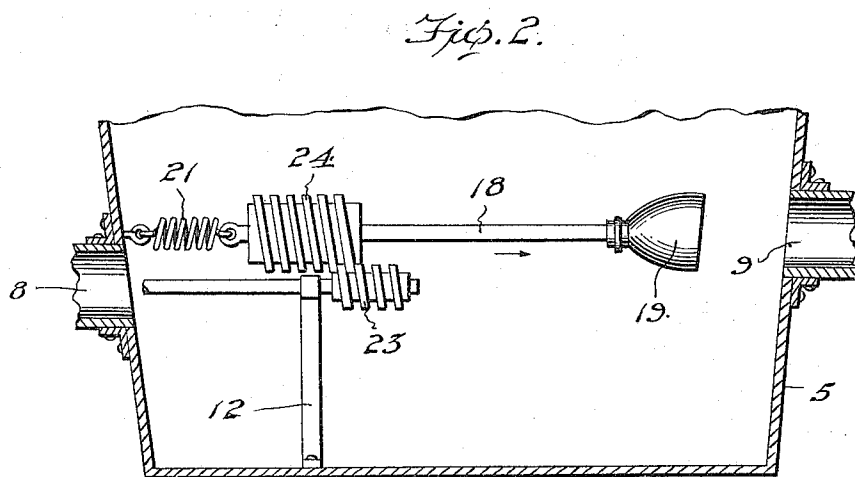
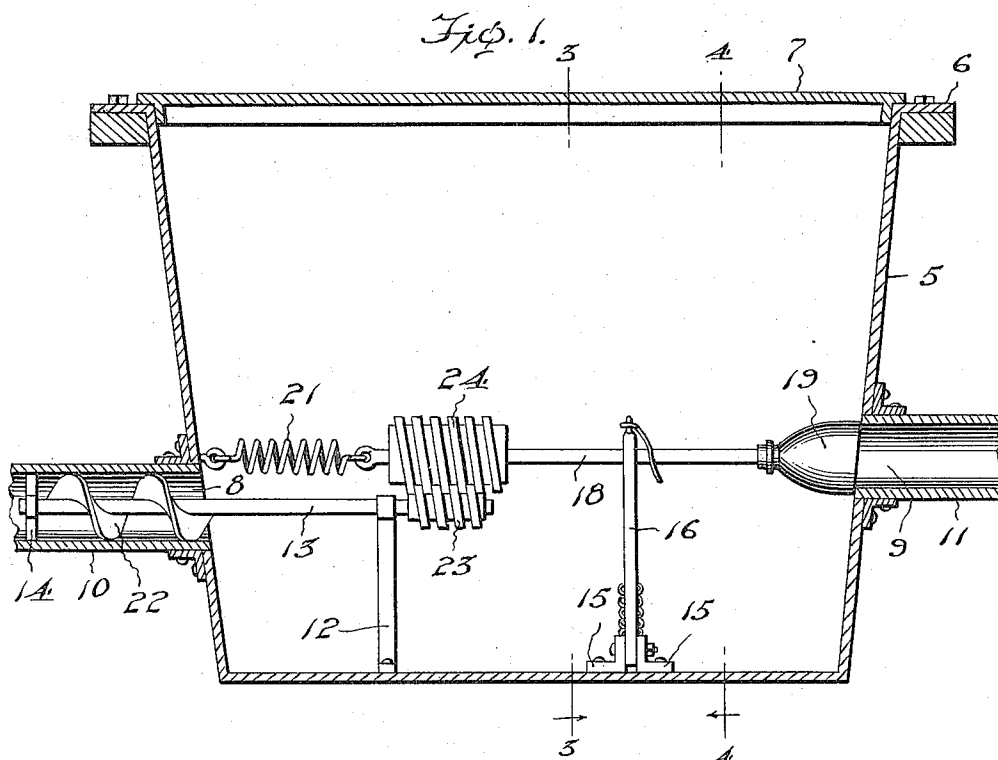


L. F. PIGOTT.
 FLUID OPERATED VALVE.
 APPLICATION FILED AUG. 12, 1914.

1,145,791.

Patented July 6, 1915.

2 SHEETS—SHEET 1.



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2 SHEETS—SHEET 2.

Fig. 3.

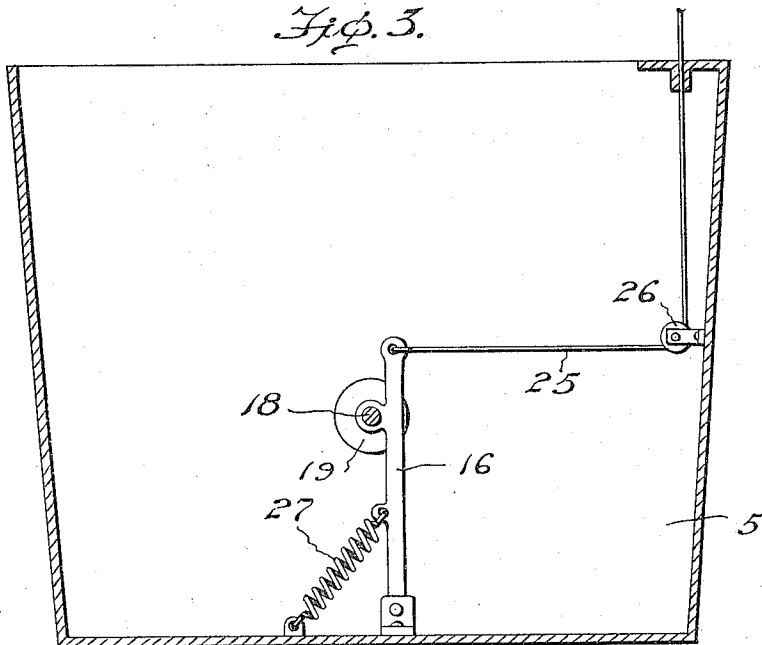
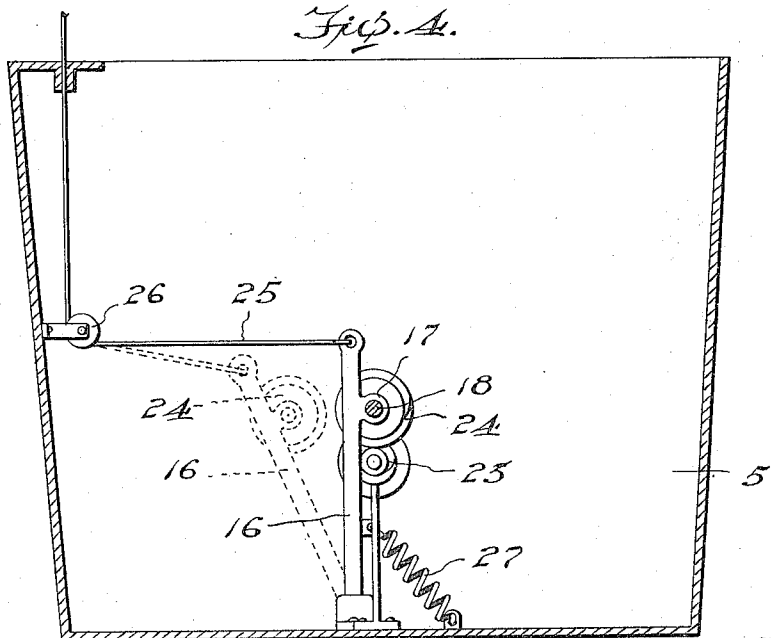


Fig. 4.



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UNITED STATES PATENT OFFICE.

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FLUID-OPERATED VALVE.

1,145,791.

Specification of Letters Patent,

Patented July 6, 1915.

Application filed August 12, 1914. Serial No. 856,459.

To all whom it may concern:

Be it known that I, LEO F. PIGOTT, a citizen of the United States, residing at Cherokee, in the county of Cherokee and State of Iowa, have invented certain new and useful Improvements in Fluid-Operated Valves; and I do hereby 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 fluid operated valves and more particularly to a valve of this character specially designed for use in flush tanks.

The invention has for its object to provide a valve positioned within a tank or reservoir adapted to be closed by a novel mechanism operated by the pressure of the inflowing fluid.

Another object is the provision of manually operable means for releasing or disconnecting the valve from the operating means therefor to permit the valve to open under the influence of suitable springs or equivalent means.

With these and other objects in view, the invention consists in the novel construction, arrangement and formation of parts as will be hereinafter specially described, claimed and illustrated in the accompanying drawings, in which,

Figure 1 represents a longitudinal sectional view through a flush tank, showing the improved valve and operating means applied thereto, Fig. 2 represents a longitudinal sectional view through the tank, partly broken away, showing the valve in open position, Fig. 3 represents a transverse sectional view on the line 3—3 of Fig. 1, and Fig. 4 represents a transverse sectional view on the line 4—4 of Fig. 1 looking in the direction of the arrow.

Referring to the drawings in detail, wherein similar reference numerals designate corresponding parts, throughout the several views, the numeral 5 indicates a tank or reservoir preferably formed of metal and of any shape desired. The upper edge of the tank is preferably formed with an outwardly directed flange 6 over which is removably secured a closure or cover 7. Inlet and outlet ports 8 and 9 respectively are formed in the end walls of the tank 5 and communicate with inlet and outlet pipes 10

and 11 respectively. The outlet pipe 11 is preferably arranged slightly above the inlet pipe 10 for a purpose which will be hereinafter made clearly apparent. A supporting member or standard 12 is secured to the bottom of the tank 5 and is formed in its upper end with an opening disposed in alinement with the longitudinal axis of the inlet pipe 10 and rotatably receiving a shaft 13, the opposite end of which latter is rotatably mounted in a bearing 14 secured within and spaced from the end of the pipe 10.

A pair of angular members 15 are secured in spaced relation on the bottom of the tank 5 and pivotally support an arm 16 having a lateral enlargement 17 formed with an opening disposed in alinement with the longitudinal axis of the outlet pipe 11 and rotatably receiving a shaft 18 constituting a stem for a valve 19 preferably of hollow formation. The valve 19 is retained in spaced relation to the outlet port 9 of the tank 5 by the influence of a spring 21 secured at one end to one end of the tank 5 above the inlet opening 8 and secured at its opposite end in an opening formed in the adjacent extremity of the shaft 18. A screw 22 is secured on the end of the shaft 13 projecting into the inlet pipe 10, and the opposite end of said shaft disposed within the tank 5 is formed with a threaded enlargement 23 interfitting or meshing with a threaded enlargement 24 on the end of the shaft 18.

The upper end of the pivoted arm 16 is formed with an aperture in which is secured one end of an operating cord 25 which extends over a pulley 26 secured to one side wall of the tank 5 and extends upwardly through an aperture formed in the closure 7. A pull exerted upon the operating cord 25 brings the arm 16 to a position so as to disengage the threaded enlargement 24 of the shaft 18 from the threaded enlargement or screw 23 of the shaft 13. The arm 16 is normally retained in vertical position, as illustrated in full lines in Fig. 4 by the tension of a spring 27.

A float or any preferred type of valve may be employed for controlling the flow of water to the tank through the inlet pipe 10 or the pipe 10 may be in open communication with the tank at all times and it will be clearly apparent that the water or other fluid flowing through the inlet pipe 10 will

operate the screw 22 and rotate the shaft 13. The threaded enlargement or screw 23 of the shaft 13 cooperating with the screw or threaded enlargement 24 of the shaft 18 rotates the latter and carries it toward the outlet opening 9 of the tank thus seating the valve 19 over said outlet opening and preventing the escape of liquid from the tank. When it is desired to drain the tank, the operating cord 25 is pulled swinging the pivoted arm 16 to the dotted line position illustrated in Fig. 4, thus disengaging the screw 24 from the screw 23 and permitting the shaft 18 to be moved longitudinally under the influence of the spring 21. After the tank is emptied and the cord 25 is released the pivoted arm 16 is permitted to swing, under the influence of the spring 27, to mesh the screw 24 with the screw 23 and thus the water flowing through the inlet pipe 10 will operate against the screw 22 in the manner described, and close the valve 19.

What I claim is:—

1. A device of the character described comprising a tank having inlet and outlet ports, a valve for closing said outlet port, a shaft carried by said valve, an arm pivoted in the bottom of said tank rotatably and slidably receiving said shaft, means for normally retaining said pivoted arm in vertical position, an operating cord secured to said pivoted arm, a second shaft rotatably mounted in said tank and projecting into said inlet opening, a screw at one end of said second mentioned shaft, a screw at the end of said first mentioned shaft meshing with the first-named screw, fluid operated means on the opposite end of the second mentioned shaft for rotating the latter and

means tending to hold said valve in open position.

2. A device of the character described comprising a tank having inlet and outlet ports, a valve for closing said outlet port, a shaft carried by said valve, means tending to hold said valve in open position, an arm pivoted in the bottom of said tank rotatably and slidably receiving said shaft, means normally retaining said pivoted arm in vertical position, an operating cord secured to said pivoted arm for tilting the latter, a second shaft rotatably mounted in said tank, and means for rotating the second mentioned shaft, screws carried by the adjacent ends of said shafts adapted to mesh when said arm is in vertical position.

3. A device of the character described comprising a tank having inlet and outlet ports, a valve for closing said outlet port, a shaft carried by said valve, an arm pivoted in the bottom of said tank rotatably and slidably receiving said shaft, means normally retaining said pivoted arm in vertical position, an operating cord secured to said pivoted arm, a second shaft rotatably mounted in said tank, a screw carried by one end of the last mentioned shaft projecting into said inlet port, screws secured to the adjacent ends of said shafts and adapted to mesh when said arm is in vertical position, and means normally tending to move the first mentioned shaft to unseat said valve.

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

LEO F. PIGOTT.

Witnesses:

R. G. RODMAN,
H. L. BELLMAN.

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