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FITTING FOR SANITARY FIXTURES

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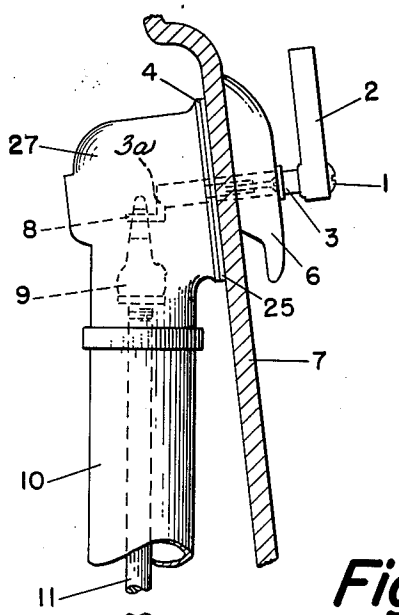


Fig. 1

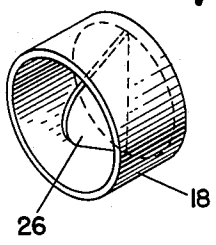


Fig. 2

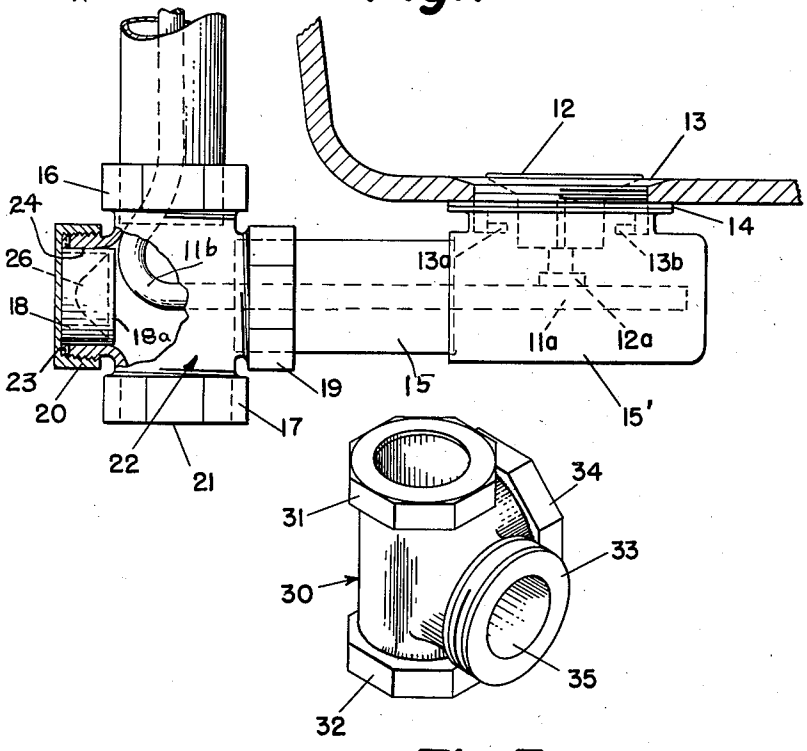


Fig. 3

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FITTING FOR SANITARY FIXTURES

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2 Claims. (Cl. 4—199)

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This invention relates to a fitting construction for sanitary fixtures. More specifically, the invention relates to a drain fitting so constructed as to permit opening of same to facilitate cleaning of the drain assembly in bathtubs, sinks, lavatories and the like.

Built-in bathtubs are generally provided today with a pop-up drain valve which is internally actuated into open or closed position by manipulating an operating handle connected to an angular operating rod extending through the overflow pipe. It has been difficult to clean the drain pipe in such assembly when it becomes obstructed with foreign matter. After a few years' use, a mass of hair, lint and soap sludge accumulates at the elbow portion of the angular operating rod which usually extends into a T-fitting connected to the drain line. This foreign material will finally build up to such extent as to completely clog the T-fitting as well as the drain tube connected to it so as to prevent draining of water from the bathtub.

In order to clean the drain line, attempts have been made in the past to pump out the drain line with a plumber's force pump or to push a thin wire with a small hook on the end through the bathtub drain outlet or down through the overflow shoe outlet and draw the mass out of either of these outlets. This is a costly procedure for the home owner and is rarely successful in thoroughly cleaning the drain line. At best such procedures will clean out the drain line only temporarily so that it is ultimately necessary to disassemble the entire drain fitting assembly to make it possible to remove the accumulated mass in the drain line. This can be accomplished by first removing the overflow cover plate and then removing the spud in the bathtub supporting the pop-up valve. It is usually very difficult to remove the spud because the sealing putty or paint has hardened and when additional force is applied the lugs on the spud break. The plumber must then open the access door to the fitting which is usually located in the hallway or bedroom and get beneath the tub to saw the spud off so it can be removed. The usual waste outlet shoe and drain tube can now be removed and cleaned. The overflow tube can also be removed now and the accumulated mass adhering to the elbow in the angular operating rod can be removed. A new drain valve assembly must then be replaced and additional labor is entailed in assembling the parts together.

The present invention overcomes the above-mentioned difficulties and provides a drain fitting

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construction which makes it possible to avoid the laborious and costly methods in cleaning accumulated material in the drain line by providing ready access to the drain line. For this purpose a fitting having a novel construction is provided which has a removable closure at an accessible location for an opening in the fitting through which access can be easily had to the drain line for cleaning same without requiring disassembly of any parts of the drain assembly. Further advantages and details of my invention will be apparent from the following specification and appended drawing, wherein:

Figure 1 is an elevational view, partly in section, of a drain fitting for sanitary fixtures constructed in accordance with my invention,

Figure 2 is a perspective view of a plug or insert member used in the fitting, and

Figure 3 is a perspective view of a modified construction of a fitting made in accordance with my invention.

Referring to the drawings, Figure 1 illustrates a bathtub 7 having a drain outlet in the bottom provided with a threaded drain valve spud 13 having lugs 13*a* and 13*b*. The spud 13 is retained in place by being screwed into a drain elbow or shoe 15' which is sealed against the underside of the bathtub 7 by gasket 14. A pop-up valve or drain plug 12 is seated in spud 13 the former being provided with a foot portion 12*a* which rests on the end 11*a* of the angular operating rod 11.

Operating rod 11 is L-shaped and extends horizontally through the shoe 15', drain tube 15, fitting 22 and vertically through the vertical overflow tube 10. The overflow tube 10 is connected to the overflow shoe or elbow 27 which is sealed against the bathtub wall adjacent the overflow outlet by a gasket 4. An overflow cover plate 6 is retained in position by suitable screws extending through same to the overflow shoe 27. A spindle 3 having a crank end 3*a* extends through the cover plate 6 into the overflow shoe 27 and is provided with an operating handle 2 retained by screw 1. The crank end 3*a* of spindle 3 is connected by a pin 8 to an eye socket 9 retained at the upper end of the angular operating rod 11 so that by rotating handle 2 upwardly or downwardly the operating rod 11 will be raised and lowered vertically, thereby actuating the pop-up valve to open or closed position as desired.

The assembly so far described may be of any conventional construction now available on the market. The novel feature of the present assembly resides in the fitting 22 which is provided

with two pairs of oppositely disposed axially aligned openings as shown in Figure 1. The upper opening is adapted to be connected to the lower end of the overflow tube 10 by means of a packed coupling 16. The opposite lower opening 21 is adapted to be connected by a coupling 17 to the waste line such as the usual trap and sewer pipe assembly.

The second pair of opposed aligned openings in fitting 22 are positioned at right angles to the first-mentioned pair of openings. The right-hand opening is adapted to be connected to the drain tube 15 attached to drain shoe 15' by a packed coupling 19. The opposite left-hand opening leads to a chamber 24 merging with the interior of the fitting 22 through which the elbow 11b of the operating rod 11 extends.

A removable threaded closure or access cap 20 is provided which is adapted to close chamber 24 and is preferably sealed thereto by a gasket 23. A removable plug or insert 18 preferably made of brass and having the construction shown, for example, in Figure 2 is positioned in chamber 24 so as to snugly fit therein. The insert 18 may be a hollow cylindrical tube having a closed imperforate end wall 18a which extends within the chamber short of the elbow 11b of the operating rod 11. The insert 18 is provided with a grasping portion 26 to facilitate removal of the insert through the adjacent opening in the fitting 22 when the access cap 20 is removed. The insert may have any other suitable construction and may be made of solid metal, plastic or other suitable material. It serves to prevent any solids from accumulating or building up in the chamber 24.

When it is necessary to clean out the drain line, the procedure is very simple and merely involves unscrewing access cap 20, then removing the insert 18 and cleaning the dirt accumulated on the elbow 11b or elsewhere in the drain pipe or drain shoe. The labor involved in such operation is obviously very small as compared with the labor required in prior installations, as previously described, where a conventional T-fitting is used in place of the present novel fitting 22 as herein described.

The fitting construction 22 shown in Figure 1 may be modified if desired so as to position the chamber 24 receiving the insert 18 at a right-angle to the opening connected with the drain tube. Such construction is shown in Figure 3 wherein the fitting 30 is provided with an upper outlet adapted to be connected to the overflow tube 10 by coupling 31, an opposed axially aligned lower outlet adapted to be connected to a waste line by coupling 32, a third opening positioned at right angles to the aforesaid openings which is adapted to be connected to the drain tube 15 by a coupling 34 and a fourth opening leading to a chamber 35, similar to chamber 24, located at right angles to the previous drain-connecting opening for receiving an insert 18 as previously described. The chamber 35 is closed by a closure or access cap 20 as previously described. If desired, the chamber 35 may be positioned on the opposite left side of the fitting. Such right and left pattern fittings can be used in installations where joists or other obstacles would prevent access to the closure cap 20 when using the straight way pattern shown in Figure 1.

My present invention obviously offers many advantages over the prior drain fittings. It makes it possible to secure better discharge of waste water from sanitary fixtures since the drain line can be readily cleaned whenever necessary with very little labor. More sanitary conditions are thus made possible in homes, offices and other buildings since the germ hazard is reduced by eliminating the undue accumulation of debris, dirt and other waste solids in the drain line. Stench and obnoxious gases evolved from the accumulated mass will thus not discharge back through the waste outlet or through the overflow outlet into the room where the fixture is located.

It is to be understood that the invention is not restricted to the specific illustrative embodiments of the invention herein described and that other modifications and variations thereof are intended to be included within the scope of the appended claims.

I claim:

1. In a sanitary fixture the combination of a receptacle having respective waste and overflow orifices, a substantially L-shaped conduit having the ends thereof connected with the said waste and overflow orifices, said L-shaped conduit being provided with a fitting at the elbow portion thereof, said fitting being provided with a chamber having an accessible opening for permitting access to the interior of said L-shaped conduit for cleaning same, a removable closure cap for closing said accessible opening, and a removable plug member having a grasping portion positioned in said chamber and of a size to substantially completely fill said chamber to prevent accumulation of foreign matter in said chamber.

2. In a sanitary fixture the combination of a receptacle having respective waste and overflow orifices, a substantially L-shaped conduit having the ends thereof connected with the said waste and overflow orifices, said L-shaped conduit being provided with a fitting at the elbow portion thereof, said fitting being provided with a chamber having an accessible opening for permitting access to the interior of said L-shaped conduit for cleaning same, a removable closure cap for closing said accessible opening, and a removable plug member positioned in said chamber and of a size to substantially completely fill said chamber to prevent accumulation of foreign matter in said chamber, said plug member being formed of a cylindrical member closed at one end thereof and presented to the interior of said chamber.

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