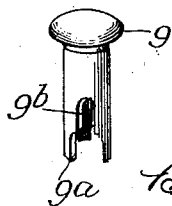
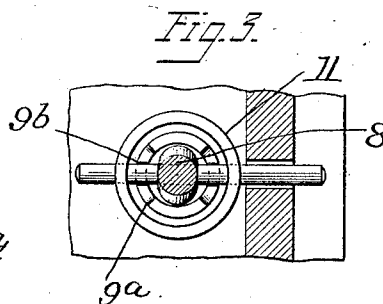
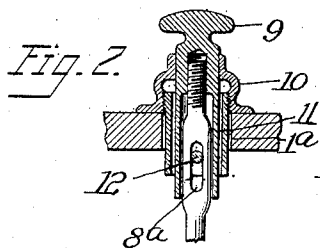
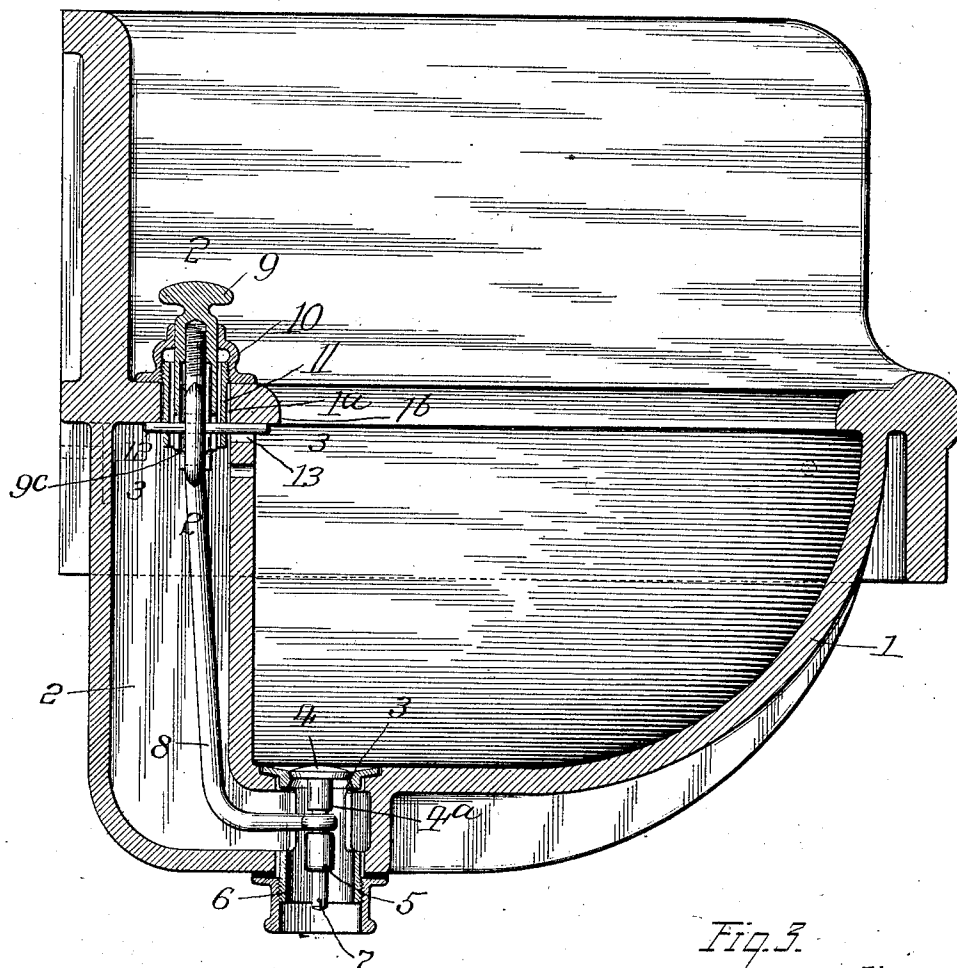


1,006,610.

Fig. 1



Martin H. Olsen
Louis B. Erwin

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 Earl G. Watrous
 By Rector, Kitchin & Davis
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UNITED STATES PATENT OFFICE.

EARL G. WATROUS, OF CHICAGO, ILLINOIS.

LAVATORY-FIXTURE.

1,006,610.

Specification of Letters Patent.

Patented Oct. 24, 1911.

Application filed August 22, 1906. Serial No. 331,633.

To all whom it may concern:

Be it known that I, EARL G. WATROUS, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Lavatory-Fixtures, of which the following is a specification.

My invention relates to lavatory fixtures and the object thereof is to provide an efficient and improved construction of mechanism for operating or controlling the waste plug of wash basins and the like.

The various features of advantage and utility of my construction will be apparent from the description hereinafter given.

In the drawings, Figure 1 is a sectional elevation of a wash basin to which my improved lavatory fixture is shown applied; Fig. 2 a section on the line 2—2 of Fig. 1; Fig. 3 a sectional plan on the irregular line 3—3 of Fig. 1, but on a somewhat larger scale; and Fig. 4 a detail of the operating knob.

Referring to the present embodiment of my invention, the bowl or basin 1 may be of any suitable construction and proportions but the same is of that class or character which is provided on its rear side with a vertical passage 2 for the purpose of accommodating the operating rod which is connected with the waste plug as hereinafter described. As shown, this bowl is provided with an outlet 3 governed by an ordinary waste plug 4 arranged to seat upon the outlet 3 and to be projected into the bowl and thereby lifted from the outlet 3 when it is desired to drain such bowl. The stem of this waste plug extends downwardly and has its bearing in a lug 5 formed interiorly of the shell 6 which forms the valve seat and also the casing for such plug or valve. To prevent the entire removal or displacement of the waste plug or valve, I pass a pin 7 therethrough near the lower end after such plug has been assembled in position. For the purpose of operating this valve or waste plug I provide a curved or bent operating rod or arm 8 provided at its lower end with an eye through which the lower and more reduced portion of the valve stem passes, such eye being adapted to contact against the larger portion 4^a of the valve stem, with the result that when the rod 8 is elevated in the manner hereinafter described the waste plug or valve 4 will be correspondingly elevated or raised from its

seat by reason of the contact of the lower end of the operating rod against the larger portion 4^a of the valve stem. The upper end of this rod is connected with an operating knob or finger piece 9 whose body portion is tubular and which is provided in an internal bore intermediate its length with screw threads, in order to engage the corresponding screw threads at the upper end of the operating rod 8. By reason of this screw-threaded connection the operating rod and its knob may be adjusted relatively in a manner and for reasons hereinafter made apparent. The operating knob has its bearing within a nut 10 which is screw-threaded at its lower end and adapted to engage a sleeve 11 screw-threaded at its upper end and depending into an opening 1^a in the ledge or flange 1^b at the upper edge of the bowl proper. For the purpose of securing said sleeve 11 in place I pass transversely therethrough a pin 12 which, in practice, is inserted through an opening 13 in the rear wall of the bowl and bears against the underside of the flange 1^b of the bowl. It will be understood that the sleeve 11 and the pin, after insertion, are securely clamped in place by screwing up the nut 10, whose flanged lower end bears against the upper side of the flange 1^b of the bowl. This pin 12 performs a second function, inasmuch as it is arranged to cooperate with the tubular portion of the operating knob 9 for the purpose of acting as a stop to hold such knob in elevated position and also as a stop to limit the degree of rotation of such knob and thereby prevent the unscrewing thereof from the operating rod. To this end, the tubular portion of such knob is longitudinally slotted on its opposite sides, each slot comprising a widened portion 9^a at its lower end and a narrower portion 9^b, the latter of which is of a width substantially corresponding to the diameter of the pin 12. The junction between the wide and the narrow portions of each slot forms a shoulder 9^c, as clearly illustrated in Figs. 1 and 4, which shoulder is arranged to rest upon the pin 12 when the knob 9 and its tubular portion are elevated and partially rotated, the diagonally positioned shoulders being arranged to rest upon said pin, accordingly as the knob is turned in one direction or the other. When the knob is raised so as to bring the wider portion of the slots in register with the pin, the rotation of such

knob is limited by the lower ends of the slots, with the result that it is impossible to unscrew or remove the rod from its operating rod. In this connection, it will be understood that the pin 12 not only passes through the sleeve 11 and the tubular portion of the operating rod, but also through a longitudinal slot 8^a intermediate the length of such rod and toward its upper end. This slot 8^a serves to limit the upward movement of the knob and the lower end of such slot has such a relation with the lower end of the tubular portion of the operating rod that such knob cannot be raised high enough to cause its lower end to clear the pin 12, and consequently such pin always acts as a stop to limit the degree of angular movement of the knob.

In practice, the parts are assembled by first inserting the operating rod 8 in place, slipping the stem of the waste plug or valve 4 through its eye, and putting the pin 7 in place, after which the sleeve 11 is inserted in the opening 1^a of the bowl, the nut 10 loosely screwed thereto, whereupon the knob 9 is screwed upon the upper end of the operating rod 8 to the proper degree. The pin 12 is now inserted in place by passing the same through the sleeve 11, tubular extension of the knob 9 and through the slot in the operating rod 8, after which the nut 10 is screwed up tight. The described arrangement and construction provides a simple and efficient operating mechanism and one which is moreover easily assembled and taken apart by those who are acquainted with its construction, particularly the presence of the pin 12. Moreover, the construction is such that the mechanism cannot be tampered with or removed by any unauthorized party.

It will be understood that the operating knob may be adjusted relatively to its rod 8 by simply loosening the nut 10, removing the pin 12 and then screwing such knob up or down as may be required, after which the pin is replaced and the nut 10 screwed up tight again. It will also be understood that while it may be possible to loosen this nut it is impossible to entirely remove the same so long as the pin 12 is in place, inasmuch as the size of the knob 9 limits upward movement of the nut.

I claim:

1. In a lavatory fixture, the combination with a wash basin or the like having an overflow passage and with the waste plug governing the outlet therefrom, of operating mechanism for said plug comprising an operating rod located in said passage and connected with the plug, an operating piece connected with the rod and adjustable longitudinally with respect thereto said operating piece being partially rotatable with respect to its rod, and a stop with which the

operating piece is adapted to engage when rotated to a suitable extent, to hold the rod in its upper position.

2. In a lavatory fixture, the combination, with a wash basin or the like and with the waste plug governing the outlet therefrom, of mechanism for positively operating said plug in opposite directions comprising an operating rod extraneous of the basin proper and connected with the plug, a partially rotatable and longitudinally movable operating knob connected with said rod, and a single means for both securing said parts in place and limiting the movements of said knob.

3. In a lavatory fixture, the combination, with a wash-basin or the like and with the waste plug governing the outlet therefrom, of operating mechanism for said plug comprising an operating rod connected with the plug, an operating knob connected with said rod, and combined means for securing said parts in place and for limiting the movements of the knob consisting of a pin 12.

4. In a lavatory fixture, the combination, with a wash-basin or the like and with the waste plug governing the outlet therefrom, of operating mechanism for said plug comprising an operating rod connected with the plug, an operating knob connected with said rod, said knob having a depending shell portion provided with opposite slots and said rod being provided with a corresponding slot, and a pin 12 cooperating with said slots in the knob and rod for securing said parts in place and for limiting the movements of the knob.

5. In a lavatory fixture, the combination, with a wash-basin having a top flange and with the waste plug governing the outlet therefrom, of operating mechanism for said plug comprising an operating rod connected with the plug, an operating knob connected with the rod, and a pin 12 located underneath said top flange and cooperating with said knob and rod to secure them in place and to limit the movements of the knob.

6. In a lavatory fixture, the combination, with a wash basin or the like and with the waste plug governing the outlet therefrom, of operating mechanism for said plug comprising an operating rod extraneous of the basin proper and connected with the plug, an operating knob screwing upon the upper end of the said rod, a sleeve secured to the basin and surrounding the knob and rod, a nut on one end thereof to form a bearing for such knob, and a pin engaging the other end of the sleeve and cooperating with the knob to limit its rotary movement.

7. In a lavatory fixture, the combination, with a wash basin or the like and with the waste plug governing the outlet therefrom, of operating mechanism for said plug comprising an operating rod extraneous of the

basin proper and connected with the plug, an operating knob screwing upon the upper end of the said rod, a sleeve secured to the basin and surrounding the knob and rod, a nut on one end thereof to form a bearing for such knob, and a pin engaging the other end of the sleeve and cooperating with the rod to limit the longitudinal movement thereof.

8. In a lavatory fixture, the combination, with a wash basin or the like and with the waste plug governing the outlet therefrom, of operating mechanism for said plug comprising an operating rod extraneous of the basin proper and connected with the plug, an operating knob screwing upon the upper end of the said rod, a sleeve secured to the basin and surrounding the knob and rod, a nut on one end thereof to form a bearing for such knob, and a pin engaging the other end of the sleeve and cooperating with both the rod and the knob, to limit the rotary movement of the latter and the longitudinal movement of the latter.

9. In a lavatory fixture, the combination, with a wash basin or the like and with the waste plug governing the outlet therefrom, of operating mechanism for said plug comprising an operating rod extraneous of the basin proper and connected with the plug, an operating knob connected with said rod, a sleeve extending through an opening in a flange of the bowl and surrounding said knob and rod, a nut screwing onto the sleeve and against one side of the flange, and a pin passing through said sleeve, knob and rod to secure said parts in position.

10. In a lavatory fixture, the combination, with a wash basin or the like and with the waste plug governing the outlet therefrom, of operating mechanism for said plug comprising an operating rod extraneous of the basin proper and connected with the plug, an operating knob secured to the upper end of the rod and having a tubular extension having opposite slots, a sleeve passing through an opening in the basin, a nut to engage the same on one side of the opening, and a pin passing through the sleeve on the other side of such opening and also passing through said slots.

11. In a lavatory fixture, the combination, with a wash basin or the like and with the waste plug governing the outlet therefrom, of operating mechanism for said plug comprising an operating rod extraneous of the basin proper and connected with the plug, an operating knob secured to the upper end of the rod and having a tubular extension having opposite slots, a sleeve passing through an opening in the basin, a nut to engage the same on one side of the opening, said rod being slotted adjacent the slots of said tubular portion of the knob, and a pin passing through the sleeve on the other

side of such opening and also passing through the slots of the knob and of the rod.

12. In a lavatory fixture, the combination, with a wash basin or the like and with the waste plug governing the outlet therefrom, of operating mechanism for said plug comprising an operating rod extraneous of the basin proper and connected with the plug, an operating knob secured to the upper end of the rod having a tubular extension with opposite slots with portions of different widths to form shoulders, a sleeve passing through an opening in the basin, and a pin engaging said sleeve and extending through said slots and shoulders being arranged to cooperate with the pin to support the knob and rod in elevated position.

13. In a lavatory fixture, the combination, with a wash basin or the like having a waste opening governed by a valve or plug and also having an overflow passage communicating with the drain below said waste opening, of mechanism for operating the waste plug comprising an operating rod arranged in said overflow passage and connected at its lower end with the plug, an operating knob connected to the upper end of the rod and having a tubular portion extending through an opening in the usual marginal flange of the basin and having opposite slots at its lower end, a screw-threaded sleeve also extending in said opening, a clamping nut engaging the sleeve and arranged to bear against the top of said flange, and a pin arranged to pass through the sleeve, tubular portion of the knob and the operating rod and to bear against the bottom of said flange when the clamping nut is tightened.

14. In a lavatory fixture, the combination, with a wash basin or the like having a waste opening governed by a valve plug and also having an overflow passage communicating with the drain below said waste opening, of mechanism for operating the waste plug comprising an operating rod arranged in said overflow passage and connected at its lower end with the plug, an operating knob connected to the upper end of the rod and having a tubular portion extending through an opening in the usual marginal flange of the basin and having opposite slots at its lower end, a screw-threaded sleeve also extending in said opening, a clamping nut engaging the sleeve and arranged to bear against the top of said flange, said basin having an opening into the overflow passage at the underside of the flange, and a pin insertible through said opening and through said sleeve and tubular portion of the operating knob.

15. In a lavatory fixture, the combination with a basin having drain and overflow

openings, an overflow passage communicating with the drain and overflow openings, a vertically movable plug in the drain opening, a rod connected with the plug and extending through the overflow passage to a point adjacent the rim of the basin, a cross pin extending through a slot in the operating rod, and an operating knob rotatably connected to the rod and provided with a depending flange adapted to engage the cross pin to hold the parts in elevated position.

EARL G. WATROUS.

Witnesses:

LOUIS B. ERWIN,
ROBERT DOBBERMAN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
