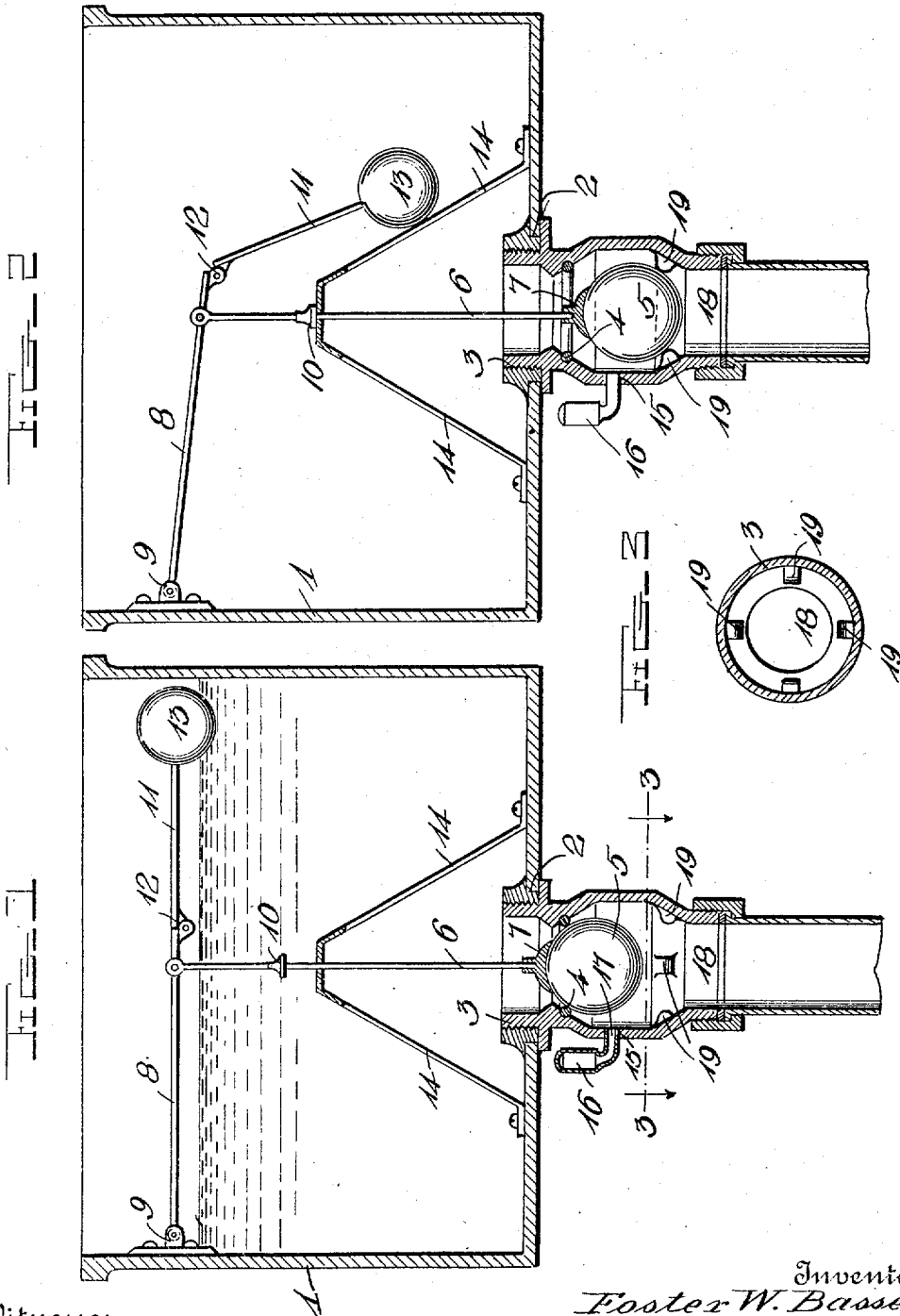


FLUSHING VALVE.

957,027.

Patented May 3, 1910.



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FLUSHING-VALVE.

957,027.

Specification of Letters Patent.

Patented May 3, 1910.

Application filed June 11, 1909. Serial No. 501,559.

To all whom it may concern:

Be it known that we, FOSTER W. BASSETT and WILLIAM A. HUNTER, Jr., citizens of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented certain new and useful Improvements in Flushing-Valves; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to flushing valves and comprehends the construction of a flushing valve mechanism combining the advantages of both the gravity and pressure valves.

One of the objects of the invention is to provide an open tank with valves arranged to be controlled by water pressure.

Another object of the invention is the production of a flushing valve mechanism provided with means for maintaining an elastic hydrostatic pressure in the column of water between the water tank and the operating valve.

In the accompanying drawings, Figure 1 is a vertical section showing the valve mechanism in closed position; Fig. 2 is a vertical section showing the valve mechanism in an open position; Fig. 3 is a horizontal section on the line 3—3 of Fig. 1.

Corresponding and similar parts are indicated in all of the views of the drawings and in the following description by similar reference characters.

In the drawings numeral 1 designates an open tank formed with a central opening 2 through which the upper end of a flushing pipe 3 extends. The flushing pipe 3 is formed with a valve seat 4 arranged to accommodate an upwardly closing ball valve 5. The ball valve 5 is carried by a vertical rod 6 having an enlarged lower end 7 and said vertical rod 6 extends upwardly in the tank 1 and is connected at its upper end to a horizontally disposed lever 8, which is pivotally supported upon a lug 9 formed on the inner side of the tank 1. The rod 6 is provided with a stop lug 10 and lever 8 is provided thereto by a pivot 12, and said arm is provided at its outer end with a float 13. The connection between the lever 8 and its outer arm 11 is such that arm 11 may be moved downwardly in the tank 1 but may not be

moved upwardly out of the plane of the lever 8. The rod 6 is guided in its movement in the tank 1 by means of a brace 14 which is formed with a medially disposed aperture through which said rod extends. The flushing pipe 3 is formed with an opening 15 through which an air chamber 16 having an open end 17 is connected.

When water fills the tank 1, the chamber 18 below the valve 5 will be likewise filled and the valve 5 will be forced upwardly to its seat 4 and the float 13 will be raised to its uppermost position, as shown in Fig. 1. The water in chamber 18 is arranged to be controlled by a lower supply and flush valve of ordinary construction not shown and the valve 5 is arranged to engage a plurality of lugs 19 formed on the inner side of the flushing pipe 3. When the lower valve is opened, water will pass through the flushing pipe and valve 5 will fall upon the lugs 19 and the water in tank 1 will pass downwardly through the flushing pipe 3 causing the float 13 to fall to the position indicated in Fig. 2 against the brace 14. Water enters the flushing pipe 3 through the lower valve which is connected with a supply source and passes upwardly in the flushing pipe 3 to the chamber 18 and the tank 1 and, as the water enters the tank 1 and fills the pipe 3, it will lift the valve 5 to its seat and raise float 13 to the position shown in Fig. 1. The pressure in the flushing pipe 3 and the chamber 18 will compress the air contained in the air chamber 16 and when the lower closet supply valve is actuated in the ordinary manner by an operator, and the water in said flushing pipe and chamber is allowed to discharge itself, the air contained in the air chamber 16 will expand and give the water in said flushing pipe an initial force which it otherwise would not have and, consequently, increasing its initial flushing power.

In the flushing valve mechanisms constructed along the conventional lines, the initial flow of water exerts little force on the material to be flushed with the result that the flushing difficulty is increased, thereby diminishing the flushing power of the main water supply. In our present invention, this feature is overcome as the compressed air in the chamber 16 will give the initial quantity of water a force which will enable it to exert more than the ordinary pressure against the material to be flushed consequently aiding instead of impeding the

ability of the main water supply. The result is that with our invention the flushing operation is accomplished with a minimum amount of water.

5 From the foregoing description taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

10 Various changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of the invention, as defined in the ap-
15 pended claims.

We claim as our invention:—

1. A flushing valve mechanism comprising a water tank, a float pivotally supported within the tank, a rod vertically movable in
20 the tank connected to the float, and an air tank for increasing the force of the water falling from beneath the flushing valve.

2. A tank, a flushing pipe connected with the tank formed with a valve seat, an air
25 chamber connected to the flushing pipe, a ball valve movable against the valve seat of the flushing pipe, a vertical arm con-

nected to the ball valve, means for guiding the vertical arm, a jointed lever connected to the vertical arm and a float connected to
30 the jointed lever.

3. A tank, a jointed lever pivotally mounted within the tank, a float mounted on the lever, a vertical rod pivoted to the lever, means for guiding the vertical rod, a
35 stop lug formed on the vertical rod, a ball valve carried by the vertical rod, a flushing pipe connected to the tank and an air chamber connected to the flushing pipe.

4. A tank, a flushing pipe connected to
40 the tank, a ball valve for closing communication between the flushing pipe and the tank, a float connected to the ball valve and an air chamber connected to the flushing pipe for increasing the force of the initial quantity
45 of water discharged from the flushing pipe.

In testimony whereof we have hereunto set our hands in presence of two subscribing witnesses:

FOSTER W. BASSETT.
WILLIAM A. HUNTER, JR.

Witnesses:

M. M. MEYERS,
L. WOODLING WHITNEY.