G. I. ROCKWOOD.

AUTOMATIC SPRINKLER.

APPLICATION FILED OCT. 7, 1905.

900,886. Patented Oct. 13, 1908.

Fig. 1.

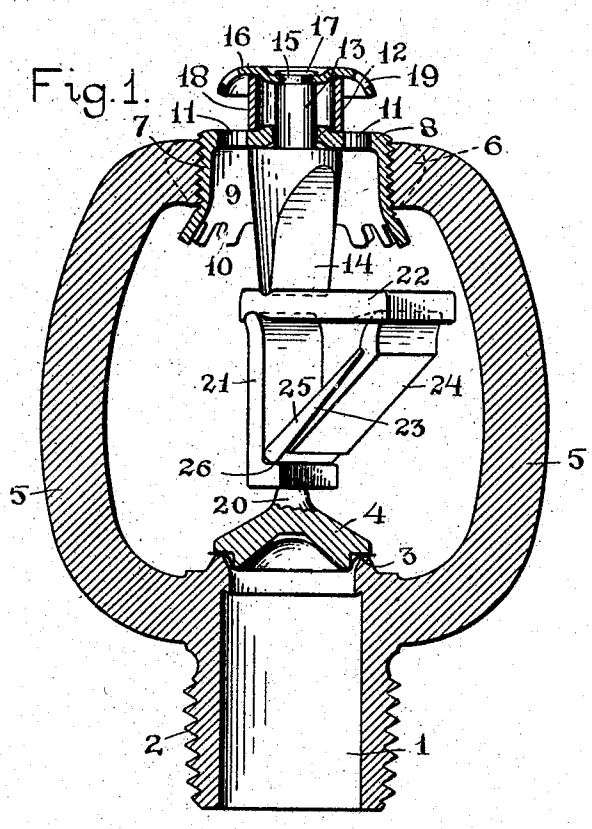


Fig. 3.

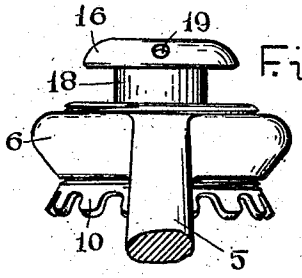


Fig. 2.

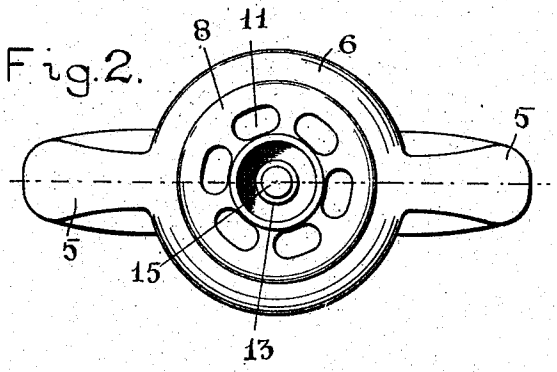
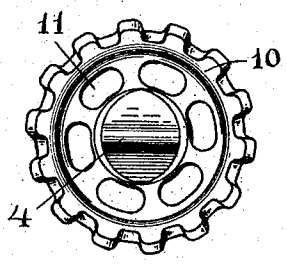


Fig. 4.



Witnesses
Roy D. Tolman.
Penelope Bomberbach.

Inventor
George I. Rockwood.
By Rufus B. Fowler
Attorney

NORRIS PETERS, INC., LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

GEORGE I. ROCKWOOD, OF WORCESTER, MASSACHUSETTS

AUTOMATIC SPRINKLER.

No. 900,886. Specification of Letters Patent. Patented Oct. 13, 1908.

Application filed October 7, 1905. Serial No. 281,864.

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 represents a vertical sectional view of my improved sprinkler. Fig. 2 is a top view with a portion removed to disclose the top of the diffuser. Fig. 3 is a side elevation of the upper portion of my improved sprinkler, and Fig. 4 is a bottom view of the diffuser.

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

My present invention relates to that class of automatic sprinklers in which a stream of water is released by the action of heat, and the stream is diffused in a spray, 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 denotes a nozzle provided with an exterior screw thread 2, by which it may be connected to a water pipe leading to a source of water supply under pressure. The upper end of the nozzle is provided with a seat 3 to receive a cap 4 by which the nozzle is closed against the pressure of water. Preferably integral with the nozzle 1 are the arms 5, 5, which are curved outwardly and extend upwardly and are connected at the top by a ring 6 which is provided with a screw threaded opening 7 which is larger than the diameter of the seat 3, in order to allow a finishing tool to be admitted through the opening 7 for the purpose of finishing the seat.

Within the screw threaded opening 7 is inserted a diffuser in the form of an inverted cup, having a bottom 8, and side 9 provided with a flaring serrated lower edge 10. The bottom 8 is provided with a series of holes 11, and with a central hole 12 in which is inserted a shank 13 of a depending wedge 14. The end of the shank 13 is reduced in size at 15 to receive a retaining washer 16, which is held in place by heading or riveting the end of the shank, as shown at 17. Between the washer 16 and the bottom 8 is inserted a spacing ring 18 which supports the wedge 14. By this construction the wedge 14 is not only held vertically in place but is capable of a rotating motion within the bottom 8 of the diffuser. The washer 16 has its outer edge curved downwardly and is provided with holes 19. The cap 4 is provided with a boss 20 and between the boss 20 and the lower edge of the wedge 14 are inserted the cap retaining devices consisting of a post 21, a lever 22, and a strut 23, comprising two pieces 24 and 25, having their contacting surfaces united by a metal fusible at the degree of heat at which it is desired to release the stream of water from the nozzle 1. The post 21 rests upon the boss 20 and supports one end of the lever 22 which bears against the lower edge of the wedge 14. The opposite end of the lever 22 is supported by the strut 23 which extends obliquely between the end of the lever 22 and a shoulder 26 formed near the bottom of the post 21.

The cap retaining device comprising the post, lever, and strut as above described, form no part of my present invention, the same having been fully described and claimed in my pending application, Serial No. 265,303.

My present invention relates to the construction of the arms 5 and diffuser 9, supporting a swiveled wedge to receive the thrusting strain exerted by the pressure of the water in the nozzle 1 against the cap 4.

By my present construction I form the nozzle and arms 5 in a single piece terminating in a ring 6 which is provided with an opening larger than the diameter of the seat 3 which is to be closed by the cap, and the adjustment of pressure upon the cap I obtain in the present instance by the adjustment of the diffuser within the ring 6. I also receive the pressure of the water against the end of a wedge and at the same time enable the pressure retaining devices to be rotated by swiveling the wedge in its support. I also employ a washer 16 with overhanging edges which serve as a second diffuser. In operation, when the cap 4 has been released by heat, and the cap retaining devices removed, the stream of water impinges against the sides of the wedge 14 and is deflected into the first diffuser and received against the bottom 8, sides 9, and serrated edge 10. A portion of the water, however, passing through the openings 11 is received by the second diffuser and deflected laterally and

downwardly. A portion of the water escaping through the openings 11 however, is allowed to pass upwardly from the second diffuser through the openings 19.

What I claim as my invention and desire to secure by Letters Patent is:—

1. In an automatic sprinkler, the combination with a water nozzle and a closing cap for said nozzle, arms held by said nozzle, a ring supported by said arms and provided with a screw threaded opening, of a cup shaped diffuser provided with a screw threaded periphery fitting said screw threaded opening, a rotatable member supported by said diffuser, and a cap retaining device interposed between said rotatable member and said closing cap.

2. In an automatic sprinkler, the combination with a water nozzle having a seat for a closing cap, and a cap for closing said nozzle, of arms held by said nozzle, a ring supported by said arms and provided with an opening in alinement with said nozzle and with a diameter equal to the diameter of the diffuser, a diffuser adjustable in said opening, and a cap retaining device interposed between said closing cap and said diffuser.

3. In an automatic sprinkler, the combination with a water nozzle and a cap closing said nozzle, of arms held by said nozzle, a ring supported by said arms, a diffuser held in said ring and having a central opening in alinement with the axis of said nozzle, a wedge provided with a shank held in said opening and capable of rotating therein, and a cap retaining device interposed between said wedge and said cap.

4. In an automatic sprinkler, the combination with a nozzle, and a cap closing said nozzle, of arms held by said nozzle, a ring supported by said arms, a diffuser held in said ring and provided with a central opening in alinement with the axis of said nozzle, a wedge provided with a shank journaled in said opening, a washer attached to the end of said shank, a spacing ring between said diffuser and said washer, and means interposed between said wedge and said cap for holding said cap in place.

5. In an automatic sprinkler, the combination with a water nozzle and a closing cap for said nozzle, of a rotatable member supported in alinement with said closing cap, and a cap retaining device between said rotatable member and said closing cap, said cap retaining device arranged to rotate with said rotatable member.

6. In an automatic sprinkler, the combination with a water nozzle and a cap closing said nozzle, of a stationary diffuser held in alinement with said nozzle, a member rotatable in said diffuser, and a cap retaining device between said member and said closing cap arranged to rotate with said rotatable member.

Dated this 4th day of October 1905.

GEORGE I. ROCKWOOD.

Witnesses:

PENELOPE COMBERBACH,

RUFUS B. FOWLER.