W. U. GRIFFITHS.

APPARATUS FOR FLUSHING WATER CLOSETS.

APPLICATION FILED JAN. 9, 1907.

911,872.

Patented Feb. 9, 1909.

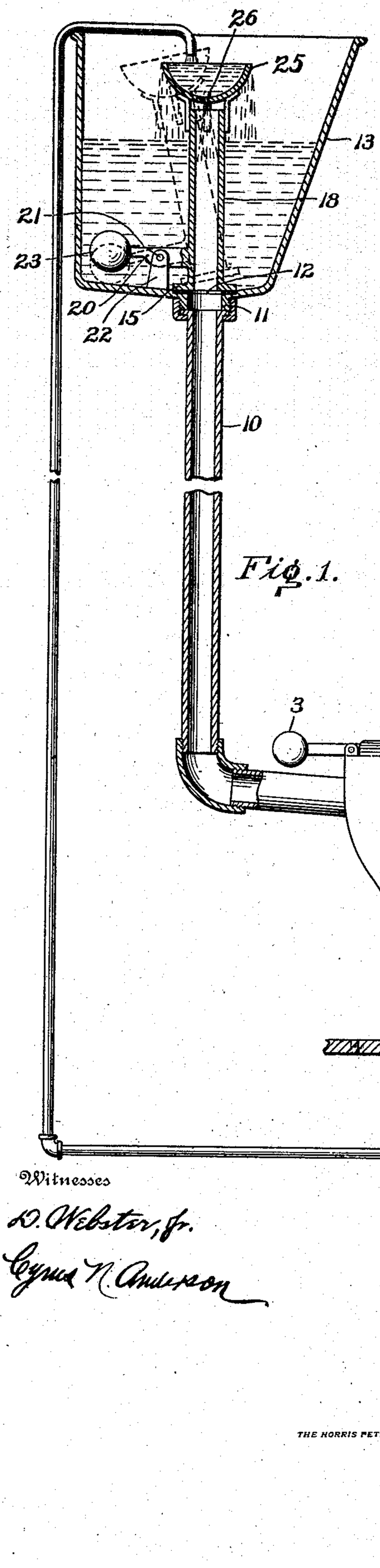


Fig. 1.

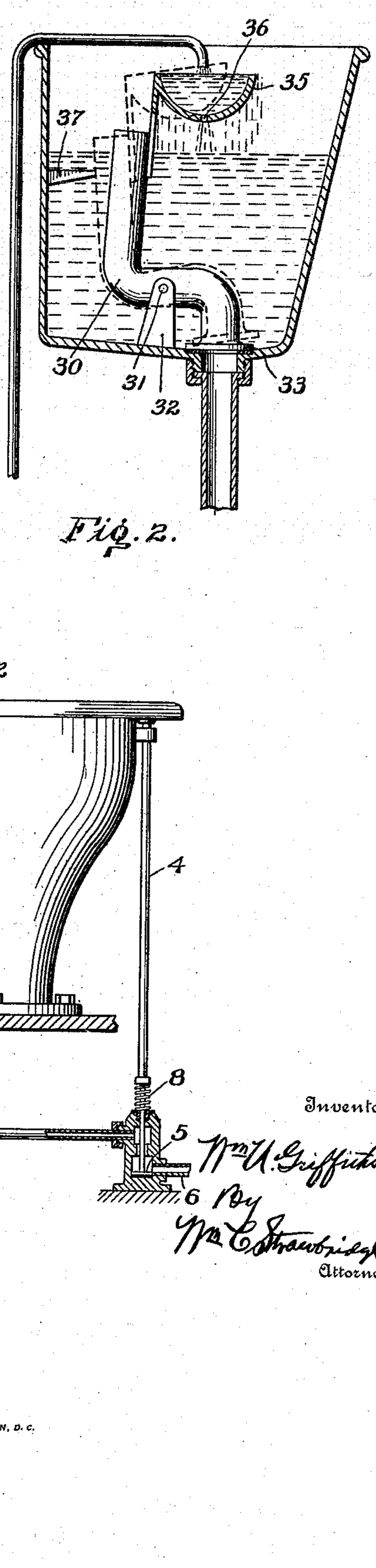


Fig. 2.

Witnesses

D. Webster, Jr.

Cyrus N. Anderson

Inventor

Wm U. Griffiths

By

Wm C. Strawbridge

Attorney

# UNITED STATES PATENT OFFICE.

WILLIAM U. GRIFFITHS, OF PHILADELPHIA, PENNSYLVANIA.

## APPARATUS FOR FLUSHING WATER-CLOSETS.

No. 911,872. Specification of Letters Patent. Patented Feb. 9, 1909.

Application filed January 9, 1907. Serial No. 351,483.

*To all whom it may concern:*

Be it known that I, WILLIAM U. GRIFFITHS, a citizen of the United States, residing at Philadelphia, county of Philadelphia, and State of Pennsylvania, have invented certain new and useful Improvements in Apparatus for Flushing Water-Closets, of which the following is a specification.

My invention relates to an improvement in apparatus for flushing water-closets, and it has for its object to provide an apparatus of this character which is automatic in its operation and by the use of which the flush tank is usually empty.

A convenient embodiment of my invention is illustrated in the accompanying drawings forming a part of this specification and in which—

Figure 1 is a sectional elevation of a preferred form of my invention; and Fig. 2 is a similar view showing a modified form of the same.

In the drawings,—1 designates a water closet bowl provided with a seat 2 having a rearwardly extended arm upon which a weight 3 is supported.

4 designates a movable rod, the upper end of which is located immediately underneath the outer or forward edge of the closet seat, while the lower end is provided with a valve 5 which is adapted to control the passage of water through the supply pipes 6 and 7 to the flush tank. Normally, the weight 3 holds the seat 2 in a position out of engagement with and above the upper edge of the closet bowl 1. At such time the coiled spring 8 occasions the raising of the rod 4 so as to move the valve 5 into position to close the passageway through the valve mechanism between the pipes 6 and 7.

10 designates a flush pipe, the lower end of which is connected to the water closet bowl 1, while the upper end is connected to a screw-threaded flange 11, surrounding the port 12 in the bottom of the flush tank 13. The port 12 is adapted to be closed by means of a valve 15 connected to the lower end of a hollow tube 18 which is connected to and supported upon one end of a lever 20, which is pivoted at 21 to a bracket 22 upon the bottom of the flush tank. The other end of the lever 20 is provided with a weight 23. The upper end of the tube 18 is open so as to permit the water in the tank to flow through the said tube 18 into the flush pipe 10 in case the water should rise in the tank to a level above that of the top of the said tube 18.

25 designates a cup secured to the upper end of the tube 18 which cup is located underneath the open end of the water supply tube 7 so that when water passes through the said supply tube it escapes into the said cup 25. In order that the water may flow out of the said cup after the water supply is cut off by means of the valve 5 to empty the cup, I have provided a small opening 26 in the bottom of the said cup.

When there is no water in the cup 25, the weight 23 overbalances the weight of the tube 18 plus that of the cup 25 so that the tube and the said weight 23 occupy the position indicated by dotted lines in Fig. 1 of the drawings, in which position it will be noted that the cup is still underneath the end of the supply pipe 7 so as to receive any water which may escape therefrom. When the seat 2 is moved down into position upon the upper edge of the water closet bowl 1, the valve 5 is open, as is indicated in Fig. 1 of the drawings, so that water may pass through the supply pipes and flow into the cup 25. When said cup has received sufficient water so that the weight of the cup and the tube combined with the weight of water which is poured into the cup overbalances the weight 23, the said seve al parts move into the position indicated in full lines in Fig. 1 of the drawings, so that the valve 15 closes the port 12. The water continuing to pour into the cup 25 overflows the same and fills the flush tank. As soon as the seat 2 moves upwardly from the top of the bowl 1, the wire spring 8 occasions the closing of the valve 5 to stop the flow of the water into the tube 25; the water escapes from the cup 25 immediately, after which the parts return to the position indicated in dotted lines in Fig. 1, by reason of the fact that the weight 23 overbalances the combined weight of the tube 18 and cup 25, as above stated.

In Fig. 2 of the drawings, I have shown a modified construction in which 30 designates a crooked lever which is hollow. This lever is pivoted, as indicated at 31, directly to a bracket 32. The lower end of this lever is provided with a valve 33 which is adapted to close and open the port in the bottom of the flush tank. To the upper end of the lever 30, I have connected a cup 35, which is pro-

vided with an opening 36 in its bottom. This cup is adapted to receive water from the supply pipes in exactly the same manner as previously described with respect to the cup 25. 37 designates a stop located upon the side of the flush tank to limit the movement in one direction of the pivoted lever 30. The location of the pivotal point 31 upon the lever 30 is such that the combined weight of those portions of the lever 30 and of the cup 35 upon the left hand side of said pivotal point is greater than the combined weight of those portions of the lever, the valve and the cup upon the right hand side of the said pivotal point in Fig. 2, so that when the cup is empty the lever and the cup move or fall to the position indicated in dotted lines in Fig. 2, the pivotal movement of the said lever being limited by the contact of the same with the bracket 37. When water is poured into the cup 35 the lever 30 returns to the full line position for the same reason as stated in connection with the construction in Fig. 2. The parts 18 and 30 are shown as being hollow so that they may act as over-flow pipes, but it will be understood that they need not be so constructed, and that if desired, other means may be employed to provide an over-flow outlet.

In both forms of construction, it will be observed that the water-receiving receptacles are located above the valves in vertical alinement therewith and that both the valves and the receptacles are located upon the same sides of vertical planes through the pivots at 21 and 31.

Having thus described my invention, I claim:—

1. In a device of the character described, the combination of a flush tank having a port, a valve adapted to open and close said port, a lever having a portion intermediate its ends which extends transversely of the opposite end portions thereof means for supporting the said lever at a point upon the said transversely extending portion, the said valve being secured to the said lever upon one side of its pivotal point, and a receptacle secured to the end portion of the said lever upon the opposite side of its pivotal point, the said receptacle extending outwardly from its point of support upon the said lever toward the pivotal support thereof.

2. In an apparatus for flushing water-closets, the combination of a flush tank having a port therein, a pivoted device having a valve connected thereto for opening and closing the said port and a water-receiving receptacle also connected to the said device to receive water, the weight of which occasions closing of the said valve, the said water-receiving receptacle being located above the said valve in vertical alinement therewith, and means for supplying water to the said water-receiving receptacle.

In testimony that I claim the foregoing as my invention, I have hereunto signed my name this 8th day of January A. D. 1907.

WILLIAM U. GRIFFITHS.

In the presence of—

CYRUS N. ANDERSON,
S. SALOME BROOKE.