J. T. DELANEY.

SPRINKLER HEAD.

APPLICATION FILED FEB. 10, 1920.

1,362,236. **Patented Dec. 14, 1920.**

Fig. 1

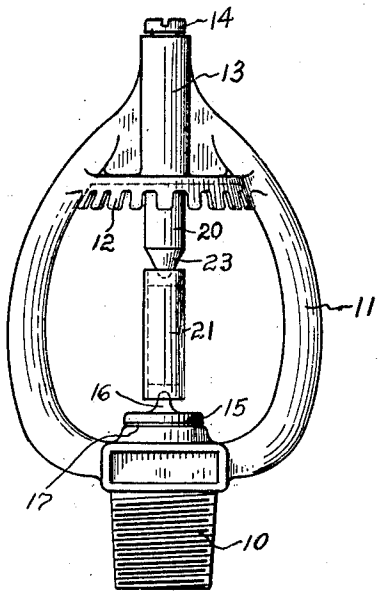


Fig. 2

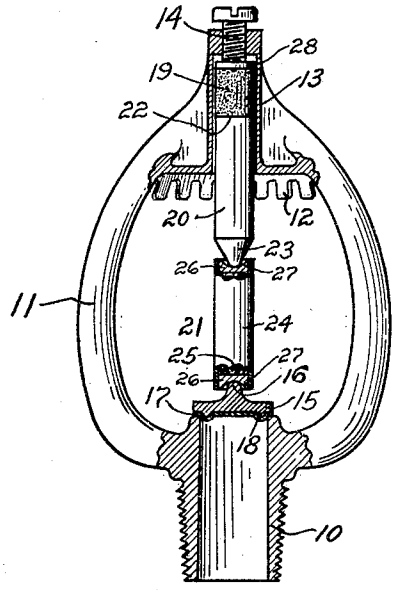


Fig. 3



Fig. 4



Fig. 5

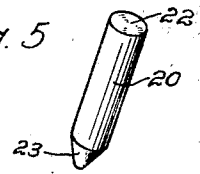


Fig. 8

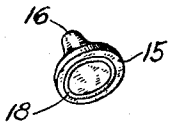


Fig. 6

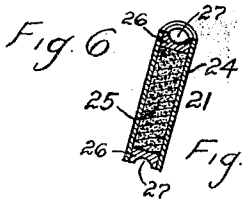


Fig. 7

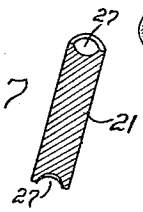


Fig. 9



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SPRINKLER-HEAD.

1,362,236. Specification of Letters Patent. Patented Dec. 14, 1920.

Application filed February 10, 1920. Serial No. 357,554.

To all whom it may concern:

Be it known that I, JAMES T. DELANEY, a citizen of the United States, residing at 267 Capitol Ave., Bridgeport, county of Fairfield, State of Connecticut, have invented an Improvement in Sprinkler-Heads, of which the following is a specification.

This invention relates to the type of sprinkler heads which are adapted to automatically act when the temperature rises above a predetermined maximum, and has for its object to provide a structure of this character which will be compact, safe and durable, and quick and efficient in its action.

With the above and other objects in view, the invention comprises the construction and arrangement of parts as now to be described and hereinafter specifically claimed.

In the drawing forming a part of this specification,

Figure 1 is an elevation of my improved sprinkler head;

Fig. 2 a view corresponding with Fig. 1, but showing parts of the structure in section, and

Figs. 3, 4, 5, 6, 7, 8 and 9 are views showing in detail the several parts of the invention.

The frame of the sprinkler head comprises a hub 10 which is threaded to engage a socket in a water supply system, and a yoke 11 carrying a deflector 12 and a tubular portion 13 having a closed end which is tapped to receive a set screw 14. A cap 15 having a teat 16 is provided to close the opening in the hub. 17 denotes a ribbed gasket which is interposed between the cap and the end of the hub, and on the underside of the cap is a rib 18 corresponding with the rib of the gasket.

19 is a tablet, made of any suitable material, which is adapted to be melted or softened when the temperature rises above the predetermined maximum, and 20 and 21 are the sliding plug and the spacer, respectively, of the invention. The plug has a flat end 22 and an end which is provided with a conical tip 23. The spacer may consist of a hollow tube 24 having therein a tablet 25 of material similar to that of tablet 19 and disks 26 which rest against the opposite ends of the tablet and which are provided with recesses 27, as shown in Fig. 6, or I may use a solid spacer, as is shown in Fig. 7, which has recesses, also denoted by 27, in its opposite ends. When the sprinkler head is in use, the opposite ends of the spacer are engaged by the teat and the conical tip, respectively. 28 denotes a washer which is interposed between the set screw and the tablet in the tubular portion carried by the yoke.

To prepare the sprinkler head for use, the hub is screwed into a socket in a water supply system, and the set screw is inserted into the opening in the closed end of the tubular portion carried by the yoke. The washer is now inserted into the tubular portion, then the tablet is inserted, and afterward the plug is slid in, flat end first. The gasket is placed over the end of the hub and the cap is made to rest on the gasket so that its rib lies over the rib on the gasket. Either form of spacer shown and described may be used. One end of the spacer is placed so that the teat on the cap enters its recess, and the other end is placed so that its recess alines with the plug. The set screw is turned until the conical tip engages the alined end and exerts sufficient pressure thereon to hold the cap and gasket firmly on the end of the hub and against the pressure of the water in the water system. The rib on the cap prevents its dislocation from the gasket, and the rib on the gasket keeps it from disengaging the end of the hub. It will be seen that with either form of spacer a very effective closure is effected.

When the form of spacer shown in Fig. 7 is used in the structure and the temperature rises above the predetermined maximum, the tablet in the tubular portion carried by the yoke will immediately soften or melt, and when the form of spacer shown in Fig. 6 is used, the tablet therein will also soften or melt. The fluid formed will be forced past the washer and the flat end of the plug, in the case of the tablet in the tubular portion carried by the yoke, by reason of the sliding action of the plug caused by the pressure of the water in the system. In the case of the tablet in the spacer, the fluid will be forced past the disks by reason of the fact that they are both caused by the pressure of the water acting on the teat and conical tip, to slide toward the center of the hollow tube. It will be apparent that, with either form of spacer in use the rib on the gasket will be forced from its seat and that

without a fixed support at its end which engages the teat, the spacer cannot remain in alinement with the plug. Consequently, it will be instantly thrown from the teat and conical tip. The water will then have free passage.

What I claim is:

1. A sprinkler head of the character described, comprising a hub and a yoke, a cap for closing one end of the hub and means carried by the yoke for holding the cap to the hub and for automatically releasing it therefrom, said means consisting of a tablet and a sliding plug which are in alinement with each other and a spacer which is located between the tablet and plug and is adapted to be thrown away from the sprinkler head when the cap is released from the hub.

2. A sprinkler head of the character described, comprising a hub and a yoke, a cap for closing one end of the hub and means carried by the yoke for holding the cap to the hub and for automatically releasing it therefrom, said means consisting of a tablet which bears against the yoke, a sliding plug which bears against the tablet and a spacer which bears against the sliding plug and cap and is adapted to be thrown from the sprinkler when the cap is released from the hub.

3. A sprinkler head of the character described, comprising a hub and a yoke which is provided with a tubular portion, a cap for closing one end of the hub and means carried by the yoke for holding the cap to the hub and for automatically releasing it therefrom, said means comprising a tablet and a sliding plug which are arranged in said tubular portion to engage each other and a spacer which bears against the sliding plug and cap and is adapted to be thrown from the sprinkler when the cap is released from the hub.

4. A sprinkler head of the character described, comprising a hub and a yoke, a cap for closing one end of the hub and means carried by the yoke for holding the cap to the hub and for automatically releasing it therefrom, said means comprising a tablet which bears against the yoke, a sliding plug which bears against the tablet and a spacer which bears, respectively, against the sliding plug and cap, and said spacer provided with a second tablet and having disks in its opposite ends and in engagement with said second tablet.

5. A sprinkler head of the character described, comprising a hub, a cap having a teat thereon, and a yoke, said cap adapted to engage one end of said hub and said yoke carrying means to hold the cap in position and to automatically release it from the hub, in combination with a spacer adapted to assist in holding and releasing the cap, which consists of a hollow tube in which is a tablet and in the ends of which are disks which bear against said teat and said first mentioned holding and releasing means, respectively.

6. A sprinkler head of the character described, comprising a hub, a cap, a yoke and a spacer, said cap being adapted to engage one end of the hub, and said yoke carrying means to hold the cap in position and to automatically release it from the hub, and said spacer adapted to assist in holding and releasing said cap, and for this purpose being provided with a tablet and sliding disks which bear against the cap and the holding and releasing means carried by the yoke, respectively.

7. A sprinkler head of the character described, comprising a hub, a cap having a teat thereon, and a yoke, said cap adapted to engage one end of said hub and said yoke carrying means for holding the cap to the hub and for automatically releasing it therefrom, said means comprising a tablet which bears against the yoke, a sliding plug which bears against the tablet and a spacer which bears, respectively, against the sliding plug and cap, and said spacer provided with a second tablet and having disks in its opposite ends and in engagement with said second tablet.

8. A sprinkler head of the character described, comprising a hub, a cap having a teat thereon, a yoke and a spacer, said cap adapted to engage one end of said hub, and said yoke being provided with means consisting of a tubular portion carrying a tablet and a sliding plug having a conical tip, and said spacer being provided with means consisting of a hollow tube having therein a second tablet and disks having recesses which engage said teat and conical tip, respectively, said means in the yoke and in the spacer adapted to hold the cap in position and to automatically release it from the hub.

9. A sprinkler head of the character described, comprising a hub, a cap having a teat thereon, a yoke provided with a tubular portion carrying a set screw, a washer, a tablet and a plug having a conical tip, and a spacer having therein a second tablet and sliding disks, one of said disks adapted to be pressed against by said teat and the other of said disks adapted to press against said conical tip, and said cap adapted to engage one end of said hub whereby when said set screw is adjusted so that pressure is applied to the cap, a tight closure will be effected, and when either or both of the tablets are affected at a predetermined temperature, the cap will be released from the hub.

In testimony whereof I affix my signature.

JAMES T. DELANEY.