F. A. SCHOSSOW.

CONTROLLING MECHANISM FOR FLUSHING VALVES.

APPLICATION FILED JAN. 7, 1920.

1,353,804. Patented Sept. 21, 1920.

2 SHEETS—SHEET 1.

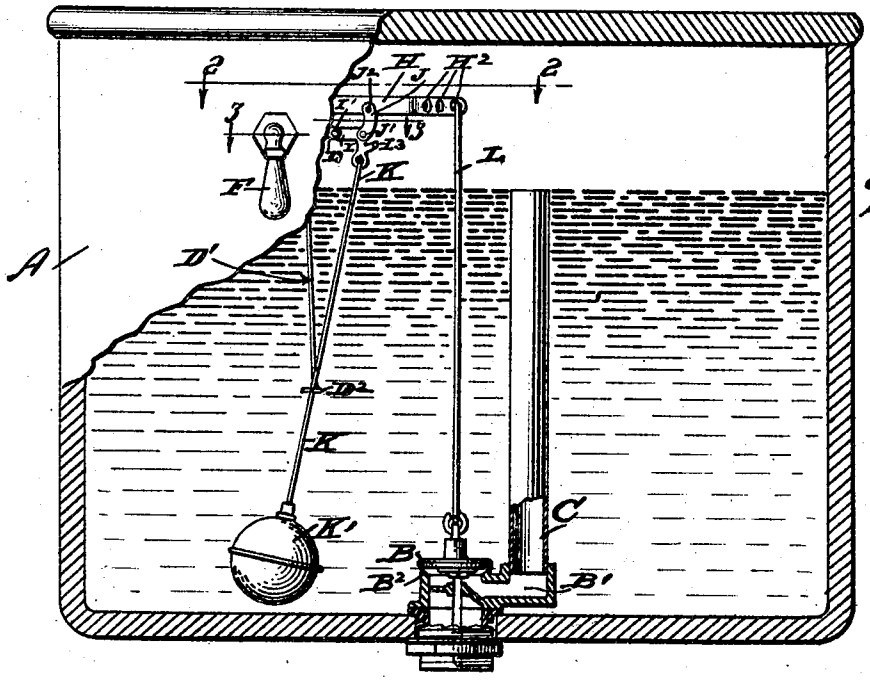


Fig. 1

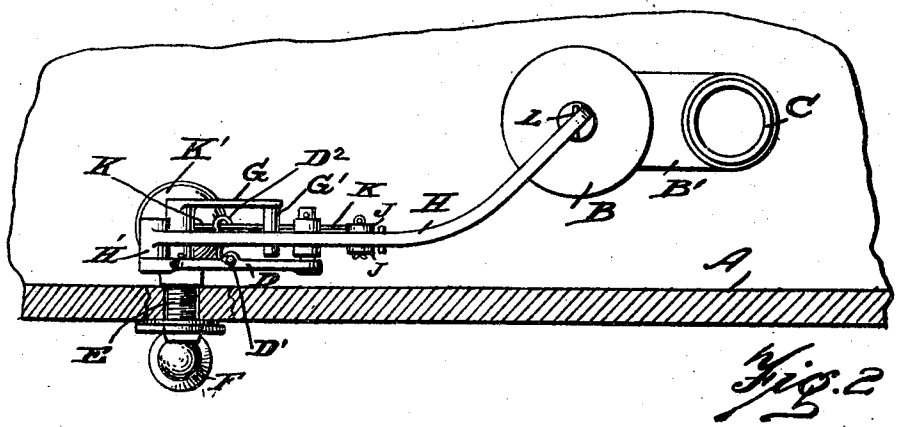


Fig. 2

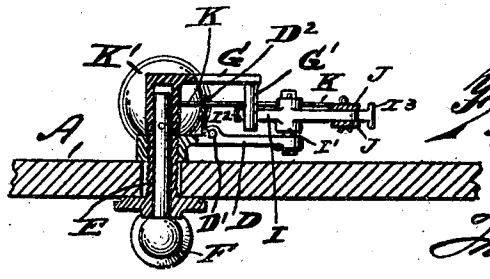


Fig. 3

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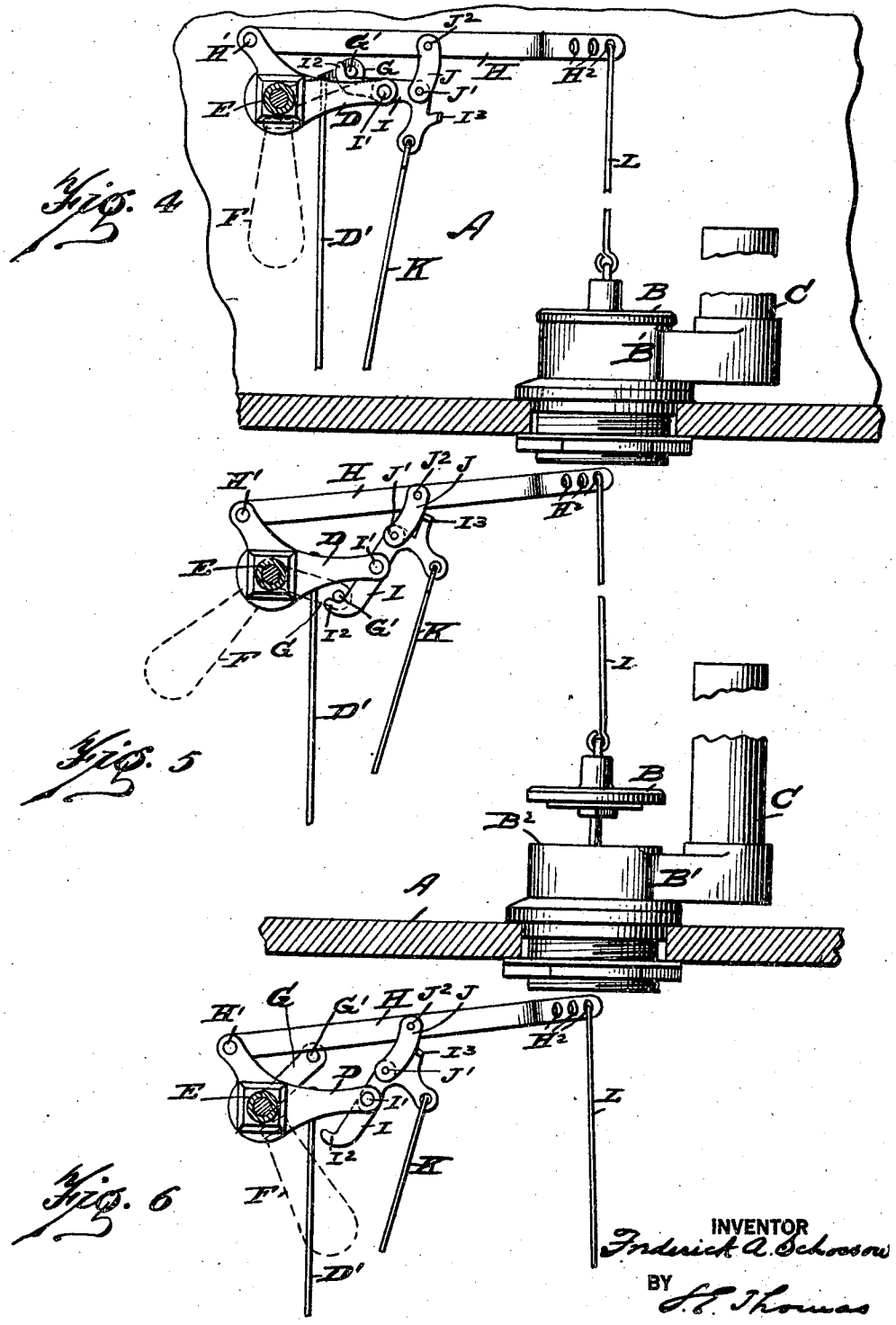


Fig. 4

Fig. 5

Fig. 6

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CONTROLLING MECHANISM FOR FLUSHING-VALVES.

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Application filed January 7, 1920. Serial No. 349,932.

To all whom it may concern:

Be it known that I, FREDERICK A. SCHOSSOW, citizen of the United States, residing at Detroit, county of Wayne, State of Michigan, have invented a certain new and useful Improvement in Controlling Mechanism for Flushing-Valves, and declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to a controlling mechanism for flushing valves, or the like, shown in the accompanying drawings and more particularly described in the following specification and claims.

One object of this invention is to provide a flushing and discharge valve controlling mechanism, of few parts, simple in construction, inexpensive to manufacture, yet effective in operation and not apt to get out of order.

Another object of the invention is to provide means designed to act directly upon the manually operated lever for raising the flushing valve, whereby the valve is supported and maintained in its elevated or "open" position until substantially all of the water has been discharged from the tank,—the flushing valve is then automatically released that it may descend to close the discharge outlet,—the valve remaining closed until again raised by the manual operation of the controlling lever.

With the foregoing 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 may be made in the precise embodiment of the invention herein disclosed without departing from the spirit of the same.

In the accompanying drawings forming part of this specification:—

Figure 1 is a longitudinal vertical sectional view through a flushing tank, showing the flushing valve seated and the tank filled with water.

Fig. 2 is a plan view of the flushing valve and controlling mechanism, showing also a fragment of the flushing tank in horizontal section taken on line 2—2 of Fig. 1.

Fig. 3 is a fragmentary horizontal sectional view on line 3—3 of Fig. 1.

Fig. 4 is a fragmentary elevation and detail sectional view showing the lever operating mechanism in its normal position and the flushing valve closed.

Fig. 5 is a similar view, showing the lever operating mechanism as it would appear following its manual operation;—the flushing valve being raised to discharge the water from the tank.

Fig. 6 is a detail view showing the bell-crank rocker-arm acting directly upon the controlling lever,—from which the flushing valve is suspended,—instead of through the links, with which the float is connected by a rod with the lever as shown in Fig. 5.

Referring now to the letters of reference placed upon the drawings:—

A, denotes a flushing tank. B, indicates a flushing valve, B′ the body of the valve, and B^2 the valve seat. C, denotes an overflow pipe opening into the body of the valve. D, is a fixed bracket threaded upon a sleeve E, projecting through the wall of the tank. F, indicates a manually operated rocker lever supported by the sleeve to which is secured the bell-crank lever G, having a laterally projecting pin G′ adapted to bear directly upon the controlling lever H pivoted at H′ to an arm of the bracket D when the rocker lever F is rocked in one direction and against a bell-crank link I, pivoted at I′, to the bracket D, when the bell-crank lever is tilted in the opposite direction. The bell-crank link I, is provided with a projecting lug I^2 at one end to limit the "throw" of the bell-crank link and with another lug I^3 which is adapted to bear against a link J, connecting the bell-crank link and the controlling lever H when the respective pivot pins I′, J′ and J^2 are in alinement, to lock the controlling lever H in its elevated position,—as will hereafter be more fully explained. Suspended from another arm of the bell-crank link I, is a rod K, to the lower end of which is secured a float K′;—and to the fixed bracket D is suspended a rod D′ provided with a loop D^2 at its lower end to receive and guide the rod K. Loosely suspended from the end

of the controlling lever H,—which is provided with a series of holes H^2 for purposes of adjustment,—is a rod L, to the lower end of which is loosely secured the flushing valve B.

Having indicated the several parts by reference letters the construction and operation of the device will be readily understood.

When the flushing valve B is seated and the tank full of water as indicated in Fig. 1 of the drawings the water may be discharged from the tank by rocking the manually operated lever F, in either direction. When operated in the direction indicated in Fig. 5, of the drawings, the pin G′ of the bell-crank lever G bears directly upon the bell-crank link I, its rocking action being limited by the lug I^2. When operated to the limit of its "throw" the pivots I′, J′ and J^2 of the respective links connected to the controlling lever H, will be in alinement, the lug I^3 of the bell-crank link I, bearing against the link J, thereby supporting the controlling lever H from which the flushing valve B is suspended in its elevated or "open" position. The thrust of the float K′ maintaining the valve in its open position,—as will be readily understood upon reference to Figs. 1 and 5 of the drawings until the altitude of the water in the tank has been lowered to such an extent that the float is no longer effective to support the valve in its "open" position. The valve then descends to its seat by gravity and remains seated until again manually raised, during which period the tank is again filled with water in the usual manner.

If the manually operated rocker lever F is operated in the opposite direction to that just described the projecting pin G′ of the bell-crank lever G will bear directly against the under side of the controlling lever H, lifting the latter and with it the flushing valve B, as indicated in Fig. 6 of the drawings,—the pivot pins I′, J′ and J^2 connecting the controlling lever H with the bracket D, being in alinement as before,—the upward thrust of the float K′ maintaining the controlling lever and flushing valve B in an elevated position until the altitude of the water in the tank has been sufficiently lowered for the valve to return to its seat, as previously described.

Having thus described my invention, what I claim is:—

1. In a device of the character described, a tank, a discharge valve, a controlling lever from which the discharge valve is suspended, a bell-crank link, a fixed support to which said bell-crank link is pivoted, a link connection between the bell-crank link and the controlling lever, a bell-crank lever adapted to coöperate with the bell-crank link and controlling lever, whereby the discharge valve may be raised from its seat, and a float whereby the discharge valve may be raised in an open position when manually raised until the altitude of the water in the tank is insufficient to be longer effective to support the valve in its open position.

2. In a device of the character described, a tank, a discharge valve, a controlling lever from which the discharge valve is suspended, a fixed bracket, a bell-crank link pivoted to the fixed bracket, a link connection between the bell-crank link and the controlling lever, a float suspended from the bell-crank link adapted to maintain the valve in an open position, a bell-crank lever having a projecting pin adapted to bear either against the controlling lever or the bell-crank link to operate the discharge valve, and means for manually rocking the bell-crank lever.

3. In a device of the character described, a tank, a discharge valve, a controlling lever from which the discharge valve is suspended, a fixed bracket, a bell-crank link pivoted to the fixed bracket, a bell-crank lever having a projecting pin adapted to bear against either the bell-crank link or the controlling lever to operate the discharge valve, a link connecting the bell-crank link with the controlling lever, said bell-crank link provided with a lug adapted to intercept the pin of the bell-crank lever to limit the throw of the latter and also another lug adapted to bear upon the link connection between the bell-crank link and the controlling lever, whereby the controlling lever may be locked in its elevated position, and a float suspended from the bell-crank link, adapted to maintain the discharge valve in an open position until the altitude of the water in the tank is insufficient to cause the float to be effective.

In testimony whereof, I sign this specification in the presence of two witnesses.

FREDERICK A. SCHOSSOW.

Witnesses:
S. E. Thomas,
John Considine, Jr.