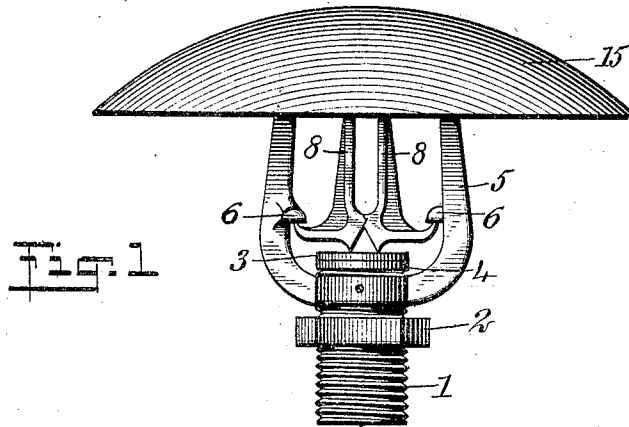
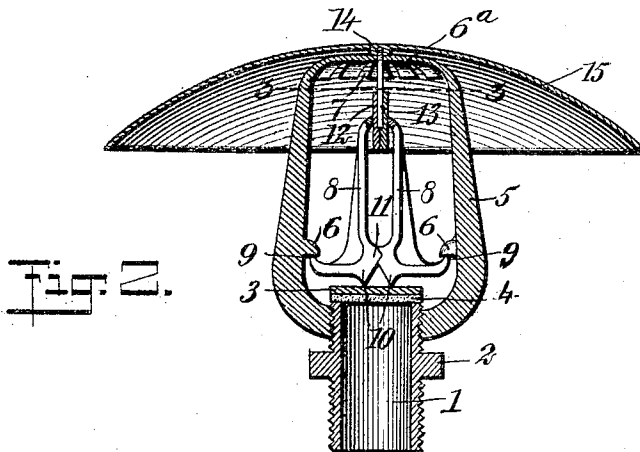
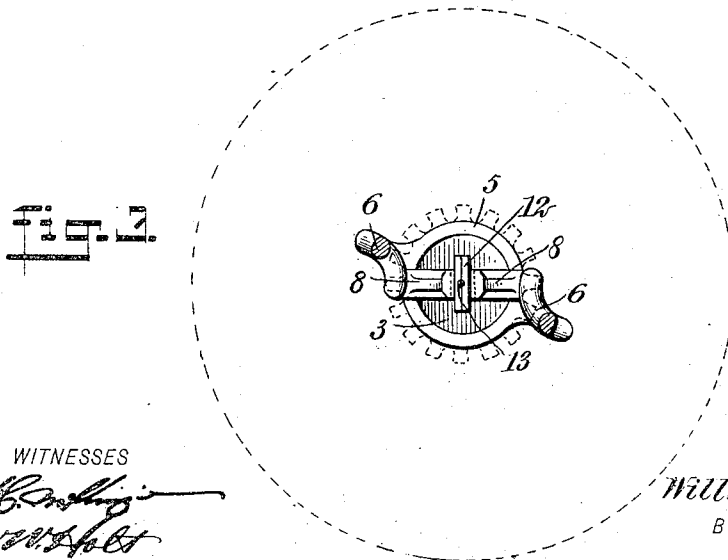


No. 873,651.

PATENTED DEC. 10, 1907

W. G. ASMUS.
AUTOMATIC FIRE EXTINGUISHER.
APPLICATION FILED JAN. 4, 1907.



WITNESSES

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WILLIAM GEORGE ASMUS, OF CLEVELAND, OHIO.

AUTOMATIC FIRE-EXTINGUISHER.

No. 873,651.

Specification of Letters Patent.

Patented Dec. 10, 1907.

Application filed January 4, 1907. Serial No. 350,742.

To all whom it may concern:

Be it known that I, WILLIAM G. ASMUS, a citizen of the United States, and a resident of Cleveland, in the county of Cuyahoga and State of Ohio, have invented a new and Improved Automatic Fire - Extinguisher, of which the following is a full, clear, and exact description.

This invention is an improved fire extinguisher, relating more especially to automatic sprinklers for fire extinguishing apparatus adapted for use in factories, warehouses, car storage-houses, car-yards and other buildings, in connection with the water supply thereof, and acting under the abnormal increase of temperature to distribute water, preferably in a spray, in the surrounding space.

More specifically, the invention relates to that special class of automatic sprinklers wherein a cap or cover normally closes a water outlet or orifice under tension of one or more arms acting to hold the valve on its seat, said arms being secured together by means of a metal fusible at a predetermined degree of temperature, and when disrupted by the melting of said metal, releasing the valve and causing the water to be thrown into the surrounding space.

The invention has for objects, among others, to protect the disruptible joint from falling streams of water or other cooling influences until such time as the surrounding heat is sufficient to melt it; also to collect the heat about the joint as the former rises and provide for the effective discarding of the displaceable parts when the extinguisher is thrown into action, whereby they will not interfere with the throwing of the water to the best advantage.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of one embodiment of my improved fire extinguisher complete; Fig. 2 is a vertical, central, sectional view of the same, and Fig. 3 is a horizontal section, substantially on the line 3-3 of Fig. 2.

In carrying out my invention I employ a nozzle or other tubular body 1, preferably exteriorly threaded at both ends, with an intermediate angular wrench-engaging portion 2. At the upper end of the nozzle, which is

the open end when the extinguisher is connected with the water supply, is seated a cap 3 or other covering, forming a water-tight joint through an intermediate gasket 4 when said cap and nozzle are forced together by the construction hereinafter described.

Threaded on the upper end of the nozzle 1 is a yoke or other equivalent device 5, preferably formed integral with lugs 6 extending in opposite directions at each side thereof and also with a deflector 6^a, the latter comprising a dished metal disk, having a series of notches 7 arranged about its circumference, acting to properly distribute the water when the cap 3 is released from the nozzle.

Normally arranged between the yoke 5 and seated on the cap 3, are two substantially L-shaped arms or struts 8, each of said arms having the extremity of its horizontal portion slightly upwardly-turned and pointed, in engagement with the outer end of one of the lugs 6, as indicated at 9; said arms are also further constructed with pointed extensions 10 in substantial alinement with their vertical members and engaging directly with the cap 3. The lower ends of the arms 8 are formed on their rear faces near the extensions 10, respectively, with a projection and a recessed engaging portion, forming, in effect, a displaceable, pivotal connection 11 between them. The upper ends of the arms 8 are preferably turned toward each other, where they are rigidly connected to plates which are held together by solder or other fusible metal, providing a fusible joint normally holding the arms from separation.

It is obvious from the construction thus far described that on screwing the nozzle 7 into the yoke 5 with the arms or struts 8 in engagement with the cap 3 and the lugs 6, as illustrated, after their upper ends have been soldered together, the arms will be maintained in a vertical position and will force the cap 3 firmly to its seat and form a water-tight joint between it and the nozzle. The arms 8 are further assisted in retaining their vertical position, by a non-corrosive pin 13 embedded in a fusible joint 12 and passing through the center of the deflector 6^a, where it is provided with a threaded extremity 14. This threaded portion of the pin is engaged by an interiorly-threaded projection extending from the center under face of a dished hood 15, the latter ordinarily being used only when the extinguisher is placed at a lower level than other extinguishers used in the

same extinguishing system, as in car storage-houses, car-yards or buildings, and in buildings in which it may be desirable to protect automatic sprinklers from water, acids or
 5 other fluids descending from above and which may tend to corrode or in other ways make the fusible joint of the sprinkler inoperative. When thus employed, the hood prevents the water from the more elevated
 10 extinguishers, should they first discharge, from falling on the fusible joint 12, which would act to keep it cooled below the melting point. The hood, moreover, acts as a medium for collecting the rising heat and there-
 15 by causing the disruption of the fusible joint sooner than it would otherwise take place.

In the operation of the extinguisher, when the temperature of the surrounding space has been raised by the fire, to a point sufficient to melt the joint 12, the connection between the
 20 arms 8 is broken and the pressure of water in the nozzle 1, acting on the cap 3, causes the arms to turn on the point 11 as a pivot and separate from each other until they drop by
 25 gravity at each side of the yoke 5. The water from the nozzle then acts directly from the deflector on the hood 15, lifting the latter with the attached pin 13, above the said deflector and thus effectually dislodging the
 30 hood from the rest of the extinguisher. The extinguisher is now free of the displaceable parts and the deflector will act to distribute the water about in a spray in the surrounding space.

Although I have described the preferred embodiment of the invention in detail in order that its construction and operation might be fully understood, I, nevertheless regard the precise construction as not material provided the essential characteristics are employed as pointed out in the annexed claims.

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

45 1. A fire extinguisher, comprising a tubular body, a cover seated over the outer end of said body, a plurality of arms in engagement at their lower ends seated on said cover near the center thereof, and a single device ad-
 50 justable on said body in engagement with both of said arms, operable to force the cover down on said body through the intermediary of said arms, whereby the pressure between said cover and tubular body is substantially
 55 uniform throughout their contacting area.

2. A fire extinguisher comprising a nozzle, a cap covering one end of the nozzle, a pair of arms in engagement near their lower ends and having sharpened extensions seated on
 60 said cap, a fusible joint connecting the upper ends of the arms together, and a yoke thread-

ed on said nozzle in engagement with each of said arms, acting to force the cap down on said nozzle through the intermediary of said arms.

3. A fire extinguisher comprising a nozzle, a cap seated over one end of the nozzle, a pair of L-shaped arms seated on the cap said arms having upwardly-turned pointed portions, a fusible joint connecting the arms together, and a yoke in engagement with said pointed portions of said arms and adjustably connected with said nozzle.

4. A fire extinguisher comprising a nozzle, a cap seated over the upper end of the nozzle, arms seated on said cap, a fusible joint connecting the arms together, a yoke threaded on the cap, having lugs in engagement with said arms acting to force the cap down on said nozzle through the intermediary of the
 80 arms, a deflector carried by the yoke above said joint, a pin embedded in said joint and passing through the deflector, and a hood arranged above the deflector and fixed to said pin.

5. A fire extinguisher comprising a nozzle, a cap seated on the upper end of the nozzle, a pair of L-shaped arms having pointed extensions seated on said cap, a fusible joint connecting the upper ends of said arms together, and a yoke having lugs projecting at opposite sides thereof in engagement with said arms, and threaded on said nozzle.

6. In a fire extinguisher, a nozzle, means closing the nozzle seated on its upper end, a plurality of devices seated on said closing means and connected together by a fusible joint, means adjustable on said nozzle in engagement with said devices, and a hood supported from and above said joints.

7. In combination with an automatic fire extinguisher including a fusible joint, a hood open on its under side adapted to be automatically displaced by the operation of the extinguisher and normally covering and protecting the same, said joint being located above the lower edge of the hood, and means connecting the hood and fusible joint together.

8. In an automatic fire extinguisher, a fusible joint for controlling the operation of the extinguisher, and a hood arranged over said joint and connected therewith adapted to be automatically displaced by the operation of the extinguisher.

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

WILLIAM GEORGE ASMUS.

Witnesses:

D. E. PHILLIPS,

F. H. NORTON.