

CPC COOPERATIVE PATENT CLASSIFICATION

E FIXED CONSTRUCTIONS

BUILDING

E03 WATER SUPPLY; SEWERAGE

E03D WATER-CLOSETS OR URINALS WITH FLUSHING DEVICES; FLUSHING VALVES THEREFOR

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| 1/00 | Water flushing devices with cisterns{; Setting up a range of flushing devices or water-closets; Combinations of several flushing devices} | 1/145 | {having multiple flush outlets} |
| 1/003 | . {Cisterns in combination with wash-basins, urinals, or the like (domestic plumbing installations E03C)} | 2001/147 | . . . {having provisions for active interruption of flushing} |
| 1/006 | . {Realisations of and provisions for preventing "sweating" of cisterns} | 2001/148 | {with means to prevent premature closing of flushing valve} |
| 1/01 | . Shape or selection of material for flushing cisterns | 1/16 | . . Cisterns for periodical discharge |
| 1/012 | . . Details of shape of cisterns, e.g. for connecting to wall, for supporting or connecting flushing-device actuators {(mounting frames with incorporated cisterns E03D 11/146)} | 1/165 | . . . {with bell or tube siphons} |
| 1/0125 | . . . {of built-in cisterns} | 1/18 | . . Cisterns empty when not in action{, e.g. with pressure tanks, with swivel-mounted cisterns} |
| 1/02 | . High-level flushing systems | 1/183 | . . . {with bell or tube siphons} |
| 1/025 | . . {Cisterns with floats actuating the flushing} | 1/186 | . . . {with flushing valves} |
| 1/04 | . . Cisterns with bell siphons | 1/20 | . . Cisterns with tiltably-mounted containers {(for operation, e.g. by the seat E03D 5/04)} |
| 1/05 | . . . with movable siphon bells | 1/22 | . . Twin or multiple flushing cisterns |
| 1/053 | {which are pushed upwards by means of own buoyancy, springs, counterweights, or the like} | 1/24 | . Low-level flushing systems |
| 1/056 | {providing an air lock} | 1/26 | . . Bowl with flushing cistern mounted on the rearwardly extending end of the bowl (shape or material of the cistern E03D 1/01 ; constructional features of the bowl E03D 11/02 - E03D 11/12) |
| 1/06 | . . Cisterns with tube siphons | 1/263 | . . . {provided with a bell or tube siphon} |
| 1/07 | . . . with movable or deformable siphon tubes | 1/266 | . . . {exclusively provided with flushing valves as flushing mechanisms} |
| 1/08 | . . . Siphon action initiated by air or water pressure {(actuating mechanisms therefor E03D 5/024)} | 1/28 | . . Bowl integral with the flushing cistern |
| 1/082 | {in tube siphons} | 1/283 | . . . {provided with a bell or tube siphon} |
| 1/085 | {by injection of air or water in the short leg of the siphon} | 1/286 | . . . {provided with flushing valves} |
| 1/087 | {by pump, valve, or the like, in the short leg of the siphon or a vacuum pump in the long leg of the siphon} | 1/30 | . Valves for high or low level cisterns; Their arrangement (inlet valves, valves in general F16K) {Flushing mechanisms in the cistern, optionally with provisions for a pre- or a post- flushing and for cutting off the flushing mechanism in case of leakage (flushing valves E03D 1/142, E03D 1/186, E03D 1/266, E03D 1/286)} |
| 1/10 | . . . Siphon action initiated by raising the water level in the cistern, e.g. by means of displacement members | 1/302 | . . {with valves kept in open position by means of air or water pressure or by vacuum} |
| 1/105 | {in cisterns with tube siphons} | 1/304 | . . {with valves with own buoyancy} |
| 1/12 | . . . Siphon action initiated by outlet of air | 1/306 | . . . {with articulated valves} |
| 1/125 | {in cisterns with tube siphons} | 1/308 | . . {with articulated valves (E03D 1/306 takes precedence)} |
| 1/14 | . . Cisterns discharging variable quantities of water (twin or multiple flushing cisterns E03D 1/22 ; flushing devices operated by pressure of the water supply system and discharging variable quantities of water E03D 3/12) {also cisterns with bell siphons in combination with flushing valves} | 1/32 | . . Arrangement of inlet valves (devices for reducing noise E03D 9/14 {; noise-reducing means E03D 11/00 }) |
| 1/141 | . . . {in cisterns with tube siphons and with tube siphons in combination with flushing valves} | 1/33 | . . Adaptations or arrangements of floats (actuating-floats in general F16K 33/00) |
| 1/142 | . . . {in cisterns with flushing valves} | 1/34 | . . Flushing valves for outlets; Arrangement of outlet valves |
| 1/144 | {having a single flush outlet and an additional float for delaying the valve closure} | 1/35 | . . . Flushing valves having buoyancy |
| | | 1/36 | . . Associated working of inlet and outlet valves |

- 1/38 . Adaptations or arrangements of flushing pipes ([noise-absorbing means in pipe systems F16L 55/00](#) {; [noise-reducing means in the flushing mechanism not in combination with flushing valves E03D 11/00](#); provisions in the flushing pipe for evacuating leakage water from the cistern))
- 3/00 Flushing devices operated by pressure of the water supply system {flushing valves not connected to the water-supply main, also if air is blown in the water seal for a quick flushing}**
- 3/02 . Self-closing flushing valves ([self-closing valves in general F16K 21/04](#))
- 3/04 . . with piston valve and pressure chamber for retarding the valve-closing movement
- 3/06 . . with diaphragm valve and pressure chamber for retarding the valve-closing movement
- 3/08 . . with other retarding devices
- 3/10 . Flushing devices with pressure-operated reservoir, e.g. air chamber
- 3/12 . Flushing devices discharging variable quantities of water ([flushing cisterns discharging variable quantities of water E03D 1/14](#))
- 5/00 Special constructions of flushing devices (in motor vehicles or trailers [B60R 15/00](#); in railway carriages [B61D 35/00](#); in ships [B63B 29/14](#); in aircraft [B64D 11/02](#)), {e.g. closed flushing system}**
- 5/003 . {Grey water flushing systems}
- 5/006 . . {Constructional details of cisterns for using greywater}
- 5/01 . using flushing pumps
- 5/012 . combined with movable closure elements in the bowl outlet ([bowls with closure elements between bottom or outlet and outlet pipe E03D 11/10](#))
- 5/014 . . with devices for separate removal of liquids and solids
- 5/016 . with recirculation of bowl-cleaning fluid
- 5/02 . operated mechanically or hydraulically ([E03D 5/01](#), [E03D 5/12 take precedence](#)) {(or pneumatically) also details such as push buttons, levers and pull-card therefor}
- 5/022 . . {Operating automatically ([E03D 5/10 takes precedence](#))}
- 5/024 . . {Operated hydraulically or pneumatically}
- 5/026 . . {Devices preventing overflow or locks inhibiting the use of the flushing system ([devices preventing overflow of the bowl contents and seals for the bowl outlet E03D 11/00](#)); Devices preventing sucking-up of sealing and flushing water}
- 5/028 . . {Pusher plates and actuating mechanisms for built-in cisterns}
- 5/04 . . directly by the seat or cover {combined with devices for opening and closing shutters in the bowl outlet and/or with devices for raising and lowering seat or cover; Raising or lowering seat and/or cover by flushing or by the flushing mechanism}
- 5/06 . . directly by the door
- 5/08 . . directly by the foot {combined with devices for opening or closing shutters in the bowl outlet and/or with devices for raising or lowering seat and cover and/or for swiveling the bowl}
- 5/09 . . directly by the hand
- 5/092 . . . the flushing element, e.g. siphon bell, being actuated through a lever
- 5/094 . . . the flushing element, e.g. siphon bell, being actuated through a cable, chain or the like
- 5/10 . operated electrically ([E03D 5/01](#), [E03D 5/12 take precedence](#)), {e.g. by a photo-cell; also combined with devices for opening or closing shutters in the bowl outlet and/or with devices for raising/or lowering seat and cover and/or for swiveling the bowl}
- 5/105 . . {touchless, e.g. using sensors}
- 5/12 . discharging periodically ([high-level cisterns for periodical discharge E03D 1/16](#))
- 7/00 Wheeled lavatories (wheeled closets without flushing [A47K 11/00](#); construction of land vehicles [B62](#))**
- 9/00 Sanitary or other accessories for lavatories (hand tools for cleaning the toilets bowl [A47K 11/10](#); seats or covers for closets [A47K 13/00](#); body supports, other than seats for closets [A47K 17/02](#); devices for preventing contamination of drinking-water pipes [E03C 1/10](#)) {Devices for cleaning or disinfecting the toilet room or the toilet bowl; Devices for eliminating smells (cleaning, disinfecting or deodorising the seat [A47K 13/30](#))}**
- 9/002 . {Automatic cleaning devices}
- 9/005 . {Devices adding disinfecting or deodorising agents to the bowl}
- 9/007 . {Devices for eliminating smells by diffusing deodorants in lavatories}
- 9/02 . Devices adding a disinfecting, deodorising, or cleaning agent to the water while flushing ([apparatus for disinfection A61L 2/00](#); treatment of water in general [C02F](#))
- 9/022 . . {consisting of solid substances introduced in the bowl or the supply line}
- 2009/024 . . {using a solid substance}
- 2009/026 . . {using a gel-form substance}
- 2009/028 . . {using a liquid substance}
- 9/03 . . consisting of a separate container with an outlet through which the agent is introduced into the flushing water, e.g. by suction {; Devices for agents in direct contact with flushing water}
- 9/031 . . . {Devices connected to or dispensing into the flushing pipe}
- 9/032 . . . {Devices connected to or dispensing into the bowl}
- 9/033 . . . {Devices placed inside or dispensing into the cistern}
- 9/035 {Devices connected to the actuation mechanism ([E03D 9/036 takes precedence](#))}
- 9/036 {Scoop-like devices}
- 9/037 {Active dispensers, i.e. comprising a moving dosing element ([E03D 9/035 takes precedence](#))}
- 9/038 {Passive dispensers, i.e. without moving parts}
- 9/04 . Special arrangement or operation of ventilating devices ([ventilating rooms in general F24F](#))
- 9/05 . . ventilating the bowl
- 9/052 . . . using incorporated fans

- 9/06 . Auxiliary chambers with water connection to the flushing pipe and adapted to receive utensils for bowl-cleaning, e.g. brushes
- 9/08 . Devices in the bowl producing upwardly-directed sprays; Modifications of the bowl for use with such devices ([showers A47K 3/28](#); [bathing devices for special therapeutic or hygienic purposes A61H 33/00](#), for specific parts of the body [A61H 35/00](#)) {; Bidets; Combinations of bowls with urinals or bidets; Hot-air or other devices mounted in or on the bowl, urinal or bidet for cleaning or disinfecting}
- 9/085 . . {Hand-held spray heads for bidet use or for cleaning the bowl}
- 9/10 . Waste-disintegrating apparatus combined with the bowl {(special flushing devices [E03D 5/00](#))}
- 9/12 . Means to prevent freezing of lavatories
- 9/14 . Noise-reducing means combined with flushing valves (noise-absorbing means in pipe systems [F16L 55/00](#) {; if not in combination with flushing valves [E03D 11/00](#); noise-reducing means in valves in general [F16K 47/00](#))}
- 9/16 . Water pressure regulating means in flushing pipes
- 11/00 Other component parts of water-closets (pipe-joints or couplings in general [F16L](#)) {, e.g. noise-reducing means in the flushing system (noise-reducing means in combination with flushing valves [E03D 9/14](#)), flushing pipes mounted in the bowl, seals for the bowl outlet, devices preventing overflow of the bowl contents; devices forming a water seal in the bowl after flushing, devices eliminating obstructions in the bowl outlet or preventing backflow of water and excrements from the waterpipe}**
- 11/02 . Water-closet bowls (auxiliary chambers with connections to flushing water for bowl-cleaning utensils [E03D 9/06](#); modified for using upwardly-directed sprays [E03D 9/08](#); seats or covers [A47K 13/00](#)) {Bowls with a double odour seal optionally with provisions for a good siphonic action; siphons as part of the bowl (parts or details of bowls [E03D 11/13](#))}
- 11/025 . . {Combined with wash-basins, urinals, flushing devices for chamber-pots, bed-pans, or the like}
- 11/04 . . Bowls of flat shape with only slightly inclined bottom {Squat-type closets}
- 11/06 . . Bowls with downwardly-extending flanges {for the sake of flushing}
- 11/08 . . Bowls with means producing a flushing water swirl
- 11/10 . . Bowls with closure elements provided between bottom or outlet and the outlet pipe; Bowls with pivotally supported inserts
- 11/11 . . Bowls combined with a reservoir, e.g. containing apparatus for disinfecting or for disintegrating
- 11/12 . Swivel-mounted bowls, e.g. for use in restricted spaces {slidably or movably mounted bowls; combinations with flushing and disinfecting devices actuated by the swiveling or sliding movement of the bowl}
- 11/125 . . {Height adjustable bowls}
- 11/13 . Parts or details of bowls; Special adaptations of pipe joints or couplings for use with bowls {, e.g. provisions in bowl construction preventing backflow of waste-water from the bowl in the flushing pipe or cistern, provisions for a secondary flushing, for noise-reducing}
- 11/135 . . {Supports for bowls}
- 11/14 . . Means for connecting the bowl to the wall, e.g. to a wall outlet
- 11/143 . . . {Mounting frames for toilets and urinals}
- 11/146 {with incorporated cistern (wall built-in flushing cisterns, connecting a cistern to the wall [E03D 1/012](#))}
- 11/16 . . Means for connecting the bowl to the floor, e.g. to a floor outlet
- 11/17 . . Means for connecting the bowl to the flushing pipe
- 11/18 . Siphons (for pipes in general [F16L 43/00](#), [F16L 45/00](#) {; if as part of the bowl [E03D 11/02](#); connecting the siphon to the bowl})
- 13/00 Urinals (without flushing devices [A47K 11/00](#)) {Means for connecting the urinal to the flushing pipe and the wastepipe; Splashing shields for urinals}**
- 13/002 . {intended for use by women}
- 13/005 . {Accessories specially adapted for urinals}
- 13/007 . {Waterless or low-flush urinals}; Accessories therefor ([siphons E03C 1/281](#))
- 2201/00 Details and methods of use for water closets and urinals not otherwise provided for**
- 2201/20 . Noise reduction features
- 2201/30 . Water injection in siphon for enhancing flushing
- 2201/40 . Devices for distribution of flush water inside the bowl