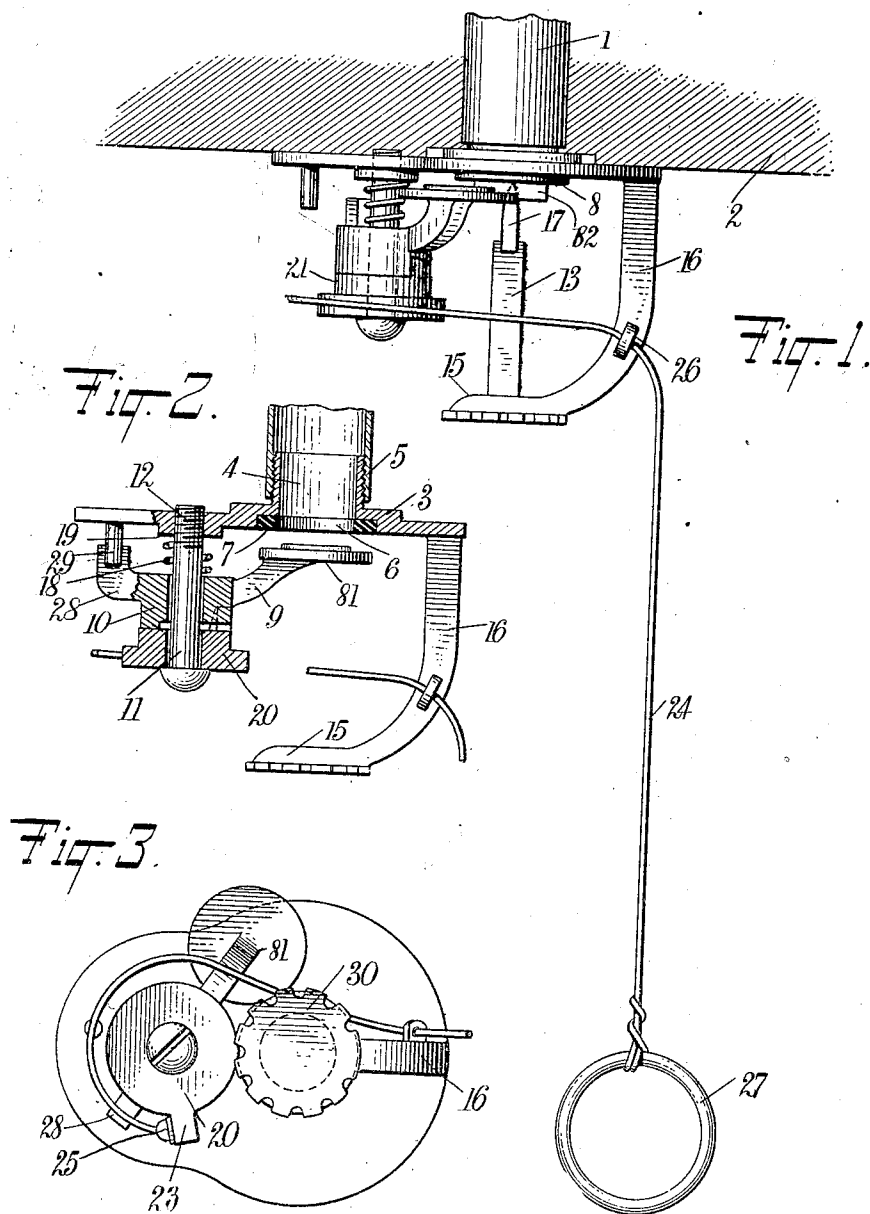


S. B. ERICKSON.
AUTOMATIC SPRINKLER.
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1,024,979.

Patented Apr. 30, 1912.



WITNESSES

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SIGVALD B. ERICKSON, OF PROVIDENCE, RHODE ISLAND.

AUTOMATIC SPRINKLER.

1,024,979.

Specification of Letters Patent.

Patented Apr. 30, 1912.

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To all whom it may concern:

Be it known that I, SIGVALD B. ERICKSON, a citizen of the United States, and a resident of Providence, in the county of Providence and State of Rhode Island, have invented a new and Improved Automatic Sprinkler, of which the following is a full, clear, and exact description.

The object of the present invention is to provide means whereby automatic sprinklers may be closed to shut off the flow of water therefrom.

As is well known to those skilled in this art, automatic sprinklers so-called comprise a valve or cap for closing the outlet, which valve or cap is normally held closed by some form of spring actuated device, the parts of which are held together by a solder fusible at a relatively low temperature, in such manner that the melting of the solder permits the stored up static energy in the spring to operate, to remove the cap or cover to open the port and permit the water to flow therefrom. As usually constructed the opening of the sprinkler to a certain extent dismantles it and there are no means provided for shutting off the flow of water from the sprinklers, or any given sprinkler, other than by shutting off the flow of water to the system at its source of supply. It is highly desirable that the flow of water from the sprinkler may be shut off, and to provide means within reach of a person on the floor to effect this result, the sprinklers being usually placed out of reach along the ceiling, and particularly is this the case where a sprinkler may become accidentally opened by reason of the fusing of the solder, and this without the necessity of shutting off the entire supply of water to the system. These results are accomplished by the apparatus shown in the accompanying drawing and referred to in the specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 shows in side elevation an automatic sprinkler embodying my invention; Fig. 2 shows a vertical sectional view, the parts being shown in elevation; and Fig. 3 shows an under-side plan view.

In the drawings, 1 indicates a portion of one of the outlet pipes which passes through the ceiling 2. The sprinkler comprises a base plate 3 which, as shown in Fig. 3, is somewhat oval in shape and has projecting from its upper surface a short nipple 4,

which has a threaded connection with the pipe 1, as shown at 5. By means of the threaded connection the sprinkler is supported in position. The nipple 4 is provided with an outlet or port 6, preferably surrounded by a washer or gasket 7, and this is closed to prevent the out-flow of water from the pipe 1 by means of a circular plug 8. The plug 8 is normally held closed by means of a post 13 supported at its lower end upon a rest 15, carried by a down-turned arm 16 supported by the plate 3. The post 13 is somewhat shorter than the distance between the rest 15 and the under side of the plug 8 when in closed position, and the intervening space is taken up by a fusible extension 17, which under normal conditions and except when subjected to an abnormal increase in temperature, holds the plug 8 tightly against the open port 6 and prevents the flow of water therefrom.

Immediately upon the melting of the fusible extension 17, the plug 8 will drop away from the port 6, permitting the water to flow therefrom. To close the port 6 at will there is provided a cap 81 carried by an arm 9 projecting from a sliding collar 10, mounted upon a headed bolt 11 having a threaded connection with the plate 3, and is normally held down as shown in Fig. 1, by a coil spring 18 which surrounds the post 11 between the upper end of the collar 10 and a boss 19 projecting from the under side of the plate 3. This spring bearing upon the collar 10 acts to force it downward along the post 11 and thus holds the cap 81 away from the port 6.

In order that the cap 81 may be moved up to close the port 6, there is provided a revolving collar 20 supported by the bolt 11 beneath the collar 10, and the meeting faces of the respective collars are provided with complementary inclined cam surfaces 21 and 22, respectively, whereby the rotation of the collar 20 on the post 11 will cause an upward movement of the collar 10 against the tension of the spring 18. For the purpose of revolving the collar 20 about the post 11, it is provided at its periphery with a short radial arm 23, to which one end of a wire 24 is connected, as at 25. The wire 24 extends partially around the collar 20 and is led in a substantially horizontal line to a guide 26, carried by the arm 16, from whence it extends downward within convenient reach of a person standing on the floor, and

will preferably be provided with a ring or other suitable handhold 27, which may be grasped and a downward pull exerted on the wire for the purpose of revolving the collar 20 to cause the opposing complementary inclined surfaces 21 and 22 to raise the collar 10 and the cap 81.

The cap 81 and its supporting arm are normally held in the position shown in Figs. 1 and 3, and it is necessary in order to close the port 6, to first cause a movement of the collar 10 to bring the cap 81 beneath the port and thereafter secure a relative turning of the collars 10 and 20, to insure that the upward movement of the collar 10 shall be in a position to cause the cap 81 to align with the port 6, and for this purpose the collar 10 is provided with a radially projecting stop 28 which is arranged to engage a downwardly projecting pin 29 supported by the plate 3.

In operation the parts are normally held in the position shown in Figs. 1 and 3, until such time as an abnormal increase in temperature will melt the fusible extension 17. The melting of the extension 17 permits the plug 8 to drop to open the port 6 and permit the flow of water therefrom. When it is desired to shut off the flow of water, a pull upon the wire 24 will result in a turning of the collar 20 about the post 11, bringing the cap 81 beneath the port 6 when the complementary inclined cam surfaces 21 and 22 will raise the collar 10 and bring the cap 81 in contact with the gasket 7 about the port 6, thus shutting off the flow of water. The arm 16 at its lower end carries a disk 30, preferably notched as shown, against which the out-pouring water will be splashed and be dispersed in the form of spray over a considerable surface.

The plug 8 is provided upon its under face with a shoulder 82 in position to engage the periphery of the cap 81 should the wire 24 be pulled while the plug 8 is in place in order to prevent the collar 10, its arm 9,

and the cap 81 being moved far enough to bring the cap 81 beneath the plug 8 which would prevent it from dropping to open the port.

Having thus described my invention, I claim as new and desire to secure by Letters Patent,—

1. In an automatic sprinkler, a base, an outlet in said base, a cap for closing the outlet, a supporting post for said cap mounted on the base adjacent to the outlet, and means to move said cap about and along its supporting post to shut off the flow of water.

2. In an automatic sprinkler, a base, an outlet in said base, a cap for closing the outlet, a supporting post therefor mounted on the base adjacent to the outlet, a spring to hold said cap away from said outlet, a sliding collar mounted on said post and carrying said cap, a cam on said post for raising said collar, and a guide stop for said collar.

3. In an automatic sprinkler, a base, an outlet in said base, a cap for closing the outlet, a collar carrying said cap, a supporting post for said collar mounted on the base adjacent the outlet, a spring to hold said cap away from said outlet, and a revolving cam for moving said collar along said post.

4. In an automatic sprinkler, a base, an outlet in said base, a cap for closing the outlet, a supporting post therefor mounted on the base adjacent to the outlet, a spring to hold said cap away from said outlet, means for moving said cap along said post to close said outlet, and a depending cord or wire connected to said operating means.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

SIGVALD B. ERICKSON.

Witnesses:

JAMES A. WILLIAMS,
CHARLES W. SCHNELL.