3 Sheets—Sheet 1.

J. FOLEY.
Service-Tank.

No. 210,515. Patented Dec. 3, 1878.

FIGURE 1.

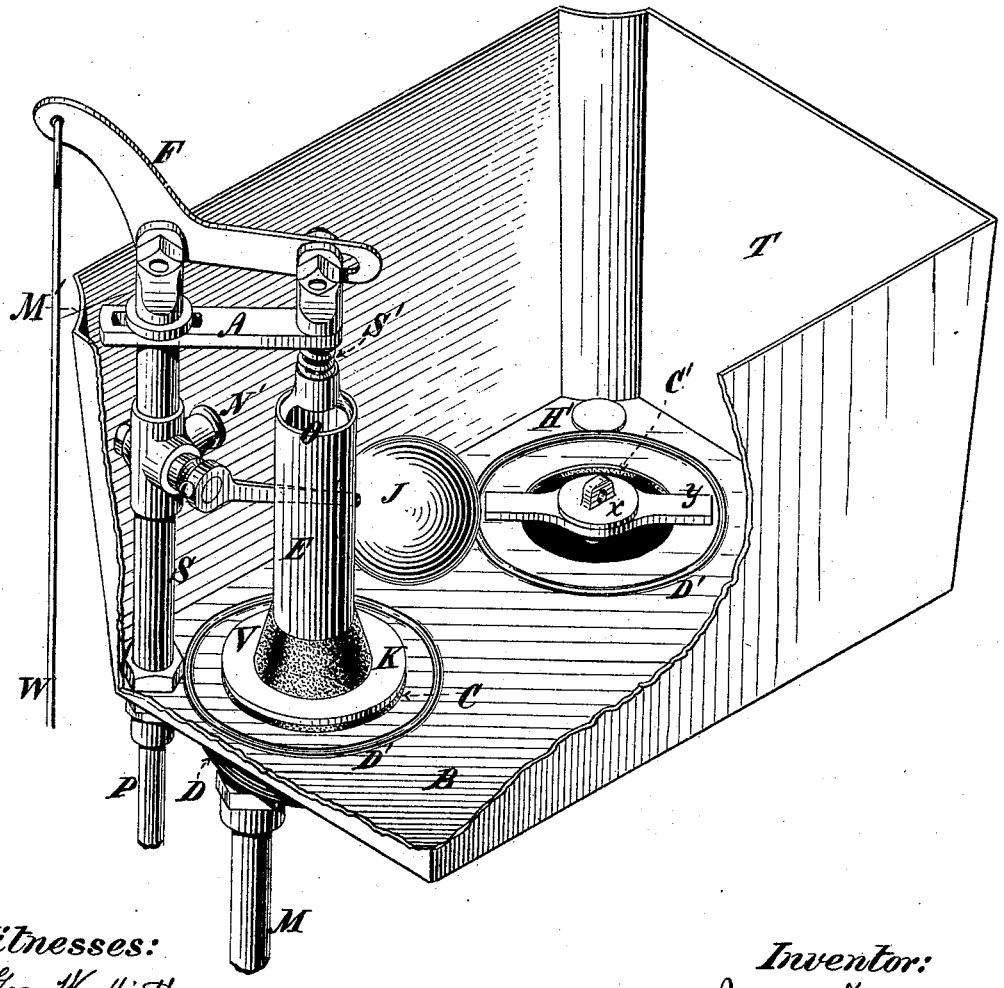

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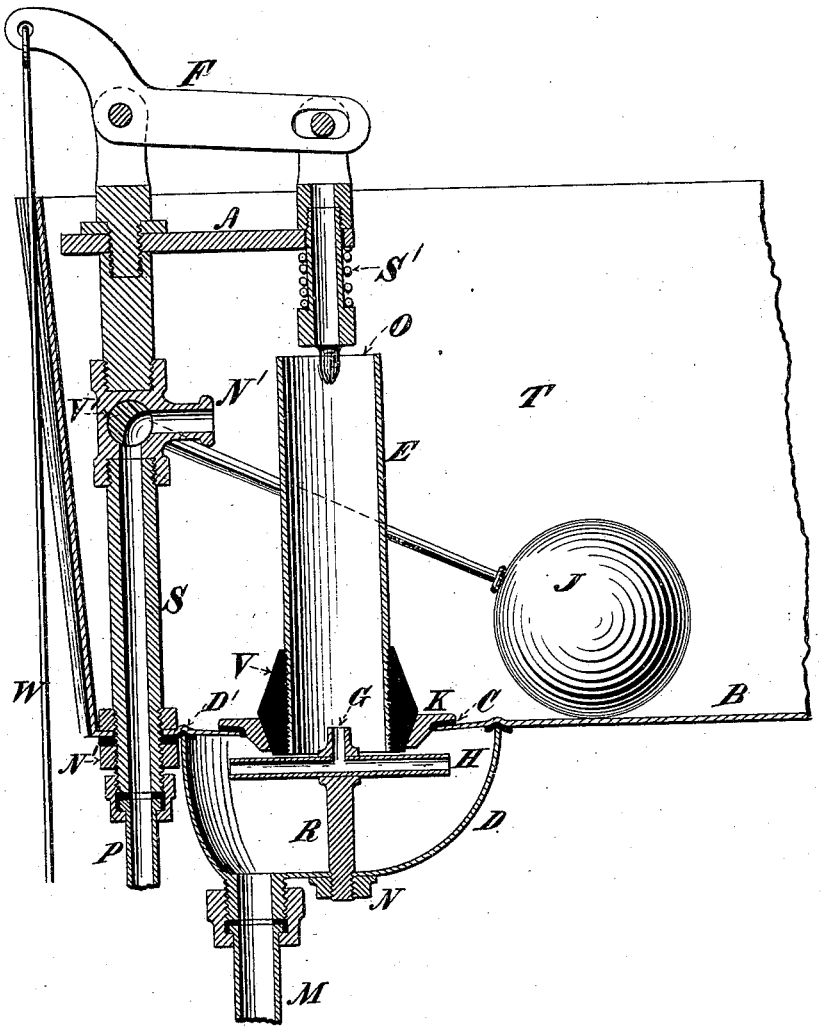
FIGURE 2.



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3 Sheets—Sheet 3.

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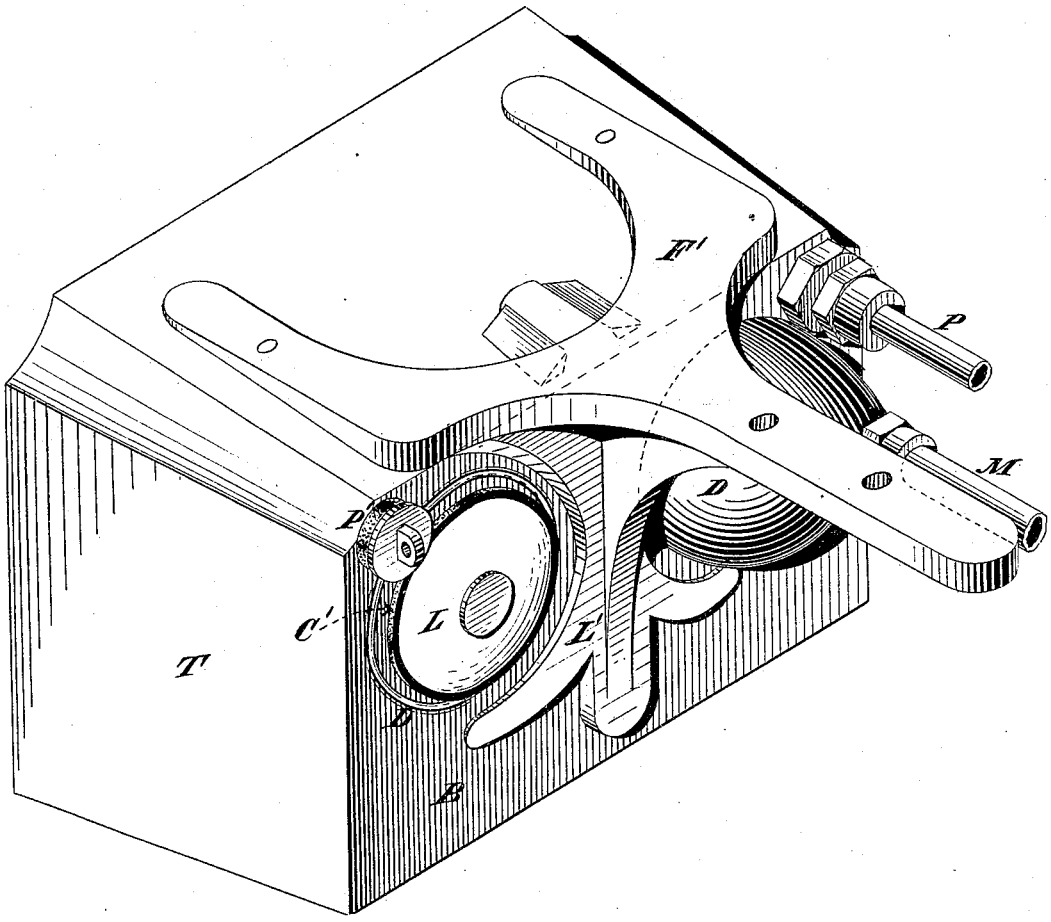
FIGURE 3.



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Inventor:
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UNITED STATES PATENT OFFICE.

JAMES FOLEY, OF BROOKLYN, NEW YORK, ASSIGNOR OF ONE-HALF HIS RIGHT TO FREDERIC ADEE, OF SAME PLACE.

IMPROVEMENT IN SERVICE-TANKS.

Specification forming part of Letters Patent No. **210,515**, dated December 3, 1878; application filed July 11, 1878.

To all whom it may concern:

Be it known that I, JAMES FOLEY, of the city of Brooklyn, county of Kings, State of New York, have invented a new and useful Improvement in Service-Tanks, of which the following is a full, true, and exact description, reference being had to the accompanying drawings.

My invention has relation to that class of tanks upon which a large drain is made for a short time at intervals, the demand being greater than the supply during that period, the intention being to allow the tank to collect a considerable quantity of water from a limited supply, and to furnish it in abundance as occasion requires. Such tanks are occasionally used in connection with water-closets, and it is customary to attach them at some height upon the wall.

My invention consists of a reversible tank, preferably made of metal—that is, a tank which can be connected to a right or left hand corner with equal facility.

Heretofore it has been necessary to construct a tank differently which was to be placed in a right-hand corner from one which was to be placed in a left-hand corner; but my tank can be equally well arranged in either corner.

It is desirable in these tanks that the pipes conveying the water be placed close to either corner of the wall, and that the wire or other apparatus operating its valves be also placed in the angle of the walls out of the way, and it has been impossible to accomplish these results with any of the tanks previously constructed.

My invention also contains a simplified arrangement of valves and supply-pipes, as will be clearly seen from the accompanying drawings, in which—

Figure 1 represents a perspective elevation of my apparatus, the tank being partially broken away; Fig. 2, a cross-section through the supply-pipe and delivery-valve; Fig. 3, a bottom view, showing the supporting-frame.

T represents, generally, the tank, which is somewhat pyramidal in shape, and its back corners are bent in at M′, to allow the passage of the wire. It is supported by means of the frame F, provided with the horizontal arm L′, which may be riveted, screwed, or otherwise attached to the tank. In the rear corner of this apparatus is placed a tubular standard, S, which passes through a hole in the bottom B of the tank T, and is locked there by nuts and packing. Corresponding holes H′ for the support of this standard are provided at each corner, the one not in use being closed by a packing-plug, as shown at P′, Fig. 3. The water-supply pipe P is attached to the standard S, and is a continuation of this central tube, as shown at Fig. 2. The standard S is provided with the nozzle N′, through which the water passes into the tank. The float J operates the valve V in the standard S.

It is obvious that such a valve might be screwed into the extremity of the nozzle N′. The standard S being continued upward furnishes a support for the steadying-arm A of the valve-lifting lever F, which is controlled by the wire W. By carrying this standard and supply-pipe up from the bottom I avoid the necessity of inserting the supply-pipe between the tank and the wall, which is in many cases a disadvantage. By this arrangement the water-supply and drain pipes both enter the bottom of the tank.

In each corner of the apparatus are the holes C C′, through which the delivery-water passes. The one, C′, not in use is closed by a cap, L, Fig. 3, which is drawn up by means of the screw *x*, Fig. 1, passing through the bridge-piece Y, which spans the opening. Surrounding the holes C C′ are the depressions D′, into which the lips of the cups L and D are packed, as will be presently described.

A valve-seat, K, is provided, which is greater in diameter than the openings C C′, as shown in Fig. 2. Its lip rests upon the bottom B of the tank. Connected with this valve-seat K is the rod R, by means of a spider or frame. This rod R passes through the after-wash cup D, and, by means of the nut N, screwed on the rod R, the cup D is drawn up against the bottom B, its edge entering the depression D′, where it is packed by means of rubber packing.

Supported on the rod R is the tube H, having the vertical delivery G. This tube H serves to draw the air from the cup D during

the operation of the machine, as will be presently described.

The valve V, which closes the valve-seat K, surrounds the tube E, which serves for the overflow-pipe. The tube E is carried to a height sufficient to allow of the filling of the tank T, but not of its overflow in case the float J should prove inoperative.

Attached to the tube E by a spider, O, is a rod passing through the steadying-frame A. A spring, S′, acts against the frame of the spider O, and serves to close the valve, in addition to the action of gravity upon it. A pivoted lever, F, provided with a slot at its end, serves to operate the valve V, as is clearly shown.

The valve V may be made of rubber or similar material.

The different parts of this apparatus are packed by rubber or similar packing, as is clearly shown in the drawings. After it has been decided whether the tank is to be placed in the right or left hand corner, the different parts are arranged to correspond. In arranging for a left-hand corner, as shown in the drawings, the cap H′ is screwed down at the right hand at the back of the apparatus. The cap L is drawn up by means of the screw D and cross-bar Y, and these two holes are made tight. Then the standard and supply-tube S is set up by nuts in the corresponding hole H at the left-hand back corner of the apparatus. The valve-seat K is placed in the large hole C, and the cup C′ attached to it by means of the nut N, this cup, which serves to hold the after-wash, being packed in the annular depression D′. The wire W is then let down through the depression of the corner M′, as shown. The apparatus is readily attached to the wall by means of the supporting-frame F.

Its operation can now be readily understood. Water flows up the supply-pipe P through the standard S, through the nozzle N′, filling the apparatus until the float J shuts off the further supply. In case of any hinderance to the operation of the float J the water would overflow into the standing overflow E. On pulling the wire the valve V is raised from the seat K, and water flows between the valve and the seat into the chamber H, which was previously empty or full of air. It is obvious that the air in this cup D might get into the pipes and cause a disagreeable sound. The pipe G allows the escape of the air from the cup D into the pipe E. After closing the valve V the flow through the delivery-pipe does not cease immediately, the cup D being full of water, which is emptied through such pipe, serving for what is known as the "after-wash."

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A supply-tank provided with the reversible water-supply pipe and valve, and sealed openings in both corners of the supply-tank, whereby said tank can be used in a right or left hand corner, substantially as described.

2. In a water-supply tank, the stand-pipe S, passing through the bottom of the tank, and supplying the water to said tank, and supporting the valve-moving lever F, operating the valve V, substantially as described.

3. A water-supply tank provided with two indentations or grooves, M′, substantially as described.

4. In a water-supply tank, an air-tube, G, connecting with the cup D, and delivering the air contained in said cup on the entrance of the water therein, substantially as described.

5. The combination, in a water-supply tank, of the tube S, serving as the water-supply and as a support for the valve-lever F, the annular valve V, closed by a spring, S′, and after-wash cup D, substantially as described.

JAMES FOLEY.

Witnesses:
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