

CPC COOPERATIVE PATENT CLASSIFICATION

B PERFORMING OPERATIONS; TRANSPORTING

(NOTES omitted)

SEPARATING; MIXING

B08 CLEANING

B08B CLEANING IN GENERAL; PREVENTION OF FOULING IN GENERAL (brushes [A46](#); devices for domestic or like cleaning [A47L](#); {cleaning golf-clubs or golf accessories [A63B 57/60](#); cleaning grips of bats on rackets [A63B 60/36](#) } ; separation of particles from liquids or gases [B01D](#); separation of solids [B03](#), [B07](#); spraying or applying liquids or other fluent materials to surfaces in general [B05](#); cleaning devices for conveyors [B65G 45/10](#); concurrent cleaning, filling and closing of bottles [B67C 7/00](#); inhibiting corrosion or incrustation in general [C23](#); cleaning streets, permanent ways, beaches or land [E01H](#); parts, details or accessories of swimming or splash baths or pools, specially adapted for cleaning [E04H 4/16](#); preventing or removing electrostatic charges [H05F](#))

NOTE

This subclass covers only inventions relating to cleaning which are usually classified according to one (or more) of the aspects mentioned below if they are not fully classifiable in a subclass a subclass providing for any of the following aspects:

- the articles cleaned, e.g. bed-pans, urinal or other sanitary devices for bed-ridden persons [A61G 9/02](#), filters, semi-permeable membranes [B01D](#), castings and moulds [B22D 29/00](#), vehicles [B60S](#), coke ovens [C10B 43/00](#), building forms [E04G](#), boilers [F22](#), combustion apparatus [F23](#), furnaces [F27](#); the general nature of the cleaning, e.g. preparing for sugar manufacture [A23N](#), domestic cleaning [A47L](#), treatment of textiles [D06](#), laundry [D06F](#), air-conditioning [F24F](#);
- the particular operation performed, e.g. filtering [B01D](#), separating of solids [B03](#), [B07](#), sand-blasting [B24C](#);
- the particular apparatus or device, e.g. brushes [A46B](#), mops [A47L](#), centrifuges [B04](#), hand tools [B25](#) { devices for cleaning paint-applying hand tools after use [B44D 3/006](#) } ;
- the substance cleaned, e.g. metals [B21C](#), [C23](#), water [C02](#), glass [C03B](#), leather [C14B](#), textile fibres [D01](#);
- the substance removed (or prevented from depositing or forming) e.g. { removing paint [B44D 3/00](#), e.g. } implements or apparatus for removing dry paint from surfaces [B44D 3/16](#);
- chemical paint-removers [C09D 9/00](#);
- preventing rust [C23F](#);
- the substance used, e.g. macromolecular compounds or compositions [C08](#), anti-icing materials [C09K](#), detergents [C11D](#);
- the operation in connection with which cleaning is done, e.g. metal rolling [B21B](#), metal boring [B23B](#), soldering [B23K](#), textile fabrication [D01G](#), [D01H](#), [D03J](#), [D04B](#);
- the surroundings of a surface to be cleaned or kept clean, e.g. water in a boiler [C02F](#), air in a room [F24F](#).

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

<p>1/00 Cleaning by methods involving the use of tools, brushes, or analogous members (B08B 3/12, B08B 6/00 {, B08B 7/02}, B08B 9/00 take precedence)</p> <p>1/001 . {characterised by the type of cleaning tool}</p> <p>1/002 . . {Brushes}</p> <p>1/003 . . {Swabs}</p> <p>1/005 . . {Scrapers}</p> <p>1/006 . . {Wipes}</p> <p>1/007 . {having means to clean the cleaning members before, during or after use}</p> <p>1/008 . {using translating operative members}</p> <p>1/02 . Cleaning travelling work, e.g. a web, articles on a conveyor</p>	<p>1/04 . using rotary operative members (B08B 1/02 takes precedence)</p> <p>3/00 Cleaning by methods involving the use or presence of liquid or steam (B08B 9/00 takes precedence)</p> <p>3/003 . {Cleaning involving contact with foam}</p> <p>3/006 . {Cabinets or cupboards specially adapted for cleaning articles by hand}</p> <p>3/02 . Cleaning by the force of jets or sprays</p> <p>3/022 . . {Cleaning travelling work (B08B 3/042 takes precedence)}</p> <p>3/024 . . {Cleaning by means of spray elements moving over the surface to be cleaned}</p> <p>3/026 . . {Cleaning by making use of hand-held spray guns; Fluid preparations therefor}</p>
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- 3/028 . . . {Spray guns}
- WARNING**
- This group is no longer used for classification. Documents are in the process of being reclassified to subclass [B05B](#)
- 3/04 . Cleaning involving contact with liquid
- 3/041 . . {Cleaning travelling work}
- 3/042 . . . {the loose articles or bulk material travelling gradually through a drum or other container, e.g. by helix or gravity}
- 3/044 . . {using agitated containers in which the liquid and articles or material are placed (by means of ultrasonic vibrations [B08B 3/12](#); cleaning casks or barrels by agitating [B08B 9/0817](#); mixers with shaking, oscillating or vibrating mechanisms [B01F 11/00](#))}
- 3/045 . . {using perforated containers, e.g. baskets, or racks immersed and agitated in a liquid bath (using perforated drums [B08B 3/06](#))}
- 3/047 . . . {Containers specially adapted therefor}
- 3/048 . . {Overflow-type cleaning, e.g. tanks in which the liquid flows over the tank in which the articles are placed}
- 3/06 . . using perforated drums in which the article or material is placed ([B08B 3/042](#) takes precedence)}
- 3/08 . . the liquid having chemical or dissolving effect (substances used, [see the relevant classes](#))
- 3/10 . . with additional treatment of the liquid or of the object being cleaned, e.g. by heat, by electricity, by vibration
- 3/102 . . . {with means for agitating the liquid (by agitating the container [B08B 3/042](#), [B08B 3/044](#), [B08B 3/045](#), [B08B 3/06](#))}
- 3/104 {using propellers}
- 3/106 . . . {by boiling the liquid}
- 3/108 . . . {by lowering and raising the level of the cleaning liquid}
- 3/12 . . . by sonic or ultrasonic vibrations (washing or rinsing machines for crockery or tableware using sonic or ultrasonic waves [A47L 15/13](#); of natural teeth, of prostheses using ultrasonic techniques similar to those used for natural teeth [A61C 17/20](#); application of ultrasonic vibrations to chemical, physical, or physico-chemical processes in general [B01J 19/10](#))
- 3/123 {Cleaning travelling work, e.g. webs, articles on a conveyor (conveyors [B65G](#); handling webs [B65H](#))}
- 3/126 {in particular moving bottles}
- 3/14 . . . Removing waste, e.g. labels, from cleaning liquid; {Regenerating cleaning liquids} (treatment of water in general [C02F](#))
- 5/00 Cleaning by methods involving the use of air flow or gas flow ([B08B 6/00](#) takes precedence)**
- 5/02 . Cleaning by the force of jets, e.g. blowing-out cavities ({[airguns or nozzles per se B05B 1/005](#))}
- 5/023 . . {Cleaning travelling work}
- 5/026 . . . {Cleaning moving webs}
- 5/04 . Cleaning by suction, with or without auxiliary action ({[B08B 9/035](#) takes precedence; } suction cleaners [A47L](#))
- 5/043 . . {Cleaning travelling work}
- 5/046 . . . {Cleaning moving webs}
- 6/00 Cleaning by electrostatic means (domestic cleaning implements functioning electrostatically [A47L 13/40](#); cleaning of grooved record carriers [G11B 3/58](#))**
- 7/00 Cleaning by methods not provided for in a single other subclass or a single group in this subclass**
- 7/0007 . {by explosions}
- 7/0014 . {by incorporation in a layer which is removed with the contaminants}
- 7/0021 . {by liquid gases or supercritical fluids}
- 7/0028 . {by adhesive surfaces}
- 7/0035 . {by radiant energy, e.g. UV, laser, light beam or the like}
- 7/0042 . . {by laser}
- 7/005 . . {by infrared radiation}
- 7/0057 . . {by ultraviolet radiation}
- 7/0064 . {by temperature changes}
- 7/0071 . . {by heating ([B08B 7/0035](#) takes precedence)}
- 7/0078 . . . {in a fluidized bed}
- 7/0085 . . . {by pyrolysis}
- 7/0092 . . {by cooling}
- 7/02 . by distortion, beating, or vibration of the surface to be cleaned ({[B08B 7/0007](#) takes precedence)}
- 7/022 . . {Needle scalers}
- 7/024 . . {Rotary scalers}
- 7/026 . . {Using sound waves}
- 7/028 . . . {Using ultrasounds}
- 7/04 . by a combination of operations
- 9/00 Cleaning hollow articles by methods or apparatus specially adapted thereto ([B08B 3/12](#), [B08B 6/00](#) take precedence)**
- 9/02 . Cleaning pipes or tubes or systems of pipes or tubes (apparatus for cleaning metal pipes by chemical methods [C23G 3/04](#) ; removing obstructions in waste pipes or sinks [E03C 1/30](#); cleaning sewer pipes [E03F 9/00](#); cleaning boreholes or wells [E21B 37/00](#); cleaning furnace tubes, flues, chimneys [F23J 3/02](#); cleaning heat-transfer conduits, e.g. water tubes of boilers [F28G](#))
- 9/021 . . {Cleaning pipe ends or pipe fittings, e.g. before soldering (grinding tube ends [B24B 9/007](#))}
- 9/023 . . Cleaning the external surface ([B08B 9/021](#) takes precedence)
- 9/027 . . Cleaning the internal surfaces; Removal of blockages
- 9/032 . . . by the mechanical action of a moving fluid, e.g. by flushing ([B08B 9/04](#) takes precedence ; by fluid jets mounted on cleaning devices [B08B 9/0433](#))
- 9/0321 {using pressurised, pulsating or purging fluid ([E04F 17/126](#) takes precedence)}
- 9/0322 {in combination with a plug, e.g. inflatable mole, to isolate a part of the tube (plugging pigs for stopping flow in pipes [F16L 55/1283](#))}
- 9/0323 {Arrangements specially designed for simultaneous and parallel cleaning of a plurality of conduits}
- 9/0325 {Control mechanisms therefor}
- 9/0326 {Using pulsations}
- 9/0327 {the fluid being in the form of a mist}

- 9/0328 {by purging the pipe with a gas or a mixture of gas and liquid}
- 9/035 by suction
- 9/04 using cleaning devices introduced into and moved along the pipes
- 9/043 moved by externally powered mechanical linkage, e.g. pushed or drawn through the pipes
- 9/0433 {provided exclusively with fluid jets as cleaning tools}
- 9/0436 {provided with mechanical cleaning tools, e.g. scrapers, with or without additional fluid jets (B08B 9/045, B08B 9/047 take precedence)}
- 9/045 the cleaning devices being rotated while moved {, e.g. flexible rotating shaft or "snake"} (B08B 9/047 takes precedence)
- 9/047 the cleaning devices having {internal} motors {, e.g. turbines} for powering cleaning tools
- 9/049 having self-contained propelling means for moving the cleaning devices along the pipes {, i.e. self-propelled}
- 9/0492 {Heavy-type cleaning devices, e.g. crawlers with plural cleaning members (B08B 9/051 takes precedence)}
- 9/0495 {Nozzles propelled by fluid jets}
- 9/0497 {provided with additional mechanical cleaning tools}
- 9/051 the cleaning devices having {internal} motors {, e.g. turbines} for powering cleaning tools
- 9/053 moved along the pipes by a fluid, e.g. by fluid pressure or by suction
- 9/0535 {the cleaning device being restricted in its movement by a cable or the like}
- 9/055 the cleaning devices conforming to, or being conformable to, substantially the same cross-section of the pipes, {e.g. pigs or moles (pigs or moles per se F16L 55/26; their launching and detection F16L 55/46; separating pigs in pipelines F17D 3/00)}
- 9/0551 {Control mechanisms therefor}
- 9/0552 {Spherically shaped pigs}
- 9/0553 {Cylindrically shaped pigs}
- 9/0554 {Diablo shaped pigs}
- 9/0555 {Gelled or degradable pigs}
- 9/0556 {at least partially formed of a frozen liquid or gas}
- 9/0557 {Pigs with rings shaped cleaning members, e.g. cup shaped pigs}
- 9/0558 {with additional jet means}
- 9/057 the cleaning devices being entrained discrete elements, e.g. balls, grinding elements, brushes
- 9/08 Cleaning containers, e.g. tanks
- 9/0804 {Cleaning containers having tubular shape, e.g. casks, barrels, drums (B08B 9/20 take precedence)}
- 9/0808 {by methods involving the use of tools, e.g. by brushes, scrapers}
- 9/0813 {by the force of jets or sprays}
- 9/0817 {by agitating or tumbling containers filled with liquid or liquid and abrasive, e.g. chain}
- 9/0821 {Handling or manipulating containers, e.g. moving or rotating containers in cleaning devices, conveying to or from cleaning devices (B08B 9/20 takes precedence)}
- 9/0826 {the containers being brought to the cleaning device}
- 9/083 {Removing scrap from containers, e.g. removing labels}
- 9/0835 {Removing remnants of closures from bottle necks}
- 9/0839 {Cleaning milk churns (B08B 9/0804, B08B 9/20 take precedence)}
- 9/0843 {for large numbers of milk churns}
- 9/0848 {Devices for inverting or emptying milk churns, applying or unseating covers}
- 9/0852 {Drainage racks (see also A47J 47/20)}
- 9/0856 {Cleaning of water-treatment installations}
- 9/0861 {Cleaning crates, boxes or the like (B08B 9/083 takes precedence)}
- 9/0865 {by burning-out (B08B 9/40 takes precedence)}
- 9/087 by methods involving the use of tools, e.g. brushes, scrapers ({B08B 9/0808} , B08B 9/20 take precedence)
- 9/093 by the force of jets or sprays ((B08B 9/0813) , B08B 9/20 take precedence)
- 9/0933 {Removing sludge or the like from tank bottoms}
- 9/0936 {using rotating jets}
- 9/20 by using apparatus into or on to which containers, e.g. bottles, jars, cans are brought {(washing or rinsing crockery or tableware A47L 15/00)}
- 9/205 {Conveying containers to or from the cleaning machines}
- 9/22 the apparatus cleaning by soaking alone
- 9/24 and having conveyors
- 9/26 Rotating conveyors
- 9/28 the apparatus cleaning by splash, spray, or jet application, with or without soaking
- 9/283 {by gas jets}
- 9/286 {the gas being ionized}
- 9/30 and having conveyors
- 9/32 Rotating conveyors
- 9/34 Arrangements of conduits or nozzles
- 9/36 the apparatus cleaning by using brushes
- 9/38 the apparatus cleaning by using scrapers, chains, grains of shot, sand or other abrasive means (abrasive blasting in general B24C)
- 9/40 the apparatus cleaning by burning out
- 9/42 the apparatus being characterised by means for conveying or carrying containers therethrough
- 9/423 {Holders for bottles, cell construction}
- 9/426 {Grippers for bottles}
- 9/44 the means being for loading or unloading the apparatus
- 9/46 Inspecting cleaned containers for cleanliness
- 11/00 **Cleaning flexible or delicate articles by methods or apparatus specially adapted thereto (B08B 3/12, B08B 6/00 take precedence)**
- 11/02 Devices for holding articles during cleaning {(B08B 9/42 takes precedence)}

- 11/04 . specially adapted for plate glass, e.g. prior to manufacture of windshields ([cleaning the gap between permanently secured panes E06B 3/677](#))
- 13/00 Accessories or details of general applicability for machines or apparatus for cleaning**
- 15/00 Preventing escape of dirt or fumes from the area where they are produced; Collecting or removing dirt or fumes from that area (parts, details or accessories of cooking-vessels for withdrawing or condensing cooking vapours from such vessels [A47J 36/38](#); refuse disposal [B65F](#); devices for conducting smoke or fumes, e.g. flues, [F23J 11/00](#); removing cooking fumes from domestic stoves or ranges [F24C 15/20](#); air conditioning, ventilation [F24F](#))**
- 15/002 . {using a central suction system, e.g. for collecting exhaust gases in workshops (removing dust from textile machines [D01H 11/00](#); ventilation of mines, galleries or tunnels, e.g. traffic tunnels, [E21F 1/00](#)) }
- 15/005 . . {comprising a stationary main duct with one or more branch units, the branch units being freely movable along a sealed longitudinal slit in the main duct }
- 15/007 . {Fume suction nozzles arranged on a closed or semi-closed surface, e.g. on a circular, ring-shaped or rectangular surface adjacent the area where fumes are produced ([B08B 15/04](#) takes precedence) }
- 15/02 . using chambers or hoods covering the area {([B08B 15/002](#) takes precedence) }
- 15/023 . . {Fume cabinets or cupboards, e.g. for laboratories }
- 15/026 . . {Boxes for removal of dirt, e.g. for cleaning brakes, glove- boxes }
- 15/04 . from a small area, e.g. a tool {(removing chips [B23Q 11/0042](#)) }
- 17/00 Methods preventing fouling {(preventing accumulation of deposits in pneumatic conveyors [B65G 53/521](#)) }**
- 17/02 . Preventing deposition of fouling or of dust
- 17/025 . . {Prevention of fouling with liquids by means of devices for containing or collecting said liquids }
- 17/04 . . by using removable coverings
- 17/06 . . by giving articles subject to fouling a special shape or arrangement
- 17/065 . . . {the surface having a microscopic surface pattern to achieve the same effect as a lotus flower }
- 2203/00 Details of cleaning machines or methods involving the use or presence of liquid or steam**
- 2203/002 . the liquid being a degassed liquid
- 2203/005 . the liquid being ozonated
- 2203/007 . Heating the liquid
- 2203/02 . Details of machines or methods for cleaning by the force of jets or sprays
- 2203/0205 . . Bypass pressure relief valves
- 2203/0211 . . Case coverings
- 2203/0217 . . Use of a detergent in high pressure cleaners; arrangements for supplying the same
- 2203/0223 . . Electric motor pumps
- 2203/0229 . . Suction chambers for aspirating the sprayed liquid
- 2203/0235 . . Cooling the motor pump
- 2203/0241 . . Combustion motor pumps
- 2203/0247 . . Hose joints, e.g. quick joints, rotating joints
- 2203/0252 . . Ecological type pressure cleaners, e.g. by pressure intensifiers
- 2203/0258 . . Multiple lance high pressure cleaning station
- 2203/0264 . . Splash guards
- 2203/027 . . Pump details
- 2203/0276 . . Hose reels specific for high pressure cleaners
- 2203/0282 . . Safety devices
- 2203/0288 . . Ultra or megasonic jets
- 2203/0294 . . Wobbling swash plates for high pressure cleaners
- 2205/00 Details of machines or methods for cleaning by the use of gas or air flow**
- 2205/005 . Using the coanda effect of the gas flow/stream
- 2209/00 Details of machines or methods for cleaning hollow articles**
- 2209/005 . Use of ultrasonics or cavitation, e.g. as primary or secondary action
- 2209/02 . Details of apparatuses or methods for cleaning pipes or tubes
- 2209/022 . . making use of the reversal flow of the cleaning liquid
- 2209/024 . . by creating a shock wave in the cleaning liquid
- 2209/027 . . for cleaning the internal surfaces
- 2209/032 . . . by the mechanical action of a moving fluid
- 2209/04 . . . using cleaning devices introduced into and moved along the pipes
- 2209/045 Making cleaning devices buoyant within a pipeline to be cleaned
- 2209/053 being moved along the pipes by a fluid, e.g. by fluid pressure or by suction
- 2209/055 the cleaning devices conforming to, or being conformable to, substantially the same cross-section of the pipes, e.g. pigs or moles
- 2209/0553 Pigs provided with detection means
- 2209/0556 the detection means being magnets
- 2209/08 . Details of machines or methods for cleaning containers, e.g. tanks
- 2209/085 . . Cleaning flexible bags
- 2215/00 Preventing escape of dirt or fumes from the area where they are produced; Collecting or removing dirt or fumes from that area**
- 2215/003 . with the assistance of blowing nozzles
- 2215/006 . Suction tables
- 2220/00 Type of materials or objects being removed**
- 2220/01 . Adhesive materials
- 2220/02 . Chewing gum
- 2220/04 . Polymers
- 2230/00 Other cleaning aspects applicable to all [B08B](#) range**
- 2230/01 . Cleaning with steam
- 2240/00 Type of materials or objects being cleaned**
- 2240/02 . Optical fibers or optical fiber connectors