March 28, 1939. C. R. MURRAY, SR 2,152,146

SPRINKLER HEAD SIGNALING ATTACHMENT

Filed May 18, 1937

Fig. 1.

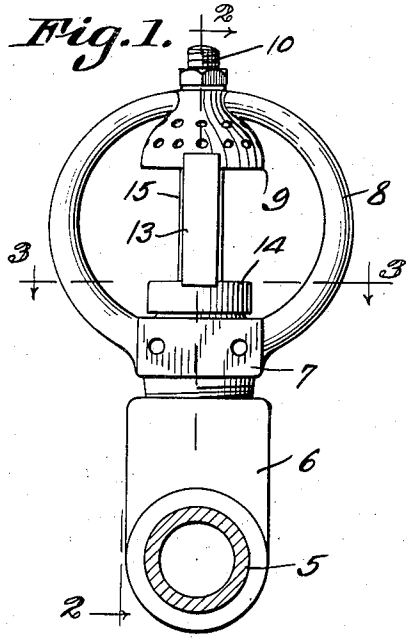


Fig. 2.

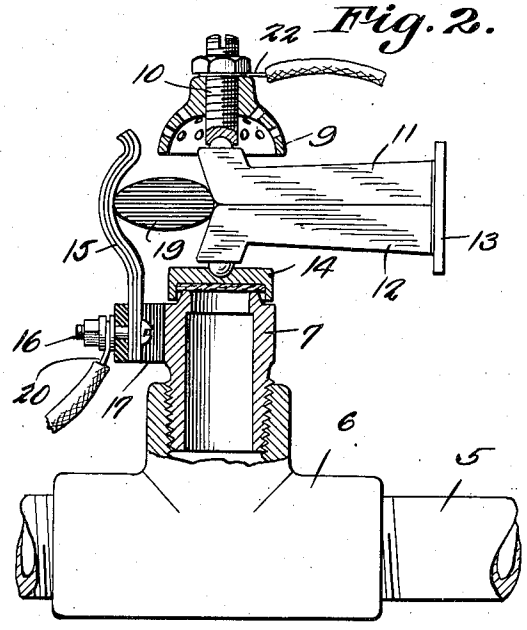


Fig. 3.

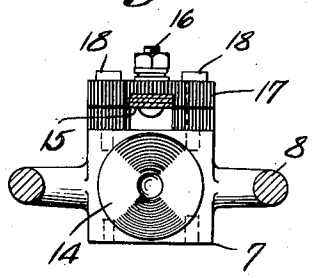
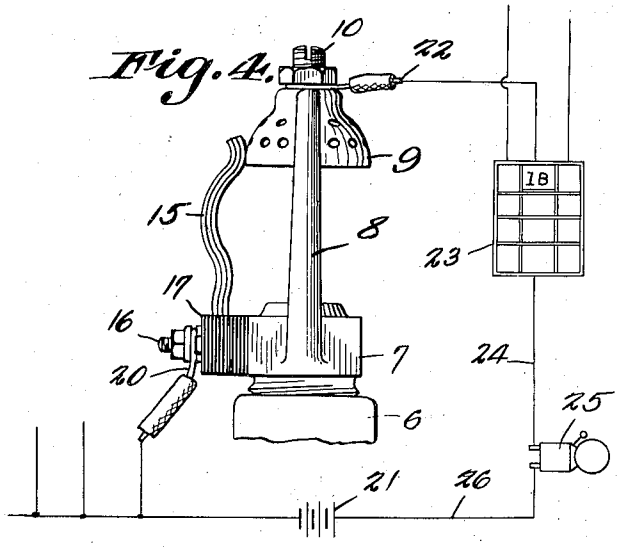


Fig. 4.



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Patented Mar. 28, 1939 2,152,146

UNITED STATES PATENT OFFICE

2,152,146

SPRINKLER HEAD SIGNALING ATTACHMENT

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Application May 18, 1937, Serial No. 143,365

2 Claims. (Cl. 169—39)

This invention relates to sprinkler heads used in connection with automatic sprinkler systems or fire extinguishers.

The primary object of the invention is the provision of means employed in connection with the sprinkler heads of an automatic sprinkler system, which will automatically sound an alarm and at the same time indicate, through an enunciator, the location of the sprinkler head or heads which have been operated to release water to extinguish a fire.

Another object of the invention is to provide a signaling device of this character which may be readily and easily mounted on the usual sprinkler head of an automatic fire extinguishing system, without the necessity of making alterations in the general construction of the sprinkler head, to install the device.

With the foregoing and other objects in view, which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein described, may be made within the scope of what is claimed, without departing from the spirit of the invention.

Referring to the drawing:

Figure 1 is an elevational view of a sprinkler head with which a signaling device constructed in accordance with the invention, is used.

Figure 2 is a sectional view taken on line 2—2 of Figure 1.

Figure 3 is a sectional view taken on line 3—3 of Figure 1.

Figure 4 is an elevational view illustrating the signaling device as operated to complete the circuit to the signal and enunciator.

Referring to the drawing in detail, the reference character 5 designates a water pipe, forming a part of the usual automatic fire extinguishing system now in common use. The reference character 6 designates a union employed in securing a sprinkler head of the system, within the pipe line.

The sprinkler head includes a base 7 formed with a threaded portion screwed into the union 6, as clearly shown by Figure 2 of the drawing. The reference character 8 designates a substantially circular supporting member, that rises from the base, and provides a support for the dome-shaped head, which is supported directly above the outlet opening of the base 7, so that water passing upwardly through the base 7, will strike the dome-shaped head. This dome-shaped head 9, is formed with a plurality of openings, so that the water striking the head, will be formed into a fine spray, to be distributed over a large area.

Extending through the dome-shaped head, is a screw 10, which screw engages the upper arm 11, that rests against the arm 12, the arms being secured together, by means of the bar 13, which is held into engagement with the arms 11 and 12, by means of fusible metal.

The lower arm 12 rests against the cap 14, which is shown as closing the discharge opening of the base 7, under normal conditions.

The signaling device, which forms the essence of the present invention, embodies a plurality of spring arms 15, which are secured to the base 7, by means of the bolt 16, which is shown as extending through aligning openings in the spring arms 15, and through an opening formed in the insulating block 17, which insulates the spring arms 15, from the base or body portion of the sprinkler.

Screws indicated by the reference character 18 secure the insulating block 17 to the body portion 7, as clearly shown by the drawing.

Under normal conditions, the spring arms 15 are so constructed that they will move into engagement with the head 10, but in use, are held in spaced relation with the head 10, by means of the member 19, which is constructed of insulating material, and which is held in position against the inner ends of the arms 11 and 12, by the pressure exerted thereon, by the spring arms 15.

The bolt 16 provides a means of connection for the wire 20 which is in circuit with the source of electricity supply indicated by the reference character 21. The screw 11, also provides a means of connection between the wire 22 and the head 10, the wire 22 having connection with the usual enunciator mechanism, contained in the enunciator 23. The circuit to the enunciator mechanism of the enunciator 23, is completed through the wire 24, to the audible signal 25, while the return wire to the source of electricity supply is indicated by the reference character 26. It will of course be understood that in the usual fire extinguisher of the automatic sprinkler type, a great number of these sprinkler heads are employed and each sprinkler head will be in circuit with the enunciator in such a way that with the operation of any one of the sprinkler heads, a signal will be displayed by the enunciator 23, in-

dicating which sprinkler head or heads, have been placed in operation.

In the operation of the device, assuming that the heat from a fire has destroyed the fusible metal securing the bar 13 to the arms 11 and 12, it is obvious that the arms will be released, and forced from their positions between the head 10 and cap 14, by the action of the spring arms 15, pressing against the member 19. It follows that as the arms 11 and 12 move from their positions, the spring arms 15 will move to a position to engage the head 10, as shown by Figure 4 of the drawing, completing the circuit to the enunciator associated therewith, and at the same time operating the audible signal 25, indicating that a fire has started.

The attendant may immediately, by consulting the enunciator, locate the exact position of the fire to facilitate the fighting of the fire.

Having thus described the invention, what is claimed is:

1. In a sprinkler head, a tubular base secured in a water-pipe line, a cap normally closing the upper end of the base, a circular supporting member rising from the base, a head secured to the circular supporting member directly over the upper end of the base, a pair of arms having their adjacent side edges contacting, a screw extending through the head and engaging one of said arms, the opposite arm resting against the cap holding the cap in place, a bar secured to the outer ends of the arms and held in position by fusible metal, a spring arm, a member disposed between the spring arm and inner ends of the first mentioned arms urging the first mentioned arms laterally when the fusible metal melts, releasing said first mentioned arms and cap whereby water is released to the head.

2. In a sprinkling head, a body portion comprising a pipe secured in a water-pipe line, a cap closing one end of the body portion, a supporting member rising from the pipe, a pair of separable arms having their inner longitudinal edges contacting, one of said arms engaging the cap, the opposite arm engaging the supporting member holding the cap in position, a bar secured to the outer ends of the arms by fusible metal, said bar holding the outer ends of the arms together, resilient means for exerting pressure against the inner ends of the arms in a direction longitudinal thereto, and adapted to force the pair of arms from their positions on the sprinkler head when the fusible metal is burned, releasing the cap whereby water is released to the sprinkler head.

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