

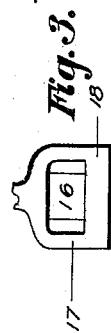
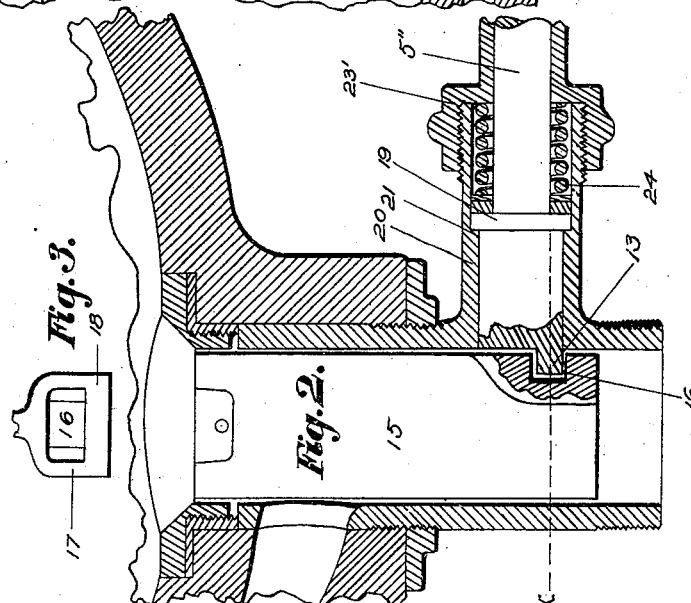
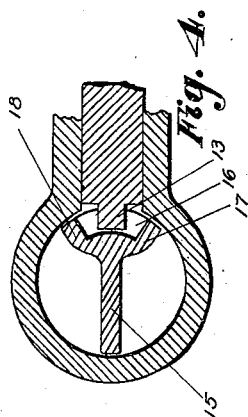
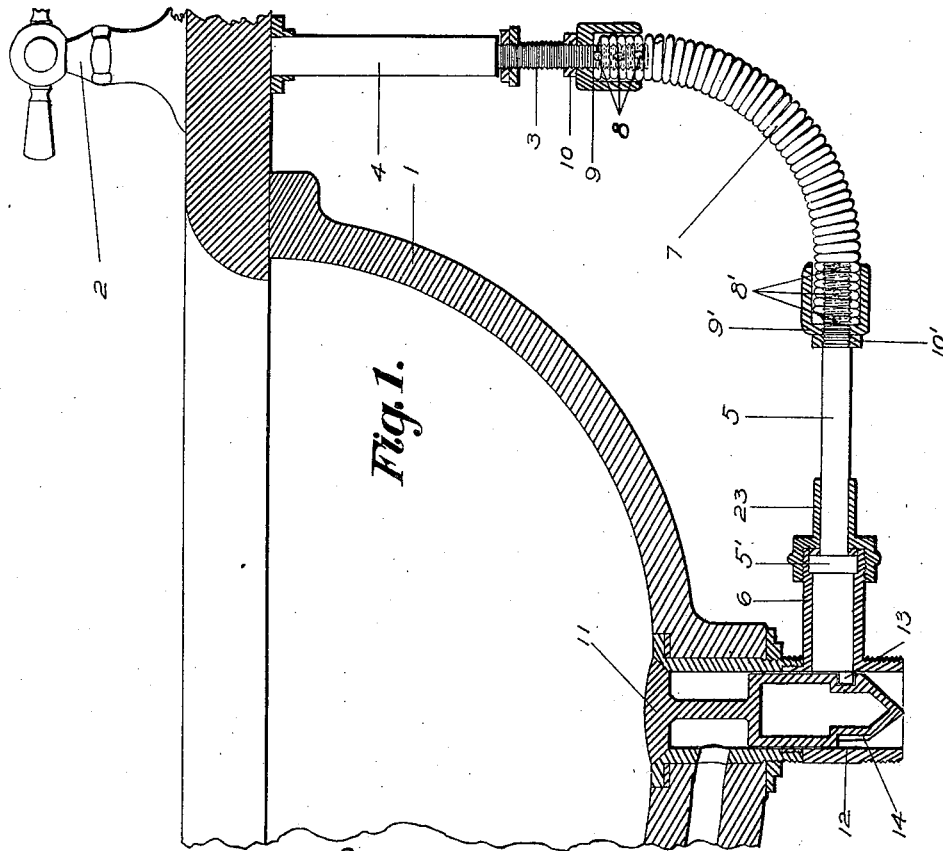
No. 645,639.

Patented Mar. 20, 1900.

W. BUNTING, JR.
WASHBASIN.

(Application filed Apr. 18, 1899.)

(No Model.)



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UNITED STATES PATENT OFFICE.

WILLIAM BUNTING, JR., OF NEW YORK, N. Y.

WASHBASIN.

SPECIFICATION forming part of Letters Patent No. 645,639, dated March 20, 1900.

Application filed April 18, 1899. Serial No. 713,434. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM BUNTING, JR., a citizen of the United States, and a resident of New York, (Flushing,) in the county of Queens and State of New York, have invented certain new and useful Improvements in Washbasins, of which the following is a specification.

The object of my invention is to provide an easily-adjusted, strong, and durable means for communicating the rotary motion of the waste-valve-operating handle of a washbasin which is carried on a vertical shaft with a horizontally-arranged shaft which lifts and lowers the basin plug or stopper.

A further object is to provide, in combination with such means, a stopper which cannot be removed by any person unfamiliar with the construction thereof and one which is constructed so that the operating-handle may be continuously rotated in either direction without any possibility of doing any damage. I accomplish these objects by connecting the vertical and horizontal shafts with a flexible shaft made of a coiled spring and providing means whereby said flexible shaft may be adjustably connected with the other shafts above mentioned and by arranging the horizontal shaft which operates the plug so that it may be moved laterally and become disengaged therefrom.

For a more complete disclosure of my invention reference is made to the accompanying drawings, in which—

Figure 1 is a vertical cross-section in elevation, showing the application of my improved operating means. Fig. 2 is a cross-section showing a preferred form of plug and arrangement of horizontal shaft. Fig. 3 is a front view of the lower end of the wing which depends from the stopper. Fig. 4 is a cross-section on the line *xx* of Fig. 2.

The same reference-numerals refer to like parts throughout all the views.

1 indicates a common form of washbowl, which is provided with the operating-handle 2. This handle is connected to a vertical shaft 3, which extends down through the sleeve 4, said handle and shaft being supported on the slab of the bowl, this construction being well known in the art. A horizontal shaft 5 is supported in a tubular pro-

jection 6, connected to the waste-pipe, so that said shaft may freely rotate therein. The shaft 5 is provided with a shoulder 5', so that the rod 5 will be held against longitudinal movement by nut 23, which screws onto the end of projection 6. A stout spring or coil of wire 7 is adjustably connected to the adjacent ends of each of said shafts, so that when the handle 2 is turned the horizontal shaft 5 will be caused to rotate. The ends of the shafts to which said wire spring is connected are each provided with a series of transverse holes 8 8', through any one of which the corresponding ends of the wire may be passed. After the ends of the wire are bent into their proper holes cup-shaped nuts or sleeves 9 9', which have been previously placed on the shafts, may be moved against the ends of the wire coil at the points where it passes through the shafts and may be securely locked in this position by nuts 10 10', which are screwed on said shafts. It will thus be seen that the horizontal and vertical shafts are securely connected by a means which is readily adaptable to widely-varying conditions as to size of bowl or bath-tub and location of operating-handle, and this means will permit the horizontal shaft to be rotated by the vertical shaft with a minimum amount of friction, and it is, moreover, cheap and very effective for the purpose illustrated.

The basin is provided with a plug 11, which has an annular groove 12 under the lower end thereof. An eccentric-pin 13 on the end of the shaft 5 engages said groove, so that when the shaft is rotated the plug will be raised, and upon further rotation thereof it will be lowered. The parts are so arranged that when the plug is resting on its seat the eccentric-pin 13 will be in its lowered position, as shown in the drawings, so that when the shaft is rotated in either direction, so as to move the pin from this position, the plug will be lifted, and when the pin reaches its highest position the passage will be opened to its fullest extent. As both shafts are capable of complete rotation in either direction, there is no possibility of injury to the valve-operating means if the handle is turned too far, as is the case in certain prior devices. The friction of the parts will be sufficient to hold the plug at any elevation to which it may be lifted. To insert

the plug so that the pin 13 will engage the groove 12, or to remove said plug, it must be turned so that the vertical slot 14, which extends downwardly from said groove, is opposite said pin.

In Figs. 2, 3, and 4 I show a modified form of plug which may be used in connection with the lifting means therefor above described. In this form I make the stem of the plug in the form of a feather 15, which is provided near its lower end with a chamber 16, which is formed by two diverging walls 17 18, as shown in Figs. 3 and 4. In Fig. 2 I also show the tubular projection 20 chambered out to a shoulder 21, said chambered-out portion being of sufficient diameter to permit the shoulder 19 of shaft 5" to bear against the shoulder 21. A nut 23', having an extended bearing portion for the shaft 5", is screwed on the chamber 20, and a spring 24 may be interposed between said shoulder 19 and said nut, so that the pin 13 will be more securely held in engagement with the recess 16, although the flexible coil 7, when connected to each shaft with the proper tension, will ordinarily force shaft 5" sufficiently to keep pin 13 in engagement with the stopper. The chambered-out portion is of sufficient length to permit the withdrawal of the shaft to a sufficient extent to cause the pin 13 to become disengaged from the recess 16. Obviously to remove the basin-plug it is simply necessary to reach under the basin and pull the rod outwardly and at the same time draw out the plug. As the horizontal and vertical shafts are connected by the flexible shaft 7, the withdrawal of the former does not in any way affect the connection between the two.

When a basin is located in a public place, if any of the parts are easily removable these parts are always liable to be stolen. Considerable trouble has been experienced by having basin-plugs stolen; but with the construction above described there would be little chance of having this occur, yet there would be no difficulty experienced in removing the plug by one familiar with the construction. Having the shaft which carries the eccentric projection capable of sliding movement with respect to the waste-pipe is also of advantage when it is not desired to provide the stem of the plug with a chamber for the eccentric-pin, which is closed at the bottom in order to prevent the withdrawal of the plug when the shaft which carries said pin is in its normal position. It is often desirable to pass a swab or cleaning-rod down the waste-pipe, and it would be undesirable to have any parts projecting into the pipe which would interfere with the swab. With this arrangement it is simply necessary to pull the horizontal shaft outwardly and all obstructing parts in the waste-pipe are withdrawn.

It will thus be seen that I provide a simple and durable plug-operating means which is

readily applied to different sizes of basins and which when used in combination with certain forms of basin-plugs provides a very effective means for locking the plug against removal. The particular form of plug is not essential, it being only necessary that the plug be provided with a recess which is so arranged that the side thereof will engage the projection on the horizontal shaft when the plug is drawn upwardly.

Having described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is as follows:

1. The combination of a waste-plug having a downward projection, a recess therein, a rotatable shaft, an eccentric projection carried thereby, a spring for pressing said projection into engagement with said recess, but permitting its withdrawal therefrom, a second shaft carrying an operating-handle arranged at an angle to said first-named shaft, and a flexible shaft connecting the opposite ends of said above-mentioned shafts.

2. A receptacle having a waste-plug, a recess in said plug, a rotatable shaft having an eccentric projection which is adapted to engage said recess, said shaft being arranged so that said projection may be moved longitudinally into and out of engagement with said recess, an operating-shaft, and a flexible shaft connecting the adjacent ends of said shafts, substantially as described.

3. A receptacle having a waste-plug provided with a depending portion having a recess in the side thereof, a rotatable and longitudinally-movable operating-shaft having a projection which is adapted to engage said recess and lift said plug, a spring for pressing said projection into engagement with said recess but permitting its withdrawal therefrom, said projection and recess being so formed as to prevent the withdrawal of said plug when said shaft is in its normal position.

4. In a sanitary fixture a waste-plug having a depending stem in the waste-passage, a longitudinally-movable rotatable shaft, a projection carried thereby which is adapted to engage said stem and lift said plug when the shaft is rotated, an operating shaft arranged at an angle to said first-named shaft and a coiled spring connecting the adjacent ends of said shafts, said spring being so arranged with respect to said shafts that it will normally hold the projection of said first-named shaft in position to engage said stem and yet permit the withdrawal of said projection from the waste-passage without disconnecting any of the parts.

In testimony whereof I have affixed my signature in presence of two witnesses.

WILLIAM BUNTING, JR.

Witnesses:

LOUIS H. HARRIMAN,
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