface or medium before transferring it to a final medium.

SEE OR SEARCH THIS CLASS, SUBCLASS:

302, for intermediate transfer member of a developed color image.

SEE OR SEARCH CLASS:

430, Radiation Imagery Chemistry: Process, Composition, or Product Thereof, subclass 125.32 for processes wherein a developed image is transferred to an identified intermediate transfer member.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/16, of a toner pattern (e.g., a powder pattern).

EPC G03G 15/16A, using at least one intermediate support.

G03G 15/16A1, with means for handling the intermediate support (e.g., heating, cleaning, coating with a transfer agent).

309 To produce duplex:

This subclass is indented under subclass 308. Subject matter wherein an arrangement is provided for transferring developed images to both sides of a copy medium where at least one side is transferred from an intermediate member.

SEE OR SEARCH THIS CLASS, SUBCLASS:

306, for image transfer of multiple discrete photoconductive members to a copy medium.

310 Electrostatic:

This subclass is indented under subclass 297. Subject matter wherein the transfer is induced by an electrical potential, voltage, or current.

SEE OR SEARCH CLASS:

361, Electricity: Electrical Systems and Devices, subclass 214 for discharge of paper or paper handling machines.

430, Radiation Imagery Chemistry: Process, Composition, or Product Thereof, subclass 125.5 for processes wherein the toner transfer includes use of an electrostatic force such as corona charge.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/16, of a toner pattern (e.g., a powder pattern).

EPC G03G 15/16, of a toner pattern (e.g., a powder pattern).

311 Corona:

This subclass is indented under subclass 310. Subject matter wherein the potential, voltage, or current is caused by ionization of the air or gas surrounding a conductor.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/16, of a toner pattern (e.g., a powder pattern).
JPOFI G03G 15/16 102, by corona charge transfer.

312 Having belt transporting copy:
This subclass is indented under subclass 311. Subject matter wherein a flat, broad, continuous web or belt is provided for carrying the recording medium through the transfer position.

SEE OR SEARCH THIS CLASS, SUBCLASS:
361+, for document handling, per se.

313 Roller or belt:
This subclass is indented under subclass 297. Subject matter wherein the electrostatic force for causing (inducing) transfer is applied to (a) a drumlike cylinder or (b) a flat, broad, continuous web or belt.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/16, of a toner pattern (e.g., a powder pattern).
JPOFI G03G 15/16 103, by bias roller transfer.

314 Having applied bias:
This subclass is indented under subclass 310. Subject matter wherein a specific voltage or current is used to cause the transfer.

SEE OR SEARCH THIS CLASS, SUBCLASS:
55, for controlling a bias which influences development.
240, for a liquid application member with applied bias.
241, for liquid development with electrode influencing the attraction of liquid developer.
270+, for a magnetic brush-type application member with applied bias.
285, for a roller-type application member with applied bias.
291, for a powder cloud applicator with electrode(s) influencing the attraction of dry developer.
293, for a fluidized bed applicator with electrode(s) influencing the attraction of dry developer.
295, for a cascade applicator with electrode(s) influencing the attraction of dry developer.
354, for cleaning an imaging surface using a fibrous brush with applied voltage.

315 Having discharger (e.g., separation):
This subclass is indented under subclass 310. Subject matter wherein an arrangement is provided for removing charge imparted to a copy medium by the transfer.

(1) Note. The charge is commonly removed by corona, bias voltage, or grounded member such as a brush, roller, belt, etc.

SEE OR SEARCH THIS CLASS, SUBCLASS:
22, for diagnostic of misstrip of copy.
323, for stripping a copy during fixing.
398, for stripping from photoconductive member when delivering from transfer position.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/14, for transferring a pattern to a second base.
JPOFI G03G 15/14 101F, for transferring a pattern to a second base by discharge.
G03G 15/14 101K, for transferring a pattern to a second base by reducing the amount of charge at the leading edge and at the side edge of the copy sheet and by removing the toner.
G03G 15/00G4E, using electrostatic means (e.g., a separating corona).

316 Having copy medium guide:
This subclass is indented under subclass 310. Subject matter wherein an arrangement is provided for guiding or positioning a copy medium during the transfer.

317 Retractable:
This subclass is indented under subclass 316. Subject matter wherein an arrangement is provided for a transferring member to move a copy medium away from an image-bearing member.

SEE OR SEARCH THIS CLASS, SUBCLASS:

121, for a retractable transfer unit for jam removal.

318 By pressure:

This subclass is indented under subclass 297. Subject matter wherein an arrangement is provided for exerting pressure to cause a developed image to transfer to a copy medium.

SEE OR SEARCH THIS CLASS, SUBCLASS:

313, for transfer by pressure combined with electrostatic force.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/16, of a toner pattern (e.g., a powder pattern).

JPOFI G03G 15/16 101, using means other than static force.

EPC G03G 15/16, of a toner pattern (e.g., a powder pattern).

319 Vibration:

This subclass is indented under subclass 297. Subject matter wherein an arrangement is provided for using an oscillating or vibrating motion to transfer a developed image onto a copy medium.

SEE OR SEARCH CLASS:

310, Electrical Generator or Motor Structure, subclass 311 for piezoelectric elements and devices.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/16, of a toner pattern (e.g., a powder pattern).

JPOFI G03G 15/16 101, using means other than static force.

EPC G03G 15/16, of a toner pattern (e.g., a powder pattern).

320 Fixing (e.g., fusing):

This subclass is indented under subclass 130. Subject matter wherein an apparatus is provided that causes a toner image to be permanently attached to a copy medium or substrate.

SEE OR SEARCH THIS CLASS, SUBCLASS:

33, for over-temperature protection during fixing.

67+, for condition-responsive control of fusing.

91, for a fire extinguisher internal to the machine.

122, for a fixing unit with particular modular or displaceable structure.

SEE OR SEARCH CLASS:

34, Drying and Gas or Vapor Contact With Solids, for devices for treating a coating, including fusing or coalescing a particulate coating by solvent vapor treatment, per se.

118, Coating Apparatus, for related apparatus used to fix electrophotographic coatings.

374, Thermal Measuring and Testing, subclasses 1+ for calibration systems which may be used to test or calibrate the heat-fixing apparatus of electrophotographic devices.

430, Radiation Imagery Chemistry: Process, Composition, or Product Thereof, subclass 117.5 for processes of fixing a liquid developed image and subclasses 124.1-124.54 for fixing a fused image.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/20, for fixing (e.g., by using heat).

JPOFI G03G 15/20, for fixing (e.g., by using heat).

EPC G03G 15/20, for fixing.

321 Color:

This subclass is indented under subclass 320. Subject matter wherein a copying apparatus is provided that fixes two or more different color toners.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/20, for fixing (e.g., by using heat).
JPOFI G03G 15/01K, for producing multi-colored copies using fixing.
EPC G03G 15/01, for producing multicolored copies.

322 Having copy-handling during fixing:
This subclass is indented under subclass 320. Subject matter wherein an arrangement is provided for transporting, guiding, or manipulating a copy medium during fixing.

SEE OR SEARCH THIS CLASS, SUBCLASS:
381+, for document handling of copy medium.
400, for delivering from transfer position to fixing.
406, for removing sheet curl caused by fixing.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/20, for fixing (e.g., by using heat).
EPC G03G 15/20H2P4, with means for handling the copy material in the fuser nip (e.g., introduction guides, stripping means).

323 Stripping:
This subclass is indented under subclass 322. Subject matter wherein an arrangement is provided for separating a copy medium from a fixing member or preventing the copy medium from wrapping around the fixing member.

SEE OR SEARCH THIS CLASS, SUBCLASS:
22, for diagnostic of misstrip of copy.
315, for details of the separation discharger (i.e., passive separation by neutralizing the transfer charge).
398, for stripping from photoconductive member when delivering from transfer position.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/20, for fixing (e.g., by using heat).
JPOFI G03G 15/20 106, stripping of the copy sheet.

324 Offset prevention:
This subclass is indented under subclass 320. Subject matter wherein an arrangement is provided for preventing developer material from adhering to a fixing member.

(1) Note. This subject matter may also include an application of voltage to the fixing member to repel toner.

SEE OR SEARCH CLASS:
118, Coating Apparatus, digest 1 for offset prevention or anti-offset.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/20, for fixing (e.g., by using heat).
EPC G03G 15/20H2P2, with special means for lubricating or cleaning the fuser unit (e.g., applying offset preventing fluid).

325 Parting agent applicator:
This subclass is indented under subclass 324. Subject matter wherein an arrangement is provided that applies an anti-offset to a fixing member.

(1) Note. The anti-offset may be a lubricant (usually a silicone oil substance).

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/20, for fixing (e.g., by using heat).
JPOFI G03G 15/20 104, by applying an offset preventing fluid.

326 Cleaning member:
This subclass is indented under subclass 325. Subject matter wherein the parting agent is applied by a member that cleans the fixing member.

SEE OR SEARCH THIS CLASS, SUBCLASS:

34, for cleaning diagnostics.
71, for control of cleaning during the electrophotography process.
123, for particular structure of cleaning unit.
149, for combined development and cleaning by a single component.
245, for self-cleaning with electrodes a liquid development application member.
327, for cleaning a fixing member.
343+, for cleaning an imaging surface (i.e., photoconductive member), including for a cleaning member cyclically movable into and out of contact with the imaging surface.

SEE OR SEARCH CLASS:

15, Brushing, Scrubbing, and General Cleaning, subclasses 1.51+ for electrostatic cleaning and subclasses 300.1+ for air blast or suction which may be used to clean electrophotographic, photoresponsive imaging surfaces.
134, Cleaning and Liquid Contact With Solids, subclasses 1+ for cleaning applications of electric, wave, ray, or radiant energy.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/20, for fixing (e.g., by using heat).
JPOFI G03G 15/20 104, by applying an offset preventing fluid.
G03G 15/20 105, cleaning of the roller.

327 Cleaning of fixing member:

This subclass is indented under subclass 320. Subject matter wherein an arrangement is provided for removal of developer material or other contaminants from a fixing member.

SEE OR SEARCH THIS CLASS, SUBCLASS:

34, for cleaning diagnostics.
71, for control of cleaning during the electrophotography process.
123, for particular structure of cleaning unit.
149, for combined development and cleaning by a single component.
245, for self-cleaning with electrodes a liquid development application member.
343+, for cleaning an imaging surface (i.e., photoconductive member), including for a cleaning member cyclically movable into and out of contact with the imaging surface.

SEE OR SEARCH CLASS:

15, Brushing, Scrubbing, and General Cleaning, subclasses 1.51+ for electrostatic cleaning and subclasses 300.1+ for air blast or suction which may be used to clean electrophotographic, photoresponsive imaging surfaces.
134, Cleaning and Liquid Contact With Solids, subclasses 1+ for cleaning applications of electric, wave, ray, or radiant energy.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/20, for fixing (e.g., by using heat).
JPOFI G03G 15/20 105, cleaning of the roller.
EPC G03G 15/20H2P2, with special means for lubricating or cleaning the fuser unit (e.g., applying offset preventing fluid).

328 By heat and pressure:

This subclass is indented under subclass 320. Subject matter wherein the fixing is performed by simultaneously applying thermal energy and force.

SEE OR SEARCH CLASS:

219, Electric Heating, subclasses 200+ for resistive heating devices, particularly subclass 216 for heating in a reproductive device and subclass 243 for heating devices with pressure, subclasses 600+ for inductive heating, subclasses 678+ for microwave heating, and subclasses 764+ for capacitive dielectric heating.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/20, for fixing (e.g., by using heat).
JPOFI G03G 15/20 101, by fixing device using heat.
EPC G03G 15/20H2, using contact heat.

329 Continuous web:
This subclass is indented under subclass 328. Subject matter wherein a belt member moves with the toner image during the application of heat and pressure.

330 Heated roller:
This subclass is indented under subclass 328. Subject matter wherein pressure is applied between a heated drum member and a member providing backing support.

SEE OR SEARCH CLASS:
29, Metal Working, subclasses 895+ for roller making.
118, Coating Apparatus, subclass 60 for heated rollers and subclass 101 for a solid member with heat exchange means.
219, Electric Heating, subclasses 469+ for heated rollers.
430, Radiation Imagery Chemistry: Process, Composition, or Product Thereof, subclasses 124.3 through 124.38 for processes of heat fixing an image with a heated roller or belt.
432, Heating, subclass 60 for heated rollers.
492, Roll or Roller, for structure of rollers, per se.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/20, for fixing (e.g., by using heat).
JPOFI G03G 15/20 102, by a hot roller.
G03G 15/20 103, for structure of the roller, manufacturing thereof.
EPC G03G 15/20H2D, for details of fixing rollers (e.g., structure).

331 Pressure rollers:
This subclass is indented under subclass 330. Subject matter wherein pressure is applied between a pair of roller members.

SEE OR SEARCH CLASS:
29, Metal Working, subclasses 895+ for roller making.
492, Roll or Roller, for structure of rollers, per se.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/20, for fixing (e.g., by using heat).
JPOFI G03G 15/20 107, for driving the roller, using roller pressure.
EPC G03G 15/20H2P, combined with pressure.
G03G 15/20H2P5, for details of pressure units (e.g., structure).

332 Cyclically (e.g., with movement of copy):
This subclass is indented under subclass 331. Subject matter wherein the fixing arrangement opens and closes at the point of contact with the movement of the copy medium therethrough.

SEE OR SEARCH THIS CLASS, SUBCLASS:
122, for a displaceable fixing nip for jam removal.
361+, for document handling, per se.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/20, for fixing (e.g., by using heat).
EPC G03G 15/20H2P1, with retractable fixing or pressure unit.

333 Composition or layers:
This subclass is indented under subclass 330. Subject matter wherein the heat or pressure member has a specific construction or surface property.

SEE OR SEARCH CLASS:
430, Radiation Imagery Chemistry: Process, Composition, or Product Thereof, subclasses 124.32 through 124.38 for processes of developing using an identified roller or belt composition or structure.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/20, for fixing (e.g., by using heat).
JPOFI G03G 15/20 103, for structure of the roller, manufacturing thereof.
EPC G03G 15/20H2D1, for relating to the chemical composition of the roller layers (compositions usable for both fixing and pressure rollers).

334 Axial heat distribution:
This subclass is indented under subclass 330. Subject matter wherein the heat is differentially applied along its center axis.

(1) Note. This subject matter generally corresponds to the width of the copy medium or to compensate for heat loss at the end of a roller.

335 By heat:
This subclass is indented under subclass 320. Subject matter wherein the fixing is performed by applying thermal energy.

SEE OR SEARCH CLASS:
219, Electric Heating, subclasses 600+ for inductive heating, subclasses 678+ for microwave heating, subclasses 764+ for capacitive dielectric heating, and subclasses 200+ for heating devices, per se, particularly subclass 392 for electrical resistive heating devices.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/20, for fixing (e.g., by using heat).
JPOFI G03G 15/20 101, by fixing device using heat.
EPC G03G 15/20H2, using contact heat.

336 Radiant, infrared, or microwave:
This subclass is indented under subclass 335. Subject matter wherein the thermal energy is in the form of radiant heat or the thermal energy is produced by radio frequency heating.

SEE OR SEARCH CLASS:
430, Radiation Imagery Chemistry: Process, Composition, or Product Thereof, subclass 124.4 for processes of noncontact fixing of a developed toner image.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/20, for fixing (e.g., by using heat).
JPOFI G03G 15/20 108, radiated with high intensity in short duration.
G03G 15/20 302, from high frequency (microwave).
EPC G03G 15/20H1, using radiant heat (e.g., infrared lamps, microwave heaters).

337 Coordinated with sheet movement:
This subclass is indented under subclass 336. Subject matter wherein the heating element is activated when a copy medium is moved to an operative position of the fixing unit.

SEE OR SEARCH THIS CLASS, SUBCLASS:
361+, for document handling, per se.

338 Contact:
This subclass is indented under subclass 335. Subject matter wherein the thermal energy is applied by a member in contact with the copy medium.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/20, for fixing (e.g., by using heat).
JPOFI G03G 15/20 301, of a hot pipe roller.
EPC G03G 15/20H2, using contact heat.

339 By pressure (without heat):
This subclass is indented under subclass 320. Subject matter wherein the fixing is performed by applying force.

SEE OR SEARCH CLASS:

430, Radiation Imagery Chemistry: Process, Composition, or Product Thereof, subclass 124.23 for processes of fixing an image by pressure only.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/20, for fixing (e.g., by using heat).
JPOFI G03G 15/20 111, by pressure.
EPC G03G 15/20H2, using pressure only.

340 By solvent:

This subclass is indented under subclass 320. Subject matter wherein the fixing is performed by applying solvent.

SEE OR SEARCH CLASS:

430, Radiation Imagery Chemistry: Process, Composition, or Product Thereof, subclasses 124.21 and 124.22 for processes of fixing an image by contact with a fluid (liquid or gas).

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/20, for fixing (e.g., by using heat).
EPC G03G 15/20S, using a solvent.

341 Having treatment of image:

This subclass is indented under subclass 320. Subject matter wherein an arrangement is provided for applying a process to or on the fused image which enhances, modifies, or protects the copy.

(1) Note. For example, this process may be glossing the fixed image.

SEE OR SEARCH CLASS:

430, Radiation Imagery Chemistry: Process, Composition, or Product Thereof, subclasses 124.13 through 124.2 for processes of posttreating a fixed developed image.

342 Lamination:

This subclass is indented under subclass 341. Subject matter wherein treatment of the fixed image is by applying an overlayer of transparent material.

SEE OR SEARCH CLASS:

430, Radiation Imagery Chemistry: Process, Composition, or Product Thereof, subclass 126.1 for developing processes including forming an overlayer on the developed image.

343 CLEANING OF IMAGING SURFACE:

This subclass is indented under the class definition. Subject matter wherein an apparatus is provided that removes developing material from an imaging surface after an image is transferred.

SEE OR SEARCH THIS CLASS, SUBCLASS:

34, for cleaning diagnostics.
71, for control of cleaning during the electrophotography process.
91+, for an internal machine environmental control.
123, for particular structure of cleaning unit.
127+, for supplemental electrophotographic processes.
149, for combined development and cleaning by a single component.
245, for self-cleaning with electrodes a liquid development application member.
327, for cleaning a fixing member.

SEE OR SEARCH CLASS:

15, Brushing, Scrubbing, and General Cleaning, subclasses 1.51+ for electrostatic cleaning and subclasses 300.1+ for air blast or suction which may be used to clean electrophotographic, photoresponsive imaging surfaces.
134, Cleaning and Liquid Contact With Solids, subclasses 1+ for cleaning applications of electric, wave, ray, or radiant energy.

430, Radiation Imagery Chemistry: Process, Composition, or Product Thereof, subclasses 119.7 through 119.88 for processes of surface image member cleaning.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 21/00, for an arrangement not provided for by groups 13/00 to 19/00 (e.g., cleaning, elimination of residue).

JPOFI G03G 21/00, for an arrangement not provided for by groups 13/00 to 19/00 (e.g., cleaning, elimination of residue).

G03G 21/00 310, for cleaning (e.g., elimination of residual magnetic powder), elimination of paper residue (elimination from the atmosphere 538).

G03G 21/00 312, for removing residual toner from the photosensitive material.

EPC G03G 21/00, for an arrangement not provided for by groups 13/00 to 19/00 (e.g., cleaning, elimination of residue).

G03G 21/00B, for removing solid developer or debris from the electrographic recording medium.

344 Color:

This subclass is indented under subclass 343. Subject matter wherein an arrangement is provided for separately handling or treating differently colored removed toners.

SEE OR SEARCH THIS CLASS, SUBCLASS:

28, for analyzing a malfunction or potential malfunction of color reproduction.

39+, for balance control of color.

54, for color selection control.

112, for a modular or displaceable color process cartridge unit.

178+, for formation of color separation images.

184, for color image editing of a selectable area.

223+, for development (e.g., applicators) of a color image.

298+, for transfer of a color image.

326, for fixing or fusing a color image.

SEE OR SEARCH CLASS:

430, Radiation Imagery Chemistry: Process, Composition, or Product Thereof, subclass 119.86 for processes of cleaning an identified developer or developer component from an imaging member surface.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/01, for producing multicolored copies.

JPOFI G03G 15/01L, for removing multicolored copies.

EPC G03G 15/01, for producing multicolored copies.

345 Retractable cleaning arrangement:

This subclass is indented under subclass 343. Subject matter wherein the cleaning arrangement is disengaged from an image surface during noncleaning.

346 Including lubricant:

This subclass is indented under subclass 343. Subject matter wherein the cleaning arrangement includes applying a lubricant to the image surface.

(1) Note. This subject matter may include the lubricant material being added to (a) the cleaning member (blade), (b) the image-bearing surface, or (c) the developer material.

347 Abrasion or film removal:

This subclass is indented under subclass 343. Subject matter wherein an abrasive agent polishes, grinds, or removes material from an image surface during cleaning.

348 Removing liquid developer:

This subclass is indented under subclass 343. Subject matter wherein the cleaning arrangement removes a liquid developer material from an imaging surface.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 21/00, for an arrangement not provided for by groups 13/00 to 19/00 (e.g., cleaning, elimination of residue).
JPOFI G03G 21/00 328, for removing residual liquid developer.
G03G 21/00 330, adsorbent developer.
G03G 21/00 334, for collecting or recycling waste liquid developer.
EPC G03G 21/00C, for removing liquid developer.

349 Plural diverse:
This subclass is indented under subclass 343. Subject matter wherein the cleaning arrangement consists of more than one type of apparatus to clean the imaging surface.

(1) Note. For example, both a blade cleaning apparatus and a brush cleaning apparatus may be included.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 21/00, for an arrangement not provided for by groups 13/00 to 19/00 (e.g., cleaning, elimination of residue).
EPC G03G 21/00B, for removing solid developer or debris from the electrographic recording medium.

350 Blade:
This subclass is indented under subclass 343. Subject matter wherein the cleaning arrangement is a blade used to scrape developer material off an imaging surface.

SEE OR SEARCH CLASS:
15, Brushing, Scrubbing, and General Cleaning, subclasses 1.51+ for electrostatic cleaning, subclasses 256.5+ for moving surface scrapper, and subclasses 300.1+ for air blast or suction which may be used to clean electrophotographic, photoresponsive imaging surfaces.
430, Radiation Imagery Chemistry: Process, Composition, or Product Thereof, subclasses 119.82 through 119.84 for processes of cleaning imaging member surface with a blade.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 21/00, for an arrangement not provided for by groups 13/00 to 19/00 (e.g., cleaning, elimination of residue).
JPOFI G03G 21/00 318, for using a blade.
EPC G03G 21/00B1, for using a blade as a major cleaner.

351 Having holder:
This subclass is indented under subclass 350. Subject matter wherein the blade is held in place by, or set to rest upon, a support member.

352 Web:
This subclass is indented under subclass 343. Subject matter wherein the cleaning arrangement is a belt or cloth used to remove developer material from an imaging surface.

SEE OR SEARCH CLASS:
15, Brushing, Scrubbing, and General Cleaning, subclasses 1.51+ for electrostatic cleaning, subclasses 256.5+ for moving surface wiper, and subclasses 300.1+ for air blast or suction which may be used to clean electrophotographic, photoresponsive imaging surfaces.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 21/00, for an arrangement not provided for by groups 13/00 to 19/00 (e.g., cleaning, elimination of residue).
JPOFI G03G 21/00 322, for using a web.
EPC G03G 21/00B3, for using a band.

353 Fibrous brush:
This subclass is indented under subclass 343. Subject matter wherein the cleaning arrangement is a fibrous brush used to brush off developer material from an imaging surface.

SEE OR SEARCH CLASS:
15, Brushing, Scrubbing, and General Cleaning, subclasses 1.51+ for electrostatic cleaning, subclasses 256.5+ for moving surface brush, and subclasses 300.1+ for air blast or suction which may be used to clean electro-

photographic, photoresponsive imaging surfaces.

430, Radiation Imagery Chemistry: Process, Composition, or Product Thereof, subclass 119.85 for processes of cleaning imaging member surface using a fibrous brush.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 21/00, for an arrangement not provided for by groups 13/00 to 19/00 (e.g., cleaning, elimination of residue).

JPOFI G03G 21/00 314, for using a fur brush.

EPC G03G 21/00B2, for using a brush.

354 Having applied voltage:

This subclass is indented under subclass 353. Subject matter wherein the fibrous brush includes an applied electrical potential or current.

SEE OR SEARCH THIS CLASS, SUBCLASS:

55, for controlling a bias which influences development.

240, for a liquid application member with applied bias.

241, for liquid development with electrode influencing the attraction of liquid developer.

270+, for a magnetic brush-type application member with applied bias.

285, for a roller-type application member with applied bias.

291, for a powder cloud applicator with electrode(s) influencing the attraction of dry developer.

293, for a fluidized bed applicator with electrode(s) influencing the attraction of dry developer.

295, for a cascade applicator with electrode(s) influencing the attraction of dry developer.

314, for an electrostatic transfer with applied bias.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 21/00, for an arrangement not provided for by groups 13/00 to 19/00 (e.g., cleaning, elimination of residue).

JPOFI G03G 21/00 320, for using an electrostatic or magnetic means.

EPC G03G 21/00B4, through electrostatic or magnetic means.

355 Having forced air (e.g., vacuum):

This subclass is indented under subclass 353. Subject matter wherein the fibrous brush includes a forced air flow arrangement to capture developer material.

SEE OR SEARCH THIS CLASS, SUBCLASS:

92+, for an internal machine environment having forced air circulation.

343, for a vacuum without a fibrous brush.

356 Magnetic:

This subclass is indented under subclass 343. Subject matter wherein the cleaning arrangement uses a magnetic field to remove or assist in the removal of developer material.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 21/00, for an arrangement not provided for by groups 13/00 to 19/00 (e.g., cleaning, elimination of residue).

JPOFI G03G 21/00 316, for using a magnetic brush.

G03G 21/00 320, for using an electrostatic or magnetic means.

EPC G03G 21/00B4, through electrostatic or magnetic means.

357 Roller:

This subclass is indented under subclass 343. Subject matter wherein the cleaning arrangement uses a roller to remove developer material from an imaging surface.

SEE OR SEARCH CLASS:

15, Brushing, Scrubbing, and General Cleaning, subclasses 1.51+ for electrostatic cleaning, subclasses 256.5+ for moving surface scrapper, and subclasses 300.1+ for air blast or suction which may be used to clean electro-

photographic, photoresponsive imaging surfaces.

29, Metal Working, subclasses 895+ for roller making.

492, Roll or Roller, for structure of rollers, per se.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 21/00, for an arrangement not provided for by groups 13/00 to 19/00 (e.g., cleaning, elimination of residue).

EPC G03G 21/00B6, for using a roller as major cleaner.

358 Having handling of removed material:

This subclass is indented under subclass 343. Subject matter wherein an arrangement is provided for transporting or holding the removed developer material.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 21/10, for collecting or recycling waste developer.

JPOFI G03G 21/00 326, for collecting or recycling waste powder developer (including the developer eliminated from the atmosphere).

EPC G03G 21/10, for collecting or recycling waste developer.

359 Recycled to developing:

This subclass is indented under subclass 358. Subject matter wherein an arrangement is provided for returning removed toner to a developing unit to be reused.

(1) Note. This subject matter may also include an arrangement for treating (e.g., auger) or filtering toner prior to reuse.

SEE OR SEARCH THIS CLASS, SUBCLASS:

27, for diagnostic of consumables (e.g., toner).

35, for diagnostics of cleaning a waste toner container.

61+, for detection of toner in a developing unit.

99+, for toner removal.

106, for a toner cartridge.

120, for a new and waste toner container.

224, for adding colored toner.

253, for conditioning dry toner.

254+, for mixing dry toner.

SEE OR SEARCH CLASS:

430, Radiation Imagery Chemistry: Process, Composition, or Product Thereof, subclass 119.87 and 119.88 for processes including recycling developer or a developer component cleaned from the imaging member surface.

360 Having storage:

This subclass is indented under subclass 358. Subject matter wherein the cleaning arrangement provides for containing the developer material after removal from an imaging surface.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 21/12, for toner waste containers.

EPC G03G 21/12, for toner waste containers.

361 DOCUMENT HANDLING:

This subclass is indented under the class definition. Subject matter wherein a method or apparatus is provided that feeds, inverts, stacks, sorts, collates, conveys, delivers, or manipulates a recorded carrier of any kind having an image in any form thereon.

(1) Note. If the most comprehensive claim of a patent application recites document handling means or methods more than nominally (i.e., in specific or particular detail), but recites electrophotographic copying subject matter only nominally (i.e., generically), then classification for examination purposes shall be in the appropriate document handling class (e.g., Class 270 or Class 271) regardless of whether or not direct optical formation of an image on a photoresponsive member is generically recited. Classification as an original issued patent shall be the same as for examination of the application. Classification as a cross-reference of the issued patent in Class 355 is discretionary.

(2) Note. An example of nominal recitations of electrophotographic copying subject matter in a claim is as follows: means for producing copies of one or more document sheets in a collating mode of operation, means for imagewise exposing an original onto a photoconductor, clamping means for defining an exposure region and positioning a sheet therein, and exposure means for subjecting an original sheet to exposure through said clamping means.

(3) Note. This subject matter also may include two or more electrophotographic devices that are operatively interfaced together to operate as a system whereby each electrophotographic device is capable of producing a copy by itself.

SEE OR SEARCH THIS CLASS, SUBCLASS:

16+, for analyzing a malfunction or abnormality in handling documents.

38+, for control of the electrophotographic processes (e.g., charging, exposing, developing, transferring, fixing, and cleaning).

75+, for control of machine operations.

91+, for an internal machine environmental control.

107+, for an electrophotographic device having particular structure.

127+, for supplemental electrophotographic processes.

130+, for image formation, per se.

306, for plural image formation systems wherein each system produces an image for one side of a duplex copy.

343+, for cleaning an imaging surface.

SEE OR SEARCH CLASS:

226, Advancing Material of Indeterminate Length, appropriate subclasses for means to advance, for example, electrophotographic photoresponsive copy paper.

236, Automatic Temperature and Humidity Regulation, subclasses 44+ for means to control the humidity of paper used in an electrophotographic copier or the atmosphere within the copier to improve performance of the apparatus.

242, Winding, Tensioning, or Guiding, appropriate subclasses for subject matter related to winding and unwinding electrophotographic photoresponsive webs, etc.

248, Supports, supports, per se, for devices which carry the weight of an article or articles or otherwise hold or steady it or them against the pull of gravity, and devices for holding an article to its support.

269, Work Holders, for work holders, per se.

270, Sheet-Material Associating, subclasses 1.1+ for related subject matter.

271, Sheet Feeding or Delivering, appropriate subclasses for related subject matter.

377, Electrical Pulse Counters, Pulse Dividers, or Shift Registers: Circuits and Systems, subclasses 1+ for applications of counters, per se, including subclass 8 for counting flat articles (e.g., sheets).

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/00, for an electrographic process using a charge pattern.

JPOFI G03G 15/00 104, apparatus for producing a large amount of copies at high speed.

EPC G03G 15/00, for an electrographic process using a charge pattern.

362 Book copying:

This subclass is indented under subclass 361. Subject matter wherein an arrangement is provided for an opened book to lay in close contact with a platen.

SEE OR SEARCH CLASS:

355, Photocopying, subclass 25 for book page copying

363 Original and copy:

This subclass is indented under subclass 361. Subject matter wherein the document handling involves a particular processing of both the original and copy medium.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/00, for an electrographic process using a charge pattern.
EPC G03G 15/00R, arrangement for copying both sides of an original for copying onto both sides of a copy sheet.

364 Duplex:
This subclass is indented under subclass 363. Subject matter wherein an arrangement is provided that handles an original and a copy medium to produce an image on both sides of the copy medium.

SEE OR SEARCH THIS CLASS, SUBCLASS:
306, for image transfer of multiple discrete photoconductive members to a copy medium.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/00, for an electrographic process using a charge pattern.
JPOFI G03G 15/00 106, mechanisms for copying onto both sides of a copying sheet, for superposing, control for transporting sheets.

365 Original:
This subclass is indented under subclass 361. Subject matter wherein an arrangement is provided that handles an original document to be reproduced.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/00, for an electrographic process using a charge pattern.
EPC G03G 15/00F, apparatus which relate to the handling of originals for photographic purposes in general.

366 Unauthorized copy prevention:
This subclass is indented under subclass 365. Subject matter wherein a property or condition of the original prevents a copy from being made thereof.

SEE OR SEARCH THIS CLASS, SUBCLASS:
80, for accounting of user access during machine operation.

SEE OR SEARCH CLASS:
283, Printed Matter, Cross-Reference Art Collection 902 for antiphotocopy.
380, Cryptography, subclass 51 for cryptography with production of printed copy.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 21/04, for preventing copies being made of an original.
JPOFI G03G 21/00 550, for prevention of producing counterfeits by electrographic copying.
G03G 21/00 552, by registering the original picture.
G03G 21/00 554, by recording an identification mark on the original picture.
G03G 21/00 560, by modifying a copied picture from the original picture.
G03G 21/00 562, by supplying an identification code of copying machine to the copied picture.
EPC G03G 21/04, for preventing copies being made of an original.

367 Automatic document feeder:
This subclass is indented under subclass 365. Subject matter wherein an original is automatically moved up to the exposure position and out.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/00, for an electrographic process using a charge pattern.
JPOFI G03G 15/00 107, for transporting and delivering originals.
EPC G03G 15/00F1, for transporting.

368 Plural originals simultaneously:
This subclass is indented under subclass 367. Subject matter wherein a plurality of originals are simultaneously fed into the exposure position.

(1) Note. This subject matter may also be called two-up copying or signature copy.

369 Plural document holders:
This subclass is indented under subclass 367. Subject matter wherein the original document is selectively fed from more than one document holder.

370 Having size detection:
This subclass is indented under subclass 367. Subject matter wherein the size of the original is detected by a detection device in the automatic document feeder.

(1) Note. The size may be detected during transportation (i.e., while the sheet is in motion).

SEE OR SEARCH THIS CLASS, SUBCLASS:
376, for original size detection.
386, for continuous copy in response to detection of the original.

371 Having position detection:
This subclass is indented under subclass 367. Subject matter wherein the presence, position, or location of an original is detected by a detection device in the automatic document feeder.

372 Registration:
This subclass is indented under subclass 367. Subject matter wherein the original is positioned or its movement timed within the automatic document feeder before being subjected to the exposure operation.

373 Recirculating:
This subclass is indented under subclass 367. Subject matter wherein an original is returned to the same document holder after being exposed.

374 Copying both sides of original:
This subclass is indented under subclass 367. Subject matter wherein an original is inverted in order to expose both sides of the original (i.e., duplex).

SEE OR SEARCH THIS CLASS, SUBCLASS:
306, for image transfer of multiple discrete photoconductive members to a copy medium.
364, for duplex original and copy handling.

375 For continuous or fanfold paper:
This subclass is indented under subclass 367. Subject matter wherein an original is in the form of a continuous substrate or rolled strip or web.

SEE OR SEARCH THIS CLASS, SUBCLASS:
386, for continuous copy.

SEE OR SEARCH CLASS:
226, Advancing Material of Indeterminate Length, for advancing sheet material that is of an indeterminate length.

376 Having detection of size:
This subclass is indented under subclass 365. Subject matter wherein a detection device on a document tray, platen, or path provides an indication of the dimensions of an original.

SEE OR SEARCH THIS CLASS, SUBCLASS:
370, for detection of size during automatic document feed.

SEE OR SEARCH CLASS:
250, Radiant Energy, subclass 571 for detection of position by photocells.

377 Holder:
This subclass is indented under subclass 365. Subject matter wherein an arrangement is provided for supporting an original before, during, and after exposure.

(1) Note. This subject matter includes a particular configuration of document trays.

SEE OR SEARCH THIS CLASS, SUBCLASS:
405, for exist tray.

SEE OR SEARCH CLASS:
248, Supports, supports, per se, for devices which carry the weight of an article or

articles or otherwise hold or steady it or them against the pull of gravity, and devices for holding an article to its support.

269, Work Holders, for work holders, per se.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/00, for an electrographic process using a charge pattern.

EPC G03G 15/00F2, holders for originals and exposure platens.

378 Film (e.g., transparency):

This subclass is indented under subclass 377. Subject matter wherein the original is a thin, flexible cellulose member.

379 Platen:

This subclass is indented under subclass 377. Subject matter wherein an arrangement is provided for a backing structure against which an exposure device illuminates an original.

380 Having cover:

This subclass is indented under subclass 379. Subject matter wherein an arrangement is provided for an overlay structure that holds an original in place.

381 Copy:

This subclass is indented under subclass 361. Subject matter wherein an arrangement is provided that handles the medium that receives a duplication of an original.

(1) Note. This subject matter includes the overall configuration for handling a copy medium (e.g., from cassette, to image transfer, to exit tray).

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/00, for an electrographic process using a charge pattern.

JPOFI G03G 15/00 510, for feeding sheets.

G03G 15/00 514, by measuring the characteristics of a sheet feeder.

G03G 15/00 516, by using sheets of paper.

G03G 15/00 518, by measuring the characteristics of the identical mechanisms to those used for transporting sheets.

EPC G03G 15/00G, for apparatus which relate to the handling of copy material.

382 Interleaving (e.g., cover or partitioning sheet):

This subclass is indented under subclass 381. Subject matter wherein an arrangement is provided for inserting divider sheets between selected copy media.

383 Plural copies (from same original):

This subclass is indented under subclass 381. Subject matter wherein an arrangement is provided that handles two or more copies of an original.

384 Continuous (e.g., roll, fanfold):

This subclass is indented under subclass 381. Subject matter wherein a copy medium is a continuous substrate, strip, or web of rolled stock material.

SEE OR SEARCH THIS CLASS, SUBCLASS:

375, for continuous or fanfold paper during automatic document feed.

SEE OR SEARCH CLASS:

226, Advancing Material of Indeterminate Length, for advancing sheet material that is of an indeterminate length.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/00, for an electrographic process using a charge pattern.

EPC G03G 15/00G2, wherein paper is wound off a roll; Supply rolls; Roll holders.

385 Having cutting:
This subclass is indented under subclass 384. Subject matter wherein an arrangement is provided for severing the copy medium from stock material.

(1) Note. This subject matter may also include sheets cut before transfer.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/00, for an electrographic process using a charge pattern.
JPOFI G03G 15/00 522, by measuring the characteristics of web cutting.
EPC G03G 15/00G2B, for cutting wherein paper is wound off a roll; Supply rolls; Roll holders.

386 In response to detection of original:
This subclass is indented under subclass 385. Subject matter wherein the severing position is determined by sensing the size or some other attribute of the original.

SEE OR SEARCH THIS CLASS, SUBCLASS:
370, for detection of size during automatic document feed.

387 Length adjustment:
This subclass is indented under subclass 385. Subject matter wherein an arrangement is provided for adjusting the length of the copy medium by a human operator.

SEE OR SEARCH THIS CLASS, SUBCLASS:
81, for operator interface (e.g., display control panel).

388 Feeding to transfer position:
This subclass is indented under subclass 381. Subject matter wherein the copy medium is transported to a transfer position.

SEE OR SEARCH THIS CLASS, SUBCLASS:
66, for condition responsive control of transfer.
101, for particle or contaminant control of toner on a transfer member.
121, for a transfer unit with a particular modular or displaceable structure.
154, for image formation with transfer of a latent image.
297+, for transferring a toner image, per se.
397+, for delivering a copy from the transfer position.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/00, for an electrographic process using a charge pattern.
EPC G03G 15/00G3, for transporting.

389 Having detection of size or type:
This subclass is indented under subclass 388. Subject matter wherein a document tray or holder provides an indication of the dimensions of a copy medium or indicates the type of the copy medium.

SEE OR SEARCH THIS CLASS, SUBCLASS:
376, for original size detection.

390 Having treatment of copy medium:
This subclass is indented under subclass 388. Subject matter wherein the copy medium is treated prior to reaching the transfer area.

(1) Note. The treatment may include the following operations on the sheet (a) the application of heat, (b) the application of a release agent to clean a used sheet in order for it to be re-used, (c) bending the sheet, and (d) cleaning contaminants such as paper dust from the sheet.

SEE OR SEARCH CLASS:
118, Coating Apparatus, subclass 70 for chemical means to remove toner from used paper.
162, Paper Making and Fiber Liberation, subclasses 4+ for chemical means to remove toner from used paper.
219, Electric Heating, appropriate subclasses for laser removal of toner from used paper.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/00, for an electrographic process using a charge pattern.
EPC G03G 15/16R, with means for preconditioning the paper base before the transfer.

391 Plural copy medium sources:
This subclass is indented under subclass 388. Subject matter wherein an arrangement is provided for feeding copy medium from plural input sources into the transfer position.

(1) Note. The plural sources may be included within a unitary structure.

392 Manual feed:
This subclass is indented under subclass 391. Subject matter wherein an arrangement is provided for feeding copy medium directly into an input source (prior to transfer position) by a human operator.

393 Copy medium input tray:
This subclass is indented under subclass 388. Subject matter wherein an arrangement is provided for feeding copy medium from an input source into the transfer position.

SEE OR SEARCH CLASS:
248, Supports, supports, per se, for devices which carry the weight of an article or articles or otherwise hold or steady it or them against the pull of gravity, and devices for holding an article to its support.
269, Work Holders, for work holders, per se.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/00, for an electrographic process using a charge pattern.
EPC G03G 15/00G1, for piling, stacking arrangements; Cassettes; Peeling off.

394 In registration with image:
This subclass is indented under subclass 388. Subject matter wherein the conveyance of the copy medium is altered in order to feed the copy medium in registration with the latent image directly or indirectly in accordance with the conveyance of the original.

SEE OR SEARCH THIS CLASS, SUBCLASS:
195, for feeding control done in relation to the exposure operation.
301, for registration performed in order to superimpose a plurality of color images on a copy medium.

395 Skew correction:
This subclass is indented under subclass 394. Subject matter wherein the conveyance of the copy medium is altered in direction to correct the relationship between the image and the copy medium.

396 Speed control of conveyance:
This subclass is indented under subclass 394. Subject matter wherein the alteration is to the velocity of transport.

397 Delivering from transfer position:
This subclass is indented under subclass 381. Subject matter wherein an arrangement is provided for transporting the copy medium after is has passed the transfer position.

SEE OR SEARCH THIS CLASS, SUBCLASS:
66, for condition responsive control of transfer.
101, for particle or contaminant control of toner on a transfer member.
121, for a transfer unit with a particular modular or displaceable structure.
154, for image formation with transfer of a latent image.
297+, for transferring a toner image, per se.
388+, for feeding a copy to the transfer position.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/00, for an electrographic process using a charge pattern.
EPC G03G 15/00G3, for transporting.

398 Stripping from photoconductive member:
This subclass is indented under subclass 397. Subject matter wherein an apparatus is provided that actively separates a copy medium from a photoconductive member.

(1) Note. The stripping may occur, for example, by forced air, scraping, or bending the copy medium.

SEE OR SEARCH THIS CLASS, SUBCLASS:

22, for diagnostic of misstrip of copy.
315, for details of the separation discharger (i.e., passive separation by neutralizing the transfer charge).
323, for stripping a copy during fixing.

SEE OR SEARCH CLASS:

271, Sheet Feeding or Delivering, subclass 900 for strippers.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/14, for transferring a pattern to a second base.
JPOFI G03G 15/14 100B, for transferring a pattern to a second base by stripping guide or a stripping roller.
G03G 15/14 100C, for transferring a pattern to a second base by air suction or blow.
G03G 15/14 100D, for transferring a pattern to a second base by a protruding member from a photosensitive material.
G03G 15/14 100E, for transferring a pattern to a second base by static suction.
G03G 15/14 100G, for transferring a pattern to a second base by a curvature.
G03G 15/14 100J, for transferring a pattern to a second base by curling and folding the leading edge of the copy sheet.
G03G 15/14 100Z, for transferring a pattern to a second base by others.
EPC G03G 15/00G4, for removing a copy sheet from a xerographic drum, band, or plate.

399 Claw:

This subclass is indented under subclass 398. Subject matter wherein a grasping curved structure is provided that strips a copy medium from a photoconductive member.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/14, for transferring a pattern to a second base.
JPOFI G03G 15/14 101A, for transferring a pattern to a second base by a stripping claw.

400 To fixing (e.g., fuser):

This subclass is indented under subclass 397. Subject matter wherein an apparatus is provided that delivers a copy medium with a transferred toner image to a fuser position.

SEE OR SEARCH THIS CLASS, SUBCLASS:

322, for copy handling during fixing.

401 Re-fed for additional image:

This subclass is indented under subclass 397. Subject matter wherein the copy medium is transported back to the transfer position for a second or subsequent time.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/00, for an electrographic process using a charge pattern.
JPOFI G03G 15/00 106, mechanisms for copying onto both sides of a copying sheet; for superposing; control for transporting sheets.

402 Having intermediate storage:

This subclass is indented under subclass 401. Subject matter wherein a copy medium is temporarily stored prior to an additional image being transferred to the copy medium.

403 Having collating:

This subclass is indented under subclass 397. Subject matter wherein a plurality of the same or different copy medium are arranged into a plurality of different locations according to a predetermined, informative, or significant order.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/00, for an electrographic process using a charge pattern.
EPC G03G 15/00G1, for piling, stacking arrangements; Cassettes; Peeling off.
G03G 15/00G5, devices for collating copy materials (e.g., sorters control, copies in staple form).

404 Having offset stacking:
This subclass is indented under subclass 397. Subject matter wherein the copy medium is gathered and delivered through an output from the transfer position in an uneven arrangement.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/00, for an electrographic process using a charge pattern.
EPC G03G 15/00G1, for piling, stacking arrangements; Cassettes; Peeling off.

405 Discharge of copy (e.g., exit tray):
This subclass is indented under subclass 397. Subject matter wherein an arrangement is provided for supporting a copy that is delivered to an output device.

SEE OR SEARCH THIS CLASS, SUBCLASS:
377, for holder of original.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/00, for an electrographic process using a charge pattern.
EPC G03G 15/00G6, means for discharging copies (e.g., exit trays).

406 Curl correction:
This subclass is indented under subclass 397. Subject matter wherein a copy is delivered to an output device that prevents the copy from curling up at the edges.

(1) Note. This subject matter also includes correction of curl created by a fixing unit.

SEE OR SEARCH CLASS:
162, Paper Making and Fiber Liberation, subclasses 197 and 270+ for decurling.
271, Sheet Feeding of Delivering, subclasses 161, 188, and 209 for decurling.
493, Manufacturing Container or Tube From Paper; or Other Manufacturing From a Sheet or Web, subclass 459 for decurling.

407 Post-processing:
This subclass is indented under subclass 397. Subject matter wherein a copy or copies receive further treatment after copying is complete.

(1) Note. This subject matter may include folding or punching.

SEE OR SEARCH CLASS:
270, Sheet-Material Associating, subclass 53 for sheet associating with stapling.

OTHER CLASSIFICATION SYSTEMS:

IPC[6] G03G 15/00, for an electrographic process using a charge pattern.
JPOFI G03G 15/00 534, characterized by the subsequent processes.
EPC G03G 15/00G5, devices for collating copy materials (e.g., sorters control, copies in staple form).

408 Having binding:
This subclass is indented under subclass 407. Subject matter wherein an arrangement is provided for attaching together a plurality of copy medium or sheets.

409 By toner:
This subclass is indented under subclass 408. Subject matter wherein developing material is used as an adhesive to attach together a plurality of copy media or sheets.

SEE OR SEARCH THIS CLASS, SUBCLASS:
27, for diagnostic of consumables (e.g., toner).

35, for diagnostics of cleaning a waste toner container.
49, for detection of toner involving plural control processes.
61+, for detection of toner in a developing unit.
99+, for toner removal.
106, for a toner cartridge.
120, for a new and waste toner container.
129, for supplemental exposure or charging of residual toner.
134, for image formation with photoconductive toner.
224, for adding colored toner.
239+, for application of liquid development.
253, for conditioning dry toner.
254+, for mixing dry toner.
258+, for supplying new toner.
265+, for application of dry development.

410 By staple:

This subclass is indented under subclass 408. Subject matter wherein an arrangement is provided for driving a thin piece of wire through a plurality of copy media or sheets that will secure or bind the copy media or sheets together.

SEE OR SEARCH CLASS:
227, Elongated-Member-Driving Apparatus, for stapling, per se.

411 MISCELLANEOUS:

This subclass is indented under the class definition. Subject matter wherein an arrangement that has not been provided for in the previous subclasses is provided herein.

END