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C. NORBORK

FLUSHING TANK

Filed April 11, 1922

Fig. 1.

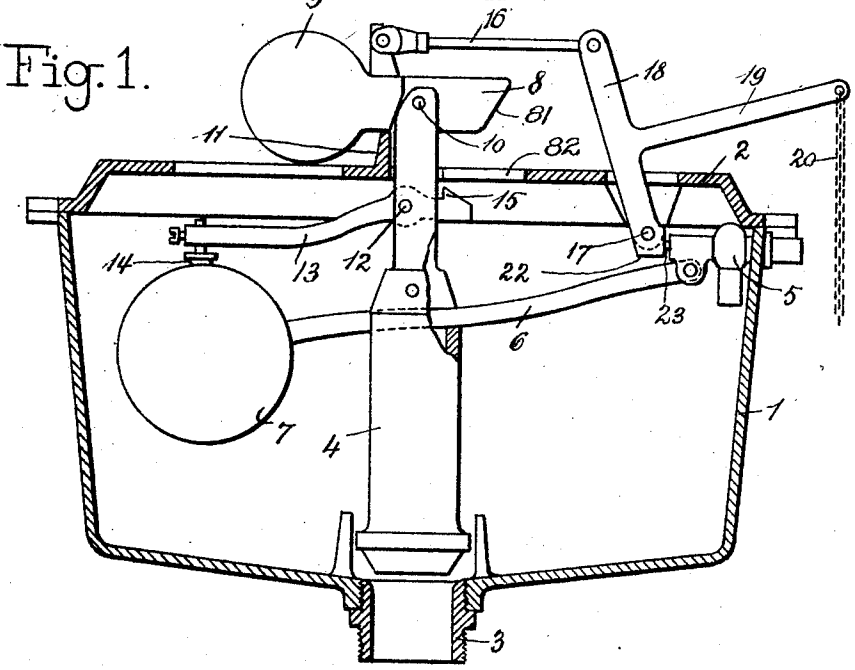
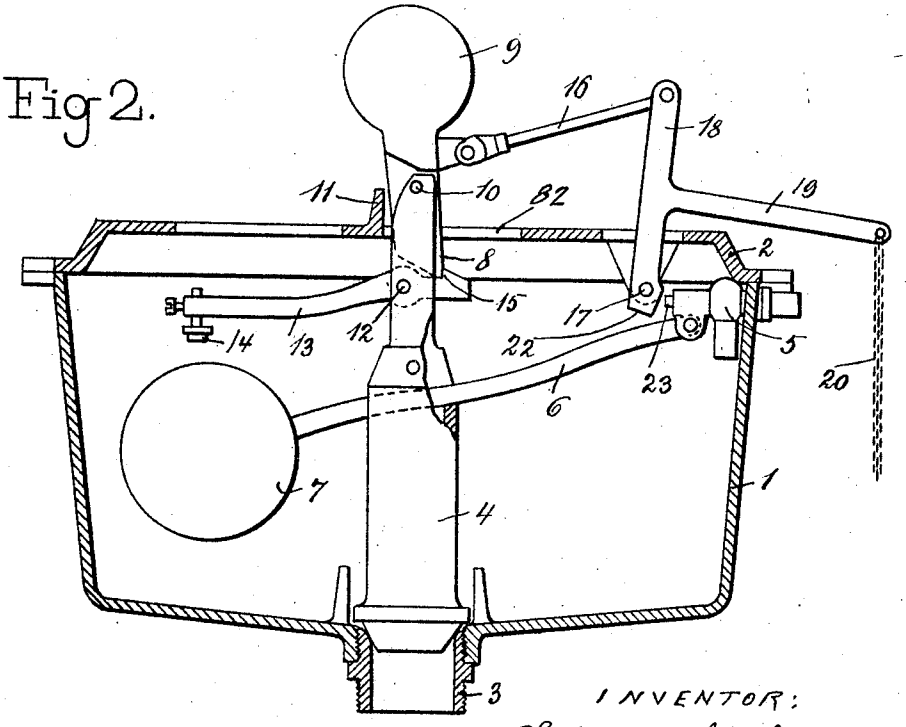


Fig. 2.



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UNITED STATES PATENT OFFICE.

CHRISTEN NÓRBORK, OF COPENHAGEN, DENMARK.

FLUSHING TANK.

Application filed April 11, 1922. Serial No. 551,562.

To all whom it may concern:

Be it known that I, CHRISTEN NÓRBORK, a subject of the King of Denmark, residing at Copenhagen, in the Kingdom of Denmark, have invented new and useful Improvements in Flushing Tanks, of which the following is a specification.

The invention relates to flushing tanks of the kind which normally stand empty with closed inlet-valve in order to prevent waste of water and freezing, and by which the plug of the inlet-valve and the vertically movable tube, which governs the discharge from the tank, both are influenced (directly or indirectly) by a weighted arm, a spring or the like maintaining the tube in raised position and the said plug closed, and which are actuated, when a pull is exerted in the usual chain or the like hanging alongside the closet bowl, in such a manner that the tube sinks down and closes the outlet from the tank simultaneously with the inlet-valve being released, so that the water flows into the tank.

The invention has for its object to render devices of this kind more simple and more secure in service than the heretofore used constructions, this object being attained in that the said weighted arm or the spring, after having performed the motion necessary in order to close the outlet from the tank and to open the inlet-valve, is held in position by a lever. When the water has reached a suitable level, it causes the float to release the lever from the said arm or spring, which thereby becomes operative again and lifts the tube, so that flushing may be effected, and closes the inlet-valve.

In practice, the invention may be carried out in several manners, one of which will be explained in the following, reference being made to the drawing which shows a construction of the novel device.

Fig. 1 shows a vertical section of one construction of the flushing tank,

Fig. 2 is a similar section of the same with the moving parts in another position.

In Figs. 1 and 2, 1 indicates the flushing tank proper, 2 the cover of the same, 3 the nipple to which the not shown flushing pipe leading to the closet bowl is connected, 4 the vertically movable tube serving to open and close the connection between flushing tanks and flushing tubes, 5 the inlet-valve, 6 the float arm and 7 the float proper.

The tube 4 terminates at top in a fork between the prongs of which a lever 8 with heavy weight 9 is inserted, the said lever being pivoted about a pin 10. When the closet is not in use, the tube 4 occupies the raised position shown in Fig. 1, the heavy weight 9 holding the tube raised owing to the lever 8 resting on a transverse rib 11 disposed on the top edge of the cover, and the ball 9 has the required overweight relatively to the tube. 13 is a lever inserted between the fork prongs of the tube and pivoted about a pin 12, the said lever supporting a tappet 14 preferably fitted with a rubber plug adapted to be actuated by the float 7, and a snatch-hook 15 serving to hold the lever 8 in the vertical position shown in Fig. 2, as will be further explained in the following.

By means of a link member 16 of adjustable length the lever 8 is connected to a lever 18 being pivoted about a fixed pin 17 and being fitted with an arm 19 to which a chain 20 with a handle, not shown is attached.

When the various parts stand in the normal position shown in Fig. 1, the tank is empty, and the inlet-valve 5 is maintained closed by the short arm 22 of the lever 18 resting against the tappet 23 of the valve plug maintaining thereby the plug pressed against its seat. After the closet has been used, a pull is exerted as usual on the chain 20, whereby the levers 8 and 18 become raised into the positions shown in Fig. 2, the free end 81 of the lever 8 thus passing through a slot 82 in the cover, said slot being sufficiently narrow to prevent the tube 4 from tilting in response to the pull of the rod 16. Immediately the bottom end of the lever 8 becomes caught by the snatch-hook 15, the left-hand arm of the lever 13 being heavier than its right-hand-arm, and as the lever 8 loses its point of support on the transverse rib 11, the tube 4 sinks down by its own weight and, thereby, closes the outlet from the tank. At the same time the plug of the inlet-valve is released by the motion of the lever 18, above referred to, and the water flows into the tank and fills the same. When the water has reached a suitable level, the float 7 meets the tappet 14, so that the lever 8 becomes released from the lever 13, and as the combined centre of gravity of the lever and the ball 9, in the position shown in Fig. 2, is somewhat to the left of the pin 10, the ball will swing to the left and, thereby, lift the tube 4, while the lever 8 rocks about the rib

11. The water flows consequently from the tank down into the closet bowl, and flushing is effected. At the same time the lever 18 closes the inlet-valve, so that further influx of water will be prevented.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

An apparatus of the class described, comprising, in combination, a tank having a valve-controlled outlet and a valve-controlled inlet, the latter being adapted for connection to a source of fluid under pressure, a pivoted member for retaining the inlet valve closed, a weighted member pivoted to the outlet valve and adapted to fulcrum on a fixed portion of the tank thereby to retain the outlet valve open, means for simultaneously swinging said members on their pivots to permit the inlet valve to be opened under pressure of the fluid and the outlet valve to be closed by gravity thereby to fill the tank, a pivoted latch for engaging one of said retaining members thereby to maintain both of said members in tank-filling position, and a pivoted float adapted when raised to release said latch thereby to permit return of the retaining members to initial position.

In testimony whereof I have signed my name to this specification.

CHRISTEN NÓRBORK.