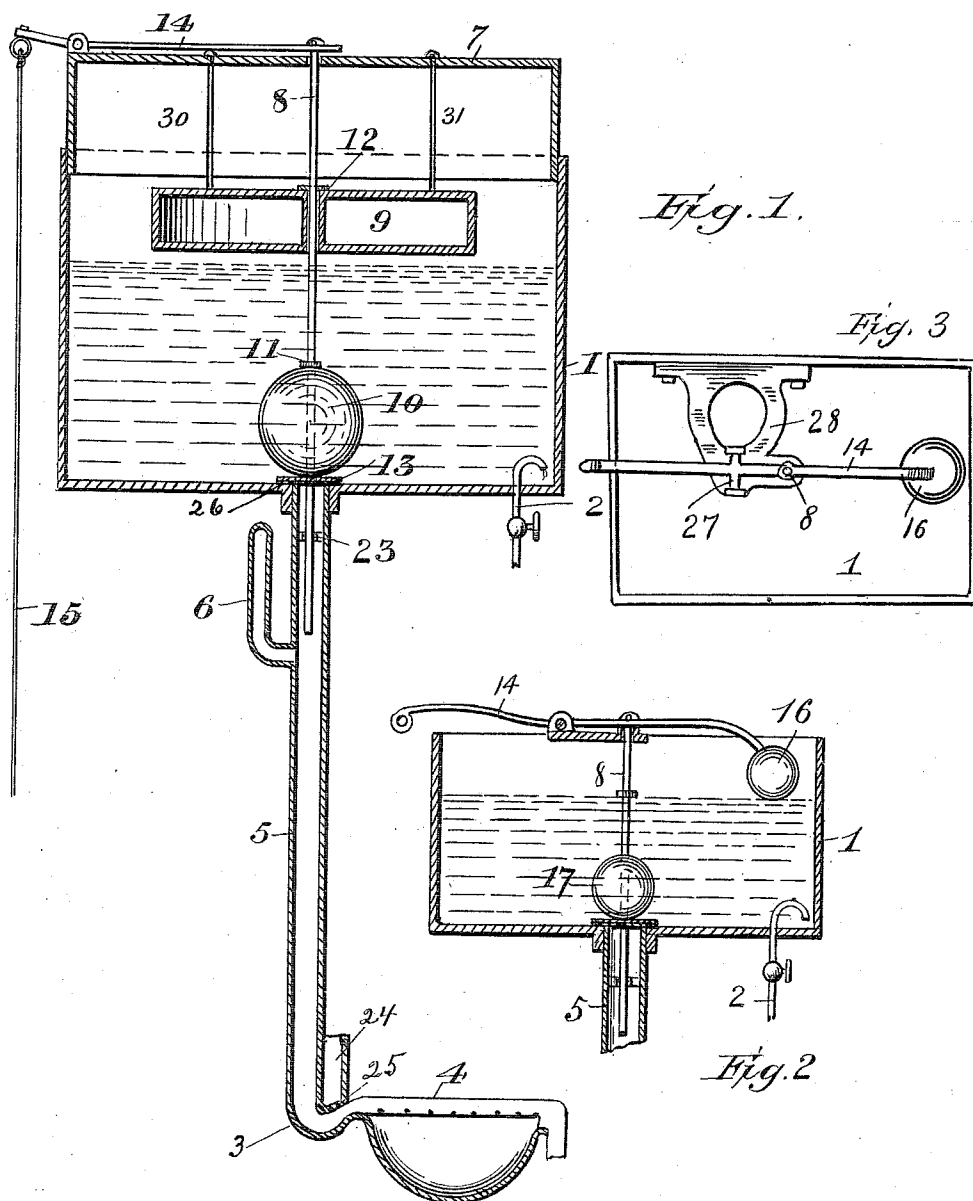


S. E. COOK.
FLUSHING TANK.
APPLICATION FILED JAN. 17, 1906.

985,782.

Patented Mar. 7, 1911.



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SHELDON E. COOK, OF LINCOLN, NEBRASKA.

FLUSHING-TANK.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, SHELDON E. COOK, a citizen of the United States, residing at Lincoln, in the county of Lancaster and State of Nebraska, have invented certain new and useful Improvements in Flushing-Tanks, of which the following is a specification.

My invention relates to flushing tanks for use in connection with water-closets, and the like; and has for its object to so construct the same that its operation will be direct and positive, it will have few parts, can be easily and cheaply manufactured, and its parts replaced or repaired, when desired.

In the drawings forming a part of this specification, and in which like symbols of reference represent corresponding parts in the several views:—Figure 1 is a vertical section of my device; Fig. 2 is a modified form of the same; and, Fig. 3 is a top view of the modified construction, shown in Fig. 2.

1 indicates the tank; 2 the inlet pipe, provided with any of the well known controlling devices; 4 closet seat; 5 flush pipe; 3 inverted siphon or water seal; and 24 small reservoir within the arms of the inverted siphon, open at top, and provided with a small opening 25 at bottom, which communicates with the water in the trap. During the flushing process this small reservoir becomes filled with water and empties again as the flushing ceases. It prevents the water in the closet bowl and trap from being forced out, breaking the seal of the trap, by providing a slow running after supply. This residuary reservoir may be seldom, or never, necessary, however.

6 is an air reservoir or diverticle to prevent the pounding of the valve, by acting as an air cushion, when it closes.

7 is a support on top of flush tank; 8 valve stem; 9 safety float; 10 a float rigidly affixed to valve stem; 23 is a guide for the valve stem; and 13 is a disk valve supplied with a rubber cushion or washer 26.

30 and 31 are guide rods for float 9, the same extending upward through support 7; 14 is a pull lever, pivotally supported on the edge of the tank, and connected at its end to the valve stem 8; and 15 is a string for operating the lever 14.

16 is a float shown in the modification, being pivotally connected at 27 to the bracket 28; and 17 is a float corresponding to float 10 in Fig. 1.

The operation will be apparent from the foregoing:—In the case of a water closet the water is only allowed to rise to a certain predetermined level, when it is automatically shut off by the governing apparatus, while in the case of a urinal the flow is slower, but continuous. The outlet pipe is always filled with water, the air being prevented from entering its lower end by the upward bend producing a water seal. The outlet pipe being therefore filled with water, and the valve being closed there is a downward pull upon the valve equal to the pressure of the column of water in the outlet pipe. This tends to keep the valve in its seat and closed. It will remain closed until either opened by the water in the tank raising the safety float, or by raising the valve stem. When the valve is once raised from its seat it is, of course, carried by float 10 to the top of the water, and the water in the tank suddenly discharged.

When applied to a urinal, the usual governing apparatus connected with the inlet pipe is omitted, and only such means made use of as will regulate the amount of water to be used. The supply may be limited or abundant, as desired. The safety float may be regulated to any desired degree by the jam-nut 12, the float thus not only acts as an automatic dumper but prevents any possible overflow of the tank by opening the outlet valve before the water reaches the danger point.

Of course the float 10 may be regulated, as desired, by the jam-nut 11.

In Figs. 1, 2 and 3 the safety float may be regulated by bending upward or downward the long arm of the lever to which it is attached, or changing the length of the rods 30, 31. In Fig. 2 the safety float is limited in its downward excursion by contact of the arm of its supporting lever with the upper surface of an extending arm of the bracket 28.

Having now fully described my invention, what I claim as new, and desire to secure by Letters-Patent, is:—

1. In a flushing tank, the combination with a safety float, of a support for the same, a valve, rods for guiding the float, a second float adapted to act upon the valve when the valve stem is elevated, an outlet pipe, means for regulating and controlling the floats, and a guide within the outlet pipe in which the valve stem plays.

2. A device of the character described, consisting of a main tank, a safety float, a support for the float, a valve rod passing through the support, means to control said rod in its operation, a valve on said rod, a second float adapted to act upon the valve when the valve stem is elevated, and an operating lever connected to the valve rod.

3. In a device of the character described, an outlet pipe, and an air reservoir formed on the same, to prevent pounding of the valve.

4. In a device of the character described, a main tank, inlet and outlet pipes for the same, a safety float, rods controlling said float a support formed with openings for the reception of said rods, a valve, and a second

float adapted to act upon the valve when the valve stem is elevated.

5. In a flushing tank, the combination of a float immovably fixed to a reciprocating valve stem and outlet valve, with an outlet pipe the lower extremity of which is provided with a water seal, and a reservoir situated within the arms of the inverted siphon, said reservoir having openings formed in its top and bottom.

In testimony whereof I affix my signature in presence of two witnesses.

SHELDON E. COOK.

Witnesses:

J. A. BROWN,
EMMA J. COOK.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
