CLASS 430, RADIATION IMAGERY CHEMISTRY: PROCESS, COMPOSITION, OR PRODUCT THEREOF

SECTION I - CLASS DEFINITION

This is the generic class for:

A. Forming the likeness of an object, or an instrumented or discernible phenomenon, in a chemically defined receiver or in a receiver wherein radiation produces a chemical reaction, by use of radiation.

B. Finishing the image formed by (A) with post imaging processing.

C. Finishing an image by chemical processing regardless how formed.

D. A radiation sensitive receiver, composition, or product disclosed (claimed) solely for radiation imagery chemistry, and process of making same.

E. A nonradiation sensitive-receiver, composition, or product (disclosed or claimed for receiving an image from a radiation sensitive product) and disclosed (claimed) solely for radiation imagery chemistry, and process of making same.

F. An imaged product by a process of A, B, or C above or employing a receiver, composition, or product of D or E above.

(1) Note. The meaning to be given to the various "art" terms appearing in this class, but which have not been included in the Glossary below, is the same as that generally accepted or in common usage. However, certain terms employed in this class, which are included below, have been assigned definitions tailored to meet the needs of this class and therefore those may be more restricted or less limited or even altogether different from those in common usage.

SECTION II - LINES WITH OTHER CLASSES AND WITHIN THIS CLASS

A. COMPOUND, COMPOSITION, AND MATERIAL CLASSES.

1. A compound, per se, is classified in a compound class regardless of utility. (See References to Other Classes, below, for related art areas)

2. Composition or Material

a. The rules for determining Class placement of the Original Reference (OR) for claimed chemical compositions are set forth in the Class Definition of Class 252 in the section LINES WITH OTHER CLASSES AND WITHIN THIS CLASS, subsection COMPOSITION CLASS SUPERIORITY, which includes a hierarchical ORDER OF SUPERIORITY FOR COMPOSITION CLASSES.

b. A composition disclosed for forming an image by a Class 430 process as one of plural uses but is not claimed as having a Class 430 imaging use is placed as an original in another class based on its general utility and crossed to Class 430. See References to Other Classes below, for related art areas: chemistry: electrical and wave energy; compositions; and synthetic resin classes

c. A composition which is not an imaging composition but which is disclosed or claimed as useful as a part of a Class 430 product is classified in Class 430 only when claimed in conjunction with a Class 430, imaging composition or layer. Otherwise such composition, per se, is classified on some other basis depending on its ingredients or function. See References to Other classes, below for related art areas: specialized metallurgical process; compositions, coating or plastic; compositions; synthetic resins or natural rubbers; organic coupounds.

d. A composition solely disclosed or claimed for radiation imagery is classified in Class 430.

e. For a general search of Composition or Material classes, see References to Other Classes, below.

B. LINES WITH AND SEARCH NOTES TO ARTICLES OR PRODUCT CLASSES.

1. As a general rule, a product (article) is classified with the class specifically providing for the same or a generic class which can take the same.

2. Class 430, Radiation Imagery Chemistry: Process, Compositions, or Product Thereof, provides for a product (article) which is (a) imaged and defined by its composition, (b) radiation sensitive and limited by claims or disclosure for use in radiation imagery, and (c) products of radiation imagery not elsewhere classified.

3. An article or product defined by section 2 combined with significant structure for another class will be classified in the class providing for the structure and crossed to Class 430.

4. Cases involving multiple claimed subject matter, i.e., claims for both Class 430 and class(es) mentioned in section 3 will be classified in Class 430 and crossed to the other class(es). See References to Other Classes, below.

C. LINES WITH AND SEARCH NOTES TO PROCESS AND APPARATUS CLASSES.

1. General Relation With Process And Apparatus Classes.

Class 430, Radiation Imagery Chemistry: Process, Composition, or Product Thereof, is the residual class for forming an image by use of radiation or finishing such image by post imaging treatment, and the process of making a composition or product solely disclosed or claimed for use in radiation imagery.

Also see References to Other Classes, below.

2. Relation With Special Classes Involving Radiation Imagery.

(a) As a general rule the below listed classes referencing this section provide for: apparatus, per se; apparatus with chemical material; process of operating the apparatus; and nonchemical process. (b) Cases involving multiple claimed subject matter, i.e., claims for both Class 430 and class(es) hereinafter stated will be classified in Class 430 and crossed to the other class(es).

D. LINES AND SEARCH NOTES TO SPECIAL CLASSES.

See References to Other Classes, below.

SECTION III - REFERENCES TO OTHER CLASSES

SEE OR SEARCH CLASS:

8, Bleaching and Dyeing; Fluid Treatment and Chemical Modification of Textiles and Fibers, for radiation sensitive dye compositions of general utility. (See Lines With Other Classes, Lines with and search notes to compound, composition, and material classes, Composition or Material general search.)

8, Bleaching and Dyeing; Fluid Treatment and Chemical Modification of Textiles and Fibers, subclasses 73+ for after-treatment of dyed material; subclasses 81+ for dye recovery; subclasses 101+ for bleaching, especially subclass 103 for bleaching using wave energy; subclasses 442 and 446+ for textile printing involving use of a resist in finishing a design; subclass 444 for dyeing process or composition involving wave energy; and Digest 12 for wave energy treatment of textiles. (See Lines With Other Classes, "General Relation With Process And Apparatus Classes" above).

8, Bleaching and Dyeing Fluid Treatment and Chemical Modification of Textiles and Fibers, subclass 440 for bleaching using wave energy; subclasses 442 and 446+, for textile printing involving use of a resist in finishing a design; subclass 444 for dyeing process or composition involving wave energy; subclasses 489-493 for aftertreatment of a dyed material; and Digest 12, for wave energy treatment of textiles. Class 430, Radiation Imagery Chemistry: Process, Composition, or Product Thereof, provides for (a) forming an image using radiation involving a dyeing or bleaching procedure, (b) finishing an image (using a dyeing or bleaching procedure), (c) a combination of (a) and (b), (d) compositions limited by disclosure or claim to use in radiation imagery described under (a) and (b) above, and (e) recovery of dye or bleach when combined with radiation imagery processes. (See Lines With Other Classes, Lines and search notes to special classes.)

15, Brushing, Scrubbing, and General Cleaning, subclasses 1.51+ for electrostatic cleaning; and appropriate subclasses for general cleaning. (See Lines With Other Classes, "General Relation With Process And Apparatus Classes" above).

29, Metal Working, subclasses 33+ for plural diverse manufacturing apparatus including metal shaping or assembly of a printing plate; subclasses 592.1+ for process of mechanical manufacture of electrical devices. (See Lines With Other Classes, "General Relation With Process And Apparatus Classes" above).

34, Drying and Gas or Vapor Contact With Solids, subclasses 266+ for process involving selected radiation energy and subject matter of the class; and subclasses 444+ for process of gas or vapor contact with sheets, webs, or strands.

(See Lines With Other Classes, "General Relation With Process And Apparatus Classes" above) (See Lines With Other Classes, Lines and search notes to special classes.)

34, Drying and Gas or Vapor Contact With Solids, provides for the process of drying or gas or vapor contact with solids, per se, when so treating a product of this class (430). Class 430, Radiation Imagery Chemistry: Process, Composition, or Product Thereof, provides for the combination of a Class 430 step(s) and drying or gas or vapor contact with a product of Class 430.

40, Card, Picture, or Sign Exhibiting, appropriate subclasses for subject matter of that class having images. (See Lines With Other Classes, "Lines With And Search Notes To Articles Or Product Classes" above).

40, Card, Picture, or Sign Exhibiting, subclasses 447+ for changing exhibitor with alphanumeric device; especially subclass 448 for liquid crystal; subclasses 542+ for illuminated sign luminescent type; and subclasses 625+ for permanent identification devices. (See Lines With Other Classes, "General Relation With Process And Apparatus Classes" above).

65, Glass Manufacturing, appropriate subclasses for radiation imagery combined with glass working; and Digest 2 for photosensitive glass. (See Lines With Other Classes, "General Relation With Process And Apparatus Classes" above).

68, Textiles: Fluid Treating Apparatus, appropriate subclasses for fluid treating sheet and web textile material. (See Lines With Other Classes, "General Relation With Process And Apparatus Classes" above).

75, Specialized Metallurgical Processes, Compositions for Use Therein, Consolidated Metal Powder Compositions, and Loose Metal Particulate Mixtures, for metal and alloys useful as a backing for radiation sensitive compositions, e.g., photoresists, etc. (See Lines With Other Classes, "Lines With And Search Notes To Compound, Composition, And Material Classes, Composition or Material, c.".)

75, Specialized Metallurgical Processes, Compositions for Use Therein, Consolidated Metal Powder Compositions, and Loose Metal Particulate Mixtures, subclasses 122+ for alloy compositions. (See Lines With Other Classes, Lines with and search notes to compound, composition, and material classes, Composition or Material, general search).

75, Specialized Metallurgical Processes, Compositions for Use Therein, Consolidated Metal Powder Compositions, and Loose Metal Particulate Mixtures, subclass 118 for hydro-metallurgy for obtaining silver from photographic materials. (See Lines With Other Classes, "General Relation With Process And Apparatus Classes" above).

101, Printing, subclasses 127+ for stencils; subclasses 463.1+ for printing plates; and subclass 40 for blanks. But Class 430 provides for printing plates having radiation sensitive material. (See Lines With Other Classes, "Lines With And Search Notes To Articles Or Product Classes" above).

101, Printing, for stencils, printing plates, and blanks made by a Class 430 process or such products chemically defined with apparatus structure for Class 101. (See Lines With Other Classes, Lines with and search notes to process and apparatus classes, Relation with special classes involving radiation imagery.)

101, Printing, provides for (a) the process of making a printing surface which is more than a Class 430 process or (b) more than a mere use of a surface made by a Class 430 process, and (c) stencils, blanks, and printing surfaces made by a Class 430 process but having structure for Class 101. Class 430, Radiation Imagery Chemistry: Process, Composition, or Product Thereof, provides for process of (1) making printing surfaces, e.g., stencil, stencil lithographic plate, blanks, planographic and relief plates, etc., which (a) involves the use of radiation imagery, or (b) the finishing (post imaging processing, e.g., developing, etc.) of the image formed by (1a) including the mere application of ink to the surface or printing; (2) the combination of (1a) or (1b) having the step of mere application of ink and printing the ink on a receptor surface, and product for printing which is (a) made using a Class 430 process wherein it is defined by its chemical composition and (b) radiation sensitive wherein it is to be used in a Class 430 process. (See Lines With Other Classes, Lines and search notes to special classes.)

106, Compositions: Coating or Plastic, for compositions therein provided not containing a synthetic resin, subclasses 168.01+ for cellulose ester or salt thereof and 172.1+ for cellulose ether or salt thereof. (See Lines With Other Classes, "Lines With And Search Notes To

Compound, Composition, And Material classes, Composition or Material, c.")

106, Compositions: Coating or Plastic, for coating or plastic compositions disclosed for use with radiation imagery and other arts. (See Lines With Other Classes, Lines with and search notes to compound, composition, and material classes, Composition or Material, general search).

106, Compositions: Coating or Plastic, subclasses 1.05+ for metal depositing compositions or substrate, sensitizing compositions for metal depositing compositions; subclass 2 for coating repellent compositions; subclass 14.5 for non-radiation sensitive hectographic or copying compositions; subclass 160.1 for gelatin, glue, or derivative compositions; and subclasses 400+ for pigments; fillers, or aggregates. (See Lines With Other Classes, "General Relation With Process And Apparatus Classes" above).

134, Cleaning and Liquid Contact With Solids, subclass 1 for process of cleaning including application of electrical, radiant, or wave energy to work; subclass 3 for chemical stripping a radiation sensitive material from a base; subclass 9 for cleaning longitudinally travelling work, of bar, strip, strand, sheet, or web; and subclass 64 for the corresponding apparatus. (See Lines With Other Classes, "General Relation With Process And Apparatus Classes" above).

137, Fluid Handling, appropriate subclasses for fluid handling systems. (See Lines With Other Classes, "General Relation With Process And Apparatus Classes" above).

148, Metal Treatment, subclasses 31+ for products of the class in the form of stock, especially subclasses 33+ for nonferrous barrier layer material, p-n type. (See Lines With Other Classes, "Lines With And Search Notes To Articles Or Product Classes" above).

148, Metal Treatment, subclasses 100+ for treating magnetic materials; and subclasses 240+ for processes of coating solid metal with a material that reacts therewith. (See Lines With Other Classes, "General Relation With Process And Apparatus Classes" above).

156, Adhesive Bonding and Miscellaneous Chemical Manufacture, subclass 58 for contour or profile photography to reproduce three-dimensional objects; subclass 59 for producing relief or intaglio representations of three-dimensional objects (e.g., relief modeling of photographs); subclass 108 for mounting transparent lamina over window opening (e.g., slide-mounting); subclasses 230+ for direct contact transfer of adhered lamina from carrier to base; subclass 246 for surface bonding or assembly therefor involving lamina formation by molding or casting on a temporary planar support, e.g., film casting; subclass 247 for stripping of adhered lamina; subclasses 272.2+ for process involving direct application of electrical or radiant energy to work. (See Lines With Other Classes, "General Relation With Process And Apparatus Classes" above).

162, Paper Making and Fiber Liberation, subclasses 101+ for products of that class disclosed for use in radiation imagery. (See Lines With Other Classes, "Lines With And Search Notes To Articles Or Product Classes" above).

162, Paper Making and Fiber Liberation, subclass 134 for paper making with printing or variegated coloring; subclasses 135+ for paper making and coating after drying; subclass 138 for electrical or magnetic product characteristic; subclass 193 for lead strip forming; and subclass 197 for paper making with stretching, tensioning, decurling, flexing, or breaking. (See Lines With Other Classes, "General Relation With Process And Apparatus Classes" above).

164, Metal Founding, subclasses 2+ for printing plate forming. (See Lines With Other Classes, Lines With And Search Notes To Process And Apparatus Classes, General Relation With Process And Apparatus Classes.)

178, Telegraphy, subclasses 111+ for sensitized and chemically prepared tapes adapted to receive or transmit a record. (See Lines With Other Classes, "Lines With And Search Notes To Articles Or Product Classes" above).

178, Telegraphy, subclass 15 for automatic photographic recorder system; subclass 90 for photographic code recorder receiver; and subclass 94 for pyrographic code recorder receiver. (See Lines With Other Classes, Lines with and search notes to process and apparatus classes, General relation with process and apparatus classes.)

181, Acoustics, appropriate subclasses for sound generators. (See Lines With Other Classes, Lines with and search notes to process and apparatus classes, General relation with process and apparatus classes.)

204, Chemistry: Electrical and Wave Energy, appropriate subclasses for processes and synthetic resins or other products solely disclosed as made by a Class 204 process (except for (1)

products which contain two or more contiguous metallic layers and (2) products of processes classifiable in subclasses 157.15+ and 450+.) (See Lines With Other Classes, "Lines With And Search Notes To Articles Or Product Classes" above).

204, Chemistry: Electrical and Wave Energy, appropriate subclasses for a composition which is resinifiable or polymerizable under the influence of radiation and is of general utility or is not disclosed as useful for imaging. (See Lines With Other Classes, "Compound, Composition and material classes, Composition or Material, b.," above).

204, Chemistry: Electrical and Wave Energy, appropriate subclasses for a composition produced by a 204 process (except for (1) products which contain two or more contiguous metallic layers and (2) products of processes classifiable in subclasses 157.15+ and 450+). A patent containing claims or disclosure to both an imagery and nonimagery use will be classified as an original in Class 204 and cross-referenced to Class 430. (See Lines With Other Classes, Lines with and search notes to compound, composition, and material classes, Composition or Material, general search).

204, Chemistry: Electrical and Wave Energy, appropriate subclasses for products solely disclosed as made by a Class 204 process (except for (1) products which contain two or more contiguous metallic layers and (2) products of processes classifiable in subclasses 157.15+ and 450+). (See Lines With Other Classes, Lines with and search notes to articles or product classes.)

204, Chemistry: Electrical and Wave Energy, subclasses 157.15+ for chemical reactions brought about by wave energy; subclasses 164+ for chemical production of compounds or elements by using an electrostatic field or electrical discharge; subclasses 450+ for electrophoretic or electro-osmotic processes, especially subclasses 471+ for electrophoretic or electro-osmotic coating or forming of an object; subclasses 292+ for metallic electrode compositions useful in an electrolytic apparatus; and subclasses 600+ for electrophoretic or electro-osmotic apparatus, especially subclasses 622+ for apparatus used for electrophoretic or electro-osmotic coating or forming of an object. (See Lines With Other Classes, Lines with and search notes to process and apparatus classes, General relation with process and apparatus classes.)

204, Chemistry: Electrical and Wave Energy, provides for the combination of Class 430 subject matter and Class 204 subject matter, especially when the Class 204 subject matter does more than ordinarily perfect the post imaging processing. Class 430, Radiation Imagery Chemistry: Process, Composition, or Product Thereof, provides for electrophoretic imaging, electrostatic image transfer and electrolysis imaging. (See Lines With Other Classes, Lines and search notes to special classes.)

205, Electrolysis: Processes, Compositions Used Therein, and Methods of Preparing the Compositions, appropriate subclasses for electrolytic processes and products produced thereby (especially subclass 50) in which the products are solely disclosed as made by a Class 205 process (except for (1) products which contain two or more contiguous metallic layers and (2) products of processes classifiable in subclasses 640+). (See Lines With Other Classes, "Lines With And Search Notes To Articles Or Product Classes" above).

205, Electrolysis: Processes, Compositions Used Therein, and Methods of Preparing the Compositions, appropriate subclasses for electrolytic processes and products produced thereby (especially subclass 50) in which the products are solely disclosed as made by a Class 205 process (except for (1) products which contain two or more contiguous metallic layers and (2) products of processes classifiable in subclasses 640+). (See Lines With Other Classes, Lines with and search notes to compound, composition, and material classes, Composition or Material, general search).

205, Electrolysis: Processes, Compositions Used Therein, and Methods of Preparing the Compositions, appropriate subclasses for products produced by electrolytic processes (especially subclass 50) in which the products are solely disclosed as made by a Class 205 process (except for (1) products which contain two or more contiguous metallic layers and (2) products of processes classifiable in subclasses 640+). (See Lines With Other Classes, Lines with and search notes to articles or product classes.)

205, Electrolysis: Processes, Compositions Used Therein, and Methods of Preparing the Compositions, subclasses 52+ for electrolytic marking, subclasses 67+ for electro-forming, sub-

class 68 for recording device, subclass 69 for printing plate or electrotype, subclass 72 for ornamental article, subclasses 118+ for coating selected area, subclasses 120+ for design or ornamental article, subclass 127 for printing member. (See Lines With Other Classes, Lines with and search notes to process and apparatus classes, General relation with process and apparatus classes.)

206, Special Receptacle or Package, subclasses 316.1+ for an container optical or photographic means; subclasses 454+ for a container for fragile or sensitive type i.e., photo film or plate, specimen, or sheet slide, etc.; subclasses 484+ for laminate or photo slide, etc.; subclasses 524.1+ for package or special receptacle with specified material for the container or content, and subclass 578 for combined or convertible type assemblage kit for photography. (See Lines With Other Classes, "Lines With And Search Notes To Articles Or Product Classes" above).

210, Liquid Purification or Separation, appropriate subclasses for process and apparatus of treating a liquid to render the same pure. (See Lines With Other Classes, Lines with and search notes to process and apparatus classes, General relation with process and apparatus classes.)

216, Etching a Substrate: Processes, for disclosure (nonclaimed) of forming an image by radiation imagery and involving a claimed post imaging etching process. (Lines and search notes to special classes.)

219, Electric Heating, subclasses 600+ for inductive heating, subclasses 678+ for microwave heating, and subclasses 764+ for capacitive dielectric heating. (See Lines With Other Classes, Lines with and search notes to process and apparatus classes, General relation with process and apparatus classes.)

222, Dispensing, subclasses 92+ for dispensing collapsible wall-type containers; and Digest 1 for xerography. (See Lines With Other Classes, "Lines With And Search Notes To Articles Or Product Classes" above).

242, Winding, Tensioning, or Guiding, subclasses 430+ for composite article winding made particular by the process or apparatus by which elongated material is placed on a core to form a composite article, and subclasses 470+ for strand winding, and subclasses 520+ for convolute winding. (See Lines With Other Classes, Lines with and search notes to process and apparatus classes, General relation with process and apparatus classes.)

250, Radiant Energy, for nonchemically defined radiation sensitive product or a chemically defined product having significant apparatus structure; and subclasses 475.1+ for photographic type products adapted to be used with invisible radiation. (See Lines With Other Classes, "Lines With And Search Notes To Articles Or Product Classes" above).

250, Radiant Energy, for (a) forming an image using invisible radiation wherein neither a chemical reaction nor a chemically defined radiation sensitive receiver is involved, and (b) finishing (postimaging processing) the image by a nonchemical operation. subclass 271 for coded record and receiver; subclass 315.1 for source with charged plate-type detector; subclasses 316.1+ for infrared or thermal recording with photographic detector; subclasses 324+ for corona irradiation; subclasses 330+ for infrared-to-visible imaging; subclasses 423+ for ion generation; subclasses 458+ for luminophor irradiation; subclasses 472+ for devices other than electrical responsive to invisible radiation, especially subclass 473 for methods; subclass 475.1 for photographic type; subclasses 483+ for luminescent device; subclasses 492.1+ for irradiation of object or material; subclasses 493+ for radiant energy generation; and subclasses 505+ for radiation controlling means. (See Lines With Other Classes, Lines with and search notes to process and apparatus classes, Relation with special classes involving radiation imagery.)

250, Radiant Energy, provides for (a) forming an image using invisible radiation wherein neither a chemical reaction nor a chemically specified receiver is involved, (b) finishing (post imaging processing) the image by nonchemical processing (operation of machine), and (c) a nonchemically defined product or a chemically defined product having significant apparatus structure. (See Lines With Other Classes, Lines and search notes to special classes.)

252, Compositions, subclass 182.11 and 364 for chemical agents or materials and solvents which are not solely disclosed or claimed for treating images in a Class 430 process. (See Lines With Other Classes, "Lines With And Search Notes To Compound, Composition, And Material Classes, Composition or Material, b." above).

252, Compositions, subclasses 582+ for optical filter compositions which may be useful as a component of a radiation sensitive element. (See Lines With Other Classes, "Lines With And Search Notes To Compound, Composition, And Material Classes, Composition or Material, c." above).

252, Compositions, for radiation affected compositions whose use are not limited to radiation imagery by claims or disclosures and not provided by a Class 204 process. subclass 600 is the residual subclass for radiation compositions not containing a synthetic resin for which see Class 520. (See Lines With Other Classes, Lines with and search notes to compound, composition, and material classes, Composition or Material, general search).

252, Composition, appropriate subclasses for the process of making hereinafter named radiation affecting compositions (not limited by claim or disclosure for use in radiation imagery chemistry); subclasses 62.3+ for barrier layer device; subclasses 62.51+ for magnetic; subclass 62.9 for piezoelectric; subclasses 63+ for dielectric or electrically insulating; subclasses 79.1+ for etching or brightening; subclass 88 for sweeping or dust particle adherent; subclasses 299.01+ for liquid crystal; subclasses 582+ for optical filter; subclasses 301.16+ for organic luminescent material containing; subclass 301.36 for inorganic luminescent composition with organic nonluminescent material; subclasses 301.4+ for inorganic luminescent; subclass 478 for X-ray or neutron shield; subclasses 500+ for electrically conductive or emissive, especially 501.1 for light sensitive type; and subclass 600 for radiation sensitive. (See Lines With Other Classes, Lines with and search notes to process and apparatus classes, General relation with process and apparatus classes.)

252, Compositions, provides for the hereinafter named radiation affecting compositions not limited by claim or disclosure for use in radiation imagery, subclasses 62.3+ for barrier layer device; subclass 62.51 for magnetic; subclass 62.9 for piezoelectric; subclasses 63+ for dielectric or electrically insulating; subclasses 79.1+ for etching or brightening; subclasses 88.1 and 88.2 for dust suppressant or particle adherent compositions, respectively; subclasses 299.01+ for liquid crystal; subclass 301.16 for organic luminescent material containing; subclass 301.36 for inorganic luminescent composition with organic nonluminescent material; subclasses 301.4+ for inorganic luminescent; subclass 478 for X-ray or neutron shield; subclasses 500+ for electrically conductive or emissive, especially subclass 501.1 for light sensitive type; subclasses 582+ for optical filter; and subclass 600 for residual place for radiation sensitive composition. Dual disclosures [radiation sensitive composition for use with radiation imagery and other use(s)] except those containing a synthetic resin (see Class 520) will be classified in Class 252 and cross-referenced to Class 430. (See Lines With Other Classes, Lines and search notes to special classes.)

257, Active Solid-State Devices (e.g., Transistors, Solid-State Diodes), subclasses 10, 11, 21, 53-56, 72, 113-118, 184-189, 225-234, 257, 258, 290-294, and 414+ for radiation responsive active semiconductor devices. (See Lines With Other Classes, "Lines With And Search Notes To Articles Or Product Classes" above).

260, Chemistry of Carbon Compounds, for an organic compound having a Class 430 utility. This portion of Class 260 is being reclassified into the 530-570 series of Classes. See the search notes below. (See Lines With Other Classes, Lines with and search notes to compound, composition, and material classes.)

260, Chemistry of Carbon Compounds, for processes of making an organic compound having a Class 430 utility and the product of such a process. (See Lines With Other Classes, Lines with and search notes to process and apparatus classes, General relation with process and apparatus classes.)

264, Plastic and Nonmetallic Article Shaping or Treating: Processes, subclass 21 for shaping or treating luminescent material. (See Lines With Other Classes, Lines with and search notes to process and apparatus classes, General relation with process and apparatus classes.)

283, Printed Matter, appropriate subclasses for subject matter of that class in the form of an image. (See Lines With Other Classes, "Lines With And Search Notes To Articles Or Product Classes" above).

313, Electrical Lamp and Discharge Devices, subclass 153 for device having means for generating a magnetic field; subclass 329 for mosaic electrode; subclasses 359.1+ for device with positive or negative ion acceleration; subclasses 483+ for device with luminescent solid or liquid material, especially subclasses 498+

for solid-state type; and subclasses 523+ for photosensitive device. (See Lines With Other Classes, "Lines With And Search Notes To Articles Or Product Classes" above).

343, Communications: Radio Wave, subclass 17 for means to produce an image from radio waves. (See Lines With Other Classes, Lines with and search notes to process and apparatus classes, General relation with process and apparatus classes.)

346, Recorders, for a nonchemically defined radiation sensitive record receiver used in a Class 346 recorder and a chemically defined radiation sensitive record receiver having significant Class 346 apparatus structure. subclasses 134+ for a laminated, impregnated, or coated record receiver having structure provided for in Class 346. (See Lines With Other Classes, "Lines With And Search Notes To Articles Or Product Classes" above).

346, Recorders, for forming a record of movement or phenomenon not involving a chemical reaction or a chemically defined radiation sensitive receiver and a recording apparatus having chemical material. subclasses 2+ for phenomenal apparatus and process recording; subclass 74.2 for magnetic pictorial or graphic means; subclass 76.1 for pyrographic and thermochemical means; subclass 107.1 for recorder with photosensitive record receiver; and subclasses 150.1+ for electric recording (apparatus and process). (See Lines With Other Classes, Lines with and search notes to process and apparatus classes, Relation with special classes involving radiation imagery.)

346, Recorders, for (a) forming a record of movement or phenomenon not involving a chemical reaction or a chemically defined radiation sensitive receiver, (b) a nonchemically defined radiation sensitive record receiver used in Class 346, Recorder, (c) a chemically defined radiation sensitive receiver having significant Class 346 apparatus structure, and (d) recording apparatus with chemical composition. A patent disclosing (claiming both (a) above and forming an image record involving a chemical reaction a chemically defined radiation sensitive receiver, or (b) a chemically defined radiation sensitive record receiver will be classified in Class 430 and cross-referenced to Class 346. A patent claiming (c) or (d) will be classified in Class 346 and crossed to Class 430. When subject matter of both classes is presented in the same patent, Class 430 is considered superior. (See Lines With Other Classes, Lines and search notes to special classes.)

347, Incremental Printing of Symbolic Information, subclasses 112+ for electrostatic marking, particularly subclasses 129+ for photo scanning by beam of charged particles or light, subclasses 171+ for thermal marking, and subclasses 224+ for light or beam marking apparatus or processes. (See Lines With Other Classes, Lines with and search notes to process and apparatus classes, Relation with special classes involving radiation imagery.)

348, Television, subclasses 32+ for pseudo color; subclasses 40+ for holography; subclasses 739+ for image reproducer, especially subclasses 755, 764, and 770+ for deformation medium having specific composition. Also cross-reference art collection 902 for photochromic. (See Lines With Other Classes, Lines with and search notes to process and apparatus classes, General relation with process and apparatus classes.)

351, Optics: Eye Examining, Vision Testing and Correcting, subclasses 163+ for ophthalmic lenses or blanks with filtering means. (See Lines With Other Classes, "Lines With And Search Notes To Articles Or Product Classes" above).

352, Optics: Motion Pictures, subclasses 232+ for motion picture carrier, per se, or having cooperating apparatus structure (see search notes thereunder). (See Lines With Other Classes, "Lines With And Search Notes To Articles Or Product Classes" above).

352, Optics: Motion Pictures, for process not involving a chemical reaction or a chemically defined radiation receiver for recording and exhibiting motion pictures, using motion pictures and of nonchemical treating and working a motion picture carrier. subclass 5 for producing or reproducing motion pictures with synchronized sound; and subclasses 38+ for motion picture process not having sound accompaniment. (See Lines With Other Classes, Lines with and search notes to process and apparatus classes, Relation with special classes involving radiation imagery.)

353, Optics, Image Projectors, subclass 84 for color filters; and subclass 120 for picture carrier. (See Lines With Other Classes, "Lines With And Search Notes To Articles Or Product Classes" above).

353, Optics: Image Projectors, subclasses 30+ for projector for composite image; and subclass

120 for process involving the class subject matter. (See Lines With Other Classes, Lines with and search notes to process and apparatus classes, Relation with special classes involving radiation imagery.)

355, Photocopying, appropriate subclasses for copies produced or used by subject matter of the class and subclasses 122+ for frame structure. (See Lines With Other Classes, "Lines With And Search Notes To Articles Or Product Classes" above).

355, Photocopying, for the generic locus for apparatus (per se, or significant apparatus combined with chemical material) and process (not involving a chemical reaction or a chemically defined radiation receiver) for photographically copying, certain nonchemical combinations, subcombinations, and perfecting features pertaining to same, e.g., film developing, holders for original or photosensitive paper, etc. Search subclass 2 for holographic copying; subclasses 3+ for electric photographic apparatus and process of copying; subclasses 18+ for projecting printing and copying camera; subclass 77 for the related process; subclasses 78+ for contact printing copying; subclass 132 for the related process; and subclasses 122+ for frame structure. (See Lines With Other Classes, Lines with and search notes to process and apparatus classes, Relation with special classes involving radiation imagery.)

358, Facsimile and Static Presentation Processing, subclasses 1.1 through 1.18 for data processing for presentation on fixed medium (e.g., paper), subclasses 500-540 for natural color facsimile; subclasses 296-304 for recording apparatus, especially subclass 298 for halftone; subclass 300 for electrostatic; subclass 301 for magnetic; and subclass 303 for photographic. (See Lines With Other Classes, Lines with and search notes to process and apparatus classes, General relation with process and apparatus classes.)

359, Optical: Systems and Elements, subclasses 478+ for relief illusion device; subclasses 885+ for nonchemically defined filter; subclass 893 for screen or mask; subclasses 36+ for elements using liquid crystal material; subclasses 1+ for holographic element; and subclasses 483.01-494.01 for polarizers. (See Lines With Other Classes, Lines With And Search Notes To Articles or Product Classes above).

359, Optical: Systems and Elements, subclasses 1+ for holographic systems; subclasses 36+ for apparatus utilizing a liquid crystal material; and subclasses 290+ for device for controlling light by changing optical or physical properties of a light control surface or interface and subclass 900 for a cross-reference art collection of optical methods. (See Lines With Other Classes, Lines with and search notes to process and apparatus classes, Relation with special classes involving radiation imagery.)

360, Dynamic Magnetic Information Storage or Retrieval, subclasses 131+ for record medium, especially subclass 134 for tape; subclass 135 for disk; and subclass 136 for drum. (See Lines With Other Classes, "Lines With And Search Notes To Articles Or Product Classes" above).

360, Dynamic Magnetic Information Storage or Retrieval, for general dynamic magnetic recording or reproducing which includes specific structure of a record carrier. subclasses 1+ for recording or reproducing from an element of diverse utility, especially subclass 3 for motion picture film; subclass 15 for record copying; subclasses 55+ for general recording or reproducing; and subclass 59 for thermomagnetic. (See Lines With Other Classes, Lines with and search notes to process and apparatus classes, Relation with special classes involving radiation imagery.)

361, Electricity: Electrical Systems and Devices, subclasses 225+ for electric charging of objects or materials. (See Lines With Other Classes, Lines with and search notes to process and apparatus classes, General relation with process and apparatus classes.)

362, Illumination, subclass 2 for daylight lighting including selective wavelength modifier; subclasses 3+ for photographic lighting; subclass 34 for chemiluminescent lighting; subclass 84 for light source or light source support and luminescent material; subclasses 257+ for light source (or support therefor) and modifier, especially subclass 259 for laser type; subclass 260 for fluorescent type; subclasses 261+ for carbon arc type; subclasses 263+ for ionized gas or vapor light source; subclass 266 for nonelectric type; and subclasses 317+ for light modifiers. (See Lines With Other Classes, Lines with and search notes to process and apparatus classes, General relation with process and apparatus classes.)

365, Static Information Storage and Retrieval, for imparting information in a nonchemically

defined radiation sensitive receiver using radiant energy. subclasses 106+ for use of radiant energy to alter a storage material which is usually read out electrically, especially subclass 107 for chemical fluids; subclass 108 for liquid crystal; subclass 109 for photoconductors and ferroelectric; subclass 110 for electroluminescent and photoconductive; subclass 111 for electroluminescent; subclass 113 for amorphous; subclasses 114+ for semiconductor; subclass 117 for ferro-electric; subclass 118 for electron beam affected material; and subclass 119 for color center (radiation responsive). (See Lines With Other Classes, Lines with and search notes to process and apparatus classes, Relation with special classes involving radiation imagery.)

369, Dynamic Information Storage or Retrieval, subclass 272.1 for an element having dynamically stored information (e.g., sound) thereon, particularly subclasses 284-285 for an optical information storage element not chemically defined. Class 430 provides for such a storage element when it is chemically defined. (See Lines With Other Classes, "Lines With And Search Notes To Articles Or Product Classes" above).

369, Dynamic Information Storage or Retrieval, subclasses 100+ for optical information recording or reproduction. (See Lines With Other Classes, Lines with and search notes to process and apparatus classes, General relation with process and apparatus classes.)

369, Dynamic Information Storage or Retrieval, subclasses 100+ provide for the dynamic storage of information by radiation modified chemical action to the storage medium. Class 430 provides for radiation imagery process of chemically forming a sound record or the product of the process chemically defined. (See Lines With Other Classes, Lines with and search notes to process and apparatus classes, Relation with special classes involving radiation imagery.)

369, Dynamic Information Storage or Retrieval, subclasses 100+ for dynamic storage by a radiation induced chemical change; and subclass 272.1 for storage elements, particularly subclasses 284-285 for a nonchemically defined photosensitive surface. This class (430) provides for a radiation imagery process of information storage, or a chemically defined storage element. (See Lines With Other Classes, Lines and search notes to special classes.)

378, X-Ray or Gamma Ray Systems or Devices, appropriate subclasses. Note the class lines described in the reference to Class 250. (See Lines With Other Classes, Lines with and search notes to process and apparatus classes, Relation with special classes involving radiation imagery.)

386, Motion Video Signal Processing for Recording or Reproducing, appropriate subclasses for video recording or reproduction.

396, Photography, for the generic locus for photographic apparatus, fluid treating (post imaging) apparatus, subcombinations of such apparatus, accessories related to photography, and related nonchemical processes or process of operating the apparatus. Subclasses for apparatus and process include subclasses 1+ for studio structure; subclasses 30+ for developing cameras; subclasses 305+ for color using monochrome film; subclasses 322+ for plural image recording; subclasses 429+ for combined or convertible devices; subclasses 549+ for phototype composing; and subclasses 564+ for post imaging fluid treatment. (See Lines With Other Classes, "Lines With And Search Notes To Articles Or Product Classes" and "Lines With And Search Notes To Process And Apparatus Classes, Relation With Special Classes Involving Radiation Imagery" above.)

399, Electrophotography, subclasses 9+ for diagnostics, subclasses 38+ for controls, subclasses 130+ for image formation, subclasses 168+ for charging, subclasses 177+ for exposure, subclasses 222+ for development, subclasses 297+ for transfer, subclasses 320+ for fixing, subclasses 343+ for cleaning, and subclasses 361+ for document handling. (See Lines With Other Classes, "Lines With And Search Notes To Articles Or Product Classes").

399, Electrophotography, subclasses 9+ for diagnostics, subclasses 38+ for controls, subclasses 130+ for image formation, subclasses 168+ for charging, subclasses 177+ for exposure, subclasses 222+ for development, subclasses 297+ for transfer, subclasses 320+ for fixing, subclasses 343+ for cleaning, and subclasses 361+ for document handling. (See Lines With Other Classes, Lines with and search notes to process and apparatus classes, General relation with Process And Apparatus Classes.)

399, Electrophotography, for apparatus (per se, or significant apparatus combined with chemical material) and process (not involving a chemical reaction or a chemically defined radiation

receiver) for electrophotographically reproducing information in the form of an image, certain nonchemical combinations, subcombinations, and perfecting features pertaining to same, search subclasses 9+ for diagnostics, subclasses 38+ for controls, subclasses 130+ for image formation, subclasses 168+ for charging, subclasses 177+ for exposure, subclasses 222+ for development, subclasses 297+ for transfer, subclasses 320+ for fixing, subclasses 343+ for cleaning, and subclasses 361+ for document handling. (See Lines With Other Classes, Lines with and search notes to process and apparatus classes, Relation with special classes involving radiation imagery.)

401, Coating Implements With Material Supply, subclasses 132+ for implement including rupturable means or sealed-cartridge receiver. (Relation with special classes involving radiation imagery.)

423, Chemistry of Inorganic Compounds, appropriate subclasses for an inorganic compound or nonmetallic element having a Class 430 utility. (See Lines With Other Classes, Lines With And Search Notes To Compound, Composition And Material Classes.)

423, Chemistry of Inorganic Compounds, the following subclasses for inorganic elements (compounds of same) used in radiation imagery chemistry: subclasses 23+ for treating mixture to obtain Group IB metal (Cu, Ag, or Au); subclasses 99+ for Group IIB metal (Zn, Cd, or Hg); subclass 508 for selenium or tellurium or compound thereof; and subclass 622 for zinc oxide compound. (See Lines With Other Classes, Lines with and search notes to process and apparatus classes, Relation With Special Classes Involving Radiation Imagery.)

427, Coating Processes, subclass 7 for coating to detect fraud or tampering; subclasses 457+ for direct application of electrical, magnetic, wave, or particulate energy, especially subclasses 487+ for polymerization of applied coating utilizing direct application of electrical, magnetic, wave, or particulate energy; subclasses 523+ utilizing ion plating or ion implantation; subclasses 569+ for deposition coating processes utilizing plasma deposition; subclasses 580+ for deposition coating processes utilizing electrical discharges; subclass 581 for deposition coating processes utilizing chemical liquid deposition; 582+ for deposition coating processes utilizing photo initiated chemical vapor deposition; 585+ for deposition coating processes utilizing chemical vapor deposition; subclass 591 for deposition coating processes utilizing induction or dielectric heating; subclass 592 for deposition coating processes utilizing resistance heating; subclass 595 for deposition coating utilizing electromagnetic or particulate radiation; subclasses 598+ for deposition coating processes utilizing magnetic field or force, 600+ for deposition coating processes utilizing sonic or ultrasonic energy; subclass 143 for stencil blank making; 145 for formation of latent image or developing the same and subclass 146 for transfer or copy sheet making. (See Lines With Other Classes, Lines with and search notes to process and apparatus classes, General relation with process and apparatus classes.)

427, Coating Process, takes the process of coating: (a) not combined with radiation imagery process, (b) involving use of radiation during coating which does not involve a chemical reaction (Class 204 subject matter), and (c) resulting in a product (composition) for other than radiation imagery. Class 430, Radiation Imagery Chemistry: Process, Composition, or Product Thereof, provides for a process of: (1) coating a base with a radiation sensitive material alone or combined with a nonradiation sensitive material to make a radiation imaging receiver, (2) utilizing radiant energy (a) to form an image, or (b) to finish an image so formed; either (a) or (b) alone combined with a coating operation, (3) post imaging process utilizing coating operation to finish an image, and (4) perfecting or protecting a finished image by a coating operation. Dual disclosures will go to Class 427. (See Lines With Other Classes, Lines and search notes to special classes.)

428, Stock Material or Miscellaneous Articles, subclass 1 for a stock liquid crystal; subclasses 29+ for an article having a latent image formed by means other than radiation imagery; and appropriate subclasses for nonradiation sensitive stock material disclosed for use in radiation imagery. (See Lines With Other Classes, “Lines With And Search Notes To Articles Or Product Classes”).

428, Stock Material or Miscellaneous Articles, provides for stock-liquid crystal, an article having a latent or developable image formed other than by use of radiation, and nonradiation sensitive stock material disclosed for use in radiation imagery. Class 430, Radiation Imagery Chemistry: Process, Composition, or Product

Thereof, provides for a product (article) which is either (a) imaged and defined by its composition, (b) radiation sensitive and limited by claims or disclosure for use in radiation imagery, or (c) a product of radiation imagery (not elsewhere classified). (See Lines With Other Classes, Lines and search notes to special classes.)

430, Radiation Imagery Chemistry: Process, Composition, or Product Thereof, provides for radiation imagery process of forming a sound record or the product chemically defined. (See Lines With Other Classes, Lines with and search notes to process and apparatus classes, Relation with special classes involving radiation imagery.)

432, Heating, subclasses 9+ for process of heating or heater operation involving treating an article, container, batch, or body as a unit. (See Lines With Other Classes, Lines with and search notes to process and apparatus classes, General relation with process and apparatus classes.)

436, Chemistry: Analytical and Immunological Testing, subclasses 1+ for analytical control methods. (See Lines With Other Classes, Lines with and search notes to process and apparatus classes, General relation with process and apparatus classes.)

438, Semiconductor Device Manufacturing: Process, appropriate subclass for methods of making semiconductor devices; see the search notes therein. (See Lines With Other Classes, Lines with and search notes to process and apparatus classes, General relation with process and apparatus classes.)

451, Abrading, subclasses 29+ for finishing a workpiece by abrading, especially using a stencil or shield. (See Lines With Other Classes, Lines with and search notes to process and apparatus classes, General relation with process and apparatus classes.)

462, Books, Strips, and Leaves for Manifolding, subclasses 69+ for manifolding process wherein printing is transferred from one sheet to another by use of carbon or some other transferable material. (See Lines With Other Classes, Lines with and search notes to process and apparatus classes, General relation with process and apparatus classes.)

520, Synthetic Resins or Natural Rubbers, for a synthetic resin, per se, having a Class 430 utility, and for compositions containing a synthetic resin and not solely disclosed as having a Class 430 imaging use. (See Lines With Other Classes, Lines with and search notes to compound, composition, and material classes.)

504, Plant Protecting and Regulating Compositions, (See Lines With Other Classes, Composition or Material).

520, Synthetic Resins or Natural Rubbers, for synthetic resin compositions disclosed as having a Class 430 imaging use but not limited thereto. (See Lines With Other Classes, "Lines with and Search Notes To Compound, Composition, And Material Classes, Composition or Material, b." above.)

520, Synthetic Resins or Natural Rubbers, for synthetic resin compositions useful as a component of a radiation sensitive element, e.g., backing, overcoat, subing, etc. (See Lines With Other Classes, "Lines With And Search Notes To Compound, Composition, And Material Classes, Composition or Material, c.")

520, Synthetic Resins or Natural Rubbers, for synthetic resins mixtures which may be radiation sensitive, and which utility is not provided elsewhere. (See Lines With Other Classes, Lines with and search notes to process and apparatus classes, General relation with process and apparatus classes.)

542, Organic Compounds, which provides for heterocyclic cyanine dyes, many of which are useful as sensitizers in Class 430 silver halide emulsions. (See Lines With Other Classes, Lines with and search notes to compound, Lines with and search notes to compound, composition, and material classes, Composition and material classes.)

536, Organic Compounds, for cellulose or its derivative, per se, useful as an ingredient in a radiation sensitive element, e.g., cellulose ester suitable for a film base, etc. (See Lines With Other Classes, "Lines With And Search Notes To Compound, Composition, And Material Classes, Composition or Material, c.")

720, Dynamic Optical Information Storage or Retrieval, subclasses 718 through 746 for optical storage medium structure.

D16, Photographic and Optical Equipment, appropriate subclasses for designs pertaining to subject matter of the class. (See Lines With Other Classes, Lines with and search notes to process and apparatus classes, Relation with special classes involving radiation imagery.)

SECTION IV - GLOSSARY

ADDITIVE COLOR A

color (red, green, blue) when added to the other two additive colors produce white.

CARBOHYDRATE A

polyhydroxy mono-aldehyde and a polyhydroxy mono-ketone, generally having the formula C (H_2O) and substances which are hydrolyzed to these. The term includes cellulose, starch, dextran, and sugar.

CHEMICAL PROCESS A

process involving a chemical reaction or the recitation of chemical composition, compound, etc., in the claims which are involved in a chemical reaction during the process.

COLOR IMAGE IN OR ON AN IMAGE RECORD

At least a portion of the image record absorbs only part of the light in the visible electromagnetic spectrum, excludes black image on white background, or vice versa, includes black image on green background.

DRY TONER

Particulate material which develops an electrostatic, magnetic, or electrical image by attraction of the particulate material to the image.

EXPOSURE

Application of radiation to form or perfect an image.

HETEROCYCLIC

Organic compound containing a ring composed of carbon and at least one element from the group consisting of nitrogen, sulfur, selenium, tellurium, and oxygen.

IDENTIFIED

A substance, layer, or product is considered identified when it is claimed in terms of its chemical constitution instead of merely its function. The terms “organic” and “inorganic” are not considered identified, but any other positive chemical identification is considered sufficient even if generic, e.g., heterocyclic, synthetic resin, hydrocarbon, etc. Negative definition, per se, e.g., non-aqueous, etc., is not considered identification, but if combined with sufficient other material, e.g., nonaqueous alcohol. The term acid or base or their equivalents are considered identification. The identification of any ingredient of a layer is sufficient to make the layer identified.

IMAGE

The likeness or reproduction of (a) an object, or (b) an instrumented or discernible phenomenon.

IMAGING

The application of radiation to form an image.

IMAGE RECORD

A record, made using an imaging process, where the image is located, e.g., the image may be in or on a radiation conductor containing element or may be in or on receptor element, etc.

MONOCHROME IMAGE

An image which absorbs only part of the light in the visible electromagnetic spectrum.

RADIATION

The propagation of energy through space or through a material. It may be in the form of electromagnetic waves, corpuscular emissions, or sound waves. The format is usually categorized according to frequency, e.g., Hertzian, infrared, (visible) light, ultraviolet, X-rays, gamma rays, etc., corpuscular emissions are categorized as alpha, beta, or cosmic.

RECEPTOR ELEMENT

An element which receives a transferred image from another element.

STRUCTURALLY DEFINED

Defined in terms of: (a) numerical or relative dimension; e.g., 5 microns thick, twice as long as wide, etc. As applied to products or layers, it is the overall exterior dimension of either the completed product or an individual layer; (b) plural, non-coextensive layers, e.g., leader strip, etc., however, nonuniform or non-coextensive images are not considered structure; (c) overall mechanical shape, except mere rectangular or planar, e.g., roll of film sprocket holes, etc.

STRIPPING LAYER

A layer or layers which are part of a combination of plural layers which layer or layers are strippable from a layer immediately adjacent to it or are capable of separating by internal cohesive failure.

SUBTRACTIVE COLOR

A color (cyan, magenta, and yellow) which when combined with another subtractive color produces an additive color (red, green, blue).

SUBCLASSES

1 HOLOGRAPHIC PROCESS, COMPOSITION OR PRODUCT:
This subclass is indented under the class definition. Composition or product involving a hologram.

SEE OR SEARCH CLASS:
348, Television, subclasses 40+ for use of holographic techniques for processing color information.
355, Photocopying, subclass 2 for holographic copying.
359, Optical: Systems and Elements, subclasses 1+ for holographic system or element.

2 Composition or product or process of making the same:
This subclass is indented under subclass 1. Composition or product , also the process of making the same.

3 USE OF SOUND OR NONDIGITAL COMPRESSIVE FORCE:
This subclass is indented under the class definition. Processes for using sound waves or a compressive force (wherein the means producing the compression does not touch the image receiver) to form or otherwise perfect the image.

SEE OR SEARCH CLASS:
73, Measuring and Testing, subclasses 570+ for vibration measuring and testing, especially subclasses 632+ for sonic wave apparatus.
116, Signals and Indicators, subclass 2 for the use of ultrasonic device for diagnostic purposes which may include taking a picture with sound.
367, Communications, Electrical: Acoustic Wave Systems and Devices, subclasses 7+ for electro acoustic imaging systems.

4 RADIATION MODIFYING PRODUCT OR PROCESS OF MAKING:
This subclass is indented under the class definition. Products chemically defined which functions to modify the radiation during imaging and is in the form of a photomask, screen, etc., or the process of making same or like products.

SEE OR SEARCH THIS CLASS, SUBCLASS:
510+, for antihalation or filter layer containing product.

SEE OR SEARCH CLASS:
360, Dynamic Magnetic Information Storage or Retrieval, subclasses 131+ for record medium, especially subclass 134 for tape; subclass 135 for disk; and subclass 136 for drum.

5 Radiation mask:
This subclass is indented under subclass 4. Subject matter wherein the light modifying means is in the form of a radiation mask.

SEE OR SEARCH CLASS:
216, Etching a Substrate: Processes, for disclosure (nonclaimed) of forming an image by radiation imagery and involving a claimed post imaging etching process.

6 Screen other than for cathode-ray tube:
This subclass is indented under subclass 4. Subject matter wherein the light modifying means consist of sets of opaque lines crossing each other on a transparent substrate, the substrate consist of a series of small holes or some other similar structure which breaks up the radiation.

SEE OR SEARCH THIS CLASS, SUBCLASS:
23, for the so-called cathode-ray tube screen.

SEE OR SEARCH CLASS:

313, Electric Lamp and Discharge Devices, subclasses 461+ for cathode-ray tube screens.

7 Color:

This subclass is indented under subclass 6. Subject matter used to produce color.

8 MICROGRAPHY, PROCESS, COMPOSITION, OR PRODUCT OTHER THAN MICROELECTRONIC DEVICE MANUFACTURE:

This subclass is indented under the class definition. Processes wherein an image of the order of less than a few microns in size of an object, or of an instrumented or discernible phenomenon is produced in a medium, such as images produced in microfilm or microfiche, etc.; radiation sensitive or image receiving compositions and products manufactured, or specially adapted for use in obtaining images less than a few microns in size; and processes of making the composition or product.

SEE OR SEARCH THIS CLASS, SUBCLASS:

56+, 154+, 264+, 270.1+, 338+, 367+, and 495.1+ for radiation-sensitive compositions and products disclosed to have general utility in micrography, but not specially adapted or made for use in micrography.

311+, for microelectronic device manufacture.

SEE OR SEARCH CLASS:

40, Card, Picture, or Sign Exhibiting, subclasses 701+, especially subclass 703 for aperture cards with image carrying microfilm; and subclasses 361+ for microfilm views.

353, Optics: Image Projectors, for microfilm viewers with image projection on screen.

355, Photocopying, subclasses 18+ for photocopying apparatus used in micrography; and subclass 1 for apparatus used in micrography combined with fiber optics.

9 IMAGED PRODUCT:

This subclass is indented under the class definition. Products containing an image defined in terms of its chemical composition.

SEE OR SEARCH CLASS:

40, Card, Picture, or Sign Exhibiting, subclasses 427+ for a display of art having an enhanced visual effect, which work may include a photograph not defined in terms of its composition.

428, Stock Material or Miscellaneous Articles, subclasses 195+ for a photograph not defined in terms of its composition.

10 Antifraud or antitampering:

This subclass is indented under subclass 9. Products having a material or feature which prevents or makes known an attempt to use the imaged product in a fraudulent manner or to tamper therewith.

(1) Note. Included herein is an imaged product containing an ingredient which upon exposure to the strong light typically employed in electric photographic copying equipment, causes the image to become blurred or otherwise obscured.

SEE OR SEARCH CLASS:

194, Check-Controlled Apparatus, subclasses 97+ especially subclass 100 for a material test in a fraud preventive apparatus.

250, Radiant Energy, subclass 271 for invisible radiant energy record and receiver.

283, Printed Matter, subclasses 72+ and 902 for fraud preventing or detecting in printed matter.

427, Coating Processes, subclass 7 for coating process involving fraud or tamper detecting.

428, Stock Material or Miscellaneous Article, cross-reference art collection 916 for fraud or tampering subject matter.

11 Structurally defined:

This subclass is indented under subclass 9. Product defined in terms of its mechanical structure.

(1) Note. The term “structurally defined” is defined in the Glossary.

12 Nonuniform or noncoextensive layer added to finished imaged product:
This subclass is indented under subclass 11. Products wherein after an image has been finished to its desired final state another layer has been added to the product which layer is either nonuniform in physical dimensions or physical or chemical properties or which layer is not coextensive with the imaged product. The nonuniformity may, e.g., be in thickness or color, or the added layer may be added to only a part of the imaged product. The nonuniformity may be as a wrinkled, stippled, marbleized, or wood grain effect. There must be intent to produce a nonuniform layer, thus coating a previously roughened imaged product which necessarily results in a nonuniform coating is not included.

(1) Note. Addition of a layer by a step or metal working mechanical manufacture is placed in the appropriate class for the mechanical manufacturing step.

SEE OR SEARCH CLASS:
40, Card, Picture, or Sign Exhibiting, for an imaged product combined with structured exhibiting devices for that class.

13 Image contained within transparent base:
This subclass is indented under subclass 9. Products wherein the image is contained in transparent component, e.g., plastic, glass, etc.

14 Multilayer:
This subclass is indented under subclass 9. Products which contain an identified layer in addition to an identified image layer and one identified backing or protective layer.

(1) Note. Included in the indented subclass hereunder are products containing two or more identified image layers even if no base or support layer is identified.

15 Plural image layers:
This subclass is indented under subclass 14. Products containing two or more layers each containing an image provided for in this class.

16 Deposited metal coating on image:
This subclass is indented under subclass 9. Products wherein a metal is deposited on the already formed image. Typically, a metal is deposited on a silver image by a so-called electroless plating process.

17 Nonsilver image:
This subclass is indented under subclass 9. Products in which the image is not a metallic silver image. This subclass includes, for example, products in which the image composed of a dye or pigment or of a metal other than silver, or the image is formed by the edges of layers of a radiation sensitive colloid layer which has been imagewise exposed and developed.

18 Including resin or synthetic polymer:
This subclass is indented under subclass 9. Products containing a resin or synthetic polymer.

19 ERASABLE IMAGING:
This subclass is indented under the class definition. Processes wherein a visible or retrievable image is at least partially removed by a specified processing procedure.

SEE OR SEARCH THIS CLASS, SUBCLASS:
20, 31+, 532, and 962, for radiation-sensitive compositions and products and methods of using those compositions and products for unclaimed functions and features of erasing images.

SEE OR SEARCH CLASS:
346, Recorders, subclass 21 for recorders combined with record deleting means.
360, Dynamic Magnetic Information Storage or Retrieval, subclasses 25, 57, and 66 for partial or complete erasure of information in a dynamic magnetic storage medium.
396, Photography, subclasses 655+ for photographic retouching apparatus.

20 LIQUID CRYSTAL PROCESS, COMPOSITION, OR PRODUCT:
This subclass is indented under the class definition. Processes wherein an image is produced in or defined by a liquid crystal material, radiation-sensitive composition or product of a liq-

uid crystal material used in the process, and process of making the radiation sensitive composition or product.

SEE OR SEARCH THIS CLASS, SUBCLASS:

1+, for liquid crystal used in holographic process, composition, and product involving use of a chemically named receiver or wherein a chemical reaction results in formation of hologram.

19, for liquid crystal used in process wherein an image made using radiation chemistry is erased.

SEE OR SEARCH CLASS:

250, Radiant Energy, subclass 331 for nonchemical infrared to visible imaging including liquid crystal detector.

252, Compositions, subclasses 299.01+ for liquid crystal composition and article defined by such composition not disclosed or claimed for use in imagery; and subclasses 582+ for liquid crystal composition, and article defined by such composition used as optical filter.

260, Chemistry of Carbon Compounds, subclasses 544+ for cholesteremic liquid crystal compound.

349, Liquid Crystal Cells, Elements and Systems, appropriate subclasses for a liquid crystal material and especially subclass 24 for radiation sensitive excitation in liquid crystal devices and subclasses 182+ for a particular composition of a liquid crystal material.

359, Optical: Systems and Elements, subclasses 1+ for liquid crystal used in nonchemical holographic process and in holographic device.

360, Dynamic Magnetic Information Storage or Retrieval, of liquid crystal used to store or retrieve dynamic information stored magnetically.

365, Static Information Storage and Retrieval, subclass 108 for liquid crystal used to store or retrieve static information.

428, Stock Material or Miscellaneous Articles, subclass 1 for liquid crystal stock material not especially adapted or made for use in imaging.

21 RETRIEVING IMAGE MADE USING RADIATION IMAGERY:

This subclass is indented under the class definition. Processes wherein a specified process step of retrieving an image, such as by optically projecting the image upon a screen, from an image carrying chemically identified receiver or from an image formed by a chemical reaction. Included procedures for retrieving the image are optical, magnetic, or electrical in nature. Merely viewing the image with the eye is not considered a specified process for the subclass.

SEE OR SEARCH THIS CLASS, SUBCLASS:

1+, for holographic process combined with retrieving the hologram.

5, for image carrying optical mask capable of optically reproducing the image upon a radiation-sensitive product.

20, for the retrieval of image in liquid crystal material.

31, 97, 139, and other process subclasses wherein a latent or visible image is finished or perfected by producing an invisible or visible image and for disclosed but not specified (unclaimed) image retrieval process.

SEE OR SEARCH CLASS:

250, Radiant Energy, appropriate subclasses for nonchemical devices and process of this type; subclass 271 for device and process used for nonchemical detection of invisible radiation or conversion to electrical signal of information in symbolic or nonphotographic form; subclasses 336+ for device or process wherein nonchemical invisible radiant energy imaging of a medium produces an electrical potential difference or a current flow; subclasses 199+ and 458+ for device or process wherein a nonchemical image is retrieved or detected using light-wave communication such as with a photocell; and subclasses 472+ for device or process wherein nonchemical invisible radiant energy imaging of a medium produces a nonelectrical response.

352, Optics: Motion Pictures, subclasses 1+ for nonchemical sound recording or reproduction combined with motion pictures.

353, Optics: Image Projectors, subclasses 25+ for process and system involving selective retrieval of information; and subclass 121 for methods of optically retrieving information by projection wherein the information is in the form of a nonchemical image.

355, Photocopying, subclass 5 for electric photocopying apparatus combined with means to project reproduced image onto a screen or display means for viewing.

359, Optical: Systems and Elements, subclasses 290+ for optical retrieval of nonchemical image wherein a means is used to change the optical properties of the medium during retrieval.

360, Dynamic Magnetic Information Storage or Retrieval, for nonchemical magnetic dynamic information storage and retrieval process and system, especially subclasses 1+ for process and device used to store or retrieve the image wherein the device has an additional utility than as a magnetic record carrier such as a photographic image medium; and subclasses 131+ for specific structure of magnetic record card other than mere magnetic coatings on a substrate.

365, Static Information Storage and Retrieval, for nonchemical magnetic, electrical, or optical static information storage and retrieval process or system, especially subclasses 185.01+ for floating gate memory storage (e.g., flash memory), subclasses 185.01+ for floating gate memory storage (e.g., flash memory), subclasses 106+ and 120+ wherein radiant energy and information masking are utilized.

22 REGISTRATION OR LAYOUT PROCESS OTHER THAN COLOR PROOFING:

This subclass is indented under the class definition. Processes having a step recited for registering one or more images with each other or with the radiation-sensitive medium to be imaged.

(1) Note. Color proofing is provided for elsewhere in the class.

SEE OR SEARCH THIS CLASS, SUBCLASS:

143 and 358, for color proofing.

SEE OR SEARCH CLASS:

346, Recorders, subclasses 14, 54, 60, 61, and 94+ for registration feature for that class.

352, Optics: Motion Pictures, subclasses 46, 51, and 97 for features involving registration.

356, Optics: Measuring and Testing, subclasses 390 and 399+ for alignment features.

399, Electrophotography, subclasses 9+ for diagnostics, subclasses 38+ for controls, subclasses 130+ for image formation, and subclasses 361+ for document handling, particularly subclass 372 having registration of original, subclass 385 for cutting copies, and subclass 394 for registration with image of copy.

552, Organic Compounds, subclass 653 of Vitamin D compounds, cholecalciferols, dihydrotachysterols, 3-5 cyclovitamin D compounds, etc. which contain only carbon and hydrogen.

23 PRODUCING CATHODE-RAY TUBE OR ELEMENT THEREOF:

This subclass is indented under the class definition. Processes for making a cathode-ray tube or components thereof.

SEE OR SEARCH THIS CLASS, SUBCLASS:

4+, for photomask, screens, etc., for having use other than with a cathode-ray tube and process of making same.

SEE OR SEARCH CLASS:

313, Electric Lamp and Discharge Devices, subclasses 364+ for cathode-ray tube and its components, especially subclasses 365+ for image pickup tube; subclasses 402+ for shadow mask, support, or shield, subclasses 461+ for screen structure; subclasses 523+ for photosensitive lamps, and especially

subclasses 541 and 544 for cathode tube having photosensitive material on the tube wall.

348, Television, subclasses 805+ for a cathode-ray tube as a television display device.

24 Using specific control or specific modification of exposure, i.e., by manipulation of radiation source or exposure through elements other than shadow mask:

This subclass is indented under subclass 23. Processes involving control or modification of the exposure through a shadow mask.

(1) Note. The control or modification of the exposure is made by, e.g., an optical element, a faceplate, or relative movement during the exposure between the light source, shadow mask, and faceplate, etc.

25 With light-absorbing matrix on faceplate:

This subclass is indented under subclass 23. Processes wherein the contrast of the phosphoric screen, e.g., is improved by surrounding the phosphoric dots or stripes with a light absorbing faceplate.

26 With faceplate of phosphorus stripes:

This subclass is indented under subclass 23. Processes wherein a faceplate is produced composed of phosphoric stripes.

27 With filter material on finished faceplate:

This subclass is indented under subclass 23. Processes wherein the contrast of the finished faceplate is improved by incorporating filter material which is colormetrically related to the phosphor areas on the faceplate.

28 Using specified radiation-sensitive composition other than a nominal sensitized polyvinyl alcohol:

This subclass is indented under subclass 23. Processes involving the use of a named radiation-sensitive composition other than a sensitized polyvinyl alcohol which does not have a specified additive.

29 Using specified post-imaging process composition:

This subclass is indented under subclass 23. Processes involving use of a named composition which treats the exposed radiation-sensitive material.

30 INCLUDING CONTROL FEATURE RESPONSIVE TO A TEST OR MEASUREMENT:

This subclass is indented under the class definition. Subject matter including the step of regulating a condition as a result of test or measurement to maintain or effect a change of the same.

31 ELECTRIC OR MAGNETIC IMAGERY, E.G., XEROGRAPHY, ELECTROGRAPHY, MAGNETOGRAPHY, ETC., PROCESS, COMPOSITION, OR PRODUCT:

This subclass is indented under the class definition. Subject matter wherein the electrical conductivity of, the electrical charge on, the magnetic condition of, or the electrical emissivity of a medium is selectively altered by the action of electromagnetic radiation during imaging, and wherein a visible image is formed on the medium or latent image thereon which persists after imaging based upon difference in electrical or magnetic property described above; and when the visible or latent image is not formed by the action of electro-magnetic radiation, the image is finished as by development, fixing, transferring, or cleaning the surface, etc.; radiation-sensitive composition and product used in the process, process of making the composition and product, and finishing process, composition, and product used in the process.

(1) Note. The processes, compositions, and articles herein classified generally involve the application of a uniform electrostatic charge to a radiation-sensitive medium comprising a conductive support with a photoconductive insulator, which medium is then selectively exposed to radiation after the charge in accordance with the exposure and thereby produces an electrostatic image or latent image or the radiation-sensitive medium. Alternatively, the electrostatic charge, in image pattern, may be formed during the exposure to radiation. This

image may be developed or rendered visible by applying particulate material or liquid droplets, charged or uncharged, to the electrostatic image. The particulate material may be caused to permanently adhere, by overcoating, fusion, or coalescence to the exposed medium or it may be transferred to another surface and caused to adhere thereto, and the radiation-sensitive medium be cleaned and reused. These processes are sometimes referred to as "Xerography" and "Electrofax" processing.

(2) Note. Subcombinations of electric imagery directed to developing, transferring, or adhering alone or in combination with an imaging operation are classified herein to include compositions and articles used in developing fixing, transferring and adhering. Subcombinations of electric imagery directed to charging or cleaning, alone or in combination (without an imagery operation using radiation) are not classified herein, for which see the search notes below. However, subcombinations directed to charging or cleaning when combined with the imagery operation are classified herein.

32 Electrophoretic imaging, process, composition, or product:
This subclass is indented under subclass 31. Processes, compositions, and products wherein particles suspended in an insulative liquid carrier between electrodes, migrate in an imagewise configuration in response to both an electrical potential difference between electrodes across the suspension, and imaging radiation. The pigments are usually colored and light absorbing. The pigments can be radiation-sensitive to the imaging radiation and are sometimes referred to as electrically photosensitive pigments. The migration of particles usually forms an image or an electrode.

33 Post treatment process to fix or transfer image, or collect or remove electric radiation sensitive pigment:
This subclass is indented under subclass 32. Processes including a step of making permanent the particle image and of transferring the particle image after imagewise configuration migration, or of collecting or removing electrically photosensitive pigments after imagewise configuration migration.

34 Pretreatment process to change the physical properties of electrophoretic suspension or specified imaging feature exposure:
This subclass is indented under subclass 32. Processes including a step which changes the physical properties of the insulative suspension prior to imaging such as by liquefying a solid medium to form a liquid suspension, or wherein an imaging exposure step includes a specific feature such as the wavelength and intensity of the imaging radiation, or location of the source used for imaging radiation.

35 Specified electric field applied or electric charging step:
This subclass is indented under subclass 32. Processes wherein the electrical potential difference is applied using a specified feature other than a general application of a continuous externally applied field to the electrodes applied during the exposure to imaging radiation such as when an electrode is electrically charged, or when the amount of the potential difference is named.

36 Manipulation of electrode:
This subclass is indented under subclass 32. Processes wherein an electrode used in electrophoretic imaging is in motion relative to the liquid suspension during the exposure to imaging radiation such as when a nip of liquid suspension is formed by movement of the electrode.

37 Electric radiation sensitive pigment:
This subclass is indented under subclass 32. Processes, compositions, and products wherein the electrically photosensitive pigment is identified by a description of its chemical composition, e.g., a phthalocyanine pigment, etc.

38 Material used to modify electrophoretic suspension response:
This subclass is indented under subclass 32. Processes wherein an additional material modifies the response of the electrophoretic suspension during imaging, e.g., the material may be a radiation-conductive layer, a dark exchange, or injector material, or an ingredient in the suspension itself, etc.

39 Magnetic imaging:

This subclass is indented under subclass 31. Process wherein a magnetic force is used to form the image.

SEE OR SEARCH CLASS:

118, Coating Apparatus, subclasses 620+ for apparatus for applying a magnetic coating.

252, Compositions, subclass 62.51 for magnetic compositions not limited to use in radiation imagery.

346, Recorders, subclass 74.2 for magnetographic recorders.

358, Facsimile and Static Presentation Processing, subclass 301 for magnetic recording apparatus for that class.

360, Dynamic Magnetic Information Storage or Retrieval, subclasses 131+ for magnetic records claimed in terms of significant structure. (See note under 252/62.51 page 14B).

399, Electrophotography, subclasses 9+ for diagnostics, subclasses 38+ for controls, subclasses 130+ for image formation, subclasses 168+ for charging, subclasses 177+ for exposure, subclasses 222+ for development, subclasses 297+ for transfer, subclasses 320+ for fixing, subclasses 343+ for cleaning, and subclasses 361+ for document handling.

40 Manifold imaging, process, composition, or product:

This subclass is indented under subclass 31. Processes, compositions, and products wherein an electrical potential difference is applied across a manifold sandwich which has a cohesively weak, structurable, fracturable layer or a substrate and a receiver in contact with the layer, the sandwich is imaged in the presence of an electrical potential difference to form an image in the radiation-conductive layer (e.g., by exposure of a cohesively weak, structurable, fracturable radiation-conductive layer to radiation in an imagewise configuration), and the receiver is separated from the substrate in the presence of an electrical potential difference across the sandwich which causes the layer to fracture along the image boundaries to produce an image on the receiver and on the substrate. The compositions and products always have a radiation-conductor ingredient and a radiation-conductive layer, respectively.

41 Migration imaging, process, composition, or product, e.g., electrosolography, etc.:

This subclass is indented under subclass 31. Processes, compositions, and products wherein a latent electrical image formed on an element having particulate marking material embedded in or overlying a softenable insulating material and wherein the element is subject to a softening treating step which causes the particles to migrate in an imagewise configuration in the softened material to produce an image. Usually, the particulate marking materials are electrically radiation-sensitive particles and the latent electrical image is formed by electrically charging and imaging the element with radiation. The compositions and products always contain electrically radiation-sensitive particles. These processes are sometimes referred to as electrosolography.

42.1 To produce color reproduction (i.e., two or more colors specified):

This subclass is indented under subclass 31. Process wherein an image formed has two or more colors.

SEE OR SEARCH CLASS:

399, Electrophotography, subclasses 223 through 233 for electrophotographic apparatus utilized for multiple color developing.

OTHER CLASSIFICATION SYSTEMS:

IPC[8] G03G 13/01, for the production of multicolored copies.

ECLA G03G 13/01, for the production of multicolored copies.

43.1 With color correction step:

This subclass is indented under subclass 42.1. Process wherein a quantity of color is added or subtracted to a multicolor image modified in a subsequent treatment step.

44.1 With sintering:

This subclass is indented under subclass 42.1. Process wherein a step of heating almost to, but below, the toner melting point is performed

during the manufacture of the multicolor image.

(1) Note. The process of this subclass typically involves the multicolor toner image made permanent on a receiver with some of the toner material, such as a binder resin, volatilized.

45.1 Process with identified developing composition or identified developing step (e.g., toner binder, softening point, reversal developing, etc.):

This subclass is indented under subclass 42.1.

Process wherein an identified developing composition, such as chemically identified composition (e.g., toner binder or colorant, etc.) or physically identified property (e.g., particle size, softening point, etc.), or an identified developing feature (e.g., reversal developing, etc.), forms the multicolor image.

(1) Note. The expression "chemically identified" means that a substance is identified by its chemical name or by its class of chemical compound. Greater specificity than "organic compound" or "inorganic compound" is required for this subclass.

OTHER CLASSIFICATION SYSTEMS:

ECLA G03G 013/01D, for multicolored copies characterized by the developing step (e.g., the properties of the color developer, etc.).

45.2 Liquid developing composition or process (e.g., using toner particles in liquid vehicle, etc.):

This subclass is indented under subclass 45.1.

Process wherein the identified liquid developing composition (i.e., chemically identified composition, e.g., chemically identified binder resin, etc., or physically identified property, e.g., particle size, etc.) or identified liquid development process is used to form a multicolor image.

SEE OR SEARCH CLASS:

399, Electrophotography, subclass 233 for electrophotographic apparatus utilized for multiple color developing.

45.3 Identified developing feature (e.g., reversal development, etc.):

This subclass is indented under subclass 45.1.

Processes wherein a developing feature has been specifically identified, such as a reversal development, to form a multicolor image.

45.31 Developing electrostatic latent images of different potential areas or polarities (e.g., trilevel image of three differentially charged areas, etc.):

This subclass is indented under subclass 45.3.

Processes wherein the electrostatic latent images comprise areas having more than one charge potential or intensity levels, such as areas having three different charge potentials, or charge polarities, such as areas of positive charges and negative charge polarities (e.g., CAD/DAD, etc.).

45.32 Magnetic brush:

This subclass is indented under subclass 45.3.

Processes wherein a magnetic brush (i.e., a magnet in combination with a developer attached to the magnet by magnetic attraction) develops the electrostatic latent image to form a multicolor image.

(1) Note. This subclass includes an arrangement for electrically discharging the surface of a magnetic brush-like structure.

(2) Note. This subclass includes vibrating the magnetic brush.

(3) Note. This subclass includes details for housing or casing, per se.

(4) Note. This subclass includes magnetic structures on opposing sides of a latent image-bearing member.

SEE OR SEARCH CLASS:

399, Electrophotography, subclass 272 for a magnetic brush used to load a magnetic brush application member and subclass 281 for a magnetic bush used to load a developing roller application member.

OTHER CLASSIFICATION SYSTEMS:

IPC[8] G03G 13/09, for using a magnetic brush.
JPOFI G03G 13 /09, for using a magnetic brush.
ECLA G03G 13/09, for using a magnetic brush.

45.33 Polymerizing developing composition (e.g., photohardening of microcapsules, etc.):
This subclass is indented under subclass 45.3.
Processes wherein a latent image that is developed with a toner composition undergoes polymerization, including further polymerization, during or after development.

45.4 Developing composition having five or more different color toners (e.g., pentachrome, hexachrome, etc.):
This subclass is indented under subclass 45.1.
Process wherein five or more named color toners (e.g., red, green, yellow, blue, purple, etc.) are used to form the multicolor image.

SEE OR SEARCH THIS CLASS, SUBCLASS:
107.1, for multicolor toner compositions, per se.

45.5 Developing composition having subtractive colorant (i.e., cyan, magenta, or yellow):
This subclass is indented under subclass 45.1.
Process wherein the developing composition contains a subtractive colorant of at least one cyan, magenta, or yellow color toner.

SEE OR SEARCH THIS CLASS, SUBCLASS:
107.1, for multicolor toner compositions, per se.

45.51 Dissimilar toners of identified chemical or physical property:
This subclass is indented under subclass 45.5.
Processes wherein the developing composition has plural color toners and the toners have a chemical or physical property (e.g., hardness, Tg, size, etc.) differing from each other in addition to having a different color.

45.53 Developing composition forming glossy image:
This subclass is indented under subclass 45.5.
Processes wherein the developing composition produces a glossy (i.e., shiny or smooth) image.

45.54 Identified shape (e.g., sphere-shaped toner, toner shape factor, etc.):
This subclass is indented under subclass 45.5.
Processes wherein the developing composition has an identified shape (e.g., spherical toner, toner shape factor, etc.).

SEE OR SEARCH THIS CLASS, SUBCLASS:
110.3, for toner particles with identified shape.

45.55 Identified toner or colorant surface area or size (e.g., pigment size, etc.):
This subclass is indented under subclass 45.5.
Processes wherein a toner, a colorant, or colorant composition (e.g., flushed pigment, master batch, etc.) has an identified surface area or size.

45.56 Having carrier particles (i.e., multicomponent developer):
This subclass is indented under subclass 45.5.
Processes wherein a developer composition has a material which attaches to a dry toner material, usually by triboelectric attachment, conveying or transporting the toner.

SEE OR SEARCH THIS CLASS, SUBCLASS:
111.1, through 111.35, for carrier particles, per se.

46.1 Process with identified radiation-conductive element or composition (e.g., photoreceptor, etc.):
This subclass is indented under subclass 42.1.
Processes wherein the identified radiation-conductive element or composition, which is identified by its chemically identified composition (e.g., copper phthalocyanine photogenerating pigments, etc.) or physically identified property (e.g., surface free energy, etc.), forms a multicolor image.

SEE OR SEARCH THIS CLASS, SUBCLASS:

56, through 96, for radiation-sensitive compositions and products (e.g., photoreceptors, photoreceptor composition, etc.), per se.

46.2 Plural charge generation layers:

This subclass is indented under subclass 46.1.
Processes wherein the identified radiation-conductive element comprises plural identified layers containing photogenerating pigment, such as phthalocyanine and azo, to form a multicolor image.

SEE OR SEARCH THIS CLASS, SUBCLASS:

57.2, through 57.8, for radiation-sensitive composition or product having plural charge generation layers, per se.

46.3 Color filter layer:

This subclass is indented under subclass 46.1.
Processes wherein the radiation-conductive element has a color filter layer.

(1) Note. Included in this subclass are processes wherein a color filter is part of the radiation-conductive element (i.e., photoreceptor) structure.

SEE OR SEARCH THIS CLASS, SUBCLASS:

66, and 67, for radiation-sensitive products, per se, having an overlayer on the radiation-conductive layer.

46.4 Identified organic binder:

This subclass is indented under subclass 46.1.
Process wherein the identified radiation-conductive element has a specified organic binder (i.e., having a specifically named or identified by chemical structure), which functions to hold a layer of the radiation-conductive element composition together.

SEE OR SEARCH THIS CLASS, SUBCLASS:

96, for a binder for radiation-conductive composition.

46.5 Inorganic-containing radiation conductive composition:

This subclass is indented under subclass 46.1.
Process wherein the identified radiation-conductive element contains inorganic radiation-conductive material specifically named or identified by chemical structure.

SEE OR SEARCH THIS CLASS, SUBCLASS:

57.4, through 57.8 and 84-95, for radiation-sensitive compositions.

47.1 Process with identified receptor or identified image transfer process step:

This subclass is indented under subclass 42.1.
Processes wherein the identified receptor for receiving transferred or induced charge or transferred developing composition is chemically identified (e.g., polyester transport support, etc.) or physically identified (e.g., gloss factor, etc.), or named image transfer process step is used to produce a multicolor image.

SEE OR SEARCH CLASS:

399, Electrophotography, subclasses 298 through 305 for an apparatus having an arrangement for either sequentially or simultaneously transferring a developed image having two or more different colors from one surface to another.

47.2 Plural color images transferred to receptor:

This subclass is indented under subclass 47.1.
Processes wherein plural color images are formed and transferred to a receptor to produce the multicolor image.

SEE OR SEARCH CLASS:

399, Electrophotography, subclass 301 for an apparatus having an arrangement for producing correct alignment of overlapped or superimposed multiple toner images.

47.3 Stripping toner image layer from imaging element:

This subclass is indented under subclass 47.1.
Processes wherein the layer having a toner image is stripped away from the imaging element.

(1) Note. Usually the layer having the toner image is removed from the radiation conductive surface of the radiation-conductive element.

47.4 Identified intermediate receptor:

This subclass is indented under subclass 47.1. Processes wherein an intermediate receptor, used in the transferring process to produce a multicolor image, is identified by chemical or physical components or identified by property (e.g., a polyester belt, Asker C hardness, etc.).

(1) Note. The intermediate receptor may be identified by chemical composition, structure, or physical property with greater specificity than "organic" or "inorganic."

SEE OR SEARCH CLASS:

399, Electrophotography, subclass 302 for an apparatus having an arrangement to transfer a developed color image to an intermediary surface or medium before transferring it to a final medium.

47.5 Identified final receptor:

This subclass is indented under subclass 47.1. Processes wherein the multicolor toner image is formed on an identified final receptor.

(1) Note. The final receptor may be identified by chemical composition, structure, or physical property with greater specificity than "organic" or "inorganic."

SEE OR SEARCH CLASS:

428, Stock Material or Miscellaneous Articles, subclasses 98 through 220 for a structurally defined web or sheet, per se.

48 Electrostatic image transfer:

This subclass is indented under subclass 31. Processes wherein a latent electrostatic image in or on a first member is transferred to or reproduced on a separate second member by either (a) conduction of electrical charges across an air gap between members, or (b) when the members are in surface contact by direct charge transfer between the members or by the influence of the electrical charges of the image. The latent electrostatic image is usually obtained by uniformly charging, and imaging a radiation-conductive layer with radiation to form an image of electrostatic surface charge on the layer.

SEE OR SEARCH THIS CLASS, SUBCLASS:

125.5, for transfer of the image that has been developed using a toner, including utilizing an electrostatic force (e.g., corona charging, potential difference, etc.).

49.1 To produce printing surface:

This subclass is indented under subclass 31. Processes to form a member having intended use as a surface for a printing process wherein multiple copies are produced, such as by applying and transferring a coating material such as ink.

SEE OR SEARCH THIS CLASS, SUBCLASS:

204, 205, and 300-310, for imaging processes other than electric or magnetic imaging utilized to manufacture printing plates.

SEE OR SEARCH CLASS:

101, Printing, appropriate subclasses, especially subclasses 483 through 493 , for printing processes.

OTHER CLASSIFICATION SYSTEMS:

IPC[8] G030 G 13/26, for the production of printing plates for nonxerographic printing processes.

ECLA G03G 13/26, for the production of printing plates for nonxerographic printing processes.

49.2 Driographic (i.e., waterless) printing surface:

This subclass is indented under subclass 49.1. Processes intended to produce a printing plate for a driographic, waterless printing process (i.e., a printing process wherein no aqueous solution is used to increase the oleophilic or oleophobic, or hydrophilic or hydrophobic differences at the surface of the plate prior to inking the surface of the printing plate).

(1) Note. In driographic printing, the lithographic printing plate consists of ink-accepting and ink-adhesive (ink-repelling) areas and only ink is supplied to the printing plate.

OTHER CLASSIFICATION SYSTEMS:

ECLA G03G 13/28D, for the production of printing plates for dry lithography.

49.3 Having toned image transfer:
This subclass is indented under subclass 49.1. Processes to produce a printing plate including transferring a toned image to form the printing plate.

OTHER CLASSIFICATION SYSTEMS:

ECLA G03G 13/28B, for planographic printing plate obtained by a process including transfer of a toned image (i.e., indirect process).

49.31 Toner release layer on imaging layer:
This subclass is indented under subclass 49.3. Processes wherein the imaging surface comprises a discrete release layer on which the toner image is formed prior to its transfer to another surface.

49.4 Having imagewise portion removal of radiation-sensitive imaging layer (e.g., dissolving, transfer, plasma etching, etc.):
This subclass is indented under subclass 49.1. Processes wherein the process includes the removal of a portion of the image layer itself, such as a portion under toned areas or a portion under nontoned areas, to form a printing surface (e.g., dissolving, transfer, plasma etching, etc.).

49.41 Removal of portion under imaging layer of toner area only:
This subclass is indented under subclass 49.4. Processes wherein a portion of the image layer under toned imaged areas is removed.

49.42 Includes etching substrate:
This subclass is indented under subclass 49.4. Processes wherein at least a portion of the substrate, the layer under the toned image layer, is etched.

SEE OR SEARCH CLASS:
216, Etching a Substrate: Processes, subclass 41 for etching, per se.

49.43 By wet removal (e.g., solvent, surface active agent solution, alkaline solution, etc.):
This subclass is indented under subclass 49.4. Processes wherein the portion of the toned image layer to be removed is removed by liquid contact.

49.44 Toned image removed subsequent to nontoned portion removal:
This subclass is indented under subclass 49.43. Processes wherein the toned image is removed following removal of the portion of the toned image layer not having the toned image.

49.45 Liquid or solution containing nitrogen-containing compound (e.g., ammonia hydroxide, etc.):
This subclass is indented under subclass 49.43. Processes wherein the liquid or solution composition, used to remove the portion of the toned image layer, contains a nitrogen-containing compound.

49.46 Alkaline solution (e.g., Na^+OH^- solution, etc.):
This subclass is indented under subclass 49.43. Processes wherein the liquid or solution composition used to remove the portion of the toned image layer is an alkaline solution with other than a nitrogen-containing compound (e.g., Na^+OH^- solution, etc.).

49.5 Posttreatment making nonimaged or nontoned areas hydrophilic:
This subclass is indented under subclass 49.1. Processes wherein the process includes treating the nonimaged or nontoned areas of the imaging layer rendering those areas hydrophilic (e.g., to lessen the attraction for greasy, oily, or oleoresinous ink, etc.).

49.6 Liquid posttreatment:
This subclass is indented under subclass 49.5. Processes wherein the nonimaged, nontoned areas are treated with liquid to make those areas hydrophilic.

49.7 Nitrogen-containing compound (e.g., amine solution, etc.):

This subclass is indented under subclass 49.6. Processes wherein the liquid solution has nitrogen-containing compound (e.g., amine solution, etc.).

49.8 Cyano-containing compound (e.g., FeCN, etc.):

This subclass is indented under subclass 49.7. Processes wherein the nitrogen-containing compound has a cyano group (i.e., CN group, such as ferrous cyanide).

50 Deformation imaging, e.g., frost imaging, etc.:

This subclass is indented under subclass 31. Processes wherein the imaged medium is used to form a deformation image usually in the form of a relief or frost pattern by deforming a compliant layer or film. The deformation of the compliant layer is mostly performed by heating or solvent treatment. Sometimes the imaging and deformation of the compliant layer are done simultaneously.

SEE OR SEARCH THIS CLASS, SUBCLASS:

48, for deformation image formation which additionally uses a charge transfer step to a separate member.

290, for light-scattering images not involving electric or a magnetic imaging.

51 Persistent internal polarization imaging:

This subclass is indented under subclass 31. Processes wherein the simultaneous application of an electric field and electromagnetic irradiation upon a medium produces a persistent internal polarization within the radiation conductive insulator of the medium in the form of a separation of positive or negative charges for a finite time. The application of electromagnetic irradiation is oftentimes done in an imagewise configuration.

SEE OR SEARCH CLASS:

399, Electrophotography, subclasses 130+ for image formation.

52 Electrolysis imaging:

This subclass is indented under subclass 31. Processes wherein a radiation-conductive plate having a latent conductivity image is used as an electrode to form a deposited image thereon when an electrical potential difference is applied across an electrolyte in electrical contact with the electrode and the plate. The deposition usually occurs subsequent to the formation of the latent conductivity image and is sometimes referred to as photoconductography.

53 Using ion or particle flow modulation:

This subclass is indented under subclass 31. Processes wherein an image is formed by modulation of ion or particles directed upon the medium.

SEE OR SEARCH CLASS:

399, Electrophotography, subclasses 9+ for diagnostics, subclasses 38+ for controls, subclasses 130+ for image formation, subclasses 168+ for charging, subclasses 177+ for exposure, subclasses 222+ for development, subclasses 297+ for transfer, subclasses 320+ for fixing, subclasses 343+ for cleaning, and subclasses 361+ for document handling.

54 To produce multiple image on medium or plural radiant energy exposures of medium, e.g., image intensification using two images, or two exposures of same image, etc.:

This subclass is indented under subclass 31. Processes wherein either multiple images are formed on the medium, or at least two radiant energy exposures are used to produce an image on the medium.

SEE OR SEARCH THIS CLASS, SUBCLASS:

97, through 126.2, for producing more than one image record (e.g., a duplex image record wherein the image is on both sides of the record, etc.) on a material other than the radiant energy image receiving medium; and subclass 119.7 for producing an image record of different image carrying originals to be copied, especially

when a cleaning feature is included between imaging procedures.

SEE OR SEARCH CLASS:
399, Electrophotography, subclasses 9+ for diagnostics, subclasses 38+ for controls, subclasses 130+ for image formation, and subclasses 177+ for exposure, particularly subclass 194 for composite.

55 Charging simultaneous with imaging:
This subclass is indented under subclass 31. Processes wherein the surface of the medium is simultaneously electrically charged and subject to radiant energy imaging.

SEE OR SEARCH CLASS:
399, Electrophotography, subclasses 9+ for diagnostics, subclasses 38+ for controls, and subclasses 168+ for charging.

56 Radiation-sensitive composition or product:
This subclass is indented under subclass 31. Radiation-sensitive composition or product wherein the composition or product includes a radiation-conductive material which has the conductivity of, the magnetic condition of, or the electrical emissivity of the material altered by the action of radiation.

57.1 Having plural conductive layers:
This subclass is indented under subclass 56. Subject matter having plural layers conducting charge under action of radiation.

57.2 With plural charge generation layers:
This subclass is indented under subclass 57.1. Subject matter having plural layers that generate free charge carriers by absorption of radiation at least one of which is identified by chemical name.

57.3 Nitrogen hetero ring compound in one or more charge generation layers:
This subclass is indented under subclass 57.2. Subject matter wherein at least one charge generator layer contains a compound having a nitrogen containing hetero ring.

(1) Note. A hetero ring is one that includes as ring members only (1) carbon and (2) at least one atom selected from nitrogen and chalcogen (i.e., oxygen, sulfur, selenium, or tellurium).

SEE OR SEARCH THIS CLASS, SUBCLASS:
59.4, for a phthalocyanine group containing compound a single charge generator layer.
76, for compositions having a nitrogen containing hetero ring compound in a radiation-conductive composition.

57.4 Inorganic silicon (e.g., elemental silicon, silicon alloy, or inorganic silicon compound thereof) in one or more charge generation layers:
This subclass is indented under subclass 57.2. Subject matter wherein a charge generation layer contains silicon (Si) (e.g., polycrystalline silicon, amorphous silicon, silicon alloys, inorganic compounds, etc.).

SEE OR SEARCH CLASS:
136, Batteries: Thermoelectric and Photoelectric, subclasses 243 through 265 for solar cells with two or more layers.
148, Metal Treatment, subclasses 300 through 337 for p-n type stock material.
252, Compositions, subclass 501.1 for electrically conductive compositions.
257, Active Solid-State Devices (e.g., Transistors, Solid-State Diodes), subclasses 53 through 56 and subclasses 431-466 for active light responsive semiconductor devices containing silicon.

57.5 With germanium (elemental, compound or alloy) in layer containing silicon:
This subclass is indented under subclass 57.4. Subject matter wherein germanium (Ge) is included in the layer containing silicon (e.g., Ge-Si alloy, etc.).

57.6 Germanium as dopant:
This subclass is indented under subclass 57.5. Subject matter wherein the germanium (Ge) is present as a dopant, i.e., a small quantity that changes the properties of the silicon-containing layer.

57.7 P-type or n-type silicon containing (e.g., silicon doped with a Group IIIa or a Group Va element):

This subclass is indented under subclass 57. Subject matter .4 wherein the silicon is of p-type or n-type, e.g., doped with a Group IIIa (e.g., Boron, Aluminum, Gallium, etc.) or a Group Va (e.g., Nitrogen, Phosphorus, or Arsenic, etc.) element to give p (positive)-type or n (negative)-type conduction property.

57.8 Inorganic selenium (Se) (e.g., elemental selenium, selenium alloy, or inorganic compound thereof):

This subclass is indented under subclass 57.2. Subject matter wherein a charge generation layer contains selenium, e.g., elemental, alloyed, inorganic compound, etc.

SEE OR SEARCH THIS CLASS, SUBCLASS:

85, for single layer alloy containing compositions.

SEE OR SEARCH CLASS:

257, Active Solid-State Devices (e.g., Transistors, Solid-State Diodes), subclasses 53 through 56 and subclasses 431-466 for and subclasses 431 for light responsive semiconductor devices containing selenium or its alloys.

58.05 Charge transport layer:

This subclass is indented under subclass 57.1. Subject matter having an identified layer facilitating transport of a charge, e.g., hole or electron movement.

58.1 Inorganic charge transport layer:

This subclass is indented under subclass 58.05. Subject matter wherein the charge transport layer consists of inorganic material (e.g. doped amorphous carbon, metallic alloy, etc.).

58.15 Sulfur containing hetero ring in charge transport layer:

This subclass is indented under subclass 58.05. Subject matter wherein the charge transport layer has a sulfur hetero ring compound (e.g., thiophene, phenothiazine, thiazole, etc.).

58.2 Organosilicon or organogermanium in charge transport layer:

This subclass is indented under subclass 58.05. Subject matter wherein the charge transport layer contains an organogermanium or an organosilicon compound, i.e., a compound wherein silicon or germanium is attached directly or indirectly by non-ionic bonding to carbon of an organic radical.

58.25 Cyclic ketone, cyclodicyanomethylene, or cyclomethylenemalonate in charge transport layer:

This subclass is indented under subclass 58.05. Subject matter wherein the charge transport layer contains a cyclic ketone compound, e.g., quinones O=ring=O; a polycyclic ring ketone, e.g., O= condensed rings, etc.; a cyclodicyanomethylene, e.g., $(NC)_2C$=ring; or a cyclomethylenemalonate (ROCO)2C=ring wherein ring includes C to C unstauration (e.g., C=C) and R is alkyl or H.

58.3 Containing at least three aryl groups bonded to a single carbon atom in charge transport layer:

This subclass is indented under subclass 58.05. Subject matter wherein the charge transport layer contains a compound having at least three aryl rings bonded to a carbon atom, e.g., R'_3CR, wherein R' is an aryl group, and R is hydrogen or a carbon containing radical.

(1) Note. Aryl denotes an organic radical derived from an aromatic ring by removal of a hydrogen atom bonded to a ring carbon of the ring system.

58.35 Organic nitrogen in charge transport layer:

Subject matter under subclass QuickMark QuickMark 58.05 wherein the charge transport layer contains an organic nitrogen compound, e.g. amine (RNR'_2), cyano (RCN) or nitro (RNO_2), etc. wherein R is an organic radical and R' is H or an organic radical.

58.4 Hydrazone compound:

This subclass is indented under subclass 58.35. Subject matter wherein the organic nitrogen compound is a hydrazone compound, i.e., compound of the formula $R_2N\text{-}N{=}CR_2$, wherein: R is H, or an organic carbon containing radical

with at least one R being an organic carbon containing radical.

58.45 Additional nitrogen attached indirectly to the hydrazone group by nonionic bonding:
This subclass is indented under subclass 58.4. Subject matter wherein the hydrazone compound includes an additional nitrogen that is bonded indirectly (e.g., additional nitrogen may be in a hetero ring, an additional hydrazone group, etc.) to the hydrazone group by nonionic bonding.

58.5 Nitrogen hetero ring compound:
This subclass is indented under subclass 58.35. Subject matter wherein the charge transport layer contains a compound having a nitrogen-containing hetero ring (i.e. nitrogen is in a ring which may contain more than one hetero atom), e.g., oxazoles, oxadiazoles, triazoles, phthalocyanines, etc.

SEE OR SEARCH THIS CLASS, SUBCLASS:
75-82, for compositions containing nitrogen containing hetero rings.

58.55 Pyrazole containing (e.g., including hydrogenated pyrazole, etc.):
This subclass is indented under subclass 58.5. Subject matter wherein the nitrogen containing hetero ring is a pyrazole or a hydrogenated pyrazole, i.e., five member hetero ring containing N-N in 1,2 positions of the hetero ring.

58.6 Carbazole containing or derivative:
This subclass is indented under subclass 58.5. Subject matter wherein the nitrogen containing hetero ring is a carbazole or a hydrogenated carbazole.

SEE OR SEARCH THIS CLASS, SUBCLASS:
79-82, for carbazole containing radiation conductive compositions.

58.65 Arylamine compound:
This subclass is indented under subclass 58.35. Subject matter wherein the charge transport layer contains a compound having an arylamine group, i.e., compounds of the formula R_2NR' wherein: R' is an aryl group, and R is hydrogen, or a carbon containing radical.

(1) Note. Aryl denotes an organic radical derived from an aromatic hydrocarbon, which can be a five, six, or seven member ring system, by removal of one atom.

58.7 Polymeric arylamine containing:
This subclass is indented under subclass 58.65. Subject matter wherein the charge transport layer contains an arylamine polymer, i.e., a long chain structure with repeating units that include an arylamine grouping, e.g., included in this subclass are polymers having multiple arylamine side groups attached to a polymeric backbone, and polymers having arylamines in the backbone.

58.75 Triamine, or diamine containing:
This subclass is indented under subclass 58.65. Subject matter wherein the arylamine has two or three nitrogen, e.g., of the formula R_2N-R'-NR_2 wherein: R is an aromatic group R is hydrogen, or a carbon containing radical, etc.

58.8 1,1'-biphenyl 4,4'-diamine containing (e.g., benzidine, etc.):
This subclass is indented under subclass 58.75. Subject matter wherein the charge transport layer contains the diamine R_2N-Ph-Ph-NR_2, wherein: Ph-Ph is biphenylene R is hydrogen or a carbon containing radical.

58.85 Charge transport layer containing alkenylarylamine:
This subclass is indented under subclass 58.65. Subject matter wherein the charge transport layer containing arylamine compound having an alkenyl group bonded, directly or indirectly, to the nitrogen (e.g., compounds having the formula R_2N-R'-$CR=CR_2$, wherein: R' is an arylene group R is hydrogen or a carbon containing radical.

59.1 And specified charge generator layer:
This subclass is indented under subclass 58.05. Subject matter setting forth at least a component of the charge generator layer composition.

59.2 Charge generator layer contains compound having an acyclic azo group (i.e., -N=N-):
This subclass is indented under subclass 59.1. Subject matter wherein the charge generator layer contains a compound having an acyclic

azo group wherein the azo group is not part of a hetero ring, e.g., compounds of the formula R'-N=N-R', wherein: R' is an aryl group, etc.

59.3 Compound having an acyclic azo group and having either an azomethine (i.e., -CH=N) or a stilbene group; or a compound having three or more azo groups in charge generator layer:

This subclass is indented under subclass 59.2. Subject matter wherein the azo compound of the charge generator layer has at least three azo groups, or azomethine group, i.e., N=CH -, or a stilbene group (i.e.-Ph-CR=CR-Ph- wherein Ph is a phenylene group).

59.4 Phthalocyanine or phthalocyanine derivative compound in charge generator layer:

This subclass is indented under subclass 59.1. Subject matter wherein the charge generator layer contains a phthalocyanine or derivative, e.g., nonmetal or metal-containing phthalocyanine compound.

SEE OR SEARCH THIS CLASS, SUBCLASS:

78-82, for phthalocyanine containing radiation conductive charge generator compositions.

59.5 Titanium (Ti) or vanadium (V) phthalocyanine containing:

This subclass is indented under subclass 59.4. Subject matter wherein the phthalocyanine in the charge generator layer contains a titanium (Ti) or vanadium (V) as the central metal of the phthalocyanine.

59.6 With specified binder resin in charge transport layer:

This subclass is indented under subclass 58.05. Subject matter wherein the material holding the charge transport layer together is a natural or synthetic resin.

SEE OR SEARCH THIS CLASS, SUBCLASS:

96, when only a binder resin is specified.

60 Product having layer between radiation-conductive layer and base or support:

This subclass is indented under subclass 56. Products wherein said specifically named or identified by chemical or physical product contains a layer between a radiationconductive layer and a base or support.

61 Sensitizing layer:

This subclass is indented under subclass 60. Products containing a layer specifically named or identified by chemical or physical structure which extends the range of the spectral response of a radiation-conductive layer or increases the radiation sensitivity of a radiation conducting layer in the spectral region of inherent sensitivity or regions to which said layer is spectrally sensitized between a radiation-conductive layer and a base or support.

62 Conductive layer:

This subclass is indented under subclass 60. Products containing a conductive layer specifically named or identified by chemical or physical structure between a radiation-conductive layer and a base or support.

63 Inorganic containing:

This subclass is indented under subclass 62. Products wherein the conductive layer is nonorganic or contains nonorganic material.

64 Blocking or barrier layer:

This subclass is indented under subclass 60. Products containing a blocking or barrier layer, e.g., a layer which retards dark decay, specifically named or identified by chemical or physical structure between a radiation-conductive layer and a base or support.

65 Inorganic containing:

This subclass is indented under subclass 64. Products wherein the blocking or barrier layer is nonorganic or contains nonorganic material.

66 Product having overlayer on radiation-conductive layer:

This subclass is indented under subclass 56. Products containing an over-layer, i.e., a top coat layer, specifically named or identified by chemical or physical structure on a radiation-conductive layer relative to the position of a radiation-conductive layer and a base or support.

67 Electrically insulating overlayer:
This subclass is indented under subclass 66. Products containing an electrically insulating overlayer specifically named or identified by chemical or physical structure.

68 Including radiation-conductive screen:
This subclass is indented under subclass 56. Products having grid or screen portions and interstices with the radiation-conductive layer on the grid or screen portions only.

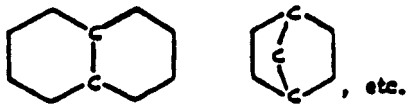
SEE OR SEARCH THIS CLASS, SUBCLASS:
6+, for screens, per se, and method of making the same.

SEE OR SEARCH CLASS:
399, Electrophotography, subclasses 9+ for diagnostics, subclasses 38+ for controls, subclasses 130+ for image formation, subclasses 168+ for charging, and subclasses 177+ for exposure, particularly subclass 181 for halftone image.

69 Including conductive base or support:
This subclass is indented under subclass 56. Products containing a substrate specifically named or defined by chemical or physical structure and is conductive.

70 Radiation-conductive composition contains carbocyclic ring only:
This subclass is indented under subclass 56. Compositions containing an organic radiation-conductive material specifically named or identified by chemical structure and which is a compound, polymer, or resin, etc., having only homocyclic ring(s) in which all ring atoms are carbon.

71 Polycyclo ring system:
This subclass is indented under subclass 70. Compositions wherein the homocyclic ring containing compound, etc., is polycyclic with at least two rings having two carbon atoms in common, e.g.,



72 Substituted:
This subclass is indented under subclass 71. Compositions wherein the polycyclic ring containing compound, polymer, resin, etc., is substituted, i.e., has an atom replaced by another atom or radical, on the ring.

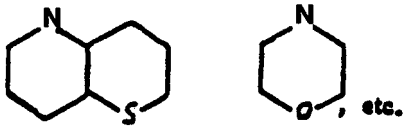
73 Containing amino or substituted amino group:
This subclass is indented under subclass 70. Compositions wherein the homocyclic ring containing compound, polymer, or resin, etc., includes an amino or substituted amino group.

74 Alkyl amino group:
This subclass is indented under subclass 73. Compositions wherein the amino or substituted amino group is an amine containing alkyl group attached to an amino nitrogen atom.

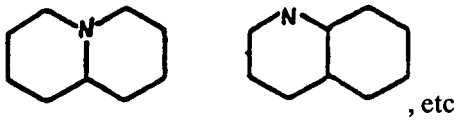
75 Radiation-conductive composition contains hetero ring:
This subclass is indented under subclass 56. Compositions containing an organic radiation-conductive material, e.g., compound, polymer, or resin, etc., having a ring which contains an atom other than carbon in its nucleus, i.e., a hetero atom.

76 The hetero ring has at least nitrogen as a ring hetero atom:
This subclass is indented under subclass 75. Compositions wherein at least one hetero atom present is N atom.

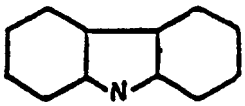
77 Additional diverse ring hetero atom in the hetero ring:
This subclass is indented under subclass 76. Compositions wherein the N-hetero atom ring containing compound, etc., contains a hetero atom other than nitrogen, e.g.,



78 **Polycyclo ring system having the hetero ring as one of the cyclo systems:**
This subclass is indented under subclass 76. Compositions wherein the N-hetero atom containing compound, etc., are polycyclic with at least two rings having two atoms in common, e.g.,



79 **Carbazole:**
This subclass is indented under subclass 78. Compositions wherein the polycyclic ring containing compound, etc., contains a carbazole moiety.



80 **Polymer or synthetic resin only:**
This subclass is indented under subclass 79. Compositions wherein the carbazole moiety containing compound, etc., is part of a polymer or synthetic resin only.

81 **Sensitized or doped:**
This subclass is indented under subclass 79. Compositions wherein the carbazole moiety containing compound, etc., contains a material which is specifically named or identified by chemical structure which extends the range of spectral response or increases the radiation sensitivity in the spectral region of inherent sensitivity or regions to which said compound, etc., is spectrally sensitized.

82 **Dye or pigment:**
This subclass is indented under subclass 81. Compositions in the form of a dye or pigment.

83 **Sensitized or doped organic radiation conductor:**
This subclass is indented under subclass 56. Compositions containing a material specifically named or identified by chemical structure which extends the range of spectral response or increases the radiation sensitivity in the region of inherent sensitivity or in regions to which said composition is spectrally sensitized.

84 **Inorganic radiation conductive composition:**
This subclass is indented under subclass 56. Compositions containing an inorganic radiation-conductive material specifically named or identified by chemical structure.

85 **Alloy:**
This subclass is indented under subclass 84. Compositions in the form of a mixture of two metallic or nonmetallic elements having a metallic appearance and being a molecular or colloidal mixture.

86 **Having more than two constituents:**
This subclass is indented under subclass 85. Compositions containing more than two metallic or nonmetallic elements in the mixture.

87 **Zinc containing:**
This subclass is indented under subclass 84. Compositions wherein a zinc material is the radiation conductor.

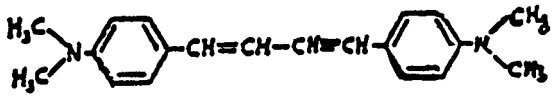
88 **And other radiation-conductor material:**
This subclass is indented under subclass 87. Compositions containing a radiation-conductive material other than zinc material.

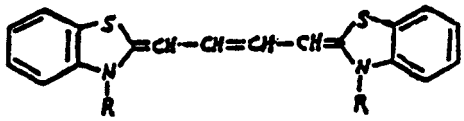
89 **And nonsensitizing additive other than binder:**
This subclass is indented under subclass 87. Compositions containing a material, specifically named or identified by physical or chemical structure, which does not extend the range of spectral response of the zinc material other than a binder material.

90 **Sensitized or doped:**
This subclass is indented under subclass 87. Compositions containing a material specifically named or identified by chemical structure which extends the range of spectral response or increases the radiation sensitivity in the region of inherent sensitivity or in regions to which said composition is spectrally sensitized.

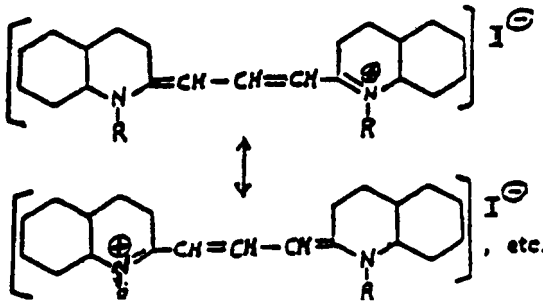
91 **Dye or pigment:**
This subclass is indented under subclass 90. Compositions in the form of a dye or pigment.

92 **Intercyclic-acyclic -CH= or Intercyclic-acyclic chain which contains -CH=:**
This subclass is indented under subclass 91. Compositions containing intercyclic-acyclic -CH= or intercyclic-acyclic chain which contains -CH=,





93 **Cyanine dye:**
This subclass is indented under subclass 92. Compositions in the form of a compound which contains two distinct heterocyclic rings, each individual heterocyclic ring containing at least one nitrogen atom, said nitrogen atoms of the individual rings being joined through a resonating acyclic carbon chain which contains -CH= or a conjugated chain which contains -CH=, e.g.,



94 **Cadmium containing:**
This subclass is indented under subclass 84. Compositions containing a cadmium material as the radiation conductor.

95 **Sensitized or doped:**
This subclass is indented under subclass 84. Compositions containing a material specifically named or identified by chemical structure which extends the range of spectral response or increases the radiation sensitivity, in the region of inherent sensitivity or in region to which said composition is spectrally sensitized.

96 **Binder for radiation-conductive composition:**
This subclass is indented under subclass 56. Compositions containing a material specifically named or identified by chemical structure and functioning to hold the composition together.

97 **Post imaging process, finishing or perfecting composition or product:**
This subclass is indented under subclass 31. Processes wherein the latent or visible image in or on a medium is subject to a finishing or perfecting procedure, and finishing or perfecting composition and products used in the process.

100 **Reversal development:**
This subclass is indented under subclass 97. Processes wherein the finishing procedure or the medium being imaged is modified to reverse the location of the developed image. Usually the developed image is a positive print.

101 Impression development:
This subclass is indented under subclass 97. Processes wherein the latent image is developed by direct surface-to-surface transfer of dry powder toner to the medium. Usually the toner need not carry an electrical charge. Such developing procedures as roller, contact, touchdown, donor, and transfer developing techniques are included.

102 Selective toner release:
This subclass is indented under subclass 97. Processes wherein a member carrying a uniform layer of a toner is selectively released to a separate donor member based upon differences in the amount of radiation received by the medium.

103 Using development electrode:
This subclass is indented under subclass 97. Processes wherein the image is developed using a separate electrode which is either electronically shortened to the image carrying medium or has an electrical potential different from the image during development.

104 Finishing or perfecting composition or product:
This subclass is indented under subclass 97. Compositions and products useful in finishing or perfecting an image medium. Includes such finishing and perfecting processes as developing, fixing, and transferring of the image.

105 Developing composition or product:
This subclass is indented under subclass 104. Compositions or products used to develop the image medium.

106.1 Dry toner containing a chemically identified magnetic component:
This subclass is indented under subclass 105. Subject matter containing chemically identified material, that is magnetized or has active magnetic susceptibility, in a toner (e.g., ferrite, etc.).

(1) Note. The expression "chemically identified" means that a substance is identified by its chemical name or by its class of chemical compound. Greater specificity than "organic compound" or "inorganic compound" is required.

106.2 Binary ferric or ferrous oxide containing magnetic component:
This subclass is indented under subclass 106.1. Subject matter wherein the magnetic component contains trivalent (Fe +3) iron oxide (Fe_20_3), or divalent (Fe +2) iron oxide (Fe0).

106.3 Elemental metal or alloy magnetic component:
This subclass is indented under subclass 106.1. Subject matter wherein the magnetic component is a metal in elemental form or in form of an alloy.

107.1 Dry multicolor toner (i.e., composition containing more than one colored toner, (e.g., cyan, magenta, and yellow toners, etc.)) with a chemically identified colorant or colorant identified by color:
This subclass is indented under subclass 105. Subject matter wherein a plurality of differently colored dry toners, with a chemically identified colorant or with a colorant identified by its color, are in association.

(1) Note. The expression "chemically identified" means that a substance is identified by its chemical name or by its class of chemical compound. Greater specificity than "organic compound" or "inorganic compound" is required.

SEE OR SEARCH THIS CLASS, SUBCLASS:
45.1, through 45.56, for multicolor imaging processes with a named developing composition.

108.1 Dry toner with chemically identified adjuvant (e.g. charge control agent, colorant, etc.):
This subclass is indented under subclass 105. Subject matter wherein a chemically identified material specified to enhance toner effectiveness is present in or on the surface of a toner.

(1) Note. The expression "chemically identified" means that a substance is identified by its chemical name or by its class of chemical compound. Greater specificity than "organic compound" or "inorganic compound" is required.

SEE OR SEARCH THIS CLASS, SUBCLASS:
111.1, for carrier particles mixed with toner.

108.11 Fluorine compound adjuvant:
This subclass is indented under subclass 108.1. Subject matter wherein the adjuvant is a compound containing fluorine.

108.14 Fluorophosphate salt or fluoroborate salt adjuvant:
This subclass is indented under subclass 108.11. Subject Matter wherein the adjuvant is a salt containing a fluorophosphate or fluoroborate anion.

108.15 Organic fluorine compound adjuvant containing either nitrogen or phosphorus:
This subclass is indented under subclass 108.11. Subject matter wherein the adjuvant is an organic fluorine compound that also contains nitrogen or phosphorus.

108.2 Organic nitrogen or organic phosphorus compound adjuvant:
This subclass is indented under subclass 108.1. Subject matter wherein the adjuvant is an organic nitrogen or phosphorus-containing compound (e.g. R_3P, wherein R is an organic group, etc.).

108.21 Plural nitrogen or phosphorus atoms attached directly or indirectly to each other by nonionic bonding in the adjuvant:
This subclass is indented under subclass 108.2. Subject matter wherein the adjuvant contains more than one nitrogen or more than one phosphorus atom attached directly or indirectly to each other by non-ionic bonding.

108.22 As a nitrogen- or phosphorus-containing polymer:
This subclass is indented under subclass 108.21. Subject matter wherein the adjuvant is an organic polymer containing either nitrogen (N) or phosphorus (P).

108.23 Azo containing adjuvant:
This subclass is indented under subclass 108.21. Subject matter wherein the adjuvant has an azo group (-N=N-).

108.24 Heavy metal, aluminum, or silicon in the nitrogen or phosphorus compound:
This subclass is indented under subclass 108.2. Subject matter wherein the organic nitrogen or phosphorus compound adjuvant also contains a heavy metal, aluminum (Al), or silicon (Si) in the compound.

(1) Note. The term 'heavy metal' as used here means a metal having a specific gravity greater than four.

(2) Note. Chelate compounds are included in this subclass.

108.3 Organic heavy metal, aluminum, or silicon compound adjuvant:
This subclass is indented under subclass 108.1. Subject matter wherein the adjuvant is an organic compound having a heavy metal, aluminum (Al), or silicon (Si).

(1) Note. The term 'heavy metal' as used here means a metal having a specific gravity greater than four.

(2) Note. Chelate compounds are included in this subclass.

108.4 Carboxylic acid or ester compound adjuvant:
This subclass is indented under subclass 108.1. Subject matter wherein the adjuvant is an organic carboxylic acid, (i.e., an organic acid containing the COOH group), or an ester of a carboxylic acid.

108.5 Organic sulfur compound adjuvant:
This subclass is indented under subclass 108.1. Subject matter wherein the adjuvant is an organic sulfur compound (e.g., a thiol, a sulfone, a sulfonate ester, etc.).

108.6 Metal oxide compound adjuvant (e.g., Al_2O_3, TiO_2, etc.):
This subclass is indented under subclass 108.1. Subject matter wherein the adjuvant is a metal oxide.

SEE OR SEARCH THIS CLASS, SUBCLASS:
106.1, for toners with a magnetic component.

108.7 Inorganic silicon compound adjuvant:
This subclass is indented under subclass 108.1. Subject matter wherein the adjuvant is an inorganic silicon compound (e.g., silica, etc.).

108.8 Hydrocarbon wax-containing adjuvant:
This subclass is indented under subclass 108.1. Subject matter wherein the adjuvant contains a wax compound containing only hydrogen and carbon atoms.

SEE OR SEARCH THIS CLASS, SUBCLASS:
108.4, for adjuvants that are waxes having carboxylic acid or ester groups.

108.9 Identified carbon black adjuvant:
This subclass is indented under subclass 108.1. Subject matter wherein the chemically identified material enhancing the toner is an identified carbon black (e.g., lamp black, grafted carbon black, carbon black with a certain property, etc.).

(1) Note. The mere recitation of 'carbon black', without further limitation, is not sufficient to be classified here. Any further qualification of “carbon black” will be sufficient to render it “identified”.

(1) Note. The carbon black frequently serves as a colorant.

109.1 Dry toner having chemically identified binder:
This subclass is indented under subclass 105. Subject matter wherein a chemically identified material is specified to hold together toner materials (e.g., colorant and charge control agent, etc.).

(1) Note. Binders are usually polymeric compounds.

(2) Note. The expression “chemically identified” means that a substance is identified by its chemical name or by its class of chemical compound. Greater specificity than “organic compound” or “inorganic compound” is required.

SEE OR SEARCH THIS CLASS, SUBCLASS:
110.1, for specified toner binder structure (e.g., domain-matrix structure, etc.).
110.2, for toners having a specified core or shell polymer.

109.2 Epoxy or oxirane compound (e.g., glycidyl, etc.) binder:
This subclass is indented under subclass 109.1. Subject matter wherein the binder is a compound containing an epoxy or oxirane groups.

109.3 Vinyl addition binder (e.g., methacrylate, styrene, vinyl chloride addition products, etc.):
This subclass is indented under subclass 109.1. Subject matter wherein the binder is a vinyl addition product.

(1) Note. A vinyl addition product is a product formed by the reaction of plural same or different olefinically unsaturated monomer molecules by addition across their olefinic double bonds.

109.31 Covalent nitrogen in the vinyl addition binder:
This subclass is indented under subclass 109.3. Subject matter where the vinyl addition binder contains covalently bonded nitrogen (e.g., acrylamide, etc.).

SEE OR SEARCH THIS CLASS, SUBCLASS:
110.2, for toner shell polymers made from nitrogen-containing polymers.

109.4 Polyester backbone binder (e.g., condensation reaction product, etc.):
This subclass is indented under subclass 109.1. Subject matter wherein the binder contains ester groups in the polymeric backbone (e.g., bisphenol-A polyester, polycaprolactone, etc.).

SEE OR SEARCH THIS CLASS, SUBCLASS:
109.1, for polycarbonate binders.
109.3, for poly(meth)acrylic-type binders.

109.5 Organic nitrogen containing binder (e.g., polyamide, etc.):
This subclass is indented under subclass 109.1. Subject matter wherein a binder has an organic nitrogen-containing moiety (e.g., polyimine, polyamide, etc.).

SEE OR SEARCH THIS CLASS, SUBCLASS:
108.22, for a toner containing an adjuvant which is an organic polymer containing nitrogen.
109.31, for a toner having a nitrogen-containing vinyl-addition binder.
110.2, for toner shell polymer made from nitrogen-containing polymer.

110.1 Identified dry toner physical structure:
This subclass is indented under subclass 105. Subject matter wherein a dry toner has a specified physical structure (e.g., domain-matrix binder, etc.).

110.2 Core-shell structure;
This subclass is indented under subclass 110.1. Subject matter wherein a core material is encapsulated by a solid shell material.

(1) Note. The shell must differ chemically or physically from the core material e.g., liquid core with solid shell, etc.

110.3 Identified toner shape (e.g., recited shape parameter, etc.):
This subclass is indented under subclass 110.1. Subject matter wherein the toner has a numerically or descriptively identified shape (e.g., spherical toner, flat toner, etc.).

110.4 Having specified toner particle size distribution:
This subclass is indented under subclass 110.1. Subject matter wherein the toner s particle size distribution is numerically identified (e.g., toner size distribution = D_v/D_n where D_v and D_n are respectively the volume average and the number average particle size of the toner).

(1) Note. Recitation of average particle size alone is not sufficient for classification here.

111.1 Chemically identified carrier for dry toner:
This subclass is indented under subclass 105. Subject matter wherein a particulate carrier composition has a chemically identified material which attaches to a dry toner material (i.e., triboelectrical attachment) for conveying or transporting the toner.

(1) Note. The expression "chemically identified" means that a substance is identified by its chemical name or by its class of chemical compound. Greater specificity than "organic compound" or "inorganic compound" is required.

111.2 Glass-containing carrier:
This subclass is indented under subclass 111.1. Subject matter wherein the carrier contains glass, e.g. contains borosilicate, etc.

111.3 Magnetic carrier:
This subclass is indented under subclass 111.1. Subject matter wherein the carrier is identified as being magnetic.

111.31 Ferrite containing magnetic carrier:
This subclass is indented under subclass 111.3. Subject matter wherein the magnetic carrier contains a ferrite compound.

(1) Note. Ferrites have the following formula: $(MO)_xFe_2O_3$, wherein MO is at least one metal oxide (e.g., FeO, Li_2O, TiO, etc.).

111.32 Ferrite core-resin shell carrier:
This subclass is indented under subclass 111.31. Subject matter wherein the ferrite carrier is encased by a solid outer resin covering.

111.33 The ferrite contains nonferrous metal oxide:
This subclass is indented under subclass 111.32. Subject matter wherein the "MO" in the ferrite has been chemically identified as other than ferrous oxide.

SEE OR SEARCH THIS CLASS, SUBCLASS:
111.32, for a magnetite core with a resin shell.

111.34 Chemically identified elemental magnetic metal or magnetic alloy carrier:
This subclass is indented under subclass 111.3. Subject matter wherein the carrier contains an elemental magnetic metal (i.e. iron, nickel, or cobalt), or an alloy thereof (e.g. steel, AlNiCo, etc.).

111.35 Chemically or physically identified binder or coating resin for magnetic carrier:
This subclass is indented under subclass 111.3. Subject matter wherein a binder resin or coating resin for the magnetic carrier has been identified chemically or by physical property.

(1) Note. The expression "chemically identified" means that a substance is identified by its chemical name or by its class of chemical compound. Greater specificity than "organic compound" or "inorganic compound" is required.

111.4 Identified physical parameter of carrier particle or dry toner particle, etc. (Tg, MW, coercivity, density, etc.):
This subclass is indented under subclass 105. Subject matter wherein the carrier or dry toner particles (including adjuvants, e.g., SiO_2, etc.) contain an ingredient identified by a physical property.

111.41 Electrical or magnetic parameter:
This subclass is indented under subclass 111.4. Subject matter where the carrier or dry toner particle has a specified electrical or specified magnetic measure factor.

112 Liquid:
This subclass is indented under subclass 105. Compositions wherein material from a liquid medium is applied to develop the imaged medium.

113 Multiple phase liquid carrier medium, i.e., emulsion:
This subclass is indented under subclass 112. Compositions wherein the liquid carrier of the composition is in the form of more than one phase during development such as an emulsion.

SEE OR SEARCH CLASS:
516, Colloid Systems and Wetting Agents; Subcombinations Thereof; Processes of Making, Stabilizing, Breaking, or Inhibiting, subclasses 9+ for continuous liquid phase colloid systems (e.g., foams, emulsions, suspensions, dispersions) or agents for such systems or making or stabilizing such systems or agents, when generically claimed or when there is no hierarchically superior provision in the USPC for the specifically claimed art.

114 Identified toner, i.e., identified resin coated pigment, etc.:
This subclass is indented under subclass 112. Compositions having a chemically identified ingredient that deposits upon the imaged medium during development, e.g., a novolak resin coated pigment.

115 Identified adjuvant, i.e., surfactant, etc.:
This subclass is indented under subclass 112. Compositions having an additional chemically identified ingredient that modifies the chemical, physical, or electrical properties of the developer composition, e.g., a surfactant.

116 Identified liquid carrier:
This subclass is indented under subclass 112. Compositions wherein the liquid ingredient (which usually electrically insulated, carries the toner, and is not deposited upon the imaged medium during development) is chemically identified.

SEE OR SEARCH CLASS:
399, Electrophotography, subclasses 9+ for diagnostics, subclasses 38+ for controls, and subclasses 222+ for development, particularly subclasses 237+ for electrophotographic apparatus employing this type of subject matter.

117.1 Liquid development:
This subclass is indented under subclass 97. Process wherein the image is developed using a liquid developer.

SEE OR SEARCH CLASS:

399, Electrophotography, subclasses 237 through 251 for electrophotographic liquid development apparatus.

OTHER CLASSIFICATION SYSTEMS:

IPC[8] G03G 13/10, for developing using a liquid developer.

ECLA G03G 13/10, for developing using a liquid developer (e.g., liquid suspension, etc.).

117.2 Postdeveloping step:

This subclass is indented under subclass 117.1. Subject matter including treating the developed product (e.g., coating, etc.).

SEE OR SEARCH CLASS:

399, Electrophotography, subclass 407 wherein a copy or copies receive further treatment, such as folding or punching, after copying is complete.

117.3 Liquid developer removal step:

This subclass is indented under subclass 117.2. Process wherein the liquid developer (i.e., toner particle or carrier liquid) is removed after forming developed image.

SEE OR SEARCH CLASS:

399, Electrophotography, subclass 249 for cleaning excessive toner from parts of the electrophotographic device.

OTHER CLASSIFICATION SYSTEMS:

IPC[8] G03G 13/11, for removing excess liquid developer (e.g., by heat, etc.).

ECLA G03G 13/11, for removing excess liquid developer (e.g., by heat, etc.).

117.31 Only liquid carrier removal:

This subclass is indented under subclass 117.3. Process wherein only the liquid carrier is removed from the developed image.

117.32 Liquid developer recycling:

This subclass is indented under subclass 117.3. Process wherein the developer component previously used in the development process is reclaimed for reuse.

(1) Note. The developer component may be for reuse in the same or a different process.

117.4 Developed image transfer:

This subclass is indented under subclass 117.2. Process including transferring the developed image after imagewise developing.

SEE OR SEARCH CLASS:

399, Electrophotography, subclass 66 for condition-responsive control of transfer; subclass 101 for particle or contaminant control of toner on a transfer member; subclass 121 for transferring an image from one surface or medium to another; subclasses 297-319 for transferring a toner image, per se; subclasses 388-396 for feeding a copy to the transfer position; and subclasses 397-405 for delivering a copy from the transfer position.

117.5 Fixing developed image:

This subclass is indented under subclass 117.2. Process including step of making permanent the developed image.

SEE OR SEARCH CLASS:

355, Photocopying, subclass 405 for thermal fixing means.

399, Electrophotography, subclass 33 for over-temperature protection during fixing; subclasses 67-70 for condition-responsive control of fusing; subclass 122 for a fixing unit for permanently adhering toner to a copy medium; and subclasses 320-342 for fixing (e.g., fusing, etc.), per se.

OTHER CLASSIFICATION SYSTEMS:

IPC[8] G03G 13/20, for fixing (e.g., by using heat, etc.).

ECLA G03G 13/20, for fixing (e.g., by using heat, etc.).

118.1 Replenishing liquid developer during development:
This subclass is indented under subclass 117.1.
Process wherein a portion of the liquid developer or some developer component is resupplied during the development.

118.2 Prewetting image carrier immediately prior to development:
This subclass is indented under subclass 117.1.
Process wherein prior to development the latent image carrier is in a wet or moist state.

118.3 Identified development step (e.g., misting, etc.):
This subclass is indented under subclass 117.1.
Process including an identified process in the development step.

(1) Note. The expression "identified" means the step is identified by greater specificity than "development step" or "developing."

118.4 Applying electrical bias:
This subclass is indented under subclass 117.1.
Process including use of electrical bias before, during, and after development.

SEE OR SEARCH CLASS:
399, Electrophotography, subclass 240 for liquid application member with applied bias and subclass 241 for liquid development with electrode influencing the attraction of liquid developer.

118.5 Pretreatment of developer (e.g., agitating, etc.):
This subclass is indented under subclass 117.1.
Process including treatment of the developing liquid prior to use as a developer.

118.6 Identified developer (e.g., resin-coated pigment structure, etc.):
This subclass is indented under subclass 117.1.
Process wherein the developer has a chemical or physical structure identified (e.g., spherical toner, flat toner, etc.).

SEE OR SEARCH THIS CLASS, SUBCLASS:
112, through 116, for compositions wherein material from a liquid medium is applied to develop the imaged medium.

118.7 Having identified image carrier:
This subclass is indented under subclass 118.6.
Process wherein an identified image carrier is chemically or physically identified.

(1) Note. The expression "identified" means that a substance is identified (e.g., by its chemical name or by its class of chemical compound, etc.). Greater specificity than "organic compound" or "inorganic compound" is required.

SEE OR SEARCH THIS CLASS, SUBCLASS:
56, through 96, for radiation-sensitive compositions and products (e.g., photoreceptors, photoreceptor composition, etc.), per se.

118.8 Toner particle size:
This subclass is indented under subclass 118.6.
Process wherein the developer material is comprised of toner particle of identified dimension.

119.1 Toner polymer composition:
This subclass is indented under subclass 118.6.
Process wherein a developer material is composed of toner of identified polymer.

SEE OR SEARCH THIS CLASS, SUBCLASS:
114, identified liquid toner compositions, per se.

119.2 Block or graft polymer:
This subclass is indented under subclass 119.1.
Process wherein a developer material is composed of toner of a block or graft polymer.

SEE OR SEARCH CLASS:
525, Synthetic Resins or Natural Rubbers, subclasses 7 through 540 for block or graft polymers derived from ethylenic monomers, per se.

119.3 Silicon-containing polymer:
This subclass is indented under subclass 119.1. Process wherein a developer toner is a polymer-containing silicon.

119.4 Halogen-containing liquid carrier:
This subclass is indented under subclass 118.6. Process wherein a carrier liquid contains a halogen-containing compound.

119.5 Acid or salt adjuvant:
This subclass is indented under subclass 118.6. Process wherein a liquid developer contains an acid or a salt.

119.6 Identified image carrier:
This subclass is indented under subclass 117.1. Process wherein the image carrier is chemically or physically identified.

(1) Note. The expression "chemically identified" means that a substance is identified by its chemical name or by its class of chemical compound. Greater specificity than "organic compound" or "inorganic compound" is required.

SEE OR SEARCH THIS CLASS, SUBCLASS:

56, through 96, for radiation-sensitive compositions and products (e.g., photoreceptors, photoreceptor composition, etc.), per se.

119.7 With subsequent imaging member cleaning:
This subclass is indented under subclass 97. Processes wherein the image member is subjected to a procedure to remove undesired particles or other materials deposited during development from a surface of the imaging member.

(1) Note. Typically this process is conducted so that the imaging member may be reused.

(2) Note. At least a portion of the imaging member surface remains after the process.

SEE OR SEARCH CLASS:

15, Brushing, Scrubbing, and General Cleaning, subclasses 1.51 and 1.52 for electrostatic cleaning, subclasses 256.5-256.6 for moving surface brush, and subclasses 300.1-422.2 for airblast 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.

399, Electrophotography, subclass 34 for analyzing the performance of a residual toner removal system; subclass 71 for control of cleaning during the electrophotography process; subclass 123 for particular structure of a cleaning unit; subclass 149 for combined development and cleaning by a single component; subclass 245 for self-cleaning, with electrodes, a liquid development application member; and subclasses 343-360 for cleaning an imaging surface (i.e., photoconductive member), including a cleaning member cyclically movable into and out of contact with the imaging surface.

OTHER CLASSIFICATION SYSTEMS:

IPC[8] G03G 21/00, for arrangements not provided by groups 13/00-19/00 (e.g., cleaning, elimination of residual charge).

ECLA G03G 21/00B, for removing solid developer or debris from the electrographic recording medium.

119.71 Identified radiation conductive surface:
This subclass is indented under subclass 119.7. Processes wherein the composition or structure of the radiation-conductive surface of the imaging member is identified (e.g., composition, layer thickness, surface property, etc.).

(1) Note. The expression "chemically identified" means that a substance is identified by its chemical name or by its class of chemical compound. Greater specificity

than "organic compound" or "inorganic compound" is required.

SEE OR SEARCH THIS CLASS, SUBCLASS:

56, through 96, for radiation-sensitive compositions and products (e.g., photoreceptors, photoreceptor composition, etc.), per se.

119.72 Charge transport layer cleaning:

This subclass is indented under subclass 119.71. Processes wherein a charge transport layer, as the surface layer of the imaging member, is cleaned.

SEE OR SEARCH THIS CLASS, SUBCLASS:

58.05, through 58.85, for specific charge transport layer, per se.

119.8 Using identified cleaning element or material (e.g., brush, etc.):

This subclass is indented under subclass 119.7. Processes wherein the surface of the imaging member is cleaned with an identified element or material such as brushes and solvents.

(1) Note. The expression "identified" means that a substance is identified by its structure. Greater specificity than "edge" is required.

SEE OR SEARCH CLASS:

134, Cleaning and Liquid Contact With Solids, subclasses 1 through 42 for cleaning of a toner image from a receiver, per se, without forming the toner image.

399, Electrophotography, subclasses 343 through 360 for an apparatus that removes developing material from an imaging surface after an image is transferred.

OTHER CLASSIFICATION SYSTEMS:

ECLA G03G 21/00B1-00B6, for removing solid developer or debris from the electrographic recording medium using a blade, a brush, a band, electrostatic or magnetic means, airflow, or a roller or a polygonal rotating cleaning member, respectively.

119.81 Cleaning with particles (e.g., magnetic brush, etc.):

This subclass is indented under subclass 119.8. Processes wherein particles cleaning the surface of the imaging member wherein the cleaning member aligns dry material by its magnetic field in the form of a brush-like configuration wherein particles in a brush-like configuration, which are attached to a magnet in the cleaning member by magnetic attraction, clean the surface of the imaging member.

119.82 Cleaning with blade:

This subclass is indented under subclass 119.8. Processes wherein the arrangement for cleaning is a blade used to scrape residual developer material off an imaging surface.

SEE OR SEARCH CLASS:

399, Electrophotography, subclasses 350 and 351 for an apparatus having a blade used to scrape developer material off an imaging surface.

OTHER CLASSIFICATION SYSTEMS:

ECLA G03G 21/00B1, for removing solid developer or debris from the electrographic recording medium using a blade and details of cleaning blade (e.g., blade shape, layer forming, etc.).

119.83 Identified blade movement (e.g., vibrated, oscillated, etc.):

This subclass is indented under subclass 119.82. Processes wherein the cleaning blade is vibrated, oscillated, or moved in a manner usually to aid removal of the residual developer from the imaging member surface.

119.84 Polyurethane blade (e.g., polyurethane binder, polyurethane spheres in matrix, etc.):

This subclass is indented under subclass 119.82. Processes wherein the cleaning blade contains polyurethane as the sole constituent or as a component, such as polyurethane binder resin and polyurethane sphericals in a matrix.