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C. E. COOK.

VALVE AND VALVE OPERATING MECHANISM.

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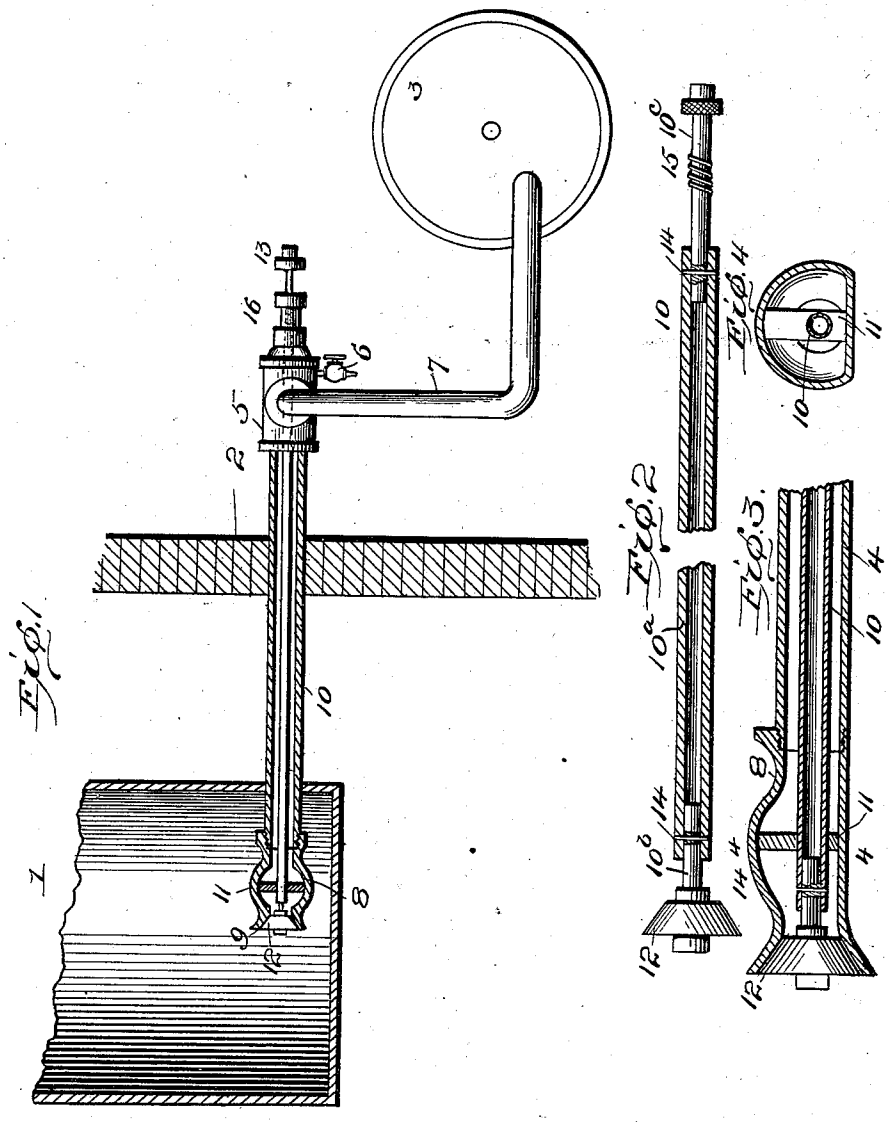
NO MODEL.



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VALVE AND VALVE-OPERATING MECHANISM.

SPECIFICATION forming part of Letters Patent No. 723,832, dated March 31, 1903.

Application filed May 26, 1902. Serial No. 108,977. (No model.)

To all whom it may concern:

Be it known that I, CLAYTON EDWARD COOK, a citizen of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented certain new and useful Improvements in Valves and Valve-Operating Mechanism; and I 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, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My present invention relates to valves and valve-operating mechanism, and particularly to that class of valves used in connection with water systems where the source of water-supply is located at a distance from the point where the water is to be consumed.

The object of my invention is to prevent freezing and bursting of the water-pipes; and I attain this object by closing a valve at the entrance to the distributing-pipe leading from the source of supply to the point of consumption and by draining the water from said pipe.

A further object of my invention is to provide mechanism for accomplishing the above results which is both simple and inexpensive of construction and is attended with many improvements in details of structure.

My improved valve and valve-operating mechanism may be applied to any system of water distribution where the water-supply is located at a distance from the place where the water is consumed and it is desired to shut off the water at a distance from said place of consumption by mechanism operated at such place.

For purposes of illustrating I will describe my improved valve and valve-operating mechanism as used in connection with an ordinary water tank or cistern exterior to or at a distance from a building and adapted to supply water for laundry purposes to a tub or washing-machine within a building.

In the drawings, Figure 1 is a view, partly in section and partly in elevation, of a system employing my improved valve and valve-operating mechanism. Fig. 2 is a detail sectional view of the valve and valve-stem shown in Fig. 1. Fig. 3 is a modification of the valve-head shown in Fig. 1, and Fig. 4 is a sectional view on the line 4 4 of Fig. 3.

1 represents a tank or cistern located exterior to and at a distance from a building.

2 is the wall of the building, and 3 is a washing-machine or other receptacle to which water is to be supplied and located within said building.

4 is a distributing-pipe passing through the wall 2 and the side of the tank 1 and having positioned on its inner end a union 5, which may be of any approved type, but which is provided on its under side with a liquid-escape cock 6, for purposes hereinafter described.

7 is a branch pipe connecting the union 5 with the washing-machine or receptacle 3.

Positioned on the outer end of the pipe 4 and within the tank 1 is a valve-head 8, provided with an outwardly-facing valve-seat 9.

10 represents a valve-stem extending longitudinally within the pipe 4, valve-head 8, and union 5 and loosely supported at its outer end by an upright 11, positioned within the valve-head 8, as clearly shown in Fig. 4. Carried by the valve-stem 10 at its outer end is a valve 12, adapted to seat against the outwardly-facing valve-seat 9.

13 is an operating-handle carried by the valve-stem 10 at its inner end. The valve-stem 10 is made in three parts. The central part 10^a, as shown in Fig. 2, is tubular and may be cut at varying lengths to suit the distance from tank to building or length of pipe 4. Telescoped or secured within one end of part 10^a by rivet 14 or other suitable means is a stem 10^b, which carries the valve 12 and connects the same to the part 10^a. Secured in like manner to the other end of part 10^a is a second stem 10^c, which carries the operating-handle 13 and is provided with a left-hand screw-thread 15 at a point between said handle and the part 10^a, which screw-thread is adapted to engage a corresponding screw-thread in the stuffing-box 16 on the union 5.

The valve-head 8 may be and is preferably made with a flattened bottom, as shown in Fig. 3.

The operation of my device is as follows: When it is desired to fill the pipe 4 to let water into the receptacle 3, the operating-handle 13 is turned to the left and the left-hand screw-thread 15, engaging the correspond-

ing thread in the stuffing-box 16, rotates the valve-stem 10 and at the same time forces it outward, unseating the valve 12 and allowing water to enter pipe 4. While the valve 12 is unseated the upright 11 prevents the stem 10 from dropping or sidewise movement. When it is desired to empty pipe 4 of water to prevent freezing and bursting, the operating-handle 13 is turned to the right and the valve 12 will be drawn to the seat 9, thereby shutting off entrance of water to pipe 4, when substantially all of the water in said pipe 4 will run off into the receptacle 3, and what little which might remain can be drawn off by the water-escape cock 6.

By making the bottom of the valve-head 8 flat, as shown in Fig. 3, the tendency of water to collect therein will be obviated and danger of freezing of pipes further lessened.

It is obvious that the arrangement hereinbefore described may be varied in details of structure without departing from the spirit of my invention.

In the drawings I have shown my improved valve and valve-operating mechanism as used where the supply-tank is located exterior to and at a distance from a building where the water is consumed; but the same may be located within said building at a distance from the point of consumption, or it may be located on or at the top of said building, and the distributing-pipe and other parts may be located in any suitable position to suit the location of such source of supply.

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

The combination with a distributing-pipe, of a valve-head on one end thereof and having an outwardly-facing valve-seat, a union at the other end of said pipe, a stuffing-box on said union, a valve-stem extending through said head, pipe, union and stuffing-box, a left-hand thread on said stem, a corresponding thread in said stuffing-box and engaging the same, a valve carried by said stem and movable to and from said valve-seat by said stem, an upright supporting said stem within the valve-head, and means operating the valve-stem.

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

CLAYTON EDWARD COOK.

Witnesses:
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