

(No Model.)

J. WILSON.
FLUSH TANK.

No. 354,000.

Patented Dec. 7, 1886.

Fig. 1

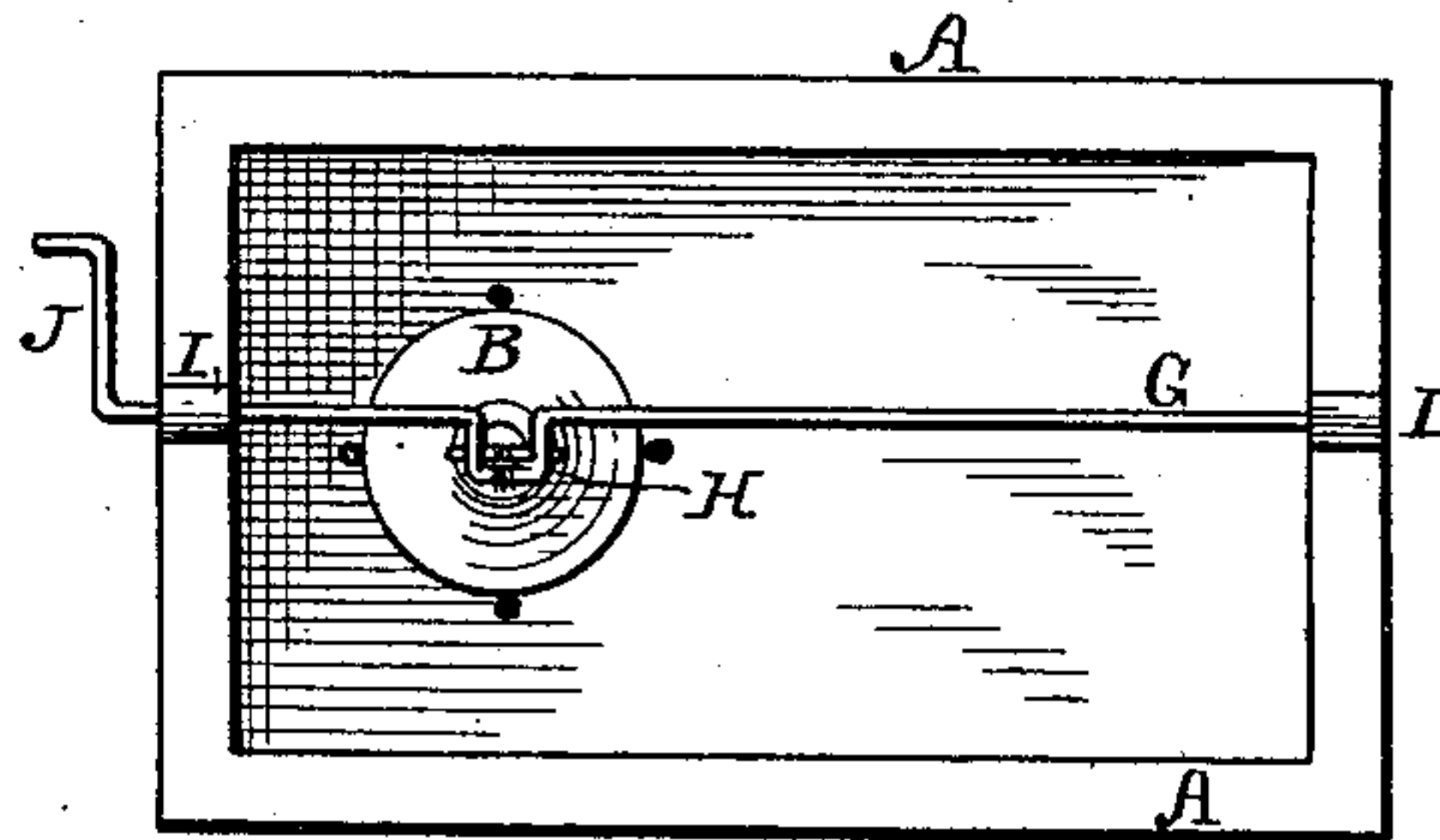


Fig. 2

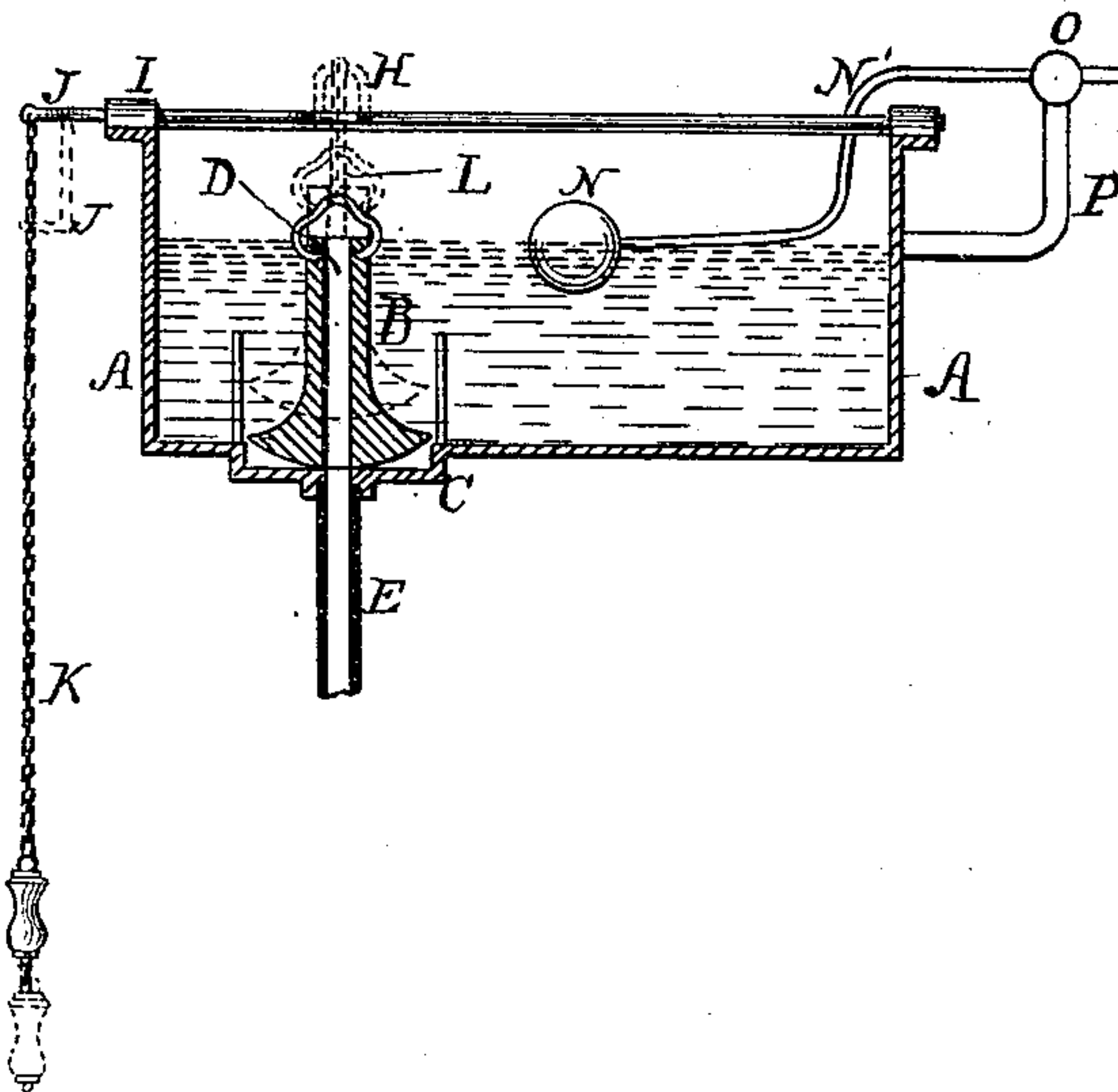
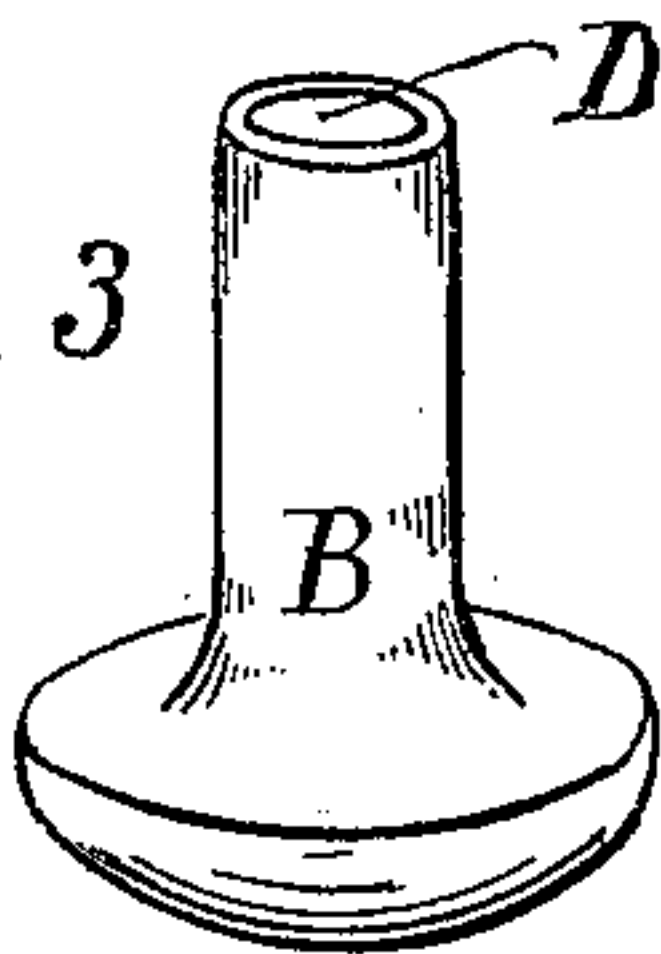


Fig. 3



WITNESSES:

Thos. H. Carson.
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INVENTOR

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att'y

UNITED STATES PATENT OFFICE.

JOSEPH WILSON, OF PHILADELPHIA, PENNSYLVANIA.

FLUSH-TANK.

SPECIFICATION forming part of Letters Patent No. 354,000, dated December 7, 1886.

Application filed May 10, 1886. Serial No. 201,680. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH WILSON, a citizen of the United States, and a resident of Philadelphia, Pennsylvania, have invented an
5 Improvement in Valves for Flush-Tanks for Water-Closets; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the annexed drawings, making part hereof.

10 The nature of my invention will be fully apparent from the following specification and claims. Its object is to provide flush-tanks with a cheap combined valve and overflow, which will much lessen the cost of apparatus
15 of this class.

In the drawings, Figure 1 is a plan view of a flush-tank provided with my valve; Fig. 2, a longitudinal vertical sectional view thereof, showing also the ball-cock; Fig. 3, a detached
20 perspective view of my valve.

A is the tank, which may be of wood or metal.

25 B is my valve, composed of a heavy mass of metal. I shall use cast-iron. The lower surface of this valve is nearly flat, but in the form of the segment of a sphere, the center of which sphere is above the center of gravity of the mass when the valve is in place in the tank, whereby the valve will tend to drop in a
30 direct vertical line and thus fairly seat itself.

C is the seat to receive the valve, which may be flat, as shown, or may be concave, to receive the rounded lower surface of the valve.

35 D is a passage or opening passing vertically through the valve, to permit an overflow of the excess of water in the tank when the water rises above the height of the valve when the latter is seated. This opening, instead of
40 passing through the top of the valve, may be passed from the bottom thereof upward to any desired point and thence outward through the side. The water in the tank would then rise to the point of the opening through the
45 side of the valve, and the excess would then run off. This passage-way opens below through the bottom of the valve, and when the latter is seated is flush with the pipe E, which conducts the water to the closet to be cleared or
50 flooded. The valve B is provided above with a loop, F.

G is a rod provided with a crank, H, and

is secured across the tank, being held down by the sleeves I I, in which it turns freely.

J is a crank at the end of the rod G, to 55 which is hung a chain or cord, K, to raise the valve and flush the closet with water.

L is a chain by which the valve is suspended to the crank. The lower end of this chain is hooked into the loop F. 60

N is a float, with its rod N' and valve O, on the water supply pipe P, the float, rod, and valve constituting the ordinary ball-cock well known in the arts to supply vessels with water when the supply is constant and the demand intermittent. It serves to keep the water at a desired level. When the valve is seated, as shown in full lines in Fig. 2, the water is held in the tank and the cranks H and J on opposite sides of rod G (see Fig. 1) are in the
70 same horizontal plane. A pull on the cord or chain K draws down the end of crank J, turns rod G, and raises crank H, thus raising the valve from its seat, as shown in dotted lines, Fig. 2. When the cord K is released, 75 the weight of the valve will induce it to descend and seat itself. Guide-rods M may be used, if desired, to direct the vertical movements of the valve and aid it in seating itself truly; but it will be found in practice that 80 the weight of the valve itself will bring it to its seat. If the seat is flat, as shown, a continuous use of the valve will cause it to wear a concave depression in the seat.

Other methods of raising and lowering the 85 valve will readily suggest themselves to the mind of an ordinarily-skilled mechanic, but the means shown will answer for all practical purposes, and are, moreover, simple and cheap.

The water is kept at a desired level by the 90 ball-cock; but if by any accident to this cock the water should rise above this level the excess will pass off through the overflow-opening D in the valve B. The height of the upper part of opening D should be at that level 95 above which it is desired that the water in tank A should not rise. The valve B should be of such height that when seated the distance between the bottom of the tank and the upper part of opening D may be made equal 100 to the depth of water desired in the tank A.

What I claim as new is—

1. In combination with a flush-tank for water-closets, the valve B, the lower face of which

is the segment of a sphere, the center of which sphere is located above the center of gravity of the mass of the valve, whereby the latter will always tend to stand upright and seat itself when raised and dropped, substantially as described.

2. In combination with a flush-tank for water-closets, the valve B, the lower face of which valve is the segment of a sphere the center of which is located above the center of gravity of the mass of the valve, whereby the latter will

always tend to stand upright and seat itself when raised and dropped, said valve being pierced with a passage-way, D, adapted to open below into the flush-pipe E when the valve is seated, and above into the interior of the tank A at the desired water-level, substantially as described.

JOSEPH WILSON.

Witnesses:

F. T. CLARK,
W. H. CARSON.