(No Model.)

E. HOXIE.

SPRINKLER.

No. 458,628. Patented Sept. 1, 1891.

Fig. 1.

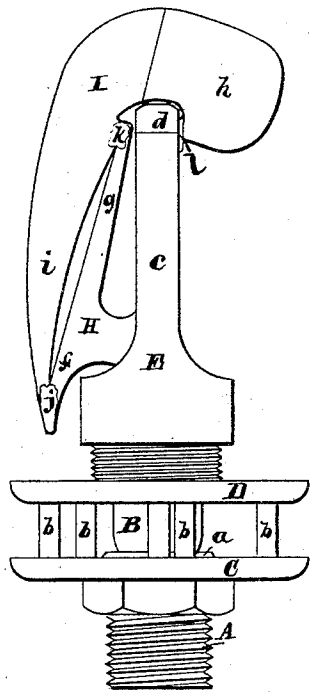


Fig. 2.

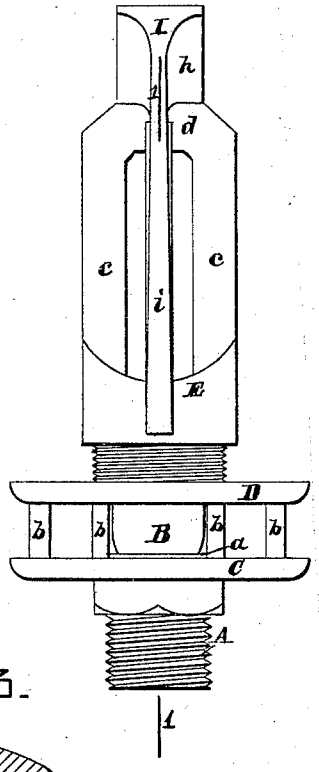
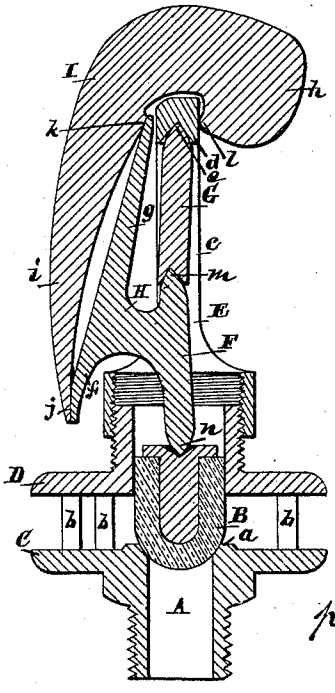


Fig. 3.



WITNESSES.

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EDMUND HOXIE, OF EVERETT, MASSACHUSETTS.

SPRINKLER.

SPECIFICATION forming part of Letters Patent No. 458,628, dated September 1, 1891.

Application filed December 10, 1890. Serial No. 374,225. (No model.)

To all whom it may concern:

Be it known that I, EDMUND HOXIE, a citizen of the United States, residing at Everett, in the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in Automatic Sprinklers, of which the following is a specification, reference being had to the accompanying drawings.

The object of my invention is an automatic sprinkler in which the valve will be securely held to its seat until the solder, which maintains certain parts of the sprinkler in the required position, be fused, when said parts will readily and quickly fall apart to release the valve.

The invention consists in the devices and combinations of devices hereinafter set forth, and specifically pointed out in the claims.

In the drawings, Figures 1 and 2 are elevations taken at right angles to each other of an automatic sprinkler embodying my invention. Fig. 3 is a central section taken in the direction of line 1 1 in Fig. 2.

At A is shown an end of a pipe conduit or nozzle, in which is a valve-seat *a*, on which is the valve B. To the nozzle is connected a distributer formed by the plates C and D, joined by the connecting-rods *b*. On the plate D, I screw a yoke E, provided with the standards *c* and cross-bar *d*. I employ a knee-joint, the lower limb F of which bears against the valve and the upper limb G against the cross-bar *d* at *e*. This upper limb may consist of simple straight piece, as shown. The lower limb F has an arm H, which has two extensions *f* and *g*. There is another piece I, which is provided with a weight *h* at one end, the other part being extended to form a longer portion *i*. The two pieces F H and I are soldered together by easily-fusible metal at *j* and *k*. These two pieces when soldered together form one piece, which may be regarded as a compound lever, which has a fulcrum or bearing-point on the yoke E, as at *l*. When the two pieces F H and I are separated, as by the melting of the solder at *j* and *k*, they may be considered as two levers.

The parts of the sprinkler are set for operation in the relative position shown, the bearing-point *m* of one limb of the knee-joint on the other being a little out of a straight line extending from the bearing-point *n* of the lower limb on the valve to the bearing-point *e* of the upper limb on the cross-bar *d*. The yoke E is screwed down sufficiently to cause the valve to press, as required, on its seat, which may be done, since there will be the required resistance against the knocking down of the knee-joint at the point at *l* by means of the compound lever. Upon the melting of the solder at *j* and *k* the resistance just set forth will be destroyed, so that the valve will be readily lifted by the water under the same, and which is in the conduit-pipe under pressure. The pressure on the valve by means of the knee-joint and compound lever will be the more quickly relieved, owing to the fact that the weight *h* will act to carry this end of the lever I directly downward, and hence cause the end *i* to fly outward from the path of the other lever H. Greater aid, whereby the pressure on the valve will be relieved, will arise from the fact that the long arm of the lever I is soldered to the short arm of the lever H, as at *j*, so that this joint will the more quickly break on the melting of the solder. The solder at *k* is mainly for the purpose of assisting to maintain a true position of parts of the device, and may be dispensed with; but I prefer to use it, and in such a manner as to provide a joint at *k*, weak compared with the one at *j*. Furthermore, it will appear that, owing to the two levers I and H and the manner and places of joining them to form the compound lever, the solder joints may be so exposed as to be readily broken by the action of the heat, and therefore that the sprinkler will be very effective to render the required service.

I claim as my invention—

1. In combination with a nozzle, a valve therefor, and a yoke secured thereto, the limbs of a knee-joint to press on the valve and the yoke to hold the valve on its seat, and a piece or lever soldered to an arm of one of said limbs to form a compound lever having a fulcrum on said yoke, substantially as and for the purpose set forth.

2. In combination with a nozzle, a yoke secured thereto provided with a cross-piece *d* and a valve, a knee-joint formed of limbs F and G, an arm H, of one piece with the limb F, and a lever I, soldered to the lever H and

having a fulcrum on said yoke, substantially as specified.

3. The combination of a nozzle, a yoke secured thereto, a valve, a knee-joint formed of limbs F and G, one of which is of one piece with an arm H, and a lever I, soldered to the arm H, provided with a weight *h*, and having a fulcrum on the yoke, substantially as set forth.

4. The combination of a nozzle, a valve therefor, plates secured to the nozzle to form a distributer, a yoke secured to the nozzle, limbs of a knee-joint located between said yoke and the valve, and a piece or lever soldered to an arm of one of said limbs to form a compound lever which has a fulcrum on said yoke, substantially as described.

EDMUND HOXIE.

Witnesses:
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