No. 658,823. Patented Oct. 2, 1900.

C. ANESHAENSEL, JR.

WATER PUMPING APPARATUS.

(Application filed Mar. 5, 1900.)

(No Model.)

Fig. 2.

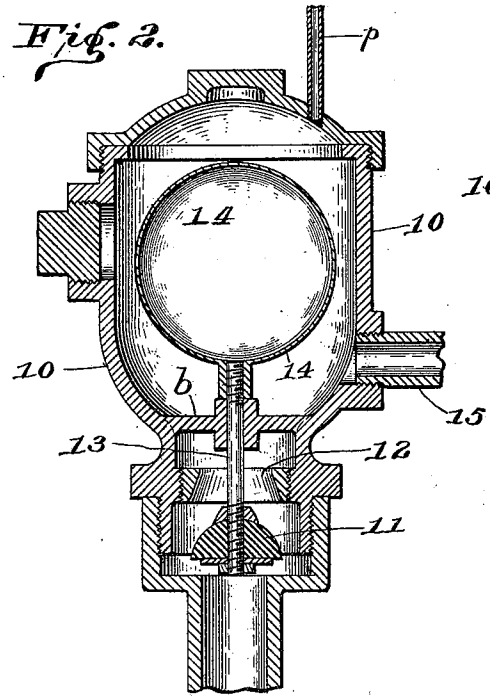
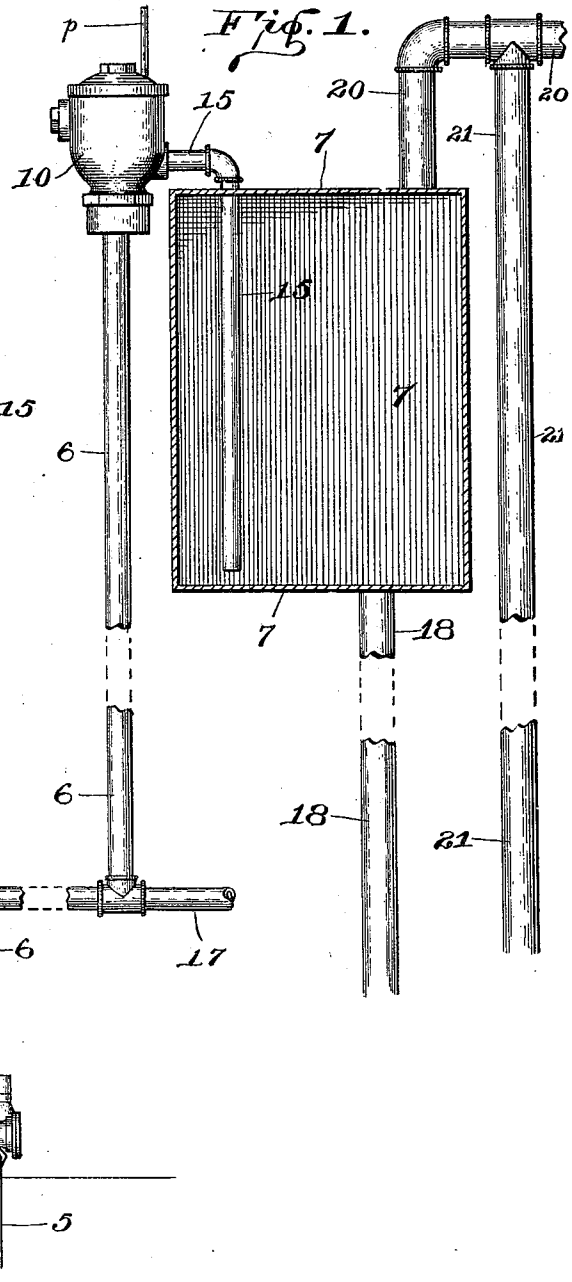


Fig. 1.



WITNESSES:

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UNITED STATES PATENT OFFICE.

CHARLES ANESHAENSEL, JR., OF INDIANAPOLIS, INDIANA.

WATER-PUMPING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 658,823, dated October 2, 1900.

Application filed March 5, 1900. Serial No. 7,333. (No model.)

To all whom it may concern:

Be it known that I, CHARLES ANESHAENSEL, Jr., a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in Water-Pumping Apparatus, of which the following is a specification.

My present invention is designed for use in that class of apparatus wherein water for household or other use is pumped by means of a water-motor; and it consists in a peculiar valve apparatus in connection with the tank containing the pumped water-supply and the distributing-pipes or fixtures immediately connected therewith, the primary object being to promptly and certainly check the flow of water when the tank is filled to the predetermined point. By means of my invention also economy and simplicity of arrangement of the pipes themselves is secured, as will be apparent upon an inspection of the drawings.

Referring to the accompanying drawings, which are made a part hereof and on which similar reference characters indicate similar parts, Figure 1 is a side elevation illustrating in a diagrammatic manner a domestic water system embodying my said invention; and Fig. 2 a central sectional view of the valve apparatus, which constitutes the leading feature of said invention.

I have illustrated my said invention in a system wherein the water is supplied by means of a motor-pump 1, which is operated by water under pressure coming in through a pipe 2 and which is discharged through a waste-pipe 3. In the pipe 2 is an automatic stop-valve 4, which, however, constitutes no part of my present invention and therefore will not be further described herein.

The water to be pumped is usually rain-water from the cistern and is drawn from such cistern through a suction-pipe 5 and is discharged from the motor-pump through a suitable pipe 6 into the tank 7, whence it is supplied to the faucets or other plumbing fixtures.

Interposed in the pipe 6, at about or above the level the water is designed to occupy in the tank, is the valve structure embodying my present invention. The casing 10 of said valve structure is secured on the upper end of said pipe 6. The valve proper, 11, is positioned below a suitable valve-seat 12 in said valve-casing, up through which the valve-stem 13 passes, and on the top of said stem is a float, (shown as a hollow globe 14,) which, like other similar devices, will float upon the surface of the water. A bridge-tree *b* serves as a guide and steady rest for said valve-stem. Leading out from the side of the valve-casing 10 and thence downwardly to a point near the bottom of the tank is a pipe 15, which serves in my improved device both as a supply-pipe to said tank (being in this particular substantially a continuation of the pipe 6) and as the siphon portion of the discharge-pipe from said tank, a portion of said pipe 6 also serving as a portion of said discharge-pipe. The pipes 6 and 15 being thus adapted for the purposes both of supply and discharge, reduce the amount of piping necessary and are thus a source of economy of construction. In order that the operation of the valve by the float shall not be interfered with by air being compressed above said float, I provide a vent in the upper side of the casing 10, and from this a small pipe *p* should lead to above the higher point in the system to which the water can possibly rise in order to preclude the possibility of overflow.

In operation the water while flowing into the tank passes through the pipes 6 and 15 unobstructedly until the level of the water in the tank has risen so far as to, by means of the float, raise the valve against the valve-seat, when the further entrance of water to the tank is promptly and wholly shut off and so remains until some water has been drawn from the tank, when, there being no pressure to hold the valve up against its seat, it promptly opens, permitting a new supply to enter. There are no levers, fulcrums, pivots, or other appliances needed to operate this valve, and its motion is as rapid as the rise and fall of the water itself. As in use the water flows back and forth in both directions through the valve, it is kept washed clean upon all sides, and consequently is not liable to faulty seating because of dirt getting between the valve and its seat. Water may be withdrawn from the tank either back through the pipes 15 and 6 and a branch or branches, as 17, leading to faucets or other fixtures, or directly out from the tank through the dis-

charge-pipe 18. In use I prefer to supply the cold-water fixtures by way of branches, as 17, from the pipe 6 and to supply the hot-water boiler by way of such a pipe, as the pipe 18, leading from the tank.

Modern scientific plumbing requires that a safety overflow-pipe be provided in all cases. This pipe 20 leads out in any suitable manner from the tank. It is also required in all closed or "expansion" tank systems that a safety-pipe lead from the hot-water boiler, so that in case of the generation of steam there shall be a free means of escape. Such a safety-pipe 21 I prefer to lead to and connect with the overflow or waste pipe 20. It will of course, however, be understood that these waste or overflow pipes may be connected in any other way desired without affecting my invention.

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

1. The combination, in a water-pumping apparatus, with a water-supply pipe, of a valve mounted in a vertical position at the end of said pipe, said valve being composed of a chamber separate from the water-tank, a valve-seat therein, a valve below the valve-seat, a stem leading up through the valve-seat, and a float on the upper end of said stem within the upper chamber of said shell, substantially as set forth.

2. The combination, in a water-pumping apparatus, with the pipe leading from the source of water-supply toward the point of discharge, of a shut-off valve interposed between the inlet and outlet of said pipe, said valve being composed of a shell or casing, a valve-seat therein, a valve proper below said valve-seat, a stem leading from said valve up through said valve-seat, and a float on said stem above said valve-seat whereby when the water beyond said valve reaches a predetermined level said valve will be closed by the raising of said float, and the further passage of water through said pipe thus prevented until a portion of the water beyond said valve is drawn off permitting the float to descend and the valve to open.

3. The combination of a water-tank, a pipe leading thereto, and a shut-off valve in said pipe, said valve being composed of a shell or casing, a valve-seat therein, a valve proper below said valve-seat, a stem leading from said valve up through said valve-seat, and a float on said stem above said valve-seat and within said valve shell or casing, whereby when the water reaches the predetermined level said valve will be closed by the raising of said float, substantially as set forth.

4. The combination of a water-tank, a pipe leading thereto, and a valve structure arranged near the point of discharge into said tank, said valve structure being composed of a shell or casing, a valve-seat therein, a valve below said valve-seat, a valve-stem leading from said valve to above said valve-seat, and a float on said valve-stem, a pipe leading outwardly and thence downwardly from a point above said valve-seat to near the bottom of said tank, and thus forming a siphon whereby the same pipe may be used both as a supply and as a discharge pipe whereby water is supplied to and discharged from said tank, substantially as set forth.

In witness whereof I have hereunto set my hand and seal, at Indianapolis, Indiana, this 28th day of February, A. D. 1900.

CHARLES ANESHAENSEL, JR. [L. S.]

Witnesses:

CHESTER BRADFORD,

JAMES A. WALSH.