(No Model.) 3 Sheets—Sheet 1.

# T. McHUGH.

## WATER SUPPLY APPARATUS FOR WATER CLOSET TANKS.

No. 449,944. Patented Apr. 7, 1891.

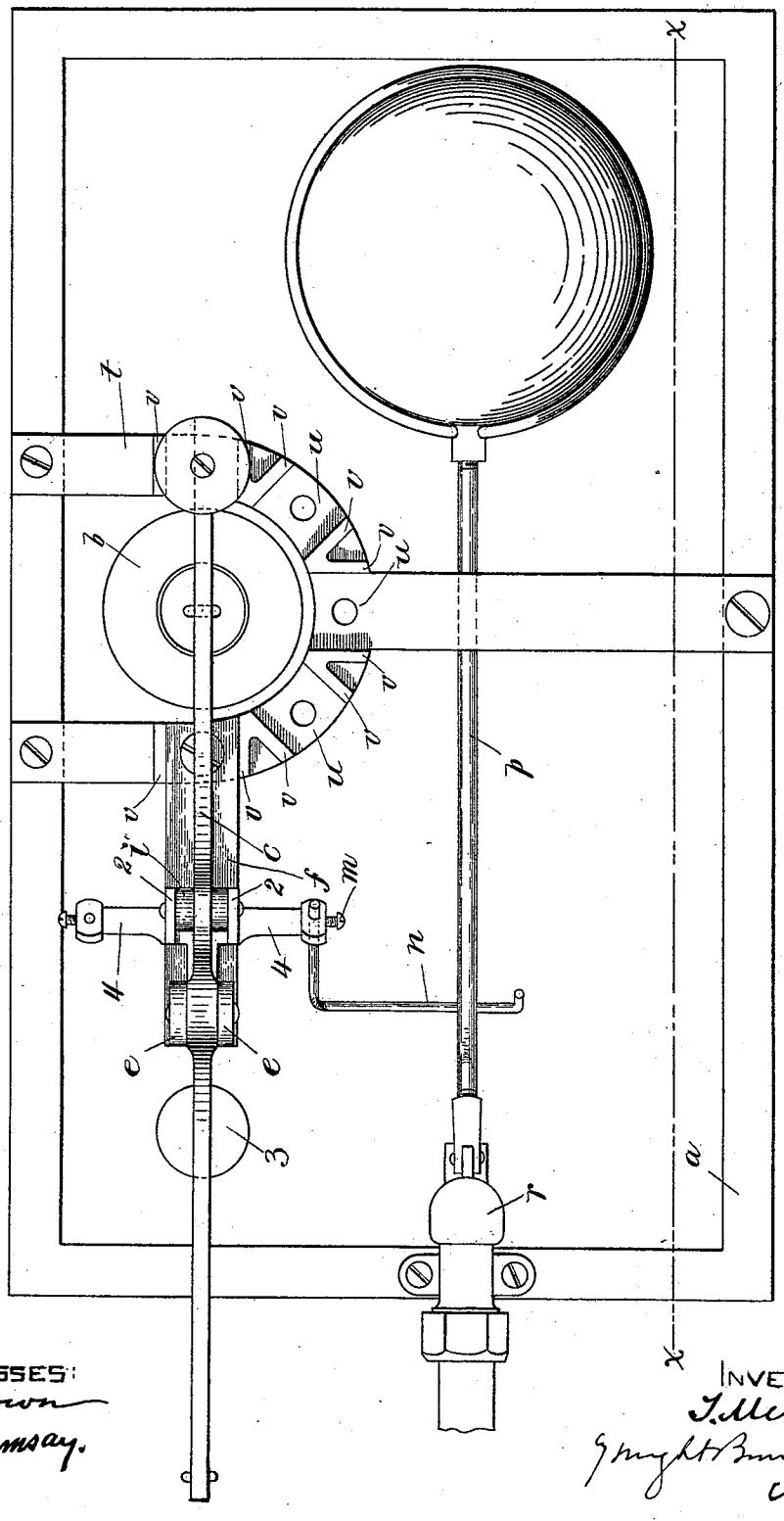


FIG. 1.

WITNESSES:
H. Brown
W. C. Ramsay.

INVENTOR:
T. McHugh
by Wright Brown Quinby & Atty's

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

(No Model.) 3 Sheets—Sheet 2.

# T. McHUGH.

## WATER SUPPLY APPARATUS FOR WATER CLOSET TANKS.

No. 449,944. Patented Apr. 7, 1891.

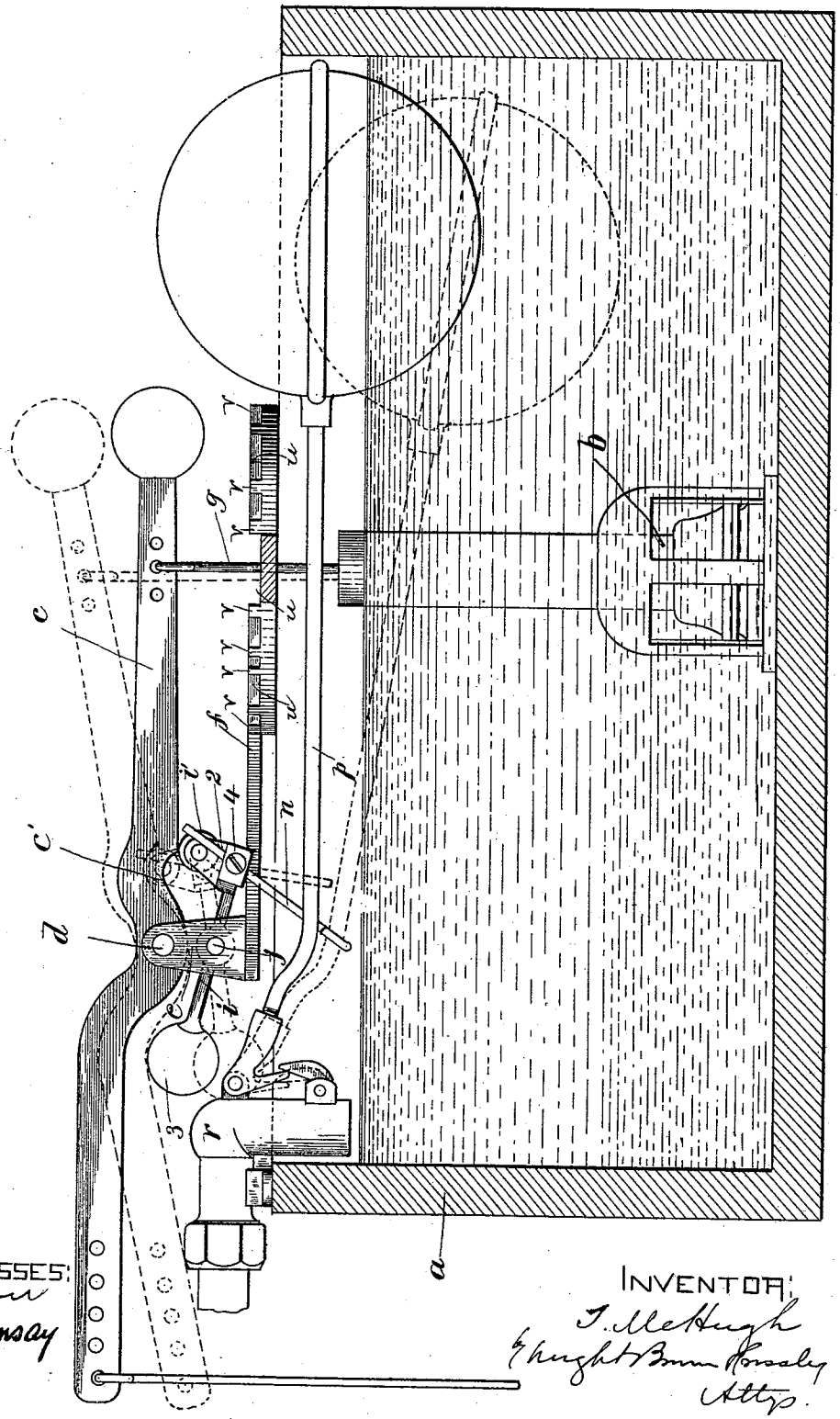



FIG. 2.

WITNESSES:
H. Brower
W. C. Ramsay

INVENTOR:
T. McHugh
by Knight Bros. Burnham & Donaldson
Attys.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

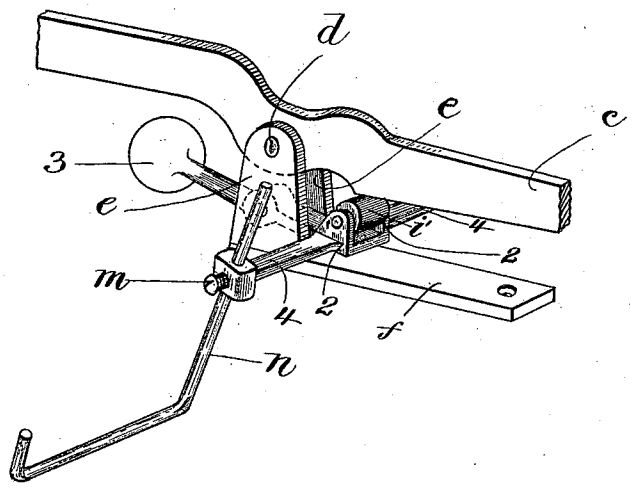
(No Model.) 3 Sheets—Sheet 3.

# T. McHUGH.

## WATER SUPPLY APPARATUS FOR WATER CLOSET TANKS.

No. 449,944. Patented Apr. 7, 1891.

FIG. 3.




WITNESSES:
H. Brown.
H. C. Ramsay.

INVENTOR:
T. McHugh
by Wright Brown Quinby & Atty's

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

# UNITED STATES PATENT OFFICE.

TIMOTHY McHUGH, OF WAKEFIELD, ASSIGNOR OF ONE-HALF TO THE SMITH & ANTHONY STOVE COMPANY, OF BOSTON, MASSACHUSETTS.

## WATER-SUPPLY APPARATUS FOR WATER-CLOSET TANKS.

SPECIFICATION forming part of Letters Patent No. 449,944, dated April 7, 1891.

Application filed October 17, 1889. Serial No. 327,352. (No model.)

*To all whom it may concern:*

Be it known that I, TIMOTHY McHUGH, of Wakefield, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Water-Supply Apparatus for Water-Closet Tanks, of which the following is a specification.

This invention has for its chief object to provide simple and effective means for holding open the valve of a water-closet supply-tank until a suitable wash has been effected, and then automatically closing said valve.

The invention consists in the combination of a supply-tank, a valve, and a float-lever therein, a bracket or support attached to the tank, a valve-operating lever pivoted to said bracket and provided with a recess in its lower edge, a weighted detent-lever pivoted to the bracket and held by its weight in contact with the lower edge of the valve-lever, one end of said detent-lever being adapted to automatically engage the recess of the valve-lever when the latter is raised, and thereby hold the valve open, a laterally-extending arm on the detent-lever, and a connection between the said arm and the float-lever, whereby said detent-lever is displaced during the subsidence of water in the tank. When the valve is closed, the pivoted lever holds the weighted detent away from its normal position, so that when the pivoted lever is again moved to open the valve the detent will move automatically to position to engage the pivoted lever and hold the valve open.

Of the accompanying drawings, forming a part of this specification, Figure 1 represents a top view of a tank provided with my improvements. Fig. 2 represents a section on line $x$ $x$, Fig. 1, looking toward the top of the latter. Fig. 3 represents a perspective view of the automatic detent and a part of the pivoted lever.

The same letters of reference indicate the same parts in all the figures.

In the drawings, $a$ represents a water-closet supply-tank, and $b$ represents the valve that controls the escape of water from the tank, said valve being of any suitable construction.

$c$ represents a lever, which is pivoted at $d$ to ears or lugs $e$ $e$ on a plate or bracket $f$, affixed to the tank by means hereinafter described. One end of the lever $e$ is connected by a rod or link $g$ with the valve $b$, and the other end is connected by a rod, chain, or other suitable connection with a handle or pull or other means employed to move the lever in the direction required to raise the valve. The under side of the lever $c$ is provided near the pivot $d$ with a curved recess $c'$, formed to receive the detent hereinafter described. Said detent is composed of a lever $i$, pivoted at $j$ to the ears $e$ $e$ under the lever $c$, and provided at one end with a roll $i'$, journaled in ears 2 2, and at the other end with a weight 3. On the end of the lever $i$ having the roll $i'$ is a lateral arm 4, to which is secured by a set-screw $m$ a wire rod $n$, which is bent to extend horizontally under the float-lever $p$, which controls the cock $r$, that admits water to the tank.

The operation of the parts above described is as follows: When the valve is closed, the under side of the valve-lever $c$ bears against the roll $i'$ of the detent-lever $i$, as shown in full lines in Fig. 2, thus holding the detent-lever against the tendency of its weighted end to raise the roll $i'$. When the valve-lever $c$ is moved to position to open the valve, the roll $i'$ is permitted to move upwardly until it enters the recess $c'$, as shown in dotted lines in Fig. 2. The form of said recess is such that when the roll is held in engagement with it by the weighted end of the lever $i$ the valve-lever $c$ cannot move to close the valve, but is held in the position shown in dotted lines, thus keeping the valve open until force is applied to disengage the roll $i'$ from the recess $c'$. Said force is applied by the float-lever $p$ while the latter is falling in consequence of the subsidence of the water in the tank. When the falling lever $p$ bears upon the rod $n$, it draws down the roll-carrying end of the lever $i$ through said rod, thus disengaging the roll $i'$ from the recess of the lever $c$ and releasing said lever and the valve, which thereupon closes. It will be seen, therefore, that the valve is held open long enough to give a wash of considerable duration. The duration of the wash may be regulated by adjusting the rod $n$ vertically in the arm 4.

$t$ represents a U-shaped metallic frame or bridge attached to the top of the tank above the valve $g$. Said frame is provided with a series of seats $u$, each bounded on two sides by lugs $v$ $v$, and each provided with a hole to receive an attaching-screw. Each seat $u$ is formed to receive the inner end of the plate or bracket $f$, and said seats radiate or extend in different directions, so that said plate or bracket can be arranged in various positions—that is to say, it may extend lengthwise of the tank, as shown in the drawings, or it may extend crosswise or diagonally. It will be seen, therefore, that considerable latitude is given in the arrangement of the valve-operating devices, so that the same may be adapted to varying requirements and circumstances.

The weighted detent-lever $i$ is preferably provided with two arms 4, projecting in opposite directions, so that the rod $n$ may be placed at either side of said lever.

I do not limit myself to the employment of the roll $i'$ on the detent-lever, but prefer the same on account of the ease of operation resulting from its employment.

Instead of the bent rod $n$, the connection between the detent-lever and float-lever may be a chain or any other suitable device.

The float-lever $p$ may be an independent lever, used only for the purpose of operating the detent-lever instead of being connected with the supply-cock.

I claim—

The combination of a supply-tank, a valve $b$ and a float-lever $p$ connected therewith, a bracket or support attached to the tank, a valve-operating lever $c$, pivoted to said bracket and provided with a recess $c'$ in its lower edge, a weighted detent-lever also pivoted to said bracket and having ears at one end, and a roll journaled in said ears and held by the weight of said detent-lever in contact with the lower edge of the valve-lever, said roll being adapted to automatically engage the recess $c'$ of the valve-lever when the latter is raised, and thereby hold the valve open, a laterally-extending arm 4 on the detent-lever, and a bent rod adjustably secured to said arm with which the float-lever is designed to engage, whereby said detent-lever is displaced during the subsidence of the water in the tank, as set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 8th day of October, A. D. 1889.

TIMOTHY McHUGH.

Witnesses:
C. F. BROWN,
A. D. HARRISON.