T. CORREJOLLES & J. F. DAVIS.

FILLING AND DISCHARGING MEANS FOR FLUSH TANKS.

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952,101. Patented Mar. 15, 1910.

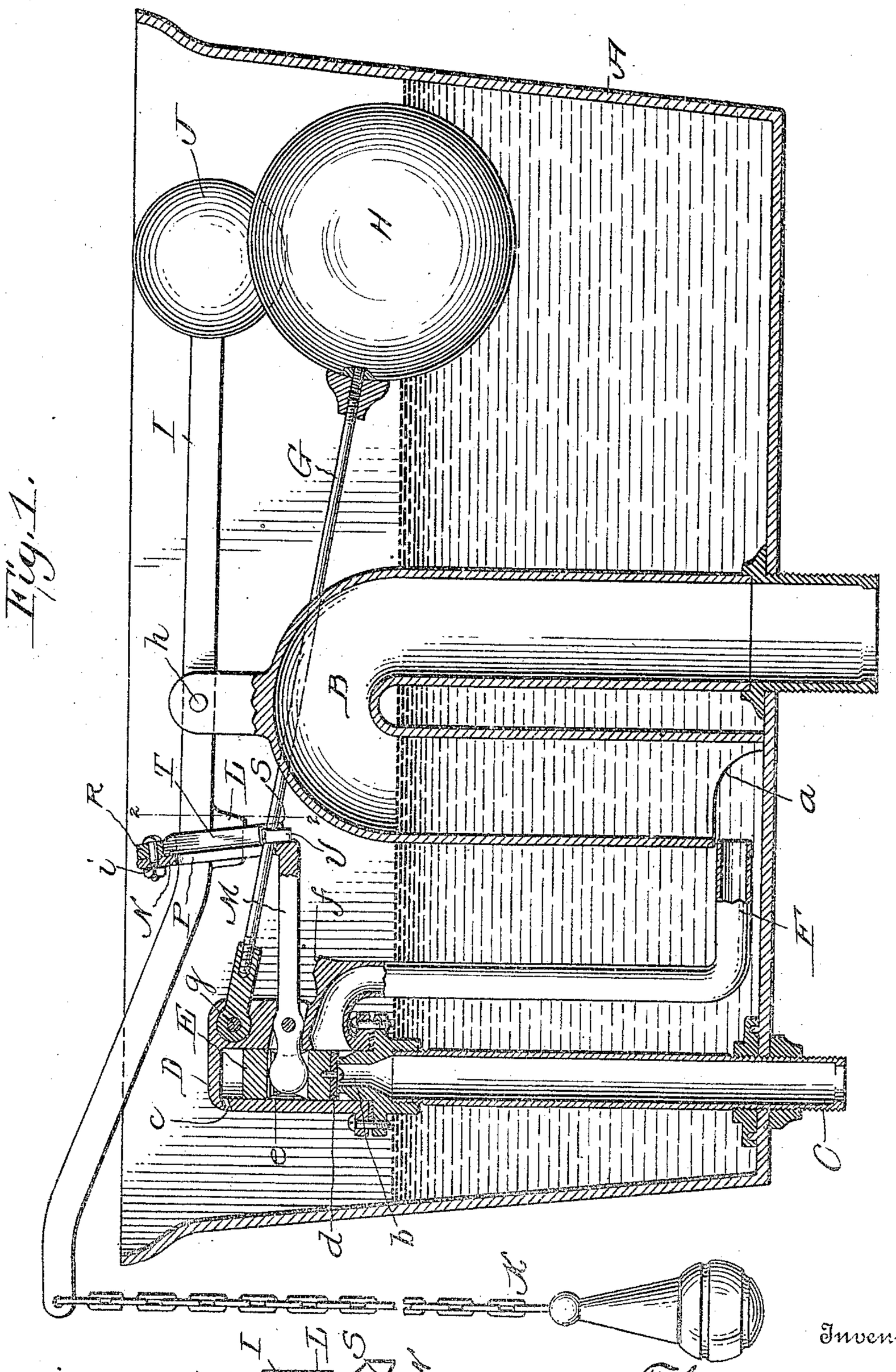

Fig. 1.

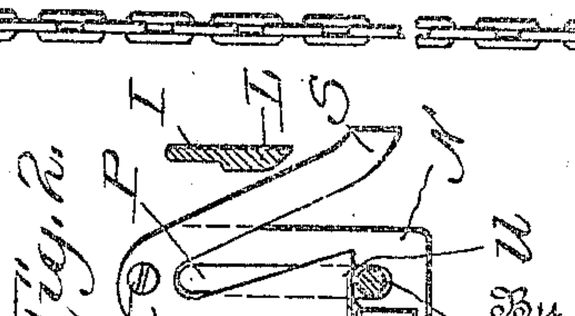

Fig. 2.

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THEODORE CORREJOLLES AND JOHN F. DAVIS, OF NEW ORLEANS, LOUISIANA.

FILLING AND DISCHARGING MEANS FOR FLUSH-TANKS.

952,101. Specification of Letters Patent. Patented Mar. 15, 1910.

Application filed November 6, 1909. Serial No. 526,563.

To all whom it may concern:

Be it known that we, THEODORE CORREJOLLES and JOHN F. DAVIS, citizens of the United States, residing at New Orleans, in the parish of Orleans and State of Louisiana, have invented new and useful Improvements in Filling and Discharging Means for Flush-Tanks, of which the following is a specification.

Our invention relates to flush tanks, and consists in the simple, reliable and durable filling and discharging means hereinafter described and definitely claimed.

In the drawings, accompanying and forming part of this specification: Figure 1 is a vertical section taken through a flush tank equipped with our improved filling and discharging means, and showing the same as filled with water and ready to be discharged. Fig. 2 is a detail transverse section, taken in the plane indicated by the line 2—2 of Fig. 1, looking toward the left.

Similar letters designate corresponding parts in both views of the drawings, referring to which—

A is a tank.

B is a siphon arranged in the tank and having one of its legs extending through the bottom of the tank and also having an inlet *a* at the lower end of its other leg.

C is a water supply pipe extending up into the tank and having a valve seat *b* at its upper end.

D is a casing inclosing and connected with the seat *b* and having a vent aperture *c* in its upper portion.

E is a reciprocating valve body arranged in the casing D and having packing *d* on its lower end and also having an intermediate recess *e*.

F is a pipe leading from the casing D to a point adjacent the inlet opening *a* of the siphon, and equipped on its upper portion with a stop *f*.

G is a vertically swinging lever carrying a float H and pivoted at *g* in and to the upper portion of the casing, and I is a vertically swinging lever, fulcrumed at *h* on the siphon or any other suitable support, and having a counterbalance weight J on one of its arms, and a depending pull device K on its other arm. Also on the last mentioned arm of the lever I is a tappet L, Figs. 1 and 2, designed to coöperate with the mechanism for raising and lowering the valve body E.

By comparison of Figs. 1 and 2, it will be understood that the said mechanism for opening and closing the valve body E comprises a vertically swinging lever M fulcrumed in casing D and having a short arm disposed in the recess *e* of the valve body and also having a comparatively long arm on which is an upstanding portion N slotted at P to receive the float lever G, and a transversely-swinging latch R, fulcrumed at *i* on the upstanding portion N of lever M, and having an arm S for the engagement of the tappet L, and also having an arm T separated by an intervening space from the arm S, and on which is an abutment U adapted to assume a position above the float lever G, and a depending stop V designed to bring up against the side of said float lever with a view of limiting the swinging movement of the latch toward the right in Fig. 2.

In Fig. 1 the tank is shown in its normal state—*i. e.*, partly filled with water, and the working parts are shown in their normal positions.

The operation is as follows: When the device K and the adjacent arm of the lever I are pulled downward, the tappet L by engaging the trip arm S of the latch moves the latch R toward the left in Fig. 2, and thereby carries the abutment U from above the float lever G. With this done, the long arm of the lever M gravitates until it brings up against the stop *f* and by so doing raises the valve body E, whereupon a head of water passes through the pipe F and starts the siphon. Said descending movement of the long arm of the lever M is of course assisted by the upward pressure of water against the valve body connected with the short arm of the lever. Then as the float H descends with the body of water in the tank, the float lever G moves downward in the slot P of the upstanding portion N of lever M, and by acting against the inner inclined edge of the latch arm T, presses the latch toward the left in Fig. 2 and reassumes the position below the abutment U of the latch. The flow of water through the long leg of the siphon continues until the level of the water in the tank is near the bottom thereof and the siphon action is interrupted, and then the water rises in the tank. It will also be noticed that when near the level shown in Fig. 1, the rising water raises the float H, and through the medium of the float lever G and the lever M, moves the valve-body E down-

ward against the seat *b* and thereby cuts off the supply of water to the tank.

It will be gathered from the foregoing that our novel filling and discharging means in addition to being simple in construction and reliable in operation, is strong and durable and is therefore well adapted to withstand the rough usage to which mechanism of corresponding character is ordinarily subjected.

While we have shown and described one form of our invention, it is to be understood that we are not limited to the details or the form or relative arrangement of parts disclosed, but that extensive modifications may be made therein, without departing from the spirit thereof.

Having described our invention, what we claim and desire to secure by Letters-Patent, is:

1. In filling and discharging means for flush tanks, the combination of a tank, a siphon arranged therein and having an inlet near the bottom thereof, a conduit for supplying water to the tank, a valve seat on said conduit, a valve casing inclosing said seat, a pipe leading from the valve casing to a point adjacent the inlet of the siphon and having a stop on its upper portion, a reciprocating valve body movable in said casing and having a recess, a lever pivoted to the casing and provided with a float, a lever pivoted in and to the casing and having a short arm disposed in the recess of the valve body and also having a comparatively long arm on which is an upstanding slotted portion that receives the float lever, a transversely swinging latch pivoted to said upstanding portion and having a trip arm and also having a second arm separated by an intervening space from the cam arm and having an inclined inner edge and an abutment at its lower end and also having a depending stop portion, and a suitably-supported and balanced lever having a tappet for acting against the trip arm of the latch.

2. In filling and discharging means for flush tanks, the combination of a tank, a siphon having an inlet arranged in the tank, means for supplying water to the tank, a valve controlling said supply, a suitably mounted lever provided with a float, a lever connected with the valve and having an upstanding slotted portion receiving the float lever, a transversely swinging latch pivoted on said upstanding portion and having a trip arm and also having an arm separated from the trip arm and inclined at its inner edge and provided with an abutment at its lower end, and a suitably supported movable tappet for acting against the trip arm of the latch.

3. In means for the purpose described, the combination of a float lever, a valve lever having an upstanding slotted portion receiving the float lever, a latch pivoted on said upstanding portion and having a trip arm and another arm separated by an intervening space from the trip arm and having an inclined inner edge, and a suitably mounted movable tappet for acting against the said trip arm of the latch.

In testimony whereof we have hereunto set our hands in presence of two subscribing witnesses.

THEODORE CORREJOLLES.
JOHN F. DAVIS.

Witnesses:
JNO. D. TOWNSEND,
M. BLANCHARD.