

(No Model.)

G. E. HIBBARD.

SPRINKLER HEAD FOR AUTOMATIC FIRE EXTINGUISHERS.

No. 531,120.

Patented Dec. 18, 1894.

FIG. 1.

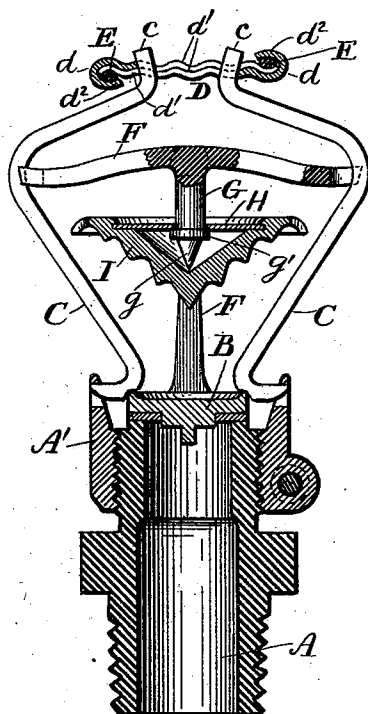


FIG. 2.

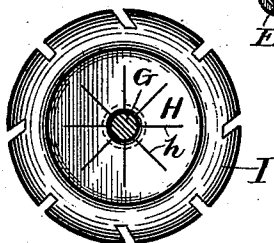


FIG. 4.

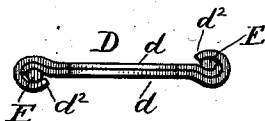


FIG. 3.

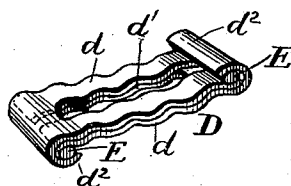


FIG. 5.



Witnesses:

I Halpenny.

W D Brown

Inventor:

George E. Hibbard

By his attorney,

Excelsior & Hopkins

UNITED STATES PATENT OFFICE.

GEORGE E. HIBBARD, OF CHICAGO, ILLINOIS.

SPRINKLER-HEAD FOR AUTOMATIC FIRE-EXTINGUISHERS.

SPECIFICATION forming part of Letters Patent No. 531,120, dated December 18, 1894.

Application filed January 13, 1893. Serial No. 458,216. (No model.)

To all whom it may concern:

Be it known that I, GEORGE E. HIBBARD, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Sprinkler-Heads for Automatic Fire-Extinguishers, of which the following is a specification, reference being had to the accompanying drawings, which are made a part hereof, and in which—

Figure 1, is a sectional elevation of a sprinkler head embodying the invention. Fig. 2, is a plan view of the improved deflector. Fig. 3, is a perspective view of the improved link. Fig. 4, is a side elevation of a link embodying the invention, under a slight modification. Fig. 5 is a view showing a modification.

The object of the present invention is to improve two of the parts of a sprinkler head, namely, the deflector, or part against which the escaping water strikes and by which it is deflected in all directions, and the fusible element, or link, by which the head is held sealed until subjected to a certain predetermined temperature.

To these ends the invention consists in certain features of novelty that are particularly pointed out in the claims hereinafter.

In the drawings, A represents one of the nozzles or discharge ends of the distributing pipes; B, the cap closing it; C, C levers fulcrumed to ears A' A', and bearing upon the cap B, and E is the link engaging the ends c, c of the levers for preventing them from spreading. This link consists of two plates *d* similarly corrugated so that one fits snugly against the other, the two being parallel. Each of the plates is provided with a slot *d'* which extends quite to one of its ends and its other end is reflexed, as shown at *d*², so that when the two plates are placed together, the reflexed end of each plate projects over the slotted end of the other plate. The meeting surfaces of the two plates are secured together by solder, and as an additional security against their slipping apart, fusible keys E are inserted beneath the reflexed ends *d*². It will be seen that being corrugated, these plates cannot move endwise with relation to each other without at the same time moving laterally, and this lateral movement will be impossible so long as the fusible keys remain

intact. Hence, these keys alone would hold the link intact, but for the sake of greater security I prefer to solder the plates together.

I desire to have it understood that the invention is not limited to any particular number of corrugations. In Figs. 1, 3 and 5 it is shown with transverse corrugations throughout its entire length, while in Fig. 4 the number of its corrugations is reduced to a minimum.

The slot may be carried far enough to allow the passage of both levers C, or a separate opening may be made for one of said levers as shown by Fig. 5. By corrugating the plates, the solder joint between them is relieved of much of the strain, and the keys make it impossible for the parts to separate so long as they (the keys) remain intact, even if said solder joint should give way.

From the frame or yoke F projects a stem G, having a sharp point *g* and a shoulder *g'*. Upon the cylindrical part of this stem fits a disk H, which is provided with a central opening and a number of slits *h* radiating therefrom for enabling it to be slipped past the shoulder *g'*. The tongues resulting from these slits yield as they pass the shoulder and regain their original shapes after they have passed it.

I is the deflector having in its top side a circular rabbet in which the disk H fits, said disk being secured therein by upsetting the metal forming the margin of the rabbet and causing it to overlap the margin of the disk. The deflector has in its top side a conical concavity which automatically centers it upon the point of the stem G as soon as the force of the water comes against it, there being a slight lost motion between the deflector and its stem, so that when in operation the disk is clear of the flange and serves simply as a guide for maintaining the deflector in proper position. The under side of the deflector is of a general conical shape, and has grooves and depressions which are substantially spiral, so that the force of the water causes it to rotate. This improved deflector is applicable to heads of every construction, and the improved link is applicable to all heads so organized that they are held sealed by a fusible link or similar element.

Having thus described my invention, what I

claim as new therein, and desire to secure by Letters Patent, is—

1. As a new article of manufacture, a link for sprinkler heads, made up of two corrugated plates placed parallel to each other, each having a part overlapping the other, and fusible keys inserted beneath said overlapping parts, substantially as set forth.

2. As a new article of manufacture, a link for sprinkler heads made up of two corrugated plates placed parallel to each other, each of said plates having one of its ends reflexed so as to overlap the other plate, and fusible keys inserted beneath said reflexed ends, substantially as set forth.

3. As a new article of manufacture, a link for sprinkler heads made up of two corrugated plates placed parallel to each other, each of said plates having a slot extending to one of its ends and having its other end reflexed so

as to overlap the other plate, and fusible keys inserted beneath said reflexed ends, the meeting faces of the plates being soldered, substantially as set forth.

4. In a sprinkler head, the combination of a frame, a pointed stem having a shoulder, a disk having a central opening and slits radiating therefrom, said disk fitting loosely upon said stem, above the shoulder, and a deflector having in its top side a conical depression forming a bearing for the point of the stem, and having also a circular rabbet in which said disk fits, the metal forming the margin of the rabbet being turned over the edge of the disk, substantially as set forth.

GEORGE E. HIBBARD.

Witnesses:

L. M. HOPKINS,
J. HALPENNY.