

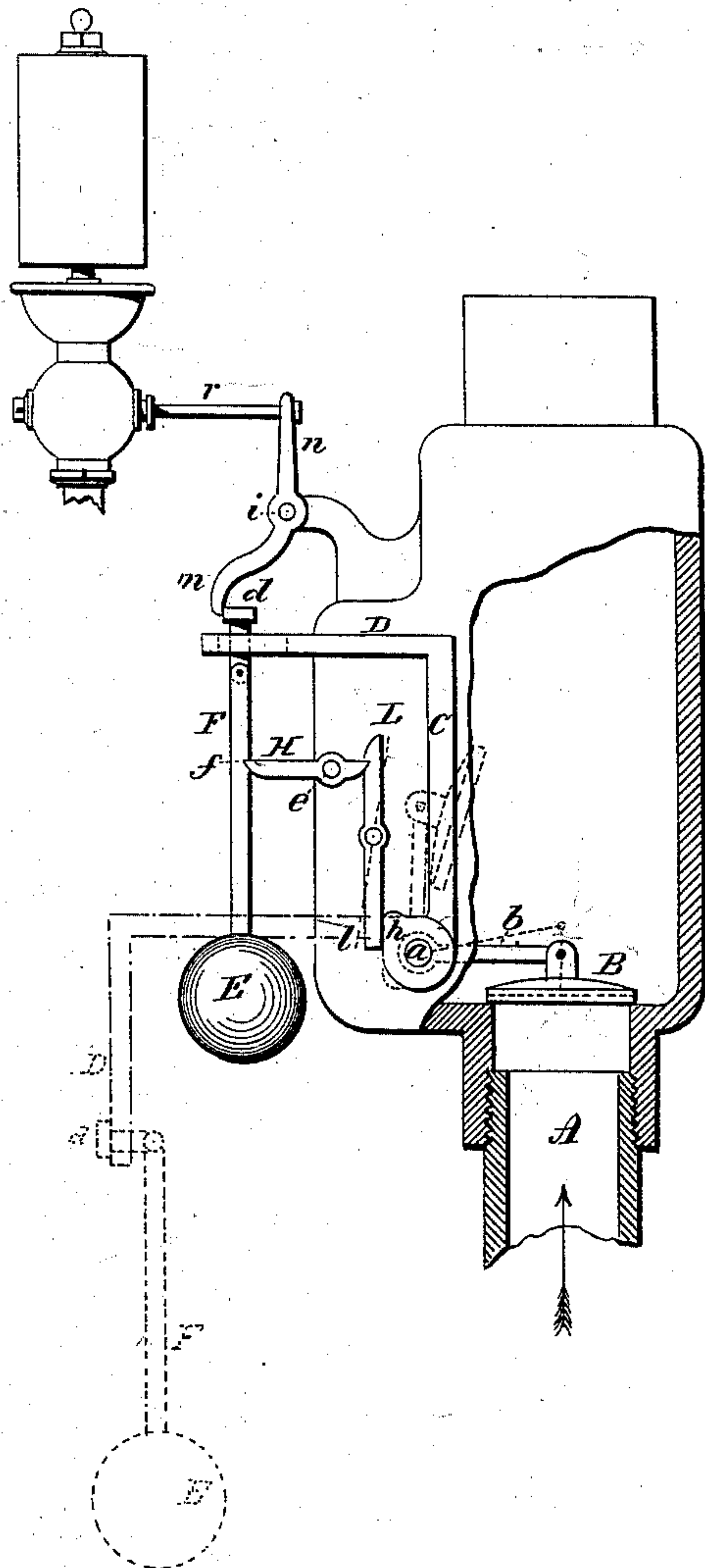
(No Model.)

A. M. BURRITT.

VALVE FOR FIRE EXTINGUISHERS.

No. 255,590.

Patented Mar. 28, 1882.



Witnesses.

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UNITED STATES PATENT OFFICE.

ALBERT M. BURRITT, OF WATERBURY, CONNECTICUT, ASSIGNOR TO THE
A. BURRITT HARDWARE COMPANY, OF SAME PLACE.

VALVE FOR FIRE-EXTINGUISHERS.

SPECIFICATION forming part of Letters Patent No. 255,590, dated March 28, 1882.

Application filed December 24, 1881. (No model.)

To all whom it may concern:

Be it known that I, ALBERT M. BURRITT, of Waterbury, in the county of New Haven and State of Connecticut, have invented a new Improvement in Valves for Fire-Extinguishers; and I do hereby declare the following, when taken in connection with the accompanying drawing and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawing constitutes part of this specification, and represents a sectional side view.

This invention relates to an improvement in mechanism for opening the water-way in fire-extinguishers.

Various arrangements of valves have been made to close the water-way of fire-extinguishers; but usually the valve is moved away from its seat and stands in a plane at right angles to the water-way, the water flowing around the valve. Hence the valve stands as an obstruction in the water-way.

The principal object of this invention is to arrange the valve so that it may be taken entirely out of the water-way and avoid any possible obstruction to the flow of water; and it consists, essentially, in a valve hinged to a rock-shaft at one side of the water-way, so that the force of the water will swing the valve from its seat away from the direction of the flow of water, combined with a mechanism which will so turn the valve so soon as it may be released from its seat; and also in the combination of an alarm with such an arrangement of valve, all as more fully hereinafter described.

A represents the water-way or passage through which the water flows, as indicated by the arrow; B, the valve arranged upon a seat to close said water-way. It may be secured therein by a fusible material, so as to be liberated when the surrounding temperature has been raised to a sufficient degree to fuse the connection, or it may be counterbalanced by a like pressure upon the opposite side, either of air or water. This counter-balance would be produced if, for instance, there were at some point in the pipe beyond the valve a fusible plug and a slight opening through the valve B, so that the water might pass through that opening to the opposite side of the valve and pro-

duce the equilibrium. In that case the equilibrium would be maintained until the pressure was removed by the fusing of the plug or opening the water-way, and as soon as the flow of water permitted, then the valve would start and be thrown wide open automatically; or, if the pipe be closed with air in the valve-chamber and pipe, the air will be compressed by the incoming water into the valve-chamber through the same opening until the equilibrium is attained. Then the valve will remain in its closed condition.

At one side of the water-way is a rock shaft, *a*, from which an arm, *b*, extends, and is connected to the valve B, so that the valve as it moves away from its seat will swing upon the rock-shaft *a* as a center and carry the valve up to one side of the chamber, as indicated in broken lines. When a valve in a water-way of this character leaves its seat it will only be moved from that seat to such a distance as to permit the water to flow around it and create a pressure upon the opposite side. Hence, if simply hung upon the shaft, as described, the movement of the valve by the force of the water only would not carry it out of the direct water-way; hence some mechanical appliance is necessary which will automatically act upon the valve to turn it entirely out from the water way or passage. To this end I attach to the shaft a lever, C D, preferably angular shape, but not necessarily so, and extending upward. Near the outer end of the lever I arrange a weight, E, on a rod, F, the rod extending through a slot in the lever, provided with a head, *d*, above, so as to take a bearing upon the upper side of the lever.

H is a trip hung upon a pivot, *e*, one end engaging a notch, *f*, in the rod F, the other engaged with a latch, L, and when so engaged the weight will be suspended independent of the lever C D, and when so suspended has no effect upon the lever C D or upon the valve. On the rock-shaft *a* is a cam, *h*, arranged to operate against the opposite arm of the latch L. When the valve B is liberated so as to move from its seat it will by the force of the water turn the rock-shaft, and also turn the cam *h* thereon, which will operate upon the latch L to disengage the trip H, as indicated in broken

lines, and which will permit the weight to fall. The weight, coming upon the projecting arm of the lever C D, will cause that arm to swing round upon the rock-shaft as its center
5 and turn the rock-shaft, as seen in broken lines, and bring the valve into the position, also seen in broken lines, entirely out of the line of the flow of the water. The slot in the arm D through which the rod passes is suffi-
10 ciently long to permit the required play of the lever before the tripping of the weight occurs.

To apply an alarm which should be operated when the valve is moved from its seat, I hang a lever upon a fulcrum, *i*, one arm, *m*, of which
15 rests against the head of the weight-rod. The other arm, *n*, is in connection with the rod *r* of a whistle-valve. This arrangement holds the valve closed so long as the weight is suspended; but so soon as the weight falls, as before de-
20 scribed, it will pass from the arm *m* and permit the movement of the valve-rod to open the valve to the whistle.

The lever which engages the whistle-valve with the mechanism may make its connection
25 at some other point than the head of the weight-rod, it only being essential that it shall be upon some point which will move away from the lever when the movement of the valve occurs.

Although applicable to fire-extinguishers,
30 this valve arrangement may be useful for other purposes.

The valve B from its hinging point may be combined with other mechanism which will be released by the swinging up of the valve. I
35 therefore do not wish to be understood as confining my invention to this particular mechanism for so doing.

Instead of the whistle for the alarm, it may be a bell or other device for signaling the release of the valve or opening of the water-way. 40

I claim—

1. The valve B, arranged to close the water-way and hung at one side of the water-way, combined with mechanism, substantially such
as described, whereby after said valve is per- 45 mitted to leave its seat it will be automatically turned out of line of the flowing water, substantially as described.

2. The valve B, arranged to close the water-way and hung upon a rock-shaft at one side 50 of the water-way, combined with a lever extending from said rock-shaft, a weight suspended by a trip, a latch to hold the said trip, a cam on the said rock-shaft to operate said latch, whereby the first part of the movement 55 of said valve will release the said weight and cause it to turn said rock-shaft and throw the valve out of the line of the water-way, substantially as described.

3. The valve B, arranged to close the water- 60 way and hung at one side of the water-way, combined with mechanism, substantially such as described, whereby after said valve leaves its seat it will be automatically turned out of line of the flowing water, and with an alarm 65 engaged with said mechanism, so that by the said movement of the valve the alarm will be sounded, substantially as described.

ALBERT M. BURRITT.

Witnesses:

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