

UNITED STATES PATENT OFFICE.

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FLUSH-TANK-OPERATING DEVICE.

1,061,704.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, BERT O. TILDEN, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Flush-Tank-Operating Devices, of which the following is a specification.

This invention relates to improvements in flush-tank operating devices, and has for its object to provide a novel, simple and inexpensive mechanism of the class for unseating the flush valves in water closets.

The features and parts of the invention will be understood from the detailed description which follows, and by reference to the accompanying drawing which forms a part of this specification, and in which—

Figure 1 is an elevational view, partly in section, of a flush-tank; showing the location and arrangement of the operating parts. Fig. 2 is a plan view of the mechanism as it appears when the cover of the tank is removed. Fig. 3 is a rear view of the mechanism, as it is located in the tank. Fig. 4 is an end view of the same.

Similar characters of reference are assigned to corresponding parts throughout the several views.

In the drawing, 2 represents the body of the flush-tank, and 3 the cover thereof.

4 represents the flush valve seat, and 5 is the valve. The water for flushing the bowl is supplied by an inlet valve 6, which is controlled by a float 7.

The flush valve operating mechanism comprises the following parts: 8 and 9 represent lift rods, the former of which connects with the valve 5, while the latter connects with a rocking lever 10, which is disposed horizontally in the upper front side of the tank, the said lever having at one end an arm 10', which connects by means of a suitable loop with the lift rod 9. The lever 10 is pivotally supported by a metal bracket 11, which is mounted upon the inner face of the front wall of the tank, preferably near the upper left-hand corner, the said bracket or plate having spaced perforated lugs 12 and 13, through which the opposite end of the lever 10 passes and has its bearing. In its preferred form, the lever 10 is made out of brass or iron wire of heavy gage, which is capable of being fashioned or bent, as shown, to carry out its

work. Under this construction and arrangement, the cost of producing the rocking lever 10 is very small. The bracket 11 has a threaded perforation 14, which is disposed centrally to correspond with a similar opening 15 in the front wall of the tank. 16 represents a bushing or thimble, which passes through the wall of the tank, and is threaded into the hole in the bracket 11. 17 represents an escutcheon, which is bored out centrally and threaded, and is disposed concentric to the hole in the tank, and this part is screwed on to the threaded outer end of the thimble 16. When the bracket 11 and the escutcheon 17 are properly applied to the bushing 16, all of the said parts will be held rigidly in place and require no other securing means. The lever 10 is operated in the direction for unseating the flush valve 5, by means of a rock-shaft 18, which passes through the bushing 16. The lever 10 is operated in the direction for allowing the flush valve to be seated by gravity. The inner end of the rock-shaft 18 is formed into a relatively large loop or ring 19, through which the portion of the lever 10 which lies between the lugs 12 and 13 pass, and in order to effect the rocking or tilting of the valve lever 10 by the shaft 18, the said portion of the said lever is formed U-shaped, as at 20, for providing a relatively long crank, which normally declines and is in engagement with the bottom of the loop 19, when the mechanism is at rest, as best seen in Figs. 3 and 4, and when in this position, the loop 19 is disposed vertically. The rock-shaft 18 is manipulated by a depending hand-lever 22, which may be secured to the outer end of the said shaft in any suitable manner, but I have shown the said connection to be by means of a screw-threaded stud 23, which is carried by the upper end of the handle which is threaded into a perforation near the end of said shaft. As additional means for securing the bracket 11 in place, I have shown integral spikes or points 24, which may be driven into the inner face of the tank, as shown in Figs. 2 and 4.

The operation of my improved mechanism is as follows: The full lines in the several figures of the drawing show the normal position of all of the operating parts when they are at rest. To rock the lever 10, for lifting and unseating the flush valve 5, the handle 22 is swung either to the right

or to the left, as indicated by the dotted lines in Fig. 3. The swinging of the handle 22 moves the loop 19 in the same direction, and to the same extent. The loop, in turn lifts the U-shaped crank 20, which partially rotates the lever 10 in the direction for raising the arm 10', thereby unseating the valve 5. The operator is supposed to let go the handle 22 immediately after the valve is opened, and if he does so, all of the operating parts will instantly restore themselves to normal position by gravity, ready for a subsequent operation.

My improved flush-tank operating mechanism is extremely simple, and the cost of producing the parts is very slight. When the lever 10 and the rock-shaft 18 are properly made and connected up, they afford a very light, yet strong combination. Owing to the method of connecting the rock-shaft and the lever 10, together with the manner of applying these to the bracket 11 and the bushing 16, there is nothing to get out of order. The present device will therefore stand considerable wear and abuse without failing.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is—

1. The combination with a flush-tank and a flush valve therein, of a rocking lever, one end of said lever connecting with said valve, the opposite end of said lever having a crank, a rock shaft disposed at right angles to said lever, the one end of said shaft formed into a loop through which said crank passes, and means for rotating said shaft in opposite directions for causing said loop to rock said lever and open said valve.

2. The combination with a flush-tank and a flush valve therein, of a rocking lever, one end of said lever connecting with said valve, the opposite end of said lever having a crank, a rock shaft journaled in the wall of the tank, the inner end of said shaft formed

into a loop through which said crank passes, and a gravitative handle secured to the opposite end of said shaft adapted when swung to the right or to the left to cause said loop to partially rotate the said lever for unseating said valve.

3. In a flush tank operating device, a rocking lever having an arm at one end adapted to connect with a flush valve, and having at its opposite end an U-shaped crank, a bracket for supporting said lever, said bracket having spaced perforated lugs between which the crank of said lever is disposed, a shaft piercing the said bracket, the inner end of said shaft having an integral ring in which said crank is disposed, the said ring adapted to rock said lever when said shaft is partially rotated in opposite directions, and a depending handle secured to the opposite end of said shaft capable of being manually operated for rocking said shaft and said lever.

4. In a flush-tank operating mechanism, the combination with a tank and a flush valve therein, of a rocking lever connecting at one end to the said valve, the opposite end bent to provide an elongated crank portion, a bracket having spaced bearing lugs adapted to support said lever, the said lugs alining and positioned at the opposite ends of said crank portion for preventing the longitudinal movement of said lever, a rock-shaft piercing the wall of the tank, the inner end of said shaft comprising a circular loop which encircles said crank portion of said lever, and adapted when said shaft is partially rotated to rock said lever in the direction for opening said valve, and means for manually operating said shaft.

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

BERT O. TILDEN.

Witnesses:

F. H. WILKIE,
E. J. OUTRAM.