

CPC**COOPERATIVE PATENT CLASSIFICATION****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 57/0087](#) ; cleaning grips of bats on rackets [A63B 59/0062](#) } ; 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 conveyers [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 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 3/00 D](#) } ; 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](#) , H, [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](#) .

B08B 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)

B08B 1/001

. { characterised by the type of cleaning tool }

B08B 1/002

.. { Brushes }

B08B 1/003

.. { Swabs }

B08B 1/005

.. { Scrapers }

B08B 1/006

.. { Wipes }

B08B 1/007

. { having means to clean the cleaning members before, during or after use }

B08B 1/008

. { using translating operative members }

B08B 1/02

. Cleaning travelling work, e.g. a web, articles on a conveyer

B08B 1/04 . using rotary operative members ([B08B 1/02](#) takes precedence)

B08B 3/00 **Cleaning by methods involving the use or presence of liquid or steam** ([B08B 9/00](#) takes precedence)

B08B 3/003 . { Cleaning involving contact with foam }

B08B 3/006 . { Cabinets or cupboards specially adapted for cleaning articles by hand }

B08B 3/02 . Cleaning by the force of jets or sprays

B08B 3/022 .. { Cleaning travelling work ([B08B 3/042](#) takes precedence) }

B08B 3/024 .. { Cleaning by means of spray elements moving over the surface to be cleaned }

B08B 3/026 .. { Cleaning by making use of hand-held spray guns; Fluid preparations therefor }

B08B 3/028 ... { Spray guns }

WARNING

This group is no longer used for classification. Documents are in the process of being reclassified to subclass [B05B](#)

B08B 3/04 . Cleaning involving contact with liquid

B08B 3/041 .. { Cleaning travelling work }

B08B 3/042 ... { the loose articles or bulk material travelling gradually through a drum or other container, e.g. by helix or gravity }

B08B 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 9/12D](#) ; mixers with shaking, oscillating or vibrating mechanisms [B01F 11/00](#)) }

B08B 3/045 .. { using perforated containers, e.g. baskets, or racks immersed and agitated in a liquid bath (using perforated drums [B08B 3/06](#)) }

B08B 3/047 ... { Containers specially adapted therefor }

B08B 3/048 .. { Overflow-type cleaning, e.g. tanks in which the liquid flows over the tank in which the articles are placed }

B08B 3/06 .. using perforated drums in which the article or material is placed { ([B08B 3/042](#) takes precedence) }

B08B 3/08 .. the liquid having chemical or dissolving effect (substances used, see the relevant classes)

B08B 3/10 .. with additional treatment of the liquid or of the object being cleaned, e.g. by heat, by electricity, by vibration

B08B 3/102 ... { with means for agitating the liquid (by agitating the container [B08B 3/042](#) , [B08B 3/044](#) , [B08B 3/045](#) , [B08B 3/06](#)) }

B08B 3/104 { using propellers }

B08B 3/106 ... { by boiling the liquid }

B08B 3/108 ... { by lowering and raising the level of the cleaning liquid }

B08B 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](#))
- B08B 3/123 { Cleaning travelling work, e.g. webs, articles on a conveyer (conveyers [B65G](#) ; handling webs [B65H](#)) }
- B08B 3/126 { in particular moving bottles }
- B08B 3/14 . . . Removing waste, e.g. labels, from cleaning liquid; { Regenerating cleaning liquids } (treatment of water in general [C02F](#))
- B08B 5/00** **Cleaning by methods involving the use of air flow or gas flow ([B08B 6/00](#) takes precedence)**
- B08B 5/02 . Cleaning by the force of jets, e.g. blowing-out cavities { ([airguns or nozzles per se B05B 1/005](#)) }
- B08B 5/023 . . { Cleaning travelling work }
- B08B 5/026 . . . { Cleaning moving webs }
- B08B 5/04 . Cleaning by suction, with or without auxiliary action ({ [B08B 9/03](#) takes precedence; } (suction cleaners [A47L](#)))
- B08B 5/043 . . { Cleaning travelling work }
- B08B 5/046 . . . { Cleaning moving webs }
- B08B 6/00** **Cleaning by electrostatic means (domestic cleaning implements functioning electrostatically [A47L 13/40](#) ; cleaning of grooved record carriers [G11B 3/58](#))**
- B08B 7/00** **Cleaning by methods not provided for in a single other subclass or a single group in this subclass**
- B08B 7/0007 . { by explosions }
- B08B 7/0014 . { by incorporation in a layer which is removed with the contaminants }
- B08B 7/0021 . { by liquid gases or supercritical fluids }
- B08B 7/0028 . { by adhesive surfaces }
- B08B 7/0035 . { by radiant energy, e.g. UV, laser, light beam or the like }
- B08B 7/0042 . . { by laser }
- B08B 7/005 . . { by infrared radiation }
- B08B 7/0057 . . { by ultraviolet radiation }
- B08B 7/0064 . { by temperature changes }
- B08B 7/0071 . . { by heating ([B08B 7/0035](#) takes precedence) }
- B08B 7/0078 . . . { in a fluidized bed }
- B08B 7/0085 . . . { by pyrolysis }
- B08B 7/0092 . . { by cooling }
- B08B 7/02 . by distortion, beating, or vibration of the surface to be cleaned { ([B08B 7/0007](#) takes precedence) }

- B08B 7/022 . . { Needle scalers }
- B08B 7/024 . . { Rotary scalers }
- B08B 7/026 . . { Using sound waves }
- B08B 7/028 . . . { Using ultrasounds }
- B08B 7/04 . by a combination of operations

B08B 9/00 **Cleaning hollow articles by methods or apparatus specially adapted thereto ([B08B 3/12](#) , [B08B 6/00](#) take precedence)**

- B08B 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](#) })
- B08B 9/021 . . { Cleaning pipe ends or pipe fittings, e.g. before soldering ([grinding tube ends B24B 9/007](#)) }
- B08B 9/023 . . Cleaning the external surface ([B08B 9/021](#) takes precedence)
- B08B 9/027 . . Cleaning the internal surfaces ; Removal of blockages
- B08B 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](#) })
- B08B 9/0321 { using pressurised, pulsating or purging fluid ([E04F 17/12B](#) takes precedence) }
- B08B 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](#)) }
- B08B 9/0323 { Arrangements specially designed for simultaneous and parallel cleaning of a plurality of conduits }
- B08B 9/0325 { Control mechanisms therefor }
- B08B 9/0326 { Using pulsations }
- B08B 9/0327 { the fluid being in the form of a mist }
- B08B 9/0328 { by purging the pipe with a gas or a mixture of gas and liquid }
- B08B 9/035 by suction
- B08B 9/04 . . . using cleaning devices introduced into and moved along the pipes

WARNING

Group [B08B 9/04](#) and subgroups are not complete. See also [B08B 9/02](#) and subgroups

- B08B 9/043 moved by externally powered mechanical linkage, e.g. pushed or drawn through the pipes
- B08B 9/0433 { provided exclusively with fluid jets as cleaning tools }
- B08B 9/0436 { provided with mechanical cleaning tools, e.g. scrapers, with or without additional fluid jets ([B08B 9/045](#) , [B08B 9/047](#) take precedence) }
- B08B 9/045 the cleaning devices being rotated while moved { , e.g. flexible rotating shaft or "snake" } ([B08B 9/047](#) takes precedence)
- B08B 9/047 the cleaning devices having { internal } motors [e.g. turbines] for powering cleaning tools
- B08B 9/049 having self-contained propelling means for moving the cleaning devices

- along the pipes { i.e. self-propelled }
- B08B 9/0492 { Heavy-type cleaning devices, e.g. crawlers with plural cleaning members ([B08B 9/051](#) takes precedence) }
- B08B 9/0495 { Nozzles propelled by fluid jets }
- B08B 9/0497 { provided with additional mechanical cleaning tools }
- B08B 9/051 the cleaning devices having { internal } motors [e.g. turbines] for powering cleaning tools
- B08B 9/053 moved along the pipes by a fluid, e.g. by fluid pressure or by suction
- B08B 9/0535 { the cleaning device being restricted in its movement by a cable or the like }
- B08B 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](#)) }
- B08B 9/0551 { Control mechanisms therefor }
- B08B 9/0552 { Spherically shaped pigs }
- B08B 9/0553 { Cylindrically shaped pigs }
- B08B 9/0554 { Diablo shaped pigs }
- B08B 9/0555 { Gelled or degradable pigs }
- B08B 9/0556 { at least partially formed of a frozen liquid or gas }
- B08B 9/0557 { Pigs with rings shaped cleaning members, e.g. cup shaped pigs }
- B08B 9/0558 { with additional jet means }
- B08B 9/057 the cleaning devices being entrained discrete elements, e.g. balls, grinding elements, brushes
- B08B 9/08 . Cleaning containers, e.g. tanks
- B08B 9/0804 .. { Cleaning containers having tubular shape, e.g. casks, barrels, drums ([B08B 9/20](#) take precedence) }
- B08B 9/0808 ... { by methods involving the use of tools, e.g. by brushes, scrapers }
- B08B 9/0813 ... { by the force of jets or sprays }
- B08B 9/0817 ... { by agitating or tumbling containers filled with liquid or liquid and abrasive, e.g. chain }
- B08B 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) }
- B08B 9/0826 ... { the containers being brought to the cleaning device }
- B08B 9/083 .. { Removing scrap from containers, e.g. removing labels }
- B08B 9/0835 ... { Removing remnants of closures from bottle necks }
- B08B 9/0839 .. { Cleaning milk churns ([B08B 9/0804](#) , [B08B 9/20](#) take precedence) }
- B08B 9/0843 ... { for large numbers of milk churns }
- B08B 9/0848 ... { Devices for inverting or emptying milk churns, applying or unseating covers }
- B08B 9/0852 .. { Drainage racks (see also [A47J 47/20](#)) }
- B08B 9/0856 .. { Cleaning of water-treatment installations }
- B08B 9/0861 .. { Cleaning crates, boxes or the like ([B08B 9/083](#) takes precedence) }
- B08B 9/0865 .. { by burning-out ([B08B 9/40](#) takes precedence) }
- B08B 9/087 .. by methods involving the use of tools, e.g. brushes, scrapers ({ [B08B 9/0808](#) } ,

- [B08B 9/20](#) take precedence)
- [B08B 9/093](#) . . by the force of jets or sprays ({ [B08B 9/0813](#) } , [B08B 9/20](#) take precedence)
- [B08B 9/0933](#) . . . { Removing sludge or the like from tank bottoms }
- [B08B 9/0936](#) . . . { using rotating jets }
- [B08B 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](#)) }
- [B08B 9/205](#) . . . { Conveying containers to or from the cleaning machines }
- [B08B 9/22](#) . . . the apparatus cleaning by soaking alone
- [B08B 9/24](#) and having conveyers
- [B08B 9/26](#) Rotating conveyers
- [B08B 9/28](#) . . . the apparatus cleaning by splash, spray, or jet application, with or without soaking
- [B08B 9/283](#) { by gas jets }
- [B08B 9/286](#) { the gas being ionized }
- [B08B 9/30](#) and having conveyers
- [B08B 9/32](#) Rotating conveyers
- [B08B 9/34](#) Arrangements of conduits or nozzles
- [B08B 9/36](#) . . . the apparatus cleaning by using brushes
- [B08B 9/38](#) . . . the apparatus cleaning by using scrapers, chains, grains of shot, sand or other abrasive means ([abrasive blasting in general B24C](#))
- [B08B 9/40](#) . . . the apparatus cleaning by burning out
- [B08B 9/42](#) . . . the apparatus being characterised by means for conveying or carrying containers therethrough
- [B08B 9/423](#) { Holders for bottles, cell construction }
- [B08B 9/426](#) { Grippers for bottles }
- [B08B 9/44](#) . . . the means being for loading or unloading the apparatus
- [B08B 9/46](#) . . Inspecting cleaned containers for cleanliness
- [B08B 11/00](#)** **Cleaning flexible or delicate articles by methods or apparatus specially adapted thereto ([B08B 3/12](#) , [B08B 6/00](#) take precedence)**
- [B08B 11/02](#) . Devices for holding articles during cleaning { ([B08B 9/42](#) takes precedence) }
- [B08B 11/04](#) . specially adapted for plate glass, e.g. prior to manufacture of windshields ([cleaning the gap between permanently secured panes E06B 3/677](#))
- [B08B 13/00](#)** **Accessories or details of general applicability for machines or apparatus for cleaning**
- [B08B 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](#))**
- [B08B 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](#)) }
- [B08B 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 }
- [B08B 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) }
- [B08B 15/02](#) . using chambers or hoods covering the area { ([B08B 15/002](#) takes precedence) }
- [B08B 15/023](#) . . { Fume cabinets or cupboards, e.g. for laboratories }
- [B08B 15/026](#) . . { Boxes for removal of dirt, e.g. for cleaning brakes, glove- boxes }
- [B08B 15/04](#) . from a small area, e.g. a tool { (removing chips [B23Q 11/0042](#)) }
- [B08B 17/00](#)** **Methods preventing fouling** { (preventing accumulation of deposits in pneumatic conveyers [B65G 53/521](#)) }
- [B08B 17/02](#) . Preventing deposition of fouling or of dust
- [B08B 17/025](#) . . { Prevention of fouling with liquids by means of devices for containing or collecting said liquids }
- [B08B 17/04](#) . . by using removable coverings
- [B08B 17/06](#) . . by giving articles subject to fouling a special shape or arrangement
- [B08B 17/065](#) . . . { the surface having a microscopic surface pattern to achieve the same effect as a lotus flower }
- [B08B 2200/00](#)** **Dummy title**
- [B08B 2203/00](#)** **Details of cleaning machines or methods involving the use or presence of liquid or steam**
- [B08B 2203/002](#) . the liquid being a degassed liquid
- [B08B 2203/005](#) . the liquid being ozonated
- [B08B 2203/007](#) . Heating the liquid
- [B08B 2203/02](#) . Details of machines or methods for cleaning by the force of jets or sprays
- [B08B 2203/0205](#) . . Bypass pressure relief valves
- [B08B 2203/0211](#) . . Case coverings
- [B08B 2203/0217](#) . . Use of a detergent in high pressure cleaners ; arrangements for supplying the same
- [B08B 2203/0223](#) . . Electric motor pumps
- [B08B 2203/0229](#) . . Suction chambers for aspirating the sprayed liquid
- [B08B 2203/0235](#) . . Cooling the motor pump
- [B08B 2203/0241](#) . . Combustion motor pumps
- [B08B 2203/0247](#) . . Hose joints, e.g. quick joints, rotating joints

- B08B 2203/0252 . . Ecological type pressure cleaners, e.g. by pressure intensifiers
- B08B 2203/0258 . . Multiple lance high pressure cleaning station
- B08B 2203/0264 . . Splash guards
- B08B 2203/027 . . Pump details
- B08B 2203/0276 . . Hose reels specific for high pressure cleaners
- B08B 2203/0282 . . Safety devices
- B08B 2203/0288 . . Ultra or megasonic jets
- B08B 2203/0294 . . Wobbling swash plates for high pressure cleaners

B08B 2205/00 Details of machines or methods for cleaning by the use of gas or air flow

- B08B 2205/005 . Using the coanda effect of the gas flow/stream

B08B 2209/00 Details of machines or methods for cleaning hollow articles

- B08B 2209/005 . Use of ultrasonics or cavitation, e.g. as primary or secondary action
- B08B 2209/02 . Details of apparatuses or methods for cleaning pipes or tubes
- B08B 2209/022 . . making use of the reversal flow of the cleaning liquid
- B08B 2209/024 . . by creating a shock wave in the cleaning liquid
- B08B 2209/027 . . for cleaning the internal surfaces
- B08B 2209/032 . . . by the mechanical action of a moving fluid
- B08B 2209/04 . . . using cleaning devices introduced into and moved along the pipes
- B08B 2209/045 Making cleaning devices buoyant within a pipeline to be cleaned
- B08B 2209/053 being moved along the pipes by a fluid, e.g. by fluid pressure or by suction
- B08B 2209/055 the cleaning devices conforming to, or being conformable to, substantially the same cross-section of the pipes, e.g. pigs or moles
- B08B 2209/0553 Pigs provided with detection means
- B08B 2209/0556 the detection means being magnets
- B08B 2209/08 . Details of machines or methods for cleaning containers, e.g. tanks
- B08B 2209/085 . . Cleaning flexible bags

B08B 2215/00 Preventing escape of dirt or fumes from the area where they are produced ; Collecting or removing dirt or fumes from that area

- B08B 2215/003 . with the assistance of blowing nozzles
- B08B 2215/006 . Suction tables

B08B 2220/00 Type of materials or objects being removed

- B08B 2220/01 . Adhesive materials
- B08B 2220/02 . Chewing gum

[B08B 2220/04](#) . Polymers

[B08B 2230/00](#) **Other cleaning aspects applicable to all [B08B](#) range**

[B08B 2230/01](#) . Cleaning with steam

[B08B 2240/00](#) **Type of materials or objects being cleaned**

[B08B 2240/02](#) . Optical fibers or optical fiber connectors