

J. ERWOOD.
VALVE.

APPLICATION FILED FEB. 20, 1903.

NO MODEL.

Fig. 1.

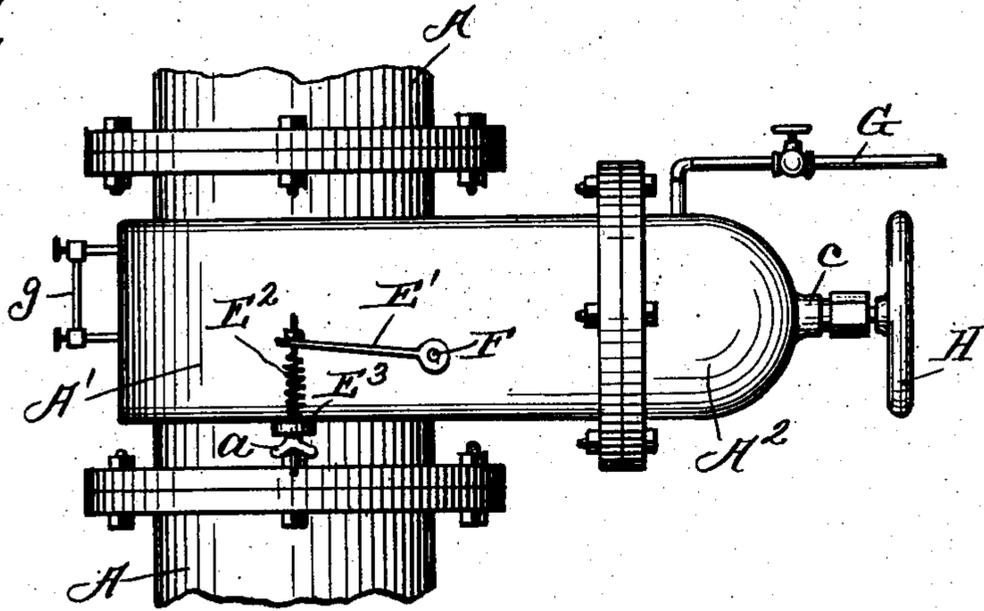


Fig. 2.

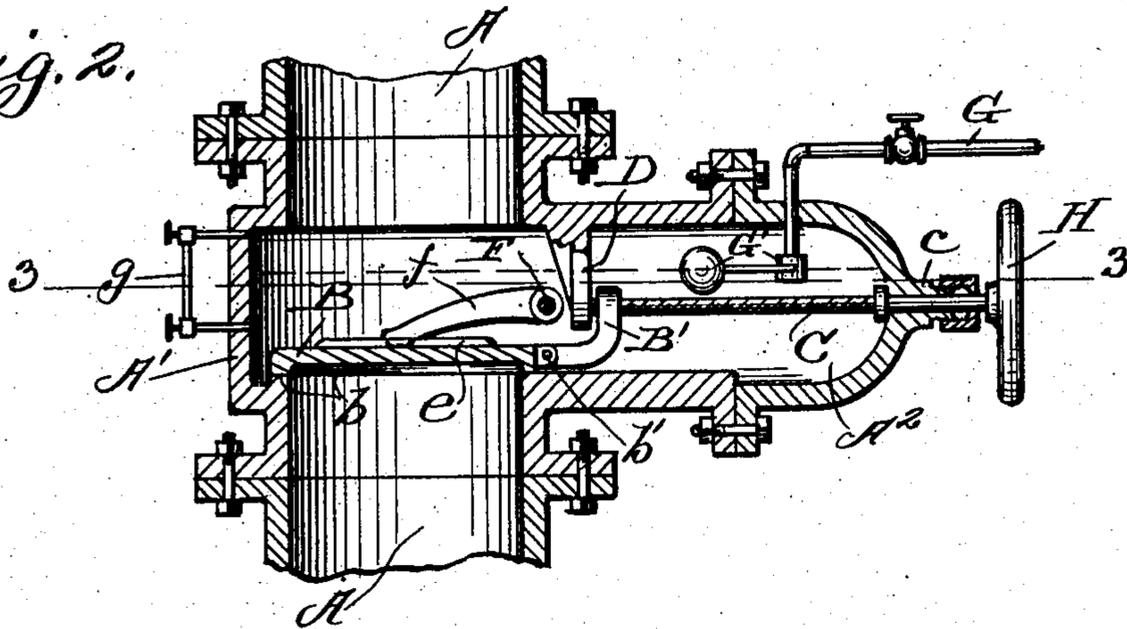
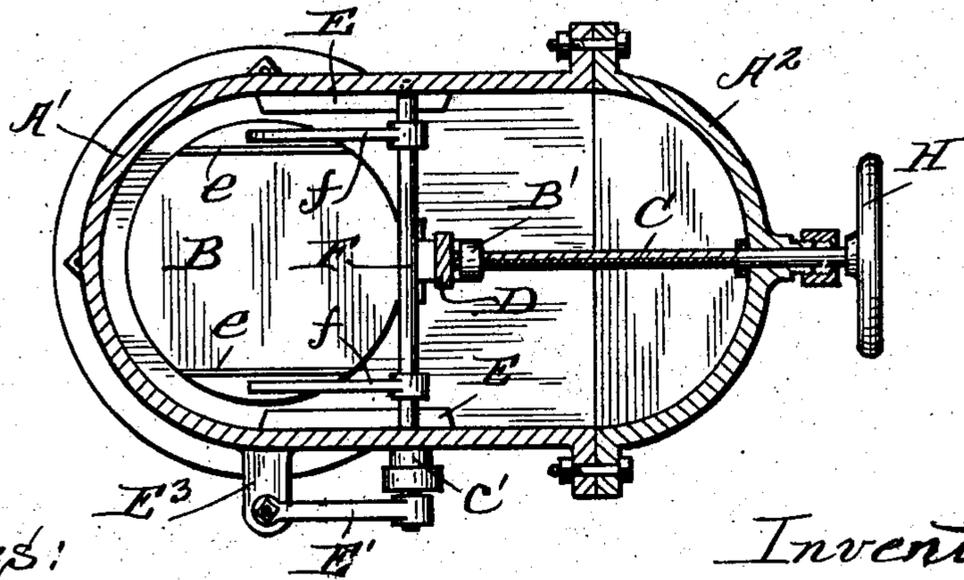


Fig. 3.



Witnesses:

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Atty

UNITED STATES PATENT OFFICE.

JOHN ERWOOD, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-FOURTH TO
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VALVE.

SPECIFICATION forming part of Letters Patent No. 741,641, dated October 20, 1903:

Application filed February 20, 1903. Serial No. 144,247. (No model.)

To all whom it may concern:

Be it known that I, JOHN ERWOOD, of Chicago, in the State of Illinois, have invented certain new and useful Improvements in
5 Valves, of which the following is a specification.

This invention relates to hinged slide-valves for air, gas, steam, or water pipes, designed to operate as a controlling-valve or
10 full-way valve; and the objects are, first, to provide levers adapted to engage the valve and operating in connection therewith in its function as a controlling-valve and to be automatically disengaged therefrom in its func-
15 tion as a full-way valve, and, second, to provide means for flooding the valve to make it air-tight when used for air, &c. I have attained these objects by the means illustrated in the accompanying drawings, in which—

20 Figure 1 is a side elevation showing in fragment a conduit-pipe with a valve-chamber and valve containing my invention. Fig. 2 is a vertical central longitudinal section of the same. Fig. 3 is a horizontal section at 3 3 of
25 Fig. 2.

In the drawings, A is the conduit-pipe; A', a section thereof constituting the valve-chamber having a hood or bonnet A².

B is a circular slide-valve; b, the valve-seat;
30 B', a nut provided with an extension in the plane of the valve; b', a hinge or pivotal connection of the rear edge of the valve with the nut extension; C, a threaded rod passing through the nut and through a stuffing-box
35 at c.

D is a stop to the inward movement of the nut; E, guides along opposite edges of the valve; F, a spring-pressed rock-shaft journaled slightly above the plane of the valve in
40 the walls of the valve-chamber, with one end preferably projecting out through the same, where it is provided with a stuffing-box c'; E', a lever keyed at one end to the end of the rock-shaft projecting outside of the valve-
45 chamber; E², a spring with one end attached to the free end of said lever and the other end attached to a lug E³ on the exterior of the valve-chamber. The rock-shaft is provided with two
50 levers f, keyed thereto at points in plane with opposite sides of the valve-seat and parallel

with the direction in which the valve slides. The levers are slightly inclined downward from the rock-shaft upon the valve near its periphery and at about the center line of the valve extended transversely to the levers or
55 farther toward the free side of the valve and are pressed down upon the valve by the action of the spring E². By means of a thumb-nut a the tension of the spring may be varied to vary the lever-pressure on the valve. 60
Raised guides e on the valve may be employed to keep the valve in place between the levers if the hinge at b' should not give sufficient lateral support for this purpose.

G is a small tube passed through an opening in the valve-chamber and fitted air-tight
65 therein for admitting water into the valve-chamber over the valve in order to supplement its connection or contact with the valve-seat to make it air-tight. G' is a float-valve
70 in connection with the inner end of said tube within the valve-chamber for automatically regulating or controlling the admission of water into the valve-chamber. A glass gage
75 g is provided in connection with the valve-chamber for showing the height of the water therein.

H is a handle for regulating the screw-rod C and causing the nut to travel thereon for
80 sliding the valve onto or off of its valve-seat. As the valve slides off of its seat and into the hood it is withdrawn from under the levers and they are automatically disengaged therefrom, and as it slides back on the seat it
85 passes under the levers and they are automatically engaged therewith to hold it pressed upon the seat. When the valve is withdrawn, the levers are forced against the valve-seat at opposite sides of the passage-way and do
90 not obstruct the same. In this position the relation of the levers and valve is such that the levers can easily take their working position with the valve when it is slid back upon its seat.

The means for holding the levers pressed
95 toward the valve or its seat need not necessarily be situated outside the valve-chamber.

What is claimed is—

1. The combination with the valve-chamber and its hood of a hinged slide-valve, a 100

rod in connection with means for sliding the valve, a rock-shaft journaled within the valve-chamber in a plane above the valve-hinge, levers keyed to the rock-shaft within the
 5 valve-chamber and arranged at opposite sides of the valve-seat, and means in connection with the rock-shaft for holding the levers pressed upon or toward the valve-seat as specified.

10 2. The combination with the valve-chamber and its hood of a hinged slide-valve, a rock-shaft journaled within the valve-chamber, levers keyed to the rock-shaft and adapted to bear upon the slide-valve, means exterior to the valve-chamber for sliding the
 15 valve, and means for holding the levers pressed upon the valve as specified.

3. The combination with the valve-chamber and its hood of a hinged slide-valve, means
 20 for sliding the valve, a rock-shaft within the valve-chamber, levers keyed to the rock-shaft and adapted to turn upon the valve and a spring in connection with the rock-shaft and

arranged to press the levers upon the valve as specified. 25

4. The combination with the valve-chamber and its hood of a hinged slide-valve, means for sliding the valve onto and off its seat, a rock-shaft journaled within the valve-chamber, levers keyed to the rock-shaft and adapted to turn upon the valve and a spring connected with the rock-shaft outside the valve-chamber and adapted to press the levers upon the valve as specified. 30

5. The combination with the valve-chamber of a hinged valve and its seat of an induction-pipe for admitting water to the valve-chamber over the valve, a float-valve in connection with the induction-pipe within the valve-chamber and a transparent gage communicating with the interior of the valve-chamber as specified. 35 40

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Witnesses:

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