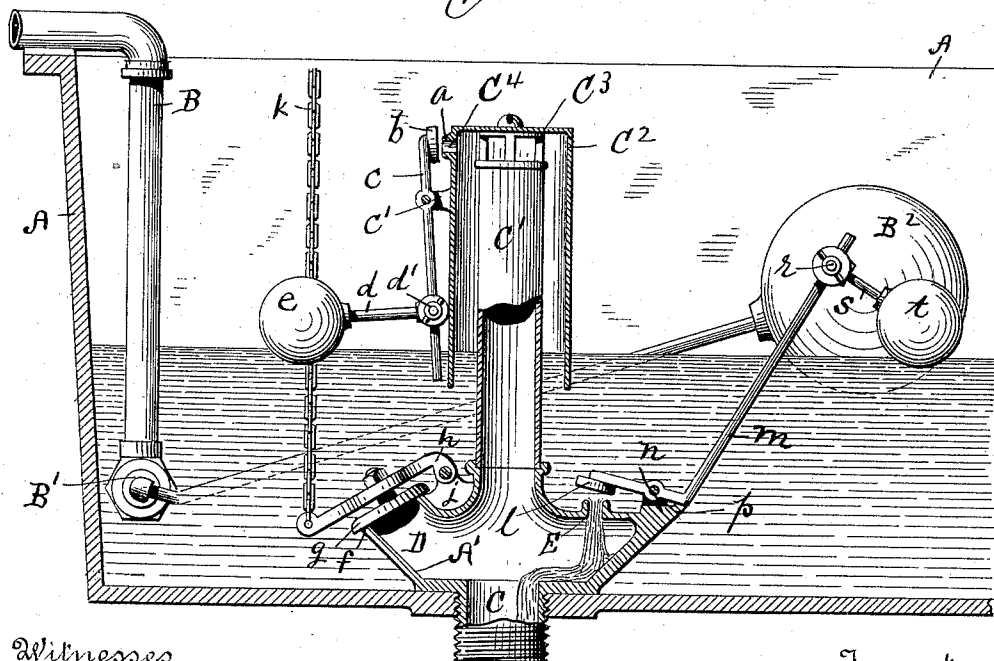
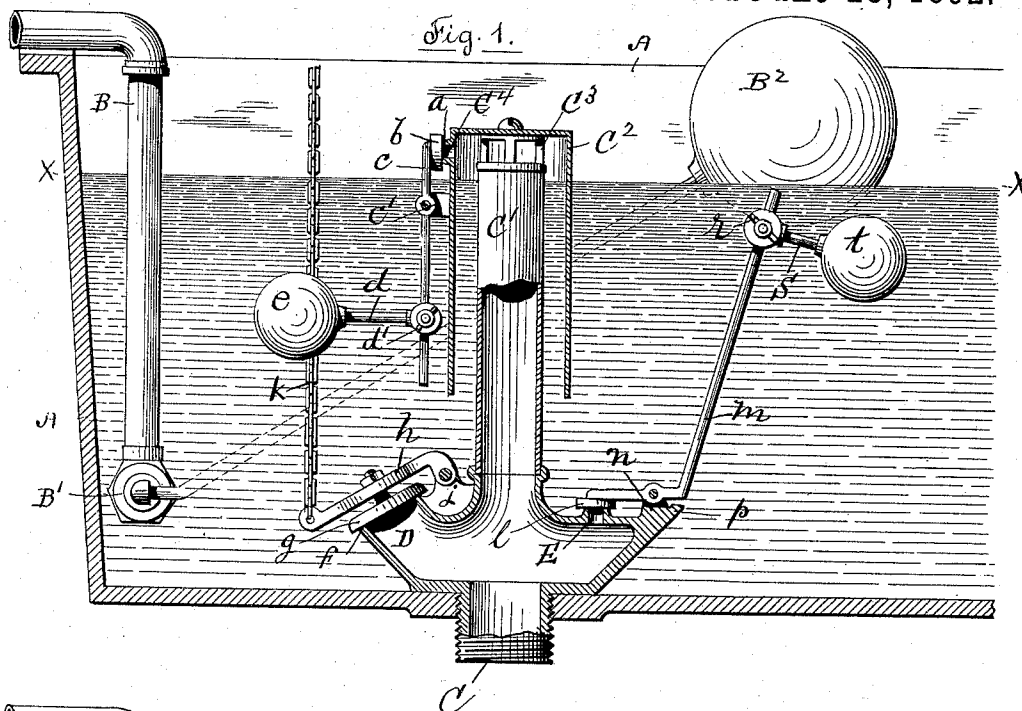


(No Model.)

W. A. TURNER.
FLUSHING VALVE.

No. 477,717.

Patented June 28, 1892.



Witnesses
Chas. F. Schmeltz
E. Commey

Inventor
William A. Turner,

By his Attorney
Rufus B. Fowler,

UNITED STATES PATENT OFFICE.

WILLIAM A. TURNER, OF WORCESTER, MASSACHUSETTS, ASSIGNOR TO
EDMUND CONVERSE, OF SAME PLACE.

FLUSHING-VALVE.

SPECIFICATION forming part of Letters Patent No. 477,717, dated June 28, 1892.

Application filed November 25, 1889. Serial No. 331,431. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. TURNER, a citizen of the United States, and a resident of Worcester, in the county of Worcester and State of Massachusetts, have invented a new and useful Improvement in Flushing-Valves, of which the following is a specification, which, taken in connection with the accompanying drawings, contains a full, clear, and exact description of my invention.

Figure 1 of the drawings represents a portion of a flushing tank or cistern, shown in sectional view and containing one of my improved flushing-valves, also partly shown in sectional view and with the separate valves contained therein represented as closed; and Fig. 2 represents the same view, but with the air-inlet valve and the smaller water-valve represented as open.

Similar letters refer to similar parts in the several figures.

The object of my present invention is to provide means for a diminished flow of water after the flushing-stream has ceased, in order to fill the trap in the closet, and, also, to provide means by which such afterflow may be regulated, and I accomplish these results by means of the device represented in the accompanying drawings, and hereinafter described.

In the accompanying drawings, A denotes the tank; B, the water-supply pipe; B', the ball-cock valve operated by the ball or float B² in the usual and well-known manner, by which the water is supplied to the tank and shut off as the high-water line is reached, (indicated by the line X X, Fig. 1.)

C denotes the flushing-pipe, through which a stream of water is conducted to the closet, said pipe being screw-threaded to enter the tank and being formed integrally with a shell A', resting on the bottom of the tank and having a stand or overflow pipe C', extending above the high-water line X X.

C² represents an inverted cylindrical cup, placed over the open end of the overflow-pipe and supported upon the stand C³. The inverted cup C² extends downward a short distance below the low-water line, as indicated at Y Y, Fig. 2, and is provided with an air-inlet C⁴, surrounded by an annular valve-seat

a. The inlet C⁴ is closed by the valve-disk b, carried in the end of the lever c, which is pivoted to the bracket c'. An arm d, adjustably attached by means of a wing-nut d' to the pivoted lever c, carries a hollow ball or float e.

The shell A' extends laterally upon each side of the stand-pipe C', the extension upon one side having an opening D, provided with a valve-seat f, and closed by a valve g, attached to the lever h, pivoted to the arm or bracket j, and raised by means of the chain k, allowing the water in the tank to flow through the opening D to the closet.

Whenever the valve-disk g is raised by the chain k, the flow of water through the side opening D and flushing-pipe C will cause a siphonage of the water in the tank through the overflow-pipe, and the flow of water will continue until the water in the tank falls low enough to allow the ball e to fall and open the air-inlet C⁴.

Upon the upper surface of the lateral extension of the shell A', upon the opposite side of the stand-pipe C', is an opening E, similar to the opening D, but smaller in extent, and closed by a valve-disk l, carried by a lever m, pivoted upon an arm or bracket n, and having its motion limited by a projecting spur p. To the pivoted lever m I attach by means of a wing-nut r an arm s, carrying a ball or float t. As the flushing-stream causes the water in the tank to recede and fall below the ball t, as represented in Fig. 1, the weight of the ball and connected parts will tilt the pivoted lever m, opening the water-way E, and allow a small stream of water to flow into the closet through the pipe C, and as the flushing-stream through the overflow-pipe ceases the valve will remain open until the rising water in the tank raises the ball t and closes the opening E. The duration of the flow through the small opening E is determined by the position of the ball t upon the pivoted lever m, thereby changing the position of the ball t with reference to the low-water line. If the ball is raised in the position shown in the accompanying drawings, the flow through the opening E will begin as soon as the receding water in the tank shall allow the ball to fall and open the valve m, and will continue while the water in the tank is reaching the low-

water line and rising from the low-water line to a position at which it will again raise the ball *t*, close the opening E, and the nearer the low-water line the ball *t* is placed the shorter
5 will be the duration of the stream through the opening E, and vice versa.

In the flushing-valve shown and described the high-water line is determined by the floating ball B² and the low-water line is determined by the position of the ball *e*; but any
10 of the known forms of valve can be used, having other means for starting and stopping the flow of the flushing-stream.

I do not herein claim, broadly, the combination of the flush-valve, siphon, air-vent, valve, and an afterflow-valve, as such have been heretofore used; but by the construction and arrangement of the several operating parts I greatly simplify the apparatus
20 and bring the same within a small compass.

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

The combination, with a flushing-tank, of the shell A', provided with a screw-threaded pipe C, and openings D and E, stand-pipe C',
25 inverted cup C², inclosing said stand-pipe and forming a siphon, bracket *n*, spur *p*, formed on the shell A', bent lever *m*, provided with a valve-disk, by which the opening E is closed, a float *t*, adjustably connected with said bent
30 lever, and a valve *g*, by which the opening D is closed, substantially as described.

Dated at Worcester, in the county of Worcester and State of Massachusetts, this the 23d day of November, 1889.

WILLIAM A. TURNER.

Witnesses:

RUFUS B. FOWLER,
E. CONVERSE.