

W. SHURTLEFF.

VALVE.

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944,155.

Fig. 1.

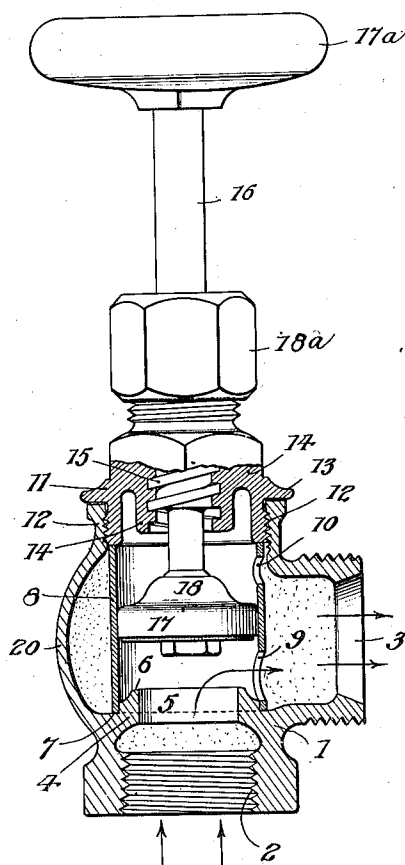
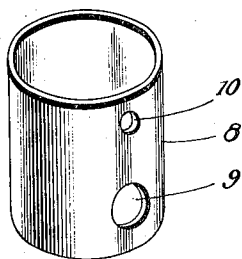


Fig. 2.



WITNESSES

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WILFRED SHURTLEFF, OF MOLINE, ILLINOIS, ASSIGNOR OF ONE-HALF TO MOLINE VACUUM-VAPOR HEATING COMPANY, OF MOLINE, ILLINOIS, A CORPORATION OF ILLINOIS.

VALVE.

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To all whom it may concern:

Be it known that I, WILFRED SHURTLEFF, a citizen of the United States, and a resident of Moline, in the county of Rock Island and State of Illinois, have made certain new and useful Improvements in Valves, of which the following is a specification.

My invention is an improvement in valves, and consists in certain novel constructions and combinations of parts, hereinafter described and claimed.

The object of the invention is to provide a valve, especially adapted for use with vapor heating apparatus for controlling the supply of vapor to the coils of the radiators, and wherein the size of the opening for admitting the vapor may be contracted or enlarged, without the use of special tools.

Referring to the drawings forming a part hereof, Figure 1 is a longitudinal section of the valve, and Fig. 2 is a perspective view of the reversible shell or sleeve.

The embodiment of the invention shown in the drawings, consists of a substantially cylindrical casing 1 of general T-shape, having an end inlet 2, and a side outlet 3. A diaphragm 4, is arranged between the body of the valve casing and the inlet 2, and the diaphragm is centrally perforated as at 5, and provided with an annular flange 6 encircling its opening and forming a valve seat, and extending into the body portion of the casing. A shoulder 7 is formed between the flange and the diaphragm, and a sleeve or shell 8 encircles the flange, the lower end of the sleeve resting on the diaphragm, with the inner edge engaging the shoulder.

The shell is provided near each end with an opening 9 and 10, and the opening 9 is of greater diameter than the opening 10, one of the said openings forming the communication between the inlet 2 and the outlet 3 of the casing. The shell is retained in position by a nut 11 threaded into the end 12 of the casing directly opposite the inlet 2, the nut being provided with a lateral annular flange 13 engaging the end of the casing, and with a central boss or hub 14. The boss 14 is adapted to engage an enlargement 18, on the body of the valve for limiting the opening or upward movement thereof, so that the said valve cannot be moved far enough to uncover any opening except the lowermost. The measure of the vapor transmitting capacity of the valve, under

like conditions as to pressure etc., is the area of the opening 9 or 10 which may be uncovered by the valve. When the shell is in the position shown in Fig. 1 such measure is the area of the opening 9, and when the shell is reversed the measure is the area of the opening 10. The boss is internally threaded, and the threads are engaged by the threaded portion 15, of a stem 16, of the valve 18, which is movable in the shell or sleeve 8. The free end of the stem 16 is provided with a handwheel 17^a, and a packing nut 18^a encircles the stem and engages the nut 11 before mentioned.

The shell may be easily reversed by unscrewing the nut 14, and withdrawing the valve from the shell. It will be observed that all of the valve operating parts are carried by the nut, and are removed and replaced therewith. It will be noticed from Fig. 1 that the casing is enlarged annularly as at 20, around the sleeve, so that it is not necessary to align the openings 9 and 10 with the outlet.

I claim—

1. A device of the class described, comprising a substantially cylindrical casing having at one end an inlet, and at the side an outlet, a perforated diaphragm separating the inlet from the body of the valve, an annular flange encircling the perforation of the diaphragm and forming a valve seat, a sleeve seated on the diaphragm and encircling the seat, said sleeve having at each end an opening one of which is of greater diameter than the other, a valve slidable in the sleeve and cooperating with the seat, and means for limiting the opening movement of the valve to prevent said valve uncovering its upper opening, and a nut threaded into the casing and carrying the valve, said nut being of greater diameter than the sleeve to permit the removal thereof, and engaging the end thereof to retain it in position.

2. A device of the class described, comprising a casing provided at one end with an inlet, and at its side with an outlet, a perforated diaphragm between the inlet end and the body of the casing, a sleeve resting on the diaphragm, and encircling the perforation, said sleeve being provided with a longitudinal series of side openings of different diameters and forming a communication between the inlet and the outlet, a valve movable in the sleeve for closing the perfo-

ration of the diaphragm, means for moving the valve, means for limiting the opening movement thereof for the purpose specified, and a nut threaded into the casing and carrying the valve and of greater diameter than the sleeve.

3. A device of the class described comprising a casing having an inlet and an outlet at right angles to each other, a sleeve encircling the inlet, and having a longitudinal series of side openings of different sizes communicating with the outlet, said casing having a threaded opening through which the sleeve may be removed, a nut closing the opening, a valve movable on the sleeve and having a stem passing through the nut and carried thereby, and means for limiting the movement of the valve for the purpose specified.

4. A device of the class described, comprising a valve casing provided with inlet and outlet ports, a sleeve reversibly mounted in the casing, and communicating by one end with one of said ports and provided with a longitudinal series of side openings of different areas communicating with the other of said ports, a valve movable in the sleeve for closing the port communicating with the end thereof, and means for limiting the movement of the valve to prevent it uncovering more than one opening.

5. A device of the class described, com-

prising a valve casing provided with an inlet and an outlet port at right angles to each other, a sleeve removably mounted in the casing, and registering with one of the ports and having a longitudinal series of different sized side openings registering with the other port, a valve for closing the sleeve, and means for limiting the movement of the valve to prevent the uncovering of more than one opening.

6. In a device of the class described, a valve casing having an inlet and outlet port, said inlet and outlet ports being out of alignment with each other, a sleeve removably mounted in the casing and registering with one of the ports, and having a longitudinal series of different sized openings registering with the other port, a valve for closing the sleeve, and means for limiting the movement of the valve to prevent the uncovering of more than one opening.

7. A valve casing having an inlet and an outlet port, a reversible sleeve in the casing registering with one port and having a plurality of side openings of different size registering with the other port and a valve movable in the sleeve.

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Witnesses:

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