C. W. MOWRY.
CORNICE SPRINKLER HEAD.
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Inventor.
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Atys.
To all whom it may concern:

Be it known that I, CHARLES W. MOWRY, a citizen of the United States, residing at Lynn, county of Essex, State of Massachusetts, have invented an Improvement in Cornice Sprinkler-Heads, of which the following description, in connection with the accompanying drawing, is a specification, like characters on the drawing representing like parts.

This invention relates to improvements in sprinkler heads primarily for protecting overhanging cornices. Heads of this general type are operatively connected with the water supply under pressure. These heads have water outlets connected to a system of piping. When required a valve in the system is opened to release the water in the system which escapes through the outlet in the head.

This invention particularly relates to a novel head which provides a deflecting means to assure a definite range and angle of distribution of the water which is forced out and escapes upon the opening of the outlet in the head. While this particular type of head here shown may be employed in various ways, it is peculiarly adapted for use on the outside of buildings under cornices where the particular distribution of the water afforded by this head is desired.

The object of the invention more specifically is to produce an improved sprinkler head distributing the water in the system over a relatively long and narrow surface.

Other objects will more fully appear from the following description and the accompanying drawings and will be pointed out in the annexed claims.

In the accompanying drawings, there has been disclosed a structure which is designed to carry out the ideas of the invention but it is to be understood that the invention is not to be confined to the exact features shown as various changes may be made within its scope.

Figure 1 is a sectional view of a portion of a building with cornice and wall sprinkler heads in position;

Fig. 2 is a front elevation of a portion of the building shown in Fig. 1;

Fig. 3 is a view similar to Fig. 1 showing another arrangement in which the heads are on separate pipes;

Fig. 4 is a side elevation of a preferred form of cornice sprinkler head embodying the invention;

Fig. 5 is a section on the line 5—5 of Fig. 4;

Fig. 6 is a plan view of the same head.

This novel sprinkler head is particularly adapted for use on the outside of buildings under cornices where it may be necessary to wet a relatively long and narrow surface. The selected embodiment of the invention shown in the drawings provides a sprinkler head which discharges the water which may issue from the outlet of the head in two laterally divergent sheets. This is accomplished by the novel form of the head. The deflection of the water in divergent sheets affords a relatively long and narrow range of distribution of water from each individual head. These heads are adapted to be operatively connected at intervals along the pipes of the system on the outside of buildings under the cornice.

The embodiment of the sprinkler head here shown is provided with a cylindrical nipple 1 which is provided with a screw thread on its outside for engagement with a corresponding screw thread formed in a fitting on the water pipe 2 of the sprinkler system. The sprinkler head is thus secured to the pipe 2 in open communication with the interior thereof. The nipple preferably carries a base 3 which supports the two uprights 4 carrying the deflector 5. While obviously the parts may be separately formed, it is preferred to form them out of one casting. The upper end of the nipple forms a circular outlet 7 from which the water under pressure may escape from the pipes of the system.

The deflector 5 preferably is of substantially V-shaped section and is so positioned opposite the outlet that the transverse edge 6 of the deflector substantially bisects any flow of water from the circular water outlet 7. The two surfaces 8 of the deflector, which are presented to the water issuing from the outlet, are curved in concave arcs. Such curve is preferably that of the segment of a cylinder and the curved surfaces starting from the edge 6 terminate substantially in a plane at right angles to the axis of the water outlet 7 and function divergently to deflect the water substantially at right angles. A plurality of these heads are preferably positioned on pipes 2 usually held by
hangers 9 on the outside of the building. These heads are so positioned on the sprinkler pipes 2 that each head directs a sheet of water toward the adjacent head on each side and thus they collectively function to produce a complete protection against fire and to arrest fire progress.

Ordinarily one line of system pipes 2 across the top of the outside of the building, as shown in Fig. 1, will be sufficient. In such case the line of piping is preferably located just above the upper story windows 10 and such line may also carry and supply the wall sprinklers 11 which are preferably of the construction disclosed in an application Serial No. 217,541 filed coincidently herewith by the same inventor. These cornice sprinklers are especially useful where there is a combustible cornice 12. Occasionally where the cornice is a considerable distance above the windows, as shown in Fig. 3, two lines of system piping are used, the second pipe 13, carrying and supplying the window sprinklers 11.

While these novel cornice sprinklers primarily deflect the water laterally in two divergent sheets, provision is made to cause a relatively smaller amount to be upwardly thrown. To this end, the deflector is apertured opposite the water outlet to permit the passage therethrough of a relatively small amount of water to wet the surface directly above the head and between the divergent sheets of water. Preferably a cut is made through the deflector, passing through the longitudinal medial line of each arcuate surface. The oppositely extending slots 14, thus produced, extend from the side edges of the deflector to points within the circle described by the outlet 7 of the sprinkler head as shown in Fig. 6. The inner faces 15 of the slots are preferably formed at an acute angle to the axis of the outlet and nipple, so that while some water may be jetted immediately overhead, the major portion will be upwardly and outwardly thrown upon the overhead surface.

In this preferred embodiment of cornice sprinkler head, the edge 6 of the deflector is positioned substantially in the vertical plane of a diameter of the outlet 7 so that the water is diverted into practically two equal and divergently directed sheets. In practice, these cornice sprinklers are placed such distances apart that they provide adequate fire protection according to the structural features of the building and are particularly effective when employed to protect relatively long and narrow surfaces.

Having fully described my invention, what I claim as new and desire to secure by Letters Patent is:

1. In a sprinkler head for wetting a relatively long and narrow surface, the combination of a water outlet and deflecting means positioned opposite said outlet having two surfaces curved in concave arcs and meeting in an edge substantially bisecting the water flowing from said outlet and acting to deflect the same into two narrow divergent sheets, the said deflecting means being apertured opposite said outlet to permit the passage therethrough of a relatively small amount of water to wet the surface directly opposite the head and between the divergent sheets of water.

2. A sprinkler head such as set forth in claim 1, in which the deflecting means is apertured in a longitudinal medial line.

3. A sprinkler head such as set forth in claim 1, in which the surfaces curved in concave arcs terminate in a plane substantially at right angles to the axis of the water outlet.

4. A sprinkler head such as set forth in claim 1, in which the said curved surfaces are segmentally cylindrical.

In testimony whereof, I have signed my name to this specification.

CHARLES W. MOWRY.