SECTION B — PERFORMING OPERATIONS; TRANSPORTING

B05 SPRAYING OR ATOMISING IN GENERAL; APPLYING LIQUIDS OR OTHER FLUENT MATERIALS TO SURFACES, IN GENERAL

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) **[2]**

Note(s)

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.

Subclass index

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; nozzles for liquid-dispensing, e.g. in vehicle service stations, B67D 7/42)

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

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)

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 **[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 **[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 [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 [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)