

B05 SPRAYING OR ATOMISING IN GENERAL; APPLYING LIQUIDS OR OTHER FLUENT MATERIALS TO SURFACES, IN GENERAL (domestic cleaning A47L; cleaning in general by methods essentially involving the use or presence of liquid B08B 3/00; sand-blasting B24C; coating of articles during shaping of substances in a plastic state B29C 39/10, B29C 39/18, B29C 41/20, B29C 41/30, B29C 43/18, B29C 43/28, B29C 45/14, B29C 47/02; for further classification of forming layered products, see B32B; printing, copying B41; conveying articles or workpieces through baths of liquid B65G, e.g. B65G 49/02; handling webs or filaments in general B65H; surface treatment of glass by coating C03C 17/00, C03C 25/10; coating or impregnation of mortars, concrete, stone or ceramics C04B 41/45, C04B 41/61, C04B 41/81; paints, varnishes, lacquers C09D; enamelling of metals, applying a vitreous layer to metals, chemical cleaning or de-greasing of metallic objects C23; electroplating C25D; treating of textile materials by liquids, gases or vapours D06B; laundering D06F; treating roads E01C; apparatus or processes for the preparation or treatment of photosensitive materials G03; apparatus or processes, restricted to a purpose fully provided for in a single other class, see the relevant class covering the purpose) [2]

B05B SPRAYING APPARATUS; ATOMISING APPARATUS; NOZZLES (spray-mixers with nozzles B01F 5/20; processes for applying liquids or other fluent materials to surfaces by spraying B05D; means for pumping fluids F04; valves, e.g. water-taps, F16K) [2]

- (1) This subclass covers particularly apparatus for the release or projection of drops or droplets into the atmosphere or into a chamber to form a mist or the like. For this purpose, the materials to be projected may be suspended in a stream of gas or vapour. [2]
- (2) Attention is drawn to the Note following the title of class B05. [2]

APPARATUS CHARACTERISED BY THEIR
STRUCTURE..... 3/00, 9/00,
11/00

APPARATUS FOR DISCHARGE OF FLUIDS
FROM TWO OR MORE SOURCES 7/00

ELECTROSTATIC OR ELECTRIC
APPARATUS 5/00

APPARATUS CHARACTERISED BY
MANIPULATION THEREOF 11/00, 13/00

OTHER APPARATUS..... 17/00

OUTLETS OR OTHER DETAILS..... 1/00, 15/00

DELIVERY CONTROL..... 12/00

- 1/00 Nozzles, spray heads or other outlets, with or without auxiliary devices such as valves, heating means** (B05B 3/00, B05B 5/00, B05B 7/00 take precedence; devices for applying liquids or other fluent materials to surfaces by contact B05C; nozzles for ink-jet printing mechanisms B41J 2/135; closures for containers B65D; nozzles for liquid-dispensing, e.g. in vehicle service stations, B67D 5/37)
- 1/02 . designed to produce a jet, spray, or other discharge of particular shape or nature, e.g. in single drops (B05B 1/26, B05B 1/28, B05B 1/34 take precedence)
- 1/04 . . in flat form, e.g. fan-like, sheet-like
- 1/06 . . in annular, tubular or hollow conical form
- 1/08 . . of pulsating nature, e.g. delivering liquid in successive separate quantities
- 1/10 . . in the form of a fine jet, e.g. for use in wind-screen washers
- 1/12 . capable of producing different kinds of discharge, e.g. either jet or spray (B05B 1/16 takes precedence)
- 1/14 . with multiple outlet openings (B05B 1/02, B05B 1/26 take precedence); with strainers in or outside the outlet opening
- 1/16 . . having selectively-effective outlets
- 1/18 . . Roses; Shower heads
- 1/20 . . Perforated pipes or troughs, e.g. spray booms; Outlet elements therefor
- 1/22 . Spouts (anti-splash devices for water-taps E03C 1/08)

- 1/24 . incorporating means for heating the liquid or other fluent material, e.g. electrically
- 1/26 . with means for mechanically breaking-up or deflecting the jet after discharge, e.g. with fixed deflectors; Breaking-up the discharged liquid or other fluent material by impinging jets
- 1/28 . with integral means for shielding the discharged liquid or other fluent material, e.g. to limit area of spray; with integral means for catching drips or collecting surplus liquid or other fluent material (means for any of these purposes, per se, B05B 15/04)
- 1/30 . designed to control volume of flow, e.g. with adjustable passages (B05B 1/02 takes precedence)
- 1/32 . . in which a valve member forms part of the outlet opening
- 1/34 . designed to influence the nature of flow of the liquid or other fluent material, e.g. to produce swirl (B05B 1/30 takes precedence)
- 1/36 . Outlets for discharging by overflow
- 3/00 Spraying or sprinkling apparatus with moving outlet elements or moving deflecting elements** (B05B 5/00 takes precedence)
- 3/02 . with rotating elements
- 3/04 . . driven by the liquid or other fluent material discharged, e.g. the liquid actuating a motor before passing to the outlet
- 3/06 . . . by jet reaction

- 3/08 . . in association with stationary outlet or deflecting elements
- 3/10 . . discharging over substantially the whole periphery of the rotating member
- 3/12 . . with spray booms or the like rotating around an axis by means independent of the liquid or other fluent material discharged
- 3/14 . with oscillating elements; with intermittent operation
- 3/16 . . driven or controlled by the liquid or other fluent material discharged, e.g. the liquid actuating a motor before passing to the outlet
- 3/18 . with elements moving in a straight line, e.g. along a track; Mobile sprinklers [2]
- 5/00 Electrostatic spraying apparatus; Spraying apparatus with means for charging the spray electrically; Apparatus for spraying liquids or other fluent materials by other electric means**
- 5/025 . Discharge apparatus, e.g. electrostatic spray guns [5]
- 5/03 . . characterised by the use of gas [5]
- 5/035 . . characterised by gasless spraying [5]
- 5/04 . . characterised by having rotary outlet or deflecting elements
- 5/043 . . using induction-charging [5]
- 5/047 . . using tribo-charging [5]
- 5/053 . . Arrangements for supplying power, e.g. charging power [5]
- 5/057 . . Arrangements for discharging liquids or other fluent material without using a gun or nozzle [5]
- 5/06 . using electric arc
- 5/08 . Plant for applying liquids or other fluent materials to objects
- 5/10 . . Arrangements for supplying power, e.g. charging power (B05B 5/053 takes precedence) [5]
- 5/12 . . specially adapted for coating the interior of hollow bodies [5]
- 5/14 . . specially adapted for coating continuously moving elongated bodies, e.g. wires, strips, pipes [5]
- 5/16 . Arrangements for supplying liquids or other fluent material [5]
- 7/00 Spraying apparatus for discharge of liquids or other fluent materials from two or more sources, e.g. of liquid and air, of powder and gas** (B05B 3/00, B05B 5/00 take precedence; outlets not specially modified for two media B05B 1/00)
- 7/02 . Spray pistols; Apparatus for discharge (B05B 7/14, B05B 7/16, B05B 7/24 take precedence)
- 7/04 . . with arrangements for mixing liquids or other fluent materials before discharge (mixing in general B01F, e.g. B01F 5/00; mixing valves F16K 11/00) [2]
- 7/06 . . with one outlet orifice surrounding another approximately in the same plane (B05B 7/10 takes precedence)
- 7/08 . . with separate outlet orifices, e.g. to form parallel jets, to form intersecting jets
- 7/10 . . producing a swirling discharge
- 7/12 . . designed to control volume of flow, e.g. with adjustable passages
- 7/14 . designed for spraying particulate materials (B05B 7/16 takes precedence)
- 7/16 . incorporating means for heating the material to be sprayed
- 7/18 . . the material having originally the shape of a wire, rod, or the like
- 7/20 . . by flame or combustion
- 7/22 . . electrically, e.g. by arc
- 7/24 . with means, e.g. a container, for supplying liquid or other fluent material to a discharge device (B05B 7/14, B05B 7/16, B05B 11/00 take precedence)
- 7/26 . . Apparatus in which liquids or other fluent materials from different sources are brought together before entering the discharge device
- 7/28 . . . in which one liquid or other fluent material is fed or drawn through an orifice into a stream of a carrying fluid
- 7/30 the first liquid or other fluent material being fed by gravity, or sucked into the carrying fluid
- 7/32 the fed liquid or other fluent material being under pressure
- 9/00 Spraying apparatus for discharge of liquid or other fluent material without essentially mixing with gas or vapour** (B05B 11/00 takes precedence) [3]
- 9/01 . Spray pistols (B05B 9/03 takes precedence) [3]
- 9/03 . characterised by means for supplying liquid or other fluent material [3]
- 9/04 . . with pressurised or compressible container (aerosol containers B65D 83/14); with pump [3]
- 9/043 . . . having pump readily separable from container [2,3]
- 9/047 . . . supply being effected by follower in container, e.g. membrane or floating piston [2,3]
- 9/06 . . . the delivery being related to the movement of a vehicle, e.g. the pump being driven by a vehicle wheel [3]
- 9/08 . . . Apparatus to be carried on or by a person, e.g. of knapsack type (details or components, e.g. casings, bodies, of portable power-driven tools not particularly related to the operation performed B25F 5/00) [3,4]
- 11/00 Single-unit, i.e. unitary, hand-held apparatus in which flow of liquid or other fluent material is produced by the operator at the moment of use** [2]
- 11/02 . the flow being effected by a follower, e.g. membrane, floating piston, in container for liquid or other fluent material [2]
- 11/04 . the flow being effected by deformation of container for liquid or other fluent material [2]
- 11/06 . the spray being effected by gas or vapour flow, e.g. from a compressible bulb [2,3]
- 12/00 Arrangements or special adaptations of delivery controlling means in spraying systems** (controlling in general G05) [2]
- 12/02 . for controlling time, or sequence, of delivery [2]
- 12/04 . . for sequential operation or multiple outlets [2]
- 12/06 . . for effecting pulsating flow [2]
- 12/08 . responsive to condition of liquid or other fluent material discharged, of ambient medium or of target [2]
- 12/10 . . responsive to temperature or viscosity of liquid or other fluent material discharged [2]
- 12/12 . . responsive to conditions of ambient medium or target, e.g. humidity, temperature [2]
- 12/14 . for supplying a selected one of a plurality of liquids or other fluent materials to a single spray outlet [3]

- 13/00 Machines or plants for applying liquids or other fluent materials to surfaces of objects or other work by spraying, not covered by groups B05B 1/00 B05B 11/00** (processes for applying liquids or other fluent materials to surfaces in general B05D; means for supplying or discharging liquid or other fluent material for this purpose, see the relevant one of groups B05B 1/00 B05B 12/00) **[3]**
- 13/02 . Means for supporting work; Arrangement or mounting of spray heads; Adaptation or arrangement of means for feeding work (B05B 13/06 takes precedence)
- 13/04 . . the spray heads being moved during operation
- 13/06 . specially designed for treating the inside of hollow bodies (spray heads B05B 1/00 B05B 7/00)
- 15/00 Details of spraying plant or apparatus not otherwise provided for; Accessories** (accessories applicable to other methods of applying liquids or other fluent materials to surfaces B05C) **[4]**
- 15/02 . Arrangements or devices for cleaning discharge openings
- 15/04 . Control of spray area, e.g. masking, side shields; Means for collection or re-use of excess material (B05B 1/28 takes precedence)
- 15/06 . Mountings, supporting or holding means, or rests for spray heads or other outlets when in use or out of use (B05B 15/10 takes precedence)
- 15/08 . . Means for adjusting position of spray heads
- 15/10 . Arrangements for moving spray heads automatically to or from the working position
- 15/12 . Spray booths **[4]**
- 17/00 Apparatus for spraying or atomising liquids or other fluent materials, not covered by any other group of this subclass** (dropping or releasing powdered, liquid or gaseous matter in flight B64D 1/16) **[2]**
- 17/04 . operating with special methods
- 17/06 . . using ultrasonic vibrations
- 17/08 . Fountains (drinking fountains E03B 9/20; wash fountains E03C 1/16)