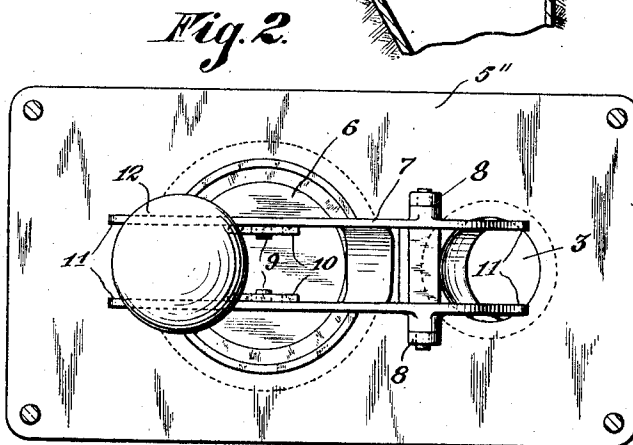
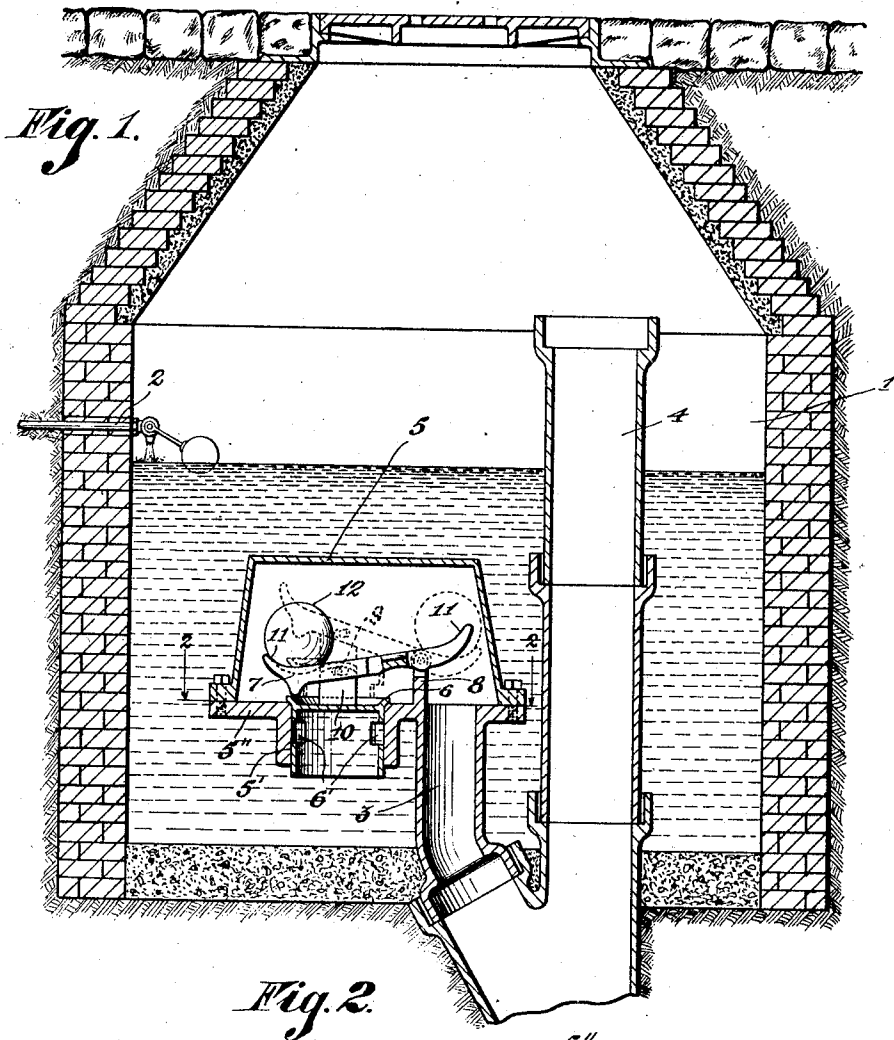


A. K. ISHAM.
 AUTOMATIC FLUSH TANK.
 APPLICATION FILED APR. 30, 1912.

1,058,978.

Patented Apr. 15, 1913.



Witnesses

James C. Spruell.
 Clara A. Harm.

Inventor

Alonzo K. Isham.

By Adams & Brooks.
 Attorneys

UNITED STATES PATENT OFFICE.

ALONZO KEYT ISHAM, OF SEATTLE, WASHINGTON.

AUTOMATIC FLUSH-TANK.

1,058,978.

Specification of Letters Patent.

Patented Apr. 15, 1913.

Application filed April 30, 1912. Serial No. 694,257.

To all whom it may concern:

Be it known that I, ALONZO K. ISHAM, a citizen of the United States of America, and a resident of the city of Seattle, in the county of King and State of Washington, have invented certain new and useful Improvements in Automatic Flush-Tanks, of which the following is a specification.

My invention relates to flush tanks particularly adapted for flushing sewers and the like and has for its primary object to provide an efficient construction of this character adapted to automatically operate intermittently to discharge the contents of the tank.

With the above and other objects in view, to be referred to as my description progresses, the invention resides in the features of construction, arrangements and combinations of parts hereinafter described and succinctly defined in my annexed claims.

Referring to the accompanying drawing wherein like numerals of reference indicate like parts throughout: Figure 1 is a vertical section through the tank, and Fig. 2 is a horizontal section on line 2—2 of Fig. 1.

Referring to the drawing by numerals of reference, 1 indicates a tank provided with a feed pipe 2, and an outlet 3, the latter conveniently comprising a vertical branch of a vent pipe 4.

Reference numeral 5 indicates a chamber which is fixed to the upper end of outlet pipe 3 and provided in its lower wall 5'' at one side of pipe 3 with an inlet port 5' communicating directly with tank 1.

Reference numeral 6 indicates a vertically slidable valve having a depending hollow stem portion guided in port 5' and provided with openings 6'. Valve 6 which is adapted to be elevated by pressure of the water in tank 1 is controlled by mechanism to be described so that said valve will not open until the water has reached a predetermined head. This mechanism comprises a normally forwardly and downwardly inclined lever member 7, comprising spaced bars fulcrumed intermediate their ends on a stand 8 and having studs 9 engaged in slotted lugs 10 of valve 6. The end portions of the component bars of lever member 7 are turned up to provide stops 11 for limiting travel of a spherical weight 12 whose weight is so applied as to tend to hold valve 6 seated. When valve 6 is elevated by the water in tank 1, lever member 7 is tilted to the dotted

position shown in Fig. 1, and weight 12 rolls by gravity to the opposite end portion thereof, as shown. Upon upward movement of valve 6, water discharges through valve openings 6' into chamber 5 and thence to outlet pipe 3, the flow continuing and maintaining the valve open until the level of the water in tank 1 falls a little below the lower end of chamber inlet port 5', when valve 6 will close by gravity causing weight 12 to roll forward on lever member 7 to its normal position.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent of the United States of America, is:—

1. In an automatic flush tank, the combination with a tank or reservoir, of a chamber having an inlet communicating with the tank or reservoir and an outlet leading from said chamber, an automatic valve controlling the inlet and opening inwardly into the chamber, a lever fulcrumed between its ends within the chamber, one arm of the lever bearing against the valve, and said lever inclining downwardly toward the valve when the latter is in closed position, and a weight shiftable longitudinally along the lever to positions on opposite sides of the fulcrum thereof, said weight normally resting on the arm of the lever that bears against the valve to hold the valve closed until a predetermined pressure in the tank or reservoir is reached, and said valve automatically opening and the weight automatically shifting to the opposite arm of the lever when the valve is opened to hold it open, said valve and the arm bearing against the same, overbalancing the weight to automatically close the valve when the pressure against said valve is decreased.

2. In an automatic flush tank, the combination with a tank or reservoir, of a chamber located wholly within the same and having an inlet in its bottom communicating with the tank or reservoir and an outlet leading therefrom, a reciprocatory automatic valve controlling the inlet and opening inwardly into the chamber, a lever fulcrumed between its ends within the chamber, one arm of the lever extending over the valve and bearing against the same, said arm being longer than the opposite arm and inclining downwardly toward the valve when the latter is in closed position, and a ball located on said lever and rolling longitudinally along the same to po-

sitions on opposite sides of the fulcrum thereof, said ball normally resting on the longer arm of the lever to hold the valve closed until a predetermined pressure of the liquid is reached and automatically shifting to the opposite arm when the valve is opened by the pressure of the liquid to hold said valve open, said valve and longer arm overbalancing the ball to automatically close the valve when the pressure against the same is decreased.

3. In an automatic flush tank, the combination with a tank or reservoir, of a chamber having an inlet in its bottom communicating therewith and also having an outlet, a re-

ciprocatory inwardly opening valve controlling the inlet and having upstanding lugs, a lever fulcrumed between its ends within the chamber and comprising spaced arms extending over the valve, means pivotally connecting the lugs and the arms between their ends, and a freely shiftable weight mounted on the lever.

Signed at Seattle, Washington this 23 day of April 1912.

ALONZO KEYT ISHAM.

Witnesses:

ARLITA ADAMS,
CLARA A. HARM.

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