

CLASS 15, BRUSHING, SCRUBBING, AND GENERAL CLEANING

SECTION I - CLASS DEFINITION

This class is intended for the assembly of patents for apparatus (but not the process of use thereof, see (1) note) designed or adapted for cleaning - that is to say, for the removal of foreign matter - by any of the following means - viz., a draft or current of air, steam, or equivalent gaseous fluid, dry brushing along; brushing, and an applied liquid - i.e., scrubbing, beating, scraping, erasing, shaking, wiping, shotting, the use of squeegee, the application of an electrostatic field or any combination including one or more of these agencies - unless the inventions are so related or confined to or identified with some particular industrial art as to warrant classification therein, see the notes appended hereto.

Washing means, per se, i.e., not combined with one of the above noted means, are excluded, being provided for in other classes as set forth in the notes hereto. So also all jets, nozzles, or other means of liquid or coating material supply, per se, where these agencies are present, are generally treated as merely ancillary or subordinate to the mechanical cleaning instrument or agency whose presence as a part of the invention is necessary to the assignment of a patent to this class and whose character determines the subtitle under which it is placed.

Coating: many inventions in whose use cleaning or removal of foreign or extraneous material is or may be absent or merely incidental to a coating or polishing operation by brushing, rubbing, or wiping, combined or not with means for supplying a coating, cleaning, or polishing substance, are however, included in this class, because their structure and possible use are the same, whether intended for cleaning, polishing, or coating. This class provides for coating apparatus having a solid member for transferring coating material from a source of supply to the work where the coating device is (1) an implement as defined in the GLOSSARY below, or (2) a work traversing device the motion of which is determined by the intelligence of the operator rather than by the law of the machine itself. See the class definition of Class 118 for the line between Class 15 and Class 118.

Inventions of the types above noted as properly belonging in this class are placed therein under four main heads - viz., Machines, Implements, Attachments and Accessories. See the GLOSSARY for definitions of these terms.

See Subclass References To This Class, below, for inventions relating to the commonly so-called vacuum cleaning art; those using brushes for cleaning receptacles; and for most brush and broom structures, per se.

SECTION II - NOTES TO THE CLASS DEFINITION

- (1) Note. Processes: Where both process and apparatus for its practice are claimed, the patent is classified as an original in the class appropriate to the process claimed and cross-referenced to this class (15) for the apparatus. (See References To Other Classes, below, for drying processes, processes for cleaning and liquid contact with solids, for processes for hulling and comminuting seeds with or without fluids, and for coating processes.)
- (2) Note. Processes and apparatus which remove an integral portion of the object or material dealt with rather than of extraneous or foreign matter only are found in the appropriate manufacturing class. For related art, see References to Other Classes, below.

SECTION III - SUBCLASS REFERENCES TO THE CURRENT CLASS

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 56, through 76, 164 and 165, for those inventions using brushes for cleaning receptacles.
- 159, through 207, for most brush and broom structures, per se.
- 246, 257, and 300 to 422, for inventions relating to the commonly so-called vacuum cleaning art.

SECTION IV - REFERENCES TO OTHER CLASSES

SEE OR SEARCH CLASS:

- 19, Textiles: Fiber Preparation, appropriate subclasses for cleaning a mass of fibers or a drafting roll.
- 29, Metal Working, subclasses 81.01+ for processes and apparatus for removing scale from metal sheets and bars except by brushing or scouring with an abradant and removing the

- scale by chemical action, and subclasses 90.01+ for smoothing, compacting, or polishing the surface of metallic or nonmetallic articles by mere burnishing operations.
- 30, Cutlery, for hand manipulable cutting implements including scrapers with sharpened edges.
- 34, Drying and Gas or Vapor Contact With Solids, (see also (1) Note) subclass 85 for such apparatus combined with means for cleaning the same.
- 34, Drying and Gas or Vapor Contact With Solids, for drying processes, per se, even though performed by brushing, et cetera, per se. (Also see the (1) Note above).
- 52, Static Structures (e.g., Buildings), a residual class for a static structure, subclasses 171+ for a window treating means, 177+ for a specific wear or friction-type traffic carrying surface, 660+ for a fabric or lattice (e.g., indeterminate grating), 720+ for a shaft (i.e., an elongated rigid structure), or 749 for machine or implement having specialized use in assembly or manufacture of a building.
- 55, Gas Separation, appropriate subclasses, for the gas separator subcombination of gas blast or suction cleaners, particularly subclasses 361+ for collapsible bag type filters, and subclasses 282+ for separating media cleaning means particularly subclass 294 for pneumatic scanning nozzles.
- 56, Harvesters, subclasses 375 and 400.01+ for rakes, which have structure and operating means analogous to brushes and brooms.
- 68, Textiles: Fluid Treating Apparatus, for pertinent subclass(es) as determined by schedule review.
- 69, Leather Manufactures, appropriate subclasses, for scrapers, brushes, et cetera, for removing flesh, hairs, et cetera, from a hide during the leather manufacturing operation.
- 73, Measuring and Testing, subclass 323, for liquid level or depth sight glasses combined with a cleaner.
- 74, Machine Element or Mechanism, subclasses 579+ for pitman and connecting rod where an intermediate connector having a bearing at each end for transmitting motion by a push and pull movement.
- 99, Foods and Beverages: Apparatus, particularly subclasses 517+ and 599+ for apparatus for hulling grain.
- 101, Printing, subclasses 423 through 425 for cleaning attachments.
- 104, Railways, subclasses 279+ for track clearers.
- 114, Ships, subclass 222 for implements especially adapted to cleaning or scraping a ship's hull.
- 118, Coating Apparatus, appropriate subclass for coating apparatus, and see the class definition of Class 118 for the line between Class 15 and Class 118.
- 122, Liquid Heaters and Vaporizers, subclasses 379+ for cleaning combinations.
- 126, Stoves and Furnaces, subclass 16 for cooking or heating stove, having a flue cleaner.
- 131, Tobacco, subclasses 315 and 324 for tobacco leaf cleaning, brushing, etc., subclasses 232 and 243 through 246 for implements for cleaning smoking devices.
- 132, Toilet, subclasses 73+ for manicuring devices, and subclasses 79+ for toilet kits having brushes or applicators and also some other part or device particularly useful for a toilet function (e.g., mirror, comb).
- 134, Cleaning and Liquid Contact With Solids, is the generic class for apparatus for cleaning and for contact of solids with liquids for other purposes, where not involving the means specially provided for in Class 15. (see (1) Note, above).
- 137, Fluid Handling, subclasses 238+ for fluid handling apparatus combined with cleaning, particularly subclasses 242+ for mechanical cleaning.
- 164, Metal Founding, subclasses 344+ and 404 for apparatus for removing a sand mold or core from a flask or casting which may be by disintegration, except where abrading means (Class 451, Abrading) or an agitating screen (Class 209, Classifying, Separating, and Assorting Solids) is employed, and subclasses 131+ for corresponding methods. See Class 15, subclass 94 for apparatus for freeing foundry flasks or castings of residual sand by shaking or other vibrating procedure.
- 165, Heat Exchange, subclass 5 for cleaning a heat exchanger of the regenerative type, and subclasses 90+ for other types of heat exchangers having cleaning means.
- 166, Wells, subclasses 82.1+ for a cleaner on a well head for an inner member extending into the well, which is releasable by a tool carried on the inner member, and subclasses 170+ for a cleaner used inside a well.
- 172, Earth Working, subclasses 606+ and the subclasses there noted, for a cleaner attached to an earth working apparatus.
- 173, Tool Driving or Impacting, appropriate subclass for subject matter directed to driving or

- impacting a tool, when such subject matter includes combined features peculiar to tool driving, but which does not include features limiting the subject matter to a specific tool art, such as specific shape of the work contacting portion of a tool, related tools, or an opposed work support. Class 15 has not been cleared as to subject matter in conflict with this line.
- 196, Mineral Oils: Apparatus, subclass 122 for apparatus for removing carbon from stills.
- 198, Conveyors: Power-Driven, subclasses 494+ for a conveyor having installed as part of its structure a means for cleaning a component of the conveyor.
- 199, Type Casting, subclass 62 for cleaning attachments for integral line casting mechanism.
- 201, Distillation: Processes, Thermolytic, subclass 2 for a process for cleaning or decarbonizing thermolytic distillation apparatus.
- 202, Distillation: Apparatus, subclass 241 for apparatus for cleaning or decarbonizing distilling apparatus.
- 208, Mineral Oils: Processes and Products, subclass 48 for processes of removing carbon accumulations formed during mineral oil conversions.
- 209, Classifying, Separating, and Assorting Solids, the various liquid treatment and aqueous suspension machines, and other appropriate subclasses, particularly 379+ and 487 for devices for clearing or cleaning sifters and stratifiers as by brushing, wiping, jarring or scraping.
- 210, Liquid Purification or Separation, subclasses 106+, 158, 159, 269+, 298, 332+, 353, 354+, 391+, 407+, and 523+ for apparatus of that class (210) having cleaning means.
- 223, Apparel Apparatus, subclass 43 for devices for turning articles of apparel, bags, or tubular articles by means of fluid pressure having no additional means for cleaning the articles.
- 228, Metal Fusion Bonding, subclass 18 for fusion-bonding apparatus combined with a device for mechanically cleaning either the work or the fusion-bonding instrumentality, and subclasses 19+ for fusion-bonding apparatus combined with a device for removing excess solder or flux. Also subclass 125 for the method of bonding and removing excess filler material from the bonded joint, subclasses 201+ for the method of bonding and cleaning the product, and subclasses 205+ for the method of bonding after cleaning the work part(s).
- 239, Fluid Sprinkling, Spraying, and Diffusing, appropriate subclasses for fluid discharging apparatus which may be combined with specific cleaning structures, but not so claimed.
- 241, Solid Material Comminution, or Disintegration, subclasses 166+ for comminutors provided with cleaning means. See the line stated in the main class definition of Class 241.
- 241, Solid Material Comminution or Disintegration, subclass 7 for processes and apparatus for hulling and comminuting or disintegrating seeds with or without the application of fluids. (Also see the (1) Note above).
- 252, Compositions, subclasses 88.1, 88.2, 175, and 364 for dust or particle adherent compositions, compositions with water-softening or purifying or scale-inhibiting agents, and solvents, respectively.
- 280, Land Vehicles, subclasses 855+ for wheel scrapers or cleaners.
- 296, Land Vehicles: Bodies and Tops, subclasses 96.15+ for a windshield cleaner claimed in combination with a windshield or its supporting structure.
- 299, Mining or in Situ Disintegration of Hard Material, in general for a machine that disintegrates, in situ, purposely applied hard material (e.g., concrete, linoleum, roofing, etc.).
- 369, Dynamic Information Storage or Retrieval, subclasses 72+ for storage element cleaning combined with storage or retrieval.
- 399, Electrophotography, subclasses 34+ for cleaning diagnostics, subclass 71 for control of cleaning during the electrophotography process, subclass 123 for particular structure of 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, subclass 327 for cleaning of fixing member, and subclass 343 for cleaning of imaging surface (i.e., photoconductive member).
- 400, Typewriting Machines, subclasses 701+ for cleaners.
- 401, Coating Implements With Material Supply, appropriate subclass for a manually manipulated implement comprising a coating tool combined with coating material supply means (e.g., pencil, lipstick, fountain pen, fountain brush, etc.).

- 403, Joints and Connections, a generic class of connections between two or more rigid or semi-rigid members; subclasses 52+ for articulated members having relative movement about a bearing surface, especially subclasses 119+ for a pivot where two members are connected for angular motion in a plane transverse to the axis of at least one member.
- 427, Coating Processes, for processes of coating in general, especially subclass 429 for processes of coating wherein a brush or absorbent applicator is utilized (Also see (1) Note above).
- 428, Stock Material or Miscellaneous Articles, appropriate subclasses for a stock material product in the form of a single or plural layer web or sheet, and subclasses 364+ for a coated or structurally defined rod, strand, fiber or filament.
- 430, Radiation Imagery Chemistry: Process, Composition, or Product, subclasses 31+ for process of cleaning the radiation system medium used in electric and magnetic imagery combined with a step of radiation imagery.
- 451, Abrading, for a process of or apparatus for abrading, both in the strict sense and as a species of cleaning.
- 464, Rotary Shafts, Gudgeons, Housings, and Flexible Couplings for Rotary Shafts, subclass 22 for a shaft or flexible shaft coupling having cleaning means associated therewith.
- 474, Endless Belt Power Transmission Systems or Components, subclass 92 for a belt and pulley drive system having cleaning means associated therewith.
- 510, Cleaning Compositions for Solid Surfaces, Auxiliary Compositions Therefor, or Processes of Preparing the Compositions, appropriate subclasses for a chemical composition used for cleaning or removing foreign matter from solid surfaces, and including descaling agents (subclasses 247+), detergents, and sweeping compounds (subclasses 215, 216).
- 607, Surgery: Light, Thermal, and Electrical Application, subclass 79 for brushes and combs having means to apply light or electricity to the body.

SECTION V - GLOSSARY

ACCESSORIES

Devices not classifiable elsewhere and which perform no cleaning function but which are merely ancillary to

machines, implements and attachments classified in this class.

ATTACHMENTS

As an exception to the other GLOSSARY definitions, patents which recite that (1) a cleaning or coating means is attached to an object which is cleaned or coated thereby or (2) that any device is attached to a cleaning or coating agency, have been classified as attachments regardless of whether they are machines or not, disregarding the relative superiority of these subclasses in the classification schedule.

IMPLEMENT

Defined in this class as a work contacting cleaning or coating agency subcombination which as disclosed, could be either (1) manipulated manually as a tool, (2) moved by a machine, as defined above and constituting a part thereof, or (3) held in place by support means for direct manual application of the work thereto. (Note: A hand held nozzle is not an implement as defined above and is classified elsewhere as a machine subcombination).

MACHINE

Defined in this class as an organization including a mechanism, which contains within itself its own guide for operation, to move either (1) a cleaning agency, or a coating agency of a type recognized in this class, relative to the work surface or (2) a means to constrain the work and said agency to some type of definite relative motion in response to manual or other actuation. (Note: A guide on a stripping brush aids in directing the brush but does not constrain it to any definite path other than that determined by the work itself).

SUBCLASSES

1 MISCELLANEOUS:

This subclass is indented under the class definition. Inventions relating to brushing, scrubbing, or general cleaning, not strictly classifiable as machines, implements, accessories, attachments within the meaning of those terms as below defined.

1.51 ELECTROSTATIC CLEANING:

This subclass is indented under the class definition. A machine or an implement in which an electrostatic field is applied to foreign material disposed on the surface of an object to (1)

attract or repel said foreign material to remove it from said surface, or (2) to change the existing electrostatic charge on the foreign matter, the latter being removed from said surface by other cleaning means recognized by this class.

- (1) Note. Included herein is an implement which includes an element made of dielectric material and adapted to generate an electrostatic charge when rubbed on the surface of an object to attract foreign matter from the surface of said object.

SEE OR SEARCH CLASS:

- 134, Cleaning and Liquid Contact With Solids, subclass 1 for a process of cleaning which includes application of electric energy to the work.
- 209, Classifying, Separating, and Assorting Solids, subclass 127.1 for a method and an apparatus for separating mixtures of various substances into individual components in response to the application of an electrostatic field, and see the notes thereto, and subclass 215 for a device which magnetically separates and removes foreign magnetic material from the surface of an object being cleaned thereby.
- 430, Radiation Imagery Chemistry: Process, Composition, or Product Thereof, subclass 119.85 for processes wherein the surface of the imaging member is cleaned with a fibrous brush and subclass 125.4 for processes including a step of removing residual material, such as toner, carrier, paper, and receiver, from the intermediate electrophotographic transfer member subsequent to transfer of the developed image to a receiver.

1.52 Hand implement:

This subclass is indented under subclass 1.51. Subject matter having means to facilitate the support or guidance of the cleaning means by a human operator.

1.7 SUBMERGED CLEANERS WITH AMBIENT FLOW GUIDES:

This subclass is indented under the class definition. Devices having cleaning means within the class definition contacting a surface under a body of liquid and also having means to cause a current of ambient liquid over the surface to dislodge or remove solids or sediment on the surface.

SEE OR SEARCH CLASS:

- 137, Fluid Handling, subclasses 565.01+ for tank and pump combinations there provided for, and subclass 577.5 for tanks having traversing fluid supply conduits.
- 210, Liquid Purification or Separation, subclasses 241+ for separators having moving support means, and subclasses 523+ for gravitational separators having mechanical constituent movers.

3 MACHINES:

This subclass is indented under the class definition. Apparatus having means for contacting a work surface or object with an air blast and/or suction or with a beater, brush, broom, scraper, eraser, squeegee, wiper, shot or other nonabrasive type particulate or comminuted solid, or having means for shaking or vibrating the work, or any combination of the above, for the purpose of dislodging and/or removing unwanted foreign material therefrom, and the surface contact is accomplished by power and motion means other than or in addition to that which the apparatus would have if merely held or supported by the operator and manipulated or moved by him relative to the work.

- (1) Note. Subcombination or elemental devices apparently restricted in utility to use with machines under the above definition may be placed in this group of subclasses, such, for example, as the "nozzle" of air blast and/or suction cleaners which are found in subclasses 322 and 415+.

SEE OR SEARCH CLASS:

- 173, Tool Driving or Impacting, appropriate subclass for a means to drive or impact a tool or the like.

3.1 For fruit, vegetables, meat or eggs:

This subclass is indented under subclass 3. Devices disclosed for treating (usually cleaning) fruit, vegetables, meat, eggs, nuts, or other discrete edible articles by instrumentalities provided for in this class, usually by brushes or wipers.

SEE OR SEARCH CLASS:

- 17, Butchering, for processes and apparatus for killing and dressing animals, fish and fowl for food.
- 171, Unearthing Plants or Buried Objects, subclass 25 for cleaning apparatus for unearthed plants or objects employing brushes or wipers.
- 356, Optics: Measuring and Testing, subclasses 52+ for egg candlers of the visual and the photoelectric type alone or candlers combined with counting, marking, weighing or conveying means.

3.11 With assorting or screening:

This subclass is indented under subclass 3.1. Devices including means to assort the articles or to screen out dirt or other undesired matter from the work.

SEE OR SEARCH CLASS:

- 209, Classifying, Separating, and Assorting Solids, for such processes and apparatus, per se.

3.12 Fluid application and/or work heating (e.g., drying):

This subclass is indented under subclass 3.1. Devices in which either (1) a fluid is applied to the work, or (2) the work is heated, usually to dry them.

SEE OR SEARCH CLASS:

- 34, Drying and Gas or Vapor Contact With Solids, appropriate subclass for drying fruits, etc., per se.
- 118, Coating Apparatus, subclasses 13+ for apparatus for applying coatings to edible materials.
- 134, Cleaning and Liquid Contact With Solids, appropriate subclass for apparatus for cleaning by application of a liquid only.

3.13 Work moved through apparatus:

This subclass is indented under subclass 3.12. Devices in which the work moves through the apparatus, i.e., from an entrance to an exit for the work.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 3.16+, for corresponding apparatus not using fluids.

3.14 Liquid application only:

This subclass is indented under subclass 3.13. Devices using only liquids (i.e., not using gases or vapors).

3.15 Work treating element and/or work immersed:

This subclass is indented under subclass 3.14. Devices in which (1) a work treating element or elements and/or (2) the articles being cleaned, are immersed in whole or part in a liquid.

3.16 Work moved through apparatus:

This subclass is indented under subclass 3.1. Devices in which the work moves through the apparatus, i.e., from an entrance to an exit for the work.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 3.13+, for corresponding apparatus utilizing fluids.

3.17 Transverse axis work treating elements:

This subclass is indented under subclass 3.16. Devices in which the work treating element or elements rotate about axes which extend transversely of the path of the articles through the apparatus, i.e., the work treating elements are generally normal to a line between the entrance and exit for the work.

3.18 Longitudinally movable elements:

This subclass is indented under subclass 3.17. Devices in which the rotating work treating elements also have a motion generally along, or parallel to, a line between the entrance and exit for the work.

3.19 Fixed axis rotary work treating conveyor:
This subclass is indented under subclass 3.16. Devices not provided for above in which a conveyor constituting a work treating element rotates about a fixed axis.

3.2 Axial work feed:
This subclass is indented under subclass 3.19. Devices in which the work moves along, or parallel to, an axis or a rotating work treating element.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

3.17+, for apparatus in which the work may move axially of rotating work treating elements which are transverse of the general path of the work through the apparatus, i.e., the articles move along a zigzag path between the entrance and exit of the work.

3.21 Work conveyor mounted work treating elements:
This subclass is indented under subclass 3.16. Devices in which a conveyor for the work also is, or carries, a work treating element.

3.5 With means to pass a solid cleaning agent and a fluid carrier through tubular work:
This subclass is indented under subclass 3. Machines for cleaning the inside of tubular conduits, such machines comprising means for introducing a carrier fluid into a conduit either in addition to or in the absence of normal fluid flow in the conduit, combined with means to introduce a solid cleaning member, agent or material into the stream of fluid or the conduit whereby the cleaning member, agent or material is conveyed or pushed through the conduit by fluid pressure for mechanically cleaning the inside of the conduit.

(1) Note. Devices in which the cleaning instrumentality is propelled through the conduit by mechanical traction developed by a motor means which is actuated by a fluid not confined solely by the conduit are excluded and may be found in the appropriate implement subclass of this class. See for example, subclass 104.12.

(2) Note. In the patents in this group of subclasses the cleaning means, in the carrier fluid, is introduced at one end of the conduit and at least the fluid has an egress point at another place. Thus, the cleaning of receptacles, in which the cleaning means is introduced and removed from the mouth of the receptacle, is excluded, an example of such devices, being the bottle shotting inventions classified in subclass 95 of this class.

(3) Note. The mechanical cleaning member, agent or material may be a structure of hard material for scraping the interior of the conduit or of soft materials as sponge or rubber, for wiping the surface to be cleaned, or it may be a soluble or insoluble comminuted or granular material, as sand, glass beads, or softer material. Patents in this subclass which utilize sand as the cleaning material to perform a disclosed cleaning (and not abrading) function are included as a specific exception to the general line with Class 451, Abrading, because the structures and modes of operation of such systems are similar to those of systems which circulate the other stated types of materials.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

95, and 96, for similar means to clean receptacles (bottles) by shotting.
104.05+, for implements, per se, for cleaning the insides of tubular work.

SEE OR SEARCH CLASS:

134, Cleaning and Liquid Contact With Solids, subclass 93 for similar apparatus in which soluble solid cleaning materials are dissolved in a liquid stream and applied to work to be cleaned.

137, Fluid Handling, subclass 15.07 for a process of mechanical cleaning (e.g., pig, etc.) for a fluid handling system, subclasses 238-245.5 for a fluid handling system with a cleaning or steam sterilizing means, or subclass 268 for a fluid handling system having means for holding solid, flaky, or pulverized material to be dissolved or entrained.

- 222, Dispensing, subclasses 148+ for similar systems disclosed and claimed as installed in dispensers.
- 451, Abrading, for a process of or apparatus for scouring. Search particularly subclasses 75+ for a process of sandblasting and subclasses 103+ for apparatus for sandblasting. Generally, a claim to engaging work by abradant material, either for scouring or for abrading, is found in Class 451. See (3) Note above. Also see section IX of the class definition of Class 451 for another statement of this line. Special note to cleaning of open ended tubular work: A claim directed to a method or apparatus which by disclosure includes removal of base material is to be found in Class 451; whereas a claim directed to similar method or apparatus, which by disclosure includes removing extraneous material only, is to be found in Class 15 if the sand or other scouring means is carried through the tubular work by a fluid stream. Note that bottle shotting is to be found in Class 15, subclasses 95+.
- 3.51 With conservation or recovery of the cleaning agent:**
This subclass is indented under subclass 3.5. Machines which include an arrangement whereby the cleaning instrumentality is retained or is recovered at the end of the cleaning operation, either for subsequent disposal or for reuse.
- 3.52 By attached line:**
This subclass is indented under subclass 3.51. Machines in which the means to recover the cleaning instrumentality is a line attached to such instrumentality whereby it may be retrieved.
- 3.53 Erasing:**
This subclass is indented under subclass 3. Machine for disintegrating and removing indicia from a surface by rubbing contact therewith, the rubbing-contact instrumentality of the machine comprising a body composed of particles which are so in cohesive as to permit disintegration of the surface-contacting portion of
- the body, along with the indicia, whereby substantially to avoid mutilation of the surface.
- SEE OR SEARCH CLASS:**
- 451, Abrading, for an eraser comprising an abradant body (i.e., a body claimed as including crystalline particles with sharp edges which mutilate a work surface). Note that a similar eraser without claimed crystalline particles is included in Class 15, the generic locus for an eraser, even if broadly claimed as an implement for "abrading," and if the sole disclosure is to an erasing body having crystalline particles.
- 4 Nozzle attachment type:**
This subclass is indented under subclass 3. Devices having cleaning agencies of more than one kind or type, at least one of which is recognized by title in the present classification, together with means for putting the cleaning agencies into action and for applying the same to the work or the work thereto.
- SEE OR SEARCH THIS CLASS, SUBCLASS:**
- 1.5, for machines employing an electrostatic field for cleaning a surface of an object which machines may include a cleaning means of a different type.
- 50+, for surface brushing machines with liquid or fluent material application, and for such combinations including a wiper.
- 5 Beater and brush:**
This subclass is indented under subclass 4. Cleaning-machines in which the action of a beater is supplemented by that of a brush.
- SEE OR SEARCH THIS CLASS, SUBCLASS:**
- 21, 41, 89, 91, 92, 268, 308+, 311, and 363+.
- 21.1 Brushing:**
This subclass is indented under subclass 3. Subject matter having a cleaning instrument of the brush or broom type only, and not so differentiated in structure as to fall under any one of the titles of subclasses 22.1-29 of this class, or so especially adapted to a particular situation or

class of work as to fall under any of the titles of subclasses 30-88 of this class.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

88.1, through 88.4, for other instruments of the brush or broom type only, and not so differentiated in structure as to fall under any one of the titles of subclasses 22.1 - 88 of this class.

SEE OR SEARCH CLASS:

114, Ships, subclass 222 for a device adapted to clean the hull of a ship.
 131, Tobacco, subclasses 315+ and 324 for a machine for brushing tobacco leaves.
 408, Cutting by Use of Rotating Axially Moving Tool, subclass 18 for a combination of means to cut in the manner of that class combined with means to clean the tool. The combination of means to clean a workpiece with means to cut that workpiece will be found in this class (Class 15).

21.2 Ball cleaner:

This subclass is indented under subclass 21.1. Subject matter comprising means particularly adapted to clean generally spherical objects.

22.1 Handle mount:

This subclass is indented under subclass 21.1. Subject matter having a cleaning instrument of the brush or broom type only, and in which the bearings of the brush or broom or its actuating-shaft are carried by a handle, which handle acts as a support and means for applying the instrument to the work.

22.2 Reciprocating tool:

This subclass is indented under subclass 22.1. Subject matter having means to move the brush cyclically in alternate directions in a straight line relative to the handle.

22.3 Belt brush:

This subclass is indented under subclass 22.1. Subject matter wherein the brush includes bristles or other work-contacting elements mounted on the exterior surface of an endless flexible band which is driven during brushing to move the work-engaging ends of the bristles laterally across the surface of the work.

22.4 Swinging tool:

This subclass is indented under subclass 22.1. Subject matter wherein the support for the work-contacting part of the brush has an axis about which it is rotated back and forth in an arc of less than 360 degrees during brushing.

23 Rotary cylinder:

This subclass is indented under subclass 22.1. Cleaning-machines having no other type of cleaning instrument than a rotary cylindrical brush or broom, the bearings of whose actuating-shaft are carried in a handle serving as a means for supporting the instrument and applying it to the work.

24 Fountain:

This subclass is indented under subclass 23. Cleaning-machines the bearings of whose actuating-shaft are carried in a handle service as a means for supporting the instrument and applying it to the work, together with means for supplying a cleaning fluid.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

52, for rotary wipers having fluid supply.
 250.01+, for window cleaning attachments having means for applying a fluid to the surface to be cleaned.

25 Manual motor:

This subclass is indented under subclass 23. Cleaning-machines having a rotary cylindrical manually-driven brush or broom turning always in one direction and having the bearings of its actuating-shaft carried in a handle serving as a means for supporting the instrument and applying it to the work.

26 Alternating:

This subclass is indented under subclass 25. Devices in which the manually driven, hand supported, rotary cylindrical brush is arranged to turn in opposite directions alternatively.

27 Traction operated:

This subclass is indented under subclass 22.1. In which the cylinder is rotated by contact of the implement or a driving means with the work.

- 28 Rotary disk:**
This subclass is indented under subclass 22.1. Cleaning-machines having no other type of cleaning instrument than a rotary disk brush or broom whose shaft is mounted in a handle serving as a means for supporting the instrument and applying it to the work.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
29,
- 29 Fountain:**
This subclass is indented under subclass 28. Cleaning-machines having no other type of cleaning instrument than a rotary disk brush or broom having its shaft mounted in a handle serving to support the instrument and apply it to the work, together with means for supplying a cleaning fluid.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
50+, for scrubbers having fluid supply.
250.01+, for window cleaning attachments having means for applying a fluid to the surface to be cleaned.
- 30 Boot cleaning, blacking, and polishing:**
This subclass is indented under subclass 21.1. Machines especially adapted for cleaning, blacking, and polishing boots and shoes, having cleaning or polishing instruments of the brush or broom type.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
4, 31-35, 97, and 265.
- SEE OR SEARCH CLASS:
118, Coating Apparatus, subclass 72 for coating apparatus having means to prepare the base to receive the coating, and subclasses 100+ for apparatus having a member for modifying the coating after application to the work.
- 31 Polish supplying:**
This subclass is indented under subclass 30. Boot-blackening machines as defined, having means for supplying polishing material.
- 32 Rotary reciprocating brush:**
This subclass is indented under subclass 30. Machines especially adapted for cleaning, blacking, and polishing boots and shoes in which the cleaning or polishing instruments are of the brush or broom type and have both a rotary and a reciprocating motion.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
33, 34, 36, and 37.
- SEE OR SEARCH CLASS:
451, Abrading, subclasses 119+ for a machine in which an abrading tool has a rotary motion and a reciprocating motion.
- 33 Reciprocating brush:**
This subclass is indented under subclass 30. Machines in which the cleaning or polishing instruments are of the brush or broom type and have a reciprocating motion only.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
37,
- SEE OR SEARCH CLASS:
12, Boot and Shoe Making, subclasses 78+ for reciprocating tool boot and shoe burnishing machines.
451, Abrading, subclasses 162+ for an abrading machine which uses a reciprocating tool.
- 34 Rotary brush:**
This subclass is indented under subclass 30. Machines in which the cleaning or polishing instruments are of the brush or broom type and have a rotary motion only.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
35, and 36.
- SEE OR SEARCH CLASS:
12, Boot and Shoe Making, subclass 77 for rotary tool boot and shoe burnishing machines.
451, Abrading, subclasses 177+ for an abrading machine which uses a rotating tool.

- 35 Planetary:**
This subclass is indented under subclass 34. Machines in which the cleaning or polishing instruments are of the brush or broom type and have a rotary motion only, of planetary character.
- 36 Boot cleaners and polishers:**
This subclass is indented under subclass 21.1. Cleaning-machines especially adapted for cleaning and polishing boots and shoes and having no other instrument than a brush.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
30, 32, 34, 35, and 37.
- SEE OR SEARCH CLASS:
12, Boot and Shoe Making, subclasses 70+ for machines which polish and condense the surface of boots and shoes through the rubbing action of a rigid metallic tool.
- 37 Reciprocating brush:**
This subclass is indented under subclass 36. Cleaning-machines especially adapted for cleaning and polishing boots and shoes and having no other instrument than a reciprocating brush.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
32, and 33.
- 38 Brush cleaners:**
This subclass is indented under subclass 21.1. Cleaning-machines having no other type of cleaning instrument than a brush and especially adapted for the cleaning of brushes.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
48,
- 39 Comb cleaners:**
This subclass is indented under subclass 21.1. Cleaning-machines having no other type of cleaning instrument than a brush and especially adapted for the cleaning of the teeth of combs.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
104.5+, for comb cleaning implements.
- 39.5 Tabletop or tablecloth cleaner:**
This subclass is indented under subclass 21.1. Subject matter having means especially adapted for removing dirt, crumbs or any unwanted matter from a table surface or a tablecloth.
- 40 Flexible-fabric cleaners:**
This subclass is indented under subclass 21.1. Machines having no other instruments than brushes or brooms and especially adapted for cleaning flexible fabrics, except carpet-sweepers.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
39.5, for brushes for removing dirt, crumbs or any other unwanted matter from a table-cloth.
- SEE OR SEARCH CLASS:
26, Textiles: Cloth-Finishing, subclasses 27+, and 31+.
- 41.1 Carpet sweeper:**
This subclass is indented under subclass 40. Subject matter wherein the machine is especially adapted for cleaning carpets on the floor or similar covers in place.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
49.1+, for similar machines for sweeping bare floors.
78+, for similar machines for sweeping streets.
- 42 Auxiliary brush:**
This subclass is indented under subclass 41.1. Machines characterized by the use of a main brush and an auxiliary brush of different character, mounting, or relation to the direction of travel of the machine.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
8, 9, 10, 11, and 78-87.

- 43 Combined fan and brush:**
This subclass is indented under subclass 41.1. Machines having no other cleaning instruments than brushes combined in one structure with a fan and especially adapted for cleaning carpets on the floor.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
7, 8, 9, and 11.
- 44 Dust laying:**
This subclass is indented under subclass 41.1. Machines having no other cleaning instruments than brushes, and having also means for preventing the raising of dust in the sweeping operation.
- 45 Fenders:**
This subclass is indented under subclass 41.1. Machines having no other cleaning instruments than brushes, and having cushioning devices mounted thereon to prevent injury to furniture or walls in the operation of the machine.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
325,
- 46 Manual motor:**
This subclass is indented under subclass 41.1. Machines having no other cleaning instruments than brushes and in which the brush is driven by the hand of the operator.
- 47 Non-rotary:**
This subclass is indented under subclass 41.1. Machines having no other cleaning instruments than brushes, and in which the brush does not rotate.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
104.8, for a cleaning instrument concurrently coating with a receiver for the material handled in the cleaning operation.
- 48 With brush cleaner:**
This subclass is indented under subclass 41.1. Machines having no other cleaning instruments than brushes and having a cleaning means for keeping the brush clean while in action.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
38,
- 48.1 Unidirectional drive:**
This subclass is indented under subclass 41.1. Subject matter wherein the brush is rotated by a carpet-engaging wheel, and having means permitting the brush to be rotated in only one direction (clockwise or counterclockwise) despite reverses in the direction of rotation of the carpet-engaging wheel.
- 48.2 Bellows type:**
This subclass is indented under subclass 41.1. Subject matter wherein the air draft is created by an expansible chamber device driven by a carpet-engaging wheel.
- 49.1 Floor and wall cleaner:**
This subclass is indented under subclass 21.1. Subject matter wherein the machine has a brush as its sole type of cleaning instrument, and is especially adapted for cleaning floors, walls, and ceilings.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
41.1+, for similar machines for sweeping carpets.
78+, for similar machines for sweeping streets.
- 50.1 Scrubber:**
This subclass is indented under subclass 49.1. Subject matter comprising an ambulatory machine having no other cleaning instruments than (1) a brush or (2) a brush supplemented by a wiper, together with means for supplying either liquid for scrubbing purposes or a coating material, and especially adapted for scrubbing or coating floors, walls and ceilings.
- (1) Note. This and indented subclasses contain a surface brushing machine, with or without wipers, including means for applying paint or other liquid or fluent coating materials to walls, floors, ceilings, roadways and the like.

50.2 Reciprocating brush:

This subclass is indented under subclass 50.1. Subject matter having means to move the brush cyclically in alternate directions in a straight line across the work surface.

- (1) Note. The combined motion of the brush across, and towards and away from the work surface may include other than straight line components (e.g., oscillatory motion).

50.3 Cylindrical brush:

This subclass is indented under subclass 50.1. Subject matter wherein the working surface of the brush coincides with a surface of revolution generated by the rotation of a straight line about an axis parallel thereto.

- (1) Note. The “working surface” of the brush is an imaginary brush-enveloping smooth surface defined by and encompassing all of the work-engaging endpoints of the bristles of the brush.

51 Endless wiper:

This subclass is indented under subclass 50.1. Machines in which the cleaning instruments are brushes supplemented by an endless wiper and having means for supplying a cleaning fluid.

SEE OR SEARCH THIS CLASS, SUBCLASS:
4, 44, 46, 78, 79, 80, and 99.

52 Rotary wiper:

This subclass is indented under subclass 50.1. Machines in which the cleaning instruments are brushes supplemented by a rotary wiper and having means for supplying a cleaning fluid.

SEE OR SEARCH THIS CLASS, SUBCLASS:
4, 44, 46, 78, 79, 80, 97, and 98.

52.1 Cylindrical brush:

Subject matter under 49.1 wherein the working surface of the brush coincides with a surface of revolution generated by the rotation of a straight line about an axis parallel thereto.

- (1) Note. The “working surface” of the brush is an imaginary brush-enveloping smooth surface defined by and encompassing all of the work-engaging endpoints of the bristles of the brush.

52.2 Reciprocating brush:

This subclass is indented under subclass 49.1. Subject matter having means to move the brush cyclically in alternate directions in a straight line across the work surface.

- (1) Note. The combined motion of the brush across, and towards and away from the work surface may include other than straight line components, (e.g., oscillatory motion).

53.1 Vehicle cleaner:

This subclass is indented under subclass 21.1. Subject matter wherein the machine has a brush as the sole type of cleaning instrument and is especially adapted for cleaning the outside of a wheeled conveyance.

53.2 Cylindrical brush:

Subject matter under 53.1 wherein the working surface of the brush coincides with a surface of revolution generated by the rotation of a straight line about an axis parallel thereto.

- (1) Note. The “working surface” of the brush is an imaginary brush-enveloping smooth surface defined by and encompassing all of the work-engaging endpoints of the bristles of the brush.

53.3 Moving vehicle:

This subclass is indented under subclass 53.2. Subject matter wherein the conveyance moves past the brush during brushing.

53.4 Wheel washer:

This subclass is indented under subclass 53.1. Subject matter including means particularly adapted to brush the supporting wheels of wheeled conveyances.

54 Rail sweepers:

This subclass is indented under subclass 21.1. Cleaning machines in which the cleaning instruments are of brush or broom type and

- which are especially adapted for cleaning railway-car trackage.
- (1) Note. See this class, subclasses 55, 78-82 and 87.
- 55 Rotary brush:**
This subclass is indented under subclass 54. Cleaning-machines in which the cleaning instruments are rotary and of the brush or broom type and which are especially adapted for cleaning-railway-car trackage.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
78, through 82, 87.
- 56 Receptacle cleaners:**
This subclass is indented under subclass 21.1. Machines in which the cleaning instruments are of the brush or broom type only and which are especially adapted and intended for cleaning miscellaneous receptacles other than barrels, bottles, cans, cuspidors, dishes, or tumblers.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
57, through 76.
- 57 Barrel:**
This subclass is indented under subclass 56. Machines in which the cleaning instruments are of the brush or broom type only, and which are especially adapted for cleaning barrels by successive washing and brushing, except those in which the barrel remains in one position during the entire cleaning.
- (1) Note. See this class, subclass 58.
- 58 Single stage:**
This subclass is indented under subclass 57. Machines in which the cleaning instruments are of the brush or broom type only, especially adapted for cleaning barrels, and in which the barrel does not move during the cleaning operation, or rotates merely.
- 59 Bottle:**
This subclass is indented under subclass 56. Machines in which the cleaning instruments are of the brush or broom type only, especially
- adapted for cleaning receptacles of the bottle type.
- (1) Note. See this class, subclasses 60-69.
- 60 Endless carrier:**
This subclass is indented under subclass 59. Machines in which plural bottles are presented to the cleaning means by an endless carrier.
- (1) Note. See this class, subclass 61.
- 61 Tank:**
This subclass is indented under subclass 60. Machines having an endless carrier for presenting the bottles to the cleaning instrument and a tank in which the bottles are immersed or through which they are passed before, during, or after the brushing operation.
- 62 Reciprocating bottle rack:**
This subclass is indented under subclass 59. Machines in which plural bottles carried in a crate or rack are reciprocated over the cleaning instruments.
- 63 Rotary carrier:**
This subclass is indented under subclass 59. Machines in which the bottles are presented to the cleaning brushes by means of a rotary carrier.
- (1) Note. See this class, subclass 64.
- 64 Tank:**
This subclass is indented under subclass 63. Machines in which the bottles are presented to the cleaning brushes by a rotary carrier and are submerged in a cleaning fluid while being brushed.
- 65 Single bottle:**
This subclass is indented under subclass 59. Machines which are constructed to handle bottles one at a time.
- (1) Note. See this class, subclasses 66, 67, 68, and 69.
- 66 Bottle guide:**
This subclass is indented under subclass 65. Machines constructed to handle bottles one at a time and having a guide to insure registry of the bottle-mouth with the brush.

- 67 Neck cleaners:**
This subclass is indented under subclass 65. Machines constructed to handle bottles one at a time and especially adapted for cleaning the outside of the bottle-neck.
- 68 Reciprocating brush:**
This subclass is indented under subclass 65. Machines constructed to handle bottles one at a time and in which the brush reciprocates within the bottle.
- 69 Water motor:**
This subclass is indented under subclass 65. Machines constructed to handle bottles one at a time in which the brush is driven by a water-motor.
- 70 Can:**
This subclass is indented under subclass 56. Machines especially adapted for cleaning receptacles of the can type by cleaning instruments of the brush or broom type only.
- 71 Inside brush:**
This subclass is indented under subclass 70. Machines including means especially adapted for cleaning the inside of receptacles of the can type by cleaning instruments of the brush or broom type.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
164, 180, 211, 501, and 511.
- 72 Collapsible:**
This subclass is indented under subclass 71. Machines especially adapted for cleaning the inside of receptacles of the can type by cleaning instruments of the brush or broom type, which are collapsible to permit entrance to the can and withdrawal therefrom and with or without an outside brush.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
165, and 212.
- 73 Cuspidor:**
This subclass is indented under subclass 56. Machines especially adapted for cleaning receptacles of the cuspidor type by cleaning instruments of the brush or broom type only.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
101,
- 74 Dish:**
This subclass is indented under subclass 56. Machines especially adapted for cleaning receptacles for cooking or serving food by means of cleaning instruments of the brush or broom type only.
- 75 Tumbler:**
This subclass is indented under subclass 56. Machines especially adapted for cleaning drinking glasses by instruments of the brush or broom type only.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
76, and 101.
- 76 Immersion:**
This subclass is indented under subclass 75. Machines especially adapted for cleaning drinking-glasses by instruments of the brush or broom type only and in which the glass is immersed in a cleaning liquid while being brushed.
- 77 Sheet, bar, and plate cleaners:**
This subclass is indented under subclass 21.1. Machines especially adapted for cleaning articles or material in sheet, bar, or plate form by instruments of the brush or broom type only.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
102,
- SEE OR SEARCH CLASS:
131, Tobacco, subclasses 315+ and 324 for machines for brushing tobacco leaves.
451, Abrading, subclasses 103+ for a scouring device, generally.
- 78 Street sweepers:**
This subclass is indented under subclass 21.1. Machines especially adapted for cleaning streets by instruments of brush or broom type.

- SEE OR SEARCH THIS CLASS, SUB-CLASS:
40+, 49+ and 54+, for other surface brushing machines, and particularly subclasses 50+ for road marking machinery.
- 79.1 Hand directed:**
This subclass is indented under subclass 78. Subject matter wherein the machine is a manually manipulated ambulatory machine of brush or broom type.
- SEE OR SEARCH CLASS:
56, Harvesters, subclasses 400.02 and 400.03 for a rake which is manipulated by hand and which is employed in the manner of a rotary sweeper.
- 79.2 Motor powered sweeper:**
This subclass is indented under subclass 79.1. Subject matter having energy converting means (e.g., an internal combustion engine) to drive the brush.
- 80 Belt brush:**
This subclass is indented under subclass 78. Machines especially adapted for cleaning streets by means of a brush or broom in the form of an endless belt.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
21, 51 and 54.
- 81 Reciprocating brush:**
This subclass is indented under subclass 78. Machines especially adapted for cleaning streets by means of a reciprocating brush or broom.
- 82 Rotary-brush cylinder:**
This subclass is indented under subclass 78. Machines especially adapted for cleaning streets by means of a rotary brush or broom in the form of a cylinder.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
21, 41, 42, 46, 49, 50, 55, and 83-86.
- SEE OR SEARCH CLASS:
56, Harvesters, subclasses 400.02 and 400.03 for rotary hand rakes.
- 83 Collector:**
This subclass is indented under subclass 82. Machines especially adapted for cleaning streets by means of a rotary brush or broom in the form of a cylinder and having a collector for the sweepings.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
84, 85 and 86.
- 84 Elevator belt:**
This subclass is indented under subclass 83. Machines especially adapted for cleaning streets by means of a rotary cylindrical brush or broom having a collector for the sweepings and an elevator-belt for delivering them thereto.
- 85 Elevator pan:**
This subclass is indented under subclass 83. Machines especially adapted for cleaning streets by means of a rotary cylindrical brush or broom having a collector for the sweepings and an elevator pan, shovel, or scoop for delivering them thereto.
- 86 Elevator wheel:**
This subclass is indented under subclass 83. Machines especially adapted for cleaning streets by means of a rotary cylindrical brush or broom having a collector for the sweepings and an elevating-wheel for delivering them thereto.
- 87 Rotary-brush disk:**
This subclass is indented under subclass 78. Machines especially adapted for cleaning streets by means of a rotary brush of disk form.
- 88 Wire, rod, and tube cleaners:**
This subclass is indented under subclass 21.1. Machines having cleaning instruments of the brush or broom type only and especially adapted for cleaning wire, rods, or tubes.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
104.03, through 104.2.

88.1 Work moves past nonrotatable brush:

This subclass is indented under subclass 21.1. Subject matter wherein the brush is of the type which does not revolve about an axis passing through it, and wherein the work is moved into work engagement with the brush.

88.2 Work moves past rotatable brush:

This subclass is indented under subclass 21.1. Subject matter wherein work moves relative to a rotatable but spatially immovable brush during brushing.

88.3 Cylindrical brush:

This subclass is indented under subclass 88.2. Subject matter wherein the working surface of the brush coincides with a surface of revolution generated by the rotation of a straight line about an axis parallel thereto.

- (1) Note. The “working surface” of the brush is an imaginary brush-enveloping smooth surface defined by and encompassing all of the work-engaging endpoints of the bristles of the brush.

88.4 Cylindrical brush moves past work:

This subclass is indented under subclass 21.1. Subject matter wherein the working surface of the brush coincides with a surface of revolution generated by the rotation of a straight line about an axis parallel thereto, and wherein means are provided to move or to permit movement of the brush relative to its supporting structure and into engagement with the work during brushing.

- (1) Note. The “working surface” of the brush is an imaginary brush-enveloping smooth surface defined by and encompassing all of the work-engaging endpoints of the bristles of the brush.

89 Beating:

This subclass is indented under subclass 3. Cleaning-machines in which the cleaning is done by beating only.

SEE OR SEARCH THIS CLASS, SUBCLASS:

5, 6, 12, 13, 90, 91, and 92.

SEE OR SEARCH CLASS:

- 29, Metal Working, subclasses 81.01+ for processes and apparatus for removing scale from metal sheets and bars by scraping, flexing, treating with water or steam, or by impacting with percussive tools, e.g., scaling hammers.
451, Abrading, subclasses 326+ for an abrading machine including means for tumbling to abrade a workpiece.

90 Rotary drum:

This subclass is indented under subclass 89. Cleaning-machines in which the cleaning is done by beating only by means of a rotary drum in which the work is placed.

SEE OR SEARCH CLASS:

- 451, Abrading, subclasses 326+ for an abrading machine including means for tumbling to abrade a workpiece.

91 Stationary work:

This subclass is indented under subclass 92. Cleaning-machines in which the cleaning is done by beating only and in which the work is stationary during the beating, except those in ...

92 Portables:

This subclass is indented under subclass 91. Cleaning-machines which clean by beating only and which may be manually moved about and applied to stationary work at any point desired.

93.1 Scraping:

This subclass is indented under subclass 3. Subject matter wherein the sole type of cleaning instrument of the machine is a scraper.

- (1) Note. See search note under subclass 236.01 of this class.

SEE OR SEARCH CLASS:

- 29, Metal Working, subclasses 81.01+ for a process or apparatus for removing scale from metal sheets and bars, scraping, flexing, treating with water or steam, or by impacting with percussive tools (e.g., scaling hammers).
451, Abrading, subclasses 103+ for apparatus for scouring by abrading.

- 93.2 Coke oven cleaner:**
This subclass is indented under subclass 93.1. Subject matter including means for scraping the interior or part of a heating chamber used for the preparation of coke from coal.
- 93.3 Ditcher:**
This subclass is indented under subclass 93.1. Subject matter comprising a wheeled vehicle with means for scraping the interior of an elongated channel beside the path of the vehicle.
- 93.4 Pallet, board, panel, etc.:**
This subclass is indented under subclass 93.1. Subject matter comprising means for scrapping a surface of an object having a length and width much greater than its thicknesses.
- 94 Shaking:**
This subclass is indented under subclass 3. Cleaning-machines in which the cleaning function is obtained by shaking or violent agitation.
- 95 Shotting:**
This subclass is indented under subclass 3. Machines in which the cleaning of hollow ware, as bottles, is accomplished by the violent agitation within the bottle of shot, sand, or equivalent granular material.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
96,
- SEE OR SEARCH CLASS:
29, Metal Working, subclass 90.7 for shot blasting metal and nonmetal for the purpose of compacting the surface thereof.
175, Boring or Penetrating the Earth, subclass 54 for an earth boring device comprising recirculating unsupported elements (e.g., shot) to disintegrate the material of the earth.
- 96 Shakers:**
This subclass is indented under subclass 95. Machines in which the cleaning of hollow ware, as bottles, is accomplished by the violent agitation within the bottle of shot, sand, or equivalent granular material, produced by shaking the bottle.
- 97.1 Wiping:**
This subclass is indented under subclass 3. Subject matter wherein the cleaning instrument is a wiper as distinguished from a brush, broom, or scraper.
- 97.2 Shoe polisher:**
This subclass is indented under subclass 97.1. Subject matter comprising means to wipe a covering for the human foot.
- 97.3 Vehicle cleaner:**
This subclass is indented under subclass 97.1. Subject matter comprising means to wipe a wheeled conveyance.
- 98 Floor and wall cleaner:**
This subclass is indented under subclass 97.1. Cleaning-machines in which the cleaning instrument is a wiper, as distinguished from a brush, broom, or scraper, and which are especially adapted for cleaning floors, walls, or ceilings.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
99,
- 99 Endless belt:**
This subclass is indented under subclass 98. Cleaning-machines in which the cleaning instrument is an endless-belt wiper as distinguished from a brush, broom, or scraper, and which are especially adapted for the cleaning of floors, walls, or ceilings.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
49, 50, 51, and 80.
- 100 Photographic-film cleaners:**
This subclass is indented under subclass 97.1. Cleaning-machines in which the cleaning instrument is a wiper as distinguished from a brush, broom, or scraper, and which are especially adapted for cleaning photos:graphic films.
- SEE OR SEARCH CLASS:
352, Optics: Motion Pictures, subclass 130 for motion picture cameras and projectors combined with film treating or

working structure including cleaning apparatus.

101 Receptacle cleaners:

This subclass is indented under subclass 97.1. Cleaning-machines in which the cleaning instrument is a wiper as distinguished from a brush, broom, or scraper and which are especially adapted for cleaning receptacles.

SEE OR SEARCH THIS CLASS, SUB-CLASS:
56+,

102 Sheet, bar, and plate cleaners:

This subclass is indented under subclass 97.1. Cleaning-machines in which the cleaning instrument is a wiper as distinguished from a brush, broom, or scraper and which are especially adapted for cleaning articles or materials in sheet, bar or plate form.

SEE OR SEARCH THIS CLASS, SUB-CLASS:
77,

103 Window cleaners:

This subclass is indented under subclass 97.1. Cleaning-machines in which the cleaning instrument is a wiper as distinguished from a brush, broom, or scraper and which are especially adapted for cleaning the glass of windows.

SEE OR SEARCH THIS CLASS, SUB-CLASS:
220.1+, for a wiper used as a window cleaning implement.
232, for a window cleaning wiper or polisher consisting of a flat sheet of fabric with means for holding the sheet flat.
250.001+, for an attachable implement or machine used to clean a window or other optical implement.

103.5 Rolling contact type with material supply:

This subclass is indented under subclass 97.1. Machines in which the wiping element is a roller or belt for contacting a surface and means are provided for supplying a material which is to be applied to the surface.

(1) Note. Similar structural combinations may be found in any of the subclasses preceding this subclass and indented under subclass 97, since such subclasses are based upon the nature of the surface worked upon. Accordingly, search should be completed by reference to appropriate other subclasses in this group.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

24, for handle mount type brushing combinations in which the contacting element is a rotary cylindrical brush.
230, for rotary applicators, per se.

104.001 IMPLEMENTS:

This subclass is indented under the class definition. Miscellaneous simple and uncombined apparatus intended to contact a work surface and apply a coating or cleaning material thereto or intended for general cleaning by removal of extraneous foreign material and not strictly classifiable in any industrial art.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

1.51, for an implement employing an electrostatic cleaning means.
300+, for a hand held nozzle.

SEE OR SEARCH CLASS:

68, Textiles: Fluid Treating Apparatus, subclass 220 for an implement with a scrubbing surface intended to treat textiles with a fluid.
131, Tobacco, subclasses 232 and 243+ for an implement intended for cleaning a smoking device.

104.002 Adhesive lint remover:

This subclass is indented under subclass 104.001. Apparatus including a sticky work contacting surface intended to come in contact with and take away extraneous foreign material.

104.011 Cylinder, piston or plug cleaner:

This subclass is indented under subclass 104. Subject matter which includes a device for removing carbonized deposits from a spark plug, piston or cylinder of a gas engine.

- (1) Note. An implement for cleaning a valve port, valve guide or a spark plug port is here.
- (2) Note. The term "device" includes a brush, scraper, cutter or an impacting implement.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

104.02, for reamers applied to this purpose.

SEE OR SEARCH CLASS:

- 82, Turning, subclass 4 for portable lathes which may also scrape deposits from the work.
- 313, Electric Lamp and Discharge Devices, subclasses 125+ for spark plugs having means to move an electrode as, for example, for the purpose of rubbing one electrode against another to clean the rubbing parts, and subclass 127 for spark plugs provided with structure for cleaning a part of the spark plug.

104.012 Piston groove:

This subclass is indented under subclass 104.011. Subject matter which includes a piston ring slot cleaning device.

- (1) Note. A piston may be manipulated with respect to the slot cleaning device or the slot cleaning device may be moved with respect to the piston.

SEE OR SEARCH CLASS:

- 82, Turning, subclass 4 for a portable piston grooving lathe.

104.02 Reamers:

This subclass is indented under subclass 104.001. Tools for cleaning the plates provided with openings in boiler headers or other apparatus; sometimes called "gaskets" cleaners.

SEE OR SEARCH CLASS:

- 131, Tobacco, subclass 246 for implements for reaming the bowls of smoking devices.

104.03 Pipe, tube, or conduit cleaner:

This subclass is indented under subclass 104.001. Mechanical or gaseous pressure device for hammering, cutting, scraping, loosening, and/or flushing deposits from a conduit, pipe or tube.

- (1) Note. Where such devices utilize a minutely divided solid or pulverulent material in the fluid stream they will be found in the appropriate subclasses of Class 451, Abrading, excepting inventions involving such scouring of open-ended tubular work for the disclosed purpose of cleaning, which are classified in Class 15, subclasses 3.5+. Relative to such subject matter, the line between Classes 15 and 451 is set out in the class definition of Class 451 and in the reference to Class 451 in the Search Class Note to subclass 3.5 of Class 15.
- (2) Note. Where the structure of an apparatus provided with tubes is modified to cooperate with a specific cleaner, the combination will be classified with the apparatus. See Class 122, Liquid Heaters and Vaporizers, subclasses 379+, and Class 165, Heat Exchange, subclass 95.

SEE OR SEARCH CLASS:

- 4, Baths, Closets, Sinks, and Spittoons, subclasses 255.01+, for an obstruction remover specialized for use on the drain pipe of a sink, bath, or closet.
- 29, Metal Working, subclasses 81.02+ for machines for cleaning single detached metal pipes or the outside of a pipe line.
- 73, Measuring and Testing, subclass 324 for combination of pipe and tube cleaners with water gage glasses.
- 131, Tobacco, subclasses 232 and 243-246.
- 134, Cleaning and Liquid Contact With Solids, subclasses 166+ for hollow work cleaners there provided for.
- 294, Handling: Hand and Hoist-Line Implements, subclasses 86.4+ for grapples of general application.

104.04 Outside:

This subclass is indented under subclass 104.03. Devices for cleaning the outside of pipes or tubes.

SEE OR SEARCH THIS CLASS, SUBCLASS:

88, for machines for brushing pipe exteriors.

SEE OR SEARCH CLASS:

29, Metal Working, subclasses 81.02+.

104.05 Inside:

This subclass is indented under subclass 104.03. Devices for cleaning the inside of the conduit, pipe, or tube.

(1) Note. See classes 29, Metal Working, subclasses 81 and 122, Liquid Heaters and Vaporizers, subclass 379.

(2) Note. This group of subclasses will take devices for removing material in hardened form from tubes, pipes and tubular chambers, where the device is not a built-in arrangement, and where the implement is a brush or wiper, and as to scrapers and cutters, this class will take all those in which the tool has a rotary and/or reciprocating motion together with motion along or parallel to the axis of the chamber being cleaned. Class 214, Material or Article Handling, has related devices using implements of types not provided for in this class (15) and has scraper or cutter implements not having the motions provided for above, including endless belt type cutting or scraping implements. Class 214 further takes the scraper or cutter devices provided for in this group of subclasses when such devices are combined with a conveyor in addition to the scraper or cutter, but scrapers or cutters which have an incidental conveying function (e.g., reamers) will be found in this class (15). Class 214 further provides for devices designed for charging in addition to discharging material from chambers. Where the device for removing hardened material from the chamber is claimed as associated permanently with it so as not to be adapted for

use on other chambers, the device has been classified on the basis of the character of the chamber. For devices and processes of this type, see, for example, 122, Liquid Heaters and Vaporizers, subclass 379; 196, Mineral Oils: Apparatus, subclass 122; 202, Distillation: Apparatus, subclass 241; 208, Mineral Oils: Processes and Products, subclass 48; and 165, Heat Exchange, subclass 95.

(3) Note. For apparatus for cleaning smoking devices by use of a current of air or other gaseous fluid, see Class 131, Tobacco, subclass 244.

SEE OR SEARCH CLASS:

166, Wells, subclasses 170+ for cleaners used inside wells.

175, Boring or Penetrating the Earth, subclasses 92+ for a tool drive motor for driving an earth boring tool which motor advances with the tool into the hole being formed.

104.061 Fluid current operated:

This subclass is indented under subclass 104.05. Subject matter which includes a cleaning device propelled through the pipe or tube by a moving fluid in contact with the tube or pipe and the cleaning device.

SEE OR SEARCH CLASS:

137, Fluid Handling, subclasses 15.01 through 15.26 for a process of cleaning a fluid handling system and subclasses 238+ for a fluid handling system or subsystem with a cleaner, particularly subclasses 242+ for a mechanical cleaner.

175, Boring or Penetrating the Earth, subclass 107 for a fluid operated rotary motor for driving an earth boring tool which motor advances with the tool into the hole being formed.

104.062 Cleaner plug insertion or removal device:

This subclass is indented under subclass 104.061. Subject matter which includes apparatus to remove or insert a cleaning device from or into a pipeline.

104.063 Scraper with signalling device:

This subclass is indented under subclass 1046.061. Subject matter wherein the cleaning device is a scraper and includes an apparatus to indicate some condition relating to the scraper or the fluid in the pipeline.

- (1) Note. The position of the scraper or the pressure of the fluid in the pipe are conditions sensed by the signalling device.

SEE OR SEARCH CLASS:

- 250, Radiant Energy, subclass 303 for a radiation tracer method for locating an obstruction in a fluid carrying pipeline by use of a radioactive tracer.
- 340, Communications: Electrical, subclasses 686.1+ for an electrical condition responsive position indicating system combined with a fluid propelled pipe scraper.

104.066 Brush or broom flue cleaner:

This subclass is indented under subclass 104.05. Subject matter wherein the cleaning implement comprises a brush or broom-type member which is configured to clean the inside surface of a passage or duct that carries smoke (e.g., chimney, stovepipe, etc.).

- (1) Note. A brush or broom has separate, natural or artificial elements (e.g., bristles, splints, fibers, broom straws, grass, other stems, etc.) which are arranged in, generally, parallel relation so that their assembled ends constitute collectively a working surface intended for cleaning by brushing or scrubbing. This does not include sheets, blocks, or strands of fabric; layers of felted, spun, woven, pulped, or molded fabric; or pelts, scrapers, or a sponge; per se.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 249.1, for a brush or broom implement that cleans and is intended to be left attached (i.e., at work and at rest) to a flue.

SEE OR SEARCH CLASS:

- 126, Stoves and Furnaces, subclass 16 for a cooking or heating stove having a flue cleaner.

104.067 Suspended by a taut member (e.g., wire, rope, chain, etc.):

This subclass is indented under subclass 104.066. Subject matter wherein the broom or brush implement is intended to be hung within the flue by a member that is capable of exerting only tensile force on the implement and is intended to be manipulated to move the flue cleaner.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 104.066, for a brush or broom suspended by a member capable of exerting tensile and compressive forces.

104.068 Scraper flue cleaner:

This subclass is indented under subclass 104.05. Subject matter wherein the implement is configured to remove foreign matter by the action of a hard blade-like or scraping edge, and is intended for use on a passage or duct that carries smoke (e.g., chimney, stovepipe, etc.).

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 249.2+, for a scraper implement that cleans and is intended to be left attached (i.e., at work and at rest) to a flue.

SEE OR SEARCH CLASS:

- 126, Stoves and Furnaces, subclass 16 for a cooking or heating stove having a flue cleaner.

104.069 Suspended by a taut member (e.g., wire, rope, chain, etc.):

This subclass is indented under subclass 104.068. Subject matter wherein the scraper implement is intended to be hung within the flue by a member that is capable of exerting only tensile force on the implement and is intended to be manipulated to move the flue cleaner.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

104.068, for a scraper implement suspended by a member capable of exerting tensile and compressive forces.

249.3, for a scraper implement suspended by a taut member (e.g., wire, rope, etc.) that cleans and is intended to be left attached (i.e., at work and at rest) to a flue.

104.07 Hammer:

This subclass is indented under subclass 104.05. The cleaner acts by impact or a series of blows on the material to be dislodged.

SEE OR SEARCH CLASS:

29, Metal Working, subclasses 81.01+ for machines for removing scale from metal bars and plates by impacting.

81, Tools, subclasses 463+ and see the notes thereto for other impact tools.

104.08 Tube deformer:

This subclass is indented under subclass 104.05. The implement changes the configuration of a resilient tube at the point applied for the time being.

104.09 Rotary tool:

This subclass is indented under subclass 104.05. The tool itself is adapted to be rotated in the tube while cleaning it and must be rotated to function properly.

(1) Note. See Class 29, Metal Working, subclasses 81.01+.

104.095 Power source outside tube end:

This subclass is indented under subclass 104.09. Apparatus wherein the means for rotating the cleaner in the tube is located externally of the end of the tube.

104.096 Container cleaner:

This subclass is indented under subclass 104.095. Apparatus wherein the rotary tool is configured for and intended to be used in cleaning a receptacle.

104.11 Inside boiler drum:

This subclass is indented under subclass 104.095. Means for cleaning the inside of boiler tubes connected to a drum in which the operating mechanism when in operation is located inside the drum.

104.12 Contiguous fluid motor:

This subclass is indented under subclass 104.09. The tool is rotated by a fluid-operated motor in close juxtaposition to the tool, and both are caused to move along inside the tube.

(1) Note. For structure of the motor see Class 415, Rotary Kinetic Fluid Motors or Pumps, appropriate subclasses and especially subclass 503 which comprises an art collection of tool drive turbines, and appropriate subclasses in Class 91, Motors: Expansible Chamber Type.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

104.06, and 104.07, for similar arrangement of tool and motor.

SEE OR SEARCH CLASS:

175, Boring or Penetrating the Earth, subclass 107 for a fluid operated rotary motor for driving an earth boring tool which motor advances with the tool into the hole being formed.

415, Rotary Kinetic Fluid Motors or Pumps, subclass 904 for a cross-reference collection of turbines disclosed for driving a tool.

418, Rotary Expansible Chamber Devices, appropriate subclasses for rotary expansible chamber motors, per se.

104.13 Plural rotary cutter:

This subclass is indented under subclass 104.09. The rotary tool is provided with a plurality of cutters journaled to rotate in bearings in the tool itself.

(1) Note. See this class, subclass 104.15.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

104.11,

SEE OR SEARCH CLASS:

175, Boring or Penetrating the Earth, subclasses 331+ for an earth boring tool comprising a plurality of rolling cutter elements.

104.14 Centrifugally pivoted:

This subclass is indented under subclass 104.09. One or more cleaning members are pivoted to the body of the tool so that upon rotation of the tool the members fly outward.

104.15 Plural rotary cutter:

The body of the tool which moves longitudinally of the tube is provided with a plurality of cutters adapted to rotate in contact with the walls of the tube to cut deposits therefrom.

(1) Note. See this class, subclass 104.13.

104.16 Scraper, cutter, wiper or brush:

The tool moves longitudinally of the tube and cuts, scrapes, disintegrates, wipes, or brushes deposits from the pipe walls.

104.165 Non-piercing fabric holder:

This subclass is indented under subclass 104.16. Devices which are adapted to hold a fabric wiper without piercing the same.

(1) Note. The fabric may be wrapped about the end of the holder or may pass through a slot near or at the end of the holder.

(2) Note. Complete the search in this class, subclass 211.

104.17 Expanding at both ends:

This subclass is indented under subclass 104.16. A reciprocating scraper having a body provided with scraping members at each end of the tool body capable of being extended in outward directions to accommodate different-sized tubes.

104.18 Expanding at one end:

This subclass is indented under subclass 104.17. Same as preceding ... but having scrapers at one end only of the tool body.

104.19 Expanding between ends:

The variation of size takes place intermediate the ends of the tool body.

104.2 Radial bristle:

The body of the tool is provided with bristles of metal or other hard material extending radially outward.

104.31 Sewer:

This subclass is indented under subclass 104.05. Subject matter which includes a cleaning tool or an implement for cleaning a sewer.

(1) Note. The term "implement" is defined in the main class definitions.

(2) Note. The term "sewer" includes an underground conduit, a culvert, a sanitary drain pipe or a sink or toilet drain.

(3) Note. The term "cleaning tool" refers to an instrument for freeing foreign material within or from the pipe interior.

SEE OR SEARCH THIS CLASS, SUBCLASS:

104.2, for reciprocating pipe or tube interior cleaner having rotating radial bristles.

104.09+, for a pipe or tube interior cleaner having a rotary and reciprocating tool.

105.15, for a reciprocating pipe or tube interior cleaner having plural rotary cutters.

SEE OR SEARCH CLASS:

137, Fluid Handling, subclasses 242+ for a fluid system with a Class 15 mechanical cleaning means.

201, Distillation: Processes Thermolytic, subclass 2 for a method of cleaning or decarbonizing a distilling system.

202, Distillation: Apparatus, subclass 241 for means for cleaning and decarbonizing pipes of a distilling system.

210, Liquid Purification or Separation, subclasses 407+ for filters with residue removing means; and subclasses 523+ for gravitational separators with mechanical constituent movers.

226, Advancing Material of Indeterminate Length, subclasses 1+ for methods and appropriate subclasses, particu-

larly subclass 188, for feeding material without utilizing the leading or trailing ends to effect movement of the material.

294, Handling: Hand and Hoist-Line Implements, subclasses 86+ for grapples of general application.

104.32 Grapple:

This subclass is indented under subclass 104.31. Subject matter wherein the implement includes a cable having a cleaning device to seize foreign material within a sewer.

104.33 Snake:

This subclass is indented under subclass 104.31. Subject matter which includes a cable with a cleaning tool designed for insertion within a sewer to rid the sewer of foreign material.

104.5 Comb cleaners:

This subclass is indented under subclass 104. Devices for cleaning combs.

SEE OR SEARCH THIS CLASS, SUBCLASS:

39, for brushing type machines for cleaning combs.

SEE OR SEARCH CLASS:

119, Animal Husbandry, subclasses 628+ for a self-cleaning currycomb.

132, Toilet, subclass 119 for comb attached comb cleaners.

104.51 Multiple strand type:

This subclass is indented under subclass 104.5. Devices including frames, stretchers, supports, etc., which carry a number of threads or strands fastened at each end of the strand, along which the comb is drawn in the act of cleaning.

104.52 With rigid supporting frame:

This subclass is indented under subclass 104.51. Devices in which the supports at each end are integrally connected to form a rigid frame.

104.53 With attached brush:

This subclass is indented under subclass 104.52. Devices having a brush.

104.54 Non-planar groups of strands:

This subclass is indented under subclass 104.52. Devices having at least two separate groups of strands lying in different planes.

104.8 With coacting material receiver:

This subclass is indented under subclass 104. Device and a receiver for material handled by the implement, which coact concurrently for the cleaning operation.

SEE OR SEARCH THIS CLASS, SUBCLASS:

41+, for carpet sweepers.

104.9 Machine-attachable bottle washing implement:

This subclass is indented under subclass 104. Implement disclosed as being attachable to a driven mechanism of a machine, which machine, or which implement, includes means for supplying cleaning liquid to the work so that the implement is adapted to clean the inner surfaces of bottles, tumblers, or the like.

(1) Note. The means for supplying cleaning liquid may be a self-contained reservoir-and-feed system or a conduit which is couplable to an external source of supply (e.g., faucet).

SEE OR SEARCH THIS CLASS, SUBCLASS:

59+, and 71+, for a machine including a brush for cleaning the inside of a bottle or a can-like receptacle, respectively.

164+, and 211+, for an implement for cleaning hollow-ware; particularly, subclass 213 for such an implement which is rotary and is expansible after entry into the neck of a bottle.

SEE OR SEARCH CLASS:

401, Coating Implements With Material Supply, appropriate subclasses for a hand-manipulable coating implement which has a material supply.

104.92 Stationary implement with material supply:

This subclass is indented under subclass 104. Device including a tool and supporting structure therefor, which device is stationary so as to

require transportation of the workpiece into contact therewith for a cleaning operation, and wherein: (1) the supporting structure is a receptacle for cleaning material, or (2) the tool is supplied (e.g., impregnated) with cleaning material.

- (1) Note. A patent disclosing nothing more than a mere pad which is impregnated with cleaning material and which is, therefore, inherently capable of manual manipulation will be placed in subclass 104.93. However, a patent which discloses the combination of stationary supporting structure and an impregnated pad will be placed in this subclass even when the claim(s) are limited to the pad itself.

SEE OR SEARCH THIS CLASS, SUBCLASS:

104.93, for a manually manipulated implement having a work-contacting surface which is coated or impregnated with cleaning material; and see (1) Note, above.

423, for a pen wiper which has no cleaning material supply (except that it may be adapted to be coated or impregnated therewith).

SEE OR SEARCH CLASS:

118, Coating Apparatus, subclasses 264+ for a stationary coating device used for a purpose other than cleaning, which device includes an applicator which either is impregnated with coating material or receives the material from a supply container for application to a work surface.

401, Coating Implements With Material Supply, appropriate subclasses; particularly subclasses 196+ for a hand-manipulable implement having a porous tool through which the material flows; 261+ for an implement wherein the tool is bladelike or padlike; and 268+ wherein the tool is composed of filamentary elements (e.g., brush).

104.93 Tool coated or impregnated with material supply:

This subclass is indented under subclass 104. Implement which is hand-manipulable for contact with a work surface for a coating or cleaning operation and which has a work contacting surface portion charged with material.

- (1) Note. A patent disclosing nothing more than a mere pad which is impregnated with cleaning material and disclosed as being a stationary device while in use, but which is inherently capable of manual manipulation, will be placed in this subclass.

- (2) Note. For placement in this subclass, the combination of the tool and the charge of material must be claimed. An implement including a tool which is merely adapted to be coated or impregnated with cleaning material will be placed in the appropriate subclass below; e.g., subclass 423 for a pen wiper.

SEE OR SEARCH THIS CLASS, SUBCLASS:

104.92, for a static cleaning device having a support for a tool and having material supply, to which device the work is brought for the cleaning operation.

SEE OR SEARCH CLASS:

118, Coating Apparatus, subclasses 264+ for stationary coating apparatus which includes a porous applicator.

401, Coating Implements With Material Supply, subclasses 196+ for a manually manipulated coating device including a porous tool through which material flows for application to a work surface, indented subclass 201 being the locus of a mere porous padlike applicator which has a pocket to receive a piece of solid coating material which becomes fluidized and permeates the interstices of the applicator when dipped into a liquid prior to the coating operation.

104.94 Including means for manual manipulation of implement:

This subclass is indented under subclass 104.93. Implement including means engageable by, or adapted to receive, the hand of the user for the purpose of handling the implement.

- (1) Note. The implement may be in the form of a mitt or finger cot for handling purposes or it may include a handle or impervious, manually manipulable support.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 227, for a finger cot or mitt used for cleaning.

SEE OR SEARCH CLASS:

- 401, Coating Implements With Material Supply, subclasses 37+ for an implement which includes a tool impregnated with coating material and another tool which is used to spread the material applied to a work surface by the impregnated tool.

105 Combined:

This subclass is indented under subclass 104.001. Implements having in one structure plural complete and generally independently-usable tools or instruments, at least one of which is of a type recognized by title in this classification.

- (1) Note. The usual distinction between devices in this subclass and those in the subclass of the Toilet class (see SEARCH CLASS reference below) is that in the latter one or more implements can only be brought into use by complete or partial removal from the main structure, while in the former no change of relation is necessary.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 1.5, for implements employing plural and independently usable tools or elements at least one of which employs an electrostatic field to remove foreign matter from the surface of the work.

216,

SEE OR SEARCH CLASS:

- 132, Toilet, subclasses 79+ for a toilet kit having a brush or an applicator and an additional part or device particularly useful for a toilet function (e.g., comb, mirror). Also see (1) Note above.
- 401, Coating Implements With Material Supply, subclasses 49+ for a cosmetic applicator including a lipstick or the like; and subclasses 118+, for a cosmetic kit including cosmetic material and an applicator therefor, but not including such an additional device (e.g., mirror, comb) as would make the kit special for Class 132, Toilet.

105.5 Mortar-joint finisher:

This subclass is indented under subclass 105. Implements in which one of the independently usable tools or instruments is particularly adapted to finish a mortar joint between adjacent building blocks or slabs.

105.51 Eraser:

This subclass is indented under subclass 105. Implement in which one of the independently-usable tools or instruments is an eraser as defined in subclass 424, below.

- (1) Note. The combination of an eraser with a pencil or means for attachment to a pencil will be placed in subclasses 427+, rather than in this subclass. The patent must, however, claim the pencil or the attachment means in no greater detail than is necessary to define the relationship with the eraser; see (1) Note in subclass 427 for the statement of the line between this class and Class 401, Coating Implements With Material Supply, with respect to eraser-and-pencil combinations.
- (2) Note. This subclass is the locus for patents to the combination of a nonmutilating eraser and a burnisher used to restore a surface, upon which an erasure has been made, to an acceptably smooth condition.

SEE OR SEARCH CLASS:

- 7, Compound Tools, subclass 124 for a burnisher combined with a mutilating eraser (e.g., scraper blade, rasp, abrasant).
- 40, Card, Picture, or Sign Exhibiting, subclass 358 for an eraser combined with means to display a card, picture, or sign.

105.52 And brush:

This subclass is indented under subclass 105.51. Implement in which another of the independently-usable tools or instruments is of the type which includes a plurality of work-contacting filamentary elements.

105.53 And cutter:

This subclass is indented under subclass 105.51. Implement in which another of the independently-usable tools or instruments is a solid member which is intended to be applied to a workpiece to penetrate it (e.g., a knife) or to remove portions thereof (e.g., file or abrasant).

- (1) Note. This subclass is the locus for patents to the combination of an eraser and pencil sharpener.

106 Brush:

This subclass is indented under subclass 105. Devices having in one structure plural complete and independently-usable instruments of the brush or broom type.

- (1) Note. Brushes having combined therewith means for applying to the body any one or combination of light or analogous rays, electricity, or thermal treatments, which are limited by structure to therapeutic use, are in Class 607, Surgery: Light, Thermal, and Electrical Application, subclass 79.
- (2) Note. See this class, subclass 166 for striping brushes.

107 Dauber and polisher:

This subclass is indented under subclass 106. Implements having in one structure plural complete and independently-usable instruments of the brush type, one being a dauber for the

application of coating material and another a polisher.

110 Brush and massage-tool:

This subclass is indented under subclass 105. Plural instruments in one structure, usable independently or together, one being a brush and another a massage-tool.

SEE OR SEARCH CLASS:

- 601, Surgery: Kinesitherapy, subclasses 136+.

111 Brush and scraper:

This subclass is indented under subclass 105. Devices having in one structure plural independently-usable instruments, of which one is a brush and another a scraper.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 112, 113.

112 Boot cleaners:

This subclass is indented under subclass 111. Devices having in one structure a brush and also a scraper and especially adapted for cleaning boots and shoes.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 113, 216.

113 Hand:

This subclass is indented under subclass 112. Devices having in one structure a brush and also a scraper especially adapted for cleaning boots or shoes and to be held and operated directly by the hand of the user.

114 Brush and wiper:

This subclass is indented under subclass 105. Plural complete and independently-usable instruments in one structure, at least one being a brush and another a wiper. In this, as in other titles and definitions in this class, the term "wiper" is restricted in meaning to porous or absorbent devices and excludes scrapers and squeegees.

- (1) Note. See this class, subclasses 115, 116 and 216.

115 Mop:

This subclass is indented under subclass 114. Plural complete and independently-usable instruments in one structure, at least one of them being a brush and another a wiper of the mop type.

- (1) Note. See this class, subclass 116.

116.1 Mop and wringer:

This subclass is indented under subclass 114. Subject matter wherein the wiper is a mop and the structure includes a wringer for the mop.

- (1) Note. Many older patents were placed here on the basis of the disclosure rather than the claims.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 119.1+, for a combined mop and wringer.
229.2+, for a strand type mop with a fixed handle.
229.6+, for a strand type mop with a pivoted handle.
260+, for a mop wringer, per se.

SEE OR SEARCH CLASS:

- 68, Textiles: Fluid Treating Apparatus, subclasses 241+ for wringer, per se.

116.2 Sponge mop:

This subclass is indented under subclass 116.1. Subject matter wherein the mop is made from nonfabric material capable of absorbing water many times its own weight.

117 Brush and squeegee:

This subclass is indented under subclass 105. Plural complete and independently-usable instruments in one structure, at least one being a brush and another a squeegee.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 245, for general utility squeegees.
250.361+, for a cleaning element having a squeegee which is also part of an optical-member-attachabl cleaner (e.g., windshield wiper, etc.).

118 Wiper:

This subclass is indented under subclass 105. Plural complete and independently-usable instruments in one structure, one being a wiper in the sense of the present classification--i.e., of porous or absorbent material--and another either such a wiper or an instrument of different type or a wringer.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 114+, for a wiper combined with a brush.

119.1 Mop and wringer:

This subclass is indented under subclass 118. Apparatus wherein the wiper is a mop in combination with a wringer.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 116.1+, for a brush combined with a mop and wringer.
228+, for a fabric mop.
260+, for a wringer, per se.

119.2 Sponge mop:

This subclass is indented under subclass 119.1. Apparatus wherein the mop head includes an absorbent cellular mass.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 244.1, for a sponge with a holder or a sponge, per se.

120.1 Twister:

This subclass is indented under subclass 119.1. Apparatus wherein the wringer has means to twist the mop to squeeze out the moisture.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 263, for a twister type wringer.

120.2 Assisted by modified handle:

This subclass is indented under subclass 120.1. Apparatus wherein the handle includes means intended to aid in the twisting of the mop.

121 Squeegee:

This subclass is indented under subclass 118. Plural complete and independently-usable cleaning instruments in one structure, one

being a wiper in the sense of the present classification--i.e., of porous or absorbent material, such as felt, cloth, yarn or sponge and another a squeegee.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

245, for general utility squeegees.
250.361+, for a cleaning element having a squeegee which is also part of an optical-member-attachable cleaner (e.g., windshield wiper, etc.).
531+, for implements having diverse work contacting means, one of which is a squeegee, and a material supply.

141.1 **Beater:**

Subject matter under 104 which includes a device for striking generally flexible material for dislodging dust or other foreign material from the material.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

89+, for a machine to beat flexible material.

SEE OR SEARCH CLASS:

607, Surgery: Light, Thermal, and Electrical Application, subclass 79 for Kinestherapy percussing vibrators.

141.2 **Rotary:**

This subclass is indented under subclass 141.1. Subject matter wherein the device moves about an axis.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

383+, for an airblast or suction machine with a rotary agitator.

142 **Grids and combs:**

This subclass is indented under subclass 104.001. Devices having gratings, or teeth like those of combs, especially adapted for removal of foreign matter from material having strands or fibers, such as fringes or brushes, and generally by application of the work to the implement, by entering between and passing along the sides of the strands or fibers.

SEE OR SEARCH CLASS:

132, Toilet, subclasses 219+ for combs designed to be used by inserting the teeth into the hair of a person.

143.1 **Particular handle:**

This subclass is indented under subclass 104.001. Apparatus including means to be gripped by the users hand and wherein significance is attributed to the handle.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

120.2, for a mop in combination with a twister, wherein the mop handle is modified to assist in twisting the mop to remove moisture.

SEE OR SEARCH CLASS:

16, Miscellaneous Hardware (e.g., Bushing, Carpet Fastener, Caster, Door Closer, Panel Hanger, Attachable or Adjunct Handle, Hinge, Window Sash Balance, etc.), subclasses 110+ for miscellaneous handles.

30, Cutlery, various subclasses for a handle for a scraper or other cutlery.

81, Tools, subclasses 489+ for a general tool handle not disclosed for any particular tool.

144.1 **Adjustable:**

This subclass is indented under subclass 143.1. Apparatus wherein the handle includes means which permit it to be changed either in length or in orientation to the implement head.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

172, for a broom or brush head that is adjustable with respect to the handle.

SEE OR SEARCH CLASS:

403, Joints and Connections, appropriate subclasses for a connection between a handle and an implement.

144.2 **Universally:**

This subclass is indented under subclass 144.1. Apparatus wherein the connection between the apparatus and the handle permits angular adjustment in more than one plane.

144.3 Variable length:

This subclass is indented under subclass 144.1. Apparatus wherein the handle is adjustable to more than one length.

144.4 Telescopic:

This subclass is indented under subclass 144.3. Apparatus wherein the handle length is adjusted through the sliding of one section into another.

145 Detachable:

This subclass is indented under subclass 143.1. Detachable handles especially adapted for use with implements of types recognized in the subtitles of the present classification.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

146, through 154, 176.1+ and 189.

SEE OR SEARCH CLASS:

403, Joints and Connections, appropriate subclasses for a connection between an implement and a handle wherein only so much structure of the implement and handle is included as is necessary to cooperate to effect the joint.

146 Holders, brush and broom:

This subclass is indented under subclass 104.001. Devices for removably holding brush or broom backs or heads in such manner as to facilitate application of the implement to the work.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

143, through 145.

147.1 Holder, mop:

This subclass is indented under subclass 104.001. Apparatus including structure to removably hold a mop intended to facilitate its use.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

146, for a holder, for a brush or broom back or head.

228+, for a mop or mop head.

244+, for a sponge with holder.

147.2 Nonclamped:

This subclass is indented under subclass 147.1. Apparatus wherein the means used to secure the mop to the holder is not a clamp.

148 Convertible:

This subclass is indented under subclass 147.1. Mop-holders so convertible as to enable them to hold another cleaning implement, generally a brush, in addition to or in substitution for the mop.

149 Expansible:

This subclass is indented under subclass 147.1. Mop-holders having expansible arms to bring the mop into contact with the inner walls of hollow ware, such as bottles, jars, lamp-chimneys, etc.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

115, 165, 168, 212, and 213.

150 Pivoted jaw:

This subclass is indented under subclass 147.1. Mop-holders in which the holding means is a pivoted clamping jaw.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

178, 228 and 229.

151 Sliding jaw:

This subclass is indented under subclass 147.1. Mop-holders with sliding mop-holding jaw, except those having a lever or screw for operating said jaw.

(1) Note. See this class, subclasses 152 and 153.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

173,

152 Lever operated:

This subclass is indented under subclass 151. Mop-holders having a sliding, lever-operated mop-holding jaw.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

115, 116, 118, 119.1+, 148, 173, 177, 228, and 229.

153 Screw operated:

This subclass is indented under subclass 151. Mop-holders having a sliding, screw-operated mop-holding jaw.

(1) Note. See the search Note to subclass 152 of this class.

154 Spring wire and runner:

This subclass is indented under subclass 147.1. Mop-holders having spring gripping-arms whose free ends are brought together into clamping position and released therefrom by a ring surrounding and running on the arms.

154.2 With shaker:

This subclass is indented under subclass 147.1. Apparatus wherein the holder includes structure intended to aid in shaking the mop head.

159.1 Brush or broom:

This subclass is indented under subclass 104.001. Apparatus including separate, natural, or artificial elements, such as bristles, splints, fibers, broomstraws, grass, or other stems (in distinction from sheets, blocks, strands or layers of felted, spun, woven, pulped, or molded fabric, pelts scrapers or sponge, per se) which are arranged in, generally, parallel relation so that their assembled ends constitute collectively a working surface intended for cleaning or polishing by brushing or scrubbing or for applying paint, powder or other coating, coloring, or cleaning material.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

4+, for a cleaning machine having a brush in combination with another cleaning instrument.

21+, for a cleaning machine with a brush as the only cleaning instrument.

SEE OR SEARCH CLASS:

56, Harvesters, subclasses 400.17+ for a broom type rake intended for use in a harvesting operation.

209, Classifying, Separating, and Assorting Solids, subclasses 385+ for a brush used in clearing a passage in a sifter.

401, Coating Implements With Material Supply, appropriate subclasses, particularly subclass 24 for a brush or broom with material supply combined with a diverse coating tool; subclass 39 for plural brushes or brooms with material supply to at least one, but not all, of the implements; and subclasses 268+ for a brush or broom with material supply.

607, Surgery: Light, Thermal, and Electrical Applications, subclass 79 for a brush combined with means to apply an application of light, thermal or electrical energy to the human body.

160 Special work:

This subclass is indented under subclass 159.1. Implements of the brush or broom type especially fitted by shape, bristle arrangement, or otherwise for use on particular classes of articles or work, other than those indicated by subtitles 161-167, and 211, of this class.

(1) Note. Heated brushes are in this subclass (160).

SEE OR SEARCH THIS CLASS, SUB-CLASS:

104.066+, for a brush or broom implement configured to clean a flue.

249.1, for a brush or broom implement that cleans and is intended to be left attached (i.e., at work and at rest) to a flue.

SEE OR SEARCH CLASS:

132, Toilet, subclass 118 for combs combined with a heater, and subclasses 308 and 313 for a toilet kit including a brush.

161 Boot cleaners:

This subclass is indented under subclass 160. Cleaning implements of the brush or broom type especially adapted for cleaning used boots or shoes.

SEE OR SEARCH THIS CLASS, SUB-CLASS:
112, 216, and 217.

SEE OR SEARCH CLASS:
401, Coating Implements With Material Supply, subclass 39 for a device including a brush for cleaning shoes combined with an applying brush and material supply (polish) therefor.

164 Hollow-ware cleaners:

This subclass is indented under subclass 160. Implements of the brush or broom type especially adapted for the cleaning of hollow ware.

SEE OR SEARCH THIS CLASS, SUB-CLASS:
71, 180, 211, and 502, for other hollow ware cleaners.

165 Collapsible:

This subclass is indented under subclass 164. Implements of the brush or broom type especially adapted for cleaning hollow ware and which are collapsible for entrance through the narrow mouth of such ware and expandible after entrance.

SEE OR SEARCH THIS CLASS, SUB-CLASS:
72, and 212.

SEE OR SEARCH CLASS:
492, Roll or Roller, particularly subclasses 4+ for an expandible roll, per se, not elsewhere classifiable and see the Notes thereto for other rolls and combinations involving rolls.

166 Stripping:

This subclass is indented under subclass 160. Implements of the brush or broom type especially adapted for applying coloring or other matter in stripe form or for lettering goods with distinguishing marks or addresses.

SEE OR SEARCH THIS CLASS, SUB-CLASS:
246+, and especially subclass 248 for stripping attachments.
503, for fluid pavement and floor markers.

560, for implements with material supply having a work surface or member engaging guide.

167.1 Tooth or nail brush:

This subclass is indented under subclass 160. Subject matter which includes a brush for cleaning the teeth or nails.

SEE OR SEARCH THIS CLASS, SUB-CLASS:
132, for a brush and a massage tool.

SEE OR SEARCH CLASS:

132, Toilet, subclass 84 for a toilet kit including a toothbrush and an additional part or device particularly useful for a toilet function (e.g., comb, mirror).

401, Coating Implements With Material Supply, subclasses 118+ for a toilet kit consisting of a supply of toothpaste and a toothbrush separate from the supply; and subclasses 268+ for a toothbrush having a supply of toothpaste contained therein, (e.g., having a toothpaste reservoir in the handle and means to feed the toothpaste to the bristles).

167.2 Concurrently brushes plural tooth surfaces:

This subclass is indented under subclass 167.1. Subject matter wherein the brush simultaneously brushes two or more surfaces of a tooth.

(1) Note. The term "surface" includes the inner or outer portion or the biting part of a tooth.

167.3 Nail brush:

This subclass is indented under subclass 167.1. Subject matter wherein the brush is for cleaning the nails.

168 Bridles:

This subclass is indented under subclass 159.1. Devices embracing the bristles or fibers of implements of the brush or broom type in such manner as to prevent undue spreading, breaking, or wear thereof.

- SEE OR SEARCH THIS CLASS, SUB-CLASS:
248.1+, for an attachment to a brush or broom intended to catch a drip or otherwise act as a shield.
- 169 Adjustable:**
This subclass is indented under subclass 168. Devices embracing the bristles or fibers of implements of the brush or broom type in such manner as to prevent undue spreading, breaking, or wear thereof and which are adjustable lengthwise of the implement as wear occurs to expose a fresh portion of the implement for use.
- 170 Straw supported:**
This subclass is indented under subclass 168. Devices embracing the material constituting the working face of implements of the brush or broom type to prevent undue spreading, breaking, or wear thereof and which are supported or carried by said material.
- 171 Heads and casings:**
This subclass is indented under subclass 159.1. Miscellaneous brush or broom heads and casings therefor. These relate in general to means not otherwise provided for to connect the elements of the material forming the working face of the implement into a unitary structure and providing a handle therefor or adapting it to receive a handle.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
143.1+, for a particularly configured handle.
- 172 Adjustable head:**
This subclass is indented under subclass 171. Miscellaneous brush or broom heads and casings which are adjustable with reference to the handle or carrier, including double-ended brushes or brooms which are reversible or capable of being turned end for end to bring either end into use.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
144.1+, for an adjustable handle for a cleaning implement.
- 173 Axial clamp:**
This subclass is indented under subclass 171. Implements of the brush or broom type in which the material forming the head thereof is fastened together and to the handle by a clamp moving axially of the handle.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
151, through 153.
- 174 Bands:**
This subclass is indented under subclass 171. Implements of the brush or broom type in which the material forming the head thereof is fastened together and to the handle by clamping-bands encircling the same.
- 175 Braces, caps, and shields:**
This subclass is indented under subclass 171. Implements of the brush or broom type having strengthening braces or caps at the shoulder or point of connection of the head with the handle, or shields to prevent injury to the head or surrounding objects in the use of the implement.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
171, and 174.
- 176.1 Detachable head:**
This subclass is indented under subclass 171. Subject matter in which the head is detachable from a handle or holder.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
145, for detachable handles, per se.
- 176.2 With handle-head cooperating threads:**
This subclass is indented under subclass 176.1. Subject matter wherein either the head or the handle has a threaded projection which cooperates with a threaded recess in the other to secure the one to the other by relative rotation.
- 176.3 With screw-type fastener:**
This subclass is indented under subclass 176.1. Subject matter wherein a separate threaded element is used to secure the head to the handle.

- (1) Note. The separate threaded element is rotatable relative to both the head and the handle.
- 176.4 Perpendicularly insertable:**
This subclass is indented under subclass 176.1. Subject matter wherein the head is removably inserted into the handle in a direction generally perpendicular to the longitudinal axis of the handle.
- 176.5 With securing means:**
This subclass is indented under subclass 176.4. Subject matter including a securing means to hold the head on the handle.
- 176.6 With securing means:**
This subclass is indented under subclass 176.1. Subject matter having a securing means to hold the head on the handle.
- 177 Lateral clamp:**
This subclass is indented under subclass 171. Implements of the brush or broom type in which the material constituting the head of the implement is fastened together and to the handle by laterally-acting clamp-jaws.
- (1) Note. See this class, subclass 178.
- 178 Pivoted jaw:**
This subclass is indented under subclass 177. Implements of the brush or broom type in which the material constituting the head of the implement is fastened together and to the handle by laterally-acting clamping-jaws, at least one of which is pivoted.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
150,
- 179 Rotary:**
This subclass is indented under subclass 171. Implements of the brush or broom type having heads constructed for rotation.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
21+, especially subclasses 23, 71-73, 198, and 501+ for other showings of rotary brushes.
- SEE OR SEARCH CLASS:
492, Roll or Roller, subclasses 13+ for a working roller with a handle, and subclass 29 for a roller, not elsewhere provided for, being a pile or nap surface.
- 180 Disk:**
This subclass is indented under subclass 179. Implements of the brush or broom type having heads constructed for rotation and whose working face is of flat or disk shape.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
28, and 29.
- 181 Laminated:**
This subclass is indented under subclass 179. Implements of the brush or broom type having heads constructed for rotation and the material forming the head arranged in layers.
- SEE OR SEARCH CLASS:
492, Roll or Roller, subclasses 40+ for a roll, per se, not elsewhere provided for, having axially stacked annular members, and subclasses 49+ for a roll, per se, having a concentric layered annular structure.
- 182 Spiral bristle mount:**
This subclass is indented under subclass 179. Implements of the brush or broom type having heads constructed for rotation and in which the material constituting the brushing or sweeping element is mounted in spiral arrangement.
- SEE OR SEARCH CLASS:
492, Roll or Roller, subclass 43 for a roll, not elsewhere provided for, with a spiral member and subclass 44 for a roll with a helical member.
- 183 Tuft-holding bar:**
This subclass is indented under subclass 179. Implements of the brush or broom type having heads constructed for rotation and in which axially-arranged plural series of tufts of material constituting the brushing or sweeping element are held in place by bars, one for each series.

184 Housings:

This subclass is indented under subclass 159.1. Implements of the brush or broom type having means for covering and protecting them when not in use.

(1) Note. See this class, subclass 185.

SEE OR SEARCH CLASS:

- 132, Toilet, subclasses 79+ for a toilet kit including a brush and an additional part or device particularly useful for a toilet function (e.g., comb, mirror).
401, Coating Implements With Material Supply, subclasses 118+ for a toilet kit consisting of a brush and a separate supply of cosmetic or cleaning material contained therein; and subclass 269 for a brush having a coating supply and a removable cap for the bristles.

185 Pivoted:

This subclass is indented under subclass 184. Implements of the brush or broom type having pivoted thereto a cover or housing for protecting the implement when not in use.

186 Individual-bristle mount:

This subclass is indented under subclass 159.1. Implements of the brush or broom type in which each individual bristle or equivalent is separately and independently secured to a common backing.

(1) Note. See this class, subclasses 187 and 188.

187 Integral:

This subclass is indented under subclass 186. Implements of the brush or broom type in which each individual bristle or equivalent is separately and independently secured to and integral with a common backing.

(1) Note. See this class, subclass 188.

188 Rubber:

This subclass is indented under subclass 187. Implements of the brush or broom type in which separate and individual rubber bristles are integral with a rubber backing.

189 Stitched and wire bound:

This subclass is indented under subclass 159.1. Implements of the brush or broom type in which the material constituting the head of the implement is secured together by stitching and to the handle by winding the wire.

(1) Note. See this class, subclass 207.

190 Tuft fasteners:

This subclass is indented under subclass 159.1. Metal or other fasteners in the nature of nails, staples, clips, ferrules, wedges, or the like, especially adapted to form sockets for tufts or knots of brush or broom material or for securing the tufts or knots in sockets or holes prepared therefor in a backing.

191.1 Tuft socket:

This subclass is indented under subclass 159.1. Apparatus wherein the brush, or broom has a backing and a tuft, knot or bunch of brush or broom material which is secured in a socket, recess or hole in the backing.

192 Cemented:

This subclass is indented under subclass 191.1. Implements of the brush or broom type in which a tuft, knot, or bunch of brush or broom material is secured by cement in a socket, recess, or hole in a backing.

(1) Note. See this class, subclass 193.

SEE OR SEARCH CLASS:

- 156, Adhesive Bonding and Miscellaneous Chemical Manufacture, subclass 72 for processes for setting or embedding tufts onto a backing.

193 Plastic mass:

This subclass is indented under subclass 192. Implements of the brush or broom type in which a knot or bunch of brush or broom material is secured to a backing by a plastic mass of cement in which the tuft is socketed.

194 Detachable tuft:

This subclass is indented under subclass 191.1. Implements of the brush or broom type in which a tuft of brush or broom material is detachably secured in a socket in a backing.

- (1) Note. See this class, subclasses 176 and 202.
- 195 Folded tuft:**
This subclass is indented under subclass 191.1. Implements of the brush or broom type in which a folded or doubled tuft of brush or broom material is secured in a socket in a backing.
- (1) Note. See this class, subclasses 196-199.
- 196 Drawn work:**
This subclass is indented under subclass 195. Implements of the brush or broom type in which a folded or doubled tuft is drawn into a hole or socket in a backing by a loop of cord or wire engaging the fold of the tuft and securing the same.
- SEE OR SEARCH CLASS:
300, Brush, Broom, and Mop Making, subclass 6.
- 197 Metal bristle:**
This subclass is indented under subclass 195. Implements in which a folded tuft, knot, or bunch of metal brush or broom material is secured in a socket in a backing, except those in which the implement is a rotary one, for which see this class,
- (1) Note. See this class, subclass 200.
- 198 Rotary:**
This subclass is indented under subclass 197. Implements in which a folded tuft, knot, or bunch of metal bristles is secured in a socket in a backing adapted for rotation in use.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
179, through 183.
- 199 Retaining wire:**
This subclass is indented under subclass 195. Implements in which a folded or doubled tuft of brush or broom material is secured in a socket of a backing by a retaining wire or rod passing through the fold or band of the tuft.
- 200 Metal bristle:**
This subclass is indented under subclass 191.1. Implements of the brush or broom type in which a nonfolded tuft, knot, or bunch of metal bristles is secured in a socket of a backing.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
197,
- 201 Movable tuft section:**
This subclass is indented under subclass 191.1. Implements having tufts, knots, or bunches of brush or broom material secured in sockets in a backing or head, the head being made up of plural movable sections to permit easy cleaning of the implement or allow it to take the shape of the work.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
165, 202 and 203.
- 202 Detachable:**
This subclass is indented under subclass 201. Implements having a head composed of a backing and plural tuft-sections each carrying a series of tufts, knots, or bunches of brush or broom material secured in sockets, the sections being detachable from the backing and from one another to permit cleaning, renewal, or repair.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
176, 194.
- 203 Folding:**
This subclass is indented under subclass 201. Implements of the brush or broom type having a head composed of a backing and plural tuft-sections each carrying a series of tufts, knots, or bunches of brush or broom material secured in sockets, the sections being pivoted to the backing to permit folding when not in use.
- 204 With core:**
This subclass is indented under subclass 191.1. Implements having a nonfolded tuft, knot, or bunch of brush or broom material secured in a socket in a backing by means of an internal wedge or core.

- (1) Note. See this class, subclass 195.
- 205 Folded tuft:**
This subclass is indented under subclass 204. Implements having a folded or doubled tuft, knot, or bunch of brush or broom material secured in a socket in a backing by means of an internal core or wedge.
- 205.2 Fountain:**
This subclass is indented under subclass 191.1. Apparatus including structure to facilitate the flow of liquid to the tuft.
- SEE OR SEARCH CLASS:
401, Coating Implements With Material Supply, subclasses 268+ for similar apparatus used to apply a coating to a work surface.
- 206 Twisted bristle holder:**
This subclass is indented under subclass 159.1. Implements having a tuft, knot or bunch of brush or broom material secured between the loops, bends, or folds of twisted wires.
- 207 Wire wound:**
This subclass is indented under subclass 159.1. Implements of the brush or broom type in which the material constituting the head of the implement is fastened to the handle by a winding of wire or cord only.
- (1) Note. See this class, subclass 189.
- 207.2 Bristle configuration or composition:**
This subclass is indented under subclass 207. Apparatus wherein significance is attributed to bristle arrangement, shape or material.
- 208 Fabric:**
This subclass is indented under subclass 104.001. Miscellaneous instruments for general cleaning or for applying a coating of fluid or powdered material, having a working face composed of some sort of simple or compound fabric.
- (1) Note. See this class, subclasses 209 to 233.
- SEE OR SEARCH CLASS:
428, Stock Material or Miscellaneous Articles, appropriate subclasses for a stock material product in the form of a web, sheet, strand or fiber, not elsewhere provided for and especially subclass 85 for a web or sheet with a pile or nap-type surface and subclasses 175+, 190, 193, and 196+ for a web or sheet embodying mechanically interengaged strands or strand-positions (e.g., woven, knitted).
442, Fabric (Woven, Knitted, or Non-woven Textile or Cloth, etc.), subclasses 181+ and 304+ for a woven or knit fabric.
- 209.1 Wiper, dauber, or polisher:**
This subclass is indented under subclass 208. Apparatus intended to be used as a wiper, dauber, or polisher.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
30+, for a boot polishing machine including a brush.
50+, for a floor or wall scrubbing or coating machine including a brush and a wiper.
97+, for a cleaning machine including a wiper.
118+, for a wiper in combination with another independently usable tool or instrument.
- SEE OR SEARCH CLASS:
51, Abrasive Tool Making Process, Material, or Composition, subclass 294 for a bag or filled cloth stock material to be used in abrading.
401, Coating Implements With Material Supply, subclasses 118+ for an applicator in combination with a supply container.
424, Drug, Bio-Affecting and Body Treating Compositions, subclasses 411+, 414+, and 443+, especially subclasses 416, 443, and 449, for a nominal applicator impregnated with a composition.
451, Abrading, subclasses 526+ for a flexible-member tool for cleaning by abrading.

210.1 Special work:

This subclass is indented under subclass 209.1. Apparatus specifically configured by shape or otherwise to clean a particular work surface.

210.5 Graining implements:

This subclass is indented under subclass 210.1. Implements having a fabric working face which is especially adapted for imitating the grain of wood or the like in a pigment by a drawing or rolling action of the implement over the pigment.

- (1) Note. The term "fabric" includes all textile materials, rubber, plastic or the like material not provided for elsewhere (i.e., brush bristles).

SEE OR SEARCH THIS CLASS, SUB-CLASS:

236, for scrapers which may be used for the same purpose.

SEE OR SEARCH CLASS:

30, Cutlery, subclasses 358+ for indenting implements.
101, Printing, appropriate subclasses for devices which apply a coating in a repetitive manner.
118, Coating Apparatus, subclass 102 for implements that remove a portion of the coating in a particular pattern.

211 Hollow-ware cleaners:

This subclass is indented under subclass 210.1. Implements having fabric working faces and especially adapted for use as wipers or polishers in cleaning hollow ware, such as lamp-chimneys, bottles, jars, and the like.

- (1) Note. See this class, subclasses 164, 212 and 213.

212 Expansible:

This subclass is indented under subclass 211. Implements having fabric working faces and especially adapted for use as wipers or polishers in cleaning hollow ware, such as lamp-chimneys, bottles, jars, and the like, and which are expansible to permit passing the neck of the ware and subsequent contact with the walls thereof.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

101, 165, 213, and 230.

213 Rotary:

This subclass is indented under subclass 212. Implements having fabric working faces and especially adapted for use as wipers or polishers in cleaning hollow ware and which are expansible to permit passing the neck of the ware and subsequent contact with the walls thereof and are also rotary in character.

SEE OR SEARCH CLASS:

492, Roll or Roller, subclasses 4+ for a roll, per se, with an inflatable chamber, not elsewhere provided for, and see the notes thereunder.

214 Lens cleaners:

This subclass is indented under subclass 210.1. Implements having fabric working faces and especially adapted for use as wipers or polishers in cleaning optical lenses.

- (1) Note. See this class, subclass 218.

SEE OR SEARCH CLASS:

51, Abrasive Tool Making Process, Material, or Composition, subclass 294 for a lens cleaner embodying an abrasive.

215 Mats:

This subclass is indented under subclass 210.1. Implements in the nature of floor or door mats having fabric working faces especially adapted to act as wipers in cleaning boots or shoes drawn over them by the wearer.

- (1) Note. See this class, subclasses 216 and 217, and the search Note under subclass 238.

SEE OR SEARCH CLASS:

52, Static Structures (e.g., Buildings), a residual class for a static structure; subclasses 177+ for a specific wear or friction-type traffic carrying surface; or subclasses 660+ for a fabric or lattice (e.g., indeterminate grating).

- 216 Combined:**
This subclass is indented under subclass 215. Implements in the nature of floor or door mats having fabric working faces and especially adapted to act as wipers in cleaning boots or shoes drawn over them by the wearer, and a cleaning implement of another type incorporated therewith.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
105, 112 and 114.
- 217 Tuft carrying:**
This subclass is indented under subclass 215. Implements in the nature of floor or door mats having fabric working faces, especially adapted to act as wipers in cleaning boots or shoes drawn over them by the wearer, and having working faces composed of tufts, knots, or strands of fabric or equivalent with exposed ends.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
161,
- 218 Razor cleaners:**
This subclass is indented under subclass 210.1. Implements having fabric working faces and especially adapted to act as wipers or polishers in cleaning razor-blades.
- 218.1 Cutlery cleaners:**
This subclass is indented under subclass 210.1. Implement especially adapted to act as a wiper or polisher for forks, spoons, or knives or other sharp edged blades.
- SEE OR SEARCH CLASS:
451, Abrading, subclasses 486 and 523+ for a wiper, dauber, or polisher including abrasive material.
- 219 Wall-paper cleaners:**
This subclass is indented under subclass 210.1. Implements having fabric working faces and especially adapted to act as wipers in cleaning wallpaper.
- 220.1 Window cleaner:**
This subclass is indented under subclass 210.1. Apparatus specifically configured to clean a windowpane.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
103, for a wiper machine for cleaning windows.
232, for a wiper for cleaning windows consisting of a sheet of fabric with means to hold it in a flat position.
250.001+, for an attachable implement or machine for cleaning a window or other optical element.
- SEE OR SEARCH CLASS:
52, Static Structures (e.g., Buildings), subclasses 171.3+ for a window with treating means, not provided for elsewhere.
239, Fluid Sprinkling, Spraying, and Diffusing, subclasses 284.1+ for a liquid sprayer for a transparent panel.
454, Ventilation, subclasses 85, 93, 121+, and 197 for means to prevent condensation on a window by ventilation.
- 220.2 Magnetic:**
This subclass is indented under subclass 220.1. Apparatus wherein magnetic attraction is utilized to move the wiper or hold it in position.
- 220.3 Venetian blind cleaner:**
This subclass is indented under subclass 210.1. Apparatus specifically configured to clean venetian blinds.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
77, for a machine used to clean venetian blinds using a brush or broom type instrument.
102, for a machine used to clean venetian blinds using a wiper.
- 220.4 Rod or wire cleaner (e.g., dipstick cleaner):**
This subclass is indented under subclass 210.1. Apparatus specifically configured to clean a rod or wire.

- SEE OR SEARCH CLASS:
33, Geometrical Instruments, subclasses 722+ for a fabric wiper combined with a ullage rod.
- 221 Collection chamber:**
This subclass is indented under subclass 209.1. Implements having fabric working faces adapted to act as wipers or polishers, and a chamber for collection of material dislodged by the implement, principally blackboard erasers with chambers for collection of chalk-dust.
- 222 End grip:**
This subclass is indented under subclass 209.1. Implements consisting of a strip of flexible material having hand grip portions at the ends and an intermediate fabric working face acting as a wiper or polisher, mostly shoe-polishers.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
201,
- 223 Work face with exposed laminae:**
This subclass is indented under subclass 209.1. Implements adapted to act as wipers, daubers or polishers made up of layers of fabric, the laminae being exposed at the work face.
- (1) Note. For laminated fabrics having the outermost layer as the work face, see this class, other appropriate subclasses, particularly subclasses 209.1+, for those in which the outermost layer may be removed to expose a new work face.
- SEE OR SEARCH CLASS:
492, Roll or Roller, especially subclass 41 for a roll, per se, not elsewhere provided for, with axially stacked annular members of cloth or fabric.
- 224 Channeled:**
This subclass is indented under subclass 223. Implements adapted to act as wipers, daubers, or polishers having a working face made up of fabric in layers spaced apart, so as to form channels or depressions between pairs of layers.
- SEE OR SEARCH CLASS:
492, Roll or Roller, subclasses 30+ for a roll, per se, not elsewhere provided for, having surface projections, indentations or slits.
- 225 Coil:**
This subclass is indented under subclass 223. Implements adapted to act as wipers, daubers, or polishers having as a working face the edge of a strip of fabric coiled upon itself.
- SEE OR SEARCH CLASS:
492, Roll or Roller, subclass 44 for a roll, per se, not elsewhere provided for, having a helical member.
- 226 Strands:**
Implements adapted to act as dry wipers or polishers having a working face constituted by the ends of an irregular mass of overlapping strands or strips of fabric, excluding those classified as mops, because intended or able to work with a liquid, for which see this class, subclasses 228 and 229.
- 227 Mitts, cots, and shoes:**
This subclass is indented under subclass 209.1. Implements having a working face of fabric adapted to act as a wiper, dauber, or polisher and made up in the form of a mitt for the hand, a cot for the finger, or a shoe for the foot.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
104.94, for a finger cot or mitt coated or impregnated with cleaning material.
- 228 Mops and heads:**
This subclass is indented under subclass 209.1. Implements adapted to serve as wipers or polishers having a working portion constituted by a fabric capable of acting as a mop with a cleaning fluid, together with heads therefor.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
115+, for a mop in combination with another generally independent tool or instrument.

229.1 Having strands:

This subclass is indented under subclass 228. Subject matter wherein the wiper or polisher of the mop comprises cords, yarns or equivalent strips of cloth.

- (1) Note. The term "cloth" includes woven, knitted or felted material.

229.11 Scourer (hand manipulated):

This subclass is indented under subclass 209.1. Apparatus comprising an implement intended to be manipulated by a user's hand and having a work contacting surface of relatively coarse texture.

SEE OR SEARCH CLASS:

- 51, Abrasive Tool Making Process, Material, or Composition, for cleaning implements which are intended to remove base material from the object being cleaned.
- 451, Abrading, subclasses 525+ for a cleaning implement intended to remove base material from the object being cleaned.

229.12 Fibrous mass (e.g., steel wool):

This subclass is indented under subclass 229.11. Apparatus wherein the scourer comprises a mass of intertangled strands of material.

SEE OR SEARCH CLASS:

- 428, Stock Material or Miscellaneous Articles, subclass 605 for an all metal fibrous mass, per se.

229.13 With handle or holder:

This subclass is indented under subclass 229.12. Apparatus wherein the fibrous mass includes structure intended to aid in grasping or manipulating the scourer.

229.14 Powder puff:

This subclass is indented under subclass 209.1. Apparatus wherein the implement comprises a soft pad for applying cosmetic powder.

SEE OR SEARCH CLASS:

- 132, Toilet, subclasses 293+ for an applicator in combination with a powder box in a kit and subclass 320 for a cos-

metic applicator having a peculiar shape to aid in applying the cosmetic in a definite shape or pattern.

- 401, Coating Implements With Material Supply, subclasses 126+ for an applicator in combination with a powder box not in a kit form and subclass 200 for a powder applicator comprised of porous material.

229.2 With fixed handle:

This subclass is indented under subclass 229.1. Subject matter which includes a mop handle joined to the stranded wiper or polisher by a connection allowing no relative motion between the handle and the wiper or polisher.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 143.1+, for a particularly configured handle.
147.1+, for a mop holder.

229.3 And cloth sheath type head:

This subclass is indented under subclass 229.2. Subject matter wherein the connection comprises a fabric tube on one of the joined members into which is inserted a part of the other joined member.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 147.1+, for a mop holder.

229.4 And pocket type head:

This subclass is indented under subclass 229.2. Subject matter wherein the connection comprises a pocket on one of the joined members into which is inserted a part of the other joined member.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 147.1+, for a mop holder.

229.5 And twisted wire frame:

This subclass is indented under subclass 229.2. Subject matter wherein the connection comprises a plurality of intertwined wires with the strands held between the intertwined wires.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 147.1+, for a mop holder.

229.6 With pivoted handle:

This subclass is indented under subclass 229.1. Subject matter wherein a mop handle is joined to the stranded wiper or polisher by a connection allowing the handle to turn about an axis.

SEE OR SEARCH THIS CLASS, SUBCLASS:

144.1+, for an adjustable mop handle.
147.1+, for a mop holder.

229.7 And cloth sheath type head:

This subclass is indented under subclass 229.6. Subject matter wherein the connection comprises a fabric tube on one of the joined members into which is inserted a part of the other joined member.

229.8 And pocket type head:

This subclass is indented under subclass 229.6. Subject matter wherein the connection comprises a pocket on one of the joined members into which is inserted a part of the other joined member.

229.9 And twisted wire frame:

This subclass is indented under subclass 229.6. Subject matter wherein the connection comprises a plurality of intertwined wires with the strands held between the intertwined wires.

230 Rotary:

This subclass is indented under subclass 209.1. Rotary implements having fabric working portions and adapted to act as wipers, daubers, or polishers.

SEE OR SEARCH THIS CLASS, SUBCLASS:

52, 98, 101, 179, and 213.

SEE OR SEARCH CLASS:

451, Abrading, subclasses 488 through 522 for a rotary abrading cylinder having flexible abradant flaps extending from the periphery thereof which are adapted to contact a workpiece.
492, Roll or Roller, for a roller, per se, not elsewhere provided for, and see the notes thereunder.

230.1 With cooling means:

This subclass is indented under subclass 230. Implement which is provided with means to dissipate heat from at least a portion of the implement.

SEE OR SEARCH CLASS:

451, Abrading, subclass 488 for an abrasive tool or tool support ventilating or cooling means.

230.11 Roller with handle:

This subclass is indented under subclass 230. Implement which comprises a cylindroid or conoid working portion supported on a frame having an extension which is grasped by an operative whereby the frame and the working portion supported thereby may be manipulated to cause rolling contact of the working portion relative to a workpiece.

230.12 Adhesively bound parts:

This subclass is indented under subclass 230. Implement wherein the working portion is made up of a plurality of parts which are held one to another by an adhesive bond.

(1) Note. An adhesive bond under this definition is a joining of parts by a separate glue-like material or a joining of parts by causing contacting surfaces to become sticky and adhere together.

SEE OR SEARCH CLASS:

451, Abrading, subclasses 526+ for abrasive working faces adhesively bonded to a backing or a support.

230.13 Coil wound:

This subclass is indented under subclass 230. Implement wherein the working portion comprises a strip of material wrapped about a core to form a spiral or helix, the outer convolution of which strip is used to perform a wiping, daubing or polishing operation.

SEE OR SEARCH CLASS:

451, Abrading, subclasses 490+ and 535 for a spirally wound abrasive tool.

230.14 Sectored disc or cylinder:

This subclass is indented under subclass 230. Implement wherein the working portion comprises a plurality of pieces each having an arcuate part wherein said parts are arranged with respect to each other such that the composite object formed thereby is a cylindroid.

SEE OR SEARCH CLASS:

451, Abrading, subclasses 395+ for an abrasive tool comprised of sectors which are assembled together.

230.15 Stitched laminates:

This subclass is indented under subclass 230. Implement wherein the working portion comprises a plurality of components sewn together in a face to face relationship.

SEE OR SEARCH CLASS:

451, Abrading, subclasses 533+ for a plurality of components sewn together to form an abrasive tool.

230.16 Interrupted work engaging surface:

This subclass is indented under subclass 230. Implement wherein the working portion includes a work-contacting surface which is sectioned into a plurality of distinct work-contacting areas.

SEE OR SEARCH CLASS:

451, Abrading, subclasses 527+ for an abrasive tool having an interrupted work engaging surface.

230.17 Fabric-piercing securing element:

This subclass is indented under subclass 230. Implement which includes a working portion secured to a support by a securing element, which portion is forced onto the support (or the support is forced onto the portion) whereby the securing element makes its own hole, or enlarges an existing hole, in the working portion.

SEE OR SEARCH CLASS:

451, Abrading, subclasses 490+ and 520 for an abrasive tool piercing and securing element.

230.18 Working surface dished inwardly or outwardly:

This subclass is indented under subclass 230. Implement which includes a working portion having a work-contacting face the shape of which is bulged or hollowed relative to the implement whereby any cross-section taken through the shape is bounded by a curved line at the work-engaging face of the shape.

- (1) Note. An implement having a cylindrical or planar or irregular work engaging face is excluded and will be found in other subclasses (e.g., subclass 230) of this schedule.

230.19 With discrete mechanical fabric securing means:

This subclass is indented under subclass 230. Implement which comprises a separable element for securing the working portion to a supporting portion.

- (1) Note. A securing element under this definition must be a type which may be separated from the implement without destroying the element.

SEE OR SEARCH CLASS:

451, Abrading, subclasses 490+ for discrete mechanical means for securing an abrasive tool to its support.

231 Sheet holders:

This subclass is indented under subclass 209.1. Wipers, daubers and polishers whose working face consists of a flat sheet of fabric with special means for holding the sheet in place.

SEE OR SEARCH THIS CLASS, SUBCLASS:

232,

SEE OR SEARCH CLASS:

451, Abrading, subclasses 488 through 539 for an abrasive wiper, dauber, or polisher.

232 Window cleaners:

This subclass is indented under subclass 231. Wipers or polishers especially adapted for cleaning the glass of windows and consisting

of a sheet of fabric and means for holding it in flat or extended position.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 103, for a window cleaning machine in which the cleaning element is a wiper.
- 220.1+, for a wiper used as a window cleaning implement.
- 250.001+, for an attachable implement or machine used to clean a window or other optical implement.

233 Tension frame:

This subclass is indented under subclass 209.1. Wipers, daubers and polishers consisting of a strip or sheet of fabric and a frame for putting and holding it in stretched or tensioned condition.

SEE OR SEARCH CLASS:

- 451, Abrading, subclass 105 for a scouring device that immerses a workpiece conveyed by a roller-type feeder and subclasses 488 through 539 for an abrasive wiper, dauber, or polisher.

234 Feather:

This subclass is indented under subclass 104.001. Cleaning implements whose working face is constituted by the barbs of feathers.

SEE OR SEARCH CLASS:

- 428, Stock Material or Miscellaneous Articles, subclass 6 for a plume made of feathers.

235 Pelts:

This subclass is indented under subclass 104.001. Cleaning devices consisting of the skins of animals with their natural hairy appendages and a suitable mounting.

235.3 Mortar-joint finisher or simulator:

This subclass is indented under subclass 104.001. Implements in the form of a mason's mortar-joint finisher (e.g., raker, jointer) or simulator (e.g., groover).

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 105.5, for a mortar-joint finisher combined with an independently usable tool or instrument.

SEE OR SEARCH CLASS:

- 30, Cutlery, appropriate subclasses for similar devices having a sharp cutting edge or a sharp point.
- 404, Road Structure, Process, or Apparatus, subclass 89 for apparatus to form a joint in a plastic or uncured roadway; and subclass 93 for marking or grooving plastic or uncured roadway material.
- 425, Plastic Article or Earthenware Shaping or Treating: Apparatus, subclass 458 for a hand movable, substrate traversing plural dimension shaping means; see the search notes thereunder.

235.4 Mason's trowel or float:

This subclass is indented under subclass 104.001. Implements in the form of a mason's trowel or float for spreading, shaping, and smoothing loose or plastic material.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 245.1, for a similar implement not disclosed as a mason's trowel.

SEE OR SEARCH CLASS:

- 404, Road Structure, Process, or Apparatus, appropriate subclasses (particularly subclasses 96, 101, and 113) for machines for spreading, shaping and smoothing plastic or uncured road material. Hand implements for substantially the same purpose are classifiable in Class 15, subclass 235.4.
- 425, Plastic Article or Earthenware Shaping or Treating: Apparatus, subclass 458 for a hand movable, substrate traversing plural dimension shaping means; see the search notes thereunder.

235.5 Darby type:

This subclass is indented under subclass 235.4. Implements having a plurality of handles.

235.6 Undulated:

This subclass is indented under subclass 235.4. Implements having an undulated troweling surface.

235.7 Corner type:

This subclass is indented under subclass 235.4. Implements having two like troweling surfaces angularly arranged as to each other, or having a general form (e.g., inside curve) particularly limited to corner use.

235.8 Adjustable:

This subclass is indented under subclass 235.4. Implements having an adjustable feature with means to retain the parts in their adjusted relationship.

236.01 Scrapers:

This subclass is indented under subclass 104.001. Cleaning implements which are adapted to remove foreign matter by the action of hard blade-like or scraping edge, in distinction from that of a brush, broom, fabric, wiper, feather pelt or sponge.

SEE OR SEARCH THIS CLASS, SUBCLASS:

104.068+, for a scraper implement configured to clean a flue.

235.4+, for scrapers in the form of mason's trowel or floats.

237+, for a scraper especially configured to clean boots.

249.2+, for a scraper implement attachment that cleans and is intended to be left attached (i.e., at work and at rest) to a flue.

SEE OR SEARCH CLASS:

29, Metal Working, subclasses 81.01+ for processes and apparatus for removing scale from metal sheets and bars by scraping flexing, treating with water or steam, or by impacting with percussive tools, e.g., scaling hammers.

30, Cutlery, especially subclasses 169+ for general utility scrapers having sharpened cutting edges.

37, Excavating, subclass 176 for snow excavating machines and implements.

52, Static Structures (e.g., Buildings), subclasses 749.1+ for miscellaneous machines and implements used in building construction and see the notes thereto.

69, Leather Manufactures, subclass 20 for scrapers used in leather-working.

81, Tools, subclasses 15.2+ for scrapers combined with means for repairing a resilient vehicle tire.

126, Stoves and Furnaces, subclasses 401+ for a work engaging tool combined with a fluid burner.

131, Tobacco, subclass 246 for smoking bowl cleaners.

132, Toilet, subclasses 75.6 and 76.4 for nail files.

168, Farriery, subclasses 48.1+ for scrapers used to clean or trim horses hooves.

241, Solid Material Comminution or Disintegration, subclasses 166+ for a comminuting member scraper or cleaner.

407, Cutters, for Shaping, subclasses 29.1+ for files and rasps.

425, Plastic Article or Earthenware Shaping or Treating Apparatus, subclass 458 for a hand movable, substrate traversing plural dimensions shaping means. See the search notes thereunder.

236.02 Windshield:

This subclass is indented under subclass 236.01. Subject matter especially adapted for cleaning windshield.

SEE OR SEARCH THIS CLASS, SUBCLASS:

250.001, for a windshield cleaner particularly configured to be attached to or near the windshield.

236.03 Paint roller:

This subclass is indented under subclass 236.01. Subject matter especially adapted for removing liquid material from a paint roller.

236.04 Gutter:

This subclass is indented under subclass 236.01. Subject matter especially adapted for cleaning gutter surfaces.

236.05 Plural bladed:

This subclass is indented under subclass 236.01. Subject matter having noncollinear scraping edges.

236.06 Simultaneously useable:

This subclass is indented under subclass 236.05. Subject matter wherein all scraper edges contact the work at the same time.

236.07 Arcuate scraping edge:

This subclass is indented under subclass 236.01. Subject matter in which the scraping edge is arc-shaped.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

236.02, for arcuate windshield wipers.

236.08 Toothed or serrated:

This subclass is indented under subclass 236.01. Subject matter in which the scraping edge has notches formed therein.

236.09 For plural surfaces:

This subclass is indented under subclass 236.01. Subject matter wherein the scraper is adapted to simultaneously contact more than one surface.

236.1 Rotary:

This subclass is indented under subclass 236.01. Subject matter wherein one or more scraper elements are mounted on a head which is adapted to be rotated by a power source.

237 Boot cleaners:

This subclass is indented under subclass 236.01. Subject matter especially adapted for cleaning used boots.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

238, through 241.

238 Mats:

This subclass is indented under subclass 237. Implements in the nature of floor or door mats especially adapted for cleaning boots or shoes of adherent foreign matter by means of a hard blade-like scraping edge over which they are drawn by the wearer.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

239, through 241.

SEE OR SEARCH CLASS:

52, Static Structures (e.g., Buildings), a residual class for a static structure; subclasses 600+ for a fabric or lattice (e.g., indeterminate grating).

428, Stock Material or Miscellaneous Articles, subclasses 156+ for a stock material product in the form of a web or sheet and including a component of varying thickness.

239 Pivoted link:

This subclass is indented under subclass 238. Implements in the nature of floor or door mats composed of pivoted links.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

240,

SEE OR SEARCH CLASS:

52, Static Structures (e.g., Buildings), a residual class for a static structure; subclasses 600+ for a fabric or lattice (e.g., indeterminate grating).

240 Filler block:

This subclass is indented under subclass 239. Implements in the nature of floor or door mats composed of pivoted links each having a block filling the opening thereof.

241 Wire:

This subclass is indented under subclass 238. Implements in the nature of floor or door mats composed of woven wire.

SEE OR SEARCH CLASS:

245, Wire Fabrics and Structure, appropriate subclasses.

244.1 Sponge or sponge with holder:

This subclass is indented under subclass 104.001. Subject matter wherein the cleaning device comprises a cellular mass capable of absorbing liquid and releasing the absorbed liquid and a support for the cellular mass or the cellular mass, per se.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

147.1+, for a mop holder.

244.2 Having pivoted handle:

This subclass is indented under subclass 244.1. Subject matter wherein the support includes a hand held rod movable about a point or an axis.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

144.1+, for an adjustable cleaning implement handle.

244.3 Having fabric cover or back:

This subclass is indented under subclass 244.1. Subject matter wherein the support for the cellular mass includes (a) cloth material to enclose partially or totally the cellular mass or (b) a sheetlike material layer integral with an exterior unused surface of the cellular mass.

244.4 Sponge:

This subclass is indented under subclass 244.1. Subject matter which includes the structure of the cellular mass, per se.

245 Squeegee:

This subclass is indented under subclass 104.001. Cleaning implements having as a working face the edge of a strip of soft yielding or flexible nonabsorbent fabric in distinction from a scraper or a mop and adapted to clean by wiping or pushing off adherent foreign matter together with whatever free cleaning fluid may be present.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

210.1, for squeegee-like nonabsorbent wiper devices especially adapted by configuration for cleaning the outer surface of rod-like members, i.e., "sucker rods".

250.001+, for a cleaning element which is part of an optical-member-attachable cleaner apparatus (e.g., windshield wiper, etc.).

245.1 Bladed spreader:

This subclass is indented under subclass 104.001. Apparatus comprising an implement which is generally flat and which has an edge intended to be used to spread a fluent substance over a work surface.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

235.4+, for a similar device disclosed as a mason's trowel.

SEE OR SEARCH CLASS:

404, Road Structure, Process, or Apparatus, subclasses 101+ for a tool for spreading uncured road material.

246 ATTACHMENTS:

Implements, devices, or machines, for brushing, scrubbing, or general cleaning, of types recognized in this classification, and which are constructed for attachment to the article or object upon which they are to operate; also attachments to such implements, devices, or machines acting as collectors, fenders, scoops, or guards or to perform some other auxiliary function.

(0.5) Note. Many classes include devices or articles specialized to a particular art which are provided with cleaners of the type provided for here. Classification as an attachment is proper in this class only when there is no claim to any feature of the surface or article being cleaned which is specialized to the particular art involved.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

38, 44, 45, 104.8, 247-256, and 257.1.

SEE OR SEARCH CLASS:

73, Measuring and Testing, subclass 324 for combinations of pipe and tube cleaners with water gage glasses.

101, Printing, subclass 425.

114, Ships, subclass 222.

122, Liquid Heaters and Vaporizers, subclass 379.

199, Type Casting, subclass 62.

280, Land Vehicles, subclasses 855+.

400, Typewriting Machines, subclasses 701+.

474, Endless Belt Power Transmission Systems or Components, subclass 92.

246.2 For a vacuum cleaner:

This subclass is indented under subclass 246. Attachment intended to be connected to a suction type cleaning device and which performs a function ancillary to the cleaning.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 323, for a suction type vacuum cleaner combined with a storage facility for tools, nozzles, conduits, etc.
- 325, for a suction type vacuum cleaner combined with a furniture guard.
- 414+, for a vacuum cleaner nozzle.

SEE OR SEARCH CLASS:

- 434, Education and Demonstration, subclass 384 for a display device with an attached vacuum cleaner.

246.3 With treating means (e.g., deodorizing, sterilizing, etc.):

This subclass is indented under subclass 246.2. Attachment combined with means to subject the work piece, work surface or surrounding environment to an additional or an alternative treatment to the suction cleaning provided for by the vacuum cleaner.

SEE OR SEARCH CLASS:

- 43, Fishing, Trapping, and Vermin Destroying, subclasses 125+ for a fumigator attached to a vacuum cleaner for the purpose of destroying vermin.
- 312, Supports: Cabinet Structure, subclass 31 for a fumigating cabinet attached to a vacuum cleaner.
- 422, Chemical Apparatus and Process Disinfecting, Deodorizing, Preserving, or Sterilizing, subclasses 291+ for an apparatus, for disinfecting, deodorizing, preserving, or sterilizing, attached to a vacuum cleaner.

246.4 Movable carriage:

This subclass is indented under subclass 246.2. Attachment including a movable support structure to which the vacuum cleaner is attached to add mobility thereto.

SEE OR SEARCH CLASS:

- 280, Land Vehicles, subclass 28.18 for a runner type carriage for a vacuum cleaner.

246.5 Tank cleaners:

This subclass is indented under subclass 246. Cleaning devices which are installed in or adapted to be attached to a tank or similar receptacle for cleaning a surface thereof. The tank need not be defined if the structure is peculiar to features cooperating with a tank.

- (1) Note. Since art devices, in general, take their own built-in cleaning means, only enough structure to support or operate the cleaner may be included, except for the tank inlet and/or outlet.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 1.7, for submerged cleaners with ambient flow guides.
- 104.05, for devices for cleaning the interior of pipes or tubes, and see the Notes thereto.

SEE OR SEARCH CLASS:

- 137, Fluid Handling, subclasses 15.04 through 15.06 for a process of fluid cleaning, subclasses 238-245.5 for cleaning or steam sterilizing means, or subclass 577.5 for a tank having a horizontal traversing outlet or overflow pipe.
- 210, Liquid Purification or Separation, subclasses 523+ for gravitational separators having constituent movers.
- 414, Material or Article Handling, subclass 314 for the combination of a static receptacle and a nongravity discharging means therefor, which means includes at least compound motion type of discharge assistant operating on the top of the material being discharged from the receptacle, and wherein the combination further includes a means for cleaning the wall of the receptacle.

247 Covers and cover holders:

This subclass is indented under subclass 246. Fabric covers and holders therefor adapted to be secured over the working face of implements of the brush, broom or mop type, whether to protect or strengthen the fibers thereof or to convert the implement into one of the wiper type.

248.1 Drip cup or splash guard for a brush or broom:

This subclass is indented under subclass 246. Apparatus intended to be attached to a broom or brush when working with liquid and configured to catch any drip therefrom or otherwise shield surrounding objects or the user.

SEE OR SEARCH CLASS:

- 118, Coating Apparatus, subclasses 504+ for a work surface shield or protector used to prevent transfer of a coating and subclasses 213, 301, and 406 for a shield in combination with coating means.
- 401, Coating Implements With Material Supply, subclass 15 for a drip catcher or splash guard in combination with coating implement with material supply.
- 451, Abrading, subclasses 451+ for a work guard to protect part of a work surface in an abrading operation.

248.2 For roller:

This subclass is indented under subclass 248.1. Apparatus wherein the drip cup or shield is intended to be attached to a roller.

249.1 Brush or broom-type flue cleaner:

This subclass is indented under subclass 246. Subject matter wherein the cleaning implement comprises a brush or broom-type member which is configured to clean the inside surface of a passage or duct that carries smoke (e.g., chimney, stovepipe, etc.) and is intended to be left attached (i.e., at work and at rest) to the passage or duct.

- (1) Note. A brush or broom has separate, natural or artificial elements (e.g., bristles, splints, fibers, broom straws, grass, other stems, etc.) which are arranged in, generally, parallel relation so that their

assembled ends constitute collectively a working surface intended for cleaning by brushing or scrubbing. This does not include sheets, blocks, or strands of fabric; layers of felted, spun, woven, pulped, or molded fabric; or pelts, scrapers, or a sponge; per se.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 104.066+, for a brush or broom implement configured to clean a flue and which is intended to be removed from the flue when not in use.

SEE OR SEARCH CLASS:

- 126, Stoves and Furnaces, subclass 16 for a cooking or heating stove having a flue cleaner.

249.2 Scraper-type flue cleaner:

This subclass is indented under subclass 246. Subject matter wherein the implement is configured to remove foreign matter by the action of hard blade-like or scraping edge, is for use in cleaning an inside portion of a passage or duct that provides passage for smoke (e.g., chimney, stovepipe, etc.) and is intended to be left attached (i.e., at work and at rest) to the passage or duct.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 104.068+, for a scraping implement configured to clean a flue and which is intended to be removed from the flue when not in use.

SEE OR SEARCH CLASS:

- 126, Stoves and Furnaces, subclass 16 for a cooking or heating stove having a flue cleaner.

249.3 Suspended by a taut member (e.g., wire, rope, chain, etc.):

This subclass is indented under subclass 249.2. Subject matter wherein the flue cleaner is intended to be hung within the flue by a member that is capable of exerting only tensile force on the implement and which is intended to be manipulated to move the flue cleaner.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

104.069, for a scraping implement suspended by a taut member (e.g., wire, rope, chain, etc.) and configured to clean a flue.

250.001 Optical-member-attachable cleaner (e.g., windshield wiper):

This subclass is indented under subclass 246. Apparatus intended to be used to clean a section of glass or other optical element and disclosed as being particularly configured for attachment to the optical element or an adjacent structure.

- (1) Note. The optical member cleaner may be of any type found in this class, however, usually they are of the squeegee type.
- (2) Note. Patents are classified in this subclass, and indented subclasses, if any structure is disclosed which particularly adapts the optical member cleaner to attach to a window. The mere disclosure of a bracket or other structure of the cleaner which is intended to form a connection between the cleaning element and optical member or adjacent structure is sufficient.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

103, for a window cleaning machine wherein the cleaning element is a wiper.
 214, for an implement used as a wiper or polisher to clean an optical lens.
 220.1+, for a wiper used as a window cleaning implement.
 232, for a window cleaning wiper or polisher consisting of a flat sheet of fabric with means for holding the sheet flat.
 245, for squeegee-type cleaner not configured to be attached to a windshield.
 256.36+, for a squeegee disclosed as having a bracket or other means of attachment.

SEE OR SEARCH CLASS:

52, Static Structures (e.g., Buildings), subclasses 171.3+ for a window with treating means, not provided for elsewhere.
 74, Machine Element or Mechanism, appropriate subclasses for a mechanism modified to provide motion to a cleaning element, but not claiming any cleaning structure.
 91, Motors: Expansible Chamber Type, appropriate subclasses for a vacuum motor modified to be used to operate a window cleaner.
 134, Cleaning and Liquid Contact With Solids, subclass 6 for a process of cleaning windows by means of a solid work contacting means.
 296, Land Vehicles, Bodies and Tops, subclasses 96.15+ for a windshield cleaner claimed in combination with a windshield or its supporting structure.
 310, Electrical Generator or Motor Structure, appropriate subclasses for an electric motor modified to operate a window cleaner.
 318, Electricity: Motive Power Systems, appropriate subclasses, particularly subclasses 280+, for means to reverse an electric motor.
 418, Rotary Expansible Chamber Devices, appropriate subclasses for a rotary expansible chamber vacuum motor, per se.

250.002 Headlight cleaner:

This subclass is indented under subclass 250.001. Attachment intended to clean the lens of a headlight.

250.003 Mirror cleaner:

This subclass is indented under subclass 250.001. Attachment intended to clean the surface of a mirror.

250.01 With material applying means:

This subclass is indented under subclass 250.001. Window cleaners having means designed to apply some substance which may be in solid, liquid, vapor or gas form to the associated window surface, in addition to the surface contacting member or members.

- (1) Note. Where the only material applied is atmospheric air caused to flow due to the sole effect of a heater the apparatus is not classified under this definition. For such apparatus under this definition see subclasses 250.05+.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 24, and 29, for rotary handle mounted brushes having means to apply a cleaning fluid.
320+, for machines having an air blast together with means to apply a liquid to the work.
500+, for implements with material supply.

SEE OR SEARCH CLASS:

- 239, Fluid Sprinkling, Spraying, and Diffusing, subclass 284 for devices disclosed as being especially adapted to spray a gas or liquid on the transparent panel of an automobile but not claiming a window or a special relationship with a window.
454, Ventilation, subclasses 85, 93, 121+, and 197 for windows having means to create a draft of gas to prevent condensation.

250.02 Coordinated operation of cleaner and applying means:

This subclass is indented under subclass 250.01. Apparatus wherein the substance is applied to the surface to be cleaned in a predetermined sequence with respect to the operation of the cleaner.

- (1) Note. This subclass includes automobile windshield cleaners which, upon the actuation of a control means, sets into operation, or stops the operation of the material applying means and the wiper in timed relationship.

250.03 Supply source carried by cleaning element:

This subclass is indented under subclass 250.01. Apparatus wherein a supply of the substance is contained within a suitable body carried by the surface contacting member.

250.04 Applying means moves with cleaning element:

This subclass is indented under subclass 250.01. Apparatus wherein the cleaning substance is applied to the associated window by a means constrained to move with the surface contacting member.

- (1) Note. This subclass includes those patents having the supply source removed from the cleaning element but having a nozzle or other applying means which moves with the cleaning element.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 250.03, for cleaners having a supply source carried by the cleaning element and movable therewith.

250.05 With heating means:

This subclass is indented under subclass 250.001. Cleaning devices wherein the cleaning effect is supplemented by the application of heat to the surface to be cleaned.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 250.01+, for window cleaners wherein heated material (e.g., air) is applied; or for patents having both heating means and material applying means.

SEE OR SEARCH CLASS:

- 52, Static Structures (e.g., Buildings), subclasses 171.3+ for windows with treating means not elsewhere provided for.
219, Electric Heating, subclass 203 for electric heaters applied to windows but not combined with cleaning implements.
454, Ventilation, subclasses 85, 93, 121+, and 197 for windows having means to create a draft of gas to prevent condensation and which may include means to heat the gas.

250.06 Embedded in wiper blade:

This subclass is indented under subclass 250.05. Cleaning devices wherein the surface contacting cleaning member comprises a wiping element and the surface to be cleaned is

heated by the wiping element which element is heated by a thermal agent enclosed within the surface contacting cleaning material.

- (1) Note. The “surface contacting cleaning material” must comprise a unit though it may include several materials. It is not intended to include a backing member. For a heating element between plural blades see subclass 250.09.

250.07 Movable with cleaning element:

This subclass is indented under subclass 250.05. Cleaning devices wherein a heating element is attached to the surface contacting member and is constrained to move simultaneously with the cleaning stroke so as to heat the surface to be wiped.

250.08 Laterally offset to engage pane:

This subclass is indented under subclass 250.07. Cleaning devices wherein the surface to be cleaned is engaged by the heating element which element is attached adjacent to the surface contacting member and moves coincidentally therewith.

250.09 Heating element between plural blades:

This subclass is indented under subclass 250.07. Cleaners comprising at least two surface contacting cleaning edges and having heating means positioned between the two edges.

SEE OR SEARCH THIS CLASS, SUBCLASS:

250.41, for cleaning elements having plural spaced surface engaging edges but having no heating means.

250.1 Window moved on cleaner:

This subclass is indented under subclass 250.001. Cleaners in which the window pane is movable relative to the surface contacting member during the cleaning operation.

SEE OR SEARCH THIS CLASS, SUBCLASS:

256.5, for stationary attachments, other than for windows, which clean a moving surface.

250.11 Readily attached and detached cleaner for building windows:

This subclass is indented under subclass 250.001. Cleaners of the type used to clean the windows of buildings and which are readily removable from the frame or sash of one window and readily movable and attachable to the frame or sash of another window.

- (1) Note. Patents in this subclass are of the type adapted to aid a workman in cleaning the outside of a window while working from inside a building.

250.12 Constant speed or automatic motor control:

This subclass is indented under subclass 250.001. Cleaners comprising a movable surface contacting member, a motor drive therefor and (1) means for maintaining the speed of the member constant during fluctuations of the driving motor power source, or during fluctuations in the speed of the driving motor, or (2) automatic means for controlling the motor speed.

- (1) Note. To Be “automatic” the cleaner must comprise a cleaning element and a means for sensing a condition or change of condition, which condition or change of condition may or may not occur, a separate control means and a separate power means for changing a condition of operation of the cleaner, said three means being so related that the sensing means controls operation of the controlling means and the control means controls operation of the power means, all without the intervention of a human operator.

250.13 Sweep varying or regulating means:

This subclass is indented under subclass 250.001. Cleaners comprising means for varying the limits between which the surface contacting member continuously moves.

- (1) Note. Means for reversing the direction of travel of the cleaning element before it has reached the end of the stroke due to an obstruction on the window are classified in this subclass.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

250.12, for automatic means for controlling the speed of a motor drive means for a window cleaner.

250.14 Plural out-of-phase cleaning elements:

This subclass is indented under subclass 250.001. Cleaning attachments comprising a common drive for two or more surface contacting members movable over different areas of the surface to be cleaned and wherein the cleaning stroke of one member is not in phase with the cleaning stroke of the other.

- (1) Note. The cleaning stroke of plural cleaning members are not in phase if (1) the angular velocity of one is different than the angular velocity of another or (2) if one member is at an end of its stroke at a time when another member is not at the end of its stroke.
- (2) Note. Cleaning members which have identical but allochiral motion are considered to be in phase.

250.15 Cleaning element spring returned:

This subclass is indented under subclass 250.001. Cleaners comprising a surface contacting member mounted for movement back and forth over a surface to be cleaned and resilient means urging the member throughout one of its directions of movement.

250.16 With parking means:

This subclass is indented under subclass 250.001. Cleaners having a motor driven surface contacting member and wherein (1) means is provided whereby the surface contacting member is stopped only in a predetermined position; or (2) interlocking means, other than an actuating mechanism, is provided to hold the surface contacting member in a predetermined position on the window.

- (1) Note. Mere manual means for actuating the surface contacting member to move it to the side of the window are classified elsewhere in appropriate subclasses.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

250.15, for spring means for operating the surface contacting member on the return stroke and which will also hold the element in a predetermined parked position.

250.19, for means for moving the cleaning element from the surface at the end of the stroke.

SEE OR SEARCH CLASS:

91, Motors: Expansible Chamber Type, subclasses 7 and 218+, note especially subclasses 282+ and 284+ for cyclically operable expansible chamber motors having means to cause the motor to be stopped in a predetermined position.

250.17 Electrical:

This subclass is indented under subclass 250.16. Cleaners wherein the surface contacting member is operated by an electric motor and a switch is opened to stop the motor only when the member is in a predetermined position.

250.18 Convertible to manual operation:

This subclass is indented under subclass 250.001. Cleaners comprising a motor for operating the surface contacting members, a normally disconnected manual operating means for the member, and means to disconnect the motor and connect the manual operating means.

250.19 Cleaning element moved from surface:

This subclass is indented under subclass 250.001. Cleaners comprising (1) means for moving the surface contacting member from the window or (2) means whereby the surface contacting member is positioned and held from the window while not in use.

250.201 Wind deflecting means:

This subclass is indented under subclass 250.001. Apparatus including means intended to divert air flow.

250.202 Pressure adjusting means for cleaning element:

This subclass is indented under subclass 250.001. Apparatus including means to change the contact force between the cleaner and the associated optical member.

250.203 Operated by remote control:

This subclass is indented under subclass 250.202. Apparatus wherein the pressure adjusting means is intended to be managed by means (e.g., mechanical, electrical, hydraulic, etc.) at some point distant.

250.21 Compound motion of oscillating arm:

This subclass is indented under subclass 250.001. Cleaners comprising an elongated member having a surface contacting member mounted on one end thereof, the other end being pivotally mounted to permit the first end to have a simple swinging movement in a single plane and wherein mechanism is provided for imparting another movement to the elongated member simultaneously with the simple swinging movement.

- (1) Note. This subclass includes operating mechanism for moving the oscillating wiper arm around the curved surface of a windshield.
- (2) Note. The mechanism for imparting the other movement to the elongated member must be more than a spring means for urging the cleaning element toward a curved window.

SEE OR SEARCH THIS CLASS, SUBCLASS:

250.23, for cleaning elements pivotally connected to an arm and having means to impart movement of the element relative to the arm.

250.22 Rotating cleaning element:

This subclass is indented under subclass 250.001. Cleaners wherein the surface contacting member is mounted to turn through at least 360 degrees about an axis of rotation.

250.23 Cleaning element moved relative to arm when arm moves:

This subclass is indented under subclass 250.001. Cleaners comprising a movable actuating arm on which a surface contacting member is mounted to move with respect thereto, and means is provided which constrains the member to move relatively to the arm during any and all movement of the arm.

SEE OR SEARCH THIS CLASS, SUBCLASS:

250.21, for cleaning elements connected to an arm and having means to impart oscillating and another movement to the arm.

250.24 Chain, belt or cable carried cleaning element:

This subclass is indented under subclass 250.001. Devices in which the movement of the surface contacting member is effected by the longitudinal movement of an elongated flexible means on which the member is mounted and with which the member is constrained to move.

250.25 Chain, belt or cable driven operating shaft:

This subclass is indented under subclass 250.001. Apparatus in which means is provided for operating a shaft to which the surface contacting member is secured and wherein the operation of the shaft is effected by the longitudinal movement of an elongated flexible member.

SEE OR SEARCH THIS CLASS, SUBCLASS:

250.24, for elongated flexible drive means wherein the surface contacting member is mounted on the flexible means.

250.26 Screw type drive for reciprocating cleaning element:

This subclass is indented under subclass 250.001. Devices wherein the surface contacting member is mounted for translatory movement back and forth and in which the means effecting the movement comprises a rotating cylindrical helix.

- (1) Note. This apparatus usually comprises a rotating screw member moving a nut

member on which the surface contacting member is mounted.

250.27 Operating connection for plural oscillating cleaning elements:

This subclass is indented under subclass 250.001. Cleaning attachments comprising two or more surface contacting members mounted on the free ends of separate arms, the other ends of the arms being pivotally mounted on individual spaced axes to permit the free ends to swing back and forth across the areas to be cleaned, and means common to all the arms for simultaneously swinging the arms.

- (1) Note. The means for swinging the arms back and forth must be more than a mere mounting which permits the movement and must include linkage, gearing, motor or other common drive means.

250.28 Opposed cleaning elements:

This subclass is indented under subclass 250.001. Cleaning attachments comprising at least two surface contacting members constrained to move together and mounted on opposite confronting sides of the surface to be cleaned.

250.29 With means to reciprocate cleaning element:

This subclass is indented under subclass 250.001. Cleaners wherein the surface contacting member is mounted for translatory movement back and forth across the surface to be cleaned and wherein means is provided for effecting the back and forth movement.

- (1) Note. The means for moving the surface contacting member back and forth must be more than a mere mounting which permits the movement and must include some linkage, gearing, motor, handle or other drive means.

SEE OR SEARCH THIS CLASS, SUBCLASS:

250.26, for reciprocating cleaning elements having screw type drive means.

250.3 With means to oscillate arm:

This subclass is indented under subclass 250.001. Apparatus comprising a surface contacting member mounted on the free end of an elongated member, the elongated member

being mounted at its opposite end to permit the free end to swing back and forth across the surface to be cleaned, and wherein means is provided for effecting a swinging motion of the elongated member.

- (1) Note. The means for swinging the elongated member must be more than a mere mounting permitting the free end to swing, and must include some means for imparting the motion to the member (e.g., linkage, gearing, motor, handle).

250.31 Specific coupling or mounting for a driving means or between a cleaning element and means linking it to the driving means:

This subclass is indented under subclass 250.001. Subject matter wherein the apparatus has a particular joint or attachment means between: (a) an actuating means and the optical-member or the adjacent structure; (b) the actuating means and a connecting means between the actuating means and a cleaning element; or (c) connecting means and the cleaning element.

SEE OR SEARCH CLASS:

403, Joints and Connections, a generic class of connections between two or more rigid or semirigid members; subclasses 52+ for articulated members having relative movement about a bearing surface, especially subclasses 119+ for a pivot where two members are connected for angular motion in a plane transverse to the axis of at least one member.

250.32 Arm-to-cleaning element connection:

This subclass is indented under subclass 250.31. Apparatus comprising the joint between a window surface contacting member and an operating arm therefor.

- (1) Note. A claim to a subcombination of a joint comprising details of that portion of a surface contacting member to be connected to an operating arm or details of that portion of an operating arm to be connected to a surface contacting member is classified under this definition.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

250.352, for an optical-member-attachable cleaner specific arm structure having a pivot between a hub and extended arm member, or a biasing assembly feature.

250.46+, for an optical-member-attachable cleaner element articulated structure having a specific joint, hinge, or pivot within the articulated structure.

250.33 Hinged longitudinally of cleaning element:

This subclass is indented under subclass 250.32. Connections wherein the connection comprises a pivotal axis extending longitudinally of the surface contacting members so as to provide pivoted movement between the arm and surface contacting member and allows the latter to tilt from side to side.

250.34 Arm-to-actuating shaft detail:

This subclass is indented under subclass 250.31. Apparatus comprising the joint between an elongated member to which the surface contacting element is connected and a shaft which transmits motion directly to the elongated member.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

250.352, for an optical-member-attachable cleaner specific arm structure having a pivot between a hub and extended arm member, or a biasing assembly feature.

250.351 Specific arm structure:

This subclass is indented under subclass 250.001. Apparatus wherein the apparatus has a particular configuration or arrangement for an elongated member that forms a connection between an actuating shaft and a cleaning element.

SEE OR SEARCH CLASS:

52, Static Structures (e.g., Buildings), subclasses 720+ for a rigid member having a limited closed periphery which is greatly elongated relative to any lateral dimension.

250.352 Between hub and extended arm:

This subclass is indented under subclass 250.351. Apparatus wherein the specific arm structure is between a part of the arm structure connected to a drive shaft and a part of the arm structure connected to the cleaning element, permitting rotation or providing bias between the two.

(1) Note. In this subclass specific arm structure is more than a recitation of a "pivot", "hinge," or "biasing means."

SEE OR SEARCH THIS CLASS, SUB-CLASS:

250.32+, for an optical-member-attachable cleaner having a specific coupling or mounting connection between an arm and a cleaning element.

250.34, for an optical-member-attachable cleaner having a specific coupling or mounting between an arm and an actuating shaft.

SEE OR SEARCH CLASS:

74, Machine Element or Mechanism, subclasses 579+ for pitman or connecting rods.

403, Joints and Connections, subclasses 119+ for a pivot between two members where one has an angular motion in a plane transverse to the other, or subclasses 52+ for articulated members having a joint or coupling.

250.361 Cleaning element structure:

This subclass is indented under subclass 250.001. Apparatus including a surface contacting foreign matter removing member (e.g., squeegee, windshield wiper blade, etc.) or its immediate supporting structure.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

245, for a squeegee implement when not part of an optical-member-attachable cleaner.

250.32+, for an optical-member-attachable cleaner having a specific coupling or mounting connection between an arm and a cleaning element.

250.37 With attached roller:

This subclass is indented under subclass 250.361. Cleaners comprising at least one rotating member mounted on the cleaning element for the purpose of supporting the element on the surface to be cleaned during the cleaning operation.

250.38 Longitudinal tensioning means for blade:

This subclass is indented under subclass 250.361. Cleaners wherein a surface contacting strip of yieldable or flexible material is placed under tension longitudinally of a backing means for the strip.

250.39 Adjustable length:

This subclass is indented under subclass 250.361. Cleaners with selective positioning means for extending or contracting the effective length of the surface contacting member.

SEE OR SEARCH THIS CLASS, SUBCLASS:

117, and 531, for implements comprising plural cleaning elements one of which is a squeegee.

250.4 Supplemental cleaning means brought into surface contact:

This subclass is indented under subclass 250.361. Cleaners comprising at least one cleaning edge which is maintained in contact with the surface to be cleaned during the "at-rest" position of the cleaning element and at least one additional cleaning means which is out of contact during the "at-rest" position, the additional means being adapted to be brought into surface contact during abnormal conditions or during movement of the cleaning element over the surface to be cleaned.

250.41 Plural spaced surface engaging edges:

This subclass is indented under subclass 250.361. Cleaners comprising two or more spaced, elongated edges for engaging the window to be cleaned.

SEE OR SEARCH THIS CLASS, SUBCLASS:

250.09, for plural surface engaging edges having a heating element therebetween.

250.43 Accommodates optical-member having curved surface:

This subclass is indented under subclass 250.361. Apparatus wherein the cleaning element structure conforms to an arcuate contour of a section of glass or other optical element being cleaned.

250.44 Articulated support structure:

This subclass is indented under subclass 250.43. Apparatus wherein the cleaning element support structure includes parts (e.g., yokes, levers, brackets, etc.) that are hinged, jointed, or pivoted together.

- (1) Note. The articulated structure generally functions to distribute pressure along the cleaning element.

250.451 Specific backing member:

This subclass is indented under subclass 250.44. Apparatus wherein the cleaning element support structure includes a stiffening element extending along the back of the surface-contacting-foreign-matter-removing member (e.g., squeegee, windshield wiper blade, etc.).

- (1) Note For this and indented subclasses, specific backing member requires more than the recitation of a "backing member," "backing member having a slot to retain a squeegee," or "means for retention by articulated structure."
- (2) Note. The backing member is usually flat so as to permit flexing about an axis, perpendicular to its longitudinal axis and parallel to the optical element, so as to accommodate a curved optical element.

250.452 Securing a squeegee:

This subclass is indented under subclass 250.451. Apparatus wherein the backing member has a particular fastening element to hold the surface-contacting-foreign-matter-removing member (e.g., squeegee, windshield wiper blade, etc.).

250.453 Secured by articulated structure:

This subclass is indented under subclass 250.451. Apparatus wherein the backing member has a particular fastening element that

permits it to be attached to ends (e.g., claw, etc.) of those component parts (e.g., yokes, levers, brackets, etc.) that are hinged, jointed, or pivoted together.

250.454 Biased latching member:

This subclass is indented under subclass 250.453. Apparatus wherein the particular fastening element includes a resilient member that is initially forced aside during installation until it reaches a certain point where the resilient member springs back locking the associated end (e.g., claw) to the backing member.

250.46 Specific joint, hinge, or pivot:

This subclass is indented under subclass 250.44. Apparatus wherein significance is attributed to the particular joint, hinge, or pivot which unites component parts of the articulated support structure.

SEE OR SEARCH CLASS:

403, Joints and Connections, subclasses 119+ for a pivot between two members where one has an angular motion in a plane transverse to the other, or subclasses 52+ for articulated members having a joint or coupling.

250.47 Spring type:

This subclass is indented under subclass 250.46. Apparatus wherein the specific hinge, joint, or pivot includes a resilient biasing member.

250.48 Specific squeegee structure:

This subclass is indented under subclass 250.361. Apparatus wherein the surface contacting foreign matter removing member (e.g., squeegee, windshield wiper blade, etc.) has a particular configuration, makeup, or composition feature (e.g., shape, cross sectional shape, layer, coating, surface treatment, etc.) to improve its function.

256.5 Moving surface scraper, wiper, or brush:

This subclass is indented under subclass 246. Apparatus in which one or more scrapers, wipers or brushes are attached to a device which includes a moving surface as a part thereof and are so mounted as to act upon the surface to remove material therefrom during the normal operation of the device.

- (1) Note. Devices in various classes include moving surfaces which are contacted and cleaned by scrapers, wipers or brushes. A partial list of such classes will be found below under "Search Class".

SEE OR SEARCH THIS CLASS, SUB-CLASS:

250.1, for window cleaning attachments in which the surface contacting member is stationary and the window pane is movable relative thereto.

SEE OR SEARCH CLASS:

- 34, Drying and Gas or Vapor Contact With Solids, subclasses 110+.
- 68, Textiles: Fluid Treating Apparatus, subclass 270.
- 83, Cutting, subclass 168 for cleaning of tool or work, and subclass 169 for lubrication of tool or work.
- 100, Presses, subclass 112 for presses having drain means for expressed liquid in which there is drainage through or along a pressure surface and there is a cleaner or clearer for the drainage means.
- 101, Printing, subclasses 154, 155+ and 167+.
- 118, Coating Apparatus, subclasses 100+ for coating apparatus having a solid member acting on the coating on the work, and see section IX of the class definition of Class 118 for the line between Class 15 and Class 118.
- 159, Concentrating Evaporators, subclasses 9.1, 11.
- 162, Paper Making and Fiber Liberation, subclass 74.
- 165, Heat Exchange, subclass 91 for a rotary heat transfer drum with a drum surface scraper.
- 171, Unearthing Plants or Buried Objects, subclass 12 for cleaning devices for moving portions of mechanism for unearthing plants or buried objects.
- 172, Earth Working, subclasses 606+ and see the subclasses there noted for cleaners attached to earth working apparatus.

- 198, Conveyors: Power-Driven, subclass 496 for a brush, and subclasses 497+ for a scraper, contacting a component of a conveyor.
- 210, Liquid Purification or Separation, subclasses 369+ and 391+ for movable filters having residue discharging or cleaning means.
- 241, Solid Material Comminution or Disintegration, appropriate subclasses, especially subclasses 166+ and see section 12 of the class definition of that class (241) for the line.
- 280, Land Vehicles, subclasses 855+ for a land vehicle of general utility provided with a wheel scraper and cleaner attachment.
- 369, Dynamic Information Storage or Retrieval, subclasses 72+.
- 425, Plastic Article or Earthenware Shaping or Treating: Apparatus, subclass 196 for a removably mounted blade type harvesting means in a molding apparatus, subclasses 218+ for a female mold and scraping means cooperating with the mold orifice, subclass 223 for an endless surface casting means and cooperating harvesting means and subclasses 225+ for molding apparatus with a separate apparatus cleaning means.
- 430, Radiation Imagery Chemistry: Process, Composition, or Product Thereof, subclass 119.85 for processes wherein the surface of the imaging member is cleaned with a fibrous brush.
- 474, Endless Belt Power Transmission Systems or Components, subclass 92.

256.51 Roll cleaners:

This subclass is indented under subclass 256.5. Apparatus in which the working surface to be cleaned is a rotating cylindrical member and the cleaning means is in actual physical contact with the moving surface to be cleaned.

SEE OR SEARCH CLASS:

- 19, Textiles: Fiber Preparation, subclasses 262+ for roll clearing means in which no actual physical contact is claimed. Many patents for the catching of "fly" or fugitive fibers are placed here.

- 165, Heat Exchange, subclass 91 for a rotary heat exchanger drum with a surface scraper.

256.52 Rotary:

This subclass is indented under subclass 256.51. Apparatus in which the cleaning means for the working surface turns about its own axis.

256.53 Reciprocating or traveling:

This subclass is indented under subclass 256.51. Apparatus in which the cleaning means for the working surface moves to and fro in relation to the working surface.

256.6 Strand:

This subclass is indented under subclass 256.5. Apparatus in which the moving surface contacted by the cleaning member is a strand.

- (1) Note. Most of the devices classified herein are clothesline cleaners.

SEE OR SEARCH CLASS:

- 242, Winding, Tensioning, or Guiding, subclasses 370+ for a reeling device of general use.
- 474, Endless Belt Power Transmission Systems or Components, subclass 92 for a cleaner for a power transmission belt.

257.01 ACCESSORIES:

This subclass is indented under the class definition. Apparatus having of themselves no brushing, scrubbing, or general cleaning function, but which are merely accessory or ancillary to a machine or implement involving such function, without falling under any previous specific subclass in this class.

SEE OR SEARCH CLASS:

- 36, Boots, Shoes, and Leggings, subclasses 70+ for a shield used to protect a shoe.
- 118, Coating Apparatus, subclasses 504+ for a work shield used in cooperation with a coating device.
- 182, Fire Escape, Ladder, or Scaffold, subclass 129 for a kneeling pad used in a scrubbing operation combined with other structure such as a receptacle for

- a scrub pail or soap and subclass 230 for a kneeling pad, per se.
- 206, Special Receptacle or Package, subclasses 209+ for a receptacle which houses a brush or sponge in an ancillary medium, subclasses 361+ for a container for a bristle-like implement, and subclass 576 for a receptacle for a vacuum cleaner and associated attachments, wherein the receptacle is used to store the vacuum cleaner when not in use.
- 211, Supports: Racks, subclasses 65+ for a brush rack.
- 248, Supports, subclasses 110+ for a brush or broom support.
- 294, Handling: Hand and Hoist-Line Implements, subclass 3.5 for a hand tray for holding mortar.
- 312, Supports: Cabinet Structure, subclasses 206+ for a cabinet for a brush, broom, or mop.
- 401, Coating Implements With Material Supply, subclass 15 for a splash guard for a coating implement.
- 434, Education and Demonstration, subclass 417 for a debris receptacle for chalk dust attached to a chalk board.
- 451, Abrading, subclasses 442+ for a work shield used with an abrading tool.

257.05 Coating applicator loading means:

This subclass is indented under subclass 257. Apparatus wherein a material supply containing means, or attachment or accessory therefor, is so constructed as to facilitate "loading" of a coating implement with a desired amount of coating material, e.g., immersion gauge, wiping surface, etc., said coating implement being of the type which has no supply means operatively connected thereto or supported thereon.

- (1) Note. Scraper attachments will be found in the proper receptacle subclass, Class 220, Receptacles, subclass 90 or Class 215, Bottles and Jars, subclasses 390+, unless the implement is shaped during use of the scraper by means other than mere single-edge wiping engagement therewith, in which case the device will be found in this subclass.

- (2) Note. When the implement is claimed the patent will be classified in this class subclasses 517+.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 610, for an applicator adjustably secured to the container closure whereby immersion of the work contacting means can be regulated.

257.06 For loading roller type applicators:

This subclass is indented under subclass 257.05. Apparatus in which the "loading" means is disclosed as being intended for use with a cylindrically shaped coating roller.

257.07 Inkwell:

This subclass is indented under subclass 257.05. Apparatus wherein the supply containing means is adapted to contain ink.

- (1) Note. The apparatus will be recognized as a dispenser for Class 222, Dispensing, when means for receiving and loading a pen is a trap chamber as defined in section 11 (see, particularly, clause (1) of the first paragraph), of the definition of Class 222; i.e., said means not only separates a quantity of ink from the contained supply but maintains it (indefinitely) for access thereto by a penpoint.
- (2) Note. This, the principal subclass, includes patents to devices (1) containing a supply of pigment and (2) means for retaining a liquid vehicle in a position to permit contact with the pigment for solution therewith or dispersal therein to make ink. A patent disclosing such a device, but classified in an indented subclass herein below because of (further) novelty relevant to the indented subclass, must be cross-referenced in this subclass (257.07).

SEE OR SEARCH CLASS:

- 108, Horizontally Supported Planar Surfaces, subclass 26.2 for an inkwell which is attached to a horizontally disposed surface of a desk.

- 141, Fluent Material Handling, With Receiver or Receiver Coating Means, subclass 20.5 for the combination of a pen and a source of ink, which source has means for producing force to move material from the source to the pen for application, by the pen, to a surface remote from the source; and see Class 401, Coating Implements With Material Supply, subclasses 118+, for a correspondingly comprehensive combination, but which includes no material-moving force-producing means in the source (although it may be present in the pen).
- 211, Supports: Racks, subclasses 69.2+ for the combination of an ink receptacle and a pen support.
- 215, Bottles and Jars, and 220, Receptacles, appropriate subclasses for an inkwell without pen-loading facilities structure to distinguish it, respectively, from any other general utility bottle or jar, or from a general utility receptacle.
- 222, Dispensing, subclasses 576+ for dispensing inkwells; i.e., including a supply of ink and a trap chamber which is a dip well for receiving ink in the following manner: subclasses 578+, by nongravity means subclass 583, by dipping into the supply; subclass 584, by tilting the entire organization; and subclasses 585+, by barometric feed.
- 312, Supports: Cabinet Structure, subclass 232 for cabinet structure which includes an inkwell.
- 401, Coating Implements With Material Supply, subclasses 118+. (See the search note to Class 141, above).

257.072 Including implement-actuated diaphragm to produce material moving force:

This subclass is indented under subclass 257.07. Apparatus wherein the containing means comprises a chamber for the supply, depressible means including ink-receiving structure for receiving and loading a pen, and a resilient membrane which supports said depressible receiving and loading means, whereby depression of the receiving and loading means which ensues by force of contact

with a coating implement results in a corresponding depression of the membrane, thus producing a force upon the material supply to move a portion of said supply into the receiving and loading means.

SEE OR SEARCH CLASS:

- 141, Fluent Material Handling, With Receiver or Receiver Coating Means, subclass 20.5 for the combination of a manually manipulated applicator (e.g., fountain pen) and a source of coating material from which the applicator is removable for independent use, which source has means for producing force to move material to the applicator to fill the applicator.

257.073 Including means limiting immersion of pen-point:

This subclass is indented under subclass 257.07. Apparatus which includes gauge means adapted to contact a pen so as to indicate or control the depth of penetration of the pen-point into the supply of coating material.

- (1) Note. A portion of a bottom of the material-supply-containing means at a level higher than the remainder of said bottom wall may constitute gauge means for this subclass.
- (2) Note. A float, atop a receding column of coating material, which float, though intended to contact the tool portion of the implement, permits the tool to be moved therepast for immersion within the supply, is considered to be (self) adjustable gauge means for this subclass.

SEE OR SEARCH CLASS:

- 401, Coating Implements With Material Supply, subclass 127 for an applicator adjustably connected to a closure of a supply container so as to control the extent of immersibility of the tool of the applicator into the supply.

257.074 Anti-spill type:

This subclass is indented under subclass 257.07. Apparatus wherein the containing means comprises a chamber which has a continuously open access guide compartment for a pen depending into the chamber, and baffle

structure surrounding the guide compartment, extending a substantial distance into the chamber and spaced from the sides thereof, thereby preventing accidental flows out of the containing means when tilted.

257.075 Including implement-opened access means:

This subclass is indented under subclass 257.07. Apparatus including a closure which is movable to an open position by pressure of the pen thereagainst, thus permitting access of said pen to the supply, which closure is biased so as to move to a closed position upon removal of the pen from contact therewith.

SEE OR SEARCH CLASS:

- 211, Supports: Racks, subclass 69.3 for the combination of an ink receptacle having a closure normally biased to open position, and a pen rack which is so related to the receptacle closure as to keep it in closed position when a pen rests on the rack.
- 222, Dispensing, subclass 127 for implement-opened access means to the dip well of a dispensing inkwell.

257.076 Including means defining applicator-loading zone:

This subclass is indented under subclass 257.07. Apparatus wherein the containing means has a bottom wall which is recessed or compartmentalized to divide said means into a locus for the major quantity of the supply of ink and another locus accessible to the pen and adapted to continuously received ink along said bottom wall from said first locus.

- (1) Note. A patent to supply means which has a bottom wall which slopes or is recessed in such a way as to present the deepest portion thereof as the access locus will be placed in this subclass.

SEE OR SEARCH CLASS:

- 222, Dispensing, subclasses 576+, for dispensing inkwells, i.e., wherein the applicator loading zone is a trap chamber as defined in section 11 (clause 1) of the definition of that class.

257.1 Debris receptacle (e.g., dustpan):

This subclass is indented under subclass 257. Device comprising a receptacle having a tapering front or mouth edge adapted to rest against a surface, into which debris is collected from the surface.

SEE OR SEARCH CLASS:

- 294, Handling: Hand and Hoist-Line Implements, subclasses 49+ for shovels which engage and lift material.

257.2 With means to attach to brush or broom:

This subclass is indented under subclass 257.1. Device having means for attaching a brush or broom thereto.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 104.8, for a receiver with a cleaning implement which coact concurrently.

257.3 Separate inlet and outlet:

This subclass is indented under subclass 257.1. Device having an inlet for receiving, and a separate outlet from which is discharged, the debris.

SEE OR SEARCH CLASS:

- 232, Deposit and Collection Receptacles, subclasses 43.1+ for other deposit and collection receptacles having separate openings.

257.4 Receptacle gravitable to material retaining position:

This subclass is indented under subclass 257.1. Device wherein the receptacle upon being raised from the surface, rotates by force of gravity to place its mouth generally upwardly.

257.5 Foothold or pedal operator:

This subclass is indented under subclass 257.1. Device having a portion engageable by the foot of the user serving as a rest or actuator.

SEE OR SEARCH CLASS:

- 294, Handling: Hand and Hoist-Line Implements, subclass 60 for shovels provided with foot pieces.

257.6 With movable closure:

This subclass is indented under subclass 257.1. Device provided with a movable closure.

SEE OR SEARCH CLASS:

220, Receptacles, subclasses 220+ for other metallic receptacles provided with closures.

257.7 Adjustable, relatively movable or detachable handle:

This subclass is indented under subclass 257.1. Device provided with a handle constructed so that it may be (1) adjustable in one of several positions with respect to the receptacle, (2) movable relatively to the receptacle, or (3) readily detachable from the receptacle.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

257.4, for a receptacle pivotally mounted on a handle to gravitate to a material retaining position.

SEE OR SEARCH CLASS:

294, Handling: Hand and Hoist-Line Implements, subclass 57 for handles applied to shovels.

257.8 Foot or prop on rear of receptacle:

This subclass is indented under subclass 257.1. Device wherein the receptacle has a foot, prop or spur projecting downwardly from its rear portion a distance greater than any structure at its front portion.

257.9 Auxiliary, flexible or reinforced edge:

This subclass is indented under subclass 257.1. Device in which the front or mouth edge is flexible or resilient, or is reenforced, or has a separate auxiliary front edge member.

SEE OR SEARCH CLASS:

294, Handling: Hand and Hoist-Line Implements, subclass 56 for an attachment applied to the edge of a shovel.

258 Blacking-box and brush cases:

This subclass is indented under subclass 257.01. Kits, cases or containers having a blacking-box and one or more implements, at least one of which is a brush or wiper.

(1) Note. These devices are distinguished from those under subclasses 500+, in this class, by the fact that normally no claimed implement is exposed for use.

259 Blacking-box holders:

This subclass is indented under subclass 257.01. Devices for seizing, holding, and manipulating blacking-boxes with or without means for opening and closing them.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

258,

SEE OR SEARCH CLASS:

81, Tools, particularly subclasses 3.31, 3.32 and 3.39 for apparatus for holding receptacles during removal of the closure.

220, Receptacles, appropriate subclasses for the blacking-box, per se, subclasses 752+ for blacking-box handles, and subclasses 260+ for opening devices.

294, Handling: Hand and Hoist-Line Implements, subclasses 27.1+.

260 Mop wringers:

This subclass is indented under subclass 257.01. Wringers for mops other than those using presser-boards, rollers, or twisting devices.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

116, 119, 120.

261, 262, 263.

SEE OR SEARCH CLASS:

68, Textiles: Fluid Treating Apparatus, subclasses 241+.

100, Presses, appropriate subclasses for presses not elsewhere provided for, and especially subclasses 104+ for presses having drain means for expressed liquid, not elsewhere provided for.

261 Presser boards:

This subclass is indented under subclass 260. Mop-wringers in which the mop is squeezed between flat boards or plates.

- SEE OR SEARCH CLASS:
68, Textiles: Fluid Treating Apparatus, subclass 241.
100, Presses, subclasses 214+ for reciprocating platen presses not otherwise provided for.
- 262 Roller:**
This subclass is indented under subclass 260. Mop-wringers employing one or more pressure-rollers for squeezing moisture from the mop.
- SEE OR SEARCH CLASS:
68, Textiles: Fluid Treating Apparatus, subclasses 244+.
100, Presses, subclasses 155+ for concurrent pressing and conveying presses of the roller type, and not elsewhere provided for.
492, Roll or Roller, for a roller, per se, not elsewhere provided for, and see the notes thereunder.
- 263 Twisters:**
This subclass is indented under subclass 260. Mop-wringers having means for twisting the mop to squeeze out the moisture.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
116.1+, for a mop and wringer in combination with a brush.
120.1+, for a mop in combination with a twister.
- SEE OR SEARCH CLASS:
68, Textiles: Fluid Treating Apparatus, subclass 243.
- 264 Scrubbing pails:**
This subclass is indented under subclass 257.01. Bucket-type receptacles especially adapted for cleaning by scrubbing--i.e., the use of a cleaning-brush or equivalent with a cleaning liquid.
- 265 Shoe-blackening stands:**
This subclass is indented under subclass 257.01. Stands or supports adapted to receive and support boots or shoes while being cleaned, blacked, or polished on the feet of the wearer.
- SEE OR SEARCH CLASS:
297, Chairs and Seats, subclasses 188.01+ for a chair or seat having a footrest provided with a receptacle of general utility, and subclasses 423.1+ for a footrest associated with a chair.
- 266 Polisher guides:**
This subclass is indented under subclass 265. Shoe-blackening stands having special guides for a strip of polishing fabric as it is reciprocated by the operator.
- 267 Shoe clamps:**
This subclass is indented under subclass 265. Shoe-blackening stands having special clamps for holding boots or shoes in position while being polished.
- (1) Note. See this class, subclasses 30+.
- SEE OR SEARCH CLASS:
12, Boot and Shoe Making, appropriate subclasses for devices for supporting shoes in general and which may be used to support them while they are being cleaned and polished.
211, Supports: Racks, subclass 34.
280, Land Vehicles, subclasses 11.31+.
- 268 WORK SUPPORTS:**
Special supports for holding articles to be cleaned during the cleaning operation.
- SEE OR SEARCH CLASS:
269, Work Holders, appropriate subclasses. Class 269 is the residual locus for patents to a device for clamping, supporting and/or holding an article (or articles) in position to be operated on or treated. See notes thereunder for other related loci.
- 300.1 With air blast or suction:**
This subclass is indented under subclass 3. Subject matter having claimed structure functioning to contact a work piece or work surface with a draft of air, steam, or equivalent gaseous fluid for the purpose of dislodging or removing unwanted foreign material therefrom.
- (1) Note. In this and the indented subclasses, the term "air" is used generically to des-

- ignite air, steam, or equivalent gaseous fluid.
- (2) Note. The draft of air need not be the primary cleaning or dislodging means; this and the indented subclasses include devices wherein means are provided for brushing, beating, shaking, or otherwise manipulating the work to dislodge the foreign material and wherein the draft of air acts to convey away the material so dislodged, or any portion thereof, provided only that the draft of air must contact the work.
- (3) Note. Where an air draft is used as a means to feed material to or discharge material from an art device, the patent is in general classified with the device, even though a vacuum pickup is used on an ambulatory device; except that a gas separator of the Class 96 type is classified in this class (15) if claimed in combination with means for applying an air-draft to a workpiece or work surface.
- (4) Note. Where an air draft functions to perfect the operation of an art device, the patent is classified with the art device.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
- 21.1, through 103.5, for a device wherein a mechanical work contactor of the character provided for there delivers the foreign material to a place of collection not on the work surface and from which place an air draft is utilized to convey the material.
- SEE OR SEARCH CLASS:
- 30, Cutlery, especially subclasses 124+ for a cutlery device combined with air blast or suction means for collecting or disposing of the severed material, and see (4) Note above.
- 34, Drying and Gas or Vapor Contact With Solids, for gas or vapor contact for drying, and see (3) Note in the main class definition of Class 34 for a further statement of the line.
- 43, Fishing, Trapping, and Vermin Destroying, subclasses 139+ and 141 for air-blast or suction devices dis-
- closed solely for trapping or destroying insects.
- 118, Coating Apparatus, subclasses 21 and 63 for an apparatus having gas blast means to remove or spread coating material.
- 131, Tobacco, subclass 244 for an apparatus for cleaning a smoking device by the use of an air draft.
- 162, Paper Making and Fiber Liberation, subclasses 363+ for a suction device for use in a paper making machine.
- 173, Tool Driving or Impacting, subclasses 57+ for a means to drive or impact a tool or the like having a work cleansing modification, such as a means to supply air or other fluid to the tool or work surface, or a suction source.
- 175, Boring or Penetrating the Earth, subclasses 209+ for a means engaging a bore entrance for receiving or directing cuttings moved by an air blast or suction combined with an earth boring means. The mere recitation in a claim of means on said bore entrance engaging means for supporting or accommodating an earth boring or penetrating tool or tool shaft is sufficient for classification in Class 175.
- 198, Conveyors: Power-Driven, subclass 495 for a conveyor having installed as part of its structure a means for applying a cleaning fluid to a component of the conveyor.
- 239, Fluid Sprinkling, Spraying, and Diffusing, The line is as follows: This and the indented subclasses in Class 15 take discharge or suction nozzles for air, steam or equivalent gaseous fluid which are disclosed solely for cleaning and which are combined with claimed means for (1) handling or supporting the work, or (2) supporting or spacing the nozzle from the work, or combined with claimed cleaning devices such as brushes, scrapers, wipers, beaters, shotters or the like. Class 239 takes nozzle (discharge or suction) structures, per se, of the character indicated in subclasses 525+, 548+, 569+, 586, and 589+ in that class even though disclosed solely for cleaning by the use

of gaseous fluids, except that, as stated above, Class 15 takes a nozzle device which functions to contact or to engage the work, such contact or engagement usually serving to promote or perfect the cleaning operation.

406, Conveyors: Fluid Current, for an apparatus for conveying material by a gaseous fluid including material pickup, not specialized for cleaning.

417, Pumps, appropriate subclasses, for the pump subcombination of an air blast or suction cleaner. This and the indented subclasses in Class 15 take an air or gas pump claimed in combination with a suction or a blast applying nozzle means, disclosed for cleaning, and also take a pump disclosed which functions to contact or engage the work to promote or perfect the cleaning operation.

418, Rotary Expansible Chamber Devices, for a rotary expansible chamber device, per se, and see the above note to Class 417.

430, Radiation Imagery Chemistry: Process, Composition, or Product Thereof, subclass 119.85 for processes wherein the surface of the imaging member is cleaned with a fibrous brush and subclass 125.4 for processes including a step of removing residual material, such as toner, carrier, paper, and receiver, from the intermediate electrophotographic transfer member subsequent to transfer of the developed image to a receiver.

604, Surgery, subclasses 313+ for means for removing an impurity from the skin by vacuum or suction.

301 Fixed position cleaners or installed cleaning systems:

This subclass is indented under subclass 300.1. Cleaning apparatus in which the apparatus as a whole, when completely assembled and operating as a cleaner, is nonmobile or fixed in position, or is installed in or attached to a structure for the cleaning thereof.

(1) Note. The air-draft applying means may itself be mobile during the cleaning

operation, so long as the air-pump or supply remains fixed, and either or both the air-draft applying means and air pump or supply may be detachable when not cleaning.

(2) Note. In this and the indented subclasses are placed, for example, patents for vacuum cleaning systems installed in or on buildings, vehicles, or art devices or structures for the cleaning thereof and including only so much of the building, vehicle, or device as is necessary to the operation, support, or location of the cleaning apparatus, with respect to that portion of the building, vehicle, or device being cleaned.

(3) Note. The line with Class 122, Liquid Heaters and Vaporizers, is: Class 122 takes air or steam cleaners for boiler structure where any part of the boiler or furnace structure is modified to cooperate with the cleaner for the support or functioning thereof and such modification is claimed. The same line is followed with Classes; 122, Liquid Heaters and Vaporizers; 165, Heat Exchange; 196, Mineral Oils: Apparatus; and 202, Distillation: Apparatus; 422, Chemical Apparatus and Process Disinfecting, Deodorizing, Preserving, or Sterilizing. This and the indented subclasses in Class 15 take soot blowers when disclosed as being the type usually permanently connected with a boiler or other heat exchanger but claiming no modification of the boiler or heat exchanger.

(4) Note. Mere ventilating hoods or off-takes are not here included but in general are classified with the art device with which associated; see Search Classes below.

SEE OR SEARCH THIS CLASS, SUBCLASS:

336, for convertible cleaners, mostly of the "Air-Way" type, having racks, brackets, or the like for supporting the cleaner while in use for off-floor cleaning.

SEE OR SEARCH CLASS:

- 28, Textiles: Manufacturing, subclass 292, especially subclass 294 for bobbin strippers employing air blast or suction means to assist in thread removal.
- 30, Cutlery, subclasses 124+ for cutters combined with vacuum pickup for the cuttings and see (2) Note above and (4) Note subclass 1.
- 57, Textiles: Spinning, Twisting, and Twining, subclasses 300 and 306, and see (2) Note.
- 122, Liquid Heaters and Vaporizers, subclasses 379+ and see (3) Note.
- 126, Stoves and Furnaces, subclass 550 and see (4) Note.
- 144, Woodworking, subclasses 252.1+ and see (4) Note.
- 165, Heat Exchange, see (3) Note.
- 196, Mineral Oils: Apparatus, (see (3) Note).
- 202, Distillation: Apparatus, see (3) Note.
- 422, Chemical Apparatus and Process Disinfecting, Deodorizing, Preserving, or Sterilizing, appropriate subclasses, see (3) Note.
- 451, Abrading, subclasses 451+ for a guard or housing for an abrading machine, and see (4) Note above.
- 454, Ventilation, subclasses 49+ for hoods and off-takes generally and see (4) Note.

302 With liquid or other cleaning material application to work:

This subclass is indented under subclass 301. Apparatus having means to apply a liquid and/or particulate or comminuted solid cleaning material to the work.

- (1) Note. See definition Note (5) of Class 134 with reference to Class 15 for a statement of the line with Class 134.

SEE OR SEARCH CLASS:

- 68, Textiles: Fluid Treating Apparatus, for apparatus for cleaning textile materials when using a liquid. For a complete statement of the line relative to Class 68, see the reference to this class (15) in the Note to the main class definition of Class 68.

303 With work handling or supporting:

This subclass is indented under subclass 301. Cleaning apparatus substantially permanently located and in which the work is handled, as by presenting it to a nonmobile cleaning station or device either by hand or by guiding or supporting or conveying means, or in which the work is confined in or attached to a carrier and is operated on by a draft of air while so confined or attached.

304 Hollow work internal cleaning, e.g., bag and/or bottle cleaners:

This subclass is indented under subclass 303. Cleaning apparatus specially constructed to clean the interior surfaces of hollow work or of passages or cavities in the work.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 406+, for manipulable air-blast devices for cleaning hollow work such as boiler flues.

SEE OR SEARCH CLASS:

- 223, Apparel Apparatus, subclass 43 for air blast or suction devices for turning inside out articles of wearing apparel, bags, or tubular fabrics where there are no additional means for cleaning.

305 Tumbling cylinders or cages:

This subclass is indented under subclass 303. Cleaning apparatus in which the work is tumbled about within a drum or cage which is mounted for rotation on a horizontal or inclined axis.

- (1) Note. The drum or cage may have vanes or the like to cause circulation or movement of air in contact with the contained work.

SEE OR SEARCH CLASS:

- 34, Drying and Gas or Vapor Contact With Solids, subclasses 108+ for rotary drum driers.
- 68, Textiles: Fluid Treating Apparatus, subclass 20 for tumbler type textile washing machines including air drying.

- 69, Leather Manufactures, subclass 30 for rotary drum fur fluid treating apparatus.
- 131, Tobacco, subclass 305 for rotary drum tobacco fluid treating apparatus.
- 209, Classifying, Separating, and Assorting Solids, subclass 295 for rotating drum sifters with pneumatic agitation means.
- 451, Abrading, subclasses 326+ for a rotary drum tumbling device for abrading.
- 306.1 With means to guide or move the work to or through a cleaning station or treating means:**
This subclass is indented under subclass 303. Subject matter having means to guide or move the work to or through operative relation with the cleaning station or device.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
310, for an apparatus wherein the work is entirely manually guided or moved.
- 307 With work-width compensating features:**
This subclass is indented under subclass 306. Apparatus in which there are means for adjusting or allowing for various widths of work presented to the apparatus.
- (1) Note. The adjustment may be made on the air draft feature or on any component of the apparatus such as brushes or beaters.
- (2) Note. The work is usually running lengths of material.
- 308 With work agitator, e.g., brushing, beating, shaking:**
This subclass is indented under subclass 306. Apparatus in which the action of the air draft is supplemented by work-contacting or work-manipulating means for dislodging foreign material.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
363+, for noninstalled cleaners having air blast and/or suction and work agitator means.
- 309 Plural diverse types, e.g., beating and brushing:**
This subclass is indented under subclass 308. Apparatus having means for performing two or more diverse agitating operations on the work.
- 309.1 Indefinite length article:**
This subclass is indented under subclass 306.1. Subject matter having means to move a continuous workpiece to or through the cleaning station.
- 309.2 Plurality of discrete articles:**
This subclass is indented under subclass 306.1. Subject matter having means to move more than one identical workpiece to or through the cleaning station one after the other.
- 310 Manual application of work to cleaning means:**
This subclass is indented under subclass 303. Cleaning apparatus in which the work is manually moved to and held in operative relation with the cleaning station or device.
- 311 With moving work-agitating means:**
This subclass is indented under subclass 310. Apparatus including a moving agitator such as a brush, a beater, a shaker or the like.
- 312.1 With fixed guide for ambulant air draft applying means:**
This subclass is indented under subclass 301. Subject matter wherein the air draft applying means is arranged for bodily ambulatory or translatory movement and is guided by structure attached to or made part of the building, vehicle, machine or device being contacted by the air draft.
- (1) Note. Devices such as reaction whirlers wherein a nonambulatory air draft applying means is mounted for rotation about a fixed axis, are excluded from this subclass even though the air nozzles may be mounted at the outer ends of radially extending arms or the like.
- SEE OR SEARCH CLASS:
239, Fluid Sprinkling, Spraying, and Diffusing, subclass 750 for a fluid discharging device having ambulatory

distributing means with relatively fixed guides.

312.2 Flexible tube:

This subclass is indented under subclass 312.1. Subject matter wherein the air draft applying means includes a bendable cylindrical air guiding member.

313 Installed in automobile or other vehicle for the cleaning thereof :

This subclass is indented under subclass 301. Apparatus installed in a vehicle such as an automobile or aircraft and designed to be used for the cleaning thereof.

- (1) Note. The motion of the vehicle through the ambient air may be the source of power for pumping the air, or an air pump may be driven by some part of the vehicle or the pump may be self-reliant such as spring-motor operated.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 340, for power propelled vehicles or carriers designed for transporting cleaning apparatus used for the cleaning of work other than the vehicle or carrier, for example, street cleaners.

314 With flexible conduit connection between ambulant air draft applying means and relatively stationary air pump or supply:

This subclass is indented under subclass 301. Apparatus in which a hand held or manipulatable air draft applying means is mounted on or carried by a flexible conduit connected to a relatively stationary air pump or source of air supply.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 327, for mobile or portable "tank type" cleaning apparatus; that is, cleaners of the character defined above but wherein the air pump or supply is carried about by the operator, or is movable by the operator by force applied thereto through the flexible conduit.

315 Extensible and retractable conduit:

This subclass is indented under subclass 314. Apparatus having provisions for storing the conduit so that it can be extended from such storage position for application of the applying means to the work to be cleaned.

- (1) Note. Usually the conduit is stored on a reel or drum and is released for use by check-controlled apparatus; frequently the device is in a cabinet or the like suitable for placing in a washroom or entrance hallway for grooming clothing on a person.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 323, for ambulatory cleaning devices having provisions for stowage of items such as air hose.

316.1 Air blast only (e.g., boiler soot-blower):

This subclass is indented under subclass 301. Apparatus wherein the sole cleaning agency is a stream of air forced from a source of higher-than-atmospheric pressure.

- (1) Note. A soot-blower is located in this and indented subclasses when disclosed as being of the type installed in a boiler but claiming no modification of the boiler. See (3) Note under subclass 301 for a further statement of the line and reference to other classes involving cleaning of tube type heat exchanging apparatus.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 314, for a soot-blower having a flexible conduit between the air source and the applying means.
405, for a cleaning apparatus utilizing an air blast as the sole cleaning agency, and not fixed or installed.

SEE OR SEARCH CLASS:

- 122, Liquid Heaters and Vaporizers, particularly subclasses 390+ for a fluid agency cleaning device combined with boiler structure. See (1) Note above.

317 With blowing element housing or protecting feature, e.g., embedded, disappearing or cooling:

This subclass is indented under subclass 316. Apparatus having provisions for cooling the blower element, as by a draft of air or steam, or in which the blower is retracted or folded against or embedded in the furnace wall in nonblowing position and is projected or moved therefrom during the cleaning operation, or is otherwise protected from the furnace heat.

318 Moving nozzle with air supply control interlocked with nozzle motion means:

This subclass is indented under subclass 316. Apparatus in which the blower element is movable and the fluid supply control is interlocked therewith.

SEE OR SEARCH THIS CLASS, SUBCLASS:

317, for blowers movable to blowing position from an embedded, retracted, or protected nonblowing position in which the means for operating the fluid supply valve is interlocked with the means for projecting and retracting the blowing nozzle.

318.1 Sequence control:

This subclass is indented under subclass 316.1. Subject matter comprising means performing two or more operations (e.g., two or more air blowers, a blower and a work mover, etc.) and means to control the time or order of the operations.

319 With automatic control:

This subclass is indented under subclass 300.1. Cleaning apparatus having means continuously operative to sense a condition or change of conditions and functioning to operate or control the apparatus to establish and/or maintain a condition or operation thereof as a result of the sensing.

(1) Note. The condition sensed may be the presence or absence of a work piece or portion thereof or may be a physical condition of the work such as thickness. However, work-operated or work-sensing devices are not considered to be automatic unless the operating or sens-

ing functions are continuous. Thus, nozzle adjustments for ambulant floor-type vacuum cleaners which function in a cyclic manner to sense the surface of the rug or floor and to adjust the nozzle for the condition sensed, but which are effective only when the cycle is set in operation by the attendant, are considered to be nonautomatic.

SEE OR SEARCH THIS CLASS, SUBCLASS:

307, for installed or fixed position cleaners having work-operated or work-sensing controls.

354+, for nozzle adjusting means nonautomatic in character, and see (1) note above.

320 With liquid or other cleaning material application to work:

This subclass is indented under subclass 300.1. Cleaning apparatus having means to apply liquid and/or particulate or comminuted solid cleaning material to the work.

(1) Note. Many of these devices pick up the liquid or other cleaning material by air draft means, such pickup being the only air draft contact with the work.

SEE OR SEARCH CLASS:

451, Abrading, subclasses 75+ for sandblast apparatus.

321 Manipulatable nozzle with flexible conduit connection to portable power and/or material supply unit, e.g., window washer:

This subclass is indented under subclass 320. Cleaning apparatus in which a hand manipulated work-contacting device is attached by flexible conduit means to a portable air pump and/or material supply unit.

(1) Note. The air pump and material supply unit is considered to be portable only if it is movable by a force applied thereto by the operator through the flexible conduit, or if it can be carried about by the operator, while the pump is operating so that the cleaning operation can be carried on continuously.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

327, for similar devices without liquid or other cleaning material application.

322 Nozzles:

This subclass is indented under subclass 320. Nozzle devices having means to supply water or other cleaning material to the work.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

415+, for other elemental cleaning devices in the form of air-draft applying nozzles.

323 With storage facilities for tools or nozzles, conduits, etc., e.g., racks and cabinets:

This subclass is indented under subclass 300.1. Cleaning apparatus (1) having stowage facilities, or (2) combined with a rack or cabinet to provide stowage facilities, for stowing items used in connection with the operation or maintenance of the cleaner.

(1) Note. The items to be stowed may be separable, such as nozzles, or may be items such as electric cords normally attached to the cleaner.

(2) Note. A rack or cabinet for stowing an entire cleaner and its accessory items is included here provided that the arrangement is such that the cleaner may be operated and used for cleaning purposes while associated with the rack or cabinet.

(3) Note. The line with Class 211, Supports: Racks, is that in order to be classified herein there must be claimed features of the association of the cleaner with the rack or cabinet which cause or permit the cleaning apparatus to function as a cleaner while associated therewith. The same line is followed with Classes 280, Land Vehicles, and 312, Supports: Cabinet Structure.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

257.01, for racks or cabinets, per se, for air draft cleaning apparatus wherein the disclosure indicates a contemplated

use of the said air draft cleaning apparatus while associated with the rack or cabinet.

301+, particularly 315, for cleaning apparatus built into a rack, cabinet, or other supporting structure for stationary or nonambulatory service.

327, for tank-type cleaner organizations not associated with a rack or cabinet.

336, for supports for air-conducting tubular handle cleaners convertible from on-floor to off-floor operations.

SEE OR SEARCH CLASS:

191, Electricity: Transmission to Vehicles, for apparatus there provided for not restricted to air draft cleaning apparatus.

211, Supports: Racks, see (3) Note.

242, Winding, Tensioning, or Guiding, for a wound-type storage facility.

280, Land Vehicles, see (3) Note.

312, Supports: Cabinet Structure, see (3) Note.

324 Illuminator for work area:

This subclass is indented under subclass 300.1. Cleaning apparatus having means to illuminate the work.

SEE OR SEARCH CLASS:

43, Fishing, Trapping, and Vermin Destroying, subclasses 139 and 141 for air blast and/or suction devices disclosed solely for trapping and/or destroying insects where an illuminator functions to attract the insects.

362, Illumination, subclass 91 for vacuum cleaners with illuminating means, and see the definition and notes thereto for a statement of the line.

325 With fender or bumper, i.e., furniture guard:

This subclass is indented under subclass 300.1. Cleaning apparatus having means functioning to protect the nozzle or other parts thereof and/or to prevent marring of furniture or walls during normal use of the apparatus when it is moved into contact with the furniture or walls or the like.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

45, for carpet sweepers (nonair-draft) having cushioning devices mounted thereon to prevent injury to furniture or walls in the operation of the sweeper.

SEE OR SEARCH CLASS:

293, Vehicle Fenders, subclasses 102+ for bumpers for mounting on land vehicles.

326 With sound muffling feature:

This subclass is indented under subclass 300.1. Cleaning apparatus having means specially designed to muffle the noise of the air being discharged by the air pump.

- (1) Note. So-called dust traps in the form of short tubes extending into a filter bag from the pump exhaust opening act in a degree as mufflers but have not been classified in this subclass unless the muffling function has been claimed.

SEE OR SEARCH CLASS:

181, Acoustics, subclass 231 for fluid conducting or guiding mufflers, per se.
417, Pumps, subclass 312 for pumps combined with a muffler for acting on the fluid handled by the pump.

327.1 Tank type cleaner organization:

This subclass is indented under subclass 300.1. Subject matter wherein a hand manipulatable air draft applying means, with or without means for agitating the surface being cleaned, is attached by means of a flexible conduit to a portable air pumping unit or source of air pressure.

- (1) Note. The pump unit is considered to be portable only if it is movable by a force applied thereto by the operator through the flexible conduit, or if it can be carried about by the operator, while the pump is operating so that the cleaning operation can be carried on continuously.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

314, for a cleaning apparatus of this character wherein the pump unit or pressure source is relatively stationary and not movable by the operator while cleaning.
321, for a tank type system including the use of a supply of water or other cleaning material.

327.2 Casing feature:

This subclass is indented under subclass 327.1. Subject matter wherein significance is attributed to the machine housing (e.g., covers, latches, handles, mounting means for internal mechanisms, etc.).

327.3 Air float or support:

This subclass is indented under subclass 327.2. Subject matter having means to support the casing on air.

327.4 Cleaner encircling roller:

This subclass is indented under subclass 327.2. Subject matter wherein the casing is supported by wheels whose diameters are greater than the extension of the casing about the axis of the wheels.

- (1) Note. The wheels of this subclass type may be hemispherical, and two together may virtually enclose the casing.

327.5 Off-the-floor support (e.g., operator supported):

This subclass is indented under subclass 327.2. Subject matter having a handle or means to attach the housing to a person or to some other object.

327.6 Vertically aligned motor and filter:

This subclass is indented under subclass 327.1. Subject matter having means to drive a pump to create the draft of air, and passive means, mounted above or below the drive means, to separate the material removed from the work-piece and the air draft in which the material is borne.

327.7 Horizontally aligned motor and filter:

This subclass is indented under subclass 327.1. Subject matter having means to drive a pump to create the draft of air, and passive means, mounted horizontally with respect to the drive means, to separate the material removed from the workpiece and the air draft in which the material is borne.

328 Convertible:

This subclass is indented under subclass 300.1. Cleaning apparatus, which, by addition or removal or change in position of parts, may be converted in whole or in part (1) to noncleaning apparatus, or (2) to cleaning apparatus without air-draft means; also, cleaners capable of applying an air-draft in two or more distinct types of operations, each being exercised alternatively and selected by addition or removal or change in position of parts.

SEE OR SEARCH THIS CLASS, SUBCLASS:

368+, particularly 373, for air-draft cleaners employing a work-contacting agitator which is adjustable to a position of noncontact.

329 To or from hand held and hand manipulated:

This subclass is indented under subclass 328. Cleaning apparatus which is self-contained and may be held in the hand and manipulated for cleaning upholstery and the like, and may be converted, as by the addition of a long handle, for example, for manipulation on a floor or rug by a walking attendant.

SEE OR SEARCH THIS CLASS, SUBCLASS:

344, for nonconvertible "upholstery" type cleaners.

330 Suction to or from blast:

This subclass is indented under subclass 328. Apparatus having provisions for applying selectively and alternatively suction of air blast.

331 Plural selective air draft means, e.g., on-floor to off-floor:

This subclass is indented under subclass 328. Cleaning apparatus having a plurality of alternatively usable provisions for applying an air draft and including means to select one or more of such means.

- (1) Note. For the purpose of this and the indented subclasses, the provisions for applying may be a mere port or orifice or may include a flexible conduit with or without a cleaning tool on the working end; the selecting means may be a movable closure for a port.

332 With agitator and/or fan interlock, e.g., floor or rug safety feature:

This subclass is indented under subclass 331. Apparatus in which means are provided for interlocking or connecting an agitator and/or air pump with the means for converting so that conversion or selection acts to initiate, stop or alter the operation of the agitator or air pump.

- (1) Note. In many patents in this and the indented subclass, the agitator is interlocked so as to preclude operation thereof in contact with the work except when a cleaning function including use of the agitator has been selected.
- (2) Note. Where an air draft diverter only is interlocked so as to be controlled by conversion or selection, the patent is classified below on other than the interlock feature, such as on the diversion feature in subclasses 334+.

SEE OR SEARCH THIS CLASS, SUBCLASS:

334+, for cleaners wherein a diverter valve functions to divert the air flow from one to another air-draft applying means. See (2) Note.

333 Floor nozzle elevating:

This subclass is indented under subclass 332. Apparatus wherein the nozzle is raised out of contact with the work.

- and also cause the floor nozzle to be raised off the floor.
- 334 Floor nozzle air flow diverted to off-floor cleaning means:**
This subclass is indented under subclass 331. Apparatus having a floor nozzle as one of the air-draft provisions and in which the conversion or selection results in diverting or cutting off the air flow through the floor nozzle.
- 335 Tubular handle, e.g., "Air-Way" type:**
This subclass is indented under subclass 334. Apparatus having a tubular handle through which air may be caused to flow as a result of diverting or cutting off the flow through the floor nozzle.
- 336 With supporting means, e.g., wall-mounted clamp:**
This subclass is indented under subclass 335. Apparatus having means in the nature of supports for rendering the apparatus more stable for use as an off-floor cleaner.
- (1) Note. The supports may be attached to and carried by the apparatus or may be in the nature of separate stands, brackets, or wall-mounted clips.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
323, for complete cleaners combined with a rack or cabinet having stowage for nozzles, wands, hoses, or similar air-draft applying accessories.
- 337 By insertion or attachment of additive converter:**
This subclass is indented under subclass 334. Apparatus in which the insertion or attachment of a separable, additive converter element results in diverting or cutting off the floor nozzle air flow.
- (1) Note. In some cases the converter element actuates mechanism which in turn operates a diverter or cut-off, while in other cases the element itself acts as a diverter or cut-off.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
333, for additive converter elements which divert or cut off floor nozzle air flow
- 338 Converter attached to floor nozzle mouth:**
This subclass is indented under subclass 328. Cleaning apparatus having a floor nozzle and an air-draft applying means conduit attachment for the open mouth of the nozzle.
- 339 Combined, e.g., with signal or indicator:**
This subclass is indented under subclass 300.1. Apparatus, in which the means for cleaning is combined with apparatus for other purposes and not provided for above.
- (1) Note. The combined features are other than power propulsion for ambulant cleaners (e.g., subclass 340), means to handle, store, or separate the dislodged dirt (e.g., subclass 347), or mechanical work agitating means (e.g., subclass 363).
- SEE OR SEARCH CLASS:
30, Cutlery, subclasses 124+, especially subclass 133 for shears combined with material disposal by suction.
340, Communications: Electrical, subclasses 500+ for electrical automatic condition responsive indicating systems.
- 340.1 Power propelled vehicle or carrier:**
This subclass is indented under subclass 300.1. Subject matter in which power means are provided for propelling a mobile cleaner during cleaning operations.
- (1) Note. The power for propelling may be used also for operating the air pump and other operating elements.
- (2) Note. The tractive effort of a rotary or other moving work-contacting agitating element is not considered to be power propulsion.
- 340.2 Maneuvered by walking attendant:**
This subclass is indented under subclass 340.1. Subject matter having handle means such that an attendant walking on the ground may guide the vehicle or carrier.

- SEE OR SEARCH CLASS:
180, Motor Vehicles, subclass 19.3 for vehicles having a handle for guiding the vehicle.
- 340.3 Including brush:**
This subclass is indented under subclass 340.1. Subject matter having means for sweeping or loosening foreign material from the work surface.
- 340.4 Plural brushes:**
This subclass is indented under subclass 340.3. Subject matter having two or more brushes movable relative to each other.
- 341 Traction or manual operation of air pump or fan:**
This subclass is indented under subclass 300.1. Cleaning apparatus in which the air pump or fan is operated by traction or by manual means.
- (1) Note. Manual means here includes use of any part of the human body such as legs or shoulders as well as hands and arms.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
388, for traction operated work-contacting agitators where the claims do not include traction operation of the air pump.
- 342 Rotary air impeller:**
This subclass is indented under subclass 341. Apparatus in which the air pump is a rotary air impeller.
- (1) Note. Many of these devices include one-way drive means to permit continuous rotation of the impeller while the cleaner is moved forward and backward over the work surface.
- 343 Hand cranked:**
This subclass is indented under subclass 342. Devices in which the air impeller is rotated by hand-operated cranks or the like.
- 344 Hand supported and manipulated, e.g., miniature or upholstery type:**
This subclass is indented under subclass 300.1. Cleaning apparatus having air-draft producing and applying means and a hand grip, and usually including dirt separating and/or storing means, wherein all the components are assembled into a rigid unit, the arrangement being such that when the apparatus is in use, it is (1) entirely supported by the operator, or (2) incapable of self-support in operative relation to the work if provided with a work-engaging carriage or mount so that it must be supported at least in part by means of the handle.
- (1) Note. These devices are the so-called "upholstery", "miniature", or "wand" types.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
329, for hand portable cleaners convertible to floor-type cleaners.
- SEE OR SEARCH CLASS:
132, Toilet, subclasses 112+ for toilet combs having an orifice for applying fluent material to the hair.
- 345 Air blast with suction:**
This subclass is indented under subclass 300.1. Cleaning apparatus functioning to apply at one time both an air blast and a suction of substantially the same area of work.
- 346 Closed circuit systems, i.e., air recirculating:**
This subclass is indented under subclass 345. Apparatus in which the cleaning air is recirculated in a substantially closed circuit, usually the intake side of the pump being the source of suction and the outlet side being the source of pressure.
- 347 With dust or dirt handling or storing or separating, e.g., filter bags:**
This subclass is indented under subclass 300.1. Cleaning apparatus having means for collecting or storing or handling the dislodged dust and dirt or for separating the dust and dirt from the air-draft.

SEE OR SEARCH CLASS:

96, Gas Separation: Apparatus, for air-dirt separating means even though claimed as vacuum cleaners where no air-draft applying means or other work-contacting cleaning means is included in the claims; and see (3) Note to the definition of subclass 300.1 in this class (15).

406, Conveyors: Fluid Current, appropriate subclasses for fluid current conveying apparatus not specifically adapted for cleaning. See particularly subclasses 168+ for a material separating receptacle at a conveyor outlet.

348 With conveying means additional to air stream:

This subclass is indented under subclass 347. Apparatus having means other than the air stream acting to assist in conveying the dirt set in motion by the air draft or by other dirt dislodging means.

SEE OR SEARCH CLASS:

406, Conveyors: Fluid Current, subclasses 51+ for fluid current conveyors combined with other types of conveyors.

349 With receiver for dirt from rotary or moving agitator:

This subclass is indented under subclass 347. Apparatus having a rotary or other moving agitator and having pans, trays, or the like for catching the heavier dirt particles which have been set in motion initially by the movement of the agitator but which cannot be entrained or removed by the air stream.

SEE OR SEARCH THIS CLASS, SUBCLASS:

348, for conveying means acting in addition to the air stream, the conveyor generally handling heavier and/or larger particles while the lighter particles remain entrained in the air stream.

350 Separator mounted on or attached to manipulating handle, e.g., push broom type:

This subclass is indented under subclass 347. Hand manipulated apparatus having a manipulating handle and an air-dirt separator, the separator

being mounted on or attached to at least in part to the handle.

(1) Note. The separator and handle may be integrally constructed.

SEE OR SEARCH THIS CLASS, SUBCLASS:

344, for hand-held or wand type cleaners wherein the dirt separator is usually mounted on or attached to the hand grip portion of the cleaner.

351 Handle movable relative to floor tool air exhaust conduit:

This subclass is indented under subclass 350. Apparatus in which the handle is pivotally or otherwise movably mounted with respect to the air-stream outlet of the air-draft applying means, the arrangement requiring flexibility of the separator or of its connection to the exhaust outlet or to the handle.

352 Separator element cleaning in situ and/or storage or removal of retained dirt:

This subclass is indented under subclass 347. Apparatus having provisions for cleaning the filter or other separator elements while assembled in the apparatus.

SEE OR SEARCH CLASS:

55, Gas Separation, subclasses 282+ for separating media cleaning means and subclasses 428+ for storage or removal of residue.

353 With liquid and/or deflection type separator:

This subclass is indented under subclass 347. Apparatus having liquid and/or deflection type separators.

354 With work-contacting carriage or mount, and relatively adjustable nozzle:

This subclass is indented under subclass 300.1. Cleaning apparatus having an air-draft applying nozzle supported on a work-contacting carriage or mount, the nozzle being movable with respect to the carriage or mount.

(1) Note. The carriage or mount must be other than or in addition to the nozzle lips, i.e., in addition to that portion of the

nozzle defining the work-contacting area of the air draft.

- (2) Note. The movement of the nozzle may result in adjusting the vertical height or the lateral disposition thereof.

SEE OR SEARCH THIS CLASS, SUBCLASS:

333+, for cleaners convertible from on-floor to off-floor cleaning in which the nozzle is raised when converted to off-floor cleaning.

405+, and 415+, for devices such as tube cleaners having means functioning to engage the work for nonadjustably positioning the nozzle relative thereto.

418, for nozzles, per se, having provisions for adjusting the area of the mouth.

SEE OR SEARCH CLASS:

280, Land Vehicles, subclasses 43+ for adjustable running gear for air-draft cleaning apparatus where no air-draft applying means is claimed.

355 With agitator adjustable relative to nozzle:

This subclass is indented under subclass 354. Apparatus including a mechanical agitator which is adjustable relative to the nozzle.

SEE OR SEARCH THIS CLASS, SUBCLASS:

356, for nozzle supported agitators which are biased into contact with the work. The adjustment of the nozzle results in a simultaneous adjustment of the agitator.

368+, for agitators adjustable with respect to the nozzle but including no claimed feature of adjustability of the nozzle.

356 Interlocked or simultaneous adjustment:

This subclass is indented under subclass 355. Apparatus having a work-contacting agitator and in which adjustment of the nozzle also causes adjustment of the agitator.

- (1) Note. Included in this subclass are patents for devices wherein a nozzle-supported agitator is biased into contact with the work surface, the result being that adjustment of the nozzle necessarily

effects an adjustment of the agitator relative thereto.

357 Suction responsive:

This subclass is indented under subclass 354. Apparatus in which the nozzle adjustment is determined by the air pressure differential between the ambient atmosphere and the interior of the nozzle.

SEE OR SEARCH THIS CLASS, SUBCLASS:

319, for nozzle adjustment continuously controlled by a sensing device continuously responsive to the air pressure in the nozzle.

358 With work surface contact or penetration sensing:

This subclass is indented under subclass 354. Apparatus having means functioning to sense the elevation of the plane of the covering or work surface with respect to the support-contacting plane of the nozzle mount and to adjust the nozzle to a predetermined or optimum elevation based on the sensed elevation.

- (1) Note. Where the sensing is continuous and the adjustment is continuously controlled thereby, the operation is regarded as being automatic and the patent is classified in subclass 319.

SEE OR SEARCH THIS CLASS, SUBCLASS:

319, see (1) Note.

362, for cleaners wherein the nozzle height is controlled as a function of the surface penetration of the nozzle mount but the nozzle is not adjusted relative to the mount.

359 Biased or floating nozzle:

This subclass is indented under subclass 354. Apparatus in which the nozzle is biased or urged toward an extreme position with respect to the work surface, or is so mounted as to float, that is, follow the contour of irregular surfaces.

- (1) Note. The bias or floating feature must be continuously operative; where there is provided means to hold or retain the nozzle

zle in a fixed position, the patent is classified in other subclasses of this group.

360 Urged away from contact with work:

This subclass is indented under subclass 359. Apparatus in which the nozzle is biased or urged away from contact with the work.

- (1) Note. Usually downward pressure on the nozzle exerted through the manipulating handle, results in adjusting or varying the nozzle height.

361 Handle operated or handle associated control:

This subclass is indented under subclass 354. Apparatus having a manipulating handle and in which the nozzle adjustment is controlled or operated by movement relative to the cleaner of the handle or means carried by or attached to the handle.

362 With nozzle carriage or mount having work-surface penetration control, e.g., differential area supporting wheels:

This subclass is indented under subclass 300.1. Cleaning apparatus having a nozzle supported on, and nonadjustable or fixed with respect to, a work-contacting carriage or mount, the work-contacting portion of the mount being constructed and arranged to compensate for or prevent penetration into carpet pile or other yielding surfaces to thereby maintain the nozzle at optimum or substantially uniform spacing from the top of the pile.

363 With mechanical agitating means:

This subclass is indented under subclass 300.1. Cleaning apparatus of the kind adapted to be moved about over the surface being cleaned having, in addition to air draft applying means, means for brushing, beating, shaking, or otherwise contacting and agitating the work to dislodge and/or remove unwanted foreign material.

- (1) Note. Since nozzle lips usually have a floor covering pile agitating or deflecting action, the mere recitation of such is not considered to be significant agitator structure; but where the nozzle lips are modified to enhance their action as an agitator, classification will be in this or the indented subclasses.

SEE OR SEARCH THIS CLASS, SUBCLASS:

250.01, for the combination of a wiper with air supplied to the work where the apparatus is adapted to be attached to a window.

303+, for fixed position cleaners having work agitating means.

332+, for cleaners convertible from on-floor to off-floor cleaning having an agitator and in which the agitator is disabled when converted to off-floor cleaning.

404, for devices wherein the air flow is pulsated to cause agitation of the work, there being no other work contacting means.

SEE OR SEARCH CLASS:

30, Cutlery, subclasses 124+ for cutlery devices combined with air blast or suction means for collecting or disposing of the severed material, as in plaster cast cutting devices.

364 Diverse agitating operations, e.g., brushing with beating or movable with stationary:

This subclass is indented under subclass 363. Apparatus having means for performing two or more diverse agitating operations on the work.

- (1) Note. The agitating operations need not be performed simultaneously.

(2) Note. Association of an agitator of the stationary type as defined in subclass 393 below, with a movable agitator is considered a diverse operations type for the purposes of this and the indented subclasses.

365 Selective:

This subclass is indented under subclass 364. Apparatus having provisions for selecting the operation of any one or more of the diverse agitating means to the exclusion of the nonselected operations.

- (1) Note. An air draft must be utilized with each mode of operation, if a selected agitating operation is performed without an air draft, the device is considered to be

convertible within the definition of subclass 328; see section (2) therein.

SEE OR SEARCH THIS CLASS, SUBCLASS:

328, see (1) Note.

373, for cleaners wherein the entire agitating means may be retracted to a position of nonuse.

366 Rotary only, e.g., "Hoover" type beating brush:

This subclass is indented under subclass 364. Apparatus in which the agitating is performed by rotary means only.

367 Stationary or non-moving agitating means only:

This subclass is indented under subclass 364. Apparatus in which the only agitating means claimed are relatively fixed, that is, having no movement during cleaning except that due to translation of the cleaner relative to the work.

SEE OR SEARCH THIS CLASS, SUBCLASS:

393, for nondiverse type stationary agitators.

368 Adjustable with respect to nozzle:

This subclass is indented under subclass 363. Apparatus in which the agitating means is movable relative to the air draft applying means for the purpose of adjusting its effectiveness.

(1) Note. Complete retraction of the agitating means to a position of nonuse is included in this and indented subclasses.

SEE OR SEARCH THIS CLASS, SUBCLASS:

355+, for devices where the nozzle also is adjustable with respect to its mount.

369 Responsive to translational movement of nozzles:

This subclass is indented under subclass 368. Apparatus wherein the position of the agitating means with respect to the nozzle is changed in response to translational movement of the nozzle as in forward and backward strokes used in cleaning floors.

370 Rotary agitator with radially adjustable elements, e.g., wear compensating:

This subclass is indented under subclass 368. Apparatus having a rotary agitator and including provisions for adjusting the work-contacting elements radially.

(1) Note. The radial adjustment usually is to compensate for wear on the work-contacting elements.

SEE OR SEARCH THIS CLASS, SUBCLASS:

179+, particularly subclasses 182 and 183, for rotary agitators, per se, having radially adjustable work-contacting elements.

371 Floating or resiliently biased contact with work surface:

This subclass is indented under subclass 368. Apparatus in which the agitating means is yieldingly mounted with respect to the nozzle and biased outwardly thereof into contact with the work in normal positions of use during cleaning.

372 Rotary work contactor:

This subclass is indented under subclass 371. Apparatus in which the agitating is performed by rotary work-contacting elements.

373 Retractable, i.e., selective use:

This subclass is indented under subclass 368. Apparatus in which the agitating means may be adjusted to a position of nonuse, that is, out of contact with the work during normal cleaning use.

SEE OR SEARCH THIS CLASS, SUBCLASS:

332, for convertible cleaners embodying an agitator interlock whereby conversion to off-floor cleaning also acts to retract the agitator.

365, for means for adjusting one of a plurality of diverse type agitation to a nonuse position.

374 Oblique or V-shaped arrangement of agitator:

This subclass is indented under subclass 363. Apparatus in which the agitator contacts the work along a line generally oblique to the normal path of movement of the cleaner.

375 With auxiliary ambient air inlet to nozzle, e.g., through air tunnel and/or agitator:

This subclass is indented under subclass 363. Apparatus having air inlet means functioning to admit ambient air to the nozzle when the nozzle is in normal operating position with respect to the work, the additional air being other than that drawn through the work at the nozzle or drawn through the space between the work and the nozzle lips.

- (1) Note. The auxiliary air inlet generally functions to supply a quantity of air for moving the dirt dislodged by the agitator particularly when the main air draft through the nozzle mouth is severely reduced by sealing contact of the nozzle mouth with relatively nonporous work.
- (2) Note. The auxiliary air may function to operate air-driven turbines or the like.

SEE OR SEARCH THIS CLASS, SUBCLASS:

421, for auxiliary air inlets to nozzles having no agitating means.

376 Agitator bearing or drive air bleed:

This subclass is indented under subclass 375. Apparatus in which the auxiliary air is admitted at such locations that it serves to sweep off or protect from dust and dirt agitator bearings and drive mechanism.

377 Auxiliary or separate, i.e., non-fan, driving motor:

This subclass is indented under subclass 363. Apparatus in which the driving motor for the agitator is separate from the motor driving the air pumping means.

- (1) Note. Air motors for driving a movable agitator are not included herein but are classified according to the particular motion of the agitator in subclasses 380, 381, 382, and 387.

378 With guard to inhibit work entry into nozzle mouth:

This subclass is indented under subclass 363. Apparatus having a guard to inhibit or prevent flexible work such as a rug being drawn into the nozzle and into too close contact with an agitator in the nozzle.

SEE OR SEARCH THIS CLASS, SUBCLASS:

422, for nozzles, per se, having work guards.

379 Vibrating nozzle or nozzle lips:

This subclass is indented under subclass 363. Apparatus wherein the lips of the air-draft applying nozzle have vibratory motion.

- (1) Note. The entire nozzle may be vibrated, or there may be flexible lips with means to vibrate them.

380 Rectilinearly moving parallel to work surface, e.g., scrubbing:

This subclass is indented under subclass 363. Apparatus in which the agitator moves in a plane generally parallel to flat work surfaces when the cleaner is in normal use position.

- (1) Note. There must be motion of the agitator relative to the work other than that due to translational motion of the cleaner relative to the work.

381 Oscillating agitator, e.g., sweeping:

This subclass is indented under subclass 363. Apparatus in which the agitator is mounted for oscillating or to and fro arcuate movement to affect tangential contacting of the work surface.

- (1) Note. Where the agitator rotates through more than 360°, the patent is classified on the basis of a rotary agitator in subclasses 383+ even though such rotation be periodically reversed or stopped.

SEE OR SEARCH THIS CLASS, SUBCLASS:

382, for pivotally mounted agitators functioning to strike a blow against the work with little, if any, tangential or sweeping motion on the work.

- 383+, see (1) Note.
- 382 Striking beater, i.e., perpendicular movement:**
This subclass is indented under subclass 363. Apparatus in which the agitator moves generally perpendicular to the work surface to deliver a blow for dislodging the dirt from the work.
- (1) Note. The agitator may move rectilinearly or pivotally, but in the latter case, there must be no appreciable component of movement parallel to the work surface.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
379, for vibrating nozzle type agitator.
- 383 Rotary agitator:**
This subclass is indented under subclass 363. Apparatus in which the agitating means has a rotary motion.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
179, for rotary brushes, per se, not limited to vacuum cleaner organizations.
366, for rotary agitating devices performing diverse agitating functions.
381, for agitators mounted for rotary motion but which are restrained to oscillating or rotary to and fro motion of not more than 360°.
- 384 Tandem agitator units:**
This subclass is indented under subclass 383. Apparatus having a plurality of distinct agitating units arranged in tandem with respect to the usual path of motion of the cleaner while in use.
- 385 Axis non-parallel to work surface:**
This subclass is indented under subclass 383. Apparatus in which the axis of rotation is non-parallel to the work surface.
- (1) Note. Usually the agitator is a radial face or disc type but this subclass also includes those agitators whose axis of rotation is at an acute angle with respect to the work surface.
- 386 With eccentrically mounted turnable work contacting elements:**
This subclass is indented under subclass 383. Apparatus in which the work-contacting element is mounted on the agitator body to turn about an axis spaced from the axis of rotation of the body.
- (1) Note. The elements need not be the sole work contacting means; the body on which they are mounted may in itself also contact the work.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
366, for similar arrangements where diverse agitating operations are performed.
- 387 Air current operated:**
This subclass is indented under subclass 383. Apparatus in which the agitator is rotated by a draft of air.
- (1) Note. The air used for driving the agitator may be distinct from that used for contacting the work.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
375, for rotary agitators driven by a draft of ambient air admitted other than at the work-contacting portion of the nozzle.
382, for air-current operated striking beater type agitators.
- 388 Traction operated:**
This subclass is indented under subclass 383. Apparatus in which the agitator is rotated by traction derived from translation of the cleaner over the work.
- (1) Note. There may be a traction wheel or the like with power transmitting means to the agitator, or the agitator may be rotated solely by its contact with the work surface.
- (2) Note. The linear velocity of the agitator may be equal to or greater or less than the translational speed of the cleaner with respect to the work.

389 Drive details:

This subclass is indented under subclass 383. Apparatus in which the inventive feature resides in the drive means for imparting rotation to the agitator.

390 With clutch or other drive disconnect:

This subclass is indented under subclass 389. Apparatus having a clutch or other drive disconnect means.

SEE OR SEARCH THIS CLASS, SUBCLASS:

332+, for cleaners convertible from on-floor to off-floor cleaning having agitators and in which the agitator drive is disabled when the cleaner is converted to off-floor cleaning.

391 Belt or drive housings or other protective features:

This subclass is indented under subclass 389. Apparatus having means for protecting the driving means such as belts from damage due to contact with the work or to dust, lint, etc.

(1) Note. It is not necessary that the entire run of the belt be protected.

392 Agitator bearings or supporting details:

This subclass is indented under subclass 389. Apparatus in which the inventive feature resides in the agitator support or bearings.

SEE OR SEARCH THIS CLASS, SUBCLASS:

376, for agitator bearings in which a draft of air functions to clean the bearing.

393 Stationary agitator:

This subclass is indented under subclass 363. Apparatus in which the means for agitating is stationary relative to the cleaner and has no motion relative to the work except that which results from moving the cleaner bodily.

SEE OR SEARCH THIS CLASS, SUBCLASS:

369, for stationary agitators which shift position bodily in the cleaner in response to forward and backward strokes of the cleaner while in use.

394 Work piece surrounding or opposed agitators, e.g., bar or slat cleaners:

This subclass is indented under subclass 393. Apparatus having opposed facing work contacting means arranged to be circumposed about the work.

395 For opposed surfaces or hollow work internal cleaning:

This subclass is indented under subclass 393. Apparatus having bristles or other work contacting means arranged to present diverging or oppositely extending work contacting surfaces.

(1) Note. The cleaner is usually used between two work surfaces such as the slats of a "venetian" blind.

(2) Note. If a plurality of work contactors of the type covered by the above definition are assembled in a unitary device, the resulting device will be one which has opposed working surfaces in addition to those oppositely extending; this organization is not classified in this subclass but is placed above, in subclass 394.

SEE OR SEARCH THIS CLASS, SUBCLASS:

394, see (2) Note above.

396 Hollow head with perforate reticulate supporting surface for agitator:

This subclass is indented under subclass 393. Apparatus in which the air draft applying means includes a hollow head or manifold having a plurality of openings in the face or surface usually presented to the work, the agitating means being associated with the same face.

397 With tubular air nozzles interspersed throughout work contacting surface:

This subclass is indented under subclass 396. Apparatus having tubular air ducts communicating with the manifold openings and interspersed throughout the working face of the apparatus.

398 Bristle brush type:

This subclass is indented under subclass 393. Apparatus in which the agitator is in the form of a bristle brush or broom.

- (1) Note. For a definition of bristle brush or broom see subclass 159.
- (2) Note. The subclasses immediately preceding have many patents showing bristle brushes in the special arrangements there provided for; those patents have not been cross-referenced down into this and the indented subclasses; therefore the search to be complete must include the preceding subclasses.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 394, see (2) Note.
 395, see (2) Note.
 396+, see (2) Note.

399 With bristle bridle or air seal or shroud:

This subclass is indented under subclass 398. Apparatus in which there is included means to prevent undue spreading of the bristles and/or to form an air seal or shroud to minimize or prevent air flow through the bristles except at or adjacent to the point of contact with the work.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 168+, for bristle bridles in cleaning implements having no provisions for applying an air draft to the work.

400 Nozzle attachment type:

This subclass is indented under subclass 398. Apparatus in which the agitator is designed as an attachment to be readily attached to or detached from a nozzle or similar air-draft applying means.

- (1) Note. The nozzle may be specially constructed to cooperate with the attaching means.

401 Scraper or squeegee type:

This subclass is indented under subclass 393. Apparatus in which the agitator is in the form of a relatively thin blade-like member which contacts the work edgewise and acts to scrape or squeegee the contacted surface.

- (1) Note. This and indented subclasses include patents wherein the nozzle lips

are specially constructed or arranged to act as scrapers or squeegees.

SEE OR SEARCH CLASS:

- 30, Cutlery, subclasses 136+ for knives and scrapers having material holder or disposal means.

402 Serrated or toothed, e.g., comb or rake type:

This subclass is indented under subclass 401. Apparatus in which the agitator is serrated or toothed and functions much like a comb or rake.

- (1) Note. Patents for tooth-type brushes, that is with relatively widely spaced teeth in lieu of bristle tufts, are classified here even though having a planar working face.

SEE OR SEARCH CLASS:

- 132, Toilet, subclasses 112+ for toilet combs having an orifice for applying fluent material to the hair.

403 Dry mop type, e.g., textile strand or sheet pelt:

This subclass is indented under subclass 393. Apparatus in which the agitator is of the dry mop type, that is, of strands of flexible and usually absorbent material.

- (1) Note. Sheep pelt is included herein.
- (2) Note. Wipers not of the strand type, such as felt members, are not considered to be dry mops for this subclass and are found in the subclasses above.

404 With pulsating air flow:

This subclass is indented under subclass 300.1. Cleaning apparatus having provisions for pulsating the air flow, the effect generally being to agitate the work such as the nap of a pile rug or the like.

- (1) Note. This subclass includes patents for nozzles having a plurality of air passages with means to apply the air draft successively to the passages, the effect as to any one passage being a pulsating or intermittent air flow even though there is a more or less constant air flow through the nozzle as a whole.

405 Air blast only:

This subclass is indented under subclass 300.1. Cleaning apparatus in which the sole cleaning agency is a draft of air from a source of higher-than-atmospheric pressure.

- (1) Note. An air blast device claimed as part of a noncleaning device or process is classified with such device or process, for example, sand blast abrading is classified in Class 451, Abrading.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 316+, for installed or fixed position cleaners using air blast only.
330, for cleaners convertible to or from suction and air-blast.
345, for cleaners utilizing both air blast and suction.

SEE OR SEARCH CLASS:

- 122, Liquid Heaters and Vaporizers, particularly subclasses 390+ for fluid agency cleaning devices combined with boiler structure, and see the reference to Class 122 under the definition of subclass 301 above for a statement of the line and reference to other classes involving cleaning of the tube type exchanging apparatus.
239, Fluid Sprinkling, Spraying, and Diffusing, appropriate subclasses for fluid discharging or distributing devices of general utility and which may be disclosed as being combined or capable of combination with cleaning structures. For a statement of the line, see the reference to Class 239 in the definition of subclass 300 of this class (15).
417, Pumps, for details of the pump subcombination of an air blast cleaner. For a statement of the line, see the reference to Class 417 in the definition of subclass 300 of this class (15).
418, Rotary Expansible Chamber Devices, for rotary expansible chamber devices, per se. For a statement of the line, see the reference to Class 418 in the definition of subclass 300 of this class (15).

- 451, Abrading, subclasses 75+ for sand blast apparatus. (See (1) Note.)

406 For hollow work, internal cleaning, e.g., tube soot-blowers:

This subclass is indented under subclass 405. Apparatus especially adapted for cleaning the inside of hollow work.

- (1) Note. Many of these devices could be used for other than internal cleaning, but peculiarities such as, for example, radially outwardly directed air streams, or tapered nozzles or other devices for cooperating with the open ends of pipes, if disclosed as intended for internal cleaning, will be sufficient to cause classification in this or the indented subclasses.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 409, for nozzle devices embodying a jet pump for inducing a flow of air through a tube.

407 Work operated valve:

This subclass is indented under subclass 406. Apparatus wherein the air blast is controlled by a valve unseated by the pressure of the device against the work.

408 With induced flow of ambient air, e.g., jet pump:

This subclass is indented under subclass 406. Apparatus having provisions whereby the fluid blast induces a flow of ambient air into the tube or other hollow work at the same end of such tube or work as the power fluid is applied.

- (1) Note. The fluids may or may not commingle; in many cases the disclosure is that the induced fluid cleans the outermost end of the tube while the power fluid cleans the remainder.
(2) Note. Patents for two-tube cleaners wherein a blast of air is directed into one tube and the blast is also used to induce a flow in an adjacent tube are classified in subclass 406 above.

409 Jet pump suction-devices:

This subclass is indented under subclass 300.1. Cleaning apparatus in which the air-draft is induced by a fluid jet.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

408, for air blast cleaning devices where the blast induces a flow thereinto of the ambient air.

SEE OR SEARCH CLASS:

406, Conveyors: Fluid Current, subclass 153 for fluid current conveyors having a downstream jet pump for producing suction at the conveyor inlet.
417, Pumps, subclasses 151+ for details of jet pumps producing suction at an inlet member, and for a statement of the line see the reference to Class 417 in the definition of subclass 300 of this class (15).

410 Handle features, e.g., limit stops or storage locks:

This subclass is indented under subclass 300.1. Cleaning apparatus having a handle and in which the invention resides in the relation of the handle to the apparatus.

(1) Note. This subclass includes locks and latches for handles whereby the handle may be secured in a position convenient for storage.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

143.1+, for a particularly configured handle for a cleaning implement.
329, for hand portable cleaners convertible to on-floor cleaners by the addition of a long handle or the like.
344, for miniature or upholstery type or wand type air draft cleaners having carrying and manipulating handles.
350, for hand-manipulated cleaners having a handle wherein a dust bag or the like is associated with the handle.
361, for cleaners having adjustable nozzles, wherein movement of the handle relative to the cleaner acts to adjust the nozzle.

SEE OR SEARCH CLASS:

55, Gas Separation, subclass 357 for gas separation apparatus having a handle feature and not including a work contacting feature.
403, Joints and Connections, appropriate subclasses for a connection between a vacuum cleaner and a handle therefor wherein no work contacting feature or air handlings or pumping means is included.

411 Angular or lateral adjustment of cleaner by axial rotation of handle:

This subclass is indented under subclass 410. Devices in which the handle is so joined to the air draft applying device that by rotating or twisting the handle about its main longitudinal axis either or both (1) the angular position of the device is changed with respect to the axis of the handle, or (2) the device is bodily displaced laterally from the axis of the handle.

SEE OR SEARCH CLASS:

280, Land Vehicles, subclass 47.11 for hand propelled vehicles provided with positive steering means.

412 Motor features, e.g., housing or casing assemblies:

This subclass is indented under subclass 300.1. Cleaning apparatus claiming a motor and in which the invention resides in the relation of the motor to the apparatus.

(1) Note. This subclass includes patents for cleaner casings or housings specially fabricated as from stampings or castings to facilitate assembly with the motor.

413 Air cooling by other than main air stream:

This subclass is indented under subclass 412. Apparatus including provisions for causing a draft of air other than the entire main cleaning air stream to contact the motor for cooling or ventilating.

(1) Note. Patents in which the motor merely is located in the main air stream are excluded from this subclass. Such arrangements generally are found in "tank type" cleaners, see subclass 327 for example.

414 Detachable and/or extension nozzles:

This subclass is indented under subclass 300.1. Cleaning apparatus in which the air-draft applying nozzle means is detachable and/or is extensible.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

328+, where the nozzle is removed or rendered inoperative for the purpose of converting the operation of the cleaner, the conversion feature being claimed.

415.1 Nozzle:

This subclass is indented under subclass 300.1. Subject matter including means constructed and arranged particularly for applying suction to a workpiece or work surface for the cleaning thereof.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

322, for a nozzle device having means to supply water or other cleaning materials to the work.

405+, for an air blast nozzle, and see the Notes under subclass 405 for related art and a statement of the line with other classes.

410, for a nozzle having a handle attached thereto for manipulating or steering the nozzle.

SEE OR SEARCH CLASS:

406, Conveyors: Fluid Current, subclass 152 for a fluid current conveyor intake nozzle.

416 With plural mouths selectively usable, e.g., "duplex" nozzles:

This subclass is indented under subclass 415. Nozzles having a plurality of distinct mouths alternatively and selectively usable for applying the air draft to the work.

417 Top and bottom reversible type:

This subclass is indented under subclass 416. Nozzles having oppositely facing or diverging nozzle mouths and in which the nozzle unit is arranged so that one of the mouths can be brought selectively into a working position wherein the air-draft flows therethrough, the

other mouths being isolated or cut off from the air flow.

418 With area adjusting, e.g., restrictors:

This subclass is indented under subclass 415. Nozzles in which the area of the nozzle may be varied or restricted.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

416+, for nozzles wherein the area of one mouth is restricted by bringing into use a smaller mouth mounted therein.

419 With air flow control means, e.g., work-operated valve:

This subclass is indented under subclass 415. Nozzles having means to regulate the quantity or to cut off the flow of air therethrough.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

328, for nozzles having agitators or the like wherein the air flow may be cut off to convert the nozzle into a nonair-draft device.

417, for air blast cleaning devices having a work-operated valve.

420 With notched or grooved lips for localized intensification of air draft:

This subclass is indented under subclass 415. Nozzles in which the work-contacting lips have re-entrant portions functioning to provide a locally intensified inrush of air between the work surface and the nozzle lip.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

402, for nozzles having lips specially constructed or arranged to act as combs, or rakes, the construction being such that the air distribution is generally uniform throughout the nozzle with no locally intensified inrush of air.

421 With auxiliary inlet for ambient air, e.g., vacuum relief:

This subclass is indented under subclass 415. Nozzles having air inlet means functioning to admit ambient air to the nozzle when the nozzle is in normal working position with respect to the work, the additional air being admitted to

the nozzle other than through the work or between the work and the nozzle lips.

- (1) Note. The air inlet may serve only as a vacuum relief device but usually the additional air assists in dislodging dirt from the work surface.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

375+, for auxiliary ambient air inlets in organizations including an agitator.

422 With guard to inhibit work entry into nozzle mouth:

This subclass is indented under subclass 415. Nozzles having means other than or in addition to the nozzle lips acting to hinder or to prevent the work being drawn into the nozzle.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

378, for mouth guards applied to nozzles having an agitator therein.

391, for devices acting to protect the belt of a belt-driven agitator, which incidentally may act also to prevent the work being drawn into the nozzle at that point.

401+, for nozzles incorporating therein a blade-like member functioning as a scraper or squeegee, the positioning of such blade within the nozzle having the effect of acting also to prevent the work being drawn into the nozzle.

422.1 Width changes along transverse dimension:

This subclass is indented under subclass 415.1. Subject matter wherein one of the dimensions of the nozzle opening is greater than its other dimensions and wherein the dimension of the opening perpendicular to the greater dimension varies over the extent of the greater dimension.

- (1) Note. The width of the nozzle opening varies along its length.

422.2 Plural fans:

This subclass is indented under subclass 300.1. Subject matter having more than one means to create a draft of air.

423 Pen cleaner:

This subclass is indented under subclass 104. Device including solid means adapted for rubbing contact with a pigment-applying tool (e.g., penpoint), other than of the brush, broom, or mop type, for the removal therefrom of encrustment or of pigment (e.g., ink) subject to encrustation.

- (1) Note. A patent to a device in which the solid means is a tool or porous mass adapted to be impregnated with cleaning liquid (e.g., water) will be placed in this subclass. However, a patent to the combination of a receptacle with the solid means therein, which receptacle is disclosed as containing cleaning liquid accessible to the solid means presumably in excess of that required to impregnate the solid means will be placed in subclass 104.92.

- (2) Note. A patent to the combination of a tool and a coating or impregnant of cleaning material will be placed in subclasses 104.93+.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

104.92, for a pen cleaner including means to apply a liquid to the tool that is to be cleaned; e.g., a receptacle containing the pen-cleaning instrumentality and capable of containing a supply of liquid in excess of that required to coat or impregnate said instrumentality.

SEE OR SEARCH CLASS:

220, Receptacles, subclasses 695+, for a scraper attachment to a receptacle, which attachment is so located that it may engage a coating tool during the act of withdrawing the tool from the supply in the receptacle; and see the notes thereunder.

401, Coating Implements With Material Supply, subclasses 121+ for the combination of an applicator and a supply receptacle which includes means to engage, and remove excess-material from, the tool of the applicator during withdrawal from the supply.

424 Eraser:

This subclass is indented under subclass 104. Implement for disintegrating and removing indicia from a surface by rubbing contact therewith, which implement comprises an erasive body composed of particles which are so in cohesive as to result in the disintegration of the surface-contacting portion of the body, along with the indicia, by the force of the rubbing contact, before such force can cause substantial mutilation of the surface.

- (1) Note. A patent to an eraser comprising an abradant body (i.e., a body including crystalline particles with sharp edges which mutilate a work surface) will be placed in an appropriate subclass, Class 451, Abrading. Absent disclosure of the presence of crystalline particles in the erasive body, the patent to the eraser will be placed in this, the generic locus for erasers, even though the description may characterize the implement or the process as 'abrading'. A patent claim will be deemed generic, for placement in this class, when the claims are to erasing and not, specifically, abrading, even though the disclosure comprehends, or is limited to, an erasive body including crystalline particles. See the "Search Class" notes, below, for placement of still other types of mutilating erasing instrumentalities.
- (2) Note. The term "eraser" is employed herein to refer to the implement; that is, to the piece of erasive material and all the structure associated therewith for performance of an erasure; or to such a piece, per se, when that is all that is used for such performance. The term "erasive body" is employed to designate the sub-combinational aspect of such a piece in relation to other structure associable therewith for the performance of the erasing function.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 3.53, for a motor-driven eraser.
105.51+, for an implement including generally independently useable tools, one of which is an eraser of this subclass.

SEE OR SEARCH CLASS:

- 30, Cutlery, subclass 164.9 for a scratching tool (e.g., one having parallel glass fibers with exposed scratching ends) and subclasses 169+ for scraping tools used for erasing.
- 451, Abrading, subclasses 490+ and 526+ for a flexible abrading tool comprising a body whose structure includes claimed crystalline particles having sharp edges, which tool is disclosed as being used for erasing.
- 510, Cleaning Compositions for Solid Surfaces, Auxiliary Compositions Therefor, or Processes of Preparing the Compositions, appropriate subclasses for a chemical composition used for cleaning or removing foreign matter from a solid surface, particularly subclass 174 for removing ink spots or indicia.

425 Including handling means:

This subclass is indented under subclass 424. Implement including manually engageable means for manipulating the implement for rubbing contact with a surface in order to perform an erasure; or including means for attachment to such manually engageable means.

426 And means for non-use attachment to a support:

This subclass is indented under subclass 425. Implement including means (e.g., strand, finger cot, magnet) for retaining the implement on another object (usually adjacent the writing surface) during the time in which the performance of an erasure is not required.

- (1) Note. The nonuse retaining means may associate the eraser with the other object during use as well, and a disclosure of both use and nonuse retention will not bar placement of a patent in this subclass.

427 Which is pencil sheath or casing:

This subclass is indented under subclass 425. Implement in which the handling means is adapted to partially enclose a piece of solid coating material with an end thereof exposed, whereby the handling means constitutes man-

ual manipulating means for the coating operation as well.

- (1) Note. A patent to the combination of an eraser of this class with a mechanical pencil or with the sheath of an ordinary pencil will be placed in this subclass, or in a subclass indented hereunder, only when no more of the pencil structure is claimed than is necessary to define the relationship of the eraser therewith. Class 401, Coating Implements With Material Supply, subclass 52 will take the combination claiming pencil structure in greater detail than is necessary to define such a relationship.

428 Eraser attachable to fore-end of sheath or casing:

This subclass is indented under subclass 427. Implement in which the eraser, or a mounting therefor, is hollow to fit about, and close to, the end of the enclosure at or adjacent the exposed end of the piece; or is mountable in an offset relationship to the enclosure axis adjacent said end.

- (1) Note. The claiming of the piece of solid coating material will not bar placement of a patent in this subclass, provided that no more of the piece, nor of any other part of the implement, is claimed than is necessary to define the relationship of the eraser therewith (i.e., its particular foreend mounting for this subclass), a claim of this nature being considered to be in accordance with the statement of the line with Class 401, Coating Implements With Material Supply, set out in (1) Note to subclass 427.

SEE OR SEARCH CLASS:

- 34, Drying and Gas or Vapor Contact With Solids, subclass 89.1 for blotting means including means for mounting same adjacent to, and offset from, the writing end of a pen.
- 30, Cutlery, subclass 460 for a pencil sharpener including a guide having an open end through which the sharpened pencil point may protrude for a writing operation with the sharpener retained at the writing end of the pencil.

429 Including advancing means for erasive body:

This subclass is indented under subclass 427. Implement which includes an enclosure within which the erasive body is relatively movable for causing, or increasing the extent of, protrusion of the work-contacting portion of the body therefrom, which implement includes manually engageable elements, not including the erasive body itself, which are shiftable relative to one another for the protrusion-effecting movement of the body.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 431+, and 434, for an erasing implement in which the erasive body is directly digitally engageable for the adjustment thereof relative to its enclosure.
- 433, for an erasing implement having a holder provided with means to advance erasive material, which holder is not a pencil sheath or casing nor is disclosed as being attachable thereto; see the search notes to subclass 433.

430 Axially adjustable sleeve:

This subclass is indented under subclass 429. Implement in which the manually engageable elements are a holder for the erasive body and a cylinder about said holder and body which is retractable relative to both the holder and the body by manual force applied during direct digital engagement with each of said elements.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 433, for an erasive body which is axially adjustable in a holder which is not a pencil sheath.

SEE OR SEARCH CLASS:

- 401, Coating Implements With Material Supply, subclass 79 for an implement including holder and sleeve elements in screw-threaded relation so as to be relatively adjustable by direct manual engagement therewith to effect the exposure of the tool end of a piece of solid coating material; subclass 82 wherein exposure of the tool end of a piece of solid coating material is

effected by the telescopic movement of an encompassing sleeve relative to a support for the base of the piece; and subclasses 116 and 117 respectively, for screw threaded or telescopic means for the projection and retraction of an applicator tool.

431 Including enclosure for base of erasive body:

This subclass is indented under subclass 427. Implement in which the erasive body includes a work-contacting end or edge portion and an end or edge portion axially aligned therewith, and in which the handling means includes either a socket or opposing walls to constitute means for retaining the latter end or edge portion therewithin or therebetween.

- (1) Note. The erasive body may be adjustable relative to the socket or the opposing walls by force applied during direct digital engagement therewith.

SEE OR SEARCH THIS CLASS, SUBCLASS:

427, for an implement in which the end of the erasive body remote from the work-contacting end is socketed to fit about the handle.

430, for an erasing implement in which a socket or sleeve encompassing an erasive body is adjustable relative to the body and its holder by manual force applied during direct engagement with the sleeve and the holder, to adjust the extent of protrusion of the body.

434, for an implement in which the erasive body and a sleeve socketing the base of an erasive body are directly manually movable relative to one another to cause, or increase the extent of, exposure of the body.

SEE OR SEARCH CLASS:

401, Coating Implements With Material Supply, subclasses 88+ for an implement including a piece of coating material which is adjusted relative to a socket holder by force applied during direct manual engagement with the piece; particularly subclasses 92+ for this combination further including a

chuck for retaining the piece in adjusted position.

432 Multi-partite handling means:

This subclass is indented under subclass 431. Implement in which said handling means constitutes a plurality of joined members.

- (1) Note. Neither a mere rivet or adhesive bond, nor an attritable pencil sheath, will be considered to add to the number of members. The casing of a mechanical pencil will be considered as one of the elements of a multipartite handling means.

433 Including advancing means for erasive body:

This subclass is indented under subclass 425. Implement which includes an enclosure within which the erasive body is relatively movable for causing, or increasing the extent of, protrusion of the work-contacting portion of the erasive body therefrom, which implement includes manually engageable elements, not including the erasive body itself, which are shiftable relative to one another for the protrusion-effecting movement of the body.

SEE OR SEARCH THIS CLASS, SUBCLASS:

429+, for a similar combination in which the handle is a pencil sheath.

SEE OR SEARCH CLASS:

401, Coating Implements With Material Supply, subclasses 55+ for an implement including means to advance the work-contacting portion of a piece of solid coating material through an opening in an enclosure.

434 Directly adjustable erasive body:

This subclass is indented under subclass 425. Implement which includes an enclosure within which the erasive body is relatively movable for causing, or increasing the extent of, protrusion of the work-contacting portion of the erasive body therefrom by direct digital engagement with such body.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 431, for an erasive body which is directly adjustable relative to a handle which is also a pencil sheath.

SEE OR SEARCH CLASS:

- 401, Coating Implements With Material Supply, subclasses 88+ for an implement including an enclosure within which a piece of solid coating material is advanceable by direct manual engagement with the piece to cause, or increase the extent of, protrusion of the working end of the piece from the enclosure.

435 Penpoint or penholder:

This subclass is indented under subclass 104. Manually manipulable implement comprising a tool of incompressible solid material and having either a single element or a furcated plurality of elements for contacting a work surface and applying liquid coating material (e.g., ink) thereto in a writing operation; or comprising a device connectable to such a tool for supporting or retaining the tool for manual manipulation during a writing operation.

- (1) Note. The line between this subclass and Class 33, Geometrical Instruments, with respect to plural penpoints, is as follows: Class 15, subclasses 760+ will take a patent for an implement having plural penpoints, wherein (1) the construction is such that the penpoints are intended to be used independently of each other, or (2) if designed for simultaneous operation, the mark produced by one penpoint complements and is contiguous to the mark (s) simultaneously produced to the other (s) to produce unitary indicia (e.g., shading pen); or the marks are wide enough to be characterized as stripes, rather than lines. When the plural penpoints are adapted, and used, solely for the simultaneous drawing of a plurality of independent and spaced lines, placement of the patent will be in Class 33.
- (2) Note. For the line between this subclass and the indented subclasses, and Class 401, Coating Implements With Material

Supply, see (4) Note under Class 401, subclass 221.

- (3) Note. This, rather than an indented, subclass is the locus for patents to inventions in penholders, per se, which include no claimed detail of the structure for retaining a penpoint. Included in this subclass are patents to penholders having: (a) relatively movable e.g., yieldable, angularly adjustable) handle portions; (b) ink guards; see, however, subclass 443 for an ink guard contacted by the finger during writing to constitute a finger rest, as well; (c) dip gauge attachments. Patents to penholders provided with plural penpoints, but which claim no penpoint-holding detail, are also collected in this subclass. A cross-reference has been placed in this subclass of each patent including novelty in any of the above features but classifiable in a subclass indented hereinbelow because of further novelty in structure conforming to the definition of the indented subclass. It is expected that this procedure will be followed for such patents which issue in the future.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 159.1+, for a brush, which may be used for writing.

SEE OR SEARCH CLASS:

- 33, Geometrical Instruments, subclasses 41+ for an implement including plural penpoints for simultaneously making a plurality of independent, spaced lines; and see (1) Note, above, for the line between Classes 15 and 33.
- 401, Coating Implements With Material Supply, appropriate subclasses; particularly subclass 20 for a combined pencil and bifurcate-nib pen, and subclasses 221+ and 258+ for a bifurcate-nib fountain pen and stylos:graphic fountain pen, respectively.

436 Including projectable and retractable penpoint:

This subclass is indented under subclass 435. Implement including an enclosing member for the penpoint and means to cause or guide rela-

tive movement, without complete separation, between said penpoint and its enclosing member to the extent that the penpoint may alternately occupy an exposed operative position, and an inoperative position wherein the penpoint is retained in concealed position within the enclosing member.

SEE OR SEARCH CLASS:

- 30, Cutlery, subclasses 151+ for an implement including a projectable and retractable cutting tool.
- 401, Coating Implements With Material Supply, subclasses 29+, 55, 62, 82+, and 99+ for an implement having coating material supply means and including a projectable and retractable coating tool.

437 With means supporting or stabilizing implement in use:

This subclass is indented under subclass 435. Implement including an element, in addition to the penpoint, adapted to engage the work surface or a surface thereadjacent, which element serves, or helps, to support the implement upon the work surface, or to maintain a desired angular relationship of the implement to the work surface, during the writing operation.

SEE OR SEARCH CLASS:

- 248, Supports, subclass 118.5 for traveling means to support and stabilize the implement-grasping hand of the writer, while writing, but which does not directly engage the implement itself.
- 401, Coating Implements With Material Supply, subclass 48 for an implement including coating material supply means and means to support or stabilize the implement while in use.

438 Including manually adjustable gripping or releasing means for penpoint:

This subclass is indented under subclass 435. Implement in which the penholder includes an element which is engageable with the penpoint and is movable relative to another element of the penholder, by a movement other than mere flexure caused by contact of the penpoint therewith during the act of inserting the penpoint into the penholder, for securing the penpoint in the penholder or for freeing it therefrom.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 444, for a penholder which includes a gripping member which retains a penpoint as a result of mere flexure caused by contact of a penpoint therewith during the act of inserting the penpoint into the penholder.

SEE OR SEARCH CLASS:

- 401, Coating Implements With Material Supply, subclasses 92+ for a pencil including hand-operated, relatively movable elements for gripping or releasing a piece of lead, chalk, crayon, or lipstick.

439 Pivoted or arcuately movable:

This subclass is indented under subclass 438. Implement wherein the movable element, or a member for moving the element, is arranged to swing or rock bodily about an axis extending (a) therethrough, (b) along an edge thereof, or (c) equidistantly from all points along the path of movement, for gripping or releasing the penpoint.

440 About axis of penholder:

This subclass is indented under subclass 439. Implement wherein the axis substantially coincides with the longitudinal axis of the penholder.

441 Including opposed, relatively axially movable gripping members:

This subclass is indented under subclass 438. Implement in which the elements are engageable with opposite surfaces of the penpoint and are movable relative to one another in a direction parallel to the longitudinal axis of the penholder for gripping or releasing the penpoint.

442 And ejector:

This subclass is indented under subclass 438. Implement in which the penholder includes means movably engaging the penpoint to move and discharge it from the penholder, which means is movable relative to at least some part of the gripping means.

- (1) Note. The ejector may be part of the gripping means.

SEE OR SEARCH CLASS:

29, Metal Working, subclass 808 for a penpoint extractor or inserter which is not part of the pen.

443 Penholder shaped to receive or engage hand or finger:

This subclass is indented under subclass 435. Implement wherein a surface portion of the penholder, or means connectible to the penholder, is specifically configured or constructed for contact by a hand or finger of the user during the writing operation.

- (1) Note. The mere recitation of a “handle”, or of a penholder shaped in the form of an ordinary rod-like member or composed of a particular material, will not justify placement of a patent in this subclass.

SEE OR SEARCH THIS CLASS, SUBCLASS:

437, for an implement including an attachment having a part for engaging or receiving a hand or finger and another part to engage a surface at or adjacent the work to support or stabilize the implement during use.

SEE OR SEARCH CLASS:

401, Coating Implements With Material Supply, subclasses 6+ particularly, the subclasses 7 and 8, for an implement with material supply having a handle, or an attachment thereto, which is shaped to conform to a hand or finger.

444 Penholder includes specific penpoint retaining means:

This subclass is indented under subclass 435. Implement including a penholder having particular structure for engaging a penpoint to retain it in the penholder.

- (1) Note. The particular penpoint-retaining structure must be claimed for placement of an original patent in this subclass.

SEE OR SEARCH THIS CLASS, SUBCLASS:

438+, for a penholder comprising gripping means which includes an element

which partakes of a movement, other than mere flexure, caused by contact of a penpoint therewith during the act of insertion into the penholder.

445 Specific penpoint:

This subclass is indented under subclass 435. Implement wherein the penpoint is of particular construction or material.

- (1) Note. For placement of an original patent into this subclass or a subclass indented hereunder, a detail of the construction or material of the tool must be claimed.

SEE OR SEARCH CLASS:

401, Coating Implements With Material Supply, subclass 20 for a dip pen combined with a pencil.

446 Specific material:

This subclass is indented under subclass 445. Implement wherein the penpoint is of a particular composition or kind of material.

- (1) Note. For placement of an original patent into this subclass a detail of the material or composition must be claimed. Merely reciting the tool as being “metal” or “metallic” is not adequate for placement in this subclass, but the naming of a particular metal or alloy will suffice.

447 Bifurcate:

This subclass is indented under subclass 445. Implement wherein the penpoint terminates in only two elements which are separated by a relatively narrow slit or interspace to provide a capillary passage for material, and which have closely adjacent work-engaging surfaces.

- (1) Note. Ink retained in the space between confronting surfaces of a broad face tool (e.g., ruling pen) is considered to be material supply, and an implement having such a tool is considered to be an implement with material supply for Class 401. A patent for such an implement will be found in subclass 221 of that class (401) and a patent for such an implement further including means to adjust the gap between the tool elements will be found in subclasses 233 and 256 of that class.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

446, for a bifurcate penpoint wherein novelty is in the composition or kind of material thereof.

SEE OR SEARCH CLASS:

401, Coating Implements With Material Supply, subclasses 221+ for an implement of that class including a bifurcate penpoint; see, particularly, principal subclass 221 wherein the penpoint is formed with an ink-retaining element (e.g., infolded wings) and indented subclasses 252+ wherein the ink retainer is an attachment feeding directly to the penpoint.

END