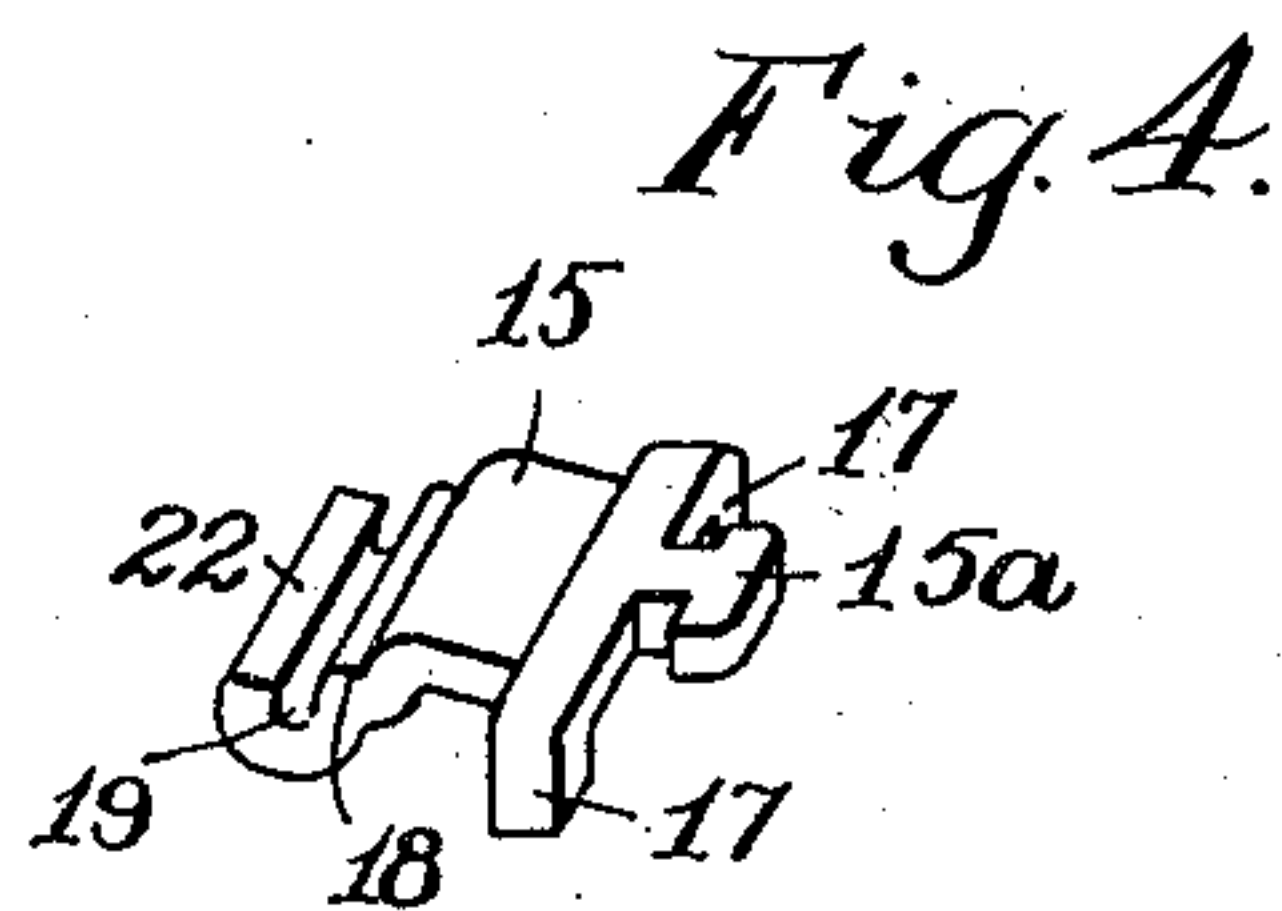
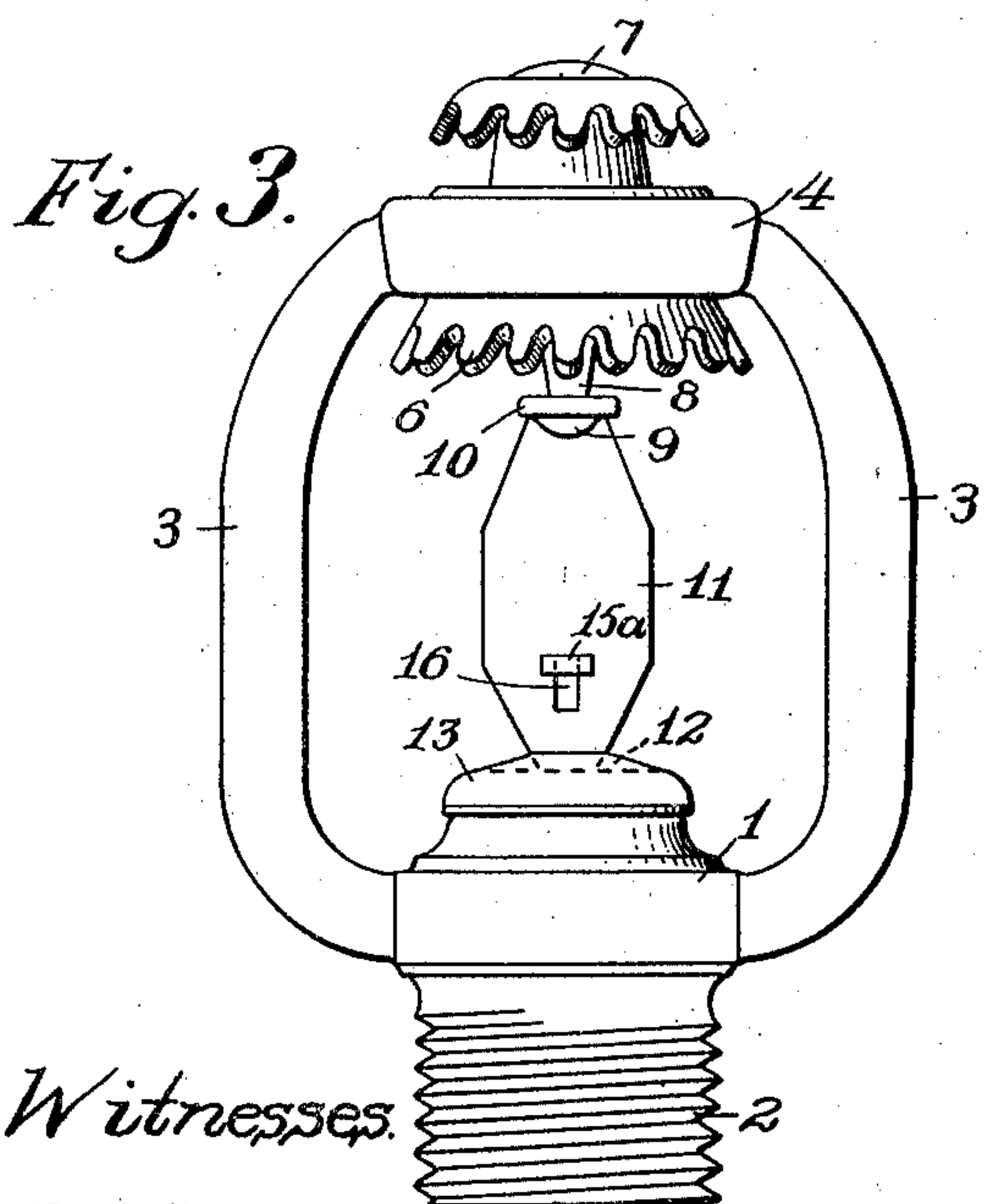
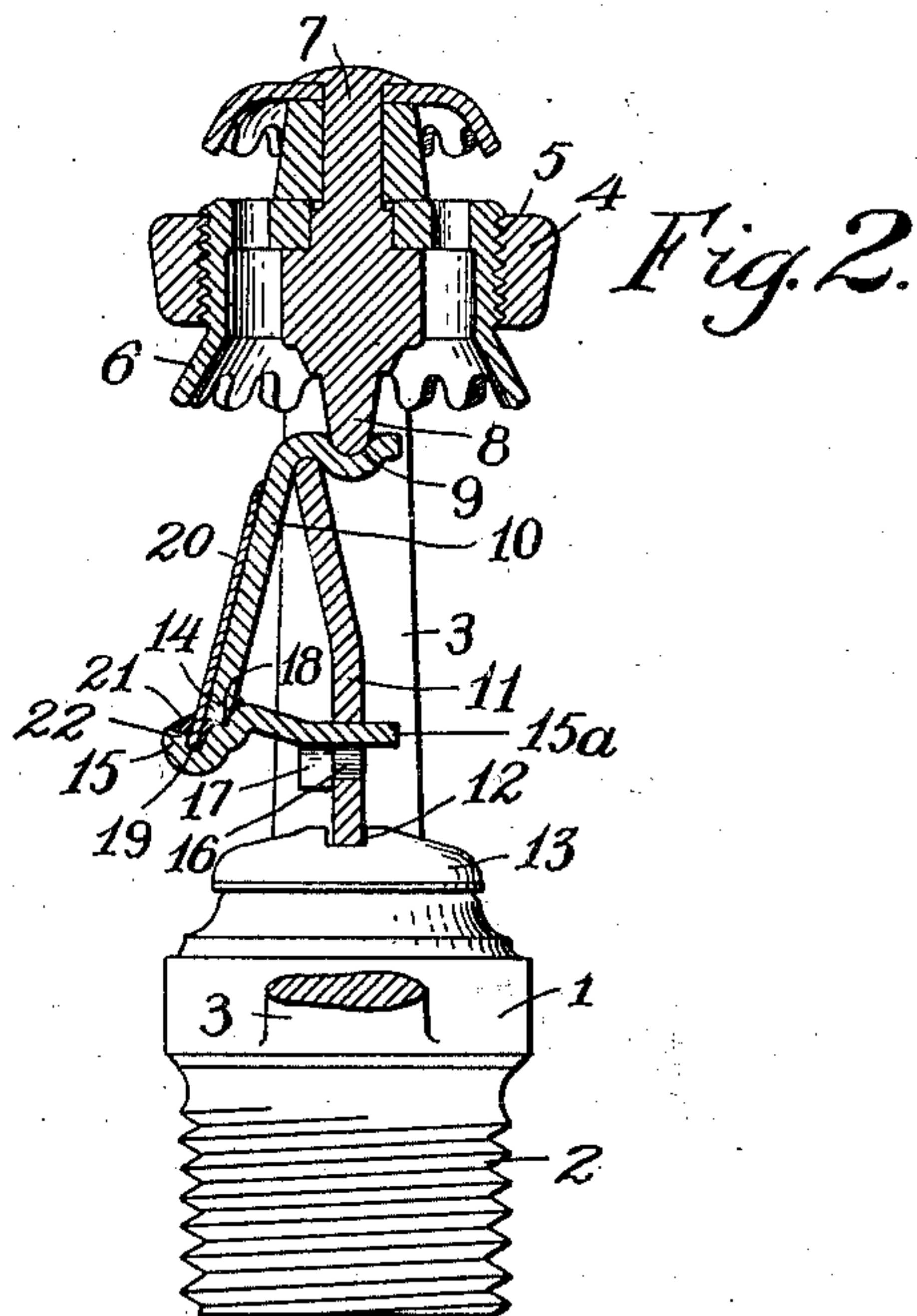
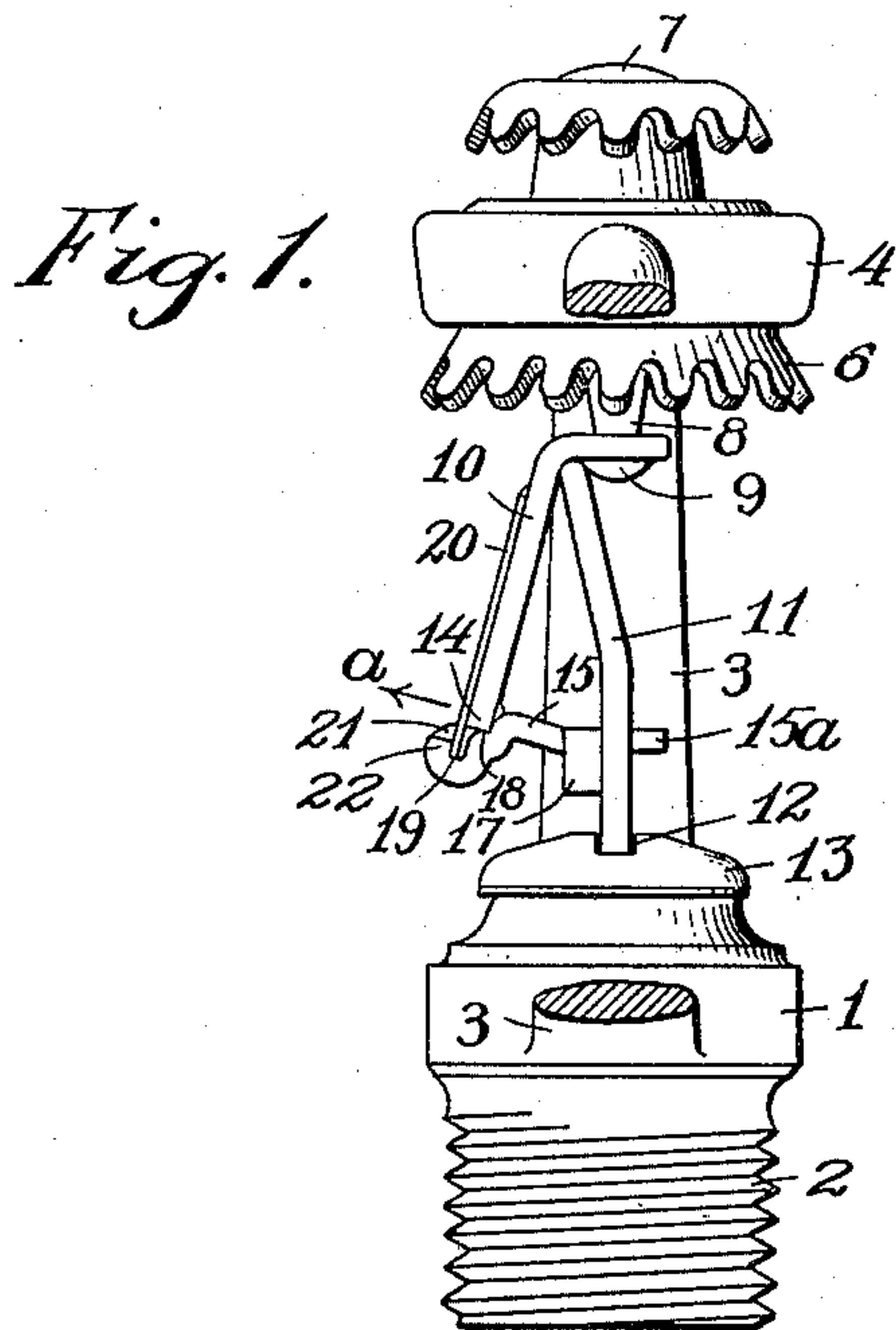


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AUTOMATIC SPRINKLER.
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990,780.

Patented Apr. 25, 1911.



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AUTOMATIC SPRINKLER.

990,780.

Specification of Letters Patent.

Patented Apr. 25, 1911.

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To all whom it may concern:

Be it known that I, GEORGE I. ROCKWOOD, a citizen of the United States, residing at Worcester, in the county of Worcester and Commonwealth of Massachusetts, have invented a new and useful Improvement in Automatic Sprinklers, of which the following is a specification, accompanied by drawings, forming a part of the same, in which—
Figure 1 is a side view of an automatic sprinkler embodying my invention with one of the supporting arms broken off. Fig. 2 is the same with the cap retaining device and sprinkler shown in central vertical section. Fig. 3 is a rear view, and Fig. 4 is a perspective view of the horizontal arm of the cap retaining device.

Similar reference letters and figures refer to similar parts in the different views.

My invention relates to automatic sprinklers in which a water nozzle is closed by a cap, normally held in position under pressure by a cap retaining device, containing a fusible member that allows the cap retaining device to collapse under pressure when a predetermined degree of heat has been reached, and it consists in the construction and arrangement of parts as hereinafter described and pointed out in the annexed claims.

Referring to the accompanying drawings, 1 is a nozzle provided with a screw thread 2, by which the sprinkler may be connected to a pipe containing water under pressure. The nozzle 1 is provided on diametrically opposite sides with vertical arms 3 supporting at their upper ends a collar 4, having an internal screw thread 5 to receive a diffuser 6 in which is journaled a spindle 7, having the axis of its lower end or tip 8 coincident with the axis of the nozzle 1, and fitting a recess 9 in the upper surface of a bent lever 10. The lever 10 is bent downward over the upper end of a post 11, the lower end of which is inserted in a diametrical slot 12 in the cap 13, which rests upon and closes the upper end of the nozzle 1. The lower end 14 of the lever 10 rests upon the outer end of a detachable horizontal arm 15, the inner end of which is provided with a T-shaped extension 15^a, arranged to be inserted through a vertical slot 16 in the post 11, by turning the arm 15 into a vertical plane and returning the arm 15 to a horizontal plane to lock the arm 15 and post 11 together, as shown in Figs. 1, 2 and 3.

The horizontal arm 15 is provided with

depending lugs 17, which contact with the side of the post 11 and resist downward pressure upon the free end of the arm 15. The interlocking of the T-shaped extension 15^a with the post 11 holds the arm 15 from longitudinal movement. The end 14 of the lever 10 bears against a shoulder 18 near the end of the horizontal arm 15 and is held by it against rearward movement. Beyond the shoulder 18 the arm 15 is bent downward and upward, forming an approximately semicircular recess 19 below the shoulder 18 to receive the lower end of a plate 20, which is arranged with its surface in contact with the outer surface of the downwardly extending portion of the lever 10, and the contacting surfaces of 10 and 20 are united by solder fusible at a predetermined temperature. Solder of similar character, at 21, is also employed to unite the end 14 of the lever 10 and the lower end of the plate 20 to the outer end of the horizontal arm 15.

The operation of my improved cap retaining device is as follows:—When the predetermined degree of heat melts the solder at 21 and between the contacting surfaces of the lever 10 and plate 20, the pressure of the water upon the cap 13 will tend to raise the post 11 and to rock the lever 10 upon the lower end of the tip 8. The plate 20, being free to move at its upper end and with its lower end bearing against the lip 22, will be rocked upon the end 14 of the lever 10 by the outward moving end 14 of the lever 10 in the direction of the arrow *a*, Fig. 1.

By this construction I make the length of the shorter arm of the plate 20 equal to the vertical distance between the lip 22 of the arm 15 and the end 14 of the lever 10, over which the plate 20 rocks as a fulcrum.

In assembling the parts, I preferably fasten by solder the T-shaped extension 15^a in the slot 16 of the post 11.

I claim,

1. A cap retaining device for an automatic sprinkler, comprising an upright post, a lever on the upper end of said post, an arm extending from the lower part of said post, means near the outer end of said arm arranged to contact with the inside of the lower end of said lever and prevent its movement toward said post, and a plate detachably held by the outer end of said arm and attached to the outer surface of said lever by fusible solder.

2. In an automatic sprinkler, the combi-

nation with a cap closing the nozzle of a pipe having water under pressure and a diffuser supported opposite to said cap having a spindle, with the axis of the spindle coincident with the axis of the nozzle, of a cap retaining device between said cap and said spindle, comprising a lever with the upper surface of one end in contact with said spindle, said lever then bent downward over the upper end of a post, the lower end of which is supported on said cap, a detachable horizontal arm supported by said post and having a shoulder near its outer end to support the lower end of said lever, and a plate with its lower end detachably held by said arm beyond said lever and united to said lever by fusible solder.

3. A cap retaining device for an automatic sprinkler, comprising an upright post, a lever on said post, an arm extending from said post, said arm having a shoulder near the outer end of said arm to receive one end of said lever and a transverse recess beyond said shoulder, a plate held in said recess and arranged to contact with the outer surface of said lever, and fusible means for attaching said plate to said arm and said lever.

4. A cap retaining device for an automatic sprinkler, comprising an upright post, an arm extending from said post having at its outer end a transverse recess, a lever on said post with its lower end in contact with said arm between said lever and said recess, and a plate held in said recess and in contact with the outside of said lever, with the contacting surfaces of said plate, arm and lever attached by fusible solder.

5. A cap retaining device for an automatic sprinkler, comprising an upright post, a lever on said post, an arm extending from said post having near its outer end a transverse

surface to receive one end of said lever and a transverse recess beyond and below said surface, and a plate in contact with the outer surface of said lever having its lower end held from outward movement by said recess, with said plate attached to said arm and lever by fusible solder.

6. A cap retaining device for an automatic sprinkler, comprising an upright post, a lever supported on said post, a detachable arm extending from said post, depending lugs on said arm in contact with said post, a shoulder near the outer end of said arm to receive one end of said lever, with said arm beyond said shoulder provided with an upwardly extending lip, a plate with its lower end held by said lip from outward movement, said plate in contact with the outer surface of said lever, and means fusible at a predetermined temperature for attaching said plate to said arm and said lever.

7. A cap retaining device for an automatic sprinkler, comprising an upright post, a lever supported on said post, an arm extending from said post, having near its outer end a surface transverse to said arm to receive one end of said lever, with said arm beyond said surface provided with an upwardly extending lip, with the upper end of said lip arranged to be at a predetermined distance below the end of said lever when in contact with said surface, a plate with its lower end held by said lip from outward movement, said plate in contact with the outer surface of said lever, and means fusible at a predetermined temperature for attaching said plate to said arm and said lever.

GEORGE I. ROCKWOOD.

Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."