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 SPRINKLER HEAD FOR AUTOMATIC FIRE EXTINGUISHERS.  
 APPLICATION FILED AUG. 6, 1906. RENEWED JULY 14, 1909.

935,257.

Patented Sept. 28, 1909.

Fig. 1.

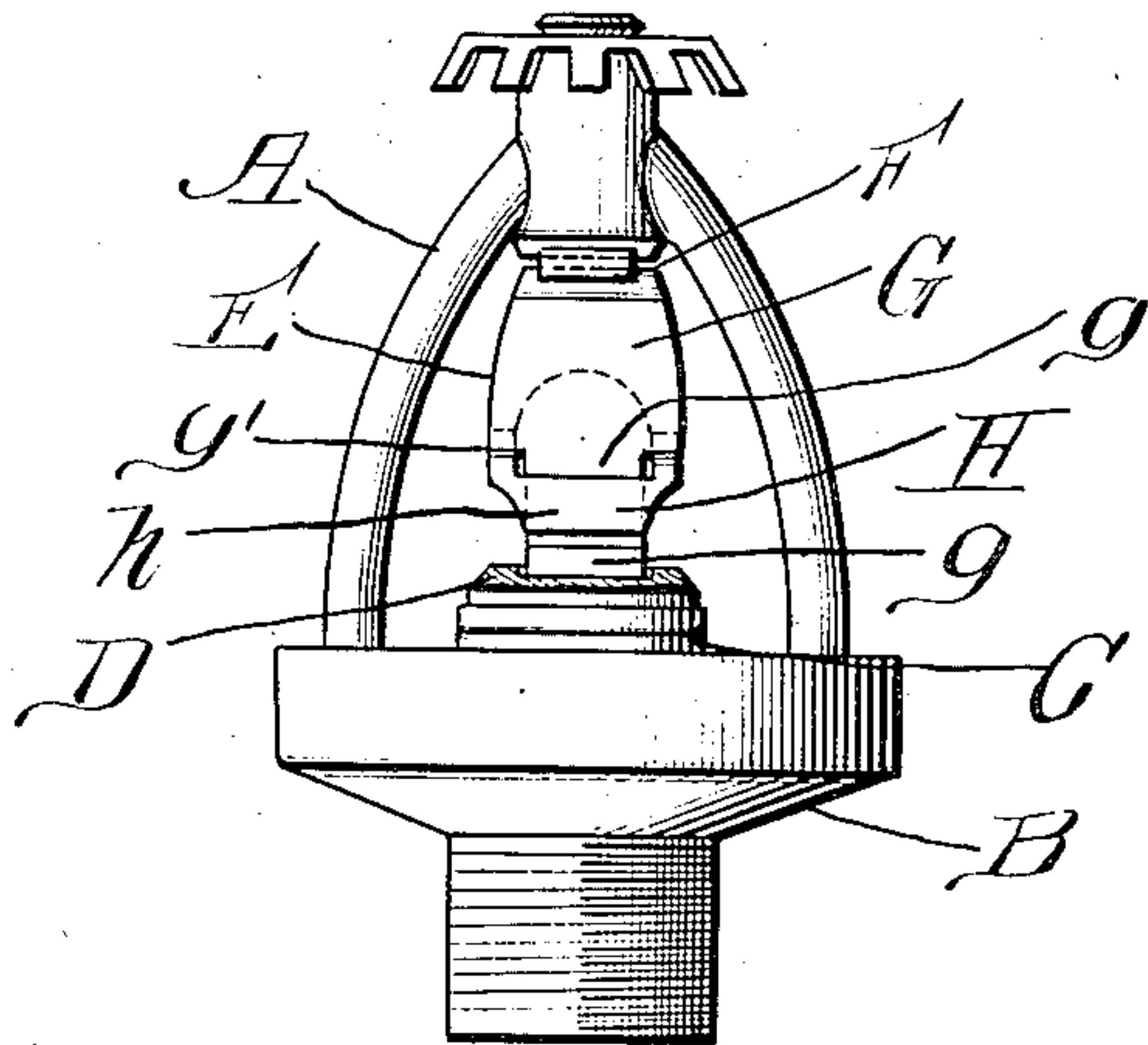


Fig. 2.

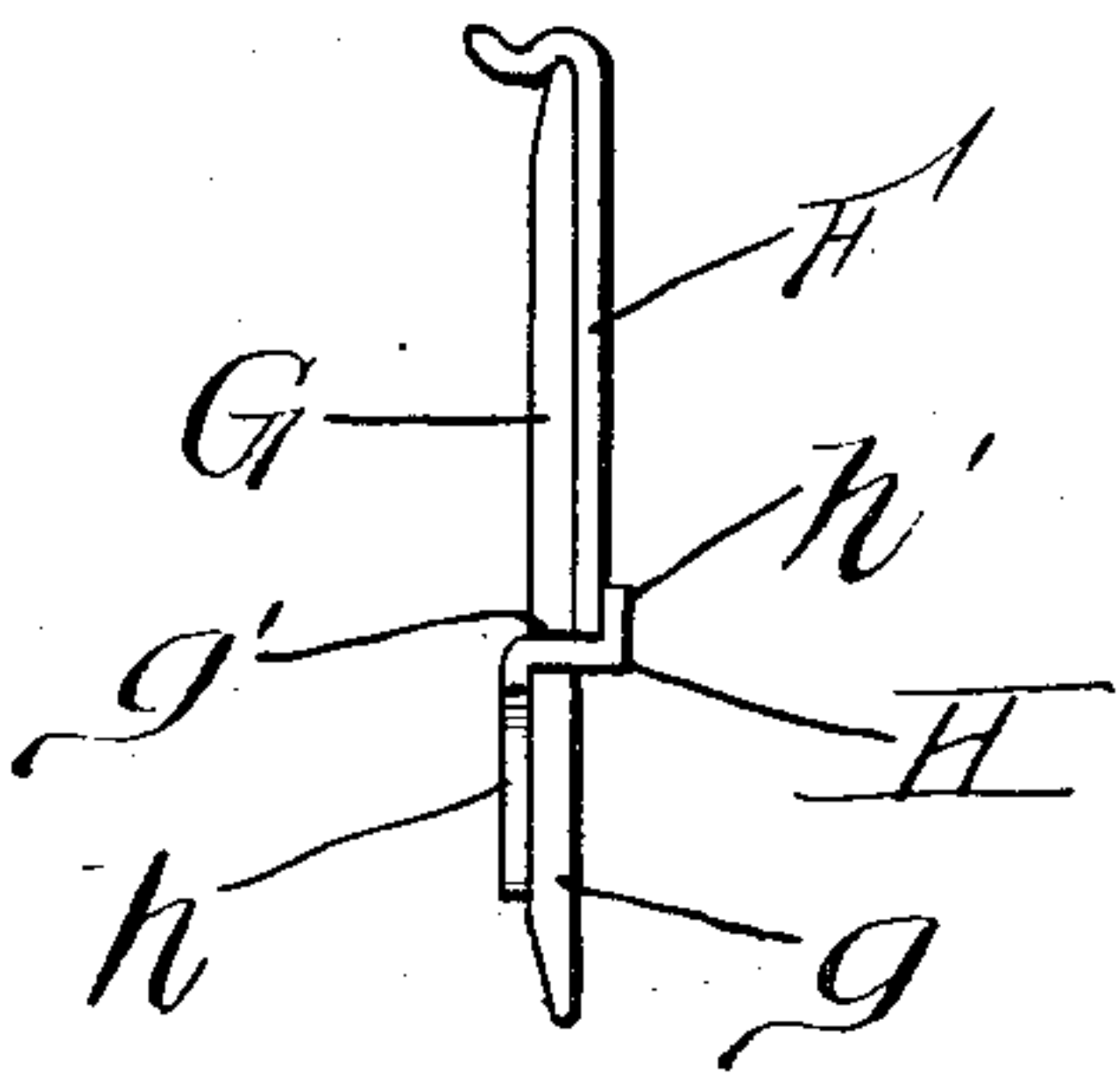


Fig. 3.

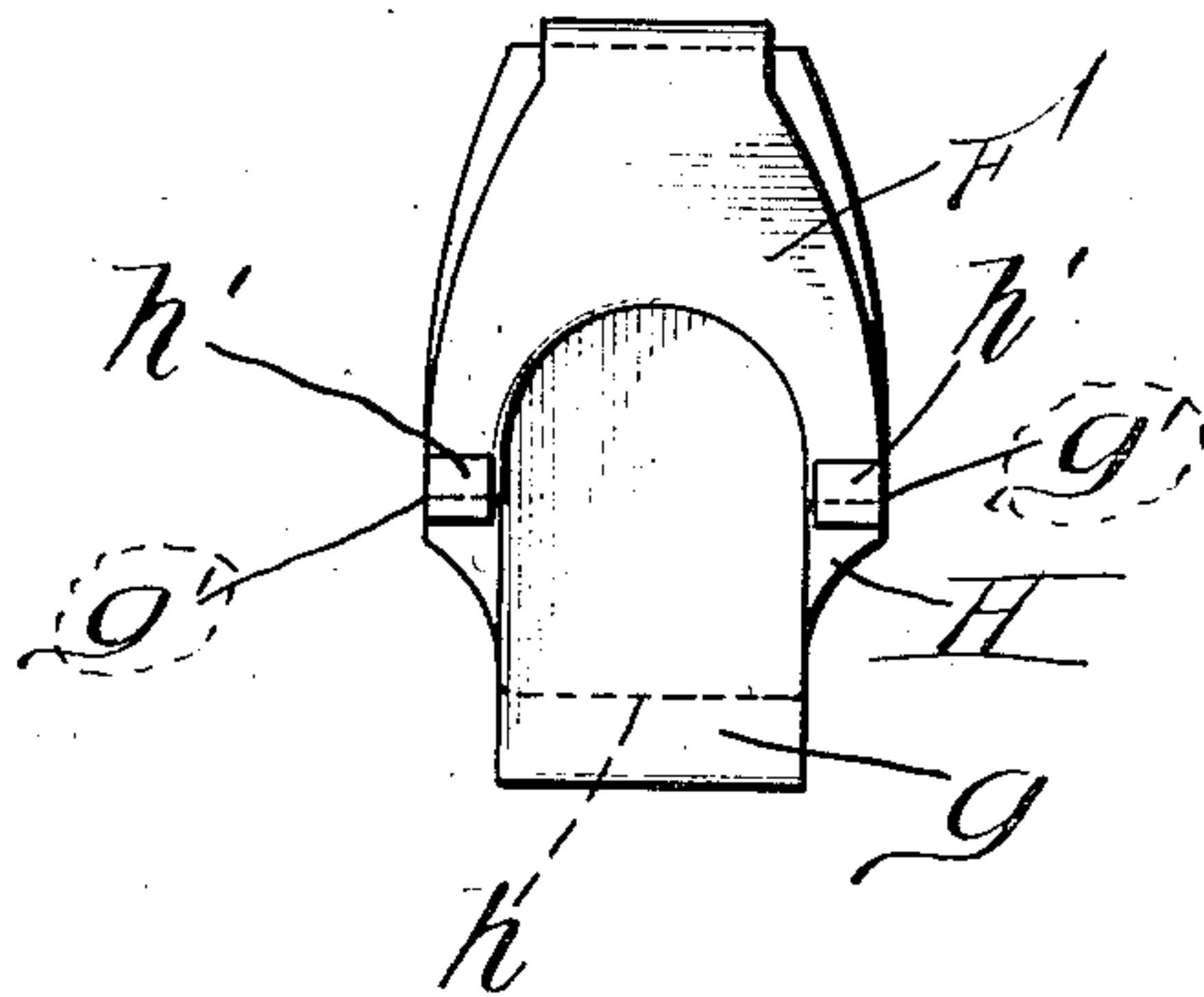


Fig. 4.

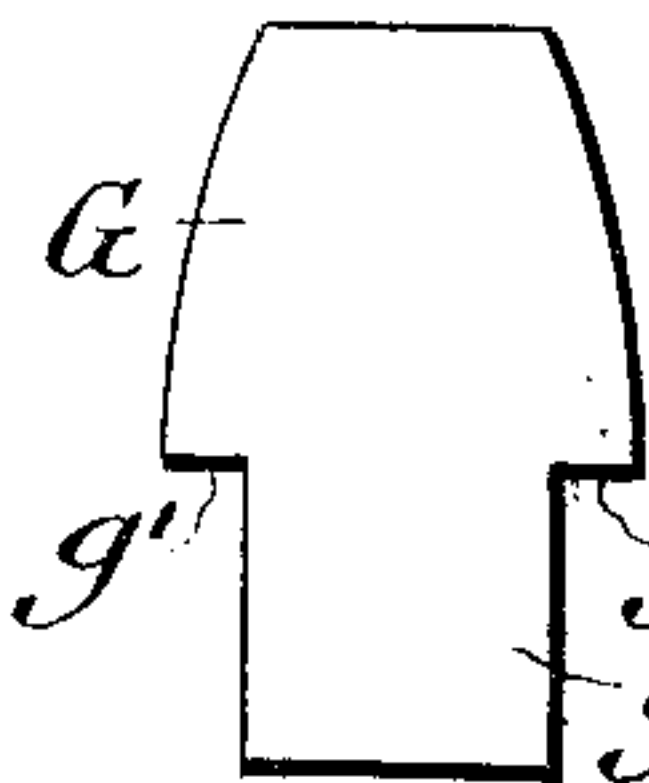
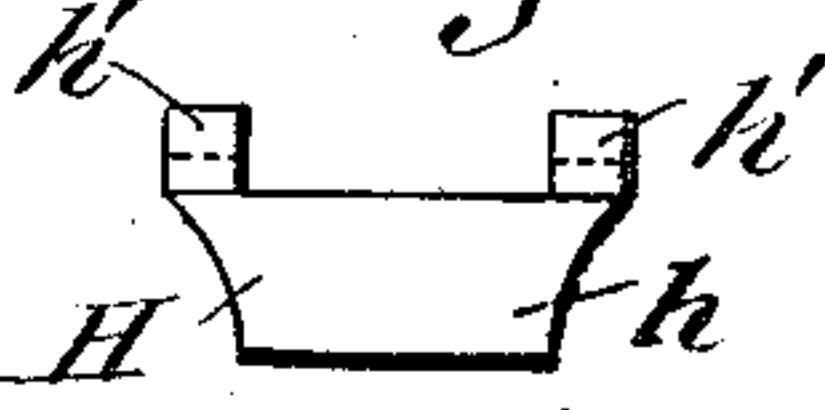


Fig. 5.



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# UNITED STATES PATENT OFFICE.

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## SPRINKLER-HEAD FOR AUTOMATIC FIRE-EXTINGUISHERS.

935,257.

Specification of Letters Patent. Patented Sept. 28, 1909.

Application filed August 6, 1906, Serial No. 329,478. Renewed July 14, 1909. Serial No. 507,579.

*To all whom it may concern:*

Be it known that I, MORTON K. HOPKINS, a citizen of the United States, residing in 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.

The present invention relates to that class of sprinkler heads in which the seat for the valve is carried by a flexible diaphragm and in which the valve is normally held to its seat by a strut interposed between it and the yoke.

The invention resides in the construction of the strut and consists in the features of novelty that are hereinafter described with reference to the accompanying drawing, in which,

Figure 1, is an elevation of a sprinkler head embodying the invention. Fig. 2 is an edge view of the strut. Fig. 3 is an elevation thereof showing the face opposite that which is shown in Fig. 1. Figs. 4 and 5 are diagrammatic views of the post and latch respectively.

The frame of the head may be of any desired construction. That shown in the drawing comprises a yoke A and a base B carrying the yoke, a nozzle C, also being carried by the base.

D is the cap or valve, and E is the strut interposed between the cap and the yoke. The strut comprises a bent or L-shaped lever F, a post G, and a latch H. The post bears at its lower end against the cap or valve D and at its upper end against the short or lateral branch of the lever. This lateral branch will hereinafter be referred to as the short arm of the lever, although, strictly speaking, the short arm comprises only so much of this lateral branch as lies upon one side of its point of contact with the end of the post, which latter serves as a fulcrum and defines the junction of the two arms of the lever. The long arm of the lever lies against one face of the post and the short arm is engaged by the yoke. This construction and arrangement of the post and bent lever and their mode of operation are familiar to those skilled in the art and need no further description here. The novelty

of the strut lies in the construction and arrangement of its three parts.

The lower end *g* of the post is made of a less width than the upper end, and this difference in width results in downwardly presented shoulders *g'* on opposite sides of the post, or, to state it differently results in wings on opposite sides of the post above its reduced portion. The lower portion of the long arm of the lever is bifurcated and its two branches terminate on, or substantially on, a line with the shoulders and lie upon the wings aforesaid which result from the making of the post of different widths, whereby said branches are protected and braced as they would not be if they projected beyond the sides of the post. Furthermore the wings of the post afford surfaces to which the branches of the lever are soldered. The so-called latch has a comparatively broad vertical portion *h* which lies against the narrower portion *g* of the post. It also has two horizontal portions which straddle the narrower portion of the post and cross the planes of the post and the long arm of the lever, and vertical portions *h'* which extend upward from the horizontal portions and overlap the ends of the branches of the lever, so that the latch will prevent the separation of the post and lever so long as the latch is held in place. The broad portion *h* of the latch extends downward from the horizontal portions a considerable distance so that a comparatively slight holding force acting against the broad portion of the latch is sufficient to hold the long arm of the lever in place as against a very much greater force applied to it through the pressure exerted on its short arm. It will be understood that the meeting faces of all of the parts are secured together by solder fusible at a predetermined temperature. Struts thus constructed have been given thorough practical tests and found to meet the requirements, not only with respect to their holding qualities under the conditions of actual use but particularly with respect to the separation of their parts when the solder joints are crippled.

It will be observed that the construction is such that none of the parts slides upon another in the act of separating and that none



of the parts must be withdrawn from or through an opening in another part. This is particularly true of the so-called latch which is free to fall away from the other parts as soon as the solder joint fuses.

What I claim as new and desire to secure by Letters Patent, is:

1. In a strut for sprinkler heads, the combination of a post, the lower portion of which is reduced in width, thus providing downwardly presented shoulders, an L-shaped lever, the short arm of which bears upon the upper end of the post and the long arm of which lies against one face of the post, and a latch having horizontal portions straddling the reduced portion of the post, crossing the planes of the post and the long arm of the lever and lying against said shoulders, said latch having also portions extending upward from said horizontal portions and engaging the end of the long arm of the lever, said latch having also a broad portion connecting said horizontal portions, extending downward therefrom and lying against the opposite face of the post, the meeting surfaces of the several parts being secured together by solder.

2. In a strut for sprinkler heads, the com-

bination of a post, the lower portion of which is reduced in width resulting in wings projecting beyond the sides of said reduced portion and providing downwardly presented shoulders, an L-shaped lever the short arm of which bears upon the upper end of the post and the long arm of which lies against the wider portion of said post, said long arm being bifurcated, the resulting branches lying against said wings and terminating in line with said shoulders, and a latch having horizontal portions straddling the reduced portion of the post, crossing the planes of the post and the long arm of the lever and lying against said shoulders, said latch having also portions extending upward from said horizontal portions and engaging the aforesaid branches of the long arm of the lever, said latch having also a broad portion connecting said horizontal portions, extending downward therefrom and lying against the opposite face of the post, the meeting surfaces of the several parts being secured together by solder.

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