

CPC**COOPERATIVE PATENT CLASSIFICATION****E03D****WATER-CLOSETS OR URINALS WITH FLUSHING DEVICES;
FLUSHING VALVES THEREFOR****E03D 1/00**

Water flushing devices with cisterns; { Setting up a range of flushing devices or water-closets; Combinations of several flushing devices }

E03D 1/003

. { Cisterns in combination with wash-basins, urinals, or the like (domestic plumbing installations [E03C](#)) }

E03D 1/006

. { Realisations of and provisions for preventing "sweating" of cisterns }

E03D 1/01

. Shape or selection of material for flushing cisterns

E03D 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](#)) }

E03D 1/0125

... { of built-in cisterns }

E03D 1/02

. High-level flushing systems

E03D 1/025

.. { Cisterns with floats actuating the flushing }

E03D 1/04

.. Cisterns with bell siphons

E03D 1/05

... with movable siphon bells

E03D 1/053

.... { which are pushed upwards by means of own buoyancy, springs, counterweights, or the like }

E03D 1/056

.... { providing an air lock }

E03D 1/06

.. Cisterns with tube siphons

E03D 1/07

... with movable or deformable siphon tubes

E03D 1/08

... Siphon action initiated by air or water pressure { (actuating mechanisms therefor [E03D 5/024](#)) }

E03D 1/082

.... { in tube siphons }

E03D 1/085

..... { by injection of air or water in the short leg of the siphon }

E03D 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 }

E03D 1/10

... Siphon action initiated by raising the water level in the cistern, e.g. by means of displacement members

E03D 1/105

.... { in cisterns with tube siphons }

E03D 1/12

... Siphon action initiated by outlet of air

E03D 1/125

.... { in cisterns with tube siphons }

E03D 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 }

E03D 1/141

... { in cisterns with tube siphons and with tube siphons in combination with flushing valves }

E03D 1/142

... { in cisterns with flushing valves }

- E03D 1/144 { having a single flush outlet and an additional float for delaying the valve closure }
- E03D 1/145 { having multiple flush outlets }
- E03D 1/16 . . Cisterns for periodical discharge
- E03D 1/165 . . . { with bell or tube siphons }
- E03D 1/18 . . Cisterns empty when not in action, { e.g. with pressure tanks, with swivel-mounted cisterns }
- E03D 1/183 . . . { with bell or tube siphons }
- E03D 1/186 . . . { with flushing valves }
- E03D 1/20 . . Cisterns with tiltably-mounted containers { for operation, e.g. by the seat [E03D 5/04](#) }
- E03D 1/22 . . Twin or multiple flushing cisterns

- E03D 1/24 . Low-level flushing systems
- E03D 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](#) to [E03D 11/12](#))
 - E03D 1/263 . . . { provided with a bell or tube siphon }
 - E03D 1/266 . . . { exclusively provided with flushing valves as flushing mechanisms }
- E03D 1/28 . . Bowl integral with the flushing cistern
 - E03D 1/283 . . . { provided with a bell or tube siphon }
 - E03D 1/286 . . . { provided with flushing valves }

- E03D 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](#)) }
- E03D 1/302 . . { with valves kept in open position by means of air or water pressure or by vacuum }
- E03D 1/304 . . { with valves with own buoyancy }
- E03D 1/306 . . . { with articulated valves }
- E03D 1/308 . . { with articulated valves ([E03D 1/306](#) takes precedence) }
- E03D 1/32 . . Arrangement of inlet valves (devices for reducing noise [E03D 9/14](#)) { noise-reducing means [E03D 11/00](#) }
- E03D 1/33 . . Adaptations or arrangements of floats (actuating-floats in general [F16K 33/00](#))
- E03D 1/34 . . Flushing valves for outlets; Arrangement of outlet valves
 - E03D 1/35 . . . Flushing valves having buoyancy
 - E03D 1/36 . . Associated working of inlet and outlet valves

- E03D 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 }

- E03D 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 }

- E03D 3/02 . Self-closing flushing valves (self-closing valves in general [F16K 21/04](#))

- E03D 3/04 . . with piston valve and pressure chamber for retarding the valve-closing movement
- E03D 3/06 . . with diaphragm valve and pressure chamber for retarding the valve-closing movement
- E03D 3/08 . . with other retarding devices
- E03D 3/10 . Flushing devices with pressure-operated reservoir, e.g. air chamber
- E03D 3/12 . Flushing devices discharging variable quantities of water ([flushing cisterns discharging variable quantities of water E03D 1/14](#))

- E03D 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 }

- E03D 5/003 . { Grey water flushing systems }
- E03D 5/006 . . { Constructional details of cisterns for using greywater }

- E03D 5/01 . using flushing pumps

- E03D 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](#))
- E03D 5/014 . . with devices for separate removal of liquids and solids

- E03D 5/016 . with recirculation of bowl-cleaning fluid

- E03D 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 }
- E03D 5/022 . . { Operating automatically ([E03D 5/10](#) takes precedence) }
- E03D 5/024 . . { Operated hydraulically or pneumatically }
- E03D 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 }

- E03D 5/028 . . { Pusher plates and actuating mechanisms for built-in cisterns }
- E03D 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 }

- E03D 5/06 . . directly by the door
- E03D 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 }

- E03D 5/09 . . directly by the hand
- E03D 5/092 . . . the flushing element, e.g. siphon bell, being actuated through a lever
- E03D 5/094 . . . the flushing element, e.g. siphon bell, being actuated through a cable, chain or the like

- E03D 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 }
- E03D 5/105 . . { touchless, e.g. using sensors }

- E03D 5/12 . discharging periodically ([high-level cisterns for periodical discharge E03D 1/16](#))
- E03D 7/00** **Wheeled lavatories** ([wheeled closets without flushing A47K 11/00](#); construction of land vehicles [B62](#))
- E03D 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 \(cleaning, disinfecting or deodorising the seat A47K 13/30 \)](#) }
- E03D 9/002 . { [Automatic cleaning devices](#) }
- E03D 9/005 . { [Devices adding disinfecting or deodorising agents to the bowl](#) }
- E03D 9/007 . { [Devices for eliminating smells by diffusing deodorants in lavatories](#) }
- E03D 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](#))
- E03D 9/022 .. { [consisting of solid substances introduced in the bowl or the supply line](#) }
- E03D 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](#) }
- E03D 9/031 ... { [Devices connected to or dispensing into the flushing pipe](#) }
- E03D 9/032 ... { [Devices connected to or dispensing into the bowl](#) }
- E03D 9/033 ... { [Devices placed inside or dispensing into the cistern](#) }
- E03D 9/035 { [Devices connected to the actuation mechanism \(\[E03D 9/036\]\(#\) takes precedence \)](#) }
- E03D 9/036 { [Scoop-like devices](#) }
- E03D 9/037 { [Active dispensers, i.e. comprising a moving dosing element \(\[E03D 9/035\]\(#\) takes precedence \)](#) }
- E03D 9/038 { [Passive dispensers, i.e. without moving parts](#) }
- E03D 9/04 . Special arrangement or operation of ventilating devices ([ventilating rooms in general F24F](#))
- E03D 9/05 .. ventilating the bowl
- E03D 9/052 ... using incorporated fans
- E03D 9/06 . Auxiliary chambers with water connection to the flushing pipe and adapted to receive utensils for bowl-cleaning, e.g. brushes
- E03D 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](#) }
- E03D 9/085 .. { [Hand-held spray heads for bidet use or for cleaning the bowl](#) }
- E03D 9/10 . Waste-disintegrating apparatus combined with the bowl { [special flushing devices](#) }

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- E03D 9/12 . Means to prevent freezing of lavatories
- E03D 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](#) }
- E03D 9/16 . Water pressure regulating means in flushing pipes
- E03D 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 }
- E03D 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](#)) }
- E03D 11/025 . . { Combined with wash-basins, urinals, flushing devices for chamber-pots, bed-pans, or the like }
- E03D 11/04 . . Bowls of flat shape with only slightly inclined bottom { Squat-type closets }
- E03D 11/06 . . Bowls with downwardly-extending flanges { for the sake of flushing }
- E03D 11/08 . . Bowls with means producing a flushing water swirl
- E03D 11/10 . . Bowls with closure elements provided between bottom or outlet and the outlet pipe; Bowls with pivotally supported inserts
- E03D 11/11 . . Bowls combined with a reservoir, e.g. containing apparatus for disinfecting or for disintegrating
- E03D 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 }
- E03D 11/125 . . { Height adjustable bowls }
- E03D 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 }
- E03D 11/135 . . { Supports for bowls }
- E03D 11/14 . . Means for connecting the bowl to the wall, e.g. to a wall outlet
- E03D 11/143 . . . { Mounting frames for toilets and urinals }
- E03D 11/146 { with incorporated cistern (wall built-in flushing cisterns, connecting a cistern to the wall [E03D 1/012](#)) }
- E03D 11/16 . . Means for connecting the bowl to the floor, e.g. to a floor outlet
- E03D 11/17 . . Means for connecting the bowl to the flushing pipe
- E03D 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 }

- E03D 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 }
- [E03D 13/002](#) . { intended for use by women }
- [E03D 13/005](#) . { Accessories specially adapted for urinals }
- [E03D 13/007](#) . { Waterless or low-flush urinals } ; Accessories therefor (siphons [E03C 1/281](#))
- E03D 2001/00** **Water flushing devices with cisterns**; { Setting up a range of flushing devices or water-closets; Combinations of several flushing devices }
- [E03D 2001/02](#) . High-level flushing systems
- [E03D 2001/14](#) . . 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 }
- [E03D 2001/147](#) . . . having provisions for active interruption of flushing
- [E03D 2001/148](#) with means to prevent premature closing of flushing valve
- E03D 2009/00** **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](#)) }
- [E03D 2009/02](#) . 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](#))
- [E03D 2009/024](#) . . using a solid substance
- [E03D 2009/026](#) . . using a gel-form substance
- [E03D 2009/028](#) . . using a liquid substance
- E03D 2201/00** **Details and methods of use for water closets and urinals not otherwise provided for**
- [E03D 2201/20](#) . Noise reduction features
- [E03D 2201/30](#) . Water injection in siphon for enhancing flushing
- [E03D 2201/40](#) . Devices for distribution of flush water inside the bowl