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DEVICE FOR WASHING BEDPANS AND URINALS

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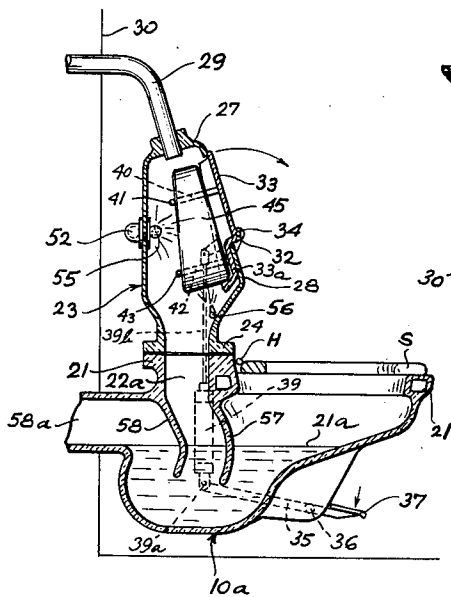


FIG. 3.

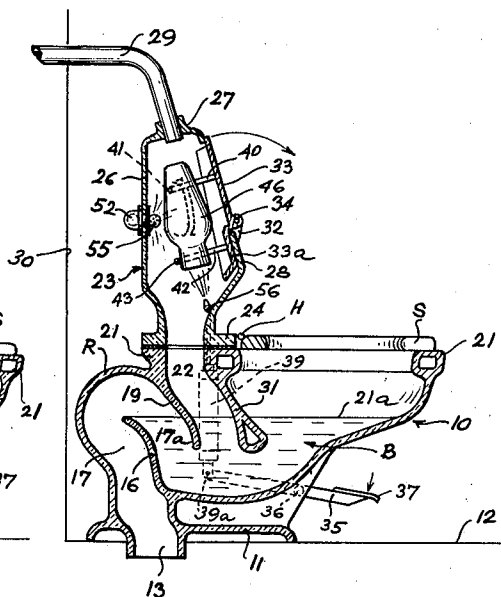


FIG. 2.

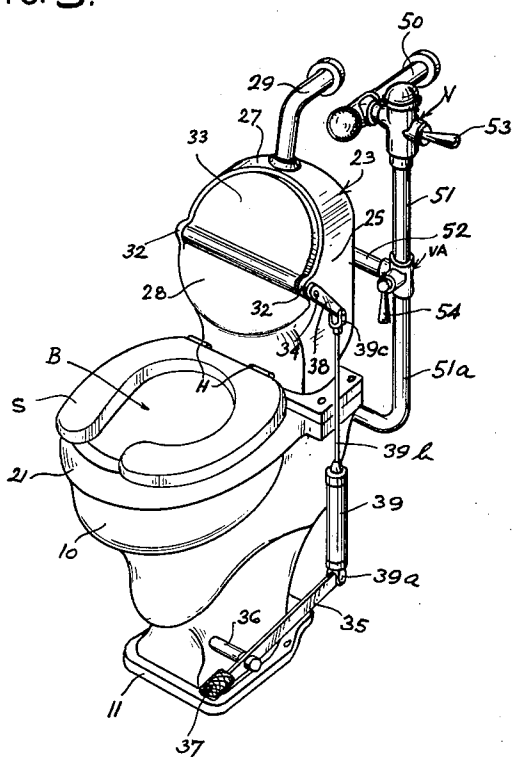


FIG. 1.

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DEVICE FOR WASHING BEDPANS AND URINALS

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1 Claim. (Cl. 4—10)

My invention relates to a new and improved device for washing bed-pans and urinals.

It has been common practice in hospitals, for many years, to provide a sink or washing device for these receptacles in a central utility room on the floor of a hospital. This made it necessary to carry these filled receptacles from the room of the patient to said central utility room. This is objectionable, because it produces disagreeable odors throughout the hospital and necessitates carrying the bedpans through corridors past visitors; and the work is disagreeable.

It has also been the practice to provide a hose in the patient's bath room. The use of a hose to provide wash water for washing the excreta into the toilet bowl spatters the clothing of the nurse or orderly, as well as the floor, walls and toilet seat; and objectionable odors results from such washing.

According to my invention, I provide a combination washing device and toilet bowl which can be made and installed at minimum expense. The combined device does not require more floor space than the conventional toilet bowl. The improved combination device requires only a minor addition to the conventional plumbing, which is an important feature, in order to make it possible to make and install the device at minimum expense and without increasing the size of the toilet room.

Other objects and advantages and features of my invention are set forth in the description and drawings herein, which show two embodiments of my invention.

Fig. 1 is a front perspective view of the first embodiment. The door of the washing hopper or casing is shown in closed position.

Fig. 2 is a vertical longitudinal central section of Fig. 1, showing a urinal in washing position and releasably held at the inner face of the closed door. This embodiment shows a toilet bowl which has an S-trap said bowl being modified according to my invention.

Fig. 3 is a vertical longitudinal central section of a second embodiment, showing a bed-pan in washing position, and releasably held at the inner face of the closed door. This embodiment shows a toilet bowl which has a P-trap, said bowl being modified according to my invention.

First embodiment, Figs. 1 and 2

This has a toilet bowl 10, whose pedestal 11 is supported on floor 12. Bowl 10 has a rim 21. A seat S is turnably connected to bowl 10 by hinge H. This hinge H may be connected to any part of the device.

Bowl 10 has a basin B, which has a rear overflow wall 16. The basin B normally has a pool of water, which has a normal top level 21a.

The ordinary toilet bowl has a top seat opening, and an imperforate top wall which is located at the rear of said top seat opening and at the rear of the seat. If the ordinary toilet bowl is of the S-trap type, it has a single lateral partition wall 31 which is integral with the rim and side walls of the bowl. The horizontal bottom edge

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of this ordinary single S-trap wall 31 is located below the horizontal level plane which is indicated by the reference numeral 21a. When flushing water is admitted into the ordinary S-trap bowl, said water flows over the top edge of rear wall 16 of basin B into the syphon passage 17, whose outlet 13 extends through floor 12. This trap-wall 31 prevents sewer gases from flowing from the sewer through the pool of water into the room.

According to my invention, I provide an additional hopper opening in the top wall of the bowl rearwardly of the usual top seat opening of the bowl, and I provide the bowl with an additional integral lateral partition wall 19, whose horizontal bottom edge is also located below the plane 21a. This partition wall 19 is located rearwardly of the S-trap wall 31. I thus provide said additional top washing opening of the bowl with a passage or conduit 22, which is open at its top and bottom, and which is closed at its sides by the side walls of the bowl. The supplemental partition wall 19 is located forwardly of the rear wall 16 of basin B. This supplemental partition wall of trap wall 19 extends below the outlet passage or conduit 17, and below the top of the basin part B and hence below the top of the normal pool of water in said basin part B. This supplemental trap wall 19 prevents dangerous sewer gases from backing up into the room through conduit 22 and through the hopper 23 which is to be described shortly.

When flushing water is admitted to this modified bowl, the passages or conduits 17 and 17a provide a syphon outlet to the waste.

The washing hopper 23 is held fixed relative to bowl 10. Said hopper 23 has a bottom flange 24 which is fixed to the top wall of the bowl at its supplemental top opening, in order to provide a sealing connection between the interior of hopper 23 and the passage or conduit 22. A sealing gasket or other sealing means may be used, in order to provide a liquid-tight and airtight connection between the interior space of hopper 23 and the top wall of the bowl at the top of passage 22.

One optional shape of hopper 23 is shown in Fig. 2. A door 33 is turnably connected to lugs 32 of the front wall 28 of hopper 23 by a shaft 34 which is turnably mounted in said lugs 32. Said door 33 optionally has a stop extension 33a which abuts the inner face of the front wall 28, when door 33 is closed. Door 33 may have a conventional sealing gasket and it may optionally be biased to normal closed position by a spring.

A vent-pipe 29 is optionally provided in the top wall 27 of hopper 23.

Conventional means are shown for releasably holding the bed-pan or urinal to door 33.

Laterally spaced arms 42 are fixed to the inner face of door 33, and additional laterally spaced arms 40 are also thus fixed. These arms 42 and 40 are perpendicular to the planar door 33. Arms 42 are provided with lateral fingers 43 which extend laterally towards each other, and arms 40 are provided with similar fingers 41.

Arms 42 are longer than arms 40. The lateral spacing between arms 42 is less than the lateral spacing between arms 40. A bed-pan 45 can thus be supported in upstanding position when door 33 is closed, as shown in Fig. 3. The urinal 46 has a hook by means of which said urinal 46 may be supported in inverted upstanding position when door 33 is closed.

Door 33 may be opened to horizontal position, and the urinal or bed-pan can then be mounted upon door 33. The door 33 is then closed, in order to empty the contents of the receptacle into hopper 23 and through passage 22 into the bowl.

Optionally, the door 33 can be opened by depressing the pedal 37 of a lever 35 which is pivoted at 36 to

bowl 10. The cylinder 39 of a conventional dash-pot is pivoted at 39a to lever 35. The piston of cylinder 39 has a piston rod 39b which is pivoted at 39c to an arm 38 which is fixed rigidly to turnable shaft 34. When pedal 37 is depressed below its normal position, the air or liquid in cylinder 39 is subjected to pressure, thus moving rod 39b upwardly, and turning door 33 to its open position. Lever 35 may be biased to a normal position, in which door 33 is closed.

As above noted, the ease and economy of installation is an important feature of my invention.

Fig. 1 shows a water-supply pipe 50. This is connected to branch or extension pipe 51 through an ordinary and normally closed flushing valve V. Said flushing valve V may be opened by manually operating the usual handle 53.

Pipe 51 is connected to flushing pipe 51a and to washing pipe 52, through a conventional two-way valve VA. This two-way valve VA can be operated by handle 54 to a washing position in which flushing pipe 51a is blocked from pipe 51 and washing pipe 52 is connected to pipe 51. This two-way valve VA can be turned to another position which is the flushing position, in which washing pipe 52 is blocked from pipe 51, and pipe 51a is connected to pipe 51.

The outlet of the flushing pipe 51a is connected to bowl 10, in order to supply flushing water to bowl 10 when valve V is opened and the valve VA is in the flushing position.

The washing pipe 52 is connected to any selected number of washing nozzles which are provided in the interior of the washing hopper 23. These washing nozzles may be spray nozzles or of any type. Two washing nozzles 55 and 56 are shown as illustrations.

When it is desired to wash the receptacle, the door 33 is closed, thus emptying the receptacle by means of the bottom opening of hopper 23 and passage 22. Valve VA is turned to the washing position. Valve V is then opened, thus supplying water to the washing nozzles, without supplying flushing water to the bowl through pipe 51a.

There are enough washing nozzles to thoroughly wash the interior and exterior of the receptacle and the inner walls of the hopper 23 and door 33. The wash water flows through passage 22 into basin B and said basin is emptied by the usual siphon action.

Hence, in order to install the device in the conventional water line, it is only necessary to connect washing pipe 52 and the valve-casing of valve VA in the conduit 51—51a.

The pipe 50 may be connected to supply cold water. Hot water or sterilizing steam may be admitted to the hopper 23 through conduits 51 and 52 through a by-pass valve.

The vent pipe 29 may be omitted. In such case, the top wall 27 of hopper 23 is imperforate.

The pedal device may be omitted, and the door 33 may be opened and closed by hand.

The door 33 is optionally inclined rearwardly when it is closed, so that gravity can normally hold door 33 in closed position.

Second embodiment, Fig. 3

The only difference from the first embodiment is that the bowl 10a has a modified P-trap construction. This bowl has an outlet passage or conduit 58a. The ordinary P-trap bowl has a single lateral partition wall 57.

I provide the bowl 10a with an additional integral lateral partition wall 58 at the rear of the supplemental opening at the top of the bowl, thus providing a passage 22a which has the same function as passage 22, and which similarly prevents dangerous sewer gas from entering the room through hopper 23. In this embodiment, the wall 58 functions as the trap wall.

In each embodiment herein, there is a combination,

toilet bowl and trap. In the first and second embodiments, the trap is an internal part of the bowl. In each of the two embodiments, the hopper is connected to a supplemental inlet opening of the combination bowl and trap device, and said supplemental inlet opening is located rearwardly of the main top inlet opening of the bowl.

In the first and second embodiments, the rear wall of the bowl is located rearwardly of the respective rear depending bowl wall 19 or 58, and the respective outlet 13 or 58a is located rearwardly of the rear depending wall 19 or 58.

In the first and second embodiments, the top of each depending partition wall is at and extends downwardly from the rim of the bowl. The top of the front depending wall 31 or 57 is at the rear of the main inlet top opening of the bowl, and also at the front of the rear supplemental top opening of the bowl, so that the top of said front depending wall is the separating means between said top openings, and the top of the rear depending wall 19 or 58 is at the rear of the supplemental top rear opening.

The invention includes, as a separate feature, the improved bowl of the first and second embodiments.

It has been proposed, as in Salvoni U. S. Patent No. 2,075,830 dated April 6, 1937, to provide a combination toilet bowl and bidet. However, the construction shown in this prior patent is so expensive and impractical that it has not been put into use, due to the various expensive plumbing connections, and also because the bowl has a single depending wall at the junction between the openings, said single wall being arched at its lower end to provide two legs, which are respectively located forwardly and rearwardly of the rear wall of the basin.

Also, the construction of this prior patent permits dangerous sewer gases to enter the bidet and hence the room from the toilet discharge pipe.

The improved construction of the toilet bowl disclosed herein makes it possible to make all its parts of an integral one-piece construction at minimum cost. Also, in this prior construction, the wash water was not discharged into the pool of water which is normally maintained in a well or recess of the bowl. In the preferred embodiments disclosed herein, the wash water is discharged into said pool of water, thus causing said pool to overflow in the same manner as if flushing water is admitted into the pool. The embodiments herein all include means for preventing sewer gases from entering the room from either the hopper or the toilet bowl.

I claim:

In combination, a toilet bowl and a vertical hopper fixed to said toilet bowl, said bowl having a top seat-opening, said hopper extending upwardly from the top of said bowl and being located rearwardly of said seat-opening, said bowl having an outflow passage, said hopper having a communicating opening at its lower end which communicates with said bowl, said bowl having an integral lateral partition trap-wall which extends completely laterally across the inner wall of said bowl, said partition trap wall being at and depending from the rear of said communicating opening, said partition trap-wall being located in front of said outflow passage and extending below the entire inlet mouth of said outflow passage and being proximate to the rear wall of the bowl, said outflow passage being located above the bottom of said bowl to provide a basin-part in said bowl which is normally filled with a pool of water, said trap-wall extending below the top of said basin part to be located below the top of said pool, said partition trap wall being shaped and located to block any reverse flow of gas through said outlet passage into said hopper or out of said bowl, said hopper having holding means to hold a receptacle therein and having a door which can be moved to closed position and to open position, said

hopper having internal washing means for supplying wash water to wash said receptacle, and said combination having supply means for supplying water to said bowl and to said internal washing means. 5 2,075,830

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