CLASS 239, FLUID SPRINKLING, SPRAYING, AND DIFFUSING

SECTION I - CLASS DEFINITION

A. SPRAYING AND SPRINKLING

This is the general class for claims pertaining to the spraying, sprinkling, or scattering of fluids or fluent solids either in the form of slurries or as dry material, over an extended area on a surface. The class includes processes and apparatus, not provided for in some more specialized class, for ejecting fluents and slurries by slinging, sloshing, centrifugally throwing, overflowing, and projecting such materials in the form of fog, mist, droplets, spray, sprinkle or a modified stream in a general haphazard or broadcasting manner upon the immediate vicinity of operation or environment, upon a surface to be treated. The surface may be of any shape or form and the sprinkling, spraying, or scattering may be for any purpose, for example, a street to be flushed or oiled, a field or lawn to be irrigated by a lawn sprinkler, hose, nozzle, or overhead irrigating system or to be fertilized or to be seeded, a tree or other plant to be sprayed or dusted for some plant husbandry reason or for destroying insects, etc.; however, any claim reciting a specialized relation between the sprinkling, spraying, or scattering means and the surface, work or environment being treated is excluded from this class. Some form of modified flow, either by way of discharge characteristic, (e.g., droplet size, or degree of atomization, etc.) is required.

B. WEATHER CONTROL OR MODIFICATION

This class also takes methods for causing or inhibiting changes in atmospheric moisture conditions not elsewhere classified as by precipitating, dissipating, or inhibiting atmospheric moisture (rain, fog, frost, or snow) or inducing fog or like, and apparatus for precipitating atmospheric moisture if not classifiable in some other class on the basis of the claimed proximate functions.

C. DIFFUSERS

This class also takes methods and apparatus for disposing or disseminating a liquid or solid into the ambient air by unhurried evaporation or sublimation, the material being supplied to or supported by a holder, with or without controlled dripping of the substance through the ambient air or being fed usually to an absorbent material from whose surface evaporation takes place.

D. FOUNTAINS

This class also provides the locus for patents including steps or means for ejecting liquids into the air as a stream or spray to serve an ornamental or decorative function or for directing a bubble or stream generally upwardly for drinking purposes especially where the fluid conducting or ejecting member is associated with a stand, pedestal, or catch basin for overflow or waste.

E. DRINKING TUBES AND STRAWS

This class also provides the generic repository for portable drinking tubes and straws, per se, including those which are sipped through by placing one end of the tube in the mouth while the other end thereof is in the fluid within a holder, and also for those which are held in a flowing stream, e.g., juxtaposed a faucet, and redirect the fluid to the mouth.

F. DRY PULVERULENT MATERIAL

This class provides for the combination of a container or similar receptacle for holding a supply of dry material and a means to strew or scatter such material in the dry form over an extended area on a surface; a nozzle, per se, disclosed for scattering or strewing a dry powder is properly classified in this class only if the claimed structure is capable of use with a fluid.

Except as provided in the above paragraph, this is also the class for discharging or scattering a fluent material only if there is fluid sprinkling, spraying, or diffusing of the type specified in A. Spraying and Sprinkling, above, no matter in which order the fluent is discharged in relation to the fluid and with no regard as to whether or not one material reaches the surface to be contacted after the other has already been deposited thereon.

G. TERMINAL FLUID HANDLING ELEMENTS AND ORIFICE SHAPES

This class also provides the residual home for fluid discharging or ejecting members, per se, claimed as terminal members, i.e., members which render the final influence or point of control upon a fluid during its projection from the fluid system to discharge into the atmosphere, or through the air to the environment and not having such additional features which restrict the use thereof to some special art or other classification. Such nozzle, distributor, apertured pipe, orifice shape, rose, etc., must serve to modify flow of the fluid as it leaves

the element. Terminal fluid handling elements, orifice shapes, ejecting or egress means for this class include:

(1) Outlet means which effect modification of the emitted stream to cause lateral compression or expansion thereof, such as would not occur in a mere abruptly terminated flow means (e.g., a pipe cut off at its end);

(2) means within, proximate to, or at the end of the flow line to cause the emitted stream to become more turbulent, or to be reduced in turbulence tending to assume a smooth or laminar flow, or to be redirected and dispersed;

(3) means to control droplet size, to restrict flow to increase pressure, or to alter discharge coverage, of the emitted stream.

Examples of means to accomplish the above are orifice shapes, spray heads, and the like; weir or drip type discharge, and other outlet means with such added features as whirlers, deflectors, rotation controllers, interiorly placed guides and distributors and systems including aspirating nozzles.

In order to be properly classified in this class, a claim must include a distributor or nozzle means more specifically than by name only (except as hereinafter provided with respect to Class 137). A claim which recites an ejecting, egress, or distributor means by name only is properly classified in this class only if the claim also includes:

(a) a coupling means for adjustably securing such terminal means to a support, or an articulated coupling means mounted on a support, if the disclosed purpose of the coupling is to reorient the terminal means relative to the support;

(b) special mounting or support means for purposes of continuous motion during discharge or emission of the stream, or means for directing such terminal means along a path of traverse, where the means for moving and the means for directing are disclosed for sprinkling or spraying;

(c) two or more such nominally recited terminal means and some suggestion of arrangement relative to each other or to a support, e.g., along a pipe, at the ends of a support, etc.

(d) a fluid handling system disclosed for sprinkling or spraying, if no better basis exists for classification in either Class 137 or Class 222. See References to Other Classes, below;

(e) a fluid handling system disclosed for spraying and including an aspirating nozzle where discharge is by aspiration, or feedback control, e.g., flow regulation as a result of discharge or for control of discharge, or some other provision as otherwise defined hereinabove; or

(f) a container for nonfluid material and it is clear that the broadly recited ejecting, egress or distributor means is an element which moves relatively to a fixed support, such as a rotating scatterer. See (3) Note in subclass 650.

Certain structures, for example, unitary plural outlet means, are considered to be terminal members, per se; therefore the following or the like are considered to involve more than mere named or nominal terminal means, and if such or similar language is recited in a claim, affords basis for classification in this class, unless reason exists for exclusion in view of the class lines set out below:

A pipe with a restricted outlet; a flexible, rigid or elongated nozzle; a spray gun; a rose; a shower head.

Similarly, a cutting or welding torch, a burner, a fuel injector recited as such is classified in this class if it is clear that the terminal member or tip is included in such recitation, and not just the support for such terminal member or tip.

SECTION II - LINES WITH OTHER CLASSES AND WITHIN THIS CLASS

A. ART DEVICE COMBINATIONS AND SUPPORT

This class takes (1) means not provided for in any other class to support a distributor, terminal outlet member or a portion of the fluid supply system leading to the distributor or terminal outlet member on, in relation to, or from, a device which ordinarily performs a function other than that of mere support, provided the claimed relationship is no more than that required for support or normal operation of the fluid system or its terminal outlet member, (2) the subject matter of this class combined with an art device in which there in no special relationship claimed between the spray device and the art device.

Thus, a treating chamber nominally set forth as supporting a distributor or terminal outlet members therein is

subject matter for this class as long as no special relationship to the walls thereof, for example, is required.

Accordingly, this Class 239 will take patents directed to the combination of a tank or treating chamber by name only and a distributor.

B. FLEXIBLE FLOW LINE STORAGE OR RETRIEVAL

This class provides for flexible flow line storage for nonuse housing or support including retrieval means except as provided hereinbelow:

Class 251, Valves and Valve Actuation, takes only the valve plus the actuator and support for the valve in a system disclosed for this purpose.

Class 285, Pipe Joints or Couplings, takes combinations of a pipe joint or coupling and a support therefor which support may be a reel or rack by name. Only so much flow line necessary for the coupling or joining modification may be included.

Class 242, Winding, Tensioning, or Guiding, takes only combinations of reel means or the like (storage on sheaves) and supporting means or reels, per se, with or without the flexible conduit or with or without retrieval means. Inclusion of a fluid handling element not necessary to the reeling, unreeling or reel support, is sufficient to exclude such patent from the class.

Class 248, Supports, is in the same relative position in this regard with the fluid handling classes as is Class 242 explained above, taking only support or storage means for the flexible conduit or named nozzle. If a fluid handling element is included, such element must be necessary for the support function.

Class 137, Fluid Handling, takes combinations involving fluid handling means too much for the above named classes and wherein nozzles or outlet means for spraying are not included and not otherwise including features of dispensing recognized by Class 222.

Class 92, Expansible Chamber Devices, takes combinations involving an expansible chamber device and storage or retrieval means for a conduit supply working fluid to or from the expansible chamber and wherein nozzle or outlet means for spraying are not included and not otherwise including features of dispensing recognized by Class 222.

Class 222, Dispensing, takes the combination with storage or nonuse support means for the function of this section of a dispensing outlet or nozzle, the supply tank and a control means for the flow or delivery of fluid; or a tank, discharge assistant and dispensing outlet. Systems including broadly recited nozzles for spraying having dispensing features recognized by Class 222 will not mitigate against classification in this class.

Class 239, Fluid Sprinkling, Spraying, and Diffusing, takes combinations of the above named elements if there is included some detail of a spraying or sprinkling nozzle or outlet element. A nozzle in name only except as otherwise indicated (see Glossary) is classified as set forth above.

As a general rule, Class 239 provides a place for the entire combination of hose, hose storage and a specific spraying nozzle. For the subcombination of the hose, storage means and fluid handling, see Class 137; for the subcombination of a valve and support therefor, see Class 251; for the subcombination of a pipe joint or coupling and a support therefor, see Class 285; for a reel only and the hose (no additional flow conducting elements) see Class 242; for a hose support (no additional flow handling elements) see Class 248; for a tank, pump and broad outlet or nozzle, or for a supply tank, flow control and a broad outlet or nozzle, see Class 222.

C. FOG OR SMOKE, COLLOIDS, GENERATORS, AEROSOLS

Class 40, Card, Picture, or Sign Exhibiting, subclass 213 for smoke producing apparatus and systems limited to skywriting.

Class 43, Fishing, Trapping, and Vermin Destroying, for smoke or fog making apparatus where the sole disclosed use for the resulting fog or smoke is as an insecticide (except where a liquid is mechanically atomized), including such where vaporization of a liquid insecticide is involved.

Class 47, Plant Husbandry, subclass 2 for methods and devices for preventing the freezing of trees and plants and their fruit not elsewhere provided for (such as misting).

Class 102, Ammunition and Explosives, subclass 334 for apparatus for and methods of smoke generating (i.e., causing vapor, cloud, etc., to be formed by a burning), subclasses 335+ for pyrotechnics apparatus and corresponding methods designed to produce smoke, light, heat, and/or noise (e.g., fireworks display, amusement, flash photo, signal), subclasses 367+ for apparatus for or

methods of using an explosion to cause a liquid, solid, or gas to be scattered or spread about in the form of a mist, vapor, particles, or gas (e.g., noxious or incapacitating, plant, insect, animal, foliage, biological warfare/ chemical warfare).

Class 109, Safes, Bank Protection, or a Related Device, subclasses 29+ for devices of the Class combined with means for releasing, generating and/or distributing gas, smoke, vapors and/or liquids either manually, automatically upon attack, or automatically in case of fire, which fluent material is normally, but not necessarily, toxic, noncombustible, or incapacitating and may normally, but not necessarily, be used to repel attacks and/or put out, prevent, or impede the action of a fire, and this includes devices relating to jails, where the purposes of this subclass are also present.

Class 126, Stoves and Furnaces, subclass 59.5 for portable devices for generating heat or smoke for protecting orchards from frost (e.g., smudge pots).

Class 222, Dispensing, and 239, Fluid Sprinkling, Spraying, and Diffusing, depending upon nozzle detail, when a specific container or supply holding means is claimed to define a package. Class 424, Drug, Bio-Affecting and Body Treating Compositions, takes aerosol compositions there specifically provided. Classification is with appropriate class for compositions should a container or supply holding means be broadly included to define a package. Classification is with Classes 222, Dispensing, and 239, Fluid Sprinkling, Spraying, and Diffusing, depending upon nozzle detail, when a specific container or supply holding means is claimed to define a package.

Class 239, Fluid Sprinkling, Spraying, and Diffusing, provides for mere mechanical atomization, not provided for in some more specialized class. This class also takes methods for causing or inhibiting changes in atmospheric moisture conditions not elsewhere classified as by precipitating, dissipating, or inhibiting atmospheric moisture (rain, fog, frost, or snow) or inducing fog or like, and apparatus for precipitating atmospheric moisture if not classifiable in some other class on the basis of the claimed proximate functions, see subclasses 14.1+ for apparatus for weather control, such as snow making.

Class 261, Gas and Liquid Contact Apparatus, subclasses 75+ for devices specially adapted to produce an intimate contact between gases and liquids (especially 78.1+ for atomizer).

Class 401, Coating Implements With Material Supply, subclass 190 for device including pressurized reservoir (e.g., aerosol device).

Class 424, Drug, Bio-Affecting and Body Treating Compositions, subclass 1.13 for radionuclide containing composition containing aerosol, subclasses 40+ for combustible or chemically reactive compositions to produce a smoke, mist, or aerosol, subclasses 43+ for effervescent or pressurized fluid containing composition, subclasses 76.2+ for non-body deodorizing substances which are evaporable, sublimable or gas (e.g., deodorization of air, aerosol spray compositions, gels), Digest 1 for aerosol hair preparations.

Class 426, Food or Edible Material: Processes, Compositions, and Products, subclass 116 for packaged or wrapped product having utility for dispensing or serving an aerosol, subclass 235 for application of a gas, mist, smoke, or vapor to a food material under the influence of electrical or wave energy.

Class 446, Amusement Devices: Toys, subclasses 24+ for smoke producing toys.

Class 516, Colloid Systems and Wetting Agents; Subcombinations Thereof; Processes of Making, Stabilizing, Breaking, or Inhibiting, subclasses 1+ for continuous gas or vapor phase colloid system (e.g., smoke, fog, aerosol, cloud, mist) or agents for such systems or making or stabilizing such systems or agents, when generically claimed or when there is no hierarchically superior provision in the USPC for the specifically claimed art. See the Search Class notes therein for various locations of compositions, processes, and apparatus relating to colloid systems.

D. LATHER MAKERS

This subject matter involves the addition of air or gas to solution to produce lather.

Class 422, Chemical Apparatus and Process Disinfecting, Deodorizing, Preserving, or Sterilizing, provides for holders for dissolving of solids (wherein the holder as disclosed is incapable of retaining a liquid) where the dissolving takes place in the holder and may thereafter be added to a stream, the handling of liquids being restricted to the purpose of dissolving.

Class 137, Fluid Handling, includes apparatus under the class definition for fluid handling plus means for holding a solid, flaky, or pulverized material to be dissolved or entrained and also provides means for adding a liquid

to a liquid and with respect to each such handling relationship is entirely residual.

Class 222, Dispensing, provides for a holder or supply means for material to be dissolved, mixed, or entrained, in a liquid, or already in solution with additional means to mix ambient air with the solution including a spray, nozzle or outlet by name only, a dispensing outlet, and Class 222 type discharge means (and not the mere production of lather and the swelling or overflowing discharge resulting therefrom for which see Class 261), or trap chamber or metering chamber type control, outlet guide or movable material outlet guide, but not including a clear disclosure relating to the projection or forcibly expelling the lather or foam for distribution.

Class 261, Gas and Liquid Contact Apparatus, provides for specific gas and liquid contact apparatus, (and in this connection (dissolvers) makes no provision for contacting a liquid and solid means for purposes of obtaining a solution) to make lather with means to deliver the lather to a mere outlet pipe or line unmodified as to valving or other flow line characteristic recognized by Class 222 except to further effect the exchange of properties of the materials being contacted prior to discharge.

Class 239, Fluid Sprinkling, Spraying, and Diffusing, provides for combinations of the above considered subject matter having a modified discharging nozzle or otherwise limited projecting means coming within the class definition of spraying.

E. MORTAR MIXING AND PROJECTING - PARGETING

Class 366, Agitating, subclasses 1+ for processes and apparatus for batch mixing of mortar, asphaltic and hydraulic cement, concrete and the like, including projection thereof by spattering or pargeting devices or projection nozzles, with or without specific nozzle structure or mixing by or with fluids of the ingredients downstream of the hopper or vessel, if the disclosure is specific to or includes mixing mortar, plaster, or concrete ingredients (which as a general rule comprise sand, gravel, lime, plaster or the like lapideous material, etc.).

(1) Note. Processes and apparatus for projection or spraying of resin type cements which require mixing just prior to or at discharge, usually with a catalyst to cause solidification or setting up, (e.g., epoxy resins), or comprising particular nozzle structure of the type defined in Class 239, combined with agitation or mixing of ingredients in the supply means, provided the ingredients are not those which make up plaster or concrete mixtures (as defined in the preceding paragraph), are classified in Class 239.

Class 52, Static Structures (e.g., Buildings), subclass 749 for miscellaneous machines and implements used in the construction of buildings, and see the search notes for other classes and subclasses having related apparatus.

F. PIPE COUPLINGS AND COUPLING TO SUPPORT

Class 285, Pipe Joints or Couplings, provides for couplings adapted to be connected to a nozzle or in combination with a nominal nozzle having no recited nozzle features on the theory that a broadly recited nozzle constitutes no more than a conduit. However, the patents have been placed in this (239) class where the coupling is adjustably secured to a support or where an articulated coupling is mounted on a support and in each case, a nominal or specific nozzle is claimed if the disclosed purpose of the coupling adjustment is to re-orient the nozzle relative to the support. The patents have also been placed in this (239) class where the coupling, as claimed, is disposed between two serially arranged portions of a single nozzle, each positively recited as a nozzle portion, to form in effect an articulated nozzle. Coupling parts formed integrally with a nominally recited nozzle have been considered subject matter for Class 285 where the nozzle as claimed could be considered a mere pipe, flow line or coupling section.

G. SLOW DIFFUSERS

Except as otherwise provided, this class (239) takes apparatus for such purpose if more than a composition, poison, disinfectant or the like is claimed, see, for example, Classes 96, Gas Separation: Apparatus; 424, Drug, Bio-Affecting and Body Treating Compositions; 422, Chemical Apparatus and Process Disinfecting, Deodorizing, Preserving, or Sterilizing. Class 422, Chemical Apparatus and Process Disinfecting, Deodorizing, Preserving, or Sterilizing, subclass 305 illustrates how that class is related to this class (239) as combination to subcombination, respectively, e.g., vapor or fume generation including mere heating of

a compound to drive off a fume to change a slow diffuser into one which is forced.

With a disclosure of gas separation or humidity control (air conditioning) Class 239 will take, as a slow diffuser, a pad, filter or fibrous mass which is saturated or maintained saturated with a diffusible liquid (water or volative solvents) unless any of the following is included:

(1) claimed gas contacting means within the meaning of Class 261 (e.g., special flow arrangements through conduits or the like), or

(2) claimed gas movement effecting means (e.g., pump or fan).

Class 261 will take patents having the (1) or (2) qualifications set out above if the filter, pad or mass is: (a) continuously supplied with liquid, or (b) cyclically or periodically moved through a liquid reservoir, or (c) maintained wet by liquid applying means, or (d) moistened by maintaining some part of a continuous wick type member immersed in liquid.

Class 96 will take patents having the (1) or (2) qualifications as set out above if the liquid supply means described in the immediately preceding paragraph is not included. An absorbent mass with oil or viscous fluid therein or supplied thereto disclosed for gas separation, or a solid or nonabsorbent sheet disclosed in a gas separating environment is not classified in Class 239 under any circumstances but is classifiable in either Class 96 or Class 261 depending on the nature of the liquid source. See also Class 96, the class definition, under Search Class 261.

SECTION III - REFERENCES TO OTHER CLASSES

SEE OR SEARCH CLASS:

15, Brushing, Scrubbing, and General Cleaning, subclasses 300.1+ for cleaners involving air blast or suction and see the line there stated with this (239) class and other appropriate subclasses for general cleaning instrumentalities not involving liquids, per se.

30, Cutlery, appropriate subclasses for cutting tools and for combination of a cutting tool and a ledger plate embedded in the ground and see this class (239) subclass 201 for the line among Classes 30, 47, 172, and 239 relative to grass or sod cutting around embedded sprinkler heads.

43, Fishing, Trapping, and Vermin Destroying, subclasses 129+ for insecticidal vaporization to diffuse a substance into the air by heat. See "Lines With Other Classes, Fog or Smoke, Colloids, Generators, Aerosols," above.

47, Plant Husbandry, subclass 1.01 for ground installed irrigation systems having ditches or subterranean irrigating conduits with means to supply fertilizer or the like to the irrigating water for discharge into the soil; subclass 1.7 for means to scatter fluent material on growing plants when combined with a means to manipulate the plants, cultivate the earth around the plants, or sense some characteristic of the plant in order to control some aspect of the spraying means; subclass 2 for methods of frost control and structure for preventing damage to plants, trees and the like; and subclass 48.5 for individual water or fertilizer supply means buried in the earth near a plant.

60, Power Plants, subclasses 200.1+ for methods of generating propulsive thrust by use of a jet nozzle, and subclasses 204+ for the combination of a jet nozzle and a pump, heating chamber, or other means recited more specifically than by name only, for imparting energy to the fluid stream to be discharged from the nozzle, where the sole, specific, disclosure is to obtain thrust as a result of the fluid discharge; however, the combination of a nozzle and a means for imparting energy to the fluid prior to discharge therefrom is not excluded from Class 239, if the disclosure relates to sprinkling, spraying, or diffusing the discharged fluid, even though propulsive thrust is obtained therefrom. See also the Notes in Class 239, subclass 265.11.

83, Cutting, appropriate subclasses for apparatus comprising a cutting means as defined therein, a container for nonfluid material and discharging to the cutting means, and a means discharging the product of the cutting means where the claim is silent as to structure for strewing or scattering the product.

96, Gas Separation: Apparatus, subclasses 108+ for solid sorbent apparatus for gas separation. Class 239, subclass 34 is the generic subclass for slow diffusers and for desorption by mere ambient air of a liquid saturated sorbent.

99, Foods and Beverages: Apparatus, subclasses 312, 314, and 315, for beverage infusers in which liquid is sprayed or distributed over infusible material, and subclasses 345+ for cooking apparatus combined with means for basting food with a liquid, or in general Class 99 has spray arrangements for contacting or treating food; however, Class 239 will take claims to spray apparatus where no special coaction or cooperation is set forth as for example no work support or work handling is claimed. Class 239 would not take for example a tentacled tedder for distribution of fluids through a harvested crop.

100, Presses, subclasses 73+ for presses having means to add liquid and/or steam to the material pressed.

109, Safes, Bank Protection, or a Related Device, subclasses 29+, particularly subclasses 31 and 32 for fluent material releasing, generating and/or distributing means related to structures to be protected, i.e., entry to which is to be prevented or discouraged wherein spray nozzles or discharge means are related to the paths of entry, e.g., platform, cab, steps, etc. Spray apparatus coming within the definition of Class 239 and merely vehicle attached or carried will be found in subclasses 172+ and other appropriate subclasses of this (239) class.

111, Planting, subclasses 118+ for means to spray liquid or gas onto or into the soil combined with a means to disturb the soil to facilitate absorption of the liquid or gas by the soil.

116, Signals and Indicators, appropriate subclasses for a fluid distributor under the definition of Class 239 which produces a wave (sonic or supersonic) and which includes structure (e.g., horn, resonance chamber) to amplify or direct the wave. A claimed element which has dual disclosed functions, one of which is to affect the inherently produced sound wave, indicates classification in Class 116.

118, Coating Apparatus, subclasses 300+ for coating apparatus for coating by spraying, and see the class definition of Class 118 for the line between Class 118 and this (239) class; and see also further explanations and conditions of the line in subclasses 307 and 600 of Class 118 and subclass 15 of this (239) class.

119, Animal Husbandry, subclasses 72+ for watering devices and fountains, and subclass 156 for antivermin treatment for animals having some stock, restraining device or other specialized cooperating means and not capable of general use.

122, Liquid Heaters and Vaporizers, appropriate subclasses, for the combination of a burner or flame nozzle specifically related to a closed liquid container.

123, Internal-Combustion Engines, appropriate subclasses, particularly subclasses 495 and 590+ for charge forming, atomizing and mixing devices for combustibles claimed in combination with significant internal combustion engine structure. See this (239) class particularly subclasses 87 through 96 and 278 for appropriate combinations there classified and see Lines With Other Classes, Art Device Combinations and Support, above.

126, Stoves and Furnaces, subclasses 271.1+ for weed destroyers and snow and ice melters involving surface heaters and the blowing of steam upon tracks for clearing tracks of snow.

134, Cleaning and Liquid Contact With Solids, appropriate subclasses for spray arrangements having means to manipulate or support the work during spraying, or special relation to the work being treated, e.g., hollow work cleaning, inverted U-shaped spray frames for vehicle washing, special tank relationships, etc. This (239) class takes spray means subcombinations and combinations with tank by name only and combinations wherein the tank as claimed is no more than a mere support for the spray means and see “Lines with Other Classes, Art Device Combinations and Support” above.

137, Fluid Handling, appropriate subclasses. This class is residual with respect to the fluid handling classes and does not take the combination of a fluid handling apparatus and a nozzle no matter how broadly such nozzle is defined in the claim, nor by what name it is identified, if such nozzle is disclosed as an ejecting, egress or terminal means, which, if claimed, per se, would be classified in Class 239. With respect to the other fluid handling classes, reference should be made to the other miscellaneous notes in “Lines with Other Classes,” notably Flexible Flow Line Storage or Retrieval and Fog or Smoke, Colloids, Generators, Aerosols, for hose storage and lather makers (dissolvers), respectively.

138, Pipes and Tubular Conduits, subclasses 37+ for flow regulators or baffles for pipes and conduits and not disclosed for fluid sprinkling and spraying, and subclass 46.5 for deflectors

attached to pipes particularly to exhaust pipes to spread out the flow of gas.

141, Fluent Material Handling, With Receiver or Receiver Coacting Means, subclasses 2+ and 18+ for spray apparatus as provided for in this (239) class claimed in combination with a source of supply and filling means for such (239) apparatus.

169, Fire Extinguishers, appropriate subclasses for apparatus specialized for extinguishing fires, as, for example, diffusers and heat exchange means associated with discharge means for handling liquefied CO_2, (snow nozzles) necessitated by the result to be obtained, or means responsive to fire or heat conditions, e.g., thermal or fusible links.

175, Boring or Penetrating the Earth, subclass 424, and the search there noted for a nozzle adapted for boring or forming a hole in the earth by fluid flow or jetting. Classification is in Class 175 if the sole specific disclosure or a claim is directed to a nozzle for boring into the earth.

222, Dispensing, for dispensers, even though disclosed for fluid sprinkling, spraying, or diffusing where means for such purposes are not claimed, or are claimed by name only even though positively included if means affirmatively moving fluid to discharge is included. Thus a mere named outlet claimed with a gravity discharge hand carried supply container or the like will be found in Class 239, subclasses 375+ whereas the same outlet claimed with a supply and discharge assistant will be found in Class 222 on the basis of the relationship in the subcombination. Further, a dispenser for particulate material having a specifically recited nozzle which is of the nonscattering type is classified in Class 222. Also fluent material shakers of the salt and pepper type or sifter or pattern opening type are in Class 222, whereas hand manipulated fluid sprinklers are in this (239) class. As hereinbefore referred to, (Glossary "Egress Means") systems otherwise here classified having as aspirating nozzle, though nominally included are in this (239) class.

241, Solid Material Comminution or Disintegration, appropriate subclasses, for processes and apparatus for comminution, per se, or in which comminution is combined with nonspecialized types of material handling subsequent to the comminuting operation. Class 239, Fluid Sprinkling, Spraying, and Diffusing is considered superior to Class 241, and a member which receives and scatters the comminuted particles (e.g., baffle, deflector, rotary strewer, nozzle, etc.) as provided for therein is classified in Class 239. Comminuting devices, per se, are classified in Class 241, even though part of the comminuting structure is disclosed to also discharge the treated particles. A container for nonfluid material and scattering means (i.e., subject matter for Class 239, subclasses 650+) where the scattering means is only broadly recited as comprising hammers, flails, pins, teeth or spikes, even though disclosed for comminuting, is classified in Class 239 specific comminuting, cutting or crushing structure (e.g., knife surfaces, fixed surfaces cooperating with the cutter edges, etc.) must be claimed to indicate classification in Class 241. For further examples of classes considered superior, and for examples of classes considered inferior thereto, see Class 241, class definition, section 9.

242, Winding, Tensioning, or Guiding, subclass 905 for a dispenser with deodorant-containing mandrel, and subclasses 370+ for a reeling device for elongated material which may include a hose without claiming elements of the fluid supply means or characteristics of the hose attached nozzle.

244, Aeronautics and Astronautics, subclass 114 for methods of dissipating fog and the like adjacent an airport claiming a significant relation to the airport or aircraft, and subclass 136 for arrangements of aircraft structure to provide for the discharging or diffusing of material in the air.

248, Supports, subclasses 75+ for hose or nozzle type supports either for use or nonuse not including elements of the fluid supply, control thereof, nor nozzle detail means and see Lines With Other Classes, Flexible Flow Line Storage Or Retrieval, above.

251, Valves and Valve Actuation, appropriate subclasses for flow line carried valves and their actuators. Class 251, provides for valves adapted for use with a nozzle or in combination with a nominal nozzle having no recited nozzle features on the theory that a broadly recited nozzle constitutes no more than a fluid conductor. A terminal spray element which houses or includes a valving means is construed as subject matter for Class 239.

261, Gas and Liquid Contact Apparatus, appropriate subclasses for effecting intimate contact of a gas and liquid. The relationship of Class 239 to Class 261 generally is combination to sub-

combination. Where an otherwise appropriate discharging means for Class 239 is claimed, such means claimed in combination with an upstream gas and liquid contacting means does not change the classification thereof to Class 261. Where, however, the gas and liquid contacting means is downstream of a discharging means, e.g., submerged nozzle, in the absence of an additionally claimed discharging means there beyond, classification is with Class 261.

340, Communications: Electrical, appropriate subclasses for electric signaling, per se, or with only so much of the art device as is essential to the operation or support of the signal means.

362, Illumination, see subclass 96.

366, Agitating, see "Lines With Other Classes, Mortar Mixing and Projecting-Pargeting", and subclasses 102, 142, 143, 144, 336, 654, and 683.

399, Electrophotography, subclasses 239+ for applying liquid developer material to a latent image, particularly subclasses 246+ for spraying liquid developer material.

405, Hydraulic and Earth Engineering, subclasses 36+ for installed irrigation devices or systems functioning to conduct the flow of water in channels. Class 405 takes installed irrigation devices and systems having below-ground terminal outlets, as well as above-ground flumes having discharge openings for irrigation purposes.

415, Rotary Kinetic Fluid Motors or Pumps, appropriate subclasses for a fluid distributor combined with fluid motor or pump structure of the type there classifiable and see the Search Note to Class 239 of the Class Definition for a detailed statement of the line.

417, Pumps, subclasses 151+ for jet pumps whereby the motive fluid acts by its energy of motion and by friction to entrain and carry with it a gaseous fluid to effect the pumping action. Jet nozzles, per se, is subject matter for Class 239; also Class 239 provides for aspirating nozzles and other mixing arrangements similar in structure to jet pumps.

422, Chemical Apparatus and Process Disinfecting, Deodorizing, Preserving, or Sterilizing, subclasses 255+ for dissolving apparatus, and see "Lines With Other Classes, Lather Makers" above for statement of the line.

427, Coating Processes, subclasses 421.1 through 427.7 for a process of coating by spraying.

431, Combustion, subclasses 2+ for a method of combustion; subclasses 298+ for a wick burner and appropriate subclasses for a fuel discharge device combined with a feature which (1) specializes the device for use in or with a furnace or combustion zone, e.g., a pilot burner, an incandescent, or an arrangement which uses a portion of the furnace or combustion chamber as a passage to provide combustion fluid, or (2) depends on the heat generated by the flame from the system fluid to perform its function, see (1) Note under subclass 128.

454, Ventilation, appropriate subclasses for air inlets, outlets, registers, louvers, and the like for ventilation.

516, Colloid Systems and Wetting Agents; Subcombinations Thereof; Processes of Making, Stabilizing, Breaking, or Inhibiting, subclasses 1+ for continuous gas or vapor phase colloid system (e.g., smoke, fog, aerosol, cloud, mist) or agents for such systems or making or stabilizing such systems or agents, when generically claimed or when there is no hierarchically superior provision in the USPC for the specifically claimed art; and when not disclosed as adapted to (1) wet a surface or (2) to precipitate atmospheric moisture, for which see Class 239, the appropriate subclass for compositions for or methods of breaking or inhibiting continuous gas or vapor phase colloid systems.

604, Surgery, subclasses 23+ for application of gases to the human body for therapeutic purposes and subclasses 39+ for spraying devices for treating some part of the human body having means for contact with the body or having nozzles for entering a body cavity or orifice.

901, Robots, subcollection 43 for a collection of spray painting or coating robots.

SECTION IV - GLOSSARY

DEFLECTOR

A solid means arranged exteriorly of the egress port or last point of confinement for dispersing or redirecting the effluent. Some deflectors may be abrupt continuations of the terminal flow conducting means unitarily formed therewith.

DISCHARGE MODIFIER

Any means which changes the characteristic of the fluid leaving the terminus as by whirling, deflecting, removing, or quieting turbulence, etc.

DISTRIBUTOR

A generic term to cover all means for effecting flow modification (e.g., dispersion, broadcast, projection, or scattering, etc.) of fluid, slurries or fluent material, coming within the class definition. Means altering or adjusting the quantity of fluid being delivered through the discharge port or the character of the flow as, for example, the dispersion pattern, the droplet size, the amount of turbulence or any other control for smoothing out or disturbing the discharge. This term is used as being generic to discharge modification and to flow regulation.

FLOW REGULATOR

Means for altering or adjusting the quantity of effluent.

FLUID

Includes any material which is handled like a fluid (i.e., may be caused to flow) and meets the definition of those materials accepted by this class in the class definition.

INJECTION NOZZLE

A terminal outlet member disclosed as connected to and as discharging into a relatively large pressure chamber (e.g., an internal combustion engine or combustion turbine combustion space).

SUPPLY HOLDER

A receptacle, container, or the like for retaining material to be sprayed with or without additional mixing with or entrainment in a fluid; a vessel or retainer other than a flowing stream or flow line.

THROUGH-FLOW OR SERIES CONNECTED TYPE

A species of terminal member but of special merit and therefore placed above in the order of superiority comprising a plurality of terminal outlet members connected end-to-end so that fluid may flow through them successively or a coupling member having a side outlet means supporting and communicating with an adjacent terminal outlet means in addition to a downstream fluid connection. At this level the terminal member itself will comprise lesser fluid elements. The series connected is regarded at a level above mere individual outlets, nozzles, or unitary plural outlet means.

WHIRLER

A means upstream of the egress means for inducing or causing turbulent flow of a swirling or turning nature.

SUBCLASSES

1 PROCESSES:
This subclass is indented under the class definition. Processes concerned with steps or ways of distributing fluid material on or over an area or into the air.

(1) Note. All methods involving burning or propagating or forming a flame are excluded from Class 239; accordingly any patent claiming a method of combustion is classified in Class 431, Combustion, subclasses 2+ and cross-referenced in Class 239 if it has significant distribution features for this class.

SEE OR SEARCH CLASS:
43, Fishing, Trapping, and Vermin Destroying, subclass 132.1 for specific processes of destroying insects with liquid insectible sprayers.
424, Drug, Bio-Affecting and Body Treating Compositions, appropriate subclass for an insecticidal composition to be sprayed upon a field or plant and for a method involving the mere application or spraying of a biocidal, e.g., insecticidal, fungicidal, etc., composition.

2.1 Of weather control or modification:
This subclass is indented under subclass 1. Methods for causing or inhibiting changes in atmospheric moisture conditions not elsewhere classified and including methods of precipitating atmospheric moisture and/or inducing clouds, fog or the like to release or disperse their moisture either with or without precipitation of rain.

(1) Note. Examples of method steps for rain production or fog dissipation which have been classified are (1) vibrating or precussing the air, (2) disturbing of the electric charges of particles of the atmosphere, (3) locally reducing atmospheric temperatures, or (4) contacting the moisture laden atmosphere with solid particles or liquid globules small enough

to form nuclei about which droplets of moisture may form. Methods of dissipating fog involving no more than merely blowing heated or unheated air or gaseous products of combustion into the atmosphere have been excluded.

(2) Note. For spraying or dispersion of particulate material into the air for purposes other than control of weather, see the class definition, Spraying and Sprinkling.

SEE OR SEARCH THIS CLASS, SUBCLASS:

14.1, for apparatus dealing particularly with control of the weather.

SEE OR SEARCH CLASS:

47, Plant Husbandry, subclass 2 for methods of controlling frost to provide an atmosphere favorable to the growth of plant life.

149, Explosive and Thermic Compositions or Charges, subclass 117 for smoke generating or weather modifying compositions containing a resin.

244, Aeronautics and Astronautics, subclass 114 for methods of dissipating fog and the like adjacent an airport or aircraft and which claim a significant relation to the airport or aircraft.

516, Colloid Systems and Wetting Agents; Subcombinations Thereof; Processes of Making, Stabilizing, Breaking, or Inhibiting, subclasses 1+ for continuous gas or vapor phase colloid system (e.g., smoke, fog, aerosol, cloud, mist) or agents for such systems or making or stabilizing such systems or agents, when generically claimed or when there is no hierarchically superior provision in the USPC for the specifically claimed art; and when not disclosed as adapted to (1) wet a surface or (2) to precipitate atmospheric moisture, for which see Class 239, the appropriate subclass for compositions for or methods of breaking or inhibiting continuous gas or vapor phase colloid systems.

2.2 Snowmaking:

This subclass is indented under subclass 2.1. Methods for causing a particulate type of solidification of a liquid or gaseous material by spraying that material into an atmosphere in which the ambient temperature is below the materials freezing point.

SEE OR SEARCH THIS CLASS, SUBCLASS:

14.2, for snowmaking apparatus.

SEE OR SEARCH CLASS:

516, Colloid Systems and Wetting Agents; Subcombinations Thereof; Processes of Making, Stabilizing, Breaking, or Inhibiting, subclasses 1+ for continuous gas or vapor phase colloid system (e.g., smoke, fog, aerosol, cloud, mist) or agents for such systems or making or stabilizing such systems or agents, when generically claimed or when there is no hierarchically superior provision in the USPC for the specifically claimed art; and when not disclosed as adapted to (1) wet a surface or (2) to precipitate atmospheric moisture, for which see Class 239, the appropriate subclass for compositions for or methods of breaking or inhibiting continuous gas or vapor phase colloid systems.

3 Including electrostatic charging:

This subclass is indented under subclass 1. Methods to project, sprinkle or scatter material from a supply system into the ambient air or atmosphere which include a step of electrostatically charging the material in order to obtain a desired spray characteristic, e.g., dispersion, drop size, velocity or direction.

SEE OR SEARCH CLASS:

427, Coating Processes, subclass 458 for coating processes in general wherein an electrostatic charge is used to perfect the coating operation.

4 Vibratory or magneto-strictive projecting:

This subclass is indented under subclass 1. Processes in which the material is forcibly scattered by an element which is caused to continuously vibrate with motion of small amplitude

and relatively high frequency or to continuously expand and contract by electrical or electro-mechanical means.

SEE OR SEARCH THIS CLASS, SUBCLASS:

102.1+, for means which vibrates or jiggles the fluid in addition to the apparatus necessary for supplying and handling fluid for spraying.

659, for a container for nonfluid material and a means for scattering the material, comprising an oscillating, reciprocating or shaking element.

5 Of fuel injection:

This subclass is indented under subclass 1. Processes including steps of delivering fuel to the combustion chamber of an engine by injection.

SEE OR SEARCH THIS CLASS, SUBCLASS:

86, through 96, and other appropriate subclasses for corresponding apparatus depending upon claimed features or mode of operation.

6 Involving slow diffusion:

This subclass is indented under subclass 1. Processes involving the step or steps of slowly disseminating a substance into the atmosphere, usually from a porous or absorbent mass by volatilization influenced only by the ambient air.

SEE OR SEARCH THIS CLASS, SUBCLASS:

34+, for slow diffusers.

7 Including centrifugal force or spattering:

This subclass is indented under subclass 1. Processes which include the use of rotating or spinning members to either (1) distribute the material into the atmosphere or (2) modify the flow of the already discharged material.

SEE OR SEARCH THIS CLASS, SUBCLASS:

214+, for apparatus in which the spray is effected by means of a rotating member.

380+, for apparatus in which the fluid discharged from a nozzle is modified by a rotating means.

8 Including mixing or combining with air, gas or steam:

This subclass is indented under subclass 1. Processes which include the step or steps of mixing a gas with the material to be distributed.

SEE OR SEARCH THIS CLASS, SUBCLASS:

302+, 398+, appropriate subclasses for apparatus adding air to a material to be sprayed.

311, for means adding gas upstream of a nozzle outlet involving a flowing liquid stream and see the search class notes there referred to for other lather makers.

SEE OR SEARCH CLASS:

431, Combustion, subclasses 8+ for a process of combustion involving flame shaping and subclass 12 for a process involving controlling or proportioning burner feed.

9 And additional dissolving or entraining of material in liquid stream:

This subclass is indented under subclass 8. Processes including the additional step of mixing, dissolving or entraining the material in a liquid, before, during or after combination with the gas.

SEE OR SEARCH THIS CLASS, SUBCLASS:

311, for gas addition upstream of nozzle outlet in apparatus including a supply holder for material to be mixed, dissolved or entrained.

10 Including dissolving or entraining in liquid stream:

This subclass is indented under subclass 1. Processes involving the step or steps of dissolving or mixing a material in a flowing liquid stream.

SEE OR SEARCH THIS CLASS, SUBCLASS:

310+, for apparatus including a supply holder for material to be mixed, dissolved or entrained in a flowing liquid stream.

11 Of discharge modification of flow varying:

This subclass is indented under subclass 1. Processes involving the steps of changing the character of the flowing or discharged material or of regulating the flow.

(1) Note. The mere shifting of the distributor to change the flow from one area physically to another or the mere turning on or off are not considered modification or varying for purposes of this subclass and such patents will be found in subclass 1.

SEE OR SEARCH THIS CLASS, SUBCLASS:

290, all appropriate subclasses thereafter for discharge modification and flow varying.

12 Involving drinking or ornamental fountains:

This subclass is indented under subclass 11. Processes in which the material is discharged from a fountain of the drinking or ornamental type.

(1) Note. Altering the color of the distributed material in ornamental fountains by lighting or chemical changes, but in which the discharge characteristic of the material is not otherwise changed is not considered discharge modification of flow varying for purposes of this subclass. Such patents will be found in subclass 1.

SEE OR SEARCH THIS CLASS, SUBCLASS:

16+, for corresponding apparatus.

13 Including heating or cooling:

This subclass is indented under subclass 1. Processes which include a step of exchanging heat between the material to be sprayed and heating or cooling means.

SEE OR SEARCH THIS CLASS, SUBCLASS:

128+, for corresponding apparatus.

14.1 WEATHER CONTROL:

This subclass is indented under the class definition. Apparatus claimed as particularly adapted for precipitating atmospheric moisture from clouds or fog. This is the generic locus for atmospheric moisture precipitating apparatus but patents claiming this subject matter are generally classified in some other class on the basis of their claimed proximate functions.

(1) Note. Apparatus classifiable in some other class on a more proximate basis does not become subject matter for this subclass merely because it is stated that weather control is involved, e.g., a fan or fire pot to disperse fog or prevent frost, but only if there is no other basis for classification or if some detail is included and accordingly recognizable only for weather control.

SEE OR SEARCH THIS CLASS, SUBCLASS:

2.1+, for processes of weather control or modification.

SEE OR SEARCH CLASS:

47, Plant Husbandry, subclass 2 for structures for controlling frost for preventing damage to plants, trees, and the like.

244, Aeronautics and Astronautics, subclass 114 for fog control structures claimed relation thereto, and subclass 136 for weather-control material discharging means particularly related to an aeroplane structure.

516, Colloid Systems and Wetting Agents; Subcombinations Thereof; Processes of Making, Stabilizing, Breaking, or Inhibiting, subclasses 1+ for continuous gas or vapor phase colloid system (e.g., smoke, fog, aerosol, cloud, mist) or agents for such systems or making or stabilizing such systems or agents, when generically claimed or when there is no hierarchically superior provision in the USPC for the specifically claimed art; and when not disclosed as

adapted to (1) wet a surface or (2) to precipitate atmospheric moisture, for which see Class 239, the appropriate subclass for compositions for or methods of breaking or inhibiting continuous gas or vapor phase colloid systems.

14.2 Snowmaking:
This subclass is indented under subclass 14.1. Apparatus which sprays a liquid or gaseous material into an atmosphere in which the ambient temperature is below the materials' freezing point thereby precipitating the material as a particulate solid.

SEE OR SEARCH THIS CLASS, SUBCLASS:
2.2, for methods of snowmaking.

SEE OR SEARCH CLASS:
516, Colloid Systems and Wetting Agents; Subcombinations Thereof; Processes of Making, Stabilizing, Breaking, or Inhibiting, subclasses 1+ for continuous gas or vapor phase colloid system (e.g., smoke, fog, aerosol, cloud, mist) or agents for such systems or making or stabilizing such systems or agents, when generically claimed or when there is no hierarchically superior provision in the USPC for the specifically claimed art; and when not disclosed as adapted to (1) wet a surface or (2) to precipitate atmospheric moisture, for which see Class 239, the appropriate subclass for compositions for or methods of breaking or inhibiting continuous gas or vapor phase colloid systems.

16 FOUNTAINS OR DRINKING TUBES AND STRAWS:
This subclass is indented under the class definition. Apparatus for delivering a bubble, stream, or spray of liquid for drinking or ornamental purposes and usually comprising a stand or pedestal, a nozzle or other discharging member, and a catch-basin, or a fluid conducting means, per se, of a portable nature one end of the conductor being placed in or near the mouth and the other end thereof being placed in the liquid for drinking.

17 Ornamental:
This subclass is indented under subclass 16. Apparatus having an external embellishment or decorative appearance designed as household or lawn ornaments or to impart a pleasing or esthetic effect to a structure or grounds.

SEE OR SEARCH THIS CLASS, SUBCLASS:
211, for simulations.

18 With illuminating means:
This subclass is indented under subclass 17. Apparatus having means to light or illuminate the fountain.

SEE OR SEARCH CLASS:
84, Music, subclass 464 for devices for producing color effects combined with an instrument for producing music.
362, Illumination, appropriate subclasses for devices combining features of illumination and other structure.

19 With ground distributing means (e.g., lawn sprinklers):
This subclass is indented under subclass 18. Apparatus having additional means or support structure to spray the discharging water over the area proximate the device as, for example, over the ground.

SEE OR SEARCH THIS CLASS, SUBCLASS:
225.1+, for lawn sprinklers in general.

20 With recirculating means:
This subclass is indented under subclass 18. Apparatus provided with means returning the fluid to the supply source or supply flow line for discharge.

SEE OR SEARCH THIS CLASS, SUBCLASS:
229+, for sprayers having system fluid relief or return to supply.

21 With reversible feed and waste chambers:
This subclass is indented under subclass 17. Apparatus having a liquid supply chamber and a catch basin which are shiftable such that the chamber which receives the waste from the

fountain in one period of its operation becomes the supply chamber for the succeeding period.

22 Fluid pressure discharging means (e.g., aspirating):
This subclass is indented under subclass 17. Apparatus having a nongravity means to establish a pressure differential relative the discharge outlet and supply to cause the discharge or delivery of liquid.

23 Liquid pump, pulsator or follower:
This subclass is indented under subclass 22. Apparatus in which the discharge is effected by a liquid pump, a pulsator or follower.

24 Drinking:
This subclass is indented under subclass 16. Apparatus which by function and design relates to drinking fountains most generally having the terminal element upwardly or at least sidewardly disposed as contrasted with the usual faucet arrangement) and disclosing features relating to guards and anti-contaminating devices for the discharge means, catch basins, means converting from ordinary faucets to drinking arrangements, high volume-low velocity flow and anti-squirting devices.

SEE OR SEARCH CLASS:
62, Refrigeration, appropriate subclasses, for drinking fountains having significant refrigeration means, and subclasses 391+ for significantly included ice compartments.

25 With or for attachment to faucet:
This subclass is indented under subclass 24. Apparatus comprising a fluid diverter or conduit having means securing or connecting such device to faucet to convert said faucet to use as a drinking nozzle or fountain and where in the connection or joining means is such as to support some part of the weight of the device during use.

(1) Note. Manually operated well pumps having a drinking nozzle attachment have been considered as faucets for purposes of classification herein.

SEE OR SEARCH THIS CLASS, SUBCLASS:
24, for diverters held against or beneath a faucet and entirely hand supported during use.
33, for portable tubes placed in the mouth for sipping or drinking.

26 Swivelly mounted single outlet means:
This subclass is indented under subclass 25. Apparatus in which the diverter means has a single outlet and is so secured to the flow line as to be movable upwardly or downwardly about an axis which extends in the general direction of flow up-stream of the diverter.

27 Swingable into or out of deflecting position:
This subclass is indented under subclass 25. Apparatus in which the diverter means is mounted for swinging or pivotal movement into or out of deflecting position with respect to the faucet outlet means.

SEE OR SEARCH THIS CLASS, SUBCLASS:
505+, for deflectors movably or removably mounted relative an outlet means particularly subclass 511 for deflectors rotated into position for spraying.

28 With catch basing:
This subclass is indented under subclass 24. Apparatus in which the drinking fountain includes a waste water catcher or some means which provides run-off to waste for the discharge.

29 With flow line valve:
This subclass is indented under subclass 28. Apparatus wherein the flow line supply means includes a valving means to control or regulate the discharge of fluid to be delivered for drinking.

29.3 Portable, or with self-contained liquid holder:
This subclass is indented under subclass 29. Apparatus comprising a drinking fountain which is movable from one location to another, or which has as part thereof a receptacle to be filled with liquid, as the source for the fountain.

29.5 Leg or foot actuated valve operator:
This subclass is indented under subclass 29. Apparatus in which the valve operating mechanism has a portion thereof positioned or shaped to be moved by a drinker's lower extremity.

SEE OR SEARCH CLASS:
119, Animal Husbandry, subclass 76 for a fountain combined with a trough, flow to the fountain being controlled by a platform on which an animal stands.

30 Extensible or flexible bubbler nozzle:
This subclass is indented under subclass 28. Apparatus wherein the bubbler or nozzle is capable of being lifted or raised relative to its support or supply line or wherein the said bubbler is flexibly supported or joined to the supply.

SEE OR SEARCH THIS CLASS, SUBCLASS:
587+, for nozzle members adjustably or shiftably connected to a flow conduit.

31 Converging jets or bubblers (e.g., bubble cups):
This subclass is indented under subclass 24. Apparatus having (1) plural outlet means so arranged that the effluent from the several outlet means intersect each other and form a single stream for drinking or (2) means to form a standing stream of large volume and low velocity flow and of substantial width across the flow axis.

(1) Note. Converging or overlapping streams which are arranged as a fence or barrier to act as an anti-contamination device are not included, per se, but are classified with the type of drinking arrangement as characterized by the titles of subclasses 24+.

SEE OR SEARCH THIS CLASS, SUBCLASS:
543+, for devices having two or more outlet means arranged so that fluid streams impinge upon each other.

32 With self-closing discharge valve:
This subclass is indented under subclass 31. Apparatus provided with flow regulator means in the supply line and which is biased to closing position to cease discharge.

33 Portable drinking tubes and straws:
This subclass is indented under subclass 24. Apparatus comprising tubular devices having openings at each end and being adapted for conducting fluids for drinking, one end being placed in the mouth and the other end being placed in the liquid during use.

SEE OR SEARCH THIS CLASS, SUBCLASS:
24, for drinking tubes of the portable type not disclosed as placed in the mouth during drinking.

SEE OR SEARCH CLASS:
30, Cutlery, subclass 141 for spoons having a fluid conducting means therewith, usually arranged through the handle.
138, Pipes and Tubular Conduits, subclasses 109, 111-174, 177, and 178 for tubular pipe wall structures of general utility.
215, Bottles and Jars, subclass 229 for closure means and straws combined, and subclass 388+ for combinations of tumblers and other drinking vessels with drinking tubes.
426, Food or Edible Material: Processes, Compositions, and Products, subclass 85, for “flavor straws” and the like and for straws including a confection of food flavoring.
446, Amusement Devices: Toys, subclasses 71+ for a straw or portable drinking tube combined with a fanciful figure or toy for amusement of the use while sipping.

34 SLOW DIFFUSERS:
This subclass is indented under the class definition. Apparatus having means to disperse or spread material out into the ambient air by vaporization from an open container or holder, capillary porous or wick type feed means, by mere drip through the air or by sublimation, all such media being merely exposed to the ambi-

ent air and without the use of draft producing means.

(1) Note. This is the generic subclass for holders for slow diffusers and for volatilization of liquid saturated sorbents by mere ambient air desorption. See class definition, "Lines With Other Classes, Slow Diffusers," for lines between Classes 96, 239 and 261 in regard to this type of subject matter. For solid sorbent apparatus for gas separation, see Class 96, Gas Separation: Apparatus, subclasses 108+.

(2) Note. In general, the combination of a slow diffuser and an art device is classified with the art device. See the example Class 312, Supports: Cabinet Structure, subclasses 31+ for containers combined with slow diffusers.

SEE OR SEARCH CLASS:

4, Baths, Closets, Sinks, and Spittoons, subclasses 226.1 and 228.1-231.

43, Fishing, Trapping, and Vermin Destroying, subclasses 129+ for vaporizing fumigators for insecticides.

96, Gas Separation: Apparatus, for apparatus for gas separation and see (1) Note above.

99, Foods and Beverages: Apparatus, subclass 323 for infusion receptacles.

118, Coating Apparatus, subclasses 264+ for absorbent or porous applicators.

119, Animal Husbandry, subclass 157 for animal daubers which may diffuse after application.

206, Special Receptacle or Package, subclass 0.5 for infusers.

223, Apparel Apparatus, subclass 86 for hangers having means to retain perfumery or insect repelling material.

237, Heating Systems, subclass 78 for diffusers designed for use with a radiator.

242, Winding, Tensioning, or Guiding, subclass 905 for a dispenser of coiled material with a deodorant containing mandrel.

252, Compositions, subclass 194.

261, Gas and Liquid Contact Apparatus, appropriate subclasses.

312, Supports: Cabinet Structure, subclasses 31+ for containers combined with slow diffusers, wherein the container is designed to hold material to be treated by the diffused substance.

422, Chemical Apparatus and Process Disinfecting, Deodorizing, Preserving, or Sterilizing, subclasses 1+ for processes disinfecting, deodorizing preserving or sterilizing and subclasses 120+ for treating air with a deodorizing, disinfecting, or sterilizing agent.

426, Food or Edible Material: Processes, Compositions, and Products, subclasses 77+ an infusion receptacle.

428, Stock Material or Miscellaneous Articles, subclass 905 (a cross-reference art collection) for a product which releases an odor into the environment.

431, Combustion, subclasses 298+ for a wick type burner.

454, Ventilation, for diffusers designed for use with a hot-air register, especially subclasses 110, 157, 223, 291, 328, and 337.

35 With empty or refill signal or indicator:

This subclass is indented under subclass 34. Apparatus having a device to make known by visual, audible or other means that the material holder is empty or needs replenishing.

SEE OR SEARCH THIS CLASS, SUBCLASS:

71+, for other signals, indicators, and changeable exhibitors.

SEE OR SEARCH CLASS:

116, Signals and Indicators, subclasses 109+ and 227+ for the signal or indicator, per se.

36 Garment or body attached:

This subclass is indented under subclass 34. Apparatus in which the fluid dispersing or disseminating device is part of or is fastened to the person's clothing or is connected to, or worn on the body.

SEE OR SEARCH CLASS:

2, Apparel, appropriate subclasses for specific garment features combined with diffusers.

63, Jewelry, appropriate subclasses for jewelry combined with diffusers.

37 Gravity flow of liquid from supply holder:
This subclass is indented under subclass 34. Apparatus in which the material is liquid and the flow from its receptacle is not assisted by added fluid or other pressure, but is caused solely by the forces of gravity.

38 Free drip to open holder:
This subclass is indented under subclass 37. Apparatus in which the liquid flows drop-by-drop through the atmosphere to a receptacle which is exposed to the atmosphere.

SEE OR SEARCH THIS CLASS, SUBCLASS:
193, for weir type discharge means.

39 Barometric flow to secondary holder:
This subclass is indented under subclass 37. Apparatus in which the liquid flows from its supply receptacle to an auxiliary reservoir and the flow is controlled by balancing flow (e.g., establishing equilibrium) with atmospheric pressure.

(1) Note. This type of flow is usually the inverted bottle type where the bottle is inverted into an open container and discharges therein until the level in the bottle drops and causes a vacuum to be formed therein, thus preventing any more discharge until the level in the container drops below the bottle neck to permit air to enter the bottle and displace additional liquid therefrom.

SEE OR SEARCH CLASS:
137, Fluid Handling, subclasses 453+ for barometric means for maintaining a level of liquid in a fluid handling system.
222, Dispensing, subclass 457 for angle of repose trap chambers.

40 Drip discharge from secondary holder:
This subclass is indented under subclass 39. Apparatus in which the liquid discharges from the auxiliary reservoir in drop-by-drop manner.

41 To porous distributor to atmosphere:
This subclass is indented under subclass 40. Apparatus provided with a foraminous or liquid permeable element exposed to the ambient atmosphere and in the path of the drop-by-drop discharge from the auxiliary reservoir.

42 Porous distributor to atmosphere:
This subclass is indented under subclass 39. Apparatus having a foraminous or liquid permeable element exposed to the ambient atmosphere and in the auxiliary reservoir.

43 To porous distributor exposed to atmosphere:
This subclass is indented under subclass 37. Apparatus in which the liquid is discharged from the liquid receptacle to a foraminous or liquid permeable element exposed to the ambient atmosphere.

44 With wick or absorbent means removing liquid from holder:
This subclass is indented under subclass 34. Apparatus where the material is a liquid confined in a receptacle and is provided with a porous, foraminous or absorbent element which is in contact with and discharges the liquid from the receptacle by means of capillary action in the pores or foraminae of the element.

SEE OR SEARCH THIS CLASS, SUBCLASS:
145, for porous or wick type discharge means to the atmosphere in the form of a liquid rather than a vapor.

SEE OR SEARCH CLASS:
261, Gas and Liquid Contact Apparatus, subclasses 99, 104, and 107 for similar capillary feed porous mass elements combined with a means for positively forcing a gas stream across or through the moistened element.

45 Serially arranged wicks or absorbent means:
This subclass is indented under subclass 44. Apparatus provided with a plurality of separate and distinct porous members arranged downstream to each other, the liquid flow taking place in series through all of the members.

(1) Note. The individual porous members may be in contact with one another in which case it must be clearly disclosed that the members are separate and distinct or each porous member may be in a vessel or container to which liquid is discharged by a porous means and from which liquid is removed by an additional porous or absorbent pad.

46 With means for drip escape from casing:
This subclass is indented under subclass 45. Apparatus provided with a means at the final porous member or vessel for permitting excess liquid to be removed therefrom in a drop-by-drop fashion.

47 Nonuse housing or casing arrangement (e.g., stored in supply):
This subclass is indented under subclass 44. Apparatus provided with a means to retain the porous or absorbent member in a position other than that in which it is normally used.

(1) Note. The usual arrangement is of the wick-type air freshener where the porous member is moved to a position within the liquid receptacle (i.e., stored in the supply).

48 Reel-type storage:
This subclass is indented under subclass 47. Apparatus in which there is provided a spool on which is rolled a continuous spiral of the porous or foraminous material in contact with the liquid, and which may be unwound to extend material to expose more of its surface to the ambient atmosphere and which may again be wound to provide for nonuse storage of the absorbent or porous material.

SEE OR SEARCH THIS CLASS, SUBCLASS:
195+, for hose storage or retrieval means including reels and supports therefore.

SEE OR SEARCH CLASS:
242, Winding, Tensioning, or Guiding, subclasses 370+ for a reeling device for unwinding and rewinding an elongated material of general use.

49 With flow varying means:
This subclass is indented under subclass 44. Apparatus provided with means to control or adjust the liquid flow to or through the porous or absorbent means.

50 Relatively movable wick and supply for discharge or adjustment:
This subclass is indented under subclass 49. Apparatus in which the means for adjusting or controlling the liquid flow comprises means for varying the distance between the face level of the liquid supply and the end of the porous member (1) exposed to the ambient atmosphere or (2) discharging to an auxiliary reservoir.

51 With means for drip escape from holder:
This subclass is indented under subclass 44. Apparatus in which the liquid which has been removed from the holder by the porous or absorbent element is discharged in a drop-by-drop manner from the porous element or from a conduit into which the porous element has discharged.

51.5 In housing having multiported wall spaced from absorbent means
This subclass is indented under subclass 44. Apparatus comprising an encasing means for the porous or absorbant element including a wall spaced from said element, the wall having a plurality of apertures or perforations.

(1) Note. The wall or encasing means can be merely a screen; however, a screen wire support is not included under this definition if it is contiguous with the porous or absorbent element. It is necessary for diffusion to occur into the space between the porous element and the apertured wall for a device to qualify under this definition.

52 Reel or spool type support means:
This subclass is indented under subclass 34. Apparatus having a spool type member for supporting a diffusible substance.

SEE OR SEARCH THIS CLASS, SUBCLASS:
195+, for flexible flow line storage or retrieval means.

SEE OR SEARCH CLASS:

242, Winding, Tensioning, or Guiding, subclass 905 for a dispenser of coiled material with a deodorant containing mandrel and subclasses 590+ for a detail of a mounted coil holder of general use.

53 Liquid supply in absorbent or porous media only:

This subclass is indented under subclass 34. Apparatus in which the material to be dispersed is a liquid and is contained or retained only in an element which comprises pores or foraminae throughout so as to be absorbent and permeable to hold the liquid therein.

(1) Note. In this group of subclasses, the liquid retaining means is reusable and may be saturated with liquid a plurality of times. This is contrasted with those self-sustaining materials which are themselves volatile and are expended. The latter type will be found in subclass 60.

SEE OR SEARCH CLASS:

424, Drug, Bio-Affecting and Body Treating Compositions, especially subclasses 1.25 and 422+ for an impregnated base from which a material, with a Class 424 utility, may slowly diffuse.

54 Rigid solid form media:

This subclass is indented under subclass 53. Apparatus in which the liquid material retaining element is of the nonfluid, dense, self-supporting type, (e.g., wood, plaster of Paris, etc.).

55 With enclosing casing:

This subclass is indented under subclass 53. Apparatus in which the liquid material retaining element is surrounded or substantially surrounded by a housing, there being spaces permitting the vaporized liquid to be disseminated into the ambient atmosphere.

56 Pad type:

This subclass is indented under subclass 55. Apparatus in which the element is in the form of a relatively thin, flat blanket or mat.

57 With support for porous or apertured encasing means:

This subclass is indented under subclass 34. Apparatus in which an apertured or foraminous housing surrounding the material is provided with an added element or additional feature by which the housing is maintained in place while in normal use to disperse the material.

58 With means to adjust casing porosity or openings:

This subclass is indented under subclass 34. Apparatus in which the member surrounding the material retaining element is foraminous or apertured and there is provided additional means whereby the apertures or foraminae are varied in size and/or number.

(1) Note. So-called packages of vaporizable substances provided with means to cover and uncover the openings of the package to commence diffusion are placed here and in the indented subclass as originals or cross references.

SEE OR SEARCH CLASS:

206, Special Receptacle or Package, appropriate subclasses for special packages and receptacles for other than diffusible substances.

59 By alignment of apertured members:

This subclass is indented under subclass 58. Apparatus in which varying of openings is accomplished by bringing a plurality of perforations into and out of registry with one another to open and close communication between the material space and the ambient atmosphere.

60 Solid form vaporizable material:

This subclass is indented under subclass 34. Apparatus in which the material to be disseminated is in the form of a nonfluid, rigid mass, which sublimes into the ambient atmosphere and is consumed.

61 WITH SELECTIVE PROPORTIONING OR CORRELATED FLOW FOR PLURAL FLUIDS:

This subclass is indented under the class definition. Apparatus having a movable means responsive to some variable condition in a first fluid (in addition to mere commencement or

stoppage of flow) which causes a change in a second fluid flow or in a control means to maintain the relative amounts thereof according to a selectable ratio.

62 Having traversing motion responsive means:
This subclass is indented under subclass 61. Apparatus having additional control means responsive to movement, e.g., rate of motion, across the area being treated and interposed in the proportioning or correlating mechanism.

SEE OR SEARCH THIS CLASS, SUBCLASS:
64, 69, for programming or overriding control means which may be related to traverse across an area being treated.
100, for ground wheel controlled intermitter.

63 WITH CUTOFF OR FLOW VARYING MEANS OPERATED BY MEANS RESPONSIVE TO DISCHARGED FLUID (E.G., GROUND MOISTURE SENSING):
This subclass is indented under the class definition. Apparatus for commencing, terminating or changing the flow therefrom by means responsive, sensitive, or reactive to fluid which has left the system (or lack thereof) either in or on the surface of the ground or in the area being treated.

(1) Note. The responsive means react to the fluid leaving the system through the normal distributor openings. If part of the fluid is bled off from the normal path to the openings and is permitted to discharge into a pan or receptacle or against moisture sensitive means such patents will not be found in subclasses 63+ but will be found in subclasses 67 and 68.

(2) Note. For this and the indented subclasses, a system must at least be disclosed as a sprinkler apparatus with control means being responsive to a condition brought about by use of the said sprinkler. If there is no clear disclosure that the moisture sensing means is positioned within and senses the moisture in the area served by the sprinkler system, it is assumed that the means senses and responds only to atmospheric rainfall. An apparatus with a means sensing atmospheric rainfall for control of a sprinkler or a spray outlet is classifiable in other appropriate subclasses in Class 239 if the sprinkler or spray outlet is positively claimed and in Class 137 if a mere fluid system is claimed.

(3) Note. Included are devices which respond to ground content moisture conditions to commence spraying because of lack of water in the ground or which terminate spraying because of a rain supplemented ground moisture condition.

SEE OR SEARCH THIS CLASS, SUBCLASS:
67, for a spray system having a control means (e.g., volume, rate of flow or atmospheric rainfall responsive) for causing intermittent interruption of the supply.
238, for spray fluid motor drive means for moving distributors responding to weight of accumulated fluid for motion either of sprayed or diverted fluid.

SEE OR SEARCH CLASS:
137, Fluid Handling, subclasses 78.2+ for systems in which the control means responds to atmospheric conditions to control fluid flow and subclasses 403+ for liquid level responsive systems involving the weight of accumulated fluid.

64 With overriding second control means:
This subclass is indented under subclass 63. Apparatus in which there is provided an additional means which controls the flow regulating means regardless of the demand of the mechanism responding to the discharged fluid, or lack thereof.

(1) Note. The additional control means may be either manually or automatically operated. In those systems including a timer or clock mechanism, such mechanism is the overriding second control means since it will not permit the flow of fluid to the sprayers until the selected time is reached, or regardless of the

demand placed upon the system, or it will positively shut off the fluid when the set time period has elapsed, also regardless of the fact that additional demand is required externally of the system.

65 By level or weight in testing receiver:

This subclass is indented under subclass 63. Apparatus in which the flow controlling means is actuated by the weight or level of fluid caught or trapped in a test receptacle positioned so as to intercept a portion of that which has left the spray openings.

66 SERIALLY OPERATED DISTRIBUTION MEANS:

This subclass is indented under the class definition. Apparatus having plural distributing means made up of single or multiple terminal elements which distributors (as distinguished from single outlet means of multiple outlet terminal members) are controlled to discharge at different times or at intervals either singly or in multiples with not all distributors being put into operation at once.

SEE OR SEARCH THIS CLASS, SUBCLASS:

97, for pattern control by synchronizing flow regulating means with a cyclically moving distributor.

SEE OR SEARCH CLASS:

137, Fluid Handling, subclasses 624.11+ for a fluid distribution system including a programmer or a timer.

67 WITH SELECTIVELY PRESET FLOW CUTOFF OR INITIATING MEANS:

This subclass is indented under the class definition. Apparatus having control means to start or to terminate discharge of material from such apparatus or part thereof with which such apparatus or part is interconnected and which is responsive to volume, rate of flow, time or other condition which may be selectively preset or determined prior to the initiation of the flow or at some time during the flow.

(1) Note. For classification herein there must be claimed as control means something more than the mere limits defined by traversing guide, track or tethering means or the paying out or ultimate drag of a hose connected to supply means, i.e., there must be something in addition to the necessary spraying organization which is selectively-variably imposed on the system to control the flow.

(2) Note. The apparatus must go through a complete cycle of operation (i.e., start, stop, start) in accordance with the setting of the control means.

SEE OR SEARCH THIS CLASS, SUBCLASS:

63, for a spray or sprinkler system having a control means responsive to discharged fluid and see (2) Note therein.

722+, for translating distributors which are caused to cut off flow at the end of the traversing motion due to some impact or drag means included in the means defining the mere limits of traverse by the guideway, track, or tethering means, and see (1) Note above.

SEE OR SEARCH CLASS:

137, Fluid Handling, subclass 67 for flow control means operative to halt flow of fluid when a solid additive has been dissolved or destroyed.

222, Dispensing, subclass 54 for automatic control of dispensers by fusible or soluble means.

251, Valves and Valve Actuation, subclasses 48+ for a valve combined with a dashpot or fluid controlled retarder or timer.

68 By rate of flow or volume means:

This subclass is indented under subclass 67. Apparatus having a meter or other flow measuring mechanism in the flow path and which can be preset to control the flow in the system with which it is interconnected when either (1) the rate of flow reaches the preset point (minimum or maximum) or (2) a preset volume of fluid has been reached.

SEE OR SEARCH CLASS:

222, Dispensing, subclasses 14+ for cutoffs for dispensers selectively preset and responsive to volume or rate of flow mechanism.

69 By programming means:
This subclass is indented under subclass 67. Apparatus in which the control means is actuated by nonfluid operative or responsive mechanism.

SEE OR SEARCH CLASS:
137, Fluid Handling, subclasses 624.11+ for a valve controlled by a programmer.
901, Robots, subcollection 43 for a collection of spray painting or coating robots.

70 Timer means:
This subclass is indented under subclass 67. Apparatus in which the control means is actuated by a clock mechanism or the like, operated independently of all other parts of the system.

SEE OR SEARCH CLASS:
137, Fluid Handling, subclasses 624.11+ for a valve controlled by a clock mechanism.
431, Combustion, subclass 86 for a device specialized to combustion, controlled by a manually started timer or retarder or by a time of day device.

71 WITH SIGNALS, INDICATORS, RECORDERS, METERS OR CHANGEABLE EXHIBITORS:
This subclass is indented under the class definition. Apparatus comprising information yielding or relatively movable or changeable parts which give information, measure or totalize quantity, permit inspection to determine a condition in the system or indicate a condition or the extent of motion or position of the system in a system part.

(1) Note. A system part may cooperate with some graduated part to form the indicator or may be a flow indicating means or fluid quantity inspection device as a flow sight.

SEE OR SEARCH THIS CLASS, SUBCLASS:
67+, for the subject matter of this subclass combined with selectively preset flow cut-off means.

SEE OR SEARCH CLASS:
340, Communications: Electrical, subclasses 603+ for electrical automatic fluent material responsive indicating systems.

72 Audible:
This subclass is indented under subclass 71. Apparatus giving audible information.

SEE OR SEARCH CLASS:
116, Signals and Indicators, subclasses 67+ for alarms, per se.
137, Fluid Handling, subclass 558 for liquid level responsive alarms.
222, Dispensing, subclass 39 for audible signals for dispensers.
340, Communications: Electrical, subclasses 384.1+ for electrical communications audible signal giving means, per se.

73 Position or extent of motion indicator:
This subclass is indented under subclass 71. Apparatus having means giving information as to the position or range of motion of a discharge effecting part or parts necessary to the control of discharge.

SEE OR SEARCH CLASS:
116, Signals and Indicators, particularly subclasses 200+ for scale and pointer subcombinations.
137, Fluid Handling, subclasses 553+ for fluid handling systems having position or extent of motion indicators.
222, Dispensing, subclasses 41+ for dispensers having position or extent of motion indicators.

74 With spray material quantity or flow indicating means (e.g., sight gauge):
This subclass is indented under subclass 71. Apparatus having means giving information as to amount or quantity or showing by inspection that material is flowing in the system.

SEE OR SEARCH CLASS:
222, Dispensing, subclasses 154+ for dispensers having inspection devices and subclasses 71+ for volume or rate of flow metering means.

75 WITH VISCOSITY OR TEMPERATURE RESPONSIVE CONTROL MEANS:

This subclass is indented under the class definition. Apparatus comprising means which senses viscosity or temperature and in response thereto, causes actuation of a control or regulatory member.

(1) Note. The viscosity or temperature need not be that of the system material or a system part; thus, included under this definition would be a device in which a thermostat responds to temperature of the ambient atmosphere to impose or remove a control.

76 WITH PRESSURE OR FLOW EQUALIZATION MEANS TO PLURAL DISTRIBUTORS:

This subclass is indented under the class definition. Apparatus having plural discharge means and including some sensing arrangement along one or more discharge routes together with appropriate flow controlling means effective to bring about a regulatory function in response to a change of pressure or volume along one or more such routes and tending thereby to distribute the flow equally among the said discharge means.

SEE OR SEARCH THIS CLASS, SUBCLASS:

71, for flow equalization to plural outlet means by regulation through metering means.

124+, for system relief or by-pass means (e.g., pump or nozzle unloading) which operate to keep pressures or flows at some desired level or equal among plural nozzles which means may be interconnected as by a common drive or shaft but which are not responsive to differences in individual flow lines and effective to balance out or overcome the flow condition.

533+, for regulator means comprising multiple fluid pressure responsive flow regulators associated with plural nozzles which may be selectively set so as to maintain uniform flow at some desired level.

553+, for unitary plural outlet means having an interior guide or flow divider whose function is generally to equalize the flow to the plural outlet openings.

77 ORCHARD-TYPE MOBILE DISTRIBUTOR COMPRISING FLUENT DISCHARGED INTO GASEOUS CONVEYING CURRENT:

This subclass is indented under the class definition. Apparatus comprising either a nozzle or a strewing means to project or scatter a fluent material, and means to create an air stream related in a manner such that the fluent is discharged into the said air stream and further characterized by a disclosure that: (1) the air stream has a cross sectional area and a volumetric flow which are very large as compared with the outlet area and volumetric flow capacity of the nozzle or strewing means, (2) the apparatus is provided with means rendering it mobile (e.g., wheels) and (3) the fluent is conveyed by the air stream onto a tree or trees.

(1) Note. Liquid and air pumps unitarily constructed are included if discrete air and liquid impelling means are included, as for example, a centrifugal slinger with air vanes thereon.

(2) Note. If vaporization takes place by heat and the result is a smoke which is discharged and the sole disclosed or claimed use for the smoke is for insecticidal purposes, classification is in Class 43. If there is no purpose disclosed for the smoke, classification is in Class 516. If there is no vaporization, but liquid is discharged classification is in Class 239.

SEE OR SEARCH THIS CLASS, SUBCLASS:

290+, for apparatus including a supplemental gas shaping or shielding jet.

340+, for supply holders for material with a gas space above the material and a pressure reducer at the holder outlet.

SEE OR SEARCH CLASS:

222, Dispensing, subclass 617 for ambulant fluid flow dispensers wherein no significant nozzle structure is claimed; and subclasses 630+ for other fluid flow discharge devices, particularly for pulverent materials

which are not scattered or strewn (as claimed).

406, Conveyors: Fluid Current, appropriate subclasses for fluid current conveying means and their necessary material intake, regulating and blower relationships.

78 With current directing louvers:

This subclass is indented under subclass 77. Apparatus in which the air directing conduit or conveying means includes an arrangement of slats distributing vanes or the like to form an open work panel-like structure suitable for adjusting or directing the said flowing air.

79 WITH MEANS FUSING SOLID SPRAY MATERIAL AT DISCHARGE MEANS:

This subclass is indented under the class definition. Apparatus which includes a means to melt particles or bodies of a normally solid substance and contiguous means to distribute the melted substance into the ambient air, usually for the purpose of coating a base surface upon which the distributed material solidifies.

(1) Note. Systems in which a solid or granular material is fused at a point remote from the distributor are not included in this group of subclasses, but are classified in other appropriate subclasses of this class according to the nature of the distributor or system involved.

(2) Note. Included herein are melting distributors which do not disclose any material feeding means or which disclose only material supply pipe or conduit means.

SEE OR SEARCH CLASS:

219, Electric Heating, subclass 421 for similar devices having specific electric heating means.

250, Radiant Energy, subclass 251 for molecular or atomic beam devices for producing and propagating a stream of neutral particles or atoms through a vacuum, usually at thermal velocity.

264, Plastic and Nonmetallic Article Shaping or Treating: Processes, subclasses 5+ for processes of forming particulate material directly from a molten or liquid mass, e.g., liquid comminuting.

425, Plastic Article or Earthenware Shaping or Treating: Apparatus, subclasses 6+ for apparatus for forming particulate material from melts by utilizing a liquid comminutor (e.g., air blast, slinger, etc.) and means for congealing particles so formed.

427, Coating Processes, appropriate subclasses for a process of coating a substrate, especially subclasses 421.1 through 427.7 for spray coating.

80 Plural supply means for solid spray materials:

This subclass is indented under subclass 79. Apparatus which includes more than one means for conducting a solid substance to the means for melting and projecting it.

(1) Note. The plural means may consist of separate sources, or a single branched flow line with separate nozzle means.

81 Electric arc, spark plug or induction heating:

This subclass is indented under subclass 79. Apparatus having means to melt or heat a normally solid substance which means includes either (1) a means to create an electric spark across spaced electrodes or (2) a heating medium disposed in a fluctuating electromagnetic field.

SEE OR SEARCH THIS CLASS, SUBCLASS:

3, 690+, for electrostatic charging of sprayed or projected fluids.

80, for electrically heated nozzles (e.g., by electric arc means) having plural means to supply normally solid material.

82, 83, for nozzle heaters, many of which are of the electrical resistance type.

82 Nozzle with molten pool holder:

This subclass is indented under subclass 79. Apparatus which includes a terminal outlet member having a reservoir or other means to retain a quantity of a molten, normally solid substance for use as required.

(1) Note. A disclosure that the heating means is adapted to melt a solid material faster than it can escape through an out-

let means is sufficient to warrant classification in this subclass.

83 Wire or rod type supply:
This subclass is indented under subclass 79. Apparatus in which at least part of the supply of fusible solid consists of an elongated mass which is fed longitudinally to the discharge means.

84 Moving feeder for fusible wire or rod:
This subclass is indented under subclass 83. Apparatus including a member contacting the elongated supply of fusible material and adapted to urge it towards the melting and distributor means.

(1) Note. The member is usually, but not necessarily motor driven and may be one of a pair of cooperating rollers.

SEE OR SEARCH CLASS:
226, Advancing Material of Indeterminate Length, appropriate subclasses, for methods of, and apparatus for, feeding material without utilizing the leading or trailing ends to effect movement of the material.

85 With supply holder for fusible material (e.g., pulverulent solids):
This subclass is indented under subclass 79. Apparatus which includes a storage receptacle or dispenser for a normally solid material and means to carry or conduct said material to the portion of the apparatus where it is melted and distributed.

(1) Note. The material may be positively carried by a feeder conveyor, impeller and/or a fluid stream or may merely flow or fall by gravity.

86 INJECTION NOZZLE HAVING CAPILLARY TYPE FEED PASSAGES:
This subclass is indented under the class definition. Apparatus having an injection nozzle and a means for filtering fluid supplied thereto which includes very closely spaced or fitted, pre-shaped members between which said fluid flows to remove impurities.

(1) Note. Filters made of strands, etc., of filtering material assembled in random fashion have been excluded and will be found in the appropriate subclass herebelow.

SEE OR SEARCH THIS CLASS, SUBCLASS:
5, for a method of injecting fuel into a combustion chamber.

SEE OR SEARCH CLASS:
210, Liquid Purification or Separation, appropriate subclasses containing “filter” in title for the filtering element, per se.

87 INJECTION NOZZLE HAVING PLUNGER OR VALVE CONTROLLED BY PRESSURE BEYOND NOZZLE OUTLET (E.G., COMPRESSION PRESSURE OPERATED):
This subclass is indented under the class definition. Apparatus which includes an injection nozzle discharging into a combustion chamber and means responsive to pressure in said chamber to control the flow of fluid through the nozzle.

(1) Note. The pressure may actuate a valve or a fluid pump means associated with the nozzle but only nominal relations of the nozzle and combustion chamber are classified herein. Specific relations between the nozzle and combustion chamber are classified on the basis of the particular combustion chamber involved.

SEE OR SEARCH THIS CLASS, SUBCLASS:
5, for a method of injecting fuel into a combustion chamber.

88 UNITARY INJECTION NOZZLE AND PUMP OR ACCUMULATOR PLUNGER:
This subclass is indented under the class definition. Apparatus which includes an injection nozzle having an expansible and contractible chamber intimately and contiguously associated therewith and adapted to deliver fluid intermittently through the nozzle in response to contraction of the chamber.

(1) Note. The chamber collapsing means may be a resilient biasing member or a motor driven means provided that there

is no more than a nominal recitation of a motor of which the nozzle forms a part.

(2) Note. Expansible chambers formed by pressure responsive surfaces formed on, or connected to a valve or valve stem have been excluded from this and the indented subclasses even though these chambers may deliver a small amount of fluid to the nozzle during closing movement of the valve.

SEE OR SEARCH THIS CLASS, SUBCLASS:
5, for a method of injecting fuel into a combustion chamber.

SEE OR SEARCH CLASS:
123, Internal-Combustion Engines, appropriate subclasses for internal combustion engines which inject fuel (or fuel plus another fluid) into the combustion space.

89 Accumulator plunger biased to discharge fluid:
This subclass is indented under subclass 88. Apparatus in which the expansible chamber is normally urged towards collapsed position to force fluid through the nozzle.

(1) Note. The chamber is usually charged with a supply of fluid during a period when the injection valve is closed.

90 Plunger interconnected or mounted bypass:
This subclass is indented under subclass 88. Apparatus in which a means communicates with the passage between the nozzle inlet and the outlet of the collapsible chamber and is actuated by or concurrently with the collapse of the chamber to relieve the pressure at the nozzle inlet and thus terminate delivery of fluid thereto after a predetermined volume.

91 Plunger interconnected or mounted valve (e.g., outlet valve):
This subclass is indented under subclass 88. Apparatus which includes a means controlling flow of fluid to or through the nozzle which means is either (1) actuated by or concurrently with the collapse of the chamber, or (2) mounted in or on a plunger or other part of the collapsible chamber.

(1) Note. This flow control means is normally, but not necessarily, that part of the injection nozzle which determines the flow of fluid therethrough, e.g., the injector valve.

SEE OR SEARCH THIS CLASS, SUBCLASS:
90, for pump plunger operated by-pass valves.

92 Fluid operated plunger motor:
This subclass is indented under subclass 88. Apparatus in which the expansible chamber for delivering pressurized fluid to the nozzle is collapsed by means of a motor means energized by the movement of a volume of fluid.

SEE OR SEARCH THIS CLASS, SUBCLASS:
87, for fluid actuated fuel pump plunger motors which are responsive to combustion chamber pressure.

93 FLOW REGULATOR OPERATED CONCURRENTLY WITH INTERMITTENT FLUID PUMP:
This subclass is indented under the class definition. Apparatus which include a means to control flow of fluid interposed between a distributor and a pump which delivers the fluid to the distributor in distinct, separated pulses or cycles, and means to actuate the flow control means in timed relation to the pump.

(1) Note. Flapper valves other than parts of a distributor and valves located upstream of the pump are excluded since they are considered part of the pump means rather than part of the supply system (which includes the pump).

(2) Note. The fluid control means (e.g., injection valve) may be opened in response to pressure of fluid supplied by the pump.

SEE OR SEARCH THIS CLASS, SUBCLASS:
5, for a method of injecting fuel into a combustion chamber.

94 Plural motor surfaces on flow regulator (e.g., opposed):

This subclass is indented under subclass 93. Apparatus which includes a first area or surface of the distributor flow control means subjected to fluid pressure from the pump and an additional surface on said flow control means subjected to a separately controlled fluid to oppose or assist the force exerted on the first surface (e.g., to delay or assist valve opening or to close the valve at a desired time).

(1) Note. The additional motor surface on the valve may be actuated by fluid from the pump, controlled by a separate valving means or by any other pressurized fluid desired.

95 UNITARY INJECTION NOZZLE AND VALVE WITH CONTINUOUSLY INTERMITTENT OPERATOR:

This subclass is indented under the class definition. Apparatus which includes an injection nozzle having a flow control means and means disclosed as continuously moving and adapted to cyclically operate the flow control means.

(1) Note. Internal-combustion engine valve operating linkages or portions thereof such as cams, levers, links, hydraulic and the like valve lifters, and fluid motors have been included in this subclass where no specific relation to the rest of the engine is recited, on the theory that they could be operated by a separate motor.

SEE OR SEARCH THIS CLASS, SUBCLASS:

5, for a method of injecting fuel into a combustion chamber.

SEE OR SEARCH CLASS:

123, Internal-Combustion Engines, subclasses 27+ for fuel valves for internal-combustion engines which are operated by a member which, as claimed, is synchronized with the same engine which employs the valve as opposed to a cam or linkage means or the like which, as claimed, could be driven by an external engine or by hand.

96 INJECTION NOZZLE OPENED BY RELIEVING SUPPLY (E.G., ACCUMULATOR TYPE):

This subclass is indented under the class definition. Apparatus which includes an injection nozzle and a valve therefor, an inlet supply passage for spray fluid, a means to store this fluid under pressure for injection after the valve is opened and means responsive to the presence of inlet fluid pressure to bias the valve closed.

(1) Note. Fluid is usually supplied to a storage reservoir from the supply through a restriction or check valve and discharge occurs when the inlet line is vented to remove its biasing effect.

(2) Note. Other means, e.g., springs or pressure operated means, are normally provided to open the valve when the inlet fluid conduit is vented. During the time that the nozzle inlet is under pressure, fluid is usually bled to an accumulator and this stored fluid is available for discharge when the valve opens.

SEE OR SEARCH THIS CLASS, SUBCLASS:

5, for a method of injecting fuel into a combustion chamber.

94, for valves having plural motor surfaces, one of which may bias the valve towards closed position.

97 PATTERN CONTROL BY SYNCHRONIZING FLOW REGULATOR MEANS WITH CYCLICALLY MOVING DISTRIBUTOR:

This subclass is indented under the class definition. Apparatus including a distributor member continuously and recurrently traveling in a cycle along a path or orbit which is fixed in relation to an area on which material is to be discharged; and means to establish an instantaneous rate of flow through said outlet member which varies in accordance with some predetermined function of the position of the member in said cycle in order that the flow may always be the same at any given position of said member in the cycle.

(1) Note. The flow establishing means may be either a valve or a pump means and

the flow may be either fluctuating or intermittent.

98 Plural outlets with abutment operated flow diverter :

This subclass is indented under subclass 97. Apparatus which include a plurality of distributor members and valve means actuated by engagement of said valve means with a member which is fixed relative to a support for said member in order to transfer the flow of fluid from one member to another.

(1) Note. The plural outlet members usually constitute oppositely directed reaction nozzles which discharge alternately in order to impart oscillation to said apparatus.

99 WITH MEANS CAUSING INTERMITTENT INTERRUPTION OF SUPPLY TO DISTRIBUTOR MEANS (I.E., ON-OFF):

This subclass is indented under the class definition. Apparatus having, in addition to the necessary fluid supply and/or handling elements providing a normal flow for spraying and the like, means to stop periodically and cyclically the total flow of fluid to the entire terminal outlet means and then restore the normal flow therethrough.

(1) Note. The cycle or period may be of any duration but there must be a clear disclosure of a complete stoppage of supply of discharge fluid to the terminal outlet means for a distinct interval.

(2) Note. The means for interrupting the supply must be in addition to all the various confining surfaces which collectively bound and define an essential flow path, but said means may include (1) fluid passage or chamber means which, if closed off from the flow path, would not affect normal discharge flow, and/or (2) motor surfaces disposed out of the normal and direct path of fluid to the terminal outlet.

SEE OR SEARCH THIS CLASS, SUBCLASS:

66, for successively operated multiple distributors.

70, for a single timed cycle.

93+, 95+, for apparatus of the internal combustion engine type having some character of intermittent discharge control.

97, for spray pattern control by flow regulation synchronized with the movement of the distributor.

380+, for motor or spray operated continuously moving discharge modifier and not having the additional means required by (2) Note above.

SEE OR SEARCH CLASS:

431, Combustion, subclass 279 for process or apparatus providing for combustion bursts or flareups in pulses or serial pattern.

100 Ground wheel controlled intermitter:

This subclass is indented under subclass 99. Apparatus in which the means to periodically and cyclically stop the total flow to the entire terminal outlet means is actuated by a rolling member in response to traversing motion of the device upon which the terminal outlet member is supported.

SEE OR SEARCH THIS CLASS, SUBCLASS:

156+, for a mobile tank type supply means with a ground wheel operated discharge controller which does not intermittently terminate flow.

101 WITH MEANS FOR FLUCTUATING FLOW OR PRESSURE OF FLUID SUPPLIED TO DISTRIBUTOR MEANS:

This subclass is indented under the class definition. Apparatus having in addition to the necessary fluid supply and/or handling elements for spraying and the like, means to vary continuously and cyclically the total rate of flow of fluid to the entire terminal outlet means and/or to change cyclically the pressure of the fluid supplied to said entire terminal outlet means.

(1) Note. The cycle may be of any desired duration but must repeat itself.

(2) Note. The means for varying the rate of fluid must be in addition to all the various confining surfaces which collectively bound and define an essential flow path but said means may include (1)

fluid passage or chamber means which, if closed off from the flow path, would not affect normal discharge flow, and/or (2) motor surfaces disposed out of the normal and direct path of fluid to the terminal outlet means.

SEE OR SEARCH THIS CLASS, SUBCLASS:

17+, for an ornamental fountain in which the fluid flow or pressure may be cyclically varied.

97, rotary distributors in which the fluid supply to successive spray arms and the like may vary.

99, for intermittent interruption of fluid supplied to the distributing means.

380, for motor or spray operated continuously moving discharge modifier and not having the additional means required by (2) Note above.

102.1 WITH MEANS TO VIBRATE OR JIGGLE DISCHARGE:

This subclass is indented under the class definition. Apparatus having means in addition to the necessary fluid supply and/or handling elements for spraying and the like, said means being driven by a motor means in order to change rapidly and periodically or cyclically the normal character of discharge from a terminal outlet or to change the normal character of the flow pattern, spray or trajectory downstream of said outlet.

(1) Note. The means to change the flow characteristics of the discharged fluid may include means to superimpose a rapid wave motion on the normal fluid stream by (1) continuously moving the discharge outlet member, or (2) continuously moving a member in contact with the fluid, before, after or during discharge.

(2) Note. The vibrating flow means must vary some instantaneous flow characteristic of the sprayed fluid, and means to move a nozzle or deflect a discharged fluid for the mere purpose of distribution over a desired area are excluded and will be found in pertinent subclasses herebelow.

SEE OR SEARCH THIS CLASS, SUBCLASS:

4, for a method of distributing fluid by contacting the fluid with an element which is continuously vibrated or caused to expand or contract.

99, 101, for cyclic variation of the quantity of fluid sprayed.

140+, for means movably mounting a supply container for discharging contents.

144, for agitation of supply means by vibrating the container or container part.

225+, especially subclasses 229, 242 and 255 for a distributor continuously moving relative to its support during spraying.

380+, for motor or spray operated continuously moving discharge modifier.

589.1, for a jiggled discharge caused by the geometry of the flow path of the distributor.

659, for a container for nonfluid material and scattering means which has an oscillating, reciprocating, shaking or other back and forth motion to strew the material over an extended area.

SEE OR SEARCH CLASS:

116, Signals and Indicators, subclass 137 for a compressional wave generator which may comprise a magnetostrictive or vibratory device.

102.2 By electric transducer (e.g., piezoelectric crystal):

This subclass is indented under subclass 102.1. Apparatus wherein the motor means is a device which converts electrical energy into mechanical oscillations or vibrations.

SEE OR SEARCH THIS CLASS, SUBCLASS:

263.1, for a distributor driven by an electric motor which continuously moves relative to its support during spraying.

SEE OR SEARCH CLASS:

310, Electrical Generator or Motor Structure, subclass 26 for a means producing motion by a magnetostrictive element.

340, Communications: Electrical, subclasses 10 and 11 for an underwater compressional wave caused by a vibration transducer of the piezoelectric or magnetostrictive type, respectively.

103 NOZZLE CARRIED APERTURED SHIELD AND COLLECTOR:
This subclass is indented under the class definition. Apparatus having a surface or area defined by a solid member spaced from the nozzle outlet and further provided with an aperture(s) and collecting means all carried by the nozzle so that the spray material which is projected from the outlet passes through the aperture(s) in the said member, the portion of the fluid not finding escape being collected or returned to the supply.

SEE OR SEARCH THIS CLASS, SUBCLASS:
104+, for sprayers having drip collecting, waste disposal or soil preventing guards and shields.
288, for solid means as guards or protectors.

104 WITH CLEANING MEANS, DRIP COLLECTING, WASTE DISPOSAL OR SOIL PREVENTING GUARDS OR SHIELDS:
This subclass is indented under the class definition. Apparatus having means (1) to apply a cleaning agent (fluid or solid) to the parts of the apparatus, (2) to catch system fluid which is escaping as drip or leakage from the fluid handling system, (3) to make away with trapped or retained fluid to prevent drip or leakage or other soil possibilities, or (4) externally applied or directed to the system parts to prevent soil thereof or to the environment.

(1) Note. Soil is considered to be that part of the spray fluid not desired to be discharged, or when discharged, is prevented from settling on areas not desired to be contacted by the fluid.

SEE OR SEARCH THIS CLASS, SUBCLASS:
28, for waste water catch basins associated with drinking fountains.
288, for arrangements provided with means to prevent soil from affecting the operator where there is some relationship between the apparatus and the operator or the operator's normal position.

105 Soil preventing gas shield:
This subclass is indented under subclass 104. Apparatus having means in the form of a protecting envelope of nonliquid fluid for preventing soil by precluding the formation of drops or drip accumulation, i.e., by constantly wiping a discharge aperture edge with a gas, to return excess fluid delivered to a point of egress by an air stream or by merely enshrouding the discharging liquid with an envelope of gas.

SEE OR SEARCH THIS CLASS, SUBCLASS:
290+, for apparatus having supplemental gas shaping or shielding jets applied or directed against the sprayed fluid to confine or shape the fluid beyond the egress means to a particular outline.

106 Nozzle cleaner, flusher or drainer:
This subclass is indented under subclass 104. Apparatus having means to remove foreign particles lodged in or on surfaces near the egress port, washing out unwanted material or permitting the escape thereof from the terminal member.

107 With means for enlarging spray openings beyond normal operating position:
This subclass is indented under subclass 106. Apparatus having means for flushing out or draining the nozzle comprising an arrangement for increasing the egress opening to a size beyond the normal operating spraying limits.

SEE OR SEARCH THIS CLASS, SUBCLASS:
452+, 533+, for mere fluid pressure responsive discharge modifier or regulator and not having means operating to permit egress openings beyond a normal spraying range.

108 With separate fluid reacting surface:
This subclass is indented under subclass 107. Apparatus having a motor surface in addition to or as a separate part of outlet forming surfaces or valving means for assisting in the

flushing or draining operation by enlarging the escape ports.

109 Reduction of fluid pressure affects opening (e.g., self-draining showers):
This subclass is indented under subclass 108. Apparatus in which the absence of or the dropping of pressure below an established minimum causes opening of the spray openings beyond normal use position.

110 With separate drain or access opening:
This subclass is indented under subclass 106. Apparatus provided with a drainage or access opening which is apart or discrete from the egress ports for spraying.

111 Absence of fluid pressure opens drain:
This subclass is indented under subclass 110. Apparatus having means which responds to the absence of fluid pressure to cause the additional opening to be made available.

SEE OR SEARCH THIS CLASS, SUBCLASS:
109, for similar control means affecting the spray openings.

112 With diverted system fluid or nonspraying fluid for cleaning:
This subclass is indented under subclass 106. Apparatus having means to redirect or reroute system fluid or having means to cause a non-system fluid used for spraying to clean, flush or drain the nozzle.

(1) Note. There must be claimed some means whereby one of the system fluids (air or solvent generally) is made to flow through the other (paint or solute) line to flush out the nozzle.

113 System fluid diverted:
This subclass is indented under subclass 112. Apparatus in which a fluid of the system used for spraying is redirected.

114 Solid scraping or clearing member:
This subclass is indented under subclass 106. Apparatus having a nonfluid agent associated therewith.

SEE OR SEARCH CLASS:
15, Brushing, Scrubbing, and General Cleaning, appropriate subclasses for scrapers, wipers, brushes, and the like, for cleaning.

115 Member and nozzle mounted for relative motion:
This subclass is indented under subclass 114. Apparatus in which the cleaning agent is supported for movement with respect to the nozzle which it is to clear.

116 Member is in flow line:
This subclass is indented under subclass 115. Apparatus having the cleaning agent supported within the flow confining member.

117 Member moves through spray opening:
This subclass is indented under subclass 116. Apparatus having the member movably mounted to project through the egress opening of the device.

SEE OR SEARCH THIS CLASS, SUBCLASS:
319, for moving solid surfaces supplying material through an opening to a carrier fluid outlet.

118 By fluid pressure:
This subclass is indented under subclass 117. Apparatus having the cleaning member moved by fluid pressure.

119 Return or reverse flow from outlet:
This subclass is indented under subclass 106. Apparatus in which the nozzle member is cleaned or drained by means causing flow away from the nozzle in a direction opposite to the normal spraying direction.

(1) Note. Air from without the nozzle rushing through the egress port to replace the liquid in the system returned to supply is included.

SEE OR SEARCH THIS CLASS, SUBCLASS:
112, for nonspraying fluid applied exteriorly or interiorly to the nozzle for cleaning.

120 Waste disposal or drip collecting:
This subclass is indented under subclass 104. Apparatus in which means are provided to catch or otherwise dispose of material escaping or leaking from the system through uncontrolled paths or beyond the last point of control.

SEE OR SEARCH CLASS:
137, Fluid Handling, subclasses 312+ for fluid handling systems with leakage or drip prevention features.
141, Fluent Material Handling, With Receiver or Receiver Coacting Means, subclasses 86+ for filling means having waste catchers, and subclasses 115+ for drip prevention.
222, Dispensing, subclasses 108+ for dispensers having drip collectors, and see the search notes to that subclass for additional fields of search.

121 Drip cup or trough:
This subclass is indented under subclass 120. Apparatus having a drip collecting means in the form of a cup or trough.

122 Combined with deflector:
This subclass is indented under subclass 121. Apparatus having the drip collecting means intimately associated with a means which disperses and redirects spray fluid.

(1) Note. The usual arrangement comprises projection devices spraying against a deflector in a fog or mist generator and having means to collect the liquid not finely enough divided to make mist. Here are collected various vegetable fresheners using mist.

123 Solid scraping or clearing member:
This subclass is indented under subclass 104. Apparatus having a nonliquid member or agent operative to clean or clear the system of soil.

SEE OR SEARCH THIS CLASS, SUBCLASS:
114+, for similar arrangements for nozzles or terminal members.

SEE OR SEARCH CLASS:
15, Brushing, Scrubbing, and General Cleaning, appropriate subclasses, for solid agent cleaning means, per se.

124 WITH SYSTEM FLUID RELIEF OR RETURN TO SUPPLY:
This subclass is indented under the class definition. Apparatus having means (1) to discharge or permit escape of system fluid through other than the spray egress ports, including relief to atmosphere without provision for return to supply, (2) to by-pass or redirect system fluid away from the out flow direction, and (3) to direct system fluid flowing toward the outlet means back to the source.

(1) Note. Relief of system fluid particularly in the intermittent pump type by providing a deformable or expansible chamber or flow line to temporarily accept and store fluid without actual loss to atmosphere or return to supply is not included.

SEE OR SEARCH THIS CLASS, SUBCLASS:
88+, 99 and 331, for example and see (1) Note above.

SEE OR SEARCH CLASS:
222, Dispensing, subclasses 318+ and 424 for by-pass or liquid return to supply in that class.

125 Recirculation within nozzle (e.g., burner nozzle cooling):
This subclass is indented under subclass 124. Apparatus wherein provision is made to divert spray fluid back through additional passages in the outlet member and away from the egress port to the supply for recirculation.

(1) Note. This arrangement is generally regarded as a “spill nozzle” in the internal combustion engine type and may provide such arrangement for nozzle cooling, also for burner nozzle cooling.

SEE OR SEARCH THIS CLASS, SUBCLASS:
132.3+, for nozzles provided with heat exchange means.

126 By pressure responsive means (e.g., to sump or atmosphere):

This subclass is indented under subclass 124. Apparatus in which relief or return to supply of spray fluid is under the control of a means sensitive to the pressure of fluid in the system.

SEE OR SEARCH THIS CLASS, SUBCLASS:

452+, 464 and 533+, for fluid pressure responsive discharge modifiers or flow regulators.

127 Return from liquid pump outlet to supply holder (e.g., tank filling, mixing or pump unloading):

This subclass is indented under subclass 124. Apparatus in which return of spray fluid to the supply means is made from the outlet side of the pump to relieve the discharge pressure, to act as a pumping means either for the addition of other fluids for mixing purposes or for tank filling (e.g., venturi arrangements) for pump unloading or the like purposes.

127.1 REACTION MOTOR DISCHARGE NOZZLE WITH JACKETED OR HOLLOW PORTION FOR COOLING FLUID FLOW:

This subclass is indented under the class definition. Apparatus comprising the distributor for the fluid ejected from a reaction motor to produce a thrust, said distributor, or a portion thereof, being provided with a spaced wall or internal cavity, the cavity or the space defined by the wall being connected to a source of fluid, heat from the distributor being transferred to the fluid to prevent inordinate temperature rise of the distributor.

(1) Note. See the definition and notes of subclass 265.11 for the meaning of "reaction motor" distributor.

(2) Note. This subclass will only accept devices in which the distributor is cooled; for devices in which heat is transferred to the distributor, see subclasses 128+.

SEE OR SEARCH THIS CLASS, SUBCLASS:

132.3+, for cooling means in a terminal element in which the element is not disclosed as a reaction motor discharge.

127.3 With subsequent mixing in main discharge stream in or downstream of nozzle:

This subclass is indented under subclass 127.1. Apparatus in which the cooling fluid is introduced into the main discharge stream at a location in the distributor or downstream of the distributor, after said cooling fluid has passed through the space or cavity.

SEE OR SEARCH THIS CLASS, SUBCLASS:

265.17, for a reaction motor nozzle having means for adding a secondary fluid upstream of the outlet, with however, no jacket or hollow portion for passage of such secondary fluid for cooling purposes.

265.23, for a reaction motor nozzle in which a secondary fluid is added to the main fluid subsequent to its discharge through the nozzle for deflecting the main fluid jet for steering purposes, with however, no jacket or hollow portion for passage of such secondary fluid for cooling purposes.

128 WITH HEATING OR COOLING MEANS FOR THE SYSTEM OR SYSTEM FLUID:

This subclass is indented under the class definition. Apparatus in which either the material to be sprayed or the apparatus parts are subjected to a treatment which either raises or lowers the temperature thereof.

(1) Note. A device in which an incandescent or radiant member or a system part as claimed, is positioned in the path of the fluid discharged or distributed from the system, which fluid is disclosed as ignitible to produce a flame, thus heating the member, the system part or the system fluid, whether or not the flame is actually claimed, is excluded from Class 239 and will be found in Class 431, Combustion.

(2) Note. Mere heat insulating means is excluded under this definition and will be found in subclass 397.5.

SEE OR SEARCH THIS CLASS, SUBCLASS:

13, for corresponding processes.

79+, for apparatus involving the fusion of solid or granular material in the nozzle prior to or during spraying.

125, for burner nozzle cooling by recirculation of spray fluid within the nozzle.

SEE OR SEARCH CLASS:

122, Liquid Heaters and Vaporizers, subclasses 6.5 and 6.6+ for a furnace having a feed port or tuyere with passages in which liquid is heated in cooling the port or tuyere structure.

137, Fluid Handling, subclasses 334+ fluid handling means with heating or cooling of the system.

141, Fluent Material Handling, With Receiver or Receiver Coacting Means, subclass 82 for filling arrangements including heating or cooling means.

169, Fire Extinguishers, appropriate subclasses, for CO2 snow nozzles having diffusing therefor.

222, Dispensing, subclasses 146+ for dispensers having heating or cooling means and see the accumulated search notes there included to other classes on heating and cooling subject matter.

431, Combustion, subclasses 207+ for a fuel emitter in which the fuel supplied to the emitter is heated by the burning of the emitted fuel, and subclasses 347+ for an incandescing or radiating component heated by the discharge from a burner nozzle. See (1) Note above.

129 Employing waste heat or exhaust gases:

This subclass is indented under subclass 128. Apparatus in which the temperature is raised by the use of fluids or heat retaining media which would ordinarily be disposed of in non-heat exchange relationship.

(1) Note. This type of heat exchange usually involves the use of a heat producing apparatus, such as an internal combustion engine, or steam driven prime mover, which apparatus is present for a purpose other than for heat exchange and the exhaust gases from the engine or the exhaust steam from the prime mover are used to then heat the spray material or the spray apparatus, instead of being disposed of in the usual manner.

SEE OR SEARCH CLASS:

137, Fluid Handling, subclass 336 for a burner having a flue extending through the fluid.

130 Vehicle mounted heater and spray device:

This subclass is indented under subclass 128. Apparatus provided with a conveyance on which the spraying apparatus and the temperature modifying elements are mounted.

SEE OR SEARCH THIS CLASS, SUBCLASS:

146+, for mobile type tank supply means.

SEE OR SEARCH CLASS:

180, Motor Vehicles, appropriate subclasses for a motor vehicle, per se.

280, Land Vehicles, appropriate subclasses for a land vehicle, per se.

131 With plural fluids through outlet means:

This subclass is indented under subclass 130. Apparatus in which more than a single fluid discharges through the egress opening.

132 In terminal element (e.g., injection nozzle cooling):

This subclass is indented under subclass 128. Apparatus having means positioned in the end element for varying the temperature of such element.

132.1 Heat exchange fluid:

This subclass is indented under subclass 132. Apparatus in which there is a passage in the means and a fluid is passed through said passage to perform a heat exchange function.

132.3 Cooling of terminal element:

This subclass is indented under subclass 132.1. Apparatus in which the fluid lowers the temperature of the element.

(1) Note. Except for the broad subclass 128, this and the indented subclass are the only subclasses in this group which take cooling, which must at least affect the temperature of the terminal spray element, if not that of the fluid passing therethrough.

SEE OR SEARCH THIS CLASS, SUBCLASS:

127.1+, for cooling a reaction motor discharge nozzle by passing a cooling fluid into a jacketed or hollow portion of the nozzle.

132.5 Coolant is spray fluid or is added to spray fluid:

This subclass is indented under subclass 132.3. Apparatus in which, after the cooling fluid has passed through the passage, it is combined with the spray fluid either before or after passing through the terminal outlet, or is itself the spray fluid and is discharged through the terminal outlet.

SEE OR SEARCH THIS CLASS, SUBCLASS:

127.3, for cooling a reaction motor discharge nozzle by passing a cooling fluid into a jacket or hollow portion of the nozzle and then passing the cooling fluid into admixture with the main discharge stream either at or downstream of the nozzle.

133 Spray terminal carrying member carriers heater:

This subclass is indented under subclass 128. Apparatus including a heating device which is operatively fixed to and mounted on the portion of the apparatus which also supports the terminal element.

SEE OR SEARCH CLASS:

118, Coating Apparatus, appropriate subclasses, for specific spray projection or coating apparatus having radiant energy heating means or separate work heating or treating gas or vapor nozzles, e.g., flame heaters, carried by such projection apparatus and whose disclosed primary function is to heat or treat the work before or after coating thereof.

134 With additional upstream heating means:

This subclass is indented under subclass 133. Apparatus in which there is an additional heating device intermediate the supply source and the heating means carried by the terminal member.

135 Heating means:

This subclass is indented under subclass 128. Apparatus including a means to raise the temperature of the apparatus parts or spray material.

SEE OR SEARCH CLASS:

43, Fishing, Trapping, and Vermin Destroying, subclasses 129+ for vaporizing fumigators for insecticides.

222, Dispensing, subclass 146 for heating means for dispensers and see the collected search class notes thereto for the locus of heating apparatus.

136 Vapor generator:

This subclass is indented under subclass 135. Apparatus including a device which heats a liquid to produce its vapor.

SEE OR SEARCH CLASS:

122, Liquid Heaters and Vaporizers, appropriate subclasses for heaters and vaporizers, per se, or including a nominal spraying member, or for the combination of a burner or flame nozzle specifically related to a closed liquid receptacle.

137 Plural fluids through outlet means:

This subclass is indented under subclass 136. Apparatus in which more than one fluid is discharged through the terminal outlet means.

(1) Note. There must be some characteristic differing between the fluids in order to qualify for the subclass, e.g., pressure, temperature, state, etc.

138 One an aspirating fluid for discharge:

This subclass is indented under subclass 137. Apparatus provided with means whereby one of the fluids draws, sucks, pumps or siphons at

least one other fluid for passage through the end terminal element to atmosphere.

SEE OR SEARCH THIS CLASS, SUBCLASS:
340+, 398+, appropriate subclasses for aspirating spray arrangements.

139 Spaced jacket or compartment for heating fluid:
This subclass is indented under subclass 135. Apparatus including a wall separated from and forming with the apparatus or a part thereof, an enclosed chamber or space through which the heat exchange medium passes or whereby it is contained.

140 WITH MEANS MOVABLY MOUNTING SUPPLY MEANS FOR DISCHARGING CONTENTS:
This subclass is indented under the class definition. Apparatus (1) in which the supply container is supported for relative motion with respect to means which sustains it against the forces of gravity or (2) wherein there is some means constraining the supply to have motion relative to the ground, e.g., (rolling contact) in addition to translating motion, to cause discharging of the contents.

SEE OR SEARCH THIS CLASS, SUBCLASS:
146+, where the supply tank is mounted on a vehicle but has no motion relative to the vehicle chassis for discharging of contents.

141 Rotating tank type:
This subclass is indented under subclass 140. Apparatus in which the supply means has rolling contact with the area it is spraying, or rotates around its support.

SEE OR SEARCH THIS CLASS, SUBCLASS:
722+, for mobile distributors having a fixed supply.

142 WITH AGITATION OF SUPPLY MEANS:
This subclass is indented under the class definition. Apparatus having means in addition to the discharge effecting means or other unmodified discharge controller for commingling, mixing or keeping in motion the material to be sprayed.

SEE OR SEARCH CLASS:
366, Agitating, for agitating process and apparatus, per se.

143 Gas agitation:
This subclass is indented under subclass 142. Apparatus having means to agitate the supply by applying gas to the contents of the supply holder including for example gas pressure force feed arrangements peculiarly arranged to discharge below the surface of the supply level, or gas pump discharge means disconnected from its discharge function and operated to agitate the supply.

SEE OR SEARCH THIS CLASS, SUBCLASS:
85, for supply holders for fusible, powdered or pulverulent spray material which holders frequently employ gas jets to agitate the material.

SEE OR SEARCH CLASS:
222, Dispensing, subclass 195 for dispensers having gas agitation.
261, Gas and Liquid Contact Apparatus, subclasses 121+ for submerged blast type gas and liquid contact apparatus.
366, Agitating, subclasses 3+ and 10+ for mortar mixing effected by gas agitation, and subclasses 101+ for gas effected agitation of general utility.

144 Movably mounted tank or tank part (e.g., vibratory type):
This subclass is indented under subclass 142. Apparatus having means to movably mount a tank or tank part with respect to its support to cause agitation of the contents.

SEE OR SEARCH THIS CLASS, SUBCLASS:
140+, for means movably mounting a supply means for discharging the contents thereof.

SEE OR SEARCH CLASS:
366, Agitating, subclasses 108+ for agitation by vibration.

145 POROUS OR EXTERNAL WICK DISCHARGE MEANS:

This subclass is indented under the class definition. Apparatus in which the egress means comprises a member of permeable material or a permeable strand extending outwardly from the terminal of a conduit.

(1) Note. This class does not include the application of a liquid to an area or surface by a wiping action.

(2) Note. "Soaker hoses" are included under this definition.

SEE OR SEARCH THIS CLASS, SUBCLASS:

34+, for slow diffusers.

266+, for distributors comprising longitudinally spaced outlets in a flow line conduit.

326, for temporary storage in wick or pad of liquid to be picked up by an air stream.

SEE OR SEARCH CLASS:

15, Brushing, Scrubbing, and General Cleaning, appropriate subclasses, particularly subclasses 104.93+ and 209.1+ for wipers.

47, Plant Husbandry, subclasses 1.01 and 48.5 for plant husbandry involving the application of fertilizers, etc., to plants, and subclass 1.5 for wick-like, porous discharge means having a liquid supply and adapted to wipe the liquid onto a growing plant.

55, Gas Separation, appropriate subclasses, for porous or permeable members useful for separating gas, vapors, liquids or solid particles from a gas streams.

138, Pipes and Tubular Conduits, especially subclasses 123+ for conduits of general utility which may be porous.

210, Liquid Purification or Separation, appropriate subclasses, for porous or permeable members for separating constituents from a liquid.

222, Dispensing, subclass 187 for dispensers having wick or absorbent material feed.

401, Coating Implements With Material Supply, subclasses 198+ for a hand-manipulable implement including a wick feed from within a reservoir.

405, Hydraulic and Earth Engineering, subclasses 36+ for installed irrigation devices or those with below-ground terminal outlets. See especially subclass 45 for a pipe or flume having a porous side wall or opening.

428, Stock Material or Miscellaneous Articles, subclasses 304.4+ for a composite stock material product embodying a component which is porous.

431, Combustion, subclasses 326+ for a burner in which fuel is fed to a flame area through a capillary, permeable or sieve like structure in or on which combustion takes place.

146 WITH MOBILE TANK-TYPE SUPPLY MEANS:

This subclass is indented under the class definition. Apparatus having a tank, container or receptacle constituting the supply means, mounted on a vehicular support to thereby affect or permit transposition thereof during the spraying operation.

(1) Note. Mere wheel, skid or the like support means (1) directly secured to, or (2) secured to axle means, and carried by the supply means is not sufficient to qualify the support as a vehicle. The support means must be sustainable as such without the presence of the tank-type supply.

(2) Note. Many of the patents in this group are placed here on the basis that a mobile tank supply is disclosed even though only a supply means is claimed. The mobility of the supply means whether claimed or not where combined with the distributor so that there is a self-contained operative unit capable of performing its function detached from a "pipe line" or "mains" supply and therefore during motion is deemed sufficient to warrant the disclosure as basis for the placement of the patents in this group.

SEE OR SEARCH THIS CLASS, SUBCLASS:

225.1+, for a distributor continuously moving relative to its support during spraying.

273+, for support means or connections to art devices especially subclasses 286+ for means facilitating transportation of parts of system.

650+, for a container for nonfluid material, which may be mounted on a vehicular support and means to strew or scatter the material.

722+, for mobile distributors having a fixed supply.

SEE OR SEARCH CLASS:

404, Road Structure, Process, or Apparatus, subclasses 101+ for an apparatus to distribute material on a road or roadway.

147 Ground traversing wheel-form supply tank:

This subclass is indented under subclass 146. Apparatus in which the container or receptacle is rotatably mounted and has a circular circumference supported by and adapted to roll over the ground.

SEE OR SEARCH THIS CLASS, SUBCLASS:

141, for other circular supply tanks supported by and adapted to roll over the ground for discharging the contents thereof.

SEE OR SEARCH CLASS:

111, Planting, subclasses 118+ for means to spray liquid or gas onto or into the soil combined with means to disturb the soil to facilitate absorption.

172, Earth Working, subclasses 170+ for land rollers combined with some other earth-working tool, and subclasses 518+ for tools of the rolling implement type.

404, Road Structure, Process, or Apparatus, subclasses 122+ for a compacting roller device.

148 With means replenishing system supply:

This subclass is indented under subclass 146. Apparatus including a means carried thereby that is particularly adapted to facilitate the filling or replenishing of the fluid supply in the receptacle.

149 With means movably mounting supply container relative to its support:

This subclass is indented under subclass 146. Apparatus having a means to adjust the height and/or angle between the fluid receptacle and its mounting.

SEE OR SEARCH THIS CLASS, SUBCLASS:

140+, for movably mounting supply means for effecting discharge of the contents.

142+, for agitation of supply means including a movably mounted tank or tank part.

150 With spray deflecting or compressing means (e.g., striping):

This subclass is indented under subclass 146. Apparatus provided with means to redirect or disperse the spray or to prevent the spray from spreading beyond a predesired size or shape.

(1) Note. The type of device herein classified is usually identified as a roadway or lane marker.

(2) Note. For this subclass, the means to redirect or disperse the spray is usually in the form of a solid shield or guard and is positioned directly in the path of the fluid leaving the terminal element and before the fluid contacts the surface being coated. Those devices in which the shield redirects or disperses the fluid after it has contacted and rebounded from the surface are for soil prevention and are found in subclass 104.

SEE OR SEARCH THIS CLASS, SUBCLASS:

103, for shields or templates which permit only the desired shape of spray to pass therethrough and which deflect and collect the remainder.

104, if the function of the shield is to prevent spray from reaching areas not desired to be so contacted and the shield is in the path of the spray rebounding from the surface (see (2) Note, above).

SEE OR SEARCH CLASS:

118, Coating Apparatus, subclasses 504+ for work surface shields, masks, or protectors, and subclass 301 for masks or stencils for projection apparatus.

151 By gas stream means:

This subclass is indented under subclass 150. Apparatus in which the means to disperse, redistribute or prevent the spray from spreading is a jet blast of air or other gas.

SEE OR SEARCH THIS CLASS, SUBCLASS:

290+, for gas shaping or shielding jets in other combinations.

152 BODY OR ANIMAL CARRIED:

This subclass is indented under the class definition. Apparatus comprising a supply receptacle constructed and arranged so as to facilitate its transportation on some part of a person or animal (e.g., harness, body straps, contour, etc.).

SEE OR SEARCH THIS CLASS, SUBCLASS:

653, for apparatus comprising a container and scattering means for nonfluid material and means for supporting the apparatus on the body of a user.

SEE OR SEARCH CLASS:

222, Dispensing, subclass 175 for body carried or operated dispensers.

153 Body contour feature:

This subclass is indented under subclass 152. Apparatus in which the supply receptacle is shaped to complement and fit upon the surface form of a human or animal.

154 Hand manipulated discharge means:

This subclass is indented under subclass 152. Apparatus in which the position of the distributor or end spray element is shifted manually.

SEE OR SEARCH THIS CLASS, SUBCLASS:

652, for a container for nonfluid material and a strewing means comprising a manually moved tube.

155 Operational means interconnected with ground traverse:

This subclass is indented under subclass 146. Apparatus in which there is an element moving in contact with the ground and operatively united with any one or more of the other operating or controlling mechanisms of the fluid handling system so as to be controlled thereby.

SEE OR SEARCH THIS CLASS, SUBCLASS:

62, for selective proportioning or correlated flow means having traverse motion response means.

100, for ground wheel controlled intermitter.

160, for motor means disassociated from ground traverse for imparting movement to boom or bar type distributors.

156 Ground wheel operated discharge means or controller:

This subclass is indented under subclass 155. Apparatus in which the ground contacting movable element is rotatably mounted and actuates a mechanism to cause the fluid to be ejected through the terminal element or to move some part of the terminal element to control the amount or characteristic of the flow therethrough.

SEE OR SEARCH THIS CLASS, SUBCLASS:

100, for ground wheel operated control means to intermittently terminate and restore the fluid flow to a terminal outlet means.

157 Ground wheel operated pump:

This subclass is indented under subclass 156. Apparatus in which the mechanism actuated by the ground contacting means is a device which moves to change the pressure acting with respect to the material in the tank to be sprayed.

158 Gas pressure pump:

This subclass is indented under subclass 157. Apparatus in which the moving means acts upon gas in contradistinction to liquids.

(1) Note. The usual type of gas pump in this group is that in which air is compressed

and transferred to the top of a liquid which is then ejected by the gas pressure.

159 Spray boom or bar type distributor:
This subclass is indented under subclass 146. Apparatus characterized by an arrangement of individual egress openings or plural groups of such openings along an elongated fluid conductor, bar, or bean-like member to define a spray pipe, terminal outlet members connected in series for through flow or a manifolding arrangement for individual heads.

160 With motor means imparting movement to distributor during use:
This subclass is indented under subclass 159. Apparatus further including motion effecting means transmitted to the distributors during the spraying operation.

161 Plural bars or booms:
This subclass is indented under subclass 160. Apparatus having more than one bar or boom.

SEE OR SEARCH THIS CLASS, SUBCLASS:
163, for plural diverse bars or booms.

162 Plural spray heads individually mounted for motion:
This subclass is indented under subclass 160. Apparatus having a plurality of separate terminal heads or members and each so supported to have its own cycle of motion relative to its support.

163 Plural diverse bars or booms:
This subclass is indented under subclass 159. Apparatus including at least two distributing bars or booms which are different as to kind or type of arrangement of egress means, the difference involving more than mere details of support or placement upon the carrier.

164 Adjustable distributor:
This subclass is indented under subclass 159. Apparatus having means effective to variously shiftably or angularly position the fluid distributor relative to its support.

165 Extensible or telescoping boom:
This subclass is indented under subclass 164. Apparatus having a distributor comprised of sections such that the member can be elongated or projected and retracted relative to the fixed sections thereof.

SEE OR SEARCH THIS CLASS, SUBCLASS:
281, 753, for extensible distributing means in other combinations there classified.

166 Plural sections articulated or pivotally mounted:
This subclass is indented under subclass 164. Apparatus having a number of bar or boom type sprayers either (1) hingedly or otherwise nonslidably joined together or (2) each of a number hingedly secured to the supporting means.

167 Symmetrically disposed outboard of carrier :
This subclass is indented under subclass 166. Apparatus having distributors equally and similarly disposed to either side of a central axis or plane extending longitudinally through the unit.

168 With central section:
This subclass is indented under subclass 167. Apparatus having a section which is uniformly positioned relative the longitudinal axis ahead of, above, below or to the rear of the carrier unit and having some relation to the outboard ones included.

169 Flexible coupling section to distributor:
This subclass is indented under subclass 164. Apparatus including a nonrigid connecting flow line section joining the distributor to the supply means for purposes of adjustment or rearrangement.

SEE OR SEARCH THIS CLASS, SUBCLASS:
175+, 587+, for other adjustable and shiftable arrangements.

170 Having means to selectively control discharge paths:
This subclass is indented under subclass 159. Apparatus including flow control means so that selected ones or sections of egress means may discharge or not.

171 Aircraft carried:
This subclass is indented under subclass 146. Apparatus wherein the vehicular support is an aircraft.

SEE OR SEARCH CLASS:
244, Aeronautics and Astronautics, subclass 136 for material discharging or diffusing devices and arrangements of aircraft structure, e.g., including significant aircraft structure, structure modified to accommodate the material discharging means, or mode of operation requiring flight.

172 Vehicle drawn or carried:
This subclass is indented under subclass 146. Apparatus including some vehicular feature for draft purpose or mobile support purpose.

(1) Note. See subclass 146 (1) Note for the minimum requirements to qualify as a vehicle.

SEE OR SEARCH THIS CLASS, SUBCLASS:
129, 130, for vehicle mounted spray devices having in combination a heating device for the spray fluid or the spray apparatus.

SEE OR SEARCH CLASS:
109, Safes, Bank Protection, or a Related Device, subclasses 29+, particularly subclasses 31 and 32 for fluent material releasing, generating and/or distributing means associated with structures, entry to which is to be prevented or discouraged by associating steam or hot water discharge means proximate entrance-ways, platforms, cab structure or the like (anti-intrusion).
180, Motor Vehicles, appropriate subclasses for a motor vehicle, per se.
280, Land Vehicles, appropriate subclasses for a land vehicle, per se.

173 Track guided (e.g., rolling stock):
This subclass is indented under subclass 172. Apparatus in which the vehicular member is constrained to move along a predetermined fixed path or trail by some additional cooperating member which it follows as for example a rail.

(1) Note. Included herein are ambulant devices adapted to spray surface areas provided with superimposed or contiguous vehicle supporting rails as, e.g., car tracks forming part of a street or guide rails disposed across an agricultural field.

SEE OR SEARCH THIS CLASS, SUBCLASS:
739+, 743+ and 750+, for translating distributing means not having mobile type tank supply means.

SEE OR SEARCH CLASS:
15, Brushing, Scrubbing, and General Cleaning, appropriate subclasses for track clearers and cleaners not involving liquids, per se.
105, Railway Rolling Stock, appropriate subclasses for railway rolling stock which can be used to carry or draw the tank or constrainer.
109, Safes, Bank Protection, or a Related Device, subclass 32 for anti-intrusion type sprayers arranged on trains and the like to prevent unlawful entrance thereto.
118, Coating Apparatus, subclass 307 for vehicles or carriages (e.g., railway cars) which travel along a guiding and supporting means which includes a rail, said vehicle or carriage having means to spray a liquid coating material onto the rail.
126, Stoves and Furnaces, subclasses 271.1+ for weed-destroyers and snow and ice melters involving surface heaters.
134, Cleaning and Liquid Contact With Solids, subclasses 172+ for rail or guide supported vehicles or carriages adapted to travel along the rail or guide and spray a noncoating liquid on the rail or guide.
184, Lubrication, subclasses 3.1+ for rail lubricators peculiarly related to cooperate with the rail as one that is actuated by rounding a curve.

174 Locomotive cab type attachments:
This subclass is indented under subclass 173. Apparatus having spray means attached to or adapted for connection to a locomotive, cab or the like usually involving a flexible flow line or aspiration device and fluid diverter.

(1) Note. There is usually some reference in these patents to boiler water, steam, or discharge pressure to effect aspiration afforded by the locomotive although the claims only nominally include the source if at all.

SEE OR SEARCH CLASS:
105, Railway Rolling Stock, subclasses 26.1+ for a locomotive, per se.

175 With flexible coupling section:
This subclass is indented under subclass 172. Apparatus including a nonrigid flow line section joining the supply means to the distributor for adjustability or shiftability.

SEE OR SEARCH THIS CLASS, SUBCLASS:
587.1+, for a distributor adjustably or shiftably connected to a flow conduit.

176 Adjustable distributor:
This subclass is indented under subclass 146. Apparatus having terminal flow means so supported by or coupled to the system to readily permit change in direction of discharge or disposition of discharging parts.

SEE OR SEARCH THIS CLASS, SUBCLASS:
159+, particularly subclasses 164+ for adjustably mounted spray boom or bar type distributor.
172+, for vehicle drawn or carried tanks having some vehicle feature claimed.

193 DISTRIBUTOR HAVING OVERFLOW DISCHARGE (E.G., WEIR TYPE):
This subclass is indented under the class definition. Apparatus having a trough, open tank or holder type fluid handling means which depends for its distributing function upon the fact that accumulated fluid runs over the top or edge of the retaining wall or over or through a depression or notch in a wall much as in the case of a weir to the surrounding area.

SEE OR SEARCH THIS CLASS, SUBCLASS:
17+, for ornamental fountains which may involve overflow discharge.
542, for decelerator devices which are conduit or nozzle attached and which depend upon an over-all increase in the volume of at least a portion of the flow conduit or a discharge area greater than the inlet area to decrease the velocity of the supplied fluid.

194 Escape to fluid conveying current:
This subclass is indented under subclass 193. Apparatus including means whereby the fluid which has overflowed or escaped the retaining wall is conveyed to the point of use by a second fluid.

SEE OR SEARCH THIS CLASS, SUBCLASS:
77+, for apparatus having a fluid sprayed into a gaseous conveying current.
314, for apparatus for mixing, dissolving or entraining material in a flowing liquid stream by mixing exteriorly of the liquid flow paths by dribble or drip.
379, for gravity flow from a supply holder of material to be conveyed by a second fluid.

195 FLEXIBLE FLOW LINE OR OUTLET STORAGE OR RETRIEVAL MEANS:
This subclass is indented under the class definition. Apparatus provided with a flexible conduit and terminal member and means to return the conduit or terminal member to a nonuse or stored position, or retain the conduit or terminal member in such position.

(1) Note. Included herein are hose brackets and holders adapted to be released by distension or inflation of the hose under pressure of the fluid in the hose.

SEE OR SEARCH CLASS:
92, Expansible Chamber Devices, subclass 58.1, for means for returning or storing a conduit which is claimed as conducting motive fluid to or from an expansible chamber device.

137, Fluid Handling, subclasses 355.16+ for subject matter similar to this and the indented subclasses without reference in the claims to a spray nozzle and see the class definition, Lines With Other Classes, of Class 239 for a statement of the line relating to hose storage or retrieval means and subclass 223 for inflatable article filling chuck or stem.

141, Fluent Material Handling, With Receiver or Receiver Coacting Means, appropriate subclasses for filling apparatus for filling tires with gas and liquid, for charging tires with gas having in addition to a chuck or stem a significantly claimed source of supply or means for holding or supporting the tire.

222, Dispensing, and see class definition, Lines With Other Classes, of Class 239.

248, Supports, and see class definition, Lines With Other Classes, of Class 239.

251, Valves and Valve Actuation, and see class definition, Lines With Other Classes, of Class 239.

285, Pipe Joints or Couplings, and see class definition, Lines With Other Classes, of Class 239.

196 Flow control responsive to flow line, outlet or storage means movement:

This subclass is indented under subclass 195. Apparatus having a fluid supply regulating means and a connection between such means and the conduit, terminal member or the storing means whereby movement of the conduit, terminal member or the storing means actuates the regulating means.

SEE OR SEARCH CLASS:

137, Fluid Handling, subclasses 355.18+ for flow regulation control by hose movement from a stored to a use position.

222, Dispensing, subclasses 74+ for hose or other movable discharge guide interlocks or interconnections.

197 With retrieval facilitating means:

This subclass is indented under subclass 195. Apparatus provided with means in addition to the mere support or storage apparatus for facilitating movement or to supply motive force to move the conduit to a nonuse or stored position.

(1) Note. Modified reel structure to serve as a handle or gripping portion or the addition of a handle to facilitate turning of the reel for example is construed as sufficient for retrieval means.

198 Reel and ground supported frame:

This subclass is indented under subclass 195. Apparatus provided with means for contact with the ground or floor to sustain the storage spool or drum in stable position for operation or for nonuse.

SEE OR SEARCH THIS CLASS, SUBCLASS:

200+, for fixed supports or ground installed supply means.

273+, for support means for parts of systems.

200 WITH FIXED SUPPORT FOR OR GROUND INSTALLED SUPPLY MEANS (E.G., STATIC CONSTRUCTIONAL INSTALLATIONS):

This subclass is indented under the class definition. Apparatus provided with means for sustaining the fluid supply means, all or part of such means being a structural member immovably joined to the ground or wherein a casing protector or the like for a flow line is immovably joined to and partially or wholly embedded in the ground.

(1) Note. Size alone is not controlling of static construction or fixed support, nor is the fact that the device to which the supply is connected or by which it is supported is large; the controlling factor is whether or not such structural supporting member is fixed or joined to the ground.

SEE OR SEARCH THIS CLASS, SUBCLASS:

273+, for spray apparatus with ground or vertical surface sustained support means.

274, for spray apparatus combined with means operated by an art device.

525+, for flow line or nozzle attached carriers or holders.

201 Embedded or buried sprinkler:

This subclass is indented under subclass 200. Apparatus having the supply lines and/or the spray distributor below the surface of the area containing same or within which they are supported.

(1) Note. Some feature relating the organization or arrangement to the ground or which has utility only as claimed for a ground installation, such as an enclosing or protective casing, dirt guard and the like, must be included in the claims in the absence of claimed buried supply means or flow line means to a sprinkler for classification herein.

SEE OR SEARCH CLASS:

30, Cutlery, appropriate subclasses for the combination of a cutting tool for trimming grass and a ledger plate embedded in the ground. The nominal recitation of a sprinkler head even though positively included in the claim will not militate against classification in Class 30. Class 30 also takes a tool, per se, which cuts a slit in the ground, or is an annular cutter or sweep cutter engaging a sprinkler head or other object such as a curb to guide or center such cutter.

47, Plant Husbandry, subclass 33 for ornamental beds including ground inserted metal edging means which may serve as a ledger plate to cooperate with a grass cutting blade.

172, Earth Working, appropriate subclasses for sod-cutting implements which may cut a “V” shaped furrow.

202 Street curb installed:

This subclass is indented under subclass 201. Apparatus having spraying means combined with street or road curb structure.

SEE OR SEARCH CLASS:

137, Fluid Handling, subclasses 247.11+ for street curb drainage inlet devices including a liquid seal.

404, Road Structure, Process, or Apparatus, subclasses 2+ and 7+ for curb structure, per se, combined with drainage or run-off means or wherein other fluid handling is nominal or conventional.

203 With sprinkler head elevating means:

This subclass is indented under subclass 201. Apparatus having some means which is effective to cause the distributor to rise above its nonuse housing level or position.

SEE OR SEARCH THIS CLASS, SUBCLASS:

225.1+, for distributors continuously moving relative to the support during spraying.

204 Elevating means responsive to flow of spray fluid:

This subclass is indented under subclass 203. Apparatus in which the motion for raising the sprinkler results from means responsive to the flow of spray fluid.

SEE OR SEARCH CLASS:

91, Motors: Expansible Chamber Type, appropriate subclasses for a fluid operated expansible chamber motor, per se, which may be used to elevate the sprinkler, and for the combination of such a motor with a nominally recited distributor means in the absence of claimed structure to discharge the motor exhaust fluid through the distributor.

418, Rotary Expansible Chamber Devices, appropriate subclasses for a rotary expansible chamber motor, per se, which may be used to elevate the sprinkler, and for the combination of such a motor with a nominally recited distributor means in the absence of

claimed structure to discharge the motor exhaust fluid through the distributor.

205 With spring assisted retraction:
This subclass is indented under subclass 204. Apparatus having a resilient means which assists the return of the sprinkler to nonuse housing or embedded position.

206 Distributor continuously moves during spraying:
This subclass is indented under subclass 204. Apparatus having a nozzle or sprinkler head which continuously moves about a support during the flow or discharge to the surrounding area.

SEE OR SEARCH THIS CLASS, SUBCLASS:
225.1+, for distributors continuously moving relative a support means during spraying.

207 Multiple spray heads connected for serial flow:
This subclass is indented under subclass 200. Apparatus in which the fluid conductor from the source has (1) a plurality of terminal outlet members arranged along its length so that fluid may flow through them successively and in which there is at least a disclosure of connectable conductor sections so that each section serves to hold and supply the terminal openings to supply the fluid for the next section of conductor, or (2) a coupling member having a side outlet means supporting and communicating with an adjacent terminal outlet means in addition to a downstream fluid connection to a flow line or spray pipe.

SEE OR SEARCH THIS CLASS, SUBCLASS:
266, see the accumulated notes in that subclass.

208 Building features:
This subclass is indented under subclass 200. Apparatus in which the means for immovably sustaining the fluid supply is an essential part of a building structure.

(1) Note. The relation between Classes 239 and 47, subclasses 17 (greenhouse) and subclass 19.1 (hotbeds) is as follows: if any specific detail of the greenhouse or hotbed is claimed, such as for example, the benches for the plants, or a particular pattern or curvature of the soil, together with the nozzle or supply line to spray, the patent is classified in Class 47. If the greenhouse or hotbed is claimed by name only, then the patent is classified in Class 239.

SEE OR SEARCH CLASS:
137, Fluid Handling, subclasses 357+ for static constructional installation having to do with buildings and fluid handling.

209 Overhead or ceiling mounted supply conduit:
This subclass is indented under subclass 208. Apparatus in which the supply flow line is fixed to the upper part or to the overhead cover portion of the room.

SEE OR SEARCH CLASS:
137, Fluid Handling, subclass 357 for building supported conduit lines not including the nozzle or terminal element and subclass 580 for rotatable joints in pipe conduits where the nozzle or terminal elements are not claimed.
285, Pipe Joints or Couplings, subclass 64 for building supported pipe joints where such joints may be part of a spraying system, and subclasses 272+ for swivel joints as part of a fluid spraying system.

210 Moving (non-ground traversing) distributing means:
This subclass is indented under subclass 200. Apparatus provided with distributing means which is continuously moving while the spray fluid is discharging.

SEE OR SEARCH THIS CLASS, SUBCLASS:
206, for embedded sprinklers having moving distributor means during spraying.
225.1+, for distributors continuously moving relative to a support during spraying.

237+, 251+, for spray fluid motor drives and reaction type nozzle motive means, respectively, for moving distributors.

722+, for distributing means mounted on a mobile support base which may move during spraying.

211 SIMULATIONS:

This subclass is indented under the class definition. Apparatus having claimed features of external configuration which are designed to imitate or assume the appearance of some animate or inanimate object.

SEE OR SEARCH THIS CLASS, SUBCLASS:

302, for supply containers or retainers in general without particular regard to external configuration.

SEE OR SEARCH CLASS:

221, Article Dispensing, subclass 24 for container structure for article dispensers of simulated form.

222, Dispensing, subclasses 78+ for dispensers having containers or casings of simulated form.

431, Combustion, subclass 125 for a fuel burner imitating the appearance of some animate or inanimate object.

214 SLINGER OR SPLASHER; OR DEFLECTOR ROTATED RELATIVE TO EFFLUENT:

This subclass is indented under the class definition. Apparatus comprising (1) a moving means for distributing fluid, said means contacting a supply of the liquid, or (2) a continuously rotating means to distribute fluid delivered thereto from a modified or unmodified outlet, said means rotating relative to said outlet.

(1) Note. Included under this definition are slingers, splashers or deflectors which are rotated by the fluid impinging thereon, as well as by independent driving means.

(2) Note. Included in this group are evaporator-dehydrator subcombinations, e.g., centrifugal slingers which are disclosed in an evaporative drying apparatus.

SEE OR SEARCH THIS CLASS, SUBCLASS:

7, for a method of distributing fluid by centrifugal force or spattering.

225.1+, for a deflector which moves with a modified or unmodified outlet relative to a support to distribute fluid.

380+, for a motor or spray fluid actuated moving discharge modifier, other than a rotating deflector, which has motion relative to a modified or an unmodified fluid outlet.

SEE OR SEARCH CLASS:

159, Concentrating Evaporators, subclass 6, for a concentrating evaporator in which a liquid film is maintained on a surface by centrifugal force.

198, Conveyors: Power-Driven, subclasses 638+ for a thrower type conveyor.

261, Gas and Liquid Contact Apparatus, subclasses 91+, for gas-liquid contact apparatus comprising scattering or distributing the liquid by a rotating impeller dipping into a body of liquid.

431, Combustion, subclasses 168+ for a rotary fuel dispenser installed in an industrial or domestic furnace.

214.11 With addition of other fluid downstream of distributor:

This subclass is indented under subclass 214. Apparatus comprising means to conduct a second fluid (e.g., air) into contact with the distributed fluid stream downstream of the distributor.

(1) Note. The “other” or second fluid must be discharged by some means other than by the distributor for the primary fluid, even though it may originate from the same source.

(2) Note. Subject matter under this definition typically includes means to bring a gas (e.g., air) into contact with a combustible fluid issuing from a rotating distributor.

214.13 Distributor motion caused by fluid flow:
This subclass is indented under subclass 214.11. Apparatus in which the motion of the distributor is caused by impingement of any of the fluids on said distributor directly or on an element connected to said distributor.

214.15 Plural fluid outlets from distributor:
This subclass is indented under subclass 214.11. Apparatus having a distributor comprised of a multiplicity of apertures or conduits for discharging the distributed fluid in two or more separate and distinct streams.

214.17 With combining of fluids and subsequent distribution:
This subclass is indented under subclass 214.11. Apparatus including means to separately conduct each of a plurality of fluids into the distributor, or to cause a plurality of separate fluids to intermingle with each other before contact with the distributor.

(1) Note. At least one of the fluids may comprise a portion of the second fluid, branched off from the second fluid stream before it contacts the distributed fluid stream downstream of the distributor.

SEE OR SEARCH THIS CLASS, SUBCLASS:

214.25, for means for combining diverse fluids at or upstream of a distributor but in which no means is claimed for contacting the distributed fluid with a second fluid stream downstream of the distributor.

214.19 One of relatively axially movable concentric flow paths continuously rotating:
This subclass is indented under subclass 214.11. Apparatus comprising coaxially arranged flow line means for conducting the fluids, at least one of which lines continuously revolves around the flow axis, one flow line surrounding the other, axial movement of the flow line means, one with respect to the other, controlling the flow of one or more of said fluids for commingling thereof.

SEE OR SEARCH THIS CLASS, SUBCLASS:

416, 417, for relatively movable concentric flow paths, for controlling the flow of one or more of a plurality of separate fluid streams for commingling thereof in a stationary distributing means.

214.21 With pump or interior guide vanes for fluid:
This subclass is indented under subclass 214.11. Apparatus having means (e.g., jet pump, rotary pump) to impel any of the fluids, or fluid flow directing blades located in the path of flow of any of the fluids, at or upstream of the last point of confinement for that fluid.

SEE OR SEARCH THIS CLASS, SUBCLASS:

399+, for a stationary distributor and means (e.g., guide vanes) for imparting a spin or whirling motion to one or more of a plurality of fluid streams which are conducted through separate fluid flow conduits and subsequently commingled.

463+, for a stationary distributor and a means for imparting a spin or whirling motion to the fluid in the flow path upstream of the egress opening.

553+, for a guide or other directing surface located within a stationary distributor having plural outlets and see the search notes therein.

590+, for a guide or other directing surface located within a fixed terminal member and see the search notes thereunder.

214.23 Adjustable or deformable:
This subclass is indented under subclass 214.21. Apparatus in which the fluid impelling or directing means may be selectively positioned relative to the flow path of the fluid on which it acts, or in which the shape or position of said impelling or directing means is changed or distorted by the force of the fluid in the flow path.

214.25 With combining of diverse fluids at or upstream of distributor:
This subclass is indented under subclass 214. Apparatus comprising means to conduct each of a plurality of separate and distinct fluids into

the distributor, or to cause each of said fluids to intermingle with each other before contacting the distributor.

(1) Note. To be diverse, the fluids must vary from each other in some essential characteristic, e.g., temperature, pressure, state of matter, or state of distribution.

SEE OR SEARCH THIS CLASS, SUBCLASS:

214.17, for means for combining a plurality of fluids at or upstream of a distributor combined with means to conduct a second fluid into contact with the distributed fluid down-stream of the distributor.

215 With separate pump or movable conveyer means delivering to distributor:

This subclass is indented under subclass 214. Apparatus having a separate element or device which moves relative to the source of spray material for, or which results in supplying the distributor with fluid for spraying.

(1) Note. This subclass includes devices of flared tubular form which rotate about their longitudinal axes and cause material to travel upwardly to some other member or part for distribution.

216 Bowl-like rotating sleeve conveyer:

This subclass is indented under subclass 215. Apparatus in which the moving member has a bowl-like configuration of open ended form within which material is raised as it rotates to deliver material to the distributor.

SEE OR SEARCH THIS CLASS, SUBCLASS:

222, for stationary apertured casings spaced about a distributor to permit spray to be discharged therethrough and having a bowl-like configuration.

217 And scoop delivering to distributor:

This subclass is indented under subclass 216. Apparatus including an additional member which dips or picks up material from the rotating sleeve and delivers the material to the distributor.

218 Endless belt conveyer:

This subclass is indented under subclass 215. Apparatus in which the movable means delivering to the distributor is a continuous member of band-like form

SEE OR SEARCH THIS CLASS, SUBCLASS:

214, for endless conveyor means running in a supply from which material is distributed by abrupt motions of or by flicking the conveyor.

SEE OR SEARCH CLASS:

198, Conveyors: Power-Driven, appropriate subclasses for conveyor belts, per se.

218.5 Screw or spiral conveyer:

This subclass is indented under subclass 215. Apparatus in which the movable means delivering to the distributor is of helical configuration.

219 Slinger or splasher dipping into or immersed in supply:

This subclass is indented under subclass 214. Apparatus in which the distributing member is at least partially submerged in the supply either before or during spraying and which picks up material and then throws it off by high speed movement, or directly causes violent agitation of the material to cause it to form a spray.

220 Horizontal axis rotary distributor:

This subclass is indented under subclass 219. Apparatus in which the member has rotary motion about an axis horizontally disposed.

221 Submerged impeller type splasher or slosher:

This subclass is indented under subclass 219. Apparatus in which the member runs beneath the normal liquid level in the supply container to cause violent agitation or movement of the liquid to form spray.

222 Spray apertured casing spaced about distributor:

This subclass is indented under subclass 214. Apparatus in which the distributing means is encased or shielded by a spaced exteriorly arranged member provided with apertures

through which material is discharged, the casing usually admitting of adjustment either for purposes of spray quantity control or to change the the direction of discharge.

SEE OR SEARCH THIS CLASS, SUBCLASS:

103, for nozzle carried apertured shield and collector.

288+, for solid member guards or protectors.

222.11 Nozzle delivers fluid to deflector:

This subclass is indented under subclass 214. Apparatus having a continuously rotating means to distribute fluid delivered thereto from a modified outlet, said means rotating relative to said outlet.

(1) Note. The means continuously rotates about an axis which passes through said means.

SEE OR SEARCH THIS CLASS, SUBCLASS:

223+, for a fluid conduit having an unmodified terminal outlet combined with a continuously rotating disc, impeller-type or bowl-like slinger located proximate thereto for distributing or dispersing fluid discharge from said terminal.

380+, for motor or spray fluid actuated continuously rotating fluid flow modifying means located in or upstream of a terminal outlet member.

222.13 Nozzle continuously moves:

This subclass is indented under subclass 222.11. Apparatus in which said outlet is caused to move continuously during spraying with respect to the base or support provided therefor.

SEE OR SEARCH THIS CLASS, SUBCLASS:

231+, for a continuously moving nozzle and a fixed or movable nonrotating deflector (e.g., baffle) disposed in the path of fluid emerging from said nozzle.

222.15 Deflector causes movement:

This subclass is indented under subclass 222.13. Apparatus in which there is a motive means connected to said continuously moving outlet and actuation of said motive means is caused by motion of the rotating means to which the fluid is delivered.

SEE OR SEARCH THIS CLASS, SUBCLASS:

233, for a nonrotatively, continuously moving deflector causing continuous movement of a nozzle delivering fluid to said deflector.

222.17 Fluid actuated deflector:

This subclass is indented under subclass 222.11. Apparatus in which said continuously rotating means is driven by the fluid delivered thereto from said outlet.

222.19 Plural streams to unitary deflector:

This subclass is indented under subclass 222.17. Apparatus in which said outlet delivers a plurality of distinct fluid streams to the continuously rotating means.

SEE OR SEARCH THIS CLASS, SUBCLASS:

408, for unitary deflectors having multiple fingers or serrated edges.

504, for deflectors apertured for flow.

520, for plural outlets delivering to a stationary deflector.

222.21 Eccentrically mounted:

This subclass is indented under subclass 222.19. Apparatus in which the axis of rotation of said continuously rotating means is not coextensive with the longitudinal axis of said outlet.

223 Disc impeller type or bowl-like slinger or deflector:

This subclass is indented under subclass 214. Apparatus in which the distributor takes the form of a flat plate-like member, is a member of impeller or wheel form or is of a centrifugal bow-like configuration, to which fluid is supplied and from which the fluid is thrown to produce a spray.

SEE OR SEARCH CLASS:

416, Fluid Reaction Surfaces (i.e., Impellers), appropriate subclasses for an impeller, per se.

224 Disc or impeller type:

This subclass is indented under subclass 223. Apparatus in which the distributor is plate or impeller like.

SEE OR SEARCH CLASS:

416, Fluid Reaction Surfaces (i.e., Impellers), appropriate subclasses for an impeller means, per se, disclosed for scattering a fluid.

225.1 DISTRIBUTOR CONTINUOUSLY MOVES RELATIVE TO SUPPORT DURING SPRAYING:

This subclass is indented under the class definition. Apparatus including a distributor which moves continuously and also relatively to a base or support provided therefor, said distributor including a modified or an unmodified outlet.

(1) Note. The continuous motion may be intermittent in nature provided that there is no appreciable delay between the successive increments of movement.

SEE OR SEARCH THIS CLASS, SUBCLASS:

97+, for cyclically moving distributors with synchronized flow regulators.

104+, for means movably mounting supply means for discharging contents.

146, for apparatus having a mobile tank-type supply means.

206, 210+, for the subject matter of this subclass for sprinklers which are buried, embedded or otherwise fixedly installed.

214+, for fluid spraying apparatus comprising a moving slinger or splasher, or a rotating deflector which rotates relative to an effluent stream, the motion being caused by a motor or by impingement of the fluid.

380+, for a motor or spray fluid actuated moving discharge modifier, other than a rotating deflector, which has motion relative to a modified or an unmodified fluid outlet.

722+, for a distributor having a mobile support base.

226 With supply holder or plural substance mixing:

This subclass is indented under subclass 225.1. Apparatus which is provided with either (1) a receptacle to retain a quantity of a substance to be mixed with a fluid to be sprayed, or (2) a means to supply different substances to a point where they mix or mingle together to form a distributed fluid.

227 Compound motion of distributor or terminal member about plural axes:

This subclass is indented under subclass 225.1. Apparatus in which the distributor moves continuously relative to an axis or carrier which axis or carrier is moving with respect to a fixed support.

(1) Note. Examples of such a motion are (1) planetal motion of the outlet member, and (2) an outlet member movably mounted on a reciprocating support.

228 Sediment collector or internal diverter baffle:

This subclass is indented under subclass 225.1. Apparatus provided with (1) a screen or means to settle out or retain foreign solid matter from the fluid, and/or (2) a vane-like means within the confined fluid flow path to change the nature or direction of the flow through said path.

SEE OR SEARCH THIS CLASS, SUBCLASS:

110, if a separate outlet or drain for the collected material is claimed.

229 Wriggler or flexible distributor:

This subclass is indented under subclass 225.1. Apparatus in which the distributor comprises a contortive flow conduit which is adapted to undergo a gyratory motion, usually due to reaction of the discharged fluid.

230 With impact motive means:

This subclass is indented under subclass 225.1. Apparatus in which the distributor is intermittently moved relative to its mounting by a means which imparts a series of successive blows thereto.

SEE OR SEARCH THIS CLASS, SUBCLASS:

260, for impact means which jars the distributor or terminal outlet means to minimize frictional binding to facilitate its movement by some other agency.

231 Including deflector:

This subclass is indented under subclass 225.1. Apparatus having a dispersing or redirecting vane or baffle disposed in the path of fluid emerging from the outlet.

(1) Note. The vane or baffle may be fixed or movably mounted on either the fixed support for the outlet or on means rigidly secured to said outlet. It may either constitute part of a means to move the outlet or may merely redirect or change the character of the efflux from the outlet.

232 Movable during operating cycle for pattern control:

This subclass is indented under subclass 231. Apparatus in which the dispersing vane disposed in the path of fluid emerging from the outlet cooperates with a means to continuously vary the position or attitude of the vane for the disclosed purpose of varying the shape of the area sprayed in the various sectors through which said outlet moves.

233 Deflector causes movement of distributor:

This subclass is indented under subclass 231. Apparatus in which motion of the distributor is caused by motion of the dispersing vane acting directly on the distributor or through a motion transmitting means.

SEE OR SEARCH THIS CLASS, SUBCLASS:

222.15, for a continuously rotating means distributing fluid delivered thereto from a modified outlet, the outlet being caused to continuously move relative to a base or support by motion of the said rotating means.

236 With undulating or irregular cam track for noncircular pattern control:

This subclass is indented under subclass 255.1. Apparatus which includes a means engaging a portion of the distributor member or an element operatively connected thereto, said means being adapted, during use, to change the direction or attitude of said member in order to change the shape of the area sprayed in the various sectors through which said member moves.

SEE OR SEARCH THIS CLASS, SUBCLASS:

232, for deflectors which are similarly moved for the same purpose.

237 Spray fluid motor drive means (not reaction):

This subclass is indented under subclass 225.1. Apparatus provided with a motor means to move the distributor, said means including a surface which is moved by the weight, pressure or impact of at least a portion of the stream of fluid in a flow conduit which, as disclosed, communicates with the outlet.

(1) Note. Motor means which operate solely in response to the reaction of a stream of fluid leaving a nozzle are excluded and will be found in the pertinent subclass herebelow.

SEE OR SEARCH THIS CLASS, SUBCLASS:

214.13, for a moving distributor caused to move by impingement of fluid directly on the distributor or on an element connected thereto.

222.15, for a distributor nozzle which is caused to continuously move by action of a rotating deflector to which the nozzle delivers fluid.

233, for moving deflectors having a nonrotary motion and which form a motor means to move a distributor.

SEE OR SEARCH CLASS:

91, Motors: Expansible Chamber Type, appropriate subclasses for an expansible chamber fluid motor, per se, and for the combination of such a motor with a nominally recited distributor

means in the absence of disclosed structure to discharge the motor exhaust fluid through the distributor.

418, Rotary Expansible Chamber Devices, appropriate subclasses for rotary expansible chamber motor, per se, and for the combination of such a motor with a nominally recited distributor means in the absence of disclosed structure to discharge the motor exhaust fluid through the distributor.

238 By weight of accumulated fluid:
This subclass is indented under subclass 237. Apparatus in which the motor means for moving the distributor includes a receptacle adapted to receive a flow of fluid and move under the influence of gravity due to the mass of this fluid.

239 Continuously operative rectilinearly reciprocating motor:
This subclass is indented under subclass 237. Apparatus in which the fluid engaging motor surface is moved back and forth in a substantially straight line.

240 Rotary motor drive (e.g., turbine type):
This subclass is indented under subclass 237. Apparatus in which the fluid engaging motor surface is mounted to rotate about an axis.

(1) Note. The motor may be of the turbine type or may be of the rotary expansible chamber type.

SEE OR SEARCH THIS CLASS, SUBCLASS:

214.13, for a moving distributor caused to move by impingement of fluid directly on the distributor or on an element connected thereto.

222.15, for a distributor nozzle which is caused to continuously move by action of a rotating deflector to which the nozzle delivers fluid.

241 With step-by-step advance motion:
This subclass is indented under subclass 240. Apparatus which includes a means driven by a rotary fluid motor to intermittently advance the distributor in a series of separate and successive moves.

242 With step-by-step advance motion:
This subclass is indented under subclass 240. Apparatus which includes a means driven by a rotary fluid motor to move the distributor back and forth along a path and/or about an axis.

243 Multiple distributors supported for relative motion or on different axes (one may be stationary):
This subclass is indented under subclass 225.1. Apparatus which includes a plurality of distributors which are (1) supported for movement about separate axes, or (2) provided with means to individually support them so that they are capable of motion in different directions and/or at different speeds, or (3) relatively movable due to the fact that only one of them is stationary.

244 One distributor drives another:
This subclass is indented under subclass 243. Apparatus in which a drive means interposed between the separate distributors so that one moves when the other does.

245 Coaxially arranged distributors:
This subclass is indented under subclass 243. Apparatus in which plural distributors are mounted for rotation on the same axis.

(1) Note. Included herein are (1) coaxial distributors with means to drive them at different speeds and/or in opposite directions, and (2) coaxial distributors, one of which is rotary and the other of which is stationary.

246 Distributor with diversely shaped or oriented terminal members or outlets:
This subclass is indented under subclass 225.1. Apparatus which includes a distributor member with at least two outlets apertures or groups of outlet apertures each of which has a different arrangement, shape or attitude than the other or others.

247 Adjustable or shiftable terminal member:
This subclass is indented under subclass 246. Apparatus including a member which defines an outlet aperture and is variable in position relative to the distributor member which carries it, for the purpose of changing the shape or attitude of the outlet aperture.

248 Groups of terminal members or outlets spaced along axis of rotation:
This subclass is indented under subclass 246. Apparatus which includes at least two outlet apertures or groups of outlet apertures which are spaced from each other in a direction parallel to the axis of rotation of a rotary distributor in which the outlet apertures are disposed.

249 Circumferentially alternating diverse terminal members or outlets:
This subclass is indented under subclass 246. Apparatus which includes at least two different outlet apertures or groups of outlet apertures which are spaced from each other peripherally of a rotary distributor in which the outlet apertures are disposed in such fashion that different apertures or groups of apertures pass by a fixed point in succession as the member rotates.

251 Reaction-type nozzle motive means:
This subclass is indented under subclass 225.1. Apparatus including an aperture through which the fluid discharges, the reaction to the force of the discharging fluid driving the distributor which carries the aperture in a direction opposite to that of such fluid discharge.

SEE OR SEARCH THIS CLASS, SUBCLASS:
229, for flexible distributors which may move due to reaction of the discharged fluid.
738, 746, for reaction type distributors forming part of a land traversing spraying organization.

SEE OR SEARCH CLASS:
415, Rotary Kinetic Fluid Motors or Pumps, subclasses 80+ for a fluid motor runner motivated by a fluid reaction jet discharge. See the reference to Class 239 in the definition of Class 415.
416, Fluid Reaction Surfaces (i.e., Impellers), subclasses 20+ for an impeller driven by a fluid reaction jet discharge.

252 With brake, lock or retarder:
This subclass is indented under subclass 251. Apparatus which includes a means to stop motion of, or to decrease the velocity of the reaction driven distributor.

253 Terminal members adjustable simultaneously or radially swinging:
This subclass is indented under subclass 251. Apparatus provided with (1) a plurality of members, each carrying an outlet aperture, which are interconnected to a single control device adapted to adjust the position of said members simultaneously, or (2) at least one member carrying an outlet aperture and pivoted to a rotating support to swing in a plane containing the axis of rotation of said support.

254 Filter bed type or fluid seal:
This subclass is indented under subclass 251. Apparatus which includes (1) a reaction driven distributor disclosed as cooperating with a sludge settling area or large filtering plant, or (2) a means to seal the apparatus against the loss or leakage of fluid, said means consisting of a receptacle to hold a heavy liquid in a location where it will block the path of egress of said fluid.

(1) Note. The filter bed type distributors are usually large and heavy and may involve problems of structural bracing.

255 Oscillating or reciprocating distributor:
This subclass is indented under subclass 251. Apparatus which includes a means actuated by a reaction type nozzle to move the distributor back and forth along a path or about an axis.

SEE OR SEARCH THIS CLASS, SUBCLASS:
98, for oscillating or reciprocating distributors which employ alternately spraying, oppositely directed reactions nozzles.

256 Control of speed or axis of rotation shiftable (manual valves excluded):
This subclass is indented under subclass 251. Apparatus which includes (1) means to vary some portion of a distributor member to change its velocity, or (2) means to move a distributor

to a new position in which it moves about a different axis.

(1) Note. Mere valves in the flow line have been excluded even where they are located in the terminal outlet member.

SEE OR SEARCH THIS CLASS, SUBCLASS:
262, for control of speed of a reaction nozzle type organization by controlling the flow of fluid therethrough by valves and the like.

257 Variable outlet aperture size:
This subclass is indented under subclass 256. Apparatus including a member carrying an outlet aperture, and means to adjust the area of the aperture to change the velocity of the distributor or the shape of the area sprayed.

258 Varying jet to change tangential reaction component:
This subclass is indented under subclass 256. Apparatus in which a member which carries the outlet aperture is adjusted to vary the angularity of fluid discharge through the aperture to change the effective reaction to the force of the discharging fluid.

259 With binding preventing means or seal:
This subclass is indented under subclass 251. Apparatus which includes (1) means other than or in addition to a mere bushing to support a distributor for unrestrained motion, or (2) means to prevent fluids from leaking at joints between relatively moving portions of the apparatus.

(1) Note. Ball and roller type bearings have been considered to be proper subject matter for this subclass.

SEE OR SEARCH THIS CLASS, SUBCLASS:
254, for sealing members in which a body of liquid forms a barrier against leakage.

260 Distributor vibrating or jarring means:
This subclass is indented under subclass 259. Apparatus which include impact or shaking means to cause a movably mounted distributor to shudder and thus minimize any binding or frictional resistance to motion.

SEE OR SEARCH THIS CLASS, SUBCLASS:
230, for impact devices which intermittently move a distributor or terminal element.

261 Support details for moving distributor:
This subclass is indented under subclass 251. Apparatus which includes claimed details of a base, stand, carrier or other device to sustain the weight of a moving distributor and not provided for above.

262 With flow controller:
This subclass is indented under subclass 251. Apparatus which includes means to vary the amount or rate of flow of fluid passing through the flow line leading to the distributor.

SEE OR SEARCH THIS CLASS, SUBCLASS:
97+, for cyclically moving distributors with synchronized flow regulators.
257, for flow varying means for a moving terminal outlet which means may change the size or shape of the terminal outlet.

263 Fluid motive means:
This subclass is indented under subclass 225.1. Apparatus which includes a motor to move the distributor, said motor being provided with a separate source of fluid from that discharged through the terminal outlet.

(1) Note. Included herein, for example, are air motor drives, wind driven motors, wind vane type motors which position the distributor relative to the wind direction, and fluid motors driven by recirculating fluid which is not in communication with the sprayed fluid.

263.1 Electric motive means:
This subclass is indented under subclass 225.1. Apparatus which includes a motor to move the distributor, said motor being driven by electrical energy.

SEE OR SEARCH THIS CLASS, SUBCLASS:

102.2, for an electric motor which causes vibration or jiggling of the discharged fluid.

263.2 Power takeoff from another device:

This subclass is indented under subclass 225.1. Apparatus which derives its continuous motion through transmission means driven by a motor, which motor is primarily used to drive a device other than the fluid distributor.

SEE OR SEARCH CLASS:

180, Motor Vehicles, subclasses 53.1+ for motor vehicle engines used as the source of power for another machine.

263.3 Transmission details:

This subclass is indented under subclass 225.1. Apparatus which includes claimed details of the mechanism which connects a motor used to drive the distributor with the distributor itself.

264 Support details for moving distributor:

This subclass is indented under subclass 225.1. Apparatus which includes claimed details of a base, stand carrier or other devices to sustain the weight of a moving distributor and not provided for above.

265 Adjustable standard or support:

This subclass is indented under subclass 264. Apparatus in which the supporting means for the moving distributor may be secured in any of a plurality of positions in order to move the distributor to a different location or attitude.

265.11 REACTION MOTOR DISCHARGE NOZZLE:

This subclass is indented under the class definition. Apparatus comprising the distributor for the fluid ejected from a reaction motor to produce a thrust.

(1) Note. The “reaction motor” of this definition is the motor forming the subject matter of Class 60, Power Plants, subclasses 35.5+, the subject matter falling under this definition being the nozzle or distributor subcombination of such motor coming within the class definition of Class 239.

(2) Note. A claim reciting a combustion chamber or other means imparting energy to the fluid is not excluded from this and the indented subclasses in the absence of specific details of the energy imparting means or a specific relationship between the means and the terminal member.

(3) Note. See Class 60, Power Plants, subclasses 200.1+ (5) Note for examples of vehicle structure considered to be significantly claimed, which note must be considered in relation to the vehicle classes indicated under Search Class (below).

SEE OR SEARCH THIS CLASS, SUBCLASS:

127.1+, for a reaction motor distributor a portion of which has a spaced wall or internal cavity, and a source of cooling fluid connected to the cavity or space, to cool the distributor by transfer of heat to the fluid.

251+, for a reaction type nozzle forming the terminal member of a fluid conduit which is connected for continuous motion relative to a fixed support.

SEE OR SEARCH CLASS:

60, Power Plants, subclasses 35.5+ for reaction motors. Typically, such motors comprise the combination of a reaction type nozzle with means feeding fuel thereto (e.g., after-burner), or combustion chamber details (e.g., materials), or a claimed relationship between a combustion chamber or a turbine or compressor upstream of the nozzle (e.g., pressure or temperature difference across the combustion chamber, turbine or compressor for affecting flow through the fluid system or for controlling a system or nozzle part).

102, Ammunition and Explosives, subclasses 347+ for pyrotechnic rockets, subclass 359 for pin wheels, and subclasses 374+ for rocket propulsion of projectiles.

105, Railway Rolling Stock, subclasses 26.1+ for a jet propelled rail locomotive.

114, Ships, subclass 151 for reaction motors arranged to steer a ship.

180, Motor Vehicles, subclass 7 for a motor vehicle having means for driving it in some other manner than by drivingly rotating a surface-engaging wheel, which means may be in the nature of jet propulsion.

244, Aeronautics and Astronautics, subclasses 12, 15, 23, 29, 52, and 73+ for aircraft sustained by the thrust of a reaction motor or propelled or steered by a reaction motor.

415, Rotary Kinetic Fluid Motors or Pumps, subclasses 80+ for a reaction type nozzle on a fluid jet motivated turbine runner.

416, Fluid Reaction Surfaces (i.e., Impellers), subclasses 20+ for a reaction type nozzle on a fluid jet driven impeller.

431, Combustion, subclass 158 for a chamber specialized to combustion feeding a jet nozzle of general utility.

440, Marine Propulsion, subclasses 38+ for reaction motors which propel or propel and steer a ship.

446, Amusement Devices: Toys, subclass 163 for jet propelled boats and subclasses 211+ for other jet propelled toys.

265.13 With retractable noise suppressing stream divider:

This subclass is indented under subclass 265.11. Apparatus including a member movable into and out of the fluid stream being discharged and effective to separate the stream into a plurality or smaller, parallel streams for the purpose of attenuating the sound of the stream discharge.

SEE OR SEARCH CLASS:

181, Acoustics, subclasses 213+ for mufflers and sound filters, per se.

265.15 With erodible, frangible or fusible nozzle part:

This subclass is indented under subclass 265.11. Apparatus in which at least part of the distributor is made of material which during use is to be broken, melted or worn away.

SEE OR SEARCH THIS CLASS, SUBCLASS:

591, for a distributor having a liner member therein usually of wear resistant properties.

265.17 With addition of secondary fluid upstream of outlet:

This subclass is indented under subclass 265.11. Apparatus comprising a means for delivering an auxiliary or secondary fluid into the main fluid stream at a point in the system prior to discharge through the distributor outlet.

(1) Note. Included under this definition are devices in which the auxiliary fluid serves as means to deflect the main stream for steering purposes.

SEE OR SEARCH THIS CLASS, SUBCLASS:

127.3, for terminal outlet members having jacket or cavity means through which a cooling fluid passes and is then mixed with the main fluid.

265.13, for reaction motor nozzles having a device movable into the fluid stream for dividing the stream into a plurality of separate streams for attenuating noise, combined with means aspirating air to mix with the streams and aiding the suppression of sound.

265.23, for a reaction motor nozzle having means for adding an auxiliary fluid to the main fluid stream subsequent to discharge through the outlet for deflecting of the main jet for steering purposes.

398+, for other terminal members having means to supply and mix a secondary or auxiliary fluid with the main fluid stream either upstream or downstream of the outlet therefrom.

265.19 With means controlling amount, shape or direction of discharge stream:

This subclass is indented under subclass 265.11. Apparatus having means associated with the distributor to regulate or change quantity, configuration, or line or course of movement of the discharge fluid stream.

SEE OR SEARCH THIS CLASS, SUBCLASS:

407+, for a distributor to which separate fluid streams are supplied for mixing, and in which a valve means controls the flow of at least one stream.

476+, for a distributor having means to control rotation of the discharged fluid and which includes an operating member therefor mounted outside of and on the distributor.

537+, for a distributor in which a movable discharge portion is connected with and moves with a member controlling fluid flow.

569+, for a distributor and valve means controlling fluid flow.

265.23 Fluid jet for stream deflection:

This subclass is indented under subclass 265.19. Apparatus comprising an auxiliary, supplementary or secondary fluid to cause deviation of the discharging fluid stream from its previous line or course of motion.

SEE OR SEARCH THIS CLASS, SUBCLASS:

127.3, for a reaction motor nozzle in which there may be a secondary fluid added downstream of the outlet and deflecting the main stream, the secondary fluid passing through a jacket or hollow portion associated with and cooling the nozzle.

265.17, for a reaction motor nozzle and the addition of an auxiliary fluid jet upstream of the outlet, which jet may cause deflection or deviation of the main fluid stream.

290+, for a distributor in which a supplemental gas jet is discharged upon or associated with the main fluid jet for shaping or shielding the main jet.

398+, for a distributor having means to mix an auxiliary fluid with the main stream.

SEE OR SEARCH CLASS:

137, Fluid Handling, subclasses 803+ for fluid systems having means to divert or vary the flow of one stream relative to a stream receiver by direct contact with at least one other stream, such devices being commonly known as “fluid amplifiers” acting to control or vary high energy flows by relatively low energy flow.

265.25 Plural controlled outlets:

This subclass is indented under subclass 265.19. Apparatus in which the distributor comprises at least two distinct outlets, and the means regulates flow quantity, configuration or line of motion through each outlet individually or simultaneously.

(1) Note. A device having a single outlet and a plurality of thrust spoiling or reversing flaps or other deflectors movable from outside the fluid stream into the fluid stream discharged from this outlet so as to redirect the fluid into a plurality of streams is not considered to come within this definition.

SEE OR SEARCH THIS CLASS, SUBCLASS:

170, for a spray boom or bar-type distributor on a mobile, tank type supply means, with means to selectively control the discharge paths in the distributor.

562+, for a distributor having plural outlets and means for controlling either the flow to the outlets or closures for the outlets.

265.27 Selective total discharge through diversely shaped or directed outlets:

This subclass is indented under subclass 265.25. Apparatus in which there are at least two differently shaped or aimed outlets, the means permitting choice of outlet through which substantially all of the fluid stream discharges.

SEE OR SEARCH THIS CLASS, SUBCLASS:

265.13, for a reaction motor nozzle having a retractable stream dividing noise attenuator, combined with means for directing the fluid stream to a diversely shaped or oriented outlet when in use.

436+, for a distributor with selectively usable diverse outlets.

265.29 Controller moves into fluid path from position closing one outlet:

This subclass is indented under subclass 265.27. Apparatus comprising a member which is movable from a first position which closes an outlet to a second position within the fluid stream to redirect and cause the fluid stream to flow towards said outlet.

SEE OR SEARCH THIS CLASS, SUBCLASS:

507+, for a distributor having a deflector movable from a nonuse position to one which provides some degree of redirection or dispersion of the fluid stream.

265.31 Axially moved discharge portion opens side outlet:

This subclass is indented under subclass 265.27. Apparatus comprising an outlet on the periphery for the discharge of fluid laterally of the distributor and controlled by a portion of the distributor moving substantially parallel to its longitudinal axis, which portion carries another outlet.

SEE OR SEARCH THIS CLASS, SUBCLASS:

438, for other terminal members having two or more selectively usable diverse outlets, one of which is formed between members arranged for relative axial motion.

451+, for other terminal members formed by parts mounted for relative movement.

265.33 Radially outermost flow defining wall adjustable:

This subclass is indented under subclass 265.19. Apparatus comprising a solid member which confines and defines the layer of a flowing fluid stream which is furthest away from the axis of flow, the member being selectively movable to different positions or shapes.

(1) Note. The “solid member” in this definition may comprise all or a portion of the distributor.

265.35 Nozzle aiming adjustable:

This subclass is indented under subclass 265.33. Apparatus in which the line or course of aiming of the distributor is selectively varied with respect to a fixed axis by the movement of the solid member.

SEE OR SEARCH THIS CLASS, SUBCLASS:

587.1+, for other nozzle members adjustably connected to the flow conduit.

265.37 Radially inwardly movable wall:

This subclass is indented under subclass 265.33. Apparatus in which the solid member is movable towards the axis of fluid flow to decrease the diameter of the stream.

265.39 At least three pivoted flaps form outlet:

This subclass is indented under subclass 265.37. Apparatus comprising more than two elements each hinged at one end, and spaced around the axis to form an outlet, this arrangement being the final point of control on the fluid.

265.41 With adjustable upstream flow path portion:

This subclass is indented under subclass 265.39. Apparatus including additional means to regulate quantity or configuration of the fluid stream, said additional means comprising a selectively movable member defining and confining the flowing fluid stream and located in the flow path prior to the hinged elements.

265.43 Resilient or deformable wall:

This subclass is indented under subclass 265.37. Apparatus in which the solid member is formed of a material which may be selectively bent, compressed or stretched to various shapes to vary the discharge area or configuration.

SEE OR SEARCH THIS CLASS, SUBCLASS:

546, for a distributor formed of resilient material and means associated therewith for deforming the material.

602, for a distributor made of resilient material.

266 TERMINAL OUTLET MEANS CONNECTED IN SERIES FOR THROUGH FLOW:

This subclass is indented under the class definition. Apparatus comprising a plurality of separate members, each having an outlet aperture and, in addition, connected end to end so that fluid may flow through them successively while a portion discharges through each of the outlet apertures.

(1) Note. Included in these subclasses are terminal outlet means carried by collar-like coupling means having the necessary securing means whereby adjoining sections of conduit can be attached.

(2) Note. Readily manipulable terminal members particularly those with a branched and/or closed flow line circuit with spaced outlet means have been excluded from this group where the concept of through-flow and joinable sections is absent.

(3) Note. If the section of conduit has no other outlet than the spraying apertures particularly if the discharge member be of such size and shape as necessitates its manipulation as a mere hand held distributor it is classified in the appropriate subclasses in the lower levels of the class.

SEE OR SEARCH THIS CLASS, SUBCLASS:

207, for similar types of longitudinally spaced outlets with a fixed or ground installed supply means.

536, 548+, for unitary outlet means having plural outlets and see the notes above.

726+, for distributors mounted on translatable supply pipe apparatus having vehicular support means.

267 Terminal outlet means in or on flow line coupling:

This subclass is indented under subclass 266. Apparatus which includes a fitting having upstream and downstream passages separably connected to, or adapted to be connected to adjacent flow line sections and having either (1) a distributor or terminal outlet member adjacent to and supported by the fitting, or (2) a terminal outlet passage formed in the fitting.

268 With casing or support:

This subclass is indented under subclass 266. Apparatus which includes (1) a means to hold a terminal outlet member or distributor in a desired position relative to the ground or a supporting object, or (2) an enclosing and/or protecting member disposed about the terminal outlet member or distributor, said terminal outlet member or distributor having a coupling means at the downstream side or end thereof for connecting an additional spray means or flow conduit thereto.

269 With flexible or articulated flow line section:

This subclass is indented under subclass 266. Apparatus in which a supply conduit having spaced outlet means is provided with longitudinally spaced portions which are either pivotally or hingedly connected or joined by a bendable or distortable interposed portion or section.

(1) Note. Included herein are flexible, apertured spray hoses having claimed downstream couplings for connection to a downstream flow line.

270 NOZZLE WITH AIR SUPPLY MEANS TO OPERATOR:

This subclass is indented under the class definition. Apparatus which includes a terminal outlet member and a means associated with said member or with a fluid supply for said member, to deliver air to a person manipulating or controlling the member.

(1) Note. The air delivering means usually includes a device for (1) separating air from the spray fluid, (2) separating smoke from ambient air, or (3) conducting fresh air from a remote point to the operator.

SEE OR SEARCH CLASS:

128, Surgery, subclasses 200.24+ for respiratory type masks.

271 WITH NOZZLE OR FLOW LINE ATTACHED PENETRATING MEANS:

This subclass is indented under the class definition. Apparatus which includes a sharpened or tapered element supported on or connected to

either a (1) terminal outlet member, or (2) a supply conduit means in order to adapt the apparatus to be forced through a wall, object or mass to make the latter more accessible for spraying or for connecting to a supply.

SEE OR SEARCH CLASS:

137, Fluid Handling, subclass 318 for aperture forming means for tapping a pipe, keg, or tank under pressure.

141, Fluent Material Handling, With Receiver or Receiver Coacting Means, subclasses 329+ for filling apparatus having puncturing connecting means.

222, Dispensing, subclass 5 for dispensers of gas or vapor having a cutter or punch, and subclasses 80+ for dispensers in general having a cutter or punch combined therewith.

272 Piercing connection to supply means:

This subclass is indented under subclass 271. Apparatus which includes a sharpened or tapered element supported on a terminal outlet member or supply conduit member said element, in either case, being provided with a flow passage means for the disclosed purpose of rupturing a supply container to establish a flow path and connect the said member thereto.

SEE OR SEARCH THIS CLASS, SUBCLASS:

309, for means to penetrate a supply container where said means is (1) not sharpened, or (2) not provided with a supply passage, or (3) not supported by the terminal outlet member or supply line.

273 WITH GROUND OR VERTICAL SURFACE SUSTAINED SUPPORT MEANS:

This subclass is indented under the class definition. Apparatus comprising a support means for the distributor or the fluid handling system therefor adapted to rest upon or be connected to a floor or ground surface or to a vertical surface, (e.g., building or chamber wall).

(1) Note. Under this definition no more of the vertical wall surface than that necessary to sustain the support means can be recited.

SEE OR SEARCH THIS CLASS, SUBCLASS:

140+, for apparatus having means movably mounting supply means for discharging contents.

146+, for mobile type tank supply means.

200+, for spray means having fixed support means for or ground installed supply means.

225.1+, for distributors having continuous motion relative a support during spraying.

289, for the combination of a distributor and a device which has a configuration to perform a function other than that of a support or a portion of a fluid handling system.

525+, for hand held or supported flow line attached handgrips and holders.

531, for hook-like members to support a nozzle on a ladder or window ledge but which could be hooked over a handle means equally well.

722+, for a translatable distributor having a fixed supply source.

274 WITH MEANS OPERATED BY ART DEVICE:

This subclass is indented under the class definition. Apparatus, not provided for in any other class, comprising means operated in response to relative motion between parts of a device while in use, to (1) cause discharge from, (2) control flow, to, or (3) change the character or direction of effluent from the distributor, said device being of special configuration to perform a particular function other than merely that of a support or of portion of the fluid handling system.

(1) Note. Most of the patents in this subclass are operated by relatively movable parts secured respectively to a door and a door frame.

SEE OR SEARCH THIS CLASS, SUBCLASS:

88, through 96, for injection nozzles adapted to operate in timed relation with moving parts of an internal combustion engine.

275 Support and deflector unit forms base for supply conduit or terminal outlet member:
This subclass is indented under subclass 273. Apparatus which include integral or contiguous, interconnected (1) supporting means, and (2) flow redirecting means for a terminal outlet member, distributor or fluid supply system part.

(1) Note. Means are usually provided to detachably secure a hose or nozzle to the combined support and deflector.

276 Ground or object penetrating support:
This subclass is indented under subclass 273. Apparatus which includes a member or portion adapted to be forced through the surface of the earth or of a yielding object in order to support the apparatus relative to said surface.

SEE OR SEARCH THIS CLASS, SUBCLASS:
271+, for nozzles or flow line carried penetrating means.

279 Supply passage configuration forms stand:
This subclass is indented under subclass 273. Apparatus in which a terminal outlet member or distributor is supported by a supply passage means having a plurality of spaced points disposed in a horizontal plane and adapted to rest on the earth or other horizontal supporting surface to form the sole supporting means for the outlet member or distributor.

(1) Note. Included herein are supply tubes or hoses with ground engaging supporting fins, ribs or feet formed thereon.

280 Pole, stand or extension carried head:
This subclass is indented under subclass 273. Apparatus which includes a means to support a distributor, terminal outlet member or fluid supply system part, said support means being provided with a portion engaging or adapted to engage and rest on the ground or other horizontal supporting surface in such fashion that the support means is retained in a desired operative position by said engagement.

SEE OR SEARCH THIS CLASS, SUBCLASS:
275, for stands having a spray deflector combined therewith.

SEE OR SEARCH CLASS:
248, Supports, subclasses 75+ for supports, per se, disclosed for use with nozzles in operative or stored position.

280.5 Adjustable support:
This subclass is indented under subclass 280. Apparatus in which one portion of the support means is selectively movable to different positions with respect to another portion.

SEE OR SEARCH THIS CLASS, SUBCLASS:
547, for spray apparatus comprising a flexible fluid conductor permitting relative motion between portions of the fluid system.
587.1+, for spray apparatus comprising a terminal outlet member connected to the flow line by a means permitting relative motion between the portion of the fluid system in the flow line and that in the outlet member, which means may be a flexible coupling.

281 Extensible:
This subclass is indented under subclass 280.5. Apparatus in which the movable portion of the support means is formed of telescopic or sectional members or is otherwise elongatable.

(1) Note. The elongation may be caused by motor operated means.

282 Wall or bracket mounting:
This subclass is indented under subclass 273. Apparatus which includes a supporting means for a terminal outlet means, distributor or fluid supply system part in the form of either (1) a member adapted to be connected to a vertical surface, or (2) a horizontally projecting member adapted to be secured to a supporting object or structure.

(1) Note. The wall may be part of a chamber or receptacle.

SEE OR SEARCH THIS CLASS, SUBCLASS:

531, for bracket-like members having hooks to support a supply conduit or nozzle on a ladder or window ledge but which could be hooked over a handle means equally well.

283 Bracket-type support:

This subclass is indented under subclass 282. Apparatus which include a supporting member having a horizontally projecting shelf-like portion to support a terminal outlet member, distributor or fluid supply system part, said supporting member being adapted to be secured to an object or structure.

284.1 LIQUID SPRAYER FOR TRANSPARENT PANEL (E.G., WINDSHIELD):

This subclass is indented under the class definition. Apparatus comprising a distributor or terminal outlet member specially adapted to spray a liquid onto the interior or exterior of a transparent panel.

(1) Note. Relative to the special subject matter under this definition the line set forth under (1) and (2) of Class Definition Lines With Other Classes, Art Device Combinations and Support has been construed as follows in the example of a device for spraying a liquid onto the transparent panel of a vehicle:

Under (1), Class 239 will take a claim which includes the distributor or terminal outlet member, the transparent panel and (A) the coolant liquid supply of the vehicle as a source of the liquid to be discharged, or (B) the engine or a part thereof used as heating means for the liquid or as the source of pressure or vacuum fluid to assist in discharging the liquid, or (C) the vehicle body or a part thereof serving as the liquid receptacle or support thereof. Under (2), Class 239 will take a claim including the spray device or terminal outlet member and the transparent panel where the claimed relationship is merely the positioning of the parts for the spray to be directed towards or onto the panel (e.g., adjacent to “in front of”, “at the rear of”, “directed towards”, “along an upper edge”).

SEE OR SEARCH CLASS:

15, Brushing, Scrubbing, and General Cleaning, subclasses 250.01+ for windshield cleaners combined with fluid applying means.

34, Drying and Gas or Vapor Contact With Solids, appropriate subclasses for windshield driers and particularly subclass 191 for a pulsating gas flow.

52, Static Structures (e.g., Buildings), subclasses 171.1+ for a window and spray means combined with an additional feature of a static structure.

454, Ventilation, subclasses 85, 93, 121+, and 198 for directing an air current to either side of a transparent panel to remove condensation.

284.2 Headlamp:

This subclass is indented under subclass 284.1. Apparatus wherein the transparent panel is a cover for an illuminating or signaling device on a vehicle.

285 Flow controller and ground support interconnection:

This subclass is indented under subclass 273. Apparatus which includes means to support a spray distributing means, a flow control means therefor and means actuated by motion of the support relative to the rest of the apparatus to change or interrupt the flow of fluid to the distributor.

288 WITH SOLID MEANS AS GUARD OR PROTECTOR:

This subclass is indented under the class definition. Apparatus having a nonfluid means to shield or protect (1) the operator from spray injury, e.g., drift, or contact with the operating parts of the organization, (2) either the operator or parts of the apparatus from environmental causes, e.g., heat, or accidental knocks or bumps, or (3) to protect adjacent objects from contact with said parts of the apparatus, e.g., bumpers.

SEE OR SEARCH THIS CLASS, SUBCLASS:

24+, for drinking faucets combined with “anti-contamination” means designed

to prevent the user from placing his mouth on the discharge element or to otherwise protect the nozzle from injury or abusive use thereof.

79+, especially subclasses 82 and 83 for guards or protectors to protect or isolate parts of the device or the hand of an operator from the means for melting the spray material.

104+, for apparatus having drip collecting, waste disposal or soil preventing guards or shields, whose guards and shields protect the apparatus parts and environment from the soil which would be caused by the system fluid.

128, for cooling means to protect the system.

150+, for spray confining or compressing means for mobile tank type supply means.

290+, for apparatus having a supplemental gas shaping or shielding jet.

SEE OR SEARCH CLASS:

137, Fluid Handling, subclasses 377+ for guards and shields particularly subclass 379 for nozzle abutment for scratch or damage prevention.

431, Combustion, subclasses 350+ for a fuel discharge device having a protective, flame enclosing or flame stabilizing structure specializing it to combustion.

288.3 Bumper or guard protects distributor:

This subclass is indented under subclass 288. Apparatus in which the means is associated with and shields or protects the fluid dispersing or disseminating member.

288.5 Arcuate or circular:

This subclass is indented under subclass 288.3. Apparatus in which the means is curved or bent along a radius.

289 COMBINED OR CONVERTIBLE:

This subclass is indented under the class definition. Apparatus (1) in combination with features functioning other than as a support or as a portion of the fluid handling elements and not elsewhere provided for, or (2) comprising means or parts capable of rearrangement or modification to selectively provide either a distributing system having some other mode of operation or a device of some other function.

(1) Note. Supply structure includes handles, or handgrips and flow controllers or attached flow guides or regulators.

(2) Note. Discharge effecting means includes all means for causing the material to be moved from the supply means to and beyond the egress port.

(3) Note. Terminal member includes all discharge modifiers and flow regulators.

(4) Note. In this subclass, for example, are combinations with (a) bouquet holders, (b) means for destroying an empty material cartridge to prevent reuse, (c) alarm box means not classifiable as a signal or indicator and (d) sound attenuators.

(5) Note. All preceding subclasses must be investigated for particular combinations within this definition as shown by the preceding subclass titles.

SEE OR SEARCH THIS CLASS, SUBCLASS:

390+, for plural interchangeable discharge modifiers, outlet arrangements or coupling means wherein selectivity for adjustability or variability for flow characteristic is the essence wherein the mode of operation however, is unchanged.

290 INCLUDING SUPPLEMENTAL GAS SHAPING OR SHIELDING JET:

This subclass is indented under the class definition. Apparatus having in addition to the spray material outlet, outlet means for enshrouding or causing the spray to be confined beyond the egress means to or within a particular configuration or outline by a nonliquid fluid medium.

(1) Note. The gas for atomization if any must be provided by means other than the shaping or shielding streams although it may be that further atomization results from the impingement of the auxiliary stream upon the main stream.

SEE OR SEARCH THIS CLASS, SUBCLASS:

77+, for fluid sprayed into a gaseous conveying current.

105, for gas shielding means to prevent soil of apparatus parts.

151, for air stream confining or compressing means in a mobile tank-type supply spraying means.

265.23, for a reaction motor discharge nozzle with means for adding a gas jet to the outlet thereof to deflect or shift the course of the main discharge stream.

270, for apparatus with air supply means to operator.

418+, for apparatus combining separately supplied fluid streams at or beyond the terminal element.

291 Air shield surrounds projected airstream (i.e., air gun):

This subclass is indented under subclass 290. Apparatus in which the shielding jet provides a curtain about an air jet discharge means.

(1) Note. These patents relate to air guns for blowing away chips and the like by a main stream and which have an additional usually conical air stream surrounding the main stream to confine the moving material.

SEE OR SEARCH THIS CLASS, SUBCLASS:

288, for solid shields or protectors for the operator.

292 Angularly adjustable as to point of convergence:

This subclass is indented under subclass 290. Apparatus in which the discharge direction of the auxiliary jet is adjustable so as to move the point of convergence with the main stream more or less from the terminal port.

SEE OR SEARCH THIS CLASS, SUBCLASS:

420, for sprayers having movable means for varying the point of convergence beyond the terminal element.

293 Gas-driven rotatable jet orifice carrier:

This subclass is indented under subclass 290. Apparatus having a jet orifice carrier which is mounted to rotate and is driven by a nonliquid fluid material, usually the gas to the auxiliary jet means.

SEE OR SEARCH THIS CLASS, SUBCLASS:

225.1+, for appropriate subclasses for continuously moving distributor means with or without an auxiliary jet.

294 And additional downstream liquid nozzle:

This subclass is indented under subclass 290. Apparatus in which an additional liquid projecting nozzle is provided for mixing or commingling with the projected materials, the latter egress means being upstream of the added liquid stream projecting means.

(1) Note. The added liquid stream may be a catalyst.

295 On one side only of spray orifice:

This subclass is indented under subclass 290. Apparatus having the supplemental shaping or shielding jet projected from only one side of the main discharge stream.

296 Plural sets of gas jet orifices:

This subclass is indented under subclass 290. Apparatus having plural groups of shaping or shielding jets which are arranged at least in pairs to mutually effect a change in the spray configuration.

(1) Note. A set comprises at least two apertures which may either be (1) grouped together so that each group affects one side of the stream or else (2) paired about a center.

297 One or more sets selectively usable:

This subclass is indented under subclass 296. Apparatus in which the groups include flow control means such that at least one such group may be used or not as desired.

298 Jets coupled to turn stream about longitudinal axis:

This subclass is indented under subclass 296. Apparatus having the shaping jets arranged so that the discharging liquid stream is swirled or turned about an axis extending in the general direction of discharge.

SEE OR SEARCH THIS CLASS, SUBCLASS:

463+, for fluid rotation inducing means upstream of the outlet.

299 Noncircular supplemental orifice (e.g., special shape):

This subclass is indented under subclass 290. Apparatus having the egress port in other than a round or circular configuration as, for example, in the form of an annulus.

(1) Note. The shape to be here considered is that transverse to the direction of flow rather than in the direction of flow, e.g., elliptical as opposed to conical.

SEE OR SEARCH THIS CLASS, SUBCLASS:

601, for orifice shapes.

300 Adjustable gas flow directing or controlling means:

This subclass is indented under subclass 290. Apparatus in which there is provided means (1) to variously direct or position the jet orifice carrying member, or (2) to variably restrict flow of gas through the port as by valving means.

SEE OR SEARCH THIS CLASS, SUBCLASS:

292, for means adjusting the point of convergence of two streams along the axis of discharge.

301 Rotatable port-carrying member effects flow control:

This subclass is indented under subclass 300. Apparatus in which gas regulation is effected by the movement of the jet port carrier mounted for rotary motion.

302 INCLUDING SUPPLY HOLDER FOR MATERIAL:

This subclass is indented under the class definition. Apparatus having a container, tank or other substance retainer other than a mere flow line or conduit from which the substance or carrier fluid is supplied to or beyond the terminal member.

(1) Note. For purposes of this and the indented subclasses, one of the materials must be a liquid; see (6) Note in subclass 650.

SEE OR SEARCH THIS CLASS, SUBCLASS:

16+, for fountains.

34+, for holders for materials slowly diffused into the ambient air.

140+, for means movably mounting a supply means for discharging its contents.

146+, for mobile tank-type supply means.

193+, for weir-type overflow discharge means.

200+, for fixed support for or ground installed supply means.

214+, for slinger, splasher or rotary-centrifugal distributors associated with supply holders.

273+, appropriate subclasses for support means or art device connected supply means.

650+, for a container for nonfluid material and means to scatter or strew the material.

303 Plural holders for diverse materials:

This subclass is indented under subclass 302. Apparatus having plural means, compartments, separate containers, or the like for retaining different substances to be sprayed or for retaining spray material and a conveying fluid.

(1) Note. Separate or different holders of the same kind for plural supplies or quantities of the same spray material are here included.

SEE OR SEARCH CLASS:

141, Fluent Material Handling, With Receiver or Receiver Coacting Means, subclasses 17 and 19 for plural holders, one a pressure fluid which

discharges to fill the dispenser with discharge assisting fluid.

304 Two or more spray-material holders:
This subclass is indented under subclass 303. Apparatus having plural holders for the material to be sprayed.

305 Choice of any one material only:
This subclass is indented under subclass 304. Apparatus arranged so that only one holder supplies the discharging means with material to be sprayed at a time.

306 And mixing beyond outlet:
This subclass is indented under subclass 304. Apparatus including means to cause the commingling of two or more spray materials beyond the terminal means.

SEE OR SEARCH THIS CLASS, SUBCLASS:
290+, for sprayers having supplemental gas shaping or shielding jets.
418+, for sprayers having fluid flow relationship for mixing beyond the terminal element.

307 And carrier fluid supply:
This subclass is indented under subclass 304. Apparatus having in addition to plural holders for spraying materials a holder for or a supply means for the carrier fluid.

308 Holder for carrier fluid:
This subclass is indented under subclass 303. Apparatus having a second holder serving as a means for supplying the conveying fluid.

SEE OR SEARCH THIS CLASS, SUBCLASS:
303, for plural holders, one for the spray material and one for a fluid pressure discharge medium acting upon the spray material.

309 And frangible seal rupturing means:
This subclass is indented under subclass 302. Apparatus having a closure which is intended to be broken, torn or cut, and which is thereby destroyed as a closure thereafter and having means to break or destroy such closure.

SEE OR SEARCH THIS CLASS, SUBCLASS:
272, for nozzle or flow line attached penetrating means for making a connection to a supply container, and subclass 354 for closure means for the eduction tube in an aspirating device.

SEE OR SEARCH CLASS:
222, Dispensing, subclasses 541.1+ for frangible outlet elements and subclasses 544+ for closure means for dispensers.
401, Coating Implements With Material Supply, subclasses 133+, wherein the implement includes a rupturable container for the material and means, actuatable upon assembly of the container with the implement, to rupture or break the container in order that the material may be released to the applying tool.

310 To be mixed, dissolved or entrained in a flowing liquid stream prior to discharge:
This subclass is indented under subclass 302. Apparatus in which the holder contains material to be picked up in, to be commingled with, or to pass into solution with, a flowing nongaseous fluid stream.

(1) Note. This subclass provides the locus for patents claiming dissolving or mixing apparatus with a flow conductor attached spraying or sprinkling means (nozzle) disclosed for this class however claimed (by name only or specifically) and not provided for in the indented subclasses.

SEE OR SEARCH THIS CLASS, SUBCLASS:
319, through 379, appropriate subclasses for holders and fluid pressure discharge means.

SEE OR SEARCH CLASS:
47, Plant Husbandry, subclass 1.01 for apparatus adding fertilizer and the like to an irrigation stream.
137, Fluid Handling, subclasses 88+ for fluid handling involving mixture condition sensing and maintaining, sub-

class 268 for holders for solid, flaky or pulverized material to be dissolved or entrained, and subclasses 888+ and 896+ for multiple inlet and single outlet means for mixing, diffusing or injecting arrangements.

220, Receptacles, appropriate subclasses for shaving cups.

222, Dispensing, subclasses 630+ for fluid flow discharge means particularly for dry powder having air current conveying means.

401, Coating Implements With Material Supply, subclasses 40+ and 44+, particularly subclass 47, wherein the implement includes means whereby material is picked up, commingled with, or dissolved by a liquid stream before being fed to the tool or applied directly to a work surface for treatment by a spreading tool.

406, Conveyors: Fluid Current, subclasses 108+ for feeders or intakes to fluid current conveyors, no scattering or spraying means being claimed subsequent to the conveyor.

422, Chemical Apparatus and Process Disinfecting, Deodorizing, Preserving, or Sterilizing, subclasses 261+ for apparatus for holding solids to be mixed or dissolved, which holding means as disclosed is incapable of retaining liquids, and claiming only so much fluid handling as is essential to the function of this operation.

311 Gas addition upstream of spray nozzle outlet:

This subclass is indented under subclass 310. Apparatus having means to add air or other gaseous material to the flowing stream before the said stream leaves the egress port.

(1) Note. See Lines With Other Classes, Lather Makers, of the main class definition of this (239) class.

SEE OR SEARCH THIS CLASS, SUBCLASS:

335+, for the induction of ambient air.

372, for gas passage through fluid outlet means in other combinations there classified.

312 Diverse discharge outlets for mixed and unmixed fluids respectively:

This subclass is indented under subclass 310. Apparatus having plural outlets respectively related to flow paths for liquid discharge with or without a second ingredient.

SEE OR SEARCH THIS CLASS, SUBCLASS:

390+, 436+, for other diverse outlet arrangements for a single fluid.

313 Follower-type holder and stream egress means in juxtaposition:

This subclass is indented under subclass 310. Apparatus in which the flowing liquid stream egress means is situated alongside or in close proximity to the holder which discharges the material to be added to the said stream by a follower type discharge means.

SEE OR SEARCH CLASS:

137, Fluid Handling, subclass 564.5 for distribution systems wherein the main line flow serves as the motive fluid for a follower type feeder.

314 Mixing beyond liquid stream outlet:

This subclass is indented under subclass 310. Apparatus in which the fluid and the material are combined beyond the fluid stream egress port.

SEE OR SEARCH THIS CLASS, SUBCLASS:

418+, for combining of separately supplied fluid streams at or beyond the terminal element and lacking a holder for the material.

315 Holder within terminal element carrying member:

This subclass is indented under subclass 310. Apparatus having the material container or retainer wholly within a flow conducting member which additionally carries or supports the member provided with egress means, the carrying relationship being intimate.

SEE OR SEARCH THIS CLASS, SUBCLASS:

316, for holders and combined outlet means and subclass 317 for branched flow to holder with recombining.

316 Unitary outlet means and holder:

This subclass is indented under subclass 310. Apparatus in which the material container is end connected to the flow line and receives all the flow from that line and is additionally provided with the egress port or ports through which the mixture is sprayed, e.g., the holder is the egress port carrying means.

317 Branching flow and recombining in terminal member:

This subclass is indented under subclass 310. Apparatus having a branch fluid line which takes off laterally from the main line and connects to the material container, the outlet of the latter having means rejoining the main line, the lateral branching and rejoining being provided for by means within the terminal member.

SEE OR SEARCH THIS CLASS, SUBCLASS:

315, 316, for total flow to and through the holder there provided.

SEE OR SEARCH CLASS:

137, Fluid Handling, subclass 205.5 for apparatus wherein the main line flow displaces an additive from a shunt reservoir.

318 Aspirating discharge nozzle:

This subclass is indented under subclass 310. Apparatus in which the material is caused to flow into the solvent or liquid discharge line by a pressure differential resulting from a pressure reducing means in the line of flow in the nozzle.

SEE OR SEARCH THIS CLASS, SUBCLASS:

138, for a fluid aspirating discharge nozzle in which one of the fluids is vaporized liquid.

340, for fluid pressure discharge means involving a pressure reducer at the holder outlet.

319 Moving solid surface supplying material beyond carrier fluid outlet:

This subclass is indented under subclass 302. Apparatus in which a nonfluid member moves to carry material from the material container to a point which is in front or to the exterior of an egress port for the carrier fluid.

(1) Note. The patents in this subclass for the most part relate to one form of air brush in which a needle-like member reciprocates from within to without a holder and positions a drop of material in front of a carrier stream.

SEE OR SEARCH THIS CLASS, SUBCLASS:

329+, for apparatus having a moving solid surface engaging material to be sprayed.

320 Follower in holder:

This subclass is indented under subclass 302. Apparatus comprising a member relatively movable with respect to and acting as a wall in the supply container which urges all the material in the direction of the egress port by moving within the container with the material.

SEE OR SEARCH CLASS:

222, Dispensing, appropriate subclasses for dispensers comprising a container with follower and see the search class notes in subclass 386 for the locus of analogous art.

321 Floating or biased piston:

This subclass is indented under subclass 320. Apparatus in which the member acting against the material is resiliently urged to move or comprises means free to move toward the egress port.

322 Fluid pressure actuated:

This subclass is indented under subclass 321. Apparatus in which the follower is moved by a nonsolid means.

SEE OR SEARCH THIS CLASS, SUBCLASS:

313, for follower type feed means in juxtaposition with the stream egress means.

355, for sprayers having a pressure reducer and a holder carried gas pump.

SEE OR SEARCH CLASS:
222, Dispensing, subclass 389 for fluid pressure actuated followers.

323 Collapsible or flexible follower (i.e., nonrigid):
This subclass is indented under subclass 320. Apparatus in which the follower member is of nonrigid material.

SEE OR SEARCH THIS CLASS, SUBCLASS:
327, 328, for resilient holders or collapsible or foldable supply holders where such characteristic relates to the outer wall.

SEE OR SEARCH CLASS:
222, Dispensing, subclass 386.5 for similar subject matter for dispensing.

324 Screw actuated:
This subclass is indented under subclass 320. Apparatus in which the follower is operated by a screw mechanism.

SEE OR SEARCH CLASS:
222, Dispensing, subclass 390 for screw operated followers.

325 Conveyer for fluent solid in holder:
This subclass is indented under subclass 302. Apparatus having a means operative with respect to the material in the holder to carry or push and move a pulverulent solid therefrom.

(1) Note. See the class definition and (1) Note of subclass 336 for the conditions for handling of fluent solids by this class.

SEE OR SEARCH THIS CLASS, SUBCLASS:
336, for the handling of three or more fluids including at least one holder for spraying a fluent solid.

326 Temporary storage in wick or pad:
This subclass is indented under subclass 302. Apparatus having an absorbent means which is first saturated usually by tipping the holder which then becomes a secondary holder and from which an air stream picks up liquid for spraying by blowing thereacross.

SEE OR SEARCH THIS CLASS, SUBCLASS:
34+, for slow diffusers, many of which have secondary porous holders.
145+, for porous or wick type discharge means to atmosphere as by dripping.

327 Resilient holder wall:
This subclass is indented under subclass 302. Apparatus having one or more walls or portions thereof which may be distorted or deflected by application of a force to expel the material contained therein by contact of such wall with the material directly and which wall returns to the original position when the force is removed.

SEE OR SEARCH THIS CLASS, SUBCLASS:
323, for collapsible or flexible follower in a holder.

SEE OR SEARCH CLASS:
222, Dispensing, subclasses 206+ for resilient wall dispensers.

328 Collapsible or foldable supply holder:
This subclass is indented under subclass 302. Apparatus having one or more walls of the material container of nonresilient material which will deform when pressure is applied thereto and will not return to its initial position.

SEE OR SEARCH THIS CLASS, SUBCLASS:
152, for portable tank type supply means body of animal carried.
323, for collapsible or flexible follower in a holder.
327, for resilient holder wall for supply.

SEE OR SEARCH CLASS:
222, Dispensing, subclasses 92+ for dispensers having collapsible wall containers.

329 Moving solid surface engages material to be sprayed:
This subclass is indented under subclass 302. Apparatus including a nonfluid surface acting against the material to affirmatively move

same toward the egress port such surface being positioned either within the holder or between the holder and egress port.

(1) Note. Special forms of this subject matter and in other combinations appear throughout the early subclasses of this class.

SEE OR SEARCH THIS CLASS, SUBCLASS:
214+, for solid projection devices of the slinger splasher or centrifugal type spraying out of a holder or from a supply line directly into the atmosphere without reliance upon other flow confining conduits or egress ports.

330 Diaphragm and flexible wall gas pump combined:
This subclass is indented under subclass 329. Apparatus in which the solid member is a resilient flap or hinged disc type of liquid mover which is caused to move by gas pressure issuing from a flexible wall pump intimately related thereto.

331 Enclosing casing about moving surface:
This subclass is indented under subclass 329. Apparatus in which the moving member is constrained to move within an encasing means, the holder delivering fluid to the housing or encasing means.

SEE OR SEARCH THIS CLASS, SUBCLASS:
124+, for system fluid relief to atmosphere.

SEE OR SEARCH CLASS:
138, Pipes and Tubular Conduits, subclasses 30+ for variable capacity expansion chambers.
222, Dispensing, subclass 372 for material supply containers and discharge assistant with casing.
417, Pumps, appropriate subclasses for pumps, per se.
418, Rotary Expansible Chamber Devices, appropriate subclasses, for rotary expansible chamber devices, per se.

332 Motor-operated:
This subclass is indented under subclass 331. Apparatus having a motion imparting means or prime mover to operate the pump.

SEE OR SEARCH CLASS:
222, Dispensing, subclasses 333+ for motor operated discharge assistants.

333 Separable pump with holder mount or securing means:
This subclass is indented under subclass 331. Apparatus in which the pump or impelling means is removable from the material receptacle by reason of a separable means connecting the pump to the said receptacle.

SEE OR SEARCH CLASS:
222, Dispensing, subclasses 383.1+ and 401+ for container mounted pumps and pulsators.

334 Articulated or plural point ingress to pump:
This subclass is indented under subclass 331. Apparatus having means providing for the inlet of material from the container to the discharge means from at least two spaced points or by way of a single inlet pipe which may move within the container due to flexibility or joints.

SEE OR SEARCH THIS CLASS, SUBCLASS:
342, for aspirating type sprayers having plural point inlet to the eduction tube.

SEE OR SEARCH CLASS:
222, Dispensing, subclass 376 for dispensers having plural point inlet to discharge casing.

335 Three or more spray fluids (e.g., induction of ambient air):
This subclass is indented under subclass 302. Apparatus having means for separately commingling three or more fluids one of which may be ambient air (not a mere vent to a supply container); however only one holder need be claimed.

SEE OR SEARCH THIS CLASS, SUBCLASS:
303+, for plural supply holders for diverse materials.

336 One a fluent solid:
This subclass is indented under subclass 335. Apparatus in which one of the fluids is a fluent solid handled in a fluid-like manner before or during discharge.

(1) Note. For original classification in this class, the fluent solid must be a slurry or at least wetted by a liquid before or during discharge.

SEE OR SEARCH CLASS:
366, Agitating, subclasses 1+ for mortar mixers, and see "Lines With Other Classes, Mortar Mixing and Projecting" of the class definition of this (239) class for a statement of the line between classes.

337 Fluid pressure discharge means:
This subclass is indented under subclass 302. Apparatus in which discharge of the material is by (1) a nonsolid pressure means acting directly on the material, or (2) a pressure drop effected between the material in the eduction tube in the receptacle and the receptacle outlet.

SEE OR SEARCH THIS CLASS, SUBCLASS:
310+, for holders for material to be mixed, dissolved or entrained in a flowing liquid stream.
573, for the valve means in a fluid to gas expansion effecting means in aerosol type sprayers.

338 Material atomized in holder (e.g., nebulizer):
This subclass is indented under subclass 337. Apparatus in which there is a pressure discharge means within the material receptacle and an egress opening from the receptacle.

(1) Note. The majority of the patents in this subclass are commonly known as "nebulizers" and include a redirecting or deflecting surface against which the atomized fluid is discharged in order to prevent particles of larger than a desired size from passing out through the egress opening. The redirecting or deflecting surface may be the receptacle walls.

SEE OR SEARCH THIS CLASS, SUBCLASS:
370+, for other nebulizers having a baffle, diffuser or separator and means combining flow paths upstream of the outlet.

SEE OR SEARCH CLASS:
184, Lubrication, subclasses 55.1+ especially 55.2 for apparatus for adding a lubricant to fluid (usually air) comprising a receptacle to contain the lubricant and an aspirating or injecting nozzle to mix the lubricant and the fluid.

339 Liquid inlet port to submerged gas tube:
This subclass is indented under subclass 337. Apparatus in which there is a gas path which extends through the material in the receptacle and which has a flow opening therein for the material to enter from the receptacle and be mixed with the gas for discharge through the egress opening.

SEE OR SEARCH THIS CLASS, SUBCLASS:
372, for sprayers having a gas passage from the receptacle space through the fluid outlet means.

340 Pressure reducer at holder outlet:
This subclass is indented under subclass 337. Apparatus provided with means whereby a drop in pressure is produced at the outlet of the receptacle whereby the material is aspirated or sucked into the pressure fluid medium or carrier fluid.

(1) Note. The holder outlet is here interpreted to be the point at which material enters the carrier stream, usually at the eduction tube terminus even though remotely positioned relative the holder proper.

341 Relatively adjustable gas and liquid streams:
This subclass is indented under subclass 340. Apparatus provided with means whereby the physical relationship between the gas and liquid streams may be adjusted to vary the point

or angle of intersection or the spacing between the two streams.

SEE OR SEARCH THIS CLASS, SUBCLASS:

416, 417, for relatively movable concentric flow paths which effect valving in a mixing arrangement of plural fluids.

342 Auxiliary trap, articulated or plural point inlet to eduction tube:

This subclass is indented under subclass 340. Apparatus provided with means whereby the liquid outlet tube is at all times submerged within the liquid for all positions of the device as by (1) an auxiliary collecting chamber for the liquid, (2) a pivoted or swivel connection between sections of the liquid outlet tube, (3) by a plurality of openings into the liquid outlet tube, or (4) a flexible liquid outlet tube which always dips into the liquid supply.

(1) Note. The difference between this subclass and subclass 350 is if the trap chamber is arranged to provide an all position spray device (nonattitude affected) by trapping a quantity of liquid around the inlet to the eduction tube and spraying occurs in a position which would not normally occur in the absence of the trap chamber, then the patent is in subclass 342. If the aspiration can only occur by first filling a chamber with the liquid by movement of the receptacle to other than normal spray position and thereafter returning it to normal spray position whereby all of the trapped liquid is discharged, classification is in subclass 350.

SEE OR SEARCH CLASS:

222, Dispensing, subclass 376 for supply containers with liquid pumps having similar inlet arrangement to the pump casing.

343 And diffuser or baffle means (e.g., sudser or foamer):

This subclass is indented under subclass 340. Apparatus in which the discharge line is provided with circuitous paths of small dimension or an obstruction to cause frothing or foaming of the material to thereby project suds or foam to the ambient air.

SEE OR SEARCH THIS CLASS, SUBCLASS:

311, for dissolvers for sprayers having gas addition upstream of the nozzle outlet.

SEE OR SEARCH CLASS:

222, Dispensing, subclass 190 for dispensers having material treating means and subclass 195 for gas agitation which include gas and liquid contact.

261, Gas and Liquid Contact Apparatus, appropriate subclasses for gas and liquid contact devices.

344 Modified flow path in eduction tube:

This subclass is indented under subclass 340. Apparatus in which the liquid outlet tube is constructed and arranged to alter the type of liquid flow between sections thereof as by varying the diameter, direction, quantity, velocity, etc.

(1) Note. A mere valve in the eduction tube is not considered a modification for purposes of this subclass.

345 Discharge from upended or tilted holder (e.g., by gravity feed to reducer):

This subclass is indented under subclass 340. Apparatus in which material discharges from the receptacle only when tilted to thereby position the material outlet where it can flow to the reducer in the absence of a liquid eduction tube dipping into the material.

346 Holder coupled to gas supply source:

This subclass is indented under subclass 340. Apparatus in which means are provided for connecting the pressure gas source conduit to the holder.

(1) Note. The gas supply conduit need not be claimed if the claims include modified holder detail to receive the conduit.

SEE OR SEARCH THIS CLASS, SUBCLASS:

307, 308, for carrier gas supply holders.

347 Flow control by venting pressure fluid to atmosphere:

This subclass is indented under subclass 340. Apparatus provided with means to bypass or exhaust the pressure fluid to the atmosphere to prevent relative increase of discharge pressure on the liquid in the receptacle.

348 Fluid pressure in carrier supply line is vented:

This subclass is indented under subclass 347. Apparatus in which the pressure fluid in the supply line is vented to stop or regulate flow of the liquid from the holder.

SEE OR SEARCH THIS CLASS, SUBCLASS:

311, 335+, for the addition of air in a mixing arrangement.

373, for means pressurizing the contents of a holder for discharge.

349 Interconnected pump means and conduit closure or valve:

This subclass is indented under subclass 340. Apparatus in which there is a connection between a pump part and a closing or regulating means for one or more of the conduits in the spray device such that movement of said pump part controls the passage or escape of liquid from the holder.

(1) Note. This is the collecting place for those devices in which a latch or lock for the pump is combined with a valve for the eduction tube or a closure means. For the valved eduction tube or closure means, per se, see subclass 354, and for the pump latch alone see subclass 359.

(2) Note. Most of the patents herein are also of the telescoping holder or casing type, which, per se, are found in subclass 357.

SEE OR SEARCH THIS CLASS, SUBCLASS:

354, 357 and 359, and see (1) Note and (2) Note above.

350 Measured or trapped quantity for discharge:

This subclass is indented under subclass 340. Apparatus in which there is a supplemental chamber associated with the liquid receptacle, which is preliminarily filled with the liquid before discharge can be effected and which serves as means to trap a given quantity of fluid.

(1) Note. For the line between this subclass and subclass 342, see (1) Note in subclass 342.

SEE OR SEARCH THIS CLASS, SUBCLASS:

71+, for sprayers having indicators, meters, gauges and the like for performing a measuring function.

342, for devices having a trap chamber which provide a continuous supply to the liquid outlet tube and see (1) Note above.

SEE OR SEARCH CLASS:

222, Dispensing, subclasses 424.5+ for a dispenser comprising a supply container and a trap chamber.

351 Motor-operated gas pump:

This subclass is indented under subclass 340. Apparatus in which there is a motion imparting means for operating a gas pump associated with the liquid receptacle.

(1) Note. For the broad relationship between the receptacle and the motor operated gas pump, this subclass must be searched. For the specific relationship between any gas pump (hand operated) and the various liquid, gas and vent conduits, subclasses 355+ must be searched.

SEE OR SEARCH THIS CLASS, SUBCLASS:

355+, and see (1) Note above.

SEE OR SEARCH CLASS:

417, Pumps, appropriate subclasses for gas pumps, per se.

418, Rotary Expansible Chamber Devices, for rotary expansible chamber pumps, per se.

352 And supply replenishing means:
This subclass is indented under subclass 340. Apparatus provided with means whereby the liquid in the receptacle is maintained at the proper level for discharge.

353 Plural valves actuated by common operator:
This subclass is indented under subclass 340. Apparatus including a single actuator for simultaneously controlling fluid flow through at least two conduits or passageways.

(1) Note. The passageways or conduits simultaneously controlled must include two of the five usual passageways or conduits, i.e., the receptacle atmospheric vent, the gas conduit, the liquid eduction tube, the egress opening and the conduit applying pressure to the receptacle above the liquid level.

SEE OR SEARCH THIS CLASS, SUBCLASS:
414+, for spray devices, not claiming a liquid receptacle, and including plural valves actuated by a common operator.
527+, for spray devices including a handle or handgrip for the flow line or nozzle and including a common operator for a plurality of valves.

354 Including valved eduction tube or closure means:
This subclass is indented under subclass 340. Apparatus in which there is either (1) a flow modifying or regulating means associated with the liquid outlet tube, or (2) a valve or other closure means to prevent passage of liquid through the egress opening.

SEE OR SEARCH THIS CLASS, SUBCLASS:
349, for an interconnected pump means and conduit closure or valve.

355 Holder carried or mounted gas pump:
This subclass is indented under subclass 340. Apparatus in which the liquid receptacle carries or mounts a gas pump thereon.

SEE OR SEARCH THIS CLASS, SUBCLASS:
351, for the broad relationship between a liquid receptacle and a motor operated gas pump and see (1) Note in that subclass.

SEE OR SEARCH CLASS:
222, Dispensing, subclasses 401+ for dispensers having a container mounted fluid pressure pump.

356 Flexible wall gas pump encases liquid holder:
This subclass is indented under subclass 355. Apparatus in which the gas pump has a resilient wall and surrounds the receptacle.

SEE OR SEARCH CLASS:
222, Dispensing, subclasses 206+ for resilient wall dispensers.

357 Telescoping holder or casing:
This subclass is indented under subclass 355. Apparatus in which the liquid receptacle is arranged to slide into a casing (1) for storage purposes, or (2) to act as part of the air pump in cooperation with the casing.

(1) Note. The sliding or telescoping relation may exist between parts of the holder, or parts of the casing or between the casing and holder.

358 Multiple outlet:
This subclass is indented under subclass 355. Apparatus having a plurality of outlets from the the pressure reducer, and all capable of permitting discharge simultaneously.

SEE OR SEARCH THIS CLASS, SUBCLASS:
548+, pertinent subclasses, for terminal members having a plurality or multiplicity of egress openings.

359 Having means to lock plunger or pump:
This subclass is indented under subclass 355. Apparatus having means for retaining or latching the pump or pump plunger in fixed position when desired.

SEE OR SEARCH CLASS:

222, Dispensing, subclasses 384 and 402 for pump piston or pulsator holding means in a similar container-pump relationship.

360 Pump casing within supply holder:

This subclass is indented under subclass 355. Apparatus in which the pump housing is mounted within the receptacle.

361 Unitary mounting for eduction tube and air pump:

This subclass is indented under subclass 355. Apparatus in which the liquid eduction tube is integral with or operatively connected with the gas pump so that they may be simultaneously secured to the holder.

SEE OR SEARCH THIS CLASS, SUBCLASS:

367, for other unitary mountings of the pressure fluid inlet tube and liquid outlet tube.

362 Flexible wall gas pump:

This subclass is indented under subclass 361. Apparatus in which the pump for the gas comprises one or more walls of a readily deformable material which return to their original position when the force to deform is removed.

363 Flexible wall gas pump:

This subclass is indented under subclass 355. Apparatus in which the pump for the gas comprises one or more walls of readily deformable material which return to their original position when the force to deform is removed.

SEE OR SEARCH THIS CLASS, SUBCLASS:

356, 362, for other flexible wall gas pumps.

SEE OR SEARCH CLASS:

222, Dispensing, subclasses 206+ for resilient wall dispensers.

364 Parallel pressure flows to holder and pressure reducer:

This subclass is indented under subclass 340. Apparatus having means for simultaneously passing a pressure fluid from without the receptacle to the gas space above the liquid in the receptacle and to the pressure reducer at the outlet of the receptacle.

(1) Note. The pressure path to the receptacle is primarily for the purpose of relieving the vacuum which would occur therein if the container were hermetically sealed and liquid were siphoned or aspirated therefrom. The pressure on the liquid also inherently acts to force the liquid through the liquid outlet tube to the pressure reducer.

365 Branched flow from main stream to holder:

This subclass is indented under subclass 364. Apparatus in which the flow path of the pressure fluid to the container has a distinct connection from the flow path to the pressure reducer such that not all the pressure fluid passes into or through the container.

366 Air and liquid flow paths combine upstream of spray outlet:

This subclass is indented under subclass 365. Apparatus in which the egress opening is positioned downstream of the point at which the gas and liquid streams meet and mix.

367 Unitary mounting for pressure fluid inlet and liquid outlet:

This subclass is indented under subclass 365. Apparatus in which the liquid eduction tube is supported by or unitarily held by the means which includes the pressure fluid inlet such that these elements are simultaneously secured to a supply container.

SEE OR SEARCH THIS CLASS, SUBCLASS:

361+, for other devices having the pressure fluid inlet and liquid outlet (eduction tube) unitarily mounted.

368 Air and liquid flow paths combine upstream of spray outlet:

This subclass is indented under subclass 364. Apparatus in which the egress opening is positioned downstream of the point at which the liquid and gas streams meet and mix.

SEE OR SEARCH THIS CLASS, SUBCLASS:

369, for similar devices not having pressure flow to the container.

398+, appropriate subclasses, for other devices, not including a receptacle for the spray material, and in which the fluids mix upstream of the egress opening.

369 Air and liquid flow paths combine upstream of spray outlet:

This subclass is indented under subclass 340. Apparatus in which the egress opening is positioned downstream of the point at which the liquid and the gas streams meet and mix.

SEE OR SEARCH THIS CLASS, SUBCLASS:

366, 368, for other devices in which the air and liquid flow paths combined upstream of the outlet and also have parallel gas flows to the holder and to the pressure reducer.

398+, appropriate subclasses, for other devices not including a receptacle for the material, and in which the fluids mix upstream of the spray outlet.

370 And baffle, diffuser or flow separating means (i.e., nebulizer):

This subclass is indented under subclass 369. Apparatus so arranged as to direct the mixed fluids against a solid surface to provide for separation of the larger from the smaller particles and wherein the larger sized particles are kept from passing out of the device.

SEE OR SEARCH THIS CLASS, SUBCLASS:

338, for devices in which the aspirator or atomizer is positioned within the receptacle and arranged to discharge the mixed fluids against the wall thereof for effecting separation of particles.

371 Concentrically arranged flow paths:

This subclass is indented under subclass 369. Apparatus in which the flow path for one of the fluids comprises a conduit coaxial with and surrounding the conduit for the other fluid.

SEE OR SEARCH THIS CLASS, SUBCLASS:

398, 423+ and 434.5, for other devices in which the flow paths for the two fluids are concentrically arranged for mixing.

372 Gas passage from gas space in holder through fluid outlet means:

This subclass is indented under subclass 337. Apparatus in which there is provided a flow path for gas from the space above the fluid level in the receptacle to the egress opening.

(1) Note. This subclass is limited to those patents in which the liquid eduction tube has a port therein opening into the gas space within the receptacle. Those patents where the gas passage enters the liquid tube at some place outside the receptacle will be found in the preceding subclasses particularly subclasses 364+.

373 Means to pressurize contents of holder:

This subclass is indented under subclass 337. Apparatus provided with means to increase the pressure above the fluid in the receptacle.

(1) Note. This subclass requires some additional means to add pressure to the material in the receptacle. The usual “aerosol” can in which the material is already under super atmospheric pressure will be found in subclasses 337 and 372 of this class and the valves therefor in subclass 573.

SEE OR SEARCH THIS CLASS, SUBCLASS:

158, for devices in which there is a gas pump which discharges above the liquid in a container to force the liquid therefrom with, however, a vehicular support therefor.

364+, for devices having a pressure reducer in which means are provided for applying a pressure fluid to the top of a fluid in a receptacle.

374 Hand-manipulable shaker or jiggler type:
This subclass is indented under subclass 302. Apparatus in which the receptacle is supported and moved by the operator's hand to cause material to be sprinkled or discharged.

SEE OR SEARCH THIS CLASS, SUBCLASS:
102.1+, for spray means including means to vibrate or jiggle discharge.
140+, for means movably mounting the supply for discharging contents.

SEE OR SEARCH CLASS:
222, Dispensing, appropriate subclasses for dispensers of granular material, and see sections 12 and 12.5 of the class definition of that class for the locus of analogous structures.

375 Including handle or handgrip for supply container and attached outlet:
This subclass is indented under subclass 302. Apparatus in which the receptacle for the spray fluid is provided with a member forming an egress outlet and a grip for manipulating the receptacle and outlet.

SEE OR SEARCH THIS CLASS, SUBCLASS:
280+, for pole type ground support means.
347+, for devices including a holder in which the flow controller vents pressure fluid to atmosphere to terminate flow of the spray fluid.
525+, for other devices having handles and related flow controllers.
532, for spray pole type hand carried or supported nozzle means.

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 110.1+ for handles for closures, receptacles and the like there classified.
222, Dispensing, subclasses 465+ and 470+ for container handle and handgrips there classified.

376 Gravity discharge hand carried:
This subclass is indented under subclass 375. Apparatus in which the fluid is discharged by its own weight or tendency to leave the receptacle without affirmative displacement thereof.

(1) Note. With respect of “gravity flow” out of a receptacle and beyond through a discharge guide and nozzle, the mere naming of a rose, shower head and the like by claim which conveys the idea of multiple streams or outlet pattern is sufficient for this class and is not read as a nozzle by name only for Class 222.

377 Upending or tilting for discharge:
This subclass is indented under subclass 376. Apparatus in which the receptacle must be turned on its side or inverted to permit discharge of the fluid therefrom by overflowing or flowing through the receptacle wall.

SEE OR SEARCH THIS CLASS, SUBCLASS:
345, for similar discharge arrangements combined with a pressure reducer at the receptacle outlet.

378 Handle grip and flow controller juxtaposed:
This subclass is indented under subclass 376. Apparatus also provided with a flow modifier or regulator for the spray fluid and arranged to be adjacent the handle so as to be manipulated by the hand holding the receptacle.

379 Gravity flow from holder (e.g., hopper type):
This subclass is indented under subclass 302. Apparatus in which the fluid receptacle is open to atmospheric pressure to enable the fluid therein to flow out under the influence of gravity only.

SEE OR SEARCH THIS CLASS, SUBCLASS:
77+, for orchard type sprayers in which liquid is sprayed into a gaseous conveying current.
314, for those devices in which liquid is the conveying fluid.
345, for other gravity discharge arrangements combined with a pressure reducer at the receptacle outlet.

377, for similar gravity discharge arrangements combined with a handle for the receptacle.

380 MOTOR OR SPRAY FLUID OPERATED CONTINUOUSLY MOVING DISCHARGE MODIFIER:

This subclass is indented under the class definition. Apparatus having some means to change the character of the fluid being discharged as to direction and/or density of stream and which means is (1) mounted or supported for continuous movement with respect to the flowing stream, and (2) caused to move either by the flowing fluid or by some motion transmitting means.

SEE OR SEARCH THIS CLASS, SUBCLASS:

214+, for fluid spraying apparatus comprising a moving slinger or splasher, or a deflector which rotates relative to an effluent stream, the motion being caused by a motor or by impingement of the fluid.

225.1+, for a distributor which moves continuously and also relatively to a base or support therefor, said distributor including a modified or an unmodified outlet.

381 Spray fluid operated:

This subclass is indented under subclass 380. Apparatus in which the discharge modifier derives its motion from the energy in the flowing spray fluid.

SEE OR SEARCH THIS CLASS, SUBCLASS:

225.1+, appropriate subclasses, for distributors, e.g., nozzles, spray heads, and terminal member arrangements, having continuous movement relative a supporting base during spraying and being spray fluid operated.

382 Deflector or whirler:

This subclass is indented under subclass 381. Apparatus in which the modifier is a nonrotating member positioned beyond the egress port for redirecting or dispersing the effluent or is a member in or upstream of the egress port of imparting spin or rotation to the fluid.

SEE OR SEARCH THIS CLASS, SUBCLASS:

222.11, through 224, for a rotating member (i.e., deflector) positioned beyond the egress port for redirecting or dispersing the effluent.

461+, for flow deflecting and rotation controlling means fixed with respect to a flow line or discharging means.

383 Rotating whirler:

This subclass is indented under subclass 382. Apparatus in which the modifier is a rotating means upstream of the egress port for imparting spin or rotation to the fluid.

389 Pivoted on axis transverse to flow:

This subclass is indented under subclass 382. Apparatus in which the modifier has swinging or oscillating motion about an axis which is positioned at right angles to the general direction of flow.

SEE OR SEARCH THIS CLASS, SUBCLASS:

503, 505+, for deflectors movable into and out of deflecting position.

390 PLURAL INTERCHANGEABLE DISCHARGE MODIFIERS, OUTLET ARRANGEMENTS OR COUPLING MEANS:

This subclass is indented under the class definition. Apparatus provided with two or more different parts admitting of substitution one for the other, such parts being effective to (1) change a discharge characteristic either by the rearrangement of outlet parts, substituting one outlet for another, or substituting one flow deflecting or rotation controlling means for another, or (2) permit multiple ways for attaching or securing the flow line.

(1) Note. For classification in these subclasses, there is required a change, rearrangement or substitution of parts, not a mere selection by flow diversion or control as by valving and wherein only one of the possible arrangements is available at one time.

SEE OR SEARCH THIS CLASS, SUBCLASS:

436+, for selectively usable or variable diverse terminal outlets and not involving a rearrangement of parts.

391 Selectively arrangeable outlet means:

This subclass is indented under subclass 390. Apparatus in which a discharge characteristic of the effluent is changed by the rearrangement of outlet parts or by the substitution of outlet means, one for another.

SEE OR SEARCH THIS CLASS, SUBCLASS:

289, for means effecting conversion from one type of device to one having a different mode of operation, e.g., aspirating to displacement.

436+, for selectively usable or variable diverse terminal outlets which are available without rearrangement of parts.

562+, for unitary plural outlet means with flow regulation or control of selective ones or all outlets, the outlets always being available without rearrangement of terminal parts.

392 Movably mounted multi-terminal outlet carrying member:

This subclass is indented under subclass 391. Apparatus having means to substitute one outlet for another comprising a member having a plurality of egress ports mounted for movement to selected ones thereof with respect to the flow line, only one being available for use as the egress port at a time.

393 Member rotates on axis transverse to flow path:

This subclass is indented under subclass 392. Apparatus in which the egress port carrying member is mounted to rotate on an axis which is at right angles to the general direction of flow.

394 Member rotates on axis longitudinally of flow path:

This subclass is indented under subclass 392. Apparatus in which the egress port carrying member is mounted to rotate on an axis which is generally in line with the direction of flow.

395 Member reciprocates transversely of flow path:

This subclass is indented under subclass 392. Apparatus in which the egress port carrying member is mounted to move back and forth generally across or at right angles to the direction of flow.

396 Discharge modifier upstream of terminal outlet:

This subclass is indented under subclass 390. Apparatus having selectively arrangeable or interchangeable means in the flow path upstream of the egress port to alter the characteristic of the discharged fluid.

397 Selective coupling means for head or nozzle:

This subclass is indented under subclass 390. Apparatus having means whereby the egress port containing member is capable of being connected to the source in various ways, only one such way being available for use at a time.

SEE OR SEARCH THIS CLASS, SUBCLASS:

442, for selectively usable terminal outlets involving a choice of available coupling means and associated outlet means combined in one structure.

397.5 DISTRIBUTOR HAVING THERMAL EXPANSION JOINT, DIFFERENTIALLY EXPANDING MATERIALS OR INSULATION:

This subclass is indented under the class definition. Apparatus in which the distributor comprises (1) materials which have different coefficients of thermal expansion, (2) a connecting means between two parts which will expand and contract in such a manner as to prevent distortion of the distributor or part thereof on temperature variation, or (3) material which resists heat transfer therethrough.

398 COMBINING OF SEPARATELY SUPPLIED FLUIDS (I.E., PLURAL FLOW PATHS):

This subclass is indented under the class definition. Apparatus having means for plural fluids to commingle upstream of, downstream of, or at the terminus.

SEE OR SEARCH THIS CLASS, SUBCLASS:

8+, for a method of distributing fluid including mixing with air, gas or steam.

77+, for fluid sprayed into a gaseous conveying current.

137+, for plural fluid supply means for mixing or entraining involving a heating means.

265.17, for a reaction motor discharge nozzle having means to add a secondary fluid to the main discharge stream upstream of the nozzle outlet.

290+, for apparatus involving supplemental gas shaping or shielding jets.

302+, appropriate subclasses for supply holding or containing means which additionally involve the combining of several fluids for purposes of blending, dissolving, or entraining one in another.

SEE OR SEARCH CLASS:

431, Combustion, subclasses 181+ for means dispersing plural fluids into a furnace through a single wall opening and having a specific relationship to the furnace; and subclasses 354+ for a combined mixer and flame holder providing an unmodified flow of fuel and oxidizer to the flame.

399 Including whirler device to induce fluid rotation:

This subclass is indented under subclass 398. Apparatus having a means for imparting a spin or swirling motion to the fluid in the flow path prior to reaching the point of discharge.

SEE OR SEARCH THIS CLASS, SUBCLASS:

214.21+, for means inducing spin or whirl of any fluid stream in a system in which one fluid is mixed with another fluid downstream of a continuously moving distributor which has discharged one of said fluids.

380+, for spray apparatus having a continuously moving means in the flow conduit for causing spin or whirl of the fluid stream.

463+, for fluid rotation inducing means, per se, in a flow line or at the point of discharge.

400 Three or more fluids:

This subclass is indented under subclass 399. Apparatus including means for separately supplying three or more fluids one of which may be ambient air.

401 Axially adjustable valve with fluid conducting stem:

This subclass is indented under subclass 399. Apparatus having a hollow valve stem defining a flow path for one of the fluids and which has movement generally in the direction of its length to control the amount of flow through one or more of the paths.

SEE OR SEARCH THIS CLASS, SUBCLASS:

416, 417, for valving means for mixing of plural fluids defined by relatively movable concentric flow paths.

402 Plural serially arranged whirlers for same or for mixed fluids:

This subclass is indented under subclass 399. Apparatus having two or more spin or rotation imparting devices arranged so that one is upstream of the other whereby one fluid is serially affected or else unmingled fluid and then mingled fluids are serially affected.

SEE OR SEARCH THIS CLASS, SUBCLASS:

404, for discrete whirler means for each fluid.

427, for serially arranged mixing or expansion chambers upstream of the egress port.

466, for serially arranged whirlers for a single fluid.

402.5 Adjustable or selective whirl inducing means:

This subclass is indented under subclass 399. Apparatus comprising means to selectively move or shift the fluid spin or swirl imparting means to a plurality of different positions or attitudes relative to the fluid flow path, or to selectively guide the fluid through any of a plurality of distinct spin or swirl imparting means.

SEE OR SEARCH CLASS:

431, Combustion, subclass 184 for a means dispensing plural feeds into a combustion chamber through a single furnace opening that includes adjustable feed spiraling means.

403 Whirling of fluid prior to or at point of addition of second fluid:

This subclass is indented under subclass 399. Apparatus wherein the rotation is imparted to fluid upstream of or at the point where a second fluid is commingled therewith.

404 Discrete whirler means for each fluid:

This subclass is indented under subclass 403. Apparatus wherein each fluid has a means effective only for imparting rotation thereto.

405 Fluid in outer of concentrically arranged paths is whirled:

This subclass is indented under subclass 403. Apparatus in which the outermost fluid of the concentrically arranged fluid flow paths is rotated.

406 Mixing at or downstream of terminus:

This subclass is indented under subclass 405. Apparatus in which commingling takes place either at or beyond the terminal member.

SEE OR SEARCH THIS CLASS, SUBCLASS:

418+, for combining of separately supplied streams at or downstream of the terminus.

407 And valving means controlling flow for combining:

This subclass is indented under subclass 398. Apparatus having flow controlling means effective to influence the fluid stream(s) for commingling thereof.

408 By terminal ejection valve:

This subclass is indented under subclass 407. Apparatus in which the control means is a valve situated proximate the egress port of an injector type discharge nozzle.

(1) Note. See the definitions of terms for the meaning of injector type discharge nozzle.

409 Liquid storage means proximate to ejection outlet:

This subclass is indented under subclass 408. Apparatus having a means close to the egress port of the injector for retaining some of the liquid between periods of discharge to the chamber.

(1) Note. The principal object here is to have a ready supply of liquid close to the outlet so that with the first movement of air, some liquid will be immediately entrained or carried to discharge.

SEE OR SEARCH THIS CLASS, SUBCLASS:

88+, for unitary injection nozzles with pump or accumulator plunger.

106+, for nozzle cleaners, flushers or drainers, particularly subclass 119 for return or reverse flow from outlet means.

124+, for system fluid relief or return to supply.

410 Fluid pressure operated valve (mixed or unmixed):

This subclass is indented under subclass 408. Apparatus in which the flow controlling means is sensitive to differences of the pressure of one or both the fluids to be discharged or a mixture of such fluids.

SEE OR SEARCH THIS CLASS, SUBCLASS:

87, for injection nozzles with plunger or valve controlled by pressure beyond the nozzle outlet.

533+, for fluid pressure responsive discharge modifier or flow regulator.

411 By gas pressure:

This subclass is indented under subclass 410. Apparatus in which the fluid controlling the valve is a nonliquid.

SEE OR SEARCH THIS CLASS, SUBCLASS:

87, for compression pressure operated plungers or valves for injection nozzles.

526, for liquid control valve means actuated by gas flow with a pistol type handgrip.

412 Motor or fluid pressure operated valving means:

This subclass is indented under subclass 407. Apparatus in which the flow controlling means is actuated by a mechanical motion imparting means or by the force exerted by a fluid medium.

(1) Note. This definition does not include mere check valves, i.e., line flow actuated valves which become operative at the mere flow of fluid.

SEE OR SEARCH THIS CLASS, SUBCLASS:

410+, for fluid pressure operated terminal ejection valves.

413 Valving means for each of diverse fluids:

This subclass is indented under subclass 407. Apparatus having plural fluids, each differing from the other in some essential characteristic, (e.g., composition, pressure, temperature), and means to control each of the fluids.

SEE OR SEARCH THIS CLASS, SUBCLASS:

526+, for pistol grip type handle means having valving means for diverse fluids.

414 Multiway valve or single operator for plural valves:

This subclass is indented under subclass 413. Apparatus in which the plural controlling means (1) are operated by a single member or (2) comprise a single member having a control portion for each fluid.

SEE OR SEARCH THIS CLASS, SUBCLASS:

527+, for a single trigger means in a pistol type handgrip for controlling plural valves.

415 For successive valve control:

This subclass is indented under subclass 414. Apparatus in which the flow controlling means are serially operative for each full movement of the member.

SEE OR SEARCH THIS CLASS, SUBCLASS:

528, for similar subject matter with a pistol type handgrip arrangement.

416 Relatively movable concentric flow paths effect valving:

This subclass is indented under subclass 413. Apparatus having flow lines coaxially arranged, one surrounding the other, movement of the flow line means, one with respect to the other controlling each of the fluids.

SEE OR SEARCH THIS CLASS, SUBCLASS:

214.19, for relatively axially movable concentric flow paths for controlling the flow of one or more of a plurality of separate fluid streams for commingling thereof, at least one of said concentric flow paths rotating continuously around the flow axis.

416.1 For three or more diverse fluids:

This subclass is indented under subclass 413. Apparatus comprising means to control each of at least three of said different fluids.

416.2 Plural valves for same fluid:

This subclass is indented under subclass 413. Apparatus comprising a plurality of separate and distinct flow control means acting on the same fluid.

416.3 Parallel:

This subclass is indented under subclass 416.2. Apparatus in which the said same fluid flows in a plurality of branched flow paths joined to a single flow path and there is a flow control means in each said branched path.

416.4 Concentric flow paths:

This subclass is indented under subclass 413. Apparatus comprising flow lines which are coaxially arranged with one surrounding the other, the means controlling fluid flow through at least one of the lines.

SEE OR SEARCH THIS CLASS, SUBCLASS:

416, for concentric flow paths, relative movement between which affects

valving, there being a valving means for each of diverse fluids.

416.5 Concentric flow paths:
This subclass is indented under subclass 407. Apparatus comprising a plurality of coaxially arranged flow lines with one surrounding the other and means for controlling flow through one of the lines.

SEE OR SEARCH THIS CLASS, SUBCLASS:
416.4, for apparatus comprising a control means for each of a plurality of different fluids, at least one of the control means comprising flow lines which are coaxially arranged, one surrounding the other and the member controlling fluid flow being in one of the lines.

417 Relatively movable flow paths:
This subclass is indented under subclass 416.5. Apparatus in which relative movement between the coaxially arranged flow lines controls fluid flow.

SEE OR SEARCH THIS CLASS, SUBCLASS:
214.19, for relatively axially movable concentric flow paths for controlling the flow of one or more of a plurality of separate fluid streams for commingling thereof, at least one of said concentric flow paths rotating continuously around the flow axis.
416, for similarly arranged flow lines, however, where valving means are included for each of diverse fluids.

417.3 Valving means for central fluid:
This subclass is indented under subclass 416.5. Apparatus including means to control the flow of fluid through the innermost fluid line.

417.5 Discrete flow paths for diverse fluids:
This subclass is indented under subclass 407. Apparatus comprising a plurality of separate and distinct flow lines for different fluids, one for each fluid, and means for controlling flow in one of the lines.

418 At or beyond outlet:
This subclass is indented under subclass 398. Apparatus in which the mixing or mingling of the fluids takes place either at the discharge outlet or downstream thereof.

SEE OR SEARCH THIS CLASS, SUBCLASS:
127.3, for a reaction motor discharge nozzle having a cavity or jacket through which a cooling fluid is passed before mixing with the main fluid stream at or downstream of the outlet.
265.23, for a reaction motor nozzle having means for adding an auxiliary fluid to the main fluid stream subsequent to discharge through the outlet for deflecting the main jet.

419 With partial preliminary mixing:
This subclass is indented under subclass 418. Apparatus in which some mingling of the separately supplied fluids takes place upstream of the mixing which takes place beyond or at the outlet means.

419.3 Two of three disparate fluids premixed:
This subclass is indented under subclass 419. Apparatus comprising three dissimilar or different fluids, two of which are mingled upstream of the mixing with the third beyond or at the outlet means.

(1) Note. The fluids must be substantially different in character; two streams of the same fluid differing from each other only in temperature or pressure do not qualify under this definition.

419.5 Induction of ambient air:
This subclass is indented under subclass 419. Apparatus in which one of the separately supplied fluids is ambient air which is aspirated into the system.

420 Including movable means for varying point of convergence:
This subclass is indented under subclass 418. Apparatus having means for selectively adjusting the point at which the fluid streams intersect beyond the terminal member.

SEE OR SEARCH THIS CLASS, SUBCLASS:

543+, for apparatus causing one fluid stream to impinge upon another branch of the same fluid.

421 Including peripheral or annular outlets at junction of opposed coaxial fluid paths:

This subclass is indented under subclass 418. Apparatus in which the separate flow paths are in end abutting relation to each other and have a common longitudinal axis, the outlets of the respective flow lines being either of ring form or arranged near the perimeter of the end wall or flow conductor.

SEE OR SEARCH THIS CLASS, SUBCLASS:

545, for directly opposed outlets effecting impingement of one fluid stream upon a branch of the same fluid.

422 Combining of three or more separate fluid streams:

This subclass is indented under subclass 418. Apparatus having means to bring three or more separately conducted streams together for mixing.

(1) Note. Separate sources need not necessarily be disclosed if at least there are sufficient flow lines shown which would be capable of handling fluids from three sources.

SEE OR SEARCH THIS CLASS, SUBCLASS:

428, for the subject matter of this subclass upstream of the outlet.

423 Concurrent or concentric flow means:

This subclass is indented under subclass 418. Apparatus in which the separately supplied streams have a single axis of confluence such that one flow path surrounds the other or in which the axes of flow are substantially parallel such that the flow conduits are substantially adjoined and contiguous.

SEE OR SEARCH THIS CLASS, SUBCLASS:

398, 434.5, for concentric or concurrent flow to other fluid path upstream of the terminal element.

424 Flow means of one fluid surrounds the other at outlet:

This subclass is indented under subclass 423. Apparatus in which the flow path of one fluid surrounds the other at the egress outlet means.

(1) Note. A device in which one fluid is divided among a plurality of passages in the terminal element is included under this definition.

424.5 Plural passages discharge one fluid to other :

This subclass is indented under subclass 424. Apparatus in which there are a plurality of passages for introducing one of said fluids to another of said fluids at or beyond the egress outlet means.

425 To outer fluid at outlet:

This subclass is indented under subclass 424.5. Apparatus in which the plurality of passages introduce the inner fluid to the outer fluid at or beyond the egress outlet means.

425.5 Ambient air aspirated through inner flow path:

This subclass is indented under subclass 424.5. Apparatus in which the outer fluid comprises the plurality of passages and the inner fluid is ambient air which is induced into the inner flow path by the outer fluid.

426 Streams meet at right angles:

This subclass is indented under subclass 418. Apparatus in which the separate flow paths come together at approximately 90 degrees to form the terminal element arrangement.

SEE OR SEARCH THIS CLASS, SUBCLASS:

434, for laterally spaced fluid paths meeting at right angles upstream of the outlet.

427 Serially arranged mixing zones (i.e., of same or mixed fluids):
This subclass is indented under subclass 398. Apparatus having two or more areas spaced along the flow paths where fluids are mingled such that either (1) two or more fluids are mixed together at different points, or (2) the previously mixed fluids are further mixed.

427.3 Additions of fluid in zones spaced along flow path:
This subclass is indented under subclass 427. Apparatus in which the areas are spaced along a flow path and a fluid is added to the fluid in said flow path at each area.

427.5 At least three diverse fluids:
This subclass is indented under subclass 427.3. Apparatus comprising three fluids separately supplied to the apparatus each of which differs from the others in some essential characteristic such as state, pressure, temperature, composition, etc.

428 Combining of three or more separate streams:
This subclass is indented under subclass 398. Apparatus having means to bring three or more separately conducted streams together for mixing.

(1) Note. Separate sources need not necessarily be disclosed if at least there are sufficient flow lines shown which would be capable of handling fluids from three sources.

SEE OR SEARCH THIS CLASS, SUBCLASS:
422, for combining of three or more streams at or beyond the terminal outlet.

428.5 Liquid flow induces atmospheric air (e.g., faucet aerator):
This subclass is indented under subclass 398. Apparatus comprising a fluid path connected to a source of liquid and an opening exposed to ambient air, the liquid, passing through the apparatus, causing a lowered pressure and aspirating ambient air through the opening into the flowing liquid.

SEE OR SEARCH CLASS:
261, Gas and Liquid Contact Apparatus, appropriate subclasses, especially subclasses 76 and 78.1 for a device in which a flowing liquid stream aspirates ambient air, combined with a baffle, screen or other device to mix the gas and liquid, and see Lines With Other Classes of the class definition of this class, Fluid Sprinkling, Spraying, and Diffusing, for the line between the two classes.

429 Plural inlets to one stream from another:
This subclass is indented under subclass 398. Apparatus having a plurality of passages from one stream to the other for mixing.

430 Three or more inlets to one stream from other:
This subclass is indented under subclass 429. Apparatus in which there are at least three paths of confluence, i.e., where one passage flows into the other stream.

431 Normal to entered stream:
This subclass is indented under subclass 430. Apparatus in which each of the paths of confluence includes a portion in the side wall of the conduit so that one fluid enters the other substantially at right angles to the general direction of flow in the stream entered.

432 Including additional dispersing plate or obstruction in mixing chamber:
This subclass is indented under subclass 398. Apparatus having an area of juncture of the streams upstream of the outlet means which is further provided with a means in the form of a flat member or other type of turbulence effecting member to bring about more intimate mixing of the streams.

SEE OR SEARCH CLASS:
261, Gas and Liquid Contact Apparatus, subclasses 115+ for subcombinations of this subject matter not including particular outlet means to disperse the gas and liquid mixture into the atmosphere.

433 Fluid streams have angular junction:
This subclass is indented under subclass 398. Apparatus in which the flow paths for the plural fluids have an angular relationship at their point of intersection.

434 Streams meet at right angles:
This subclass is indented under subclass 433. Apparatus wherein the angle at the junction is approximately 90 degrees.

SEE OR SEARCH THIS CLASS, SUBCLASS:
426, for similar subject matter at or defining the terminal arrangement.

434.5 One fluid discharges into other in concentric conical portion of outer conduit:
This subclass is indented under subclass 433. Apparatus in which both paths have a common center, the outermost wall varying in diameter along its longitudinal extent, the fluid in the inner path discharging into the outer in the zone of varying diameter.

435 VALVED FAUCET HAVING CONTRACTING CHAMBER JET FORMING MEANS:
This subclass is indented under the class definition. Apparatus comprising a flow regulator and a chamber to trap part of the fluid, such chamber provided with an egress port and a moving means to decrease the volume thereof to force the trapped fluid through the port.

SEE OR SEARCH THIS CLASS, SUBCLASS:
445, for selectively usable high or low velocity draft cocks.

SEE OR SEARCH CLASS:
222, Dispensing, subclasses 251+ for a dispenser having a discharge assistant and see Lines With Other Classes of the class definition of this class (239), Note to Class 222 for a statement of the line.

436 SELECTIVELY USABLE OR VARIABLE DIVERSE TERMINAL OUTLETS:
This subclass is indented under the class definition. Apparatus having two or more different (difference of kind) egress means for a single fluid which are either (1) selective as to use, i.e., one discharging-one idle, or (2) in the absence of selectivity one at least being changeable as to discharge of flow regulation.

SEE OR SEARCH THIS CLASS, SUBCLASS:
265.27, for a reaction motor discharge nozzle comprising diversely shaped or oriented outlets and means to select the outlet for discharge of the fluid stream.
312, for apparatus comprising diverse outlets selectively usable for mixed and unmixed fluids respectively.

SEE OR SEARCH CLASS:
222, Dispensing, subclasses 481+ for a dispenser having plural outlets with flow control means.
401, Coating Implements With Material Supply, subclass 136, wherein the implement includes means, under control of the user, for directing flow of material to the tool or, optionally, for dispensing the material directly to the work surface.

437 Outlet formed between parts mounted for relative movement:
This subclass is indented under subclass 436. Apparatus in which an egress means is formed by at least two members arranged for movement, one with respect to the other, the separation or displacement therebetween, resulting from such movement, defining the configuration of the outlet.

SEE OR SEARCH THIS CLASS, SUBCLASS:
451+, and see (1) Note of that subclass.

438 Axially movable component:
This subclass is indented under subclass 437. Apparatus in which one of the relatively movable parts is constrained to move in the general direction of the longitudinal axis of the terminal member.

SEE OR SEARCH THIS CLASS, SUBCLASS:
265.31, for a reaction motor discharge nozzle comprising means to select one of diversely shaped or directed outlets for discharge of the fluid stream, one

outlet formed between members arranged for relative axial motion.

456+, for axially movable outlet components in other terminal outlet arrangements formed by parts having relative movement.

439 Deflector and outlet forming means combined:

This subclass is indented under subclass 438. Apparatus in which the outlet forming member is also effective to redisperse or redirect the effluent as it passes out of the terminal port.

SEE OR SEARCH THIS CLASS, SUBCLASS:

453+, for similar subject matter wherein the flow modifier is fluid pressure responsive.

440 Two or more concentric annular outlets:

This subclass is indented under subclass 439. Apparatus in which the diverse terminal outlets are concentrically arranged, e.g., have an axial line of centers, and are in the form of rings.

441 Central and concentric annular outlets:

This subclass is indented under subclass 439. Apparatus in which the diverse terminal outlets have an axial line of centers and in which one outlet is of ring form.

442 By selection of coupling means:

This subclass is indented under subclass 436. Apparatus wherein each of two or more outlet paths has its own fluid coupling to supply associated therewith and thus the discharge path depends upon the selected coupling in use.

SEE OR SEARCH THIS CLASS, SUBCLASS:

397, for interchangeable outlet arrangements having selective coupling means permitting such interchangeability.

443 And valve controlling flow:

This subclass is indented under subclass 436. Apparatus provided with valving means to control flow to or through one of the outlet means.

444 Valving means for each flow path:

This subclass is indented under subclass 443. Apparatus having a valving means effective to control flow to each of the several diverse terminal outlet means.

445 Valved faucet with selective terminal flow paths to discharge (e.g., high or low velocity draft cocks):

This subclass is indented under subclass 444. Apparatus including a spigot type dispensing arrangement (draft cock) having a high velocity and a low velocity discharge path selectively usable.

(1) Note. This subclass comprises an art collection of beverage cocks.

(2) Note. Where concentric discharge tubes exist for this subclass it is not necessary that the inner tube extend to be coextensive with the outer tube if the discharge from the inner tube avoids the outer tube.

446 Integral or rigidly interconnected valving means:

This subclass is indented under subclass 444. Apparatus wherein the flow controlling means is of unitary construction or if comprised of plural valving means, constrained to move together.

(1) Note. A lost motion connection is not considered a rigid connection for this subclass.

SEE OR SEARCH CLASS:

431, Combustion, subclass 280 for a rigidly connected valving means controlling flow to diverse terminal outlets one of which is a pilot.

447 At least one flow path always open:

This subclass is indented under subclass 446. Apparatus wherein the flow controlling means is incapable of shutting off flow through all of the flow paths, i.e., at least one flow path is always open.

448 Central flow path:

This subclass is indented under subclass 446. Apparatus wherein the terminal outlets are arranged to provide a flow path which dis-

charges centrally of another flow path or other flow paths.

449 And surrounding ports (peripheral):
This subclass is indented under subclass 448. Apparatus wherein the other flow path terminates in a plurality of egress ports which are arranged around and radially outwardly of the central flow path.

450 ADJOINED CONTIGUOUS ELONGATED SPRAY CONDUITS (E.G., PARALLEL CONDUITS):
This subclass is indented under the class definition. Apparatus which includes a plurality of tubular members extending side-by-side and connected together along their length, said tubular members being provided with spray outlet means.

(1) Note. Included herein are plural conduits formed by a partition subdividing a single conduit.

SEE OR SEARCH THIS CLASS, SUBCLASS:
536, for plural, substantially identical discrete terminal members arranged with respect to a common support means, but not extending side-by-side and joined along their lengths.
553+, for baffles disposed in a single conduit having plural outlets.

451 TERMINAL OUTLET FORMED BETWEEN PARTS MOUNTED FOR RELATIVE MOVEMENT:
This subclass is indented under the class definition. Apparatus in which the outlet port is formed by at least two members or parts arranged for movement, one with respect to the other, the separation or displacement therebetween, resulting from such movement, defining the configuration of the outlet.

(1) Note. Resilient terminal outlet forms and/or variable outlet shapes which are of nonarticulated form, i.e., those which permit movement only because of the inherent ability of the members to flex or distort are not classified in this group but are found in appropriate subclasses below.

SEE OR SEARCH THIS CLASS, SUBCLASS:
437+, for selective or variable diverse outlets one of which is formed by parts mounted for relative movement.

452 Spray fluid pressure responsive discharge modifier:
This subclass is indented under subclass 451. Apparatus in which the displacement or separation between members to define the terminal outlet and accordingly the characteristic flow of the fluid being discharged is sensitive to the pressure of the fluid in the line.

SEE OR SEARCH THIS CLASS, SUBCLASS:
410+, for a terminal injection valve operated by fluid pressure and including means to mix a plurality of fluids.
533, for fluid pressure responsive discharge modifiers or flow regulators.
534, for fluid pressure responsive discharge modifiers or flow regulators which are of resilient or deformable terminal outlet form and where parts are not articulated such that the inherent resiliency or spring form is relied upon for modification.

453 Axially reciprocating closure deflector-type modifier:
This subclass is indented under subclass 452. Apparatus in which the modifier has movement back and forth generally along the line of discharge of the fluid and in which the modifier abruptly changes the direction of flow at or beyond its outlet and which is additionally a closure when not performing the deflecting function.

SEE OR SEARCH THIS CLASS, SUBCLASS:
384+, for weight or spring biased closure type deflectors which in the deflecting position have continuous movement, usually rotary, and which in deflecting position do not materially affect the egress port.

454 Gravity seated tapered plug:
This subclass is indented under subclass 453. Apparatus in which the closure-deflector is of gradual diminishing configuration and is weight biased to its seat.

455 Laterally movable outlet part:
This subclass is indented under subclass 451. Apparatus in which the outlet parts are constrained to move in a direction perpendicular to the general direction of the flowing stream to control the flow.

SEE OR SEARCH THIS CLASS, SUBCLASS:
546, for means modifying a deformable terminal outlet of nonarticulated construction.
602, for resilient terminal elements.

456 Axially movable outlet part:
This subclass is indented under subclass 451. Apparatus in which the relative motion of an outlet part is in the general direction of flow of the effluent.

SEE OR SEARCH THIS CLASS, SUBCLASS:
265.31, for a reaction motor nozzle having selectively used diversely shaped or directed outlets, one of which is formed between members arranged for relative axial motion.
438+, for a distributor having selective or variable diverse outlets, one of which is formed by parts mounted for relative axial motion.

457 Moved by rotatable flow conducting terminal member part:
This subclass is indented under subclass 456. Apparatus having a fluid conducting part of a nozzle, which part is constrained to rotate and which by such motion causes the relative movement of the outlet parts.

(1) Note. Under this definition, the fluid conducting part of the nozzle and the outlet part of the nozzle may be integrally or unitarily formed.

SEE OR SEARCH THIS CLASS, SUBCLASS:
538, for rotating terminal member and valve part of unitary configuration where the valve part is remote (upstream) from the egress port.
579, for a movable terminal flow member which controls a separate valving function.

458 Radially outer and axially movable part:
This subclass is indented under subclass 457. Apparatus in which said fluid conducting part of a nozzle is radially outermost of a concentric arrangement and additionally moves in the general direction of its longitudinal axis while it rotates.

SEE OR SEARCH THIS CLASS, SUBCLASS:
539, for a rotating and axially moving terminal member and valve part wherein the valve part is upstream of the egress port.

459 Spring biased nonrotatable controller within discharge guide:
This subclass is indented under subclass 456. Apparatus having an axially movable terminal forming member within the flow conduit which is resiliently urged in one direction and which is constrained to reciprocate only.

460 Peripherally fluted or grooved member:
This subclass is indented under subclass 456. Apparatus comprising a terminal outlet forming means of solid or plug-like form constrained for movement generally from within the flow line and having its outer surface or the interior surface of the flow line provided with ridges, slots, grooves or the like to substantially discharge effluent in a plurality of streams.

SEE OR SEARCH THIS CLASS, SUBCLASS:
457+, for rotatable terminal members which are flow conducting or confining in function, i.e., of tubular form.

461 FLOW DEFLECTING OR ROTATION CONTROLLING MEANS:

This subclass is indented under the class definition. Apparatus comprising means for (1) imparting a swirling or spinning (rotary or spiraling) motion to a flowing fluid in a fluid conductor prior to egress thereof, (2) smoothing out or quieting a turbulent or rotating flowing stream in a fluid conductor, or (3) redirecting and dispersing a flowing stream by some surface means positioned beyond the egress port or last point of fluid confinement and in a direct line therewith to accomplish an abrupt change in the direction of flow of the fluid.

(1) Note. Apparatus which is disclosed as a burner and which has a fluid redirecting or dispersing means disclosed as made of incandescent or radiant material to reignite a flame is excluded from Class 239 and will be found in Class 431, Combustion, if such redirecting or dispersing means is claimed, whether or not the flame is claimed; see (1) Note under subclass 128 and Lines With Other Classes of the class definition of this class (239) in reference to Class 431, Combustion.

(2) Note. Included under this definition is a deflector device, per se, which is disclosed as attachable to the outlet end of a flow pipe to redirect or disperse the fluid impinging thereon.

SEE OR SEARCH THIS CLASS, SUBCLASS:

150, for deflecting or dispersing means combined with vehicular means mounting a fluid supply.

231+, for movable distributors with an externally applied deflector.

290+, for shaping a stream by a supplemental jet.

380+, for motor or spray fluid actuated discharge modifier movable for or during spraying.

399+, for whirler devices in combination with means combining separately supplied fluid streams.

439, for deflector and outlet forming means combined there classified.

552, for inserts placed at the terminus of a flow line to divide the effluent into a plurality of streams.

553+, 590+, for interior guides in terminal members which are similar in structure to those appearing herein but which are not disclosed as fluid rotation controlling or anti-turbulence devices.

SEE OR SEARCH CLASS:

169, Fire Extinguishers, appropriate subclasses for CO2 snow nozzles appropriate subclasses wherein special heat exchange or diffusing means are included for the expansion of the fluid.

431, Combustion, see Lines With Other Classes of the class definition of this class (239) and the (1) Note above.

462 And filtering or screening means:

This subclass is indented under subclass 461. Apparatus provided with means for separating sediment or solid particles from the fluid to be sprayed.

SEE OR SEARCH THIS CLASS, SUBCLASS:

553.3, 575 and 590.3, for other terminal element combinations including a filter or screen.

463 Fluid rotation inducing means upstream of outlet:

This subclass is indented under subclass 461. Apparatus in which there is provided a means for imparting a spin or swirling motion to the fluid in the flow path prior to reaching the egress opening.

SEE OR SEARCH THIS CLASS, SUBCLASS:

214.21+, for means inducing spin or whirl of any fluid stream in a system in which one fluid is mixed with another fluid downstream of a continuously moving distributor which has discharged one of said fluids.

464 And fluid pressure responsive flow modifying means:

This subclass is indented under subclass 463. Apparatus in which there is also provided a means for adjusting, controlling, regulating or altering the flow of fluid, which means is responsive to pressure of a fluid.

(1) Note. The flow modifying means must control the flow to the egress opening in accordance with the fluid pressure. A mere check valve or other similar on-off valve member does not qualify for this subclass unless the check valve opens paths in addition to those already passing fluid.

SEE OR SEARCH THIS CLASS, SUBCLASS:

452+, for a distributor in which the outlet is formed between parts mounted for relative motion and having a discharge modifier or control actuated by a means responsive to the pressure of the fluid.

533+, for fluid pressure responsive discharge modifiers or flow regulators not associated with whirling devices.

570+, for check valves.

465 And adjustable flow modifier requiring separate insertable tool:

This subclass is indented under subclass 463. Apparatus in which there is provided a flow regulator or controller which can be adjusted only by means of a separate, detached member which is inserted into the flow line or casing into contact with the regulator.

SEE OR SEARCH THIS CLASS, SUBCLASS:

580, for other discharge nozzles having valves requiring separate tools for adjustment.

466 Serially arranged whirlers:

This subclass is indented under subclass 463. Apparatus in which there are provided at least two separate rotation producing members, one spaced downstream of the other.

(1) Note. All of the fluid may be successively whirled by the members or the arrangement may provide for divided flow after whirling serial whirling for some or all of the fluid and followed by recombining of the fluid.

467 And serially arranged deflector:

This subclass is indented under subclass 463. Apparatus in which there is also provided a surface associated with the nozzle for dispersing or redirecting the whirled effluent after discharge.

468 Whirl chamber transversely offset to single inflow path (i.e., tangential inflow):

This subclass is indented under subclass 463. Apparatus having a chamber in which the fluid is rotated provided with a single inlet thereto the inlet being arranged so that fluid enters along the peripheral wall of the chamber and at right angles to a radius of the chamber end wall.

469 Having a central post-like member:

This subclass is indented under subclass 468. Apparatus in which the whirl chamber is provided with a central protuberance extending towards the egress opening and about which the fluid rotates.

470 And flow passage in post:

This subclass is indented under subclass 469. Apparatus in which the central protuberance is also provided with a flow passage.

471 Having valved inlet:

This subclass is indented under subclass 468. Apparatus including a valve at the flow inlet to the whirl chamber.

472 Peripheral and central flow paths in whirler upstream of single terminal outlet:

This subclass is indented under subclass 463. Apparatus in which the whirl producing member is upstream of a single egress opening and is provided with flow paths at or on its periphery as well as with one or more flow paths in the center portion thereof.

(1) Note. At least one set of apertures must cause whirling of the fluid passing therethrough.

(2) Note. The apertures need not all be in the same face. In the case of a cylindrical

member, the central aperture may be in the circular end face and the peripheral ports in the side walls thereof.

473 Coaxial valving means and central port:
This subclass is indented under subclass 472. Apparatus in which there is provided a flow regulating means aligned with the central port in the whirler.

SEE OR SEARCH THIS CLASS, SUBCLASS:
482+, for other whirler devices having a nozzle, regulator and stem all axially aligned.
494+, especially subclass 497 for other whirler discs having angular passages therethrough.

474 Annular egress outlet formed between whirler and casing:
This subclass is indented under subclass 463. Apparatus in which the egress opening is an annulus formed between the whirling means and the surrounding fluid conducting shell or casing.

475 And centrally ported whirler:
This subclass is indented under subclass 474. Apparatus in which the whirler has a central fluid conducting opening, thus providing a central outlet within the discharge annulus.

476 Having flow modifier and external operator therefor carried by nozzle:
This subclass is indented under subclass 463. Apparatus in which the actuating member or handle for the flow modifier is outside of and is mounted on the discharge member.

477 Selective diverse paths to or through terminus:
This subclass is indented under subclass 476. Apparatus in which the flow modifier is provided with means for selecting or choosing, at will, one of a plurality of flow paths to or through the egress opening.

SEE OR SEARCH THIS CLASS, SUBCLASS:
473, for whirlers having both peripheral and central ports and having the central port valved.

478 One path avoids whirler action:
This subclass is indented under subclass 477. Apparatus in which one of the flow paths does not cause a whirling of the fluid.

(1) Note. This subclass takes those devices in which only two positions of flow are provided, either whirling or nonwhirling.

SEE OR SEARCH THIS CLASS, SUBCLASS:
479, and see (1) Note thereof.
600, for terminal member arrangements in which assembly or disassembly feature is of the essence.

479 This subclass is indented under subclass 478. Apparatus in which the flow adjusting means can rotate between two operating limits.

(1) Note. In this and the two succeeding subclasses, control is such that intermediate stages of flow modification are provided between the two extremes of whirling and nonwhirling.

(2) Note. See subclass 478, (1) Note, for the difference between this and the subclass referred to.

480 Relatively axially movable flow modifier:
This subclass is indented under subclass 479. Apparatus in which the flow adjusting means moves axially relative to the egress opening.

481 Rotary, axially movable:
This subclass is indented under subclass 480. Apparatus in which the flow adjusting means has axial as well as rotary motion.

482 Axially aligned nozzle, modifier and stem:
This subclass is indented under subclass 476. Apparatus in which the egress opening, the flow modifier or regulator and the stem for regulating or adjusting the modifier are all in axial alignment.

SEE OR SEARCH THIS CLASS, SUBCLASS:
473, for other devices having the nozzle, regulator and stem axially aligned and arranged so as to control a central orifice in the whirler member.

483 Slotted, ported or grooved modifying member:
This subclass is indented under subclass 482. Apparatus in which the flow modifying passages are formed in, on or through the flow modifying or regulating member (e.g., by recesses, borings, channels, etc.).

484 Member having rotary motion for adjustment:
This subclass is indented under subclass 483. Apparatus in which the flow modifier or regulator is mounted for rotating movement to effect the adjustment.

485 And motion longitudinally of the axis of rotation:
This subclass is indented under subclass 484. Apparatus in which the means modifying or regulating the flow has axial as well as rotary motion.

486 Single planar spiral perpendicular to flow path:
This subclass is indented under subclass 463. Apparatus in which the flow passages causing the fluid to spin or rotate are spiral in form and extend only at right angles to the longitudinal axis of the flow path.

(1) Note. The arrangement is such that the fluid enters the spiral passage along its entire axial extent and is turned in a perpendicular direction from its original direction of flow.

487 Axially extending spiral-type flow passage or diverter:
This subclass is indented under subclass 463. Apparatus having flow passages of helical form which cause the fluid to spin or rotate and which extend a substantial length in the general direction of flow.

(1) Note. The arrangement of the devices in this and the indented subclasses is such that the spiral passages also form axially extending channels; that is, the fluid enters at an upstream zone and is carried through the spiral passages to a downstream egress opening.

488 Having a solid core:
This subclass is indented under subclass 487. Apparatus having a member of substantially axial length and of central imperforate form located in the flow passage upstream of the egress port.

SEE OR SEARCH THIS CLASS, SUBCLASS:
494+, for helical passages in disc-like or relatively thin, flat members.

489 In or on flow-passage walls:
This subclass is indented under subclass 487. Apparatus in which the inner surface of the flow conduit has integral vanes or ribs thereon thereby forming the helical flow passages.

SEE OR SEARCH THIS CLASS, SUBCLASS:
481, for other devices in which the whirling is accomplished by spirals or threads on the flow passage walls, with additional means to select either the whirling flow path thus provided or another non-whirling path.

490 Integral whirler and terminal head (e.g., terminal nut):
This subclass is indented under subclass 463. Apparatus in which the passages which cause the fluid to spin or rotate are formed in the terminal element itself.

(1) Note. The arrangement is such that removal of the terminal element removes the whirl effecting structure as well.

SEE OR SEARCH THIS CLASS, SUBCLASS:
489, for terminal members having ribbed, vaned or rifled passages therein.

491 Apertured cap surmounts whirler organization:
This subclass is indented under subclass 463. Apparatus in which an end wall having an opening therethrough is provided as a terminal member downstream of the part causing the fluid to spin or rotate.

(1) Note. The end wall may be of any configuration although it is usually of the threaded cap or cup type.

SEE OR SEARCH THIS CLASS, SUBCLASS:

483+, for apertured caps surmounting integral whirler and flow controlling devices.

487+, for apertured caps surmounting axially extending spiral type passages.

492 Whirler is cup-like insert with tangential inlets:

This subclass is indented under subclass 491. Apparatus in which a member is provided in the flow line, the member being thimble-like or dished in configuration with the closed end of the cavity facing upstream, the fluid caused to rotatively enter the cavity by one or more ports formed in the wall of the member at right angles to the axis of the cavity and nonradially therewith.

493 Downstream end of core member slotted to form whirl passages:

This subclass is indented under subclass 491. Apparatus in which the flow conduit has a centrally imperforate member arranged therein so as to provide a flow path therepast with the downstream end face of the member recessed or depressed in a manner to cause the fluid to spin or rotate as it passes through the egress aperture.

494 Whirler is slotted or apertured flat disc or plate:

This subclass is indented under subclass 491. Apparatus in which the passages causing the fluid to spin or rotate are formed in a member which is flat and relatively thin.

SEE OR SEARCH THIS CLASS, SUBCLASS:

488, for whirlers having helical passages formed in nondisc-like members or those having substantial axial length.

497, for those devices in which the whirler paths are formed by passages extending completely through and are entirely surrounded by some portion of the disc or plate member.

495 Deformed plate:

This subclass is indented under subclass 494. Apparatus in which the passages causing the fluid to spin or rotate are in the form of tongues or slits cut or struck through the plane surface of the disc and bent to the desired shape.

496 Slot in disc face:

This subclass is indented under subclass 494. Apparatus in which the passages causing the fluid to spin or rotate extend only partly through the axial extent of the member and are carried in a plane substantially parallel to the face thereof.

497 Multiple angular passages through disc:

This subclass is indented under subclass 494. Apparatus comprising a plurality of flow paths relatively inclined to the longitudinal axis and extending entirely through the flat, relatively thin member.

(1) Note. The passages must pass through and be completely surrounded by the member material; those passages which are formed in part by slots or grooves cut in the edge of the member and in part by the flow conduit will be found in subclass 494.

SEE OR SEARCH THIS CLASS, SUBCLASS:

473, for other devices having a whirler disc with angular passages therethrough and a centrally valved port.

494, in which the whirl passages are formed in the disc or plate member but not necessarily entirely surrounded by the material of the member.

548+, for plural outlets not specifically arranged to cause spinning or swirling of the fluid.

498 Unitary deflector with multiple fingers or serrated edges:

This subclass is indented under subclass 461. Apparatus in which the dispersing or redirecting member comprises (1) a multiplicity of individual tongues or strips in the flow path with all strips joined at their base, (2) a member the periphery of which is fluted, ridged, grooved, slotted, notched or toothed.

499 Chamber-like deflector:
This subclass is indented under subclass 461. Apparatus in which the redirecting or dispersing surface is in the form of an apertured member having considerable depth and surrounding the egress opening.

500 Serially arranged deflecting surfaces:
This subclass is indented under subclass 461. Apparatus in which there is provided either (1) a plurality of redirecting or dispersing surfaces spaced in the direction of the flowing stream, or (2) a single such redirecting or dispersing means having a plurality of surfaces also spaced in the direction of flow so that in either case at least part of the fluid leaving the egress opening impinges on two or more of such surfaces.

SEE OR SEARCH THIS CLASS, SUBCLASS:
504, for a single dispersing or redirecting surface which is apertured to permit flow therethrough.
522, for multiple redirecting or dispersing surfaces in other than serial arrangement combined with the terminal flow element.

501 Surfaces of spiral or helical form:
This subclass is indented under subclass 500. Apparatus in which the dispersing or redirecting surfaces are arranged in the form of convolutions coiled or wound around an axis, the fluid passing between the convolutions.

502 Plural deflectors arranged edgewise to stream:
This subclass is indented under subclass 461. Apparatus comprising plural dispersing means arranged so that the respective narrow edges thereof are positioned in the flowing stream so as to cut or slice the stream rather than spread it across a wide area.

SEE OR SEARCH THIS CLASS, SUBCLASS:
500+, for plural deflecting surfaces serially arranged so that at least part of the effluent is redirected several times.

503 Pivoted into and out of discharge path:
This subclass is indented under subclass 502. Apparatus in which each of the dispersing surfaces is mounted so as to be moved about an axis into an out of the path of the stream.

504 Deflector apertured for flow:
This subclass is indented under subclass 461. Apparatus in which the surface means for redirecting and dispersing the flowing stream has openings therein for permitting fluid to pass therethrough either before or after such redirection or dispersion.

SEE OR SEARCH THIS CLASS, SUBCLASS:
500+, for plural dispersing surfaces, which surfaces may be apertured or otherwise arranged to permit fluid flow therethrough.

505 Deflector movably or removably mounted relative to outlet:
This subclass is indented under subclass 461. Apparatus in which the redirecting and dispersing means is (1) removable from the member having the egress port, or (2) mounted for movement of various positions of adjustment or nonuse with respect to the effluent.

506 Deflector is closure:
This subclass is indented under subclass 505. Apparatus wherein the dispersing means additionally is positionable in contact with the egress port to serve the function of a flow inhibitor or shut off device.

SEE OR SEARCH THIS CLASS, SUBCLASS:
384+, for spray fluid operated deflectors which move during discharge and are biased to close the egress port during absence of fluid.
454, for gravity seated axially moved plug type deflectors which form the outlet means because of relative movement to the flow line.

507 Mounted for movement into and out of deflecting position:
This subclass is indented under subclass 505. Apparatus wherein the dispersing means is supported near the outlet means and has rela-

tive movement thereto from a position of nonuse to a position providing some degree of dispersion.

SEE OR SEARCH THIS CLASS, SUBCLASS:

265.29, for a reaction motor discharge nozzle having selectively usable diversely oriented or shaped outlets and a redirecting member movable from a nonuse position closing one outlet to a position within the fluid stream to redirect the stream to an outlet.

503, for plural deflectors pivoted into and out of the discharge path.

506, for deflectors which in a position of nonuse become closure means.

508 Bail-type pivoting means:

This subclass is indented under subclass 507. Apparatus having a dispersing means and a securing means therefor provided with a plurality of spaced pivot points on opposite sides of the flow conductor defining an axis about which the latter means is hinged.

509 Plate means oblique to or on one side of flow path:

This subclass is indented under subclass 507. Apparatus wherein the flow redirecting means is arranged to one side of the general direction of the discharging stream and is flattened or presents a surface of comparatively large area.

SEE OR SEARCH THIS CLASS, SUBCLASS:

513, for plate-type flow deflectors on one side of the stream, slidably or rotatably arranged for adjustment but which cannot be positioned to be out of use.

579, for valve members which are controlled by the movement of terminal flow members.

510 Exteriorly arranged of flow member:

This subclass is indented under subclass 509. Apparatus wherein the dispersing means is supported by means either (1) engaging the external surfaces of the terminal flow guide or path, or (2) remote from the flow line.

SEE OR SEARCH THIS CLASS, SUBCLASS:

515, for other deflectors supported exteriorly of the flow.

511 Rotated into deflecting position:

This subclass is indented under subclass 510. Apparatus wherein the plate-like dispersing means is contrained to move about an axis so that a turning motion is employed in placing the plate into operative position.

512 Positioned transversely across flow path:

This subclass is indented under subclass 507. Apparatus having a dispersing means which is mounted for movement in a plane normal to the direction of discharge, adjustment being from a nonuse position to a position of full dispersion of the effluent.

513 Adjustable to alter degree of deflection:

This subclass is indented under subclass 505. Apparatus wherein the movable dispersing means has various positions relative to the outlet means in order to vary the amount of dispersion or the direction thereof.

SEE OR SEARCH THIS CLASS, SUBCLASS:

507+, for deflectors which have degrees of adjustment and additionally have features or positions of nonuse while mounted upon the flow conductor.

514 Axially movable deflector:

This subclass is indented under subclass 513. Apparatus wherein the means for dispersing the discharge is arranged for movement along an axis generally coincident with the direction of flow in the discharge means.

SEE OR SEARCH THIS CLASS, SUBCLASS:

456+, for deflector type elements axially movable relative to a flow conductor to form outlet means.

515 Supported exteriorly of flow outlet:

This subclass is indented under subclass 514. Apparatus wherein the dispersing means is supported by means (1) engaging the external surfaces of the flow supply means, or (2) remote from the flow line.

516 Resilient securing means:
This subclass is indented under subclass 505. Apparatus wherein the dispersing means is attached to the nozzle by a displaceable member urged by the inherent elasticity of such member or by some additional member.

517 Spring form deflector:
This subclass is indented under subclass 505. Apparatus in which the dispersing means is fashioned from material which is resilient.

518 Deflector and terminal flow element:
This subclass is indented under subclass 461. Apparatus in which the flow redirecting and dispersing means and the member carrying the egress port are unitarily or fixedly fashioned.

SEE OR SEARCH THIS CLASS, SUBCLASS:
275, for support means and deflector unit combined to provide a base for a supply conduit or terminal outlet member.
505+, for claimed features of deflector separability, movability for adjustment or for placing the deflector into flow redirecting position with respect to the outlet.

519 Resilient or deformable:
This subclass is indented under subclass 518. Apparatus in which the deflector means is formed of inherently elastic material readily capable of flexure or distortion under normal use.

SEE OR SEARCH THIS CLASS, SUBCLASS:
517, for spring form deflectors mounted for movement into or out of deflecting position.
602, for resilient or deformable terminal members, per se, and see the search notes there accumulated relative other resilient organizations of the class.

520 Plural outlets to deflector:
This subclass is indented under subclass 518. Apparatus having the terminal flow element provided with multiple outlet means which are directed to permit fluid to be discharged against the dispersing means.

521 Deflector on one side of flow path:
This subclass is indented under subclass 518. Apparatus wherein the flow redirecting means is arranged to one side of the general direction of the discharging stream as contrasted with a transverse, encircling or enshrouding arrangement.

(1) Note. Included in this subclass and the indented subclasses are devices providing a substantial abrupt change of the direction of flow (usually unitary with the flow guide) without a clearly defined spacing of the dispersing plate from the egress port to cause the effluent to break into a spray.

522 Multiple or discrete deflecting surfaces:
This subclass is indented under subclass 521. Apparatus wherein the dispersing means is provided with two or more continuous surfaces of different disposition which act to distribute spray in at least two distinct directions each portion of the so-joined surfaces acting as a separate deflector.

SEE OR SEARCH THIS CLASS, SUBCLASS:
498, for unitary deflectors with multiple fingers or serrated edges.
500+, for serially arranged deflecting surfaces which act in turn upon previously redirected spray.
502+, for plural deflectors arranged edgewise to a flowing stream.

523 Dished or arcuate deflector:
This subclass is indented under subclass 521. Apparatus wherein the dispersing means is provided with a concavity, i.e., there is a curvature about one or more axes.

524 Transverse planar or dished surface type:
This subclass is indented under subclass 518. Apparatus wherein the dispersing means is positioned across the general direction of flow and is either flat or provided with a concavity.

525 FLOW LINE OR NOZZLE ATTACHED OR CARRIED HANDGRIP OR HANDLE:
This subclass is indented under the class definition. Apparatus wherein either (1) a flow conduit, or (2) a terminal flow member is provided

with a carrying handle, handgrip or other manual type handling means for the support of such part against the force of gravity.

(1) Note. For classification in these subclasses, there must be more than a mere identification or naming of a flow conduit or terminus as being handle-like, i.e., there must be structure in addition to a mere flow line or terminus recognizable as having special support features.

SEE OR SEARCH THIS CLASS, SUBCLASS:

200+, for ground installations or fixed support means.

268, for supports for longitudinally spaced outlet means in a flow line conduit.

273+, for ground support means, particularly 280+ for pole or stand type supports.

280+, for ground sustained support means of pole or stand form.

375+, for supply containers and attached outlet with handles or handgrips therefor.

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 110.1+ for handles for closures, receptacles and the like there classified.

248, Supports, subclasses 75+ for hose or nozzle type carriers claimed without fluid handling features or characteristics.

526 Pistol grip type:

This subclass is indented under subclass 525. Apparatus in which the terminal flow element is carried by a member configurated for one handed support and manipulation in the manner of a pistol.

SEE OR SEARCH THIS CLASS, SUBCLASS:

375, 378, for supply container and attached outlet means having handle grip and flow controller juxtaposed for one handed operation.

407+, for valving means controlling flow for combining of separately supplied fluid streams.

413+, for valving means for each of diverse fluids in apparatus for combining of separately supplied fluid streams.

527 Single trigger for plural valve actuators:

This subclass is indented under subclass 526. Apparatus in which plural flow regulators are under the control of a single trigger-like actuating means.

SEE OR SEARCH THIS CLASS, SUBCLASS:

414+, for combining of separately supplied fluids controlled by a single operator for plural valves.

528 For sequentially opened valves:

This subclass is indented under subclass 527. Apparatus wherein the flow regulators are controlled seriatim.

SEE OR SEARCH THIS CLASS, SUBCLASS:

415, for the subject matter of this subclass having means to combine separately supplied fluids.

529 Finger- or hand-attached or worn (e.g., spray glove):

This subclass is indented under subclass 525. Apparatus wherein the handgrip or holder takes the form of a glove, mitt or cot through which fluid flows or by which the flow line is supported against gravity.

SEE OR SEARCH THIS CLASS, SUBCLASS:

36, for garment or body attached or worn slow diffusers.

530 Sleeve-type grip:

This subclass is indented under subclass 525. Apparatus in which the handgrip is a tubular member which is fitted over some other part of the apparatus.

SEE OR SEARCH THIS CLASS, SUBCLASS:

288, for guards or protectors for the operator of the apparatus.

531 And hook-like holder:
This subclass is indented under subclass 525. Apparatus in which the handgrip or holder is of curved or bent form for sustaining the apparatus and wherein the ground contacting support means such as a ladder or vertically arranged sustaining means is not claimed.

SEE OR SEARCH THIS CLASS, SUBCLASS:
273+, for ground contacting support means.

532 Spray pole type:
This subclass is indented under subclass 525. Apparatus in which the manual type holder is of elongate or rod-like form and which may either be provided with flow conducting means or be entirely separate therefrom.

533.1 FLUID PRESSURE RESPONSIVE DISCHARGE MODIFIER* OR FLOW REGULATOR*
This subclass is indented under the class definition. Apparatus including a terminal member (e.g., nozzle) having a fluid outlet port, means associated with such member to change the character of flow or the quantity of flow passing through the outlet port, such flow changing means being responsive to the pressure condition of the fluid in the terminal member or in a fluid conducting member upstream thereof.

(1) Note. This subclass does not include patents concerned with devices which are mere line flow operated, i.e., become operative at the mere flow of fluid regardless of the comparative lack of head.

SEE OR SEARCH THIS CLASS, SUBCLASS:
126, for pressure responsive system-fluid relief or by-pass.
452+, for terminal outlets formed by parts mounted for relative movement responsive discharge modifier.
464, for flow deflecting or rotation controlling means including a fluid pressure responsive flow modifier.
570+, for line fluid operated valves and see (1) Note above.

533.11 With antifriction, guide or seal means for flow regulator*:
This subclass is indented under subclass 533.3. Device having means associated with the flow regulator for (1) maintaining it in its proper radial position relative to the walls of the chamber in which it moves, (2) reducing sliding resistance between the regulator and the walls of the chamber in which it moves, or (3) preventing fuel from communicating between the interior and the exterior of the injector.

533.12 With discharge modifier*:
This subclass is indented under subclass 533.3. Device further including means to change the character of the fluid leaving the outlet port.

533.13 Resilient or deformable terminal outlet:
This subclass is indented under subclass 533.1. Device wherein at least the fluid outlet portion of the terminal member is fashioned from material readily capable of change by distortion of flexure, without permanent deformation, such change being brought about as a result of fluid pressure.

(1) Note. Self-accommodating terminal outlets which do not impose any restricting or regulating action upon the effluent are not included.

SEE OR SEARCH THIS CLASS, SUBCLASS:
452+, appropriate subclasses for other fluid pressure responsive discharge modifiers and see (1) Note to subclass 451 for the line.
546, for means modifying a deformable terminal outlet.
602, for resilient or deformable terminal members.

533.14 Resilient or deformable terminal outlet:
This subclass is indented under subclass 533.13. Device wherein the fluid outlet port is formed in or carried by a disc shaped member.

533.15 On-off only:
This subclass is indented under subclass 533.1. Device wherein the ultimate function of the flow changing means is to open or close the outlet port without further changing the character of that port or the flow discharging there-

from, or further regulating the amount of fluid being discharged.

533.2 Fuel injector or burner:
This subclass is indented under subclass 533.1. Device wherein the outlet port of the terminal member is in communication with, and conveys a fluid fuel to a combustion chamber.

533.3 Having flow regulator* for reciprocating piston engine:
This subclass is indented under subclass 533.2. Device wherein the flow changing means is a flow regulator and the combustion chamber is that of a reciprocating piston engine, the flow regulator functioning in timed relationship with the cycle of operation of the engine.

533.4 With means to vary or pulse flow within engine cycle:
This subclass is indented under subclass 533.3. Device having additional means to (1) alter or vary the amount of discharge automatically within a single engine cycle, (2) provide multiple, discrete discharges within a single engine cycle, or (3) any combination of (1) and (2) above.

533.5 Upstream of flow regulator*:
This subclass is indented under subclass 533.4. Device wherein the means to vary or pulse flow is located upstream of the flow regulator.

533.6 Manually adjustable:
This subclass is indented under subclass 533.3. Device wherein an operating specification of the flow regulator can be manually set to a desired value.

533.7 Regulator* upstream of outlet port opens in direction of flow:
This subclass is indented under subclass 533.3. Device wherein the flow regulator is a valve located upstream of the fluid outlet; and it is responsive to, and opens in the direction of the fluid flow.

533.8 Regulator* biased to closed position by a fluid:
This subclass is indented under subclass 533.3. Device having a secondary source or path of fluid pressure to which the regulator responds, such secondary pressure acting to urge the regulator in a direction (usually closed) opposite that of the primary fluid. The secondary fluid may be the same fluid as the primary fluid but acting through a different path.

533.9 Spring type or biased regulator*:
This subclass is indented under subclass 533.3. Device wherein (a) the flow regulator comprises a body of resilient, deformable material, or (b) the regulator is biased to a discharge preventing position by a resilient biasing means having a particularly defined structure or operating characteristic.

(1) Note. Part (b) of this definition requires that the resilient biasing means consists of more than a simple coil spring of indeterminate specifications.

536 SIMILAR TERMINAL MEMBERS IN MULTIPLE ARRANGEMENTS:
This subclass is indented under the class definition. Apparatus comprising plural, substantially identical, discrete terminal members arranged with respect to a common support means.

(1) Note. Branched flow lines with integrally formed outlets or separably carried outlet elements wherein by the arrangement disclosed there is no relative movement possible between the outlets are excluded from this group and are found in subclasses 548+ below.

SEE OR SEARCH THIS CLASS, SUBCLASS:

266+, for plural longitudinally spaced outlets in a flow line conduit and see the search notes thereto for other spaced outlet arrangements.
390, for plural interchangeable outlet arrangements.
436+, for selectively usable or variable diverse terminal outlet means.
450, for a plurality of tubular members extending side-by-side and connected together along their length and provided with outlet means.
548+, for unitary plural outlet means.

537 TERMINAL MEMBER AND VALVE PART MOVE AS UNIT:
This subclass is indented under the class definition. Apparatus wherein the fluid egress carrying member is unitarily provided with a flow quantity regulating means and which partake of the same motion for reason of adjustment or control.

SEE OR SEARCH THIS CLASS, SUBCLASS:
579, for valving means controlled by the relative motion of the terminal member and some connecting or operating linkage.

SEE OR SEARCH CLASS:
251, Valves and Valve Actuation, appropriate subclasses for valves and actuators therefor in the absence of claimed nozzle detail or relationship.

538 Rotatable unit :
This subclass is indented under subclass 537. Apparatus in which the flow egress carrying member is capable of turning motion about an axis.

SEE OR SEARCH THIS CLASS, SUBCLASS:
392+, for movably mounted multi-terminal outlet carrying members.

539 Having axial movement:
This subclass is indented under subclass 538. Apparatus in which the rotatable unit also has movement in the direction of the axis about which it turns.

SEE OR SEARCH THIS CLASS, SUBCLASS:
458, for axially, rotary outer flow member in which the outlet is formed by parts mounted for relative movement.

540 Disc type:
This subclass is indented under subclass 538. Apparatus in which the valve part takes the form of a disc which rotates against a flat surface to block or permit flow.

541 Axially movable unit (reciprocating):
This subclass is indented under subclass 537. Apparatus in which the terminal member is constrained to move in a back and forth manner in the direction of its major axis.

542 CONDUIT OR NOZZLE ATTACHED IRRIGATION-TYPE DECELERATOR:
This subclass is indented under the class definition. Apparatus comprising in general a chamber which receives a relatively rapidly flowing fluid from a flow line and slows down the velocity of the fluid by providing an increased number and effective area of egress ports or escape routes, as compared to the area of the fluid inlet, or an increase in at least a portion of the flow line or chamber.

(1) Note. Flow through the decelerator results in a dissipation of pressure; however, without having any particular effect upon the volume.

SEE OR SEARCH THIS CLASS, SUBCLASS:
548+, for other unitary plural outlet means, particularly subclass 553 for elements within a nozzle tending to decelerate flow.

543 ONE FLUID STREAM IMPINGES UPON ANOTHER (I.E., CONVERGING):
This subclass is indented under the class definition. Apparatus having two or more outlet means so arranged as to cause one of the resulting fluid streams to intersect with the other so that combining takes place at or beyond the outlet means.

(1) Note. This locus is residual for the dividing and recombining of a single fluid wherein the recombining takes place at or beyond the terminus. For upstream dividing and recombining see particularly the art concerned with the whirling of fluids.

SEE OR SEARCH THIS CLASS, SUBCLASS:
31, for bubble cups or drinking fountains having converging jets.
306, for plural holders for diverse materials with mixing beyond the outlet.

314+, for mixing exteriorly of liquid flow paths of material to be mixed, dissolved or entrained in a flowing liquid stream.

379, for supply holders for material with gravity flow to a conveying fluid.

418, for combining of separately supplied fluid streams at or beyond the terminus.

461+, particularly subclasses 498, 500+ and 504, for plural streams caused to converge beyond the outlet means by specially arranged or shaped deflectors.

536, for plural heads unitarily arranged which may be set to cause convergence of the emitted fluid streams.

548+, for unitary plural outlet means.

544 Orifices in recessed face:

This subclass is indented under subclass 543. Apparatus having the outlets positioned in a reentrant face of the terminal member.

545 Directly opposed outlets:

This subclass is indented under subclass 543. Apparatus wherein the outlet means are in line and directly opposite each other.

SEE OR SEARCH THIS CLASS, SUBCLASS:

421, for plural fluids mixed at the junction of opposed coaxial fluid paths.

546 INCLUDING MEANS MODIFYING DEFORMABLE TERMINAL OUTLET:

This subclass is indented under the class definition. Apparatus comprising an egress means fashioned from resilient material readily capable of change by distortion or flexure without permanent deformation and having associated means for effecting distortion thereof.

SEE OR SEARCH THIS CLASS, SUBCLASS:

265.43, for a reaction motor discharge nozzle having a resilient or deformable wall and means to bend the wall to various shapes.

451+, particularly subclass 455 for outlet means formed by parts mounted for relative motion including resilient type parts; however, hingedly, swingably, slidably or otherwise articulated to modify the outlet.

602, for resilient or deformable terminal members not provided with means for causing deformation.

547 DISTRIBUTOR OR NOZZLE IN CIRCUMFERENTIAL WALL OF FLEXIBLE SUPPLY LINE:

This subclass is indented under the class definition. Apparatus comprising a pliable or deformable supply conduit having at least one distributor protruding outwardly from the side wall, i.e., the wall which extends parallel to the flow axis.

(1) Note. Patents classified herein usually have a disclosure that the supply hose may be perforated at any desired point and the outlet member may then be installed or assembled at said point.

SEE OR SEARCH THIS CLASS, SUBCLASS:

588, for a distributor or terminal member connected at one end of a flexible conductor, the other end of which is connected to a fluid conduit.

548 UNITARY PLURAL OUTLET MEANS:

This subclass is indented under the class definition. Apparatus having two or more final discharge outlets or egress openings leading from the terminal section of the flow path which are structurally related or operatively restrained for motion together and capable of permitting simultaneous discharge.

SEE OR SEARCH THIS CLASS, SUBCLASS:

398+, especially subclasses 418+ for plural outlet means related to the mixing of separately supplied fluid streams.

SEE OR SEARCH CLASS:

601, Surgery: Kinesitherapy, particularly subclasses 160+ for a device or method therefor which may be structurally similar to a Class 239 type spray device which provides medical treatment to the body for a named ailment or injury thereof. Generic terms such as “treatment", “therapy", “massage", “hydrotherapy", “hydromassage", etc. are to be interpreted broadly for placement in Class 239

lacking a disclosed body treatment for a named medical condition or physical injury. Exceptions to this rule comprise generically disclosed and claimed hydrotherapy of the genitalia or any internal body tissues, or a device for applying a force which imparts a specific motion to the body or portion thereof which shall be classified in Class 128 or one of its 600 series trailer classes as provided for therein.

549 Plural outlets each supplied by different fluid:

This subclass is indented under subclass 548. Apparatus wherein distinct paths to discrete outlet means are provided whereby separate or different fluids may be discharged therefrom.

SEE OR SEARCH THIS CLASS, SUBCLASS:

77, 290+, 302+, 418+, and 543+, for other arrangements of plural outlet means supplied by plural fluids.

550 Plural separable nozzles on spray pipe:

This subclass is indented under subclass 548. Apparatus which includes a plurality of terminal outlet means spaced along the length of a supply pipe and disclosed as removably secured thereto.

SEE OR SEARCH THIS CLASS, SUBCLASS:

547, for similar nozzles spaces along a flexible supply conduit.

551 And flow control for each nozzle:

This subclass is indented under subclass 550. Apparatus which include individual means to vary the rate of efflux of fluid through each of the plural nozzles.

552 Insert at terminus forms plural streams:

This subclass is indented under subclass 548. Apparatus in which plural outlets are formed by means placed within and extending upstream from a single outlet means to cause the effluent to be divided or to be led into separate streams upon discharge beyond said outlet means.

(1) Note. The subject matter of this subclass is distinguished over that in subclass 553 below on the basis that herein the insert actually forms the equivalent of plural outlet means and discharge would be in plural streams regardless of the presence or absence of a guide means.

SEE OR SEARCH THIS CLASS, SUBCLASS:

543+, for means causing plural streams to impinge upon each other downstream of the terminus.

553 Having interior filter or guide:

This subclass is indented under subclass 548. Apparatus in which a means is provided upstream of the discharge outlets to (1) hold back or separate material from the system fluid, or (2) spread out or otherwise direct the fluid prior to or during egress from the discharge outlets.

(1) Note. The interior filter or guide must be in addition to the parts forming the outlets, i.e., it must be part of or in the plural outlet carrying member. Ribs formed on the walls forming the outlet are considered to be included under this definition.

SEE OR SEARCH THIS CLASS, SUBCLASS:

76, for systems in which the flow equalization means or distributor is remotely positioned from a plurality of separate outlet arrangements, and see (1) Note therein.

214.21+, for means inducing spin or whirl of any fluid stream in a system in which one fluid is mixed with another fluid downstream of a continuously moving distributor which has discharged one of said fluids.

450, for plural outlets arranged in adjoined, contiguous flow line sections with one wall or the like common to the plural flow lines.

461+, for other terminal members in which the interior guide acts to control rotation of the fluid.

552, and see (1) Note therein.

590+, for a terminal member having a single egress outlet and an interior filter or guide.

553.3 Foraminous or apertured member:
This subclass is indented under subclass 553. Apparatus in which the means comprises a member or material having one or more orifices, pores, or passages extending therethrough.

SEE OR SEARCH THIS CLASS, SUBCLASS:
462, for a distributor having fluid deflection or rotation controlling means and a filter or screen.
575, for a distributor having valve means and a filter or screen in the flow line.

553.5 Plural fluid directing means:
This subclass is indented under subclass 553. Apparatus comprising a plurality of distinct and separate fluid directing surfaces (e.g., guide vanes or grooves).

554 Axial or superposed members arranged to form axially spaced outlets:
This subclass is indented under subclass 548. Apparatus in which a plurality of members are axially arranged or superposed to result in at least two axially spaced discharge outlets for the fluid.

(1) Note. For purposes of this subclass members nested or telescoped in each other and so arranged that the streams are released from or between the members in a plurality of parallel planes are considered to qualify.

555 Stacked plates:
This subclass is indented under subclass 554. Apparatus in which the superposed or axially joined members are plates placed in face-to-face relationship with the spaces between the plates forming the outlets.

(1) Note. Members which are planar for at least a portion of their surface and also have offset rims are considered to be plates for this subclass.

SEE OR SEARCH THIS CLASS, SUBCLASS:
595, for flat and tapered terminal members having superposed curved discharge edges.

556 Arranged in plural groups or rows:
This subclass is indented under subclass 548. Apparatus in which the outlets are distributed in at least two sets or arrangements of at least two apertures each.

(1) Note. A group of outlets is considered to consist of (1) at least two apertures which when viewed relative to the remaining ones reveals a repetitive pattern or arrangement, or (2) sets of apertures arranged about a center. Groups may vary from each other in some essential characteristic such as number, size, shape, etc., of openings or in the placement thereof about some axis or center. There must be at least 4 openings (two groups) to qualify for this and the indented subclasses.

SEE OR SEARCH THIS CLASS, SUBCLASS:
543+, for plural groups of outlets causing convergence of the discharged streams.

557 All groups identical:
This subclass is indented under subclass 556. Apparatus in which each group of outlets is the same as all other groups.

(1) Note. Included herein are terminal outlet means having substantially identical spray pipes each having a row of outlet apertures extending therethrough, said pipes being connected to or integral with a fluid header conduit or manifold (e.g., spray pipes extending parallel to each other or radially of the manifold).

(2) Note. Identical openings or groups refer to aperture size, shape and spacing about some central point.

558 Concentric or coaxial groups:
This subclass is indented under subclass 556. Apparatus in which the groups of outlets are arranged around a common center or axis.

(1) Note. If the groups, either by illustration or disclosure, can in any way be considered to form coaxial or concentric groups, classification as original or cross-reference in this or the indented subclass is indicated.

559 In concavo-convex face:
This subclass is indented under subclass 558. Apparatus in which the concentric or coaxial groups are formed in a concavo-convex face or wall. (See subclass 567 for definition of concavo-convex face).

SEE OR SEARCH THIS CLASS, SUBCLASS:
567, for other outlet arrangements in a concavo-convex face or wall.

560 INCLUDING VALVE MEANS IN FLOW LINE:
This subclass is indented under subclass 556. Apparatus in which there are at least three groups of outlet openings, each group differing from the others in some essential characteristic relating to flow.

(1) Note. See (1) Note to subclass 556 above.

561 Three or more dissimilar outlets:
This subclass is indented under subclass 548. Apparatus in which the terminal member is provided with at least 3 outlets of different size or shape.

SEE OR SEARCH THIS CLASS, SUBCLASS:
436+, for selectively usable or variable diverse terminal outlets.

562 And flow regulation or control of outlets:
This subclass is indented under subclass 548. Apparatus in which means are provided for regulating or varying the amount of fluid to or issuing from the outlets either individually or simultaneously.

SEE OR SEARCH THIS CLASS, SUBCLASS:
265.25, for a reaction motor discharge nozzle with plural outlets and means to control the amount of fluid issuing from the outlets either individually or simultaneously with at least one other.
378, for supply holders and attached outlet having unitary plural outlet means.
443+, for valve controlled plural diverse terminal outlets.
551, for removable spray pipe nozzles having individual flow control means for each nozzle.

563 Sequential control of outlets:
This subclass is indented under subclass 562. Apparatus including movable means which sequentially or serially open and close one or more of a plurality of outlets.

(1) Note. These devices include one or more rows of outlets in which longitudinal and/or rotary motion of the means sequentially opens or closes one outlet or a row of outlets at a time.

564 Bi-dimensional control:
This subclass is indented under subclass 563. Apparatus provided with means to vary the total effective length and total effective width of all or part of the outlets.

(1) Note. These devices usually include a valve device which opens or closes one or more of a plurality of outlets sequentially or serially in its movement together with means which opens or closes other outlets in a plane normal to the first mentioned control. These controls may comprise a single valve means which is mounted for longitudinal and rotary motion or separate means mounted for such longitudinal and rotary motion.

565 Branched flow line type:
This subclass is indented under subclass 548. Apparatus in which the flow line divides into a plurality of flow paths, each said flow path having one or more outlets.

(1) Note. The separated or branched flow paths may subsequently be recombined so as to form a circuit or loop from either of the branched paths back to the inlet therefor.

SEE OR SEARCH THIS CLASS, SUBCLASS:

450, for similar systems in which the branches are capable of being coupled to similar sections for lengthening thereof and in which the separate branches are not recombined.

566 All in a single straight line:

This subclass is indented under subclass 548. Apparatus in which the plural openings extend along a straight line lying entirely within the surface of the terminal outlet member.

(1) Note. This subclass is residual with respect to subclass 266 and contains a collection of what has come to be known as terminal flow line members characterized by their being readily manipulable, or by apertures being unitarily arranged in a terminal flow member. The presence of a handle or arrangement for manipulation is a good indication for this subclass.

(2) Note. If the outlets are formed in a tubular conduit, they must lie along the longitudinal axis of the conduit. Outlets formed in a straight line around the curved face will be found elsewhere (see search notes below).

SEE OR SEARCH THIS CLASS, SUBCLASS:

266+, appropriate subclasses for outlets arranged in a single straight line in members adapted to be longitudinally joined or coupled to each other.

567, for outlets formed in a straight line around the curved face (see (2) Note, above).

567 All in a concavo-convex face:

This subclass is indented under subclass 548. Apparatus in which the spray openings extend through a wall which is of concavo-convex form; i.e., the wall has a curvature about one or more axes (e.g., cylindrical or spherical).

(1) Note. The perforations in the terminal members must be arranged around the curved wall; e.g., at least two of the said openings must be spaced from each other circumferentially of the member.

SEE OR SEARCH THIS CLASS, SUBCLASS:

559, for other outlet arrangements in a concavo-convex face or wall and see (1) Note in the definitions of subclass 558.

566, and see (1) Note, above.

568 Slit or slot-like apertures:

This subclass is indented under subclass 548. Apparatus in which the outlets, perforations or spray apertures are elongate in only one dimension transverse to the direction of fluid discharge.

SEE OR SEARCH THIS CLASS, SUBCLASS:

597+, for terminal members having a single elongate or slot-like aperture.

569 INCLUDING VALVE MEANS IN FLOW LINE:

This subclass is indented under the class definition. Apparatus having a flow regulating means in the fluid conductor which controls the quantity of fluid flowing through or out of the apparatus.

(1) Note. Arrangements which operate to vary the flow of material, though incapable of cutting it off entirely, are included.

SEE OR SEARCH THIS CLASS, SUBCLASS:

265.19, for a reaction motor discharge nozzle having means to control the amount of fluid discharging from the outlet.

353, 354, for valving means in spray apparatus having a supply holder for the spray material.

407+, for valving means in a distributing apparatus in which a plurality of fluids are mixed.

443+, for valving means in a distributor having selectively usable or variable diverse outlets.

527+, for a distributing means combined with a handle or handgrip and plural valves having a single control means.

551, 562+, for a distributor comprising plural outlets and flow control means.

SEE OR SEARCH CLASS:

251, Valves and Valve Actuation, appropriate subclasses for valves and actuators therefor without regard to nozzle relationship or detail.

570 Line fluid operated:

This subclass is indented under subclass 569. Apparatus wherein the flow controlling means is responsive to the mere flow of fluid at substantially any pressure; that is, there is not required that a particular relatively elevated pressure be obtained before the controller permits flow downstream therefrom, but rather that mere inertia or weight of the part be overcome.

SEE OR SEARCH THIS CLASS, SUBCLASS:

412, for combining of plural streams involving fluid pressure operated valving means.

452+, for fluid pressure responsive discharge modifiers associated with terminal outlet means formed by parts mounted for relative movement.

464, for whirlers combined with fluid pressure responsive modifying means.

533, for fluid pressure responsive discharge modifiers or flow regulators.

SEE OR SEARCH CLASS:

137, Fluid Handling, subclasses 511+ for a fluid handling system including a valve of the direct response type.

571 Flow direction responsive valve:

This subclass is indented under subclass 570. Apparatus in which the flow controlling means acts in response to the direction in which material flows.

572 Downstream flow to outlet closes valve:

This subclass is indented under subclass 571. Apparatus in which flow of fluid toward the egress port causes the valve to move to closing position; e.g., upstream opening and downstream closing by flow of the effluent.

573 And fluid to gas expansion effecting means (e.g., aerosal type):

This subclass is indented under subclass 569. Apparatus comprising a means defining a chamber-like element along the egress route or a fluid conductor of increasing cross-section for the effluent to permit reduction of pressure and expansion of a liquid to a gaseous or vapor state.

574 Serially arranged valves (e.g., trap or wet flow line):

This subclass is indented under subclass 569. Apparatus comprising at least two flow controlling means arranged in the flow line at spaced points along the direction of flow.

575 And filter, sifter or screen:

This subclass is indented under subclass 569. Apparatus in which there is provided a means to separate out or hold back the oversized particles of the effluent.

SEE OR SEARCH THIS CLASS, SUBCLASS:

86, for injection nozzles having capillary type feed passages.

228, for sediment collector in a distributor continuously moving relative to a support during spraying.

326, for supply holders having a pad or wick for temporary storage of material.

462, for deflectors or whirlers combined with filtering or screening means.

553.3, for distributor having plural outlet means and an apertured member or screen in the fluid line.

590+, for terminal members combined with filters or screens.

576 Flexing flow conduit or sheath unseats valve:
This subclass is indented under subclass 569. Apparatus in which the movement of the flow regulator is controlled by bending or distorting the flow conduit or its outer encasing member.

577 Unhinged tilting type:
This subclass is indented under subclass 569. Apparatus in which the flow regulator has a tipping or rocking type motion about an area of contact at its seat; however, without being affixed to said seat, but usually held thereto by spring pressure or by the pressure of the fluid.

578 Relatively movable remotely arranged operator for controller (e.g., Bowden wire):
This subclass is indented under subclass 569. Apparatus in which the movement of the flow regulator is controlled by the relative movement of an actuating means access to which may be had at a point distant from the said regulator.

SEE OR SEARCH CLASS:
251, Valves and Valve Actuation, subclass 294 for flexible valve actuators.

579 Movable terminal flow member controls valve:
This subclass is indented under subclass 569. Apparatus in which the flow regulator is moved into different positions of adjustment by the motion of the terminal portion of the nozzle which latter portion has movement relative its associated parts.

SEE OR SEARCH THIS CLASS, SUBCLASS:
457+, for rotatable terminal flow members in control of flow regulators and wherein the terminal outlet is formed by parts mounted for relative movement.
537+, for nozzles having a terminal member and valve part moving unitarily.

SEE OR SEARCH CLASS:
251, Valves and Valve Actuation, subclasses 349+ for valve combinations wherein the valve actuator is an inlet means or outlet means.

580 Requiring separate insertable tool for adjustment:
This subclass is indented under subclass 569. Apparatus wherein a member apart from and external of the flow confining means is required to be inserted into the apparatus to alter a flow regulator upstream of the egress port.

SEE OR SEARCH THIS CLASS, SUBCLASS:
465, for a flow modifier requiring a separate insertable tool.

581.1 Rotary valving:
This subclass is indented under subclass 569. Apparatus in which the flow regulating means is constrained to move in a direction about some axis of the said regulating means.

SEE OR SEARCH CLASS:
251, Valves and Valve Actuation, subclasses 304+ for rotary valves.

581.2 Including axial movement:
This subclass is indented under subclass 581.1. Apparatus in which the flow regulating means is additionally constrained to move in line with the rotary axis of the regulating means.

582.1 Stem or operator extends through flow conduit:
This subclass is indented under subclass 581.2. Apparatus wherein the moving flow regulator has an operating handle, stem or part thereof which extends through the material passage or outlet.

SEE OR SEARCH CLASS:
222, Dispensing, subclass 501 for dispensers having a movable outlet element actuator projecting through a discharge guide.
251, Valves and Valve Actuation, subclass 339 for valve actuating means extending through the fluid inlet or outlet.

583 Reciprocating:
This subclass is indented under subclass 569. Apparatus in which the flow regulating means partakes of a to-and-fro or back-and-forth motion (including oscillating motion) either in the direction of flow or transversely thereto.

SEE OR SEARCH CLASS:
251, Valves and Valve Actuation, subclasses 318+ for reciprocating valves.

584 Injection nozzle type:
This subclass is indented under subclass 583. Apparatus in which the flow regulating means is associated with a nozzle of the type disclosed as spraying into a surrounding environment of superatmospheric pressure.

SEE OR SEARCH THIS CLASS, SUBCLASS:
5, for a method of injecting fuel into a combustion chamber.
86, through 96, 132+ and 408+, for injection type nozzles with other regulatory or combined features.

SEE OR SEARCH CLASS:
123, Internal-Combustion Engines, appropriate subclasses, particularly subclasses 495+ and 590+ for fuel atomizing devices claimed in combination with significant internal combustion engine structure.

585.1 Electromagnetically operated valve (e.g., ball-type):
This subclass is indented under subclass 584. Apparatus in which the flow regulating means is operated by electromagnetic means including a coil and movable core (i.e., armature).

SEE OR SEARCH CLASS:
251, Valves and Valve Actuation, subclasses 129.01+ for electromagnetic valve structure without regard to nozzle relationship or detail.

585.2 With separate operator therefor:
This subclass is indented under subclass 585.1. Apparatus in which the movable core is separate from (i.e., not integral or not rigidly affixed) and pushes against the flow regulating means.

585.3 Plate-type armature valve (e.g., plate and integral projection or ball):
This subclass is indented under subclass 585.1. Apparatus in which the movable core is a planar surface having its longest dimension in a direction transverse to its direction of travel.

(1) Note. The planar cores within this subclass may have distinct, integral, or rigidly affixed projections which act as valving.

585.4 Elongated armature with integral projection:
This subclass is indented under subclass 585.1. Apparatus in which the movable core has the longest dimension in its direction of movement and has a protrusion rigidly affixed thereto or formed on the core and extending in the direction of core movement which acts as the flow regulating means.

585.5 Needle-type projection:
This subclass is indented under subclass 585.4. Apparatus in which the protrusion is a narrow pointed formation.

586 Transverse to flow path:
This subclass is indented under subclass 583. Apparatus in which the flow regulating means moves in a plane generally at right angles to the flow path.

587.1 TERMINAL MEMBER ADJUSTABLY OR SHIFTABLY CONNECTED TO FLOW CONDUIT:
This subclass is indented under the class definition. Apparatus having joint means to change the relationship of the terminal outlet and connected flowline to adjust the position or to vary the direction of the terminal outlet.

(1) Note. Include herein are jointed or articulated nozzles having a downstream section movably connected to a serially related upstream section where both sections are at least nominally claimed as nozzle parts.

SEE OR SEARCH THIS CLASS, SUBCLASS:
229, for wriggler or flexible distributors having continuous movement relative a support during spraying.
265.35, for a reaction motor discharge nozzle comprising a member which may be selectively shifted to various positions to vary the line or course of fluid discharge with respect to a fixed axis.

266+, especially subclass 269 for spray pipes which may be movably coupled to another spray pipe.
279, for support means comprising a flow conduit only arranged to form a ground support for the nozzle.
525+, for flow line or nozzle attached or carried handgrips or holders.
537+, for a distributor in which the terminal member and a valve part move unitarily.
579, for a distributor in which movement of the terminal flow member controls a flow regulator in the fluid system.

SEE OR SEARCH CLASS:
285, Pipe Joints or Couplings, appropriate subclasses, especially subclasses 184+ for a nominally recited nozzle section connected by a coupling member to a conduit means which is not claimed as a nozzle section.

587.2 Plural distinct articulation type flow connections:
This subclass is indented under subclass 587.1. Apparatus in which the terminal outlet is connected to the flow conduit by two spaced fluid conducting joint means each permitting relative rotatable or angular movement of the terminal member and supply conduit.

SEE OR SEARCH THIS CLASS, SUBCLASS:
588, for flexible fluid conducting joint means connecting the fluid supply means and terminal outlet.

587.3 Includes ball and socket:
This subclass is indented under subclass 587.2. Apparatus in which at least one of the joint means includes a spherical male formation received within a spherical female formation.

(1) Note. The spherical male and female formations may be restrained by a pivot pin or other means for movement in a single plane.

587.4 Ball and socket flow connection:
This subclass is indented under subclass 587.1. Apparatus in which the flow conducting joint means includes a spherical male formation received within a spherical female formation.

(1) Note. The spherical male and female formations may be restrained by a pivot pin or other means for movement in a single plane.

SEE OR SEARCH CLASS:
285, Pipe Joints or Couplings, subclasses 261+ for ball and socket fluid conducting joint means without regard to nozzle relationship or detail.

587.5 Pivot type flow connection:
This subclass is indented under subclass 587.1. Apparatus wherein the flow conducting joint means allows rotary or angular movement of the terminal member about a fixed axis.

587.6 With pin in pivot type connection:
This subclass is indented under subclass 587.5. Apparatus in which the joint means includes a nonfluid conveying stem within the flow passage about which the fluid conducting members move.

588 Flexible coupling section:
This subclass is indented under subclass 587. Apparatus in which the egress port carrying member is joined to the flow line by way of a flexible conductor for the fluid.

SEE OR SEARCH THIS CLASS, SUBCLASS:
152+, and 175+, for hand supported and manipulated distributors having a flexible coupling section joining such distribution to a mobile tank-type supply means.
229, for wriggler or flexible distributors having continuous movement relative a support during spraying.
547, for a nozzle outlet connected in the circumferential wall of a flexible or pliable supply conduit.

589 RIGID FLUID CONFINING DISTRIBUTOR:
This subclass is indented under the class definition. Apparatus comprising a tubular member having inflexible or unyielding wall or walls defining the exterior of the path of fluid flowing towards an egress or discharge opening at one end of the member, which opening imparts some character of flow to the fluid escaping

therefrom, and adapted to be connected at the other end to a fluid system.

589.1 Fluidic oscillator:
This subclass is indented under subclass 589. Apparatus wherein the geometry of the flow path causes a periodic or cyclic change in the character of flow impaired to the fluid escaping from the discharge or egress opening.

SEE OR SEARCH THIS CLASS, SUBCLASS:
99+, for means in addition to the geometry of the flow path for causing a cyclically intermittent discharge.
101, for means in addition to the geometry of the flow path for causing a cyclic flow rate to the distributor.
102.1+, for motor means which vibrates or jiggles the discharge.
308+, for a spray fluid operated continuously moving discharge modifier.

590 Having interior filter or guide:
This subclass is indented under subclass 589. Apparatus in which a means is provided upstream of the discharge outlet to (1) hold back or separate material from the system fluid, or (2) spread out or otherwise direct the fluid prior to or during egress from the discharge outlet.

(1) Note. The interior filter or guide must be in addition to the parts forming the outlet, i.e., it must be part of or in the outlet carrying member. Ribs formed on the walls forming the outlet are considered to be included under this definition.

SEE OR SEARCH THIS CLASS, SUBCLASS:
86, for capillary type filters installed in injection nozzles.
214.21+, for means inducing spin or whirl of any fluid stream in a system in which one fluid is mixed with another fluid downstream of a continuously moving distributor which has discharged one of said fluids.
228, for sediment collectors or internal diverter baffle in a continuously moving distributor organization.
461+, for interior means tending to control rotation of fluid prior to discharge.
462, for filters combined with flow deflecting or rotating means (e.g., whirlers).
553+, for a terminal member having plural outlet means and an interior filter or guide.
575, for a nozzle combined with a valve and a filter means.

590.3 Foraminous or apertures member:
This subclass is indented under subclass 590. Apparatus in which the means comprises a member or material having one or more orifices, pores, or passages extending therethrough.

SEE OR SEARCH THIS CLASS, SUBCLASS:
462, for a distributor having fluid deflection or rotation controlling means and a filter or screen.
553.3, for a distributor having plural outlets and an orificed, porous or passaged means upstream of the outlets to filter material from the fluid or to spread out or direct the fluid.
575, for a distributor having valve means and a filter or screen in the flow line.

SEE OR SEARCH CLASS:
55, Gas Separation, appropriate subclasses for a filter or screen, per se, used in apparatus to separate a gas from an initial mixture with a liquid or solid.
210, Liquid Purification or Separation, appropriate subclasses for a filter or screen, per se, used to separate particles from a liquid mixture.

590.5 Plural fluid directing means:
This subclass is indented under subclass 590. Apparatus comprising a plurality of distinct and separate fluid directing or distributing surfaces (e.g., guide vanes or grooves).

SEE OR SEARCH THIS CLASS, SUBCLASS:
553.5, for a distributor having plural outlets and a plurality of distinct and separate fluid directing or distributing surfaces upstream of the outlets.

591 Including flow passage liner (e.g., wear liner):
This subclass is indented under subclass 589. Apparatus in which the flow passage at or near the nozzle is provided with an insertable flow conducting member usually for replacement or wear resistant reasons.

SEE OR SEARCH THIS CLASS, SUBCLASS:
265.15, for a reaction motor nozzle liner which is at least partially worn away by melting, breaking or corroding.
461+, for insertable rotation controlling means of liner form which serve as anti-turbulence devices.

SEE OR SEARCH CLASS:
175, Boring or Penetrating the Earth, subclasses 340 and 393 for a liner member in a conduit delivering a fluid to an earth boring or penetrating bit or bit element.

592 Flat and tapered:
This subclass is indented under subclass 589. Apparatus wherein the nozzle means is characterized by the convergence, in the direction of flow, of at least two walls thereof and which said walls also give an outline of general flattened appearance.

593 One wall only tapered to direction of flow:
This subclass is indented under subclass 592. Apparatus wherein only one wall is angularly related to the general direction of flow.

594 And remaining opposite side walls converging:
This subclass is indented under subclass 592. Apparatus having at least two other opposite end or side walls which converge in the direction of flow.

595 And superposed curved discharge edges:
This subclass is indented under subclass 592. Apparatus having the egress outlet comprised of edges which are arcuate and in overlying arrangement.

596 Orifice in separable disc or plate:
This subclass is indented under subclass 589. Apparatus in which the orifice is carried by a member of disc or dished form and is removable from the remainder of the nozzle.

SEE OR SEARCH THIS CLASS, SUBCLASS:
494+, for whirlers formed in slotted or apertured discs or plates.
535, for fluid pressure responsive flow modifiers having disc-carried outlets or of disc form.
540, for combined terminal member and valve part comprising a rotatable unit of disc form.

597 Elongated orifice in terminal member:
This subclass is indented under subclass 589. Apparatus in which the fluid outlet means has one dimension transverse to the general direction of flow which is substantially greater than the other dimension transverse to the direction of flow.

SEE OR SEARCH THIS CLASS, SUBCLASS:
568, for a distributor having plural outlet means of slit or slot like (elongated) apertures.

598 Oblique to direction of flow:
This subclass is indented under subclass 597. Apparatus wherein the axis of the outlet in the direction of efflux is not in the same general direction as the supply flow line axis.

599 Oval or elliptical:
This subclass is indented under subclass 597. Apparatus wherein the the projection of the fluid outlet means in a plane normal to the general direction of flow has an oval or elliptical shape.

600 Assembly or disassembly feature:
This subclass is indented under subclass 589. Apparatus wherein the terminal member is characterized by an association of elements making assembly or disassembly thereof an optimum operation so as to facilitate cleaning, the replacement of parts and the like.

SEE OR SEARCH THIS CLASS, SUBCLASS:

587.1+, for terminal members adjustably or shiftably connected to a flow conduit.

601 Orifice shapes:

This subclass is indented under subclass 589. Apparatus in which the configuration of the terminal outlet is of the essence.

(1) Note. The shape herein classified pertains to that of the outlet, e.g., extremity of the conductor, rather than throat configuration or approach channel which is classified in subclass 589 above.

SEE OR SEARCH THIS CLASS, SUBCLASS:

265.11+, for reaction motor discharge nozzle outlets of various shapes or configurations.

SEE OR SEARCH CLASS:

137, Fluid Handling, subclass 802 for miscellaneous flow devices, especially outlet shapes.

222, Dispensing, subclass 575 for dispensers having particular outlet shapes and see the search notes there included and to Section 14 of that class.

602 MISCELLANEOUS (E.G., RESILIENT NOZZLE):

This subclass is indented under the class definition. Apparatus not hereinbefore provided for.

(1) Note. In this subclass are accumulated as cross-references, spray elements of terminal members, or end elements not provided for in preceding subclasses in which the material from which they are made is of the essence.

(2) Note. Nozzle means of inherent elasticity as of resilient form or of material readily capable of flexure or distortion under normal manual use are herein included.

SEE OR SEARCH THIS CLASS, SUBCLASS:

451+, for terminal outlets formed by parts mounted (articulated) for relative movement.

519, for resilient or deformable deflectors and unitary terminal means.

534, for fluid pressure responsive resilient or deformable terminal outlets.

546, for the subject matter of this subclass; however, including means to deform such terminal outlet means.

650 CONTAINER FOR NON-FLUID MATERIAL, AND SCATTERING MEANS:

This subclass is indented under the class definition. Apparatus comprising means for holding a supply of material, other than a fluid or a slurry, and means for strewing such material in the form of relatively small solid pieces over an extended area on a surface.

(1) Note. The phrase “extended area” means an area larger than that which would be covered if the material were merely dropped from the supply holder. An area caused by the motion of a supply holder traveling over the surface to be strewed and merely dropping material from the supply holder is not considered an extended area for purposes of this classification. See Class 414, Material or Article Handling, subclasses 467+ or Class 222, Dispensing, subclasses 608+ for such devices. This distinction becomes very tenuous in some cases since, for example, a conveyor operating at high speed and unloading a wagon will cause a strewing action over an extended area. The line between the definition of this subclass and the art in Classes 414 and 222 as to containers with unloading means is that where a discharge assistant or unloading device of a type found in such classes is claimed and the disclosure is not limited to, or a claim not directed to a strewing action, such as may be brought about by conveyor high speed operation, classification is in Class 414 or Class 222, but where the disclosure is clearly limited or a claim is directed to a substantial strewing action in such device additional to that caused

merely by motion of the supply holder over the surface to be strewed classification under the definition of this subclass results from the claiming of some means for strewing comprising a moving device which is recognizable as additional to a dispenser with a discharge assistant or a vehicle with an unloading means. In some instances the strewing over an extended area is caused by a deflecting means or diverging nozzle arrangement or the like which causes material issuing from an opening in the supply holder to spread out over an area wiser than that of the opening. The extended area in some cases may be little more than a line in the absence of motion of the supply holder over the surface to be strewed.

(2) Note. In accordance with the line between the subject matter of subclass 650 and Class 222, as indicated in (1) Note, subclass 650 takes apparatus in which the particulate material is strewn in the ambient so that it falls in an area which is substantially more extensive than that covered by merely dropping the material from an opening of a stationary or ambulant dispenser. Where, however an opening is, or openings are, formed in a wall of the supply holder and strewing is effected by movement of the supply holder classification is in Class 222. See Class 222, subclasses 160+ and 565, for examples of such strewing. Further, for classification under the definition of subclass 650 rather than in Class 222 the means for strewing must be positively claimed. When such means comprises a relatively moving element, such as a rotating distributor the reference to it in a claim may be in the broadest terms. When, however, the strewing means comprises a terminal outlet, such as a nozzle, a mere broad description of such nozzle will not serve to cause classification under the definition of subclass 650; the recitation of the nozzle in a claim must be specific and its strewing function must be clearly indicated by the disclosure as being due to the specifically recited structure of the nozzle, rather than due to ambient wind conditions or the nature of the material dispensed, such as fine powder. The subject matter of subclass 652 forms an exception to this line, however; that subclass constitutes an art collection of devices for strewing by direct hand manipulation. In close cases it is very difficult to determine just what constitutes the opening of the dispenser and also what constitutes an added feature of the dispenser for spreading material, so that placement of a patent as an original will depend on the judgement of the classifier and the placement of like art. Usually a discharge assistant which is in a container or extends from the container partially thru an opening is not considered to cause classification under the definition of subclass 650 unless the special circumstances mentioned in (1) Note are present.

(3) Note. Included in this definition of "strewing means" is a pipe having longitudinally spaced apertures or perforations.

(4) Note. Excluded under this definition is a flowable slurry of solids in liquid; this is considered a fluid and is classified in another section of the class. Included under this definition is material comprising solids with a small amount of liquid mixed therewith, but not sufficient to permit flow.

(5) Note. A disclosure of a device for strewing or scattering or particulate matter should not be found as an original in any subclass following this group unless combined with means for sprinkling, spraying or diffusing a fluid (e.g., subclass 336) or as a nozzle, per se, disclosed for discharging fluent solid, but also capable of use with a fluid.

SEE OR SEARCH THIS CLASS, SUBCLASS:

146+, for apparatus comprising mobile tank-type supply means for a fluid and means to distribute the fluid.

214+, for a fluid distributor comprising a slinger, splasher or a deflector rotated relative to an effluent fluid.

SEE OR SEARCH CLASS:

83, Cutting, appropriate subclasses for a cutting means of the type therein defined, or the combination comprising such cutting means specifically recited, and a nominally recited strewing or scattering means. A combination which comprises a comminuting means and a scattering means, but in which the cutting means is so broadly recited as to preclude classification in Class 83, is classified in this or an indented subclass, regardless or how broadly recited is the scattering means. Also see the class definition of Class 239, Fluid Sprinkling, Spraying, and Diffusing, reference to Class 83, for a statement of the line.

111, Planting, subclasses 130+ for apparatus adapted to strew or scatter nonfluid material on the ground combined with a device which mixes or covers the strewn material with the soil.

198, Conveyors: Power-Driven, appropriate subclasses, especially subclasses 638+, for a power driven conveyor which trajects material, which may be a fluent, a distance, there being no container for nonfluid material claimed.

222, Dispensing, appropriate subclasses for a container for nonfluid material, and a means for merely dispensing the material, especially subclasses 160+ and 608+ for a movably mounted or an ambulant supply holder, respectively, having dispensing features for merely discharging fluent material. See also (1) Note above.

241, Solid Material Comminution or Disintegration, appropriate subclasses for a comminuting means, per se, or the combination comprising a comminuting means specifically recited and a nominally included strewing or scattering means. A combination which comprises a comminuting means and a scattering means, but in which the comminuting means is so broadly recited as to preclude classification in Class 241, is classified in this or an indented subclass, regardless of how broadly recited is the scattering means. Also see the class definition of Class 239, Lines With Other Classes, Fluid Sprinkling, Spraying, and Diffusing, reference to Class 241, for a statement of the line.

291, Track Sanders, appropriate subclasses for apparatus disclosed as on a vehicle for distributing sand or like material to the vehicle wheel tread or to a surface on which the vehicle rides such as a road or rail, for the purpose of increasing the tractive effect between such wheel and road or rail. An apparatus on a vehicle, the sole purpose of which is the sanding of a surface for the use of other vehicles, is found in Class 239, Fluid Sprinkling, Spraying, and Diffusing, subclasses 650+.

404, Road Structure, Process, or Apparatus, subclasses 101+ for an apparatus to distribute material on a road or roadway.

414, Material or Article Handling, appropriate subclasses for static structures, vehicles, etc., of a kind proper for the class, provided with means for discharging them.

416, Fluid Reaction Surfaces (i.e., Impellers), appropriate subclasses for an impeller means, per se, disclosed for scattering a fluid.

651 With loading or loading facilitating means:

This subclass is indented under subclass 650. Apparatus comprising a means disclosed as used for or aiding in the operation of, placing the material into the supply holder.

(1) Note. Merely positioning the supply holder for receiving the material from a source by gravity does not qualify as loading or loading facilitating means under this definition.

652 Scattering by direct manual movement:

This subclass is indented under subclass 650. Apparatus in which the strewing means comprises a member from the end of which the material is strewn, the member being disclosed as intended to strew material by being manually moved relative to the body of a person manipulating the member, movement being

caused without the use of a mechanism comprising relatively moving parts.

(1) Note. The member, of and by itself, is not necessarily a strewing means under the definition of subclass 650. The manually caused motion to cause strewing is sufficient to qualify under the definition. The manual motion must be intended to be of considerable extent to effect a substantial strewing. See Search Class below for devices which dispense by manual jiggling or the like.

SEE OR SEARCH THIS CLASS, SUBCLASS:

374, for a hand manipulable shaker or jiggler for sprinkling or spraying fluids.

SEE OR SEARCH CLASS:

222, Dispensing, subclass 565 and the subclasses there listed (also see section 12 and 12.5 of the main class definition) for hand manipulable shakers (e.g., salt shakers, etc.).

653 Body supported:

This subclass is indented under subclass 650. Apparatus comprising a means, other than a handle, for supporting the apparatus on the body of a person or animal, or a means, such as a special contour for the supply holder, related to the function of supporting the apparatus on the body of a person or animal.

654 With means generating or supplying gaseous mixing current:

This subclass is indented under subclass 650. Apparatus comprising a device which develops a gas flow or acts as a source of supply of gas, to mix with the material.

(1) Note. The current of gas may be applied to the material after it has been introduced into the ambient, may mingle with the material in the strewing means before it reaches the ambient, or may act as a fluid to entrain and transport the material to the ambient.

(2) Note. If the current of gas is applied to the material in the ambient, this is considered to be the strewing means required for this definition (see subclass 650); otherwise the strewing means must meet the requirement set out in (2) Note of subclass 650 in regard to either the rotary or nozzle type scatterer.

(3) Note. Included under this definition is a device comprising a single gas stream developing or source means discharging to a plurality of strewing means.

SEE OR SEARCH THIS CLASS, SUBCLASS:

77+, for an orchard type mobile duster comprising means to discharge a material into a stream of generated gaseous conveying current which carried the material onto a tree or trees.

SEE OR SEARCH CLASS:

222, Dispensing, subclasses 617 and 630+ for a dispenser with fluid flow discharge and subclass 394 for a dispenser in which a fluid (i.e., discharge assistant) contacts the material to be dispensed and moves it toward the outlet.

366, Agitating, subclasses 101+ for gas effected mixing, per se.

406, Conveyors: Fluid Current, appropriate subclasses for fluid current conveyors, particularly subclasses 154+ for fluid current conveyor outlets. Generally, any structure recited in a claim that accomplishes scattering or spraying (e.g., specific nozzle structure or relative orientation of spaced outlets) should be considered for Class 239 rather than Class 406.

414, Material or Article Handling, subclass 524 for a self-loading or unloading vehicle having a load handling means of the fluid current conveyor type.

655 Laterally extending scatter unit:

This subclass is indented under subclass 654. Apparatus comprising an elongated strewing means extending in the direction of its length outwardly from the supply holder when looked at in plain view the longitudinal axis of the elongated strewing means being substantially transverse to the direction of any intended movement of the supply holder.

(1) Note. For meaning of "elongated strewing means" under this definition see (1) Note in subclass 664.

656 Scatterer fed by plural containers:

This subclass is indented under subclass 650. Apparatus in which a single strewing means is supplied with material from a plurality of supply holders.

(1) Note. The supply holders must be primary containers of the material such that different materials may be supplied. A mere dividing wall in the lower portion of a container is not included, such apparatus being classified on other features.

(2) Note. Included under this definition is any arrangement of two primary holders, connected in such manner that a mixture of the two materials can be supplied to the single strewing means.

657 Container tilted for discharge (e.g., dump truck, etc.):

This subclass is indented under subclass 650. Apparatus in which the supply holder is mounted on a support means so as to be movable from a first position in which the material in the holder is not readily movable out of the holder by gravity to a second position in which gravity causes or greatly assists in the movement of the material out of the holder.

(1) Note. The support means must comprise more than a wheel axle about which the supply holder may be tilted by the user of the device. Such devices are classified on other features.

(2) Note. This subclass is the locus for patents comprising tilting containers of the dump truck type, even if details of the dump mechanism are not recited.

SEE OR SEARCH CLASS:

222, Dispensing, subclass 166 for a dispensing device comprising a container for material to be dispensed, the container mounted for tilting motion to discharge by gravity, e.g., mounted about a wheel axle so as to be tilted by the user of the device. The line between the two Classes, 222 and 239, Fluid Sprinkling, Spraying, and Diffusing is as follows: a dispensing hopper, per se, but not of the tilting type goes into Class 222, into a subclass other than 166; a dumping vehicle combined with a hopper attachment which acts as a spreader but not to spread a swath wider than the vehicle goes into Class 222, subclass 166 if claimed as a dumping vehicle and to another subclass as an original if not so claimed; a dumping vehicle disclosure and a claim to the combination of the vehicle and a hopper or spreader attachment which covers a swath wider than the vehicle will be classified in this subclass (Class 239, subclass 657).

414, Material or Article Handling, subclasses 469+ for a self-loading or unloading vehicle having a load receiving (i.e., supporting) portion which is pivotable relative to the horizontal.

658 Scattering means is flail:

This subclass is indented under subclass 650. Apparatus in which the means for strewing comprises a flexible element which is rotatable about an axis and is so constructed or arranged that it assumes a substantially vertical or drooping position when at rest and a position substantially at right angles to the axis when rotated to strew the material.

(1) Note. For the means of "rotates about an axis" see (1) Note in subclass 681.

(2) Note. Included as a flexible element under this definition is an element pivotally connected to a rotary carrier.

(3) Note. The means may be positioned within the container to scatter the material therein, or may be without the the container, the material being supplied thereto.

SEE OR SEARCH CLASS:

172, Earth Working, subclass 45 for an implement of the flail type for working or disturbing the earth.

659 Scattering means has to and fro movement (e.g., vibratory, etc.):
This subclass is indented under subclass 650. Apparatus in which the strewing means has an oscillating, reciprocating, shaking or other back and forth movement while in operation in order to effect or assist the strewing function.

(1) Note. The movement of the strewing means may be caused either by a positive drive or by the impingement of the material onto such means so as to cause the back and forth movement due to the construction or arrangement of the means, e.g., the means is of springy material which vibrates when hit by the material.

(2) Note. The main structural difference between this subclass (659) and the vibratory subclasses of Class 222, Dispensing, subclasses 161, 196-203 is that in subclass 659 the vibrating member is sufficiently near the terminal material contact point that the vibratory movement causes the discharging material to scatter, while in Class 222 the vibration merely causes the material to move toward or out of the discharge outlet.

SEE OR SEARCH THIS CLASS, SUBCLASS:

4, for a process of scattering or spraying a fluent material by an element which is caused to continuously vibrate.

102.1+, for a device which sprays a fluid by means of a motor driven element which cyclically and rapidly changes the normal character of discharge of fluid from an outlet (e.g., by continuously moving the discharge member, or continuously moving a member in contact with the fluid).

225.1+, for a fluid spraying or sprinkling device comprising a distributor which is continuously moving (e.g., oscillating) relative to a support during discharge.

652, for a device in which a nonfluid material is caused to be scattered or strewn by reciprocation of a tube manually by a person.

660 With overload release or relief:
This subclass is indented under subclass 650. Apparatus in which a part of the apparatus shifts its position relative to an adjacent part without the intervention of a human operator, and in response to a transient condition in which a part of the apparatus would be subjected to undesirable stress (e.g., when a lump, clod or rock is encountered in otherwise easily disintegratable material) if shifting did not occur.

(1) Note. Shifting of position which occurs in order to take up the shock of starting is not included under this definition. Such devices are classified on other features.

661 With means for mounting on tractor:
This subclass is indented under subclass 650. Apparatus comprising a means disclosed for attaching the apparatus to a motor vehicle of the type which does not have any substantial provision for supporting material for transportation but is especially intended to pull a trailing vehicle or to pull or support an implement, such as a plow, which operates to perform its intended function while being so pulled or supported.

(1) Note. The motor vehicle of this definition is usually called a tractor.

(2) Note. Apparatus under the definition is typically constructed to be used as a detachable unitary attachment for a tractor.

662 With feature relating to liquid material:
This subclass is indented under subclass 650. Apparatus in which there is a means (e.g., a leak proof supply holder) which is especially provided because the material contains liquid which tends to or does separate from the solid portions of the material.

(1) Note. The material as a whole under this definition is not a slurry, i.e., a mixture of solid particles and a liquid which is handled as a viscous liquid. Apparatus for handling a slurry is classifiable as if the slurry were a liquid. Typically, the material being handled by the apparatus

of this subclass is manure, some portion of which is liquid.

663 Convertible or combined:

This subclass is indented under subclass 650. Apparatus not provided for in preceding subclasses and which (1) is in combination with features other than for material handling or treating or (2) by relative rearrangement of its parts or by the addition or omission of a part is so changed as to become (A) basic subject matter of the same class of a different character or having a different mode of operation or (B) basic subject matter of another class.

(1) Note. A mere preamble in a claim to the effect that a device is convertible or is a conversion attachment is generally not sufficient for classification under this definition. The conversion feature should be spelled out as by (a) specifically claiming one embodiment of an apparatus having a first function and claiming with that embodiment a feature useable only for a different function, or (b) repeated functional statements in the claim, or (c) a preamble which is so long and detailed that it may be considered part of the body of the claim. Where no other suitable classification exists a broad mention of conversion may be enough for classification under this definition.

(2) Note. The change in the apparatus must be more than merely placing a part in one of a series of adjacent holes, or making a change which amounts to only an adjustment, changing between operative and inoperative positions or other minor alteration in the overall functioning of the device.

(3) Note. Examples of devices included under this definition of "combined" are combinations with (1) a separator to classify or assort different portions of the material, (2) a plurality of different types of discharge members (e.g., a material discharge guide for Class 222, Dispensing and a strewing means for this class, etc.) with means, as a valve to selectively and alternatively choose the type of discharge depending on the material handled, (3) brake means acting on vehicle wheels, (4) vehicle features in addition to those required for the handling of the material, etc. Included under this definition of convertible is an unloading or dispensing vehicle of the type classified in Class 414, Material or Article Handling, Class 298, Land Vehicles: Dumping, or Class 222, Dispensing and a strewing or scattering means of the type classified in this group of subclasses and attachable or removable at will. Excluded from "combined" under this definition is the combination with any type of physical treatment of the material (e.g., comminuting, heating, agitating, etc.) or handling, (e.g., loading, conveying, etc.).

SEE OR SEARCH THIS CLASS, SUBCLASS:

676, for an end gate or barrier for a supply holder having a means feeding material horizontally, the end gate or barrier being upstream of the strewing means and adjustable to act as a regulating, lump breaking, disintegrating means or the like.

664 Ambulant container and laterally extending scatterer:

This subclass is indented under subclass 650. Apparatus which is intended to be used by traversing a surface, comprising an elongated strewing means extending in the direction of its length outwardly from the supply holder when looked at in plain view, the longitudinal axis of the elongated strewing means being substantially transverse to the direction of intended movement of the supply holder.

(1) Note. The "elongated strewing means" under this definition comprises any arrangement of strewing means which (1) results in a pattern of strewn material which is generally elongated when the whole apparatus is not traversing the surface, the pattern extending in the direction of its length outwardly from the supply container and laterally of the direction of traverse of the apparatus over the surface and (2) is physically located outwardly from the container in a direction laterally of the direction of

traverse of the apparatus over the surface.

(2) Note. Excluded under this definition of "elongated strewing means" is a single rotating scatter located outwardly of one side of the container, or two rotating scatterers, one on each side of the container and extending outwardly therefrom in a direction laterally to the direction of traverse; such devices will be found in 681+. However, a plurality of rotating scattering units arranged side by side transverse to the direction of movement of the container and located outwardly of the container is included under this definition.

SEE OR SEARCH THIS CLASS, SUBCLASS:

655, for apparatus comprising a similar elongated, outwardly extending strewing unit and a means which develops a gas flow or acts as a source of gas, the gas mixing with the material and discharging through the strewing unit.

665 Including means varying scatter pattern of rotating scatterer:

This subclass is indented under subclass 650. Apparatus comprising a strewing means rotating about an axis and means for changing some characteristic of the pattern of the material being strewed, such as its direction or width.

(1) Note. For the meaning of "rotating about an axis" see (1) Note in the definitions of subclass 681.

(2) Note. A means for changing a characteristic comprising no more than a means for changing the speed of the strewing means, a means for changing the amount of material fed to the strewing means or a means for changing the speed or direction of a vehicle on which the strewing means is mounted is not included. Such devices are classified on other features.

SEE OR SEARCH THIS CLASS, SUBCLASS:

97+, for apparatus in which pattern control comprises means for synchronizing a flow regulator with a cyclically moving distributor.

666 Adjustable deflector:

This subclass is indented under subclass 665. Apparatus comprising a selectively adjustable member which intercepts the path of at least some of the material after it leaves the strewing means, the adjustment of the member effecting some change in the pattern of the material being strewed.

(1) Note. For purposes of this subclass definition, a rotating "feeder" which inherently acts as a scatterer, but which, as disclosed, delivers material to an adjustable deflecting or strewing element, is considered to be the "strewing means".

SEE OR SEARCH THIS CLASS, SUBCLASS:

650, for an adjustable deflecting or strewing element which acts on material supplied thereto by a nonrotating feeder means.

667 Plural, rotary scatterers, on intersecting axes or coaxial and counter rotating:

This subclass is indented under subclass 650. Apparatus comprising at least two strewing means rotating (1) about an axis which is common to both, each strewing means rotating in a direction opposite to that of the other, or (2) about separate, angularly related axes.

(1) Note. For the meaning of "rotating about an axis" see (1) Note in subclass 681.

668 Hopper and gravity discharge to scatterer receiving material peripherally:

This subclass is indented under subclass 650. Apparatus in which the supply holder has an opening in a lower portion thereof and is so constructed, with at least one sloping wall leading to the opening, that the material is discharged by the action of gravity, and in which the strewing means rotates about an axis and receives the material in a direction substantially transverse to the axis.

(1) Note. For the meaning of "rotates about an axis" see (1) Note in subclass 681.

(2) Note. An agitating or disintegrating means may be used to assist the flow of material by breaking up lumps, but the supply holder must be so constructed that the use of a conveyor or ejector to move material horizontally is not necessary.

SEE OR SEARCH THIS CLASS, SUBCLASS:

679+, for an apparatus comprising a conveyor or other follower mechanism feeding material substantially horizontally towards a rotary scatterer which receives the material peripherally.

SEE OR SEARCH CLASS:

198, Conveyors: Power-Driven, subclasses 311, 359+ and 523+ for a hopper which feeds or discharges material to a conveyor where no scattering or strewing of the material is intended.

669 Scatterer at least partially within hopper:
This subclass is indented under subclass 668. Apparatus in which the strewing means or a portion thereof is located in the confines of the supply holder.

670 Drive from vehicle motor power take off:
This subclass is indented under subclass 650. Apparatus comprising a driven strewing means, the power for driving the strewing means being furnished by a motor which is used to propel a vehicle.

(1) Note. The drive train from the motor to the strewing means may include a ground wheel driven by the motor.

SEE OR SEARCH THIS CLASS, SUBCLASS:

661, for similar apparatus in which the power take off means is from a tractor type vehicle to which the apparatus is attached.

671 Including raking type conveyor moving material toward scatterer:
This subclass is indented under subclass 650. Apparatus comprising a means acting in substantially a linear direction on the top portion of the material in the supply holder to force or deliver the material towards the strewing means, in the manner of a rake.

(1) Note. A rotating means, e.g., a "beater", acting on the top of the material is not included in this definition. See subclass 680 for a beater acting on the top portion of the material.

672 Including driven conveyor or follower feeding material horizontally towards scatterer:
This subclass is indented under subclass 650. Apparatus comprising means acting on the material in the supply holder for delivering it in a horizontal direction toward the strew-means, said delivering means comprising (1) a driven conveyor or (2) a means acting as an end of the material in the supply holder.

(1) Note. If a series of strewing means is claimed, (e.g., a rotating "beater" throwing material to a rotating "widespread") a strewing means upstream of the final means is considered to be a kind of conveyor. If, however, such a series of strewing means is shown, but the final one is not claimed then an upstream strewing means, e.g., a beater, which, as claimed, functions like a final strewing means, is considered to be a final strewing means for purposes of placement under the definition of subclass 650.

(2) Note. In order to qualify under this definition, there must be a substantial horizontal component of motion.

SEE OR SEARCH THIS CLASS, SUBCLASS:

671, for a supply holder and a means which acts substantially in a linear direction on the top portion of the material to move the material, in the manner of a rake, towards the strewing means.

673 Plural scatterers receiving material axially:
This subclass is indented under subclass 672. Apparatus comprising at least two strewing means, each of which rotates about an axis to perform its strewing function and each of which is disclosed as strewing material into final position in the ambient, rather than to another downstream strewing means, the mate-

rial being presented to each of the strewing means in a direction which is substantially parallel to the axis of rotation and being scattered in substantially a radial direction.

(1) Note. For the meaning of "rotates about an axis" see (1) Note in subclass 681.

(2) Note. Just what constitutes a plurality of strewing units rather than a single unit with a plurality of parts is sometimes difficult to decide. If one unit rotates on a different axis than another, or in a direction opposite to that of another, a plurality of units is considered to exist. However, sometimes where there are distinct sub-assemblies, each comprising a complete unit, a plurality of units are considered to exist even if they rotate about the same axis.

674 Feed means outside of primary supply container :

This subclass is indented under subclass 672. Apparatus in which the means for delivering material toward the strewing means is located outside of the confines of the principal supply holder for the material.

(1) Note. In addition to the delivering means outside of the supply holder, there may be means within the holder also delivering material toward the strewing means.

SEE OR SEARCH THIS CLASS, SUBCLASS:

655, 664, for a device comprising a container and laterally extending scatterer in which the means feeding to the scatterer may be outside of the container.

675 Screw conveyor:

This subclass is indented under subclass 672. Apparatus in which the means for delivering material toward the strewing means comprises a conveyor having a generally screwlike configuration so that it turns on its axis material is forced along the direction of its axis.

676 Including movable gate, barrier or valve upstream of scatterer:

This subclass is indented under subclass 672. Apparatus comprising a movable means acting on the material before reaching the strewing means, which functions as a valve to regulate flow of material to the strewing means or in one position prevents the material from pressing against the strewing means and in another position permits the material to reach the strewing means.

677 Speed varying means for driven scatterer or feed:

This subclass is indented under subclass 672. Apparatus comprising a driven strewing means and means for varying the rate of movement of the strewing means, or of the means delivering material towards the strewing means, independently of the speed of the primary driving means for the strewing or delivering means.

(1) Note. The speed varying means must be capable of changing speed at the will of the operator while the apparatus is in motion; merely replacing one gear with another while the apparatus is at rest is not included. A means which stops the motion of the conveyor or other feeding means at a predetermined position is excluded and will be found in subclass 678, even if the conveyor or other feeding means is reversed in direction and its speed in this reverse direction increased.

678 Limit means stopping feed:

This subclass is indented under subclass 672. Apparatus comprising means which causes the motion of the material delivering means to be interrupted when the delivering means arrives at a pre-selected position, without the intervention of a human operator.

679 Rotating scatterer receiving material peripherally:

This subclass is indented under subclass 672. Apparatus comprising a strewing means which rotates about an axis and which receives the material in a direction generally transverse to the axis of rotation.

(1) Note. For the meaning of "rotates about an axis" see (1) Note in subclass 681.

SEE OR SEARCH THIS CLASS, SUBCLASS:

668, for a strewing means which receives the material in a direction generally transverse to the axis of rotation, and in which the supply holder is constructed with an opening in the lower wall and a sloping wall leading to the opening, the material being discharged to the strewing means by the action of gravity.

680 Rotating feed or strewing unit (e.g., beater, etc.) upstream of scatterer:

This subclass is indented under subclass 679. Apparatus comprising a means rotating about an axis and acting on the material before it reaches the final rotating strewing means to deliver the material towards the strewing means or to strew the material over an extended area.

(1) Note. For the meaning of "rotating about an axis" see (1) Note in subclass 681.

681 Rotating scatterer:

This subclass is indented under subclass 650. Apparatus comprising a means which rotates about an axis in order to strew material.

(1) Note. Rotation about an axis is a movement of more than 360 degrees about the axis. The axis may be fixed or moving but the rotating means must be essentially wheellike in nature or moving in a substantially circular orbit about the axis. An endless conveyor type device which moves in an elongated orbit is not included. Such strewing means is classified on other features.

(2) Note. An apparatus including a rotating means which acts to strew material but which is disclosed as feeding the material to a downstream distributing means is classifiable under this definition if the downstream means is not claimed. If the downstream means is claimed then the upstream rotating means is considered a kind of conveyor and the apparatus is classifiable in subclasses 672+ or in other places depending on the nature of the downstream distributor or other features.

682 Plural:

This subclass is indented under subclass 681. Apparatus comprising at least two scattering or strewing means.

(1) Note. For comments relative to determination of "plural" strewing units, see (2) Note in subclass 673.

683 Including agitating means:

This subclass is indented under subclass 681. Apparatus in which there is a means to agitate or break up lumps in the material before it reaches the strewing means.

SEE OR SEARCH CLASS:

366, Agitating, for agitating devices, per se.

684 Including agitating means:

This subclass is indented under subclass 681. Apparatus in which a claim includes some specific recitation of the means which functions to impart motion to the strewing means.

(1) Note. In order to qualify under this definition of "specific driving means", the claim must include at the minimum a power means (e.g., prime mover, ground wheel, hand crank, etc.) and one portion of a gear train or linkage system (e.g., pulley, belt, bell crank, etc.) between the power means and the strewing means, claimed in such a manner as to clearly establish the presence of both means. Merely reciting a broad "means" which, as disclosed, includes the entire driving means is not included under this definition.

SEE OR SEARCH THIS CLASS, SUBCLASS:

670, for a drive means for the strewing means comprising a power take off arrangement from a vehicle.

685 From ground wheel:

This subclass is indented under subclass 684. Apparatus in which the means which imparts motion comprises a wheel freely rolling over the ground.

SEE OR SEARCH THIS CLASS, SUBCLASS:

654+, for a device in which a ground wheel imparts motion to a gaseous current generating means.

686 Manual or pedal:

This subclass is indented under subclass 684. Apparatus in which a means operated by the hand or foot of a person or animal supplies power for the drive.

687 Scatterer receives material axially:

This subclass is indented under subclass 681. Apparatus in which the rotary strewing means acts on material which is presented to it in a substantially axial direction to throw it out in a substantially radial direction by centrifugal force.

688 Scatterer has radially directed tube:

This subclass is indented under subclass 687. Apparatus in which the strewing means comprises at least one radially extending tube which receives material at an end near the axis of rotation and throws it out at the other end.

689 Scatterer is tubular or in surrounding housing:

This subclass is indented under subclass 650. Apparatus in which the means for strewing is of tubular form, e.g., a nozzle, or is enclosed in a housing which surrounds it.

(1) Note. The housing completely extends around the strewing means in cross-section but a portion of the strewing means may protrude beyond the end of the housing.

(2) Note. The strewing means may comprise a plurality of tubular members which individually are not strewing means but collectively are a strewing means (e.g., a plurality of tubes branching out and diverging from a single source).

SEE OR SEARCH THIS CLASS, SUBCLASS:

652, for a manually moved tube to strew material.

690 ELECTROSTATIC TYPE:

This subclass is indented under the class definition. Apparatus to project, scatter, sprinkle, or drip material from a supply system into the ambient air or atmosphere combined with a means to electrostatically charge the resulting distributed material in order to obtain a desired characteristic, e.g., dispersion, drop size, velocity, or direction.

(1) Note. Some characteristic structure of an electrostatic distribution must be claimed to warrant classification herein, for example, insulated electric conductors, electric connecting means, and nominal electric power supply means have been considered significant electrostatic distributor features for classification herein.

SEE OR SEARCH THIS CLASS, SUBCLASS:

3, for methods of electrostatically distributing material.

SEE OR SEARCH CLASS:

118, Coating Apparatus, pertinent subclasses, especially subclasses 620+, and see the Notes thereto for patents claiming an electrostatic spraying device and (a) a work conveyor or other specific or nominal work supporting device, (b) some relation of the spraying device to the positively recited work, e.g., the relative spacing or attitude between the work and the spraying device, or (c) a particular motion of the sprayer relative to the work determined exclusively by characteristics of the work or by the law of the machine of which the sprayer forms a part. A nominal claiming of the work itself and/or electrostatic, spray charging electrode in space has been included in this class (239) provided there is no claimed relation between the work and either the electrode or the fluid spraying or projecting means. The following examples are considered work relations and indicate classification in Class 118 when the claim also includes positive recitation of the work (even though

broadly or by name only): (a) electrical connections between the work and either the fluid sprayer or an electrostatic charge generator, or (b) a statement that the sprayer is spaced close to the work. See Class 118, Coating Apparatus, class definition for additional explanation of the line.

361, Electricity: Electrical Systems and Devices, appropriate subclasses, especially subclasses 226+, and see the Notes thereto for particle charging methods and apparatus involving: (a) electrostatic spraying with significant supply means limited to use only with powder or pulverulent material, (b) residual electrostatic dispersing of liquid into spray or fog (e.g., liquid removed from the supply system solely by electrostatic force). A claimed combination of a distributor means under the definition of Class 239 and means to electrostatically charge the fluid upstream, at, or downstream of the distributor is proper subject matter for Class 239.

427, Coating Processes, subclasses 458+ for coating processes in general wherein an electrostatic charge is utilized to perfect the coating operation.

690.1 Induction charging:

This subclass is indented under subclass 690. Apparatus wherein the distributed material is in the form of charged particles which respond to an influence or variation in an electric force field created by the charging means at the time the particles are formed, thereby obtaining a charge of opposite polarity to that of the charging means.

(1) Note. Induction charging is a different type of particle charging means than a "corona discharge" charging means in which particles, after they are formed, are charged with the same polarity as the corona discharge electrode by direct transfer of that charge through contact with either the electrode itself or with atmospheric ions generated by the electrode.

691 With automatic safety feature:

This subclass is indented under subclass 690. Apparatus in which a spray device is provided with means for sensing an abnormal hazardous condition of operation which may or may not occur and is provided with a further means for interrupting the electrical power supply to the spray device when the hazardous condition is sensed.

692 With electrogasdynamic generator in spray device:

This subclass is indented under subclass 690. Apparatus whereby a spray device is provided with means whereby gaseous fluid is utilized in the production of an electric charge, the electric charge being transmitted to the spray material passing through the spray device.

693 Spray device recovers unused particles:

This subclass is indented under subclass 690. Apparatus wherein a spray device is provided with means for collecting particles not consumed during a work operation.

SEE OR SEARCH CLASS:

118, Coating Apparatus, subclass 326 for projected or spray type coating apparatus including a hood or offtake for waste material, and see the search notes thereunder.

694 With cyclical movable support:

This subclass is indented under subclass 690. Apparatus wherein a spray device is fixedly mounted on structure having recurring to-and-fro movement along a dimension of an article to be sprayed.

695 Plural spray devices:

This subclass is indented under subclass 690. Apparatus in which there is provided at least two separate units each comprising a spray means for performing work.

696 Having plural exit openings:

This subclass is indented under subclass 690. Apparatus wherein a spray device comprises at least two exiting ports through which fluent spray material is emitted.

697 Fixed member deflects exiting material:
This subclass is indented under subclass 690. Apparatus wherein there is provided a member in the path of travel of spray material at or forward of a spray device exit for spreading or otherwise shunting exiting material in a desired manner.

(1) Note. A valve member at the exit opening of the spray device which when opened deflects exiting material from a normal path of travel is deemed proper for classification here.

698 Forward of nozzle:
This subclass is indented under subclass 697. Apparatus wherein the member in the path of travel of the material is positioned forward of the spray material exit.

699 With impeller (e.g., vibrator):
This subclass is indented under subclass 690. Apparatus wherein a spray device comprises a positively moved member for imparting a desired motion to the spray material.

700 Rotary:
This subclass is indented under subclass 699. Apparatus wherein the positively moved member turns or revolves about an axis.

701 With spray portion intercept member:
This subclass is indented under subclass 700. Apparatus provided with shield means positioned to allow a portion of the spray material to be directed toward the object being sprayed.

702 With axially spaced impeller surfaces:
This subclass is indented under subclass 700. Apparatus wherein the positively moved member comprises at least two impeller portions or members spaced along the revolving axis.

703 Dish- or cone-shaped impeller:
This subclass is indented under subclass 700. Apparatus comprises a revolving member having a peripheral material emitting edge in a plane other than the plane containing a central portion thereof.

704 With fluid entrainment:
This subclass is indented under subclass 690. Apparatus wherein the spray device comprises means for combining the spray material with a fluid.

(1) Note. The fluid may be used to convey, impel, mix, atomize, etc., the spray material.

705 With air outlet forward of material outlet:
This subclass is indented under subclass 704. Apparatus wherein the spray device is provided with structure extending forward of the spray material outlet, the structure having at least one fluid orifice forward of the spray material outlet.

706 With charging electrode mounted on spray device:
This subclass is indented under subclass 704. Apparatus wherein the spray device comprises spray material ionizing means.

707 Extending forward of material outlet:
This subclass is indented under subclass 706. Apparatus wherein the ionizing means is either forward of or has a portion extending forward of the spray material exit.

708 Pressurized spray material:
This subclass is indented under subclass 690. Apparatus wherein spray material is positively moved for passage through the spray device.

722 MOBILE DISTRIBUTOR:
This subclass is indented under the class definition. Apparatus including distribution means which sprinkles, sprays or throws fluid over an area or areas to be treated, the distribution means being supplies with fluid from a source or sources which are fixed in position and being mounted on a carrier means whereby the device may be readily moved from one place to another.

(1) Note. Movement of the carrier may take place (1) during the spraying operation usually for the purpose of increasing the size of the treatment area or (2) between spraying operations so that the device may be moved from one location to another.

SEE OR SEARCH THIS CLASS, SUBCLASS:

146+, for mobile distributors whose source of supply is carried by the distributor.

225+, for a distributor which continuously moves relative to a fixed support during spraying.

SEE OR SEARCH CLASS:

137, Fluid Handling, subclass 355.12 for apparatus designed to store or retrieve a hose conduit or nozzle and mounted on a vehicle which supports the apparatus on the ground and moves it from one place to another and subclasses 899+ for fluid handling apparatus arranged on vehicular means to move the apparatus to a place of use; note the line between Class 137 and Class 239 as specified in the class definition of Class 239, Lines With Other Classes, Slow Diffusers, under the Search Class note and also note the exception to that line in subclasses 726+ below.

723 Irrigation device:

This subclass is indented under subclass 722. Apparatus wherein the treating fluid includes water and the area or areas to be treated is the ground.

724 Open pond or ditch type supply:

This subclass is indented under subclass 723. Apparatus wherein the source of fluid supplied to the distributor is (1) a body of water exposed at ground level and confined by features of terrain, or (2) comprises coverless tanks, through, flumes, or the like, along which, or over which the apparatus is propelled or guided.

725 Floating distribution means:

This subclass is indented under subclass 724. Apparatus in which the distributor is buoyantly supported by the supply fluid.

726 Nozzles spaced along mobile pipeline:

This subclass is indented under subclass 723. Apparatus comprising an elongated, generally horizontally disposed, fluid conducting conduit supported by vehicular means above the ground, the conduit being disclosed as either having or being intended to have fluid distribution means at spaced intervals there along.

(1) Note. In regard to the line between Class 137 and Class 239 (as specified in the class definition of Class 239, Lines With Other Classes, Slow Diffusers under the Search Class note), the placement of documents within Class 239, these subclasses (726+), and Class 137, subclasses 899+, represents an exception to the specified class line. This exception to the line between Classes 137 and 239 relates only to the placement of documents between subclasses 726+ of Class 239. Specifically, any document which disclosed a portable, over-head type of irrigating or other sprinkling apparatus, which is supported on vehicular means, which has some form of sprinkler or other spray outlet means secured thereto for sprinkling or spraying fluid onto the ground, and which claims subject matter encompassed by the definition of Class 239, subclasses 726+ regardless of whether or not a sprinkler or other spray outlet means was specified in the claims.

SEE OR SEARCH THIS CLASS, SUBCLASS:

266+, for plural longitudinally spaced outlet means in a flow line.

727 Including additive supply means:

This subclass is indented under subclass 726. Apparatus, additionally including means to distribute a material such as a fertilizer, pesticide, or the like along with, or in addition to, the irrigating fluid.

728 Center pivot:

This subclass is indented under subclass 726. Apparatus wherein the conduit has one end thereof secured to a pivot point fixed with respect to the ground; and wherein the vehicular support means is radially outwardly spaced from the pivot towards the other end of the conduit which is translatable so that the conduit is constrained to move in an arcuate path about the pivot point.

729 With noncircular coverage:
This subclass is indented under subclass 728. Apparatus including means to vary the radial extent of the treated area from the pivot point at certain distinct intervals along the arcuate path of the apparatus so that a noncircular area is irrigated.

(1) Note. Movement of the center pivot irrigator may be temporarily stopped at specific points along its arcuate path to affect the noncircular pattern of coverage.

730 Including means allowing articulation of adjacent pipe sections:
This subclass is indented under subclass 728. Apparatus wherein the conduit is comprised of a plurality of elongated conduited sections which are coaxially connected together in end-to-end fluid-conducting relationship so as to form the elongated supply conduit or fluid distributing line, the connection between any two adjacent conduit sections being such that one conduit section is permitted to flex or pivot relative to an adjacent conduit section about an axis of the adjacent conduit section so that deviations from a straight line alignment between adjacent conduit sections are permitted.

SEE OR SEARCH THIS CLASS, SUBCLASS:
732, for means allowing articulation of adjacent pipe sections on a translating distributor.

731 With means to detect misalignment:
This subclass is indented under subclass 730. Apparatus including sensing means, operatively associated with the conduit, to detect when the longitudinal axis of any one conduit section deviates from a straight line relationship with the longitudinal axis of an adjacent conduit section.

SEE OR SEARCH THIS CLASS, SUBCLASS:
733, for means to detect mis-alignment of pipe sections on a translating distributor.

732 Including means allowing articulation of adjacent pipe sections:
This subclass is indented under subclass 726. Apparatus wherein the conduit is comprised of a plurality of elongated conduit sections which are coaxially connected together in end-to-end fluid-conducting, relationship so as to form the elongated supply conduit or fluid distributing line, the connection between any two adjacent conduit sections being such that one conduit section is permitted to flex or pivot relative to an adjacent conduit section about an axis generally perpendicular to the longitudinal axis of the adjacent conduit section so that deviations from a straight-line alignment between adjacent conduit sections are permitted.

SEE OR SEARCH THIS CLASS, SUBCLASS:
730, for center pivot irrigators including means allowing articulation of adjacent pipe sections.

733 With means to detect misalignment:
This subclass is indented under subclass 732. Apparatus including sensing means, operatively associated with the conduit, to detect when the longitudinal axis of any one conduit section deviates from a straight line relationship with the longitudinal axis of an adjacent conduit section.

SEE OR SEARCH THIS CLASS, SUBCLASS:
703, for center pivot irrigators with means to detect misalignment of adjacent pipe sections.

734 Trail tube:
This subclass is indented under subclass 726. Apparatus including an elongated fluid conductor, secured in fluid conducting relationship, to the conduit in such a manner that the longitudinal axis of the fluid conductor is generally perpendicular to the longitudinal axis of the conduit, and wherein the fluid conductor is disclosed as either having or being intended to have sprinkler or other spray outlet means formed therein or secured thereto for sprinkling or spraying fluid onto the ground.

735 Propelling means:
This subclass is indented under subclass 726. Apparatus provided with a means for moving the distributor bodily across an areas to be irrigated.

SEE OR SEARCH THIS CLASS, SUBCLASS:
744+, for propelling means for mobile distributors of the nonpipeline type.

736 Reel take-up:
This subclass is indented under subclass 735. Apparatus wherein the means for moving the distributor comprises an elongated flexible member and a rotary means which takes in or winds up the elongated flexible member to cause motion of the distributor.

(1) Note. The flexible member may be either a cable, wire or the like tether, or the supply line itself.

SEE OR SEARCH THIS CLASS, SUBCLASS:
195+, for flexible flow line or outlet storage and retrieval means.
745, for a reel take-up drive on a nonpipeline type distributor.

SEE OR SEARCH CLASS:
242, Winding, Tensioning, or Guiding, subclasses 370+ for a reeling device for elongated material which may include a hose.

737 Prime mover:
This subclass is indented under subclass 735. Apparatus having a self-contained power source mounted thereon which causes movement of the distributor.

738 Fluid motor or spray fluid operated:
This subclass is indented under subclass 735. Apparatus having means responsive to the flow of fluid in the supply line or from its discharge from the egress ports to cause movement of the distributor.

SEE OR SEARCH THIS CLASS, SUBCLASS:
237+, for spray fluid motor drive means and 263 for fluid motive means for non-translating distributors moving relative a base during spraying.
747, for a fluid motor or spray fluid operated propelling means on a nonpipeline type of mobile distributor.

SEE OR SEARCH CLASS:
91, Motors: Expansible Chamber Type, appropriate subclasses for a fluid operated expansible chamber motor, per se, which may be used to propel the distributor in the absence of claimed structure to discharge the motor exhaust fluid through the distributor.
415, Rotary Kinetic Fluid Motors or Pumps, appropriate subclasses for a fluid operated motor, per se, which may be used to propel the distributor and for the combination of such a motor with a nominally recited distributor in the absence of claimed structure to discharge the motor exhaust fluid through the distributor.
418, Rotary Expansible Chamber Devices, for a rotary expansible chamber motor, per se, which may be used to propel the distributor and for the combination of such a motor with a nominally recited distributor in the absence of claimed structure to discharge the motor exhaust fluid through the distributor.

739 Guided translating distributor:
This subclass is indented under subclass 726. Apparatus including means constraining the distributor to bodily move along a predetermined path or course.

SEE OR SEARCH THIS CLASS, SUBCLASS:
743+, for a guided translating distributor of the nonpipeline type.

740 Supply line traversing means:
This subclass is indented under subclass 739. Apparatus wherein the distributor is guided along a path established by the relative disposition of a fluid conducting conduit which furnishes fluid to the distributor.

SEE OR SEARCH THIS CLASS, SUBCLASS:

736, for supply traversing pipeline distributors which are propelled by reeling in the supply line.

745+, for supply line traversing distributors of the nonpipeline type which are propelled by reeling in the supply line.

748, for supply line traversing guided distributors of the nonpipeline type.

741 Wheel mounted for rotation about longitudinal axis of pipeline:

This subclass is indented under subclass 726. Apparatus wherein the vehicular support means comprises wheel means secured to the pipeline in such a manner that the peripheral portion of the wheel means rotates or circumferentially moves about the longitudinal axis of the pipeline during movement of the pipeline over the ground.

742 Longitudinal movement of pipeline:

This subclass is indented under subclass 726. Apparatus in which the structure and arrangement of the vehicular means permit the pipeline to be moved in the direction of its length.

743 Propelled or guided translating distributor:

This subclass is indented under subclass 723. Apparatus provided with either (1) a means constraining the distributor to move along a predetermined path or (2) means moving said distributor bodily.

SEE OR SEARCH THIS CLASS, SUBCLASS:

735+, for a propelling means for a mobile pipeline.

739, for a guided translating pipeline.

744 Propelling means:

This subclass is indented under subclass 743. Apparatus provided with means for bodily moving the distributor.

SEE OR SEARCH THIS CLASS, SUBCLASS:

735+, for propelling means for mobile pipeline distributors.

745 Reel take-up:

This subclass is indented under subclass 744. Apparatus wherein the means for moving the distributor comprises an elongated flexible member to cause motion of the distributor.

(1) Note. The flexible member may be a cable, wire or the like tether; or the supply line itself.

SEE OR SEARCH THIS CLASS, SUBCLASS:

195+, for flexible flow line or outlet storage or retrieval means.

736, for a reel take-up drive on a pipeline type distributor.

SEE OR SEARCH CLASS:

242, Winding, Tensioning, or Guiding, subclasses 370+ for a reeling device for elongated material which may include a hose.

746 Intermittent grip or inching type:

This subclass is indented under subclass 744. Apparatus in which the motive means for the mobile distributor is such that it causes a step-by-step or go-stop-go type of advance usually by employing a reciprocating or oscillating pushing or pulling means along a flexible member.

(1) Note. The flexible member may be a cable wire, or the like element which acts as either (1) a rail by having both ends fixed in position to thereby establish a predetermined pathway constraining the distributor as to the route it will travel or (2) a tether by having one end attached to the distributor and the other end fixed in position thereby constraining freedom of movement of the distributors about that fixed position.

SEE OR SEARCH THIS CLASS, SUBCLASS:

740, for a supply line traversing means on a guided translating pipeline type of distributor.

SEE OR SEARCH CLASS:

74, Machine Element or Mechanism, subclasses 126+ oscillating or reciprocating to intermittent unidirectional motion.

747 Fluid motor or spray fluid operated:

This subclass is indented under subclass 744. Apparatus having means responsive to the flow of fluid in the supply line or from its discharge from the egress line ports to cause movement of the distributor.

SEE OR SEARCH THIS CLASS, SUBCLASS:

237, for spray fluid motor drive means.

263, for fluid motive means for nontranslating distributors moving relative a base during spraying.

738, for a fluid motor or spray fluid operated propelled means on a pipeline type of mobile distributor.

SEE OR SEARCH CLASS:

91, Motors: Expansible Chamber Type, appropriate subclasses for a fluid operated expansible chamber motor, per se, which may be used to propel the distributor and for the combination of such a motor with a nominally recited distributor in the absence of claimed structure to discharge the motor exhaust fluid through the distributor.

415, Rotary Kinetic Fluid Motors or Pumps, appropriate subclasses for a fluid operated motor, per se, which may be used to propel the distributor and for the combination of such a motor with a nominally recited distributor in the absence of claimed structure to discharge the motor exhaust fluid through the distributor.

418, Rotary Expansible Chamber Devices, appropriate subclasses for a rotary expansible chamber motor, per se, which may be used to propel the distributor and for the combination of such a motor with a nominally recited distributor in the absence of claimed structure to discharge the motor exhaust fluid through the distributor.

748 Supply line traversing means:

This subclass is indented under subclass 743. Apparatus wherein the distributor is guided along a path established by the relative disposition of a fluid conducting conduit which furnishes fluid to the distributor.

SEE OR SEARCH THIS CLASS, SUBCLASS:

740, for supply line traversing means on pipeline distributors.

749 Hydrant coupling:

This subclass is indented under subclass 748. Apparatus wherein the supply line is provided with valved outlets spaced there along and the distributor has means to connect, in fluid conducting relationship with the outlets as it traverses along the supply line thereby providing fluid to the distributor.

SEE OR SEARCH THIS CLASS, SUBCLASS:

740, for pipeline distributors which may include hydrant coupling structure.

750 Track or guideway:

This subclass is indented under subclass 722. Apparatus having rail means or some predetermined and established pathway which constrains carrier as to the route it will travel.

SEE OR SEARCH THIS CLASS, SUBCLASS:

173+, for track guided mobile tank type sprayers.

724+, for mobile irrigators with track means associated with open type supply confirming means.

739+, for mobile pipeline irrigators which are track guided.

743+, for mobile irrigators in general which are track guided.

751 Overhead type:

This subclass is indented under subclass 750. Apparatus in which the track or guideway is for suspended distributing means supported therefrom and constrained to move therealong.

752 Reciprocating:
This subclass is indented under subclass 750. Apparatus in which the means mounting the distributing means travels back and forth along the rail or pathway means such that the limits of translation of the device are thereby defined.

753 With extensible support:
This subclass is indented under subclass 752. Apparatus in which the fluid spraying means is formed of sections such that the member can be elongated or projected and retracted relative the supporting carriage.

754 Jet directed toward or along supporting surface (e.g., lawn rake):
This subclass is indented under subclass 722. Apparatus wherein the vehicular means supports the distributor above a surface and a spray means is disclosed as adapted to direct a fluid jet across or against said supporting surface during translation of the support.

(1) Note. The supporting surface may be a lawn, floor, carpet, road, or the like.

CROSS-REFERENCE ART COLLECTIONS

900 ELECTROMAGNETICALLY ACTUATED FUEL INJECTOR HAVING BALL AND SEAT TYPE VALVE:
A collection of art disclosing useful details of electromagnetically actuated fuel injector valves having a spherical or part spherical surface cooperating with a valve seat.

END