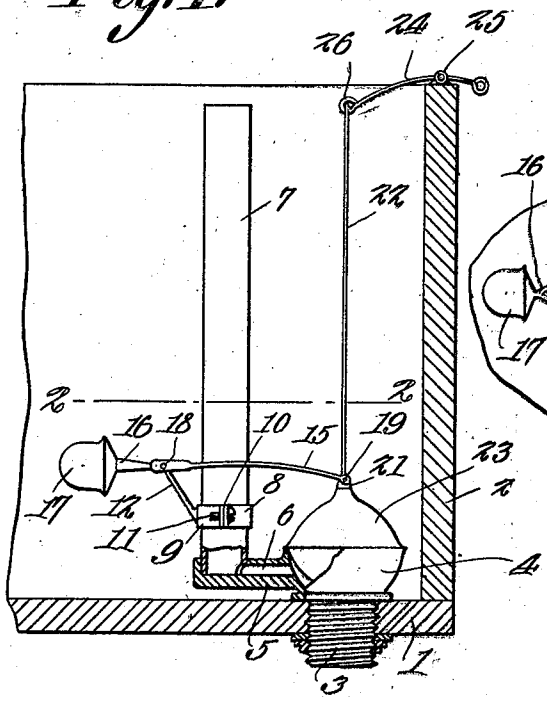
F. ZIEMER.

FLUSH VALVE.

APPLICATION FILED JULY 22, 1916.

1,201,416. Patented Oct. 17, 1916.

Fig. 1.



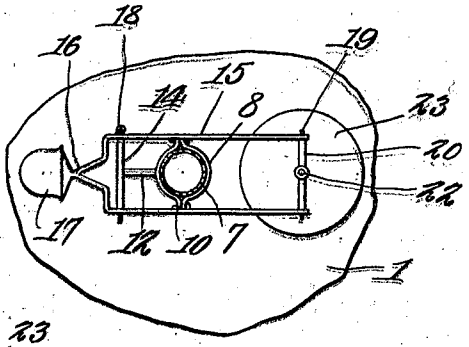


Fig. 2.

Fig. 4.

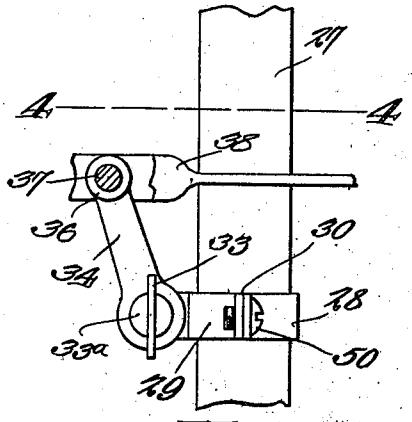
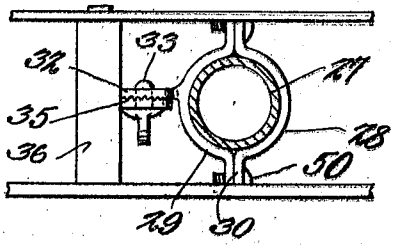


Fig. 3.



Witnesses

J. R. Tomlin

R. X. Parker

Fredrick Ziemer

Inventor,

by C. A. Snow & Co.

Attorneys.

UNITED STATES PATENT OFFICE.

FREDRICK ZIEMER, OF FREEPORT, NEW YORK.

FLUSH-VALVE

1,201,416. Specification of Letters Patent. Patented Oct. 17, 1916.

Application filed July 22, 1916. Serial No. 110,70.

To all whom it may concern:

Be it known that I, FREDRICK ZIEMER, a citizen of the United States, residing at Freeport, Long Island, in the county of Nassau and State of New York, have invented a new and useful Flush-Valve, of which the following is a specification.

The device forming the subject matter of this application is a valve for a flush tank, and one object of the invention is to provide novel means for mounting the lever whereby the ball valve is held in a raised position.

The invention aims to improve generally and to enhance the utility of devices of that type to which the present invention appertains.

With the above and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed can be made within the scope of what is claimed, without departing from the spirit of the invention.

In the accompanying drawings, Figure 1 shows the invention in side elevation, mounted in a flush tank, parts appearing in section; Fig. 2 is a cross section taken approximately on the line 2—2 of Fig. 1; Fig. 3 is a side elevation showing a slight modification in the invention, parts being broken away; and Fig. 4 is a cross section taken approximately on the line 4—4 of Fig. 3.

In carrying out the present invention there is provided a flush tank including a bottom 1 and a side wall 2.

The numeral 3 designates an outlet, assembled in the usual manner with the bottom 1 of the tank and provided with a valve seat 4. Projecting laterally from the valve seat 4 is an arm 5 with which is assembled an upright pipe or standard 7. In the arm 5 there is a passage 6 which communicates with the pipe 7, so that when water rises to too great a height in the tank, the overflow may pass through the pipe 7 and the passage 6 into the outlet 3.

Surrounding the pipe 7 near to the lower end thereof is a clamp comprising parts 8 and 9 provided with ears 10 united by clamp screws 11 or in any other suitable manner. The part 9 of the clamp is equipped with an upwardly extended arm 12 terminating in a transverse tubular bearing 14.

The invention comprises a lever including parallel arms 15 which merge at their rear ends, as shown at 16, into a weight 17. The bearing 14 is received between the arms 15 of the lever. A cotter pin 18 or other suitable pivot member passes through the bearing 14 and is engaged with the arms 12 of the lever. The lever, thus, is fulcrumed intermediate its ends.

The forward extremities of the arms 15 of the lever are pivoted to form the ends 19 of a cross arm 20 projecting laterally in opposite directions from a head 21 on a vertical rod 22. To the lower end of the rod 22 is secured, in the usual way, a ball valve 23 which coöperates with the valve seat 4.

The numeral 24 designates any suitable actuating means for the rod 22, the same in the present instance being shown in the form of a lever fulcrumed intermediate its ends as shown at 25 on the upper edge of the side wall 2, or otherwise supported, the inner end of the lever 24 being pivoted as shown at 26, to the upper end of the rod 22.

In practical operation, the ball valve 23 is held on the seat 4 by the weight of the water in the tank. The ball valve 23 may be raised by means of the rod 22, whereupon the ball valve will float until the water has flowed out of the tank sufficiently to permit the ball valve to engage the seat 4. The weight 17 serves to aid in elevating the ball valve 23, and aids in holding the ball valve elevated while the water is flowing out of the flush tank.

The clamp 8—9 and attendant parts constitute an efficient fulcrum for the lever including the arms 15. The clamp 8—9 obviously, may be adjusted vertically on the pipe 7.

At times, the pipe 27 shown in Fig. 3, and corresponding to the pipe 7, is located so near to the valve seat 4 that the arm construction indicated at 12 in Figs. 1 and 2 cannot be resorted to with satisfaction, it being necessary to adjust the arm, in order that the ball valve may coöperate properly with the seat. Under such circumstances, recourse is had to the structure shown in Figs. 3 and 4.

In Figs. 3 and 4, the numeral 27 designates a pipe corresponding to the pipe 7. The parts of the clamp are shown at 28 and

29 and are provided with ears 30 united by screws 50. The clamp member 29 terminates in a lug 32 into which is threaded a clamp screw 33 having a head 34. Mounted to swing for adjustment in a vertical plane on the clamp screw 33 is an arm 34. The adjacent faces of the arms 34 and the lug 32 are equipped with interengaging teeth 35. By loosening the clamp screw 33, the arm 34 may be adjusted to any angle with respect to the vertical, and by tightening up the clamp screw 33, the head 33^a of the clamp screw will press the arm 34 toward the lug 32 thereby causing the teeth 35 to interengage, and after the teeth are interengaged, the arm 34 will be held positively against shifting its position. The upper end of the arm 34 carries a tubular bearing 36, like the bearing 14, the bearing 36 receiving a pin 37 or other suitable fulcrum member, engaging the arms 38 of the lever, in the manner hereinbefore set forth.

When the device is constructed new in toto, the fixed arm construction indicated at 12 in Figs. 1 and 2, ordinarily will be employed, but when the clamp members, of which the parts 28 and 29 may be taken as typical, are mounted in an old flush tank, then the adjustable arm 34 and attendant parts may be used to advantage.

Having thus described the invention, what is claimed is:—

1. In a device of the class described, a flush tank comprising an outlet having a valve seat; a valve coöperating with the seat; means for raising the valve; a standard in the tank; a clamp on the standard and comprising coöperating members; an upstanding arm mounted to swing for adjustment in a vertical plane, toward and away from the standard; means for connecting the lower end of the arm with one member of the clamp releasably, to permit an adjustment in the position of the arm; a lever fulcrumed intermediate its ends on the upper end of the arm; a weight carried by one end of the lever; and means for pivotally connecting the other end of the lever with the valve.

2. In a device of the class described, a flush tank comprising an outlet having a valve seat; a valve coöperating with the seat; means for raising the valve; a standard in the tank; clamps on the standard and comprising coöperating parts, one of which is provided with a lug; an arm, the lower end of the arm and the lug being provided with interengaging teeth upon their adjacent faces, permitting a swinging movement of the arm in a vertical plane, toward and away from the standard; a clamping device connecting the lower end of the arm with the lug, to hold the teeth in engagement, and to prevent a vertical swinging of the arm; a lever fulcrumed intermediate its ends on the upper end of the arm; a weight carried by one end of the lever; and means for pivotally connecting the other end of the lever with the valve.

3. In a device of the class described, a flush tank comprising an outlet having a valve seat; a valve coöperating with the seat; means for raising the valve; a standard in the tank; a clamp on the standard; a lever; a weight on one end of the lever; means for pivotally connecting the other end of the lever with the valve; a fulcrum element; means for pivotally connecting one end of the fulcrum element with the lever, intermediate the ends of the lever; and mean for connecting the other end of the fulcrum member adjustably with one member of the clamp, whereby the point of pivotal connection between the fulcrum member and the lever may be shifted, for adjustment, toward and away from the standard.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

FREDRICK ZIEMER.

Witnesses:
EDWARD SCHMIDT,
WM. F. PEARSALL.