

(No Model.)

R. L. CUMNOCK & P. J. MARRS.
AUTOMATIC STATIONARY FIRE EXTINGUISHER.

No. 466,658.

Patented Jan. 5, 1892.

Fig. 1.

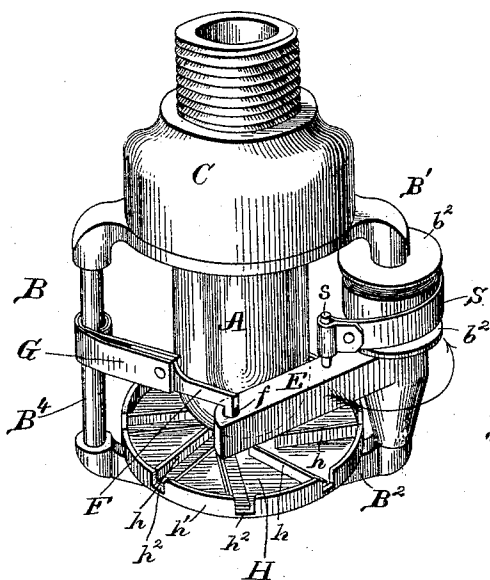


Fig. 2.

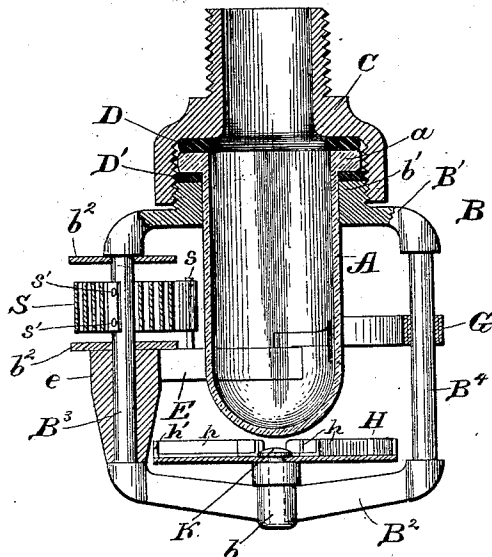
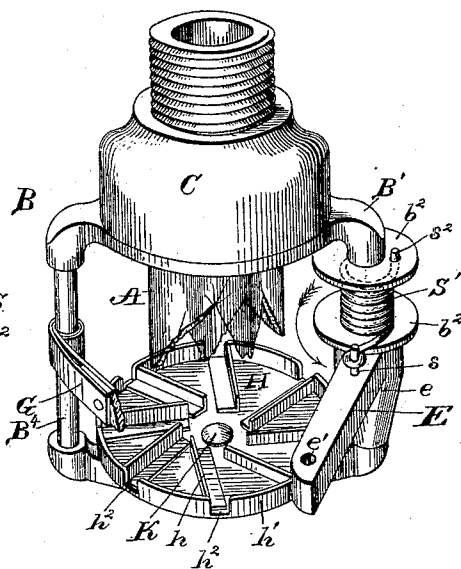


Fig. 3.

Witnesses:

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UNITED STATES PATENT OFFICE.

ROBERT L. CUMNOCK AND PAUL J. MARRS, OF HENDERSON, KENTUCKY.

AUTOMATIC STATIONARY FIRE-EXTINGUISHER.

SPECIFICATION forming part of Letters Patent No. 466,658, dated January 5, 1892.

Application filed September 4, 1891. Serial No. 404,735. (No model.)

To all whom it may concern:

Be it known that we, ROBERT L. CUMNOCK and PAUL J. MARRS, citizens of the United States, residing at Henderson, in the county of Henderson and State of Kentucky, have invented certain new and useful Improvements in Automatic Stationary Fire-Extinguishers; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

Our invention relates to stationary automatic fire-extinguishers; and it consists in certain improvements in that subdivision of the said class known as "rotary automatic sprinklers."

Reference is had to the accompanying drawings, wherein the same parts are indicated by the same letters.

Figure 1 represents a perspective front view of the improved sprinkler intact. Fig. 2 represents a perspective view of the sprinkler after the spring-detaining fusible strip has been melted, but showing a modified form of spring. Fig. 3 represents a vertical section near the axis of the frangible tube, as seen from the rear, of the device shown in Fig. 1.

A represents the tube, made of frangible material, preferably clear glass. This tube has a shoulder *a*, which rests upon the hollow screw *b'* of the upper piece *B'* of the frame *B*. Over this shoulder the gasket *D* is pressed down by the union *C*, which union connects the sprinkler to the water-pipes, which are not shown. The upper cross-piece *B'* and lower cross-piece *B²* of the frame *B* are connected by the vertical rods *B³* and *B⁴*, which are rigidly connected to the said cross-pieces in any convenient way. On one of these rods the hammer *E* is revolvably secured, held under tension by a spring rigidly attached at one end to the said rod or to the frame-work. On the other rod a holder *G* is pivotally secured, to which a fusible strip *F* is connected. This fusible strip is also attached to the hammer *E*. The spring *S* or *S'*, as the case may be, is held between guides *b²*, attached to the rod or frame-work, and the hammer *E* has a sleeve *e*, fitting on the said rod. The spring is attached to the said hammer with a small pin *s*, and the fusible strip *F* has a tongue *f*,

adapted to engage in a hole *e'* of the said hammer; but these details of construction, including the form of the spring, are unimportant and may be varied at will.

Beneath the frangible tube we have a disk *H*, having blades *h* secured thereto at an angle to the radii, with a circular rim *h'*, having apertures *h²* cut therein. This disk is free to rotate around a pin *K*, set in a hole *d* in the lower cross-piece *B²*.

The device is mounted as follows: After attaching the hammer, spring, fusible strip and holder, and rotating disk the hammer is turned around several times in a direction opposite to that shown by the arrow, thus placing the flat or spiral spring under considerable tension. The tip *f* of the fusible strip is then made to engage in the hole *e'*, and the hammer is locked thereby. The glass tube *A* is then put in, the gasket *D* put on, and the union *C* screwed down tight, so as to make a water-tight joint. The sprinkler is then attached to the water-pipe at the desired point.

The operation of our device is as follows: Should a fire break out in the immediate neighborhood of the sprinkler, the fusible strip *F* will soon melt, and the hammer *E*, being released, will fly around rapidly in the direction indicated by the arrow, gathering energy as it goes. When it has made nearly one complete revolution, it will strike the glass tube *A*, breaking it, as shown in Fig. 2, and passing completely through it. The water rushing down will strike the disk or distributing-wheel *H*, and, escaping through the apertures *h²* and over the rim *h'*, will react on the ribs *h*, causing the disk *H* to rotate rapidly. This rotation will spray the water out rapidly to a considerable distance, and, if the sprinkler be near the ceiling, will spread the water out thereon and prevent in a great degree the spreading of fire upward.

The advantages of construction in the use of a transparent tube are that the attendant is able to see at all times the state of the water therein, if the pipes are dry or if clogged up with mud, and the frangible material being broken will readily go to pieces and get out of the way of the down-rushing water. Again, the tubes are inexpensive and may be readily replaced after the fire is over.

We are aware that rotary disks are common in sprinklers of the class mentioned, and we do not claim that feature, broadly; but

What we do claim, and desire to secure by
5 Letters Patent of the United States, is—

1. In an automatic sprinkler, the combination, with the frame B and a spring-hammer and fusible strip revolubly attached thereto, the said strip detaining the said hammer
10 against the action of the said spring, of a glass tube A, having shoulder *a* resting on said frame, washer D over said shoulder, and union C, bearing down said washer against said shoulder, substantially as described.

2. In an automatic sprinkler, the combination,
15 with the frame B and a spring-hammer

and fusible strip revolubly attached thereto, the said strip detaining the said hammer against the action of the said spring, of a glass tube A, having shoulder *a* resting on a washer 20 D' on said frame, washer D over said shoulder, union C, bearing down said washer against said shoulder, and rotary distributing-wheel H, having ribs *h* oblique to the radii, rim *h'*, and apertures *h*², substantially as described. 25

In testimony whereof we affix our signatures in presence of two witnesses.

ROBERT L. CUMNOCK.
PAUL J. MARRS.

Witnesses:

WM. H. WITT,
B. G. WITT.