

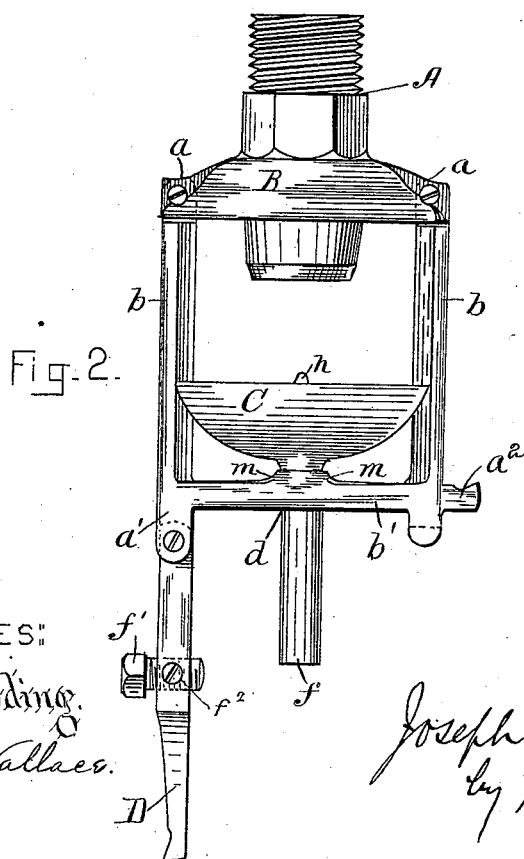
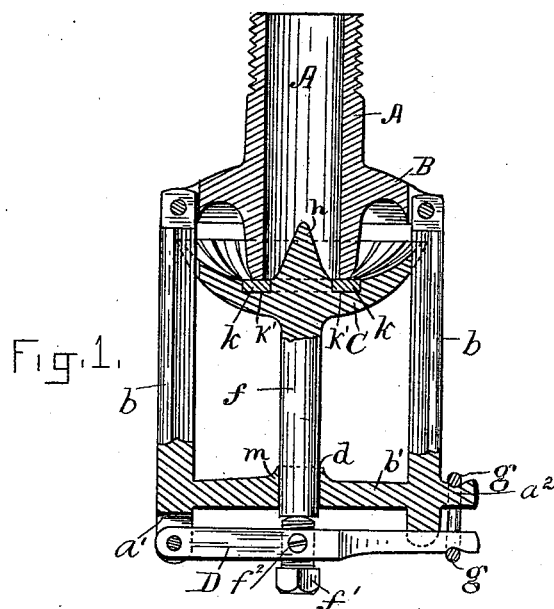
(No Model.)

J. ANDREW.

AUTOMATIC FIRE EXTINGUISHER.

No. 346,796.

Patented Aug. 3, 1886.



WITNESSES:
Chas. S. Goring.
Robert Wallace.

INVENTOR:

Joseph Andrew
by H. A. Macleod
his atty.

UNITED STATES PATENT OFFICE.

JOSEPH ANDREW, OF LONSDALE, RHODE ISLAND.

AUTOMATIC FIRE-EXTINGUISHER.

SPECIFICATION forming part of Letters Patent No. 346,796, dated August 3, 1886.

Application filed July 18, 1884. Serial No. 137,986. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH ANDREW, of Lonsdale, in the county of Providence and State of Rhode Island, have invented a new and useful Improvement in Automatic Fire-Extinguishers, of which the following is a full, clear, concise, and exact description, reference being had to the drawings accompanying and forming a part hereof, in which—

10 Figure 1 is a central vertical section showing the position of the parts while the extinguisher is closed and not in use. Fig. 2 is an elevation showing the position of the parts while the extinguisher is open and in use.

15 The system of supplying mills and other buildings with a series of pipes which are kept constantly filled with water, and which are supplied at regular intervals with automatically-acting nozzles adapted to open and 20 emit a stream of water in the presence of a comparatively slight degree of heat, is too well known to require description.

My invention will be readily understood from the following description, in which the 25 various parts are specified by letters of reference to the accompanying drawings.

A is a threaded nipple, which is screwed into the line of water-pipe, and B is a bell-shaped projection encircling it and cast in- 30 tegral therewith.

On either side of the bell-shaped projection B are cast two small projections, *aa*, into which is riveted, as shown, the lower frame, consisting of the side pieces, *b b*, and the cross-piece 35 *b'*. The cross-piece *b'* is provided centrally with a hole at *d*, to receive the shank or spindle *f*, which projects downwardly from the saucer-shaped piece C, which acts to close the opening of the nozzle and prevents the water 40 from escaping when the apparatus is not in use. The piece C is notched on either side to receive the pieces *b b*, between which it slides.

In the center of the saucer-shaped piece C rises a conical projection, *h*, which, when the 45 extinguisher is closed, projects upward into the opening of the nozzle A. (See Fig. 1.) The base of cone *h* is nearly equal in diameter to the diameter of the nozzle-opening, and the cone is thus adapted to serve as a guide to in- 50 sure the meeting of the end of the nozzle with the soft-metal washer *k* at the same point every time the nozzle is closed. This is important,

as it is almost impossible without a guide to place the end of the nozzle in the old groove in the washer, and if said end meets the nozzle at a different point leakage will occur. 55 When the piece C falls down into the position shown in Fig. 2, thereby opening the nozzle, the water coming from the nozzle strikes centrally on the point of the cone, and is di- 60 vided and thrown by the curve of the cone and saucer outward in all directions, the force of the stream not being diminished to the same extent as if the cone were absent. The sides of the saucer may be grooved, as 65 shown, Fig. 1, or roughened for the purpose of breaking the water into spray. Around the base of the cone I place a washer, *k*, preferably of lead, to receive the end of the nozzle A and make a tight joint when the ex- 70 tinguisher is not in use. This washer I prefer to lay in a groove, *k'*. (See Fig. 1.) It will be obvious that when the piece C is pressed firmly upward against the nozzle the water cannot escape, and that water will es- 75 cape when the piece C is allowed to drop down. To hold it up and close the extinguisher, I provide the lever D, pivoted at one end to a projection, *a'*, on the frame *b*, and held up at the other end to another projection, *a''*, on 80 the opposite side of the frame by a link, *g*, made from a soft alloy fusible at a low temperature. Into this lever, and directly below the end of the shank or spindle *f*, is set the screw *f'*, the upper end of which bears on the 85 end of the spindle. To prevent the screw *f'* from becoming loosened in any way, the set-screw *f''* is provided. By setting up this screw the extinguisher can be tightly closed, and at the same time pressure exerted upon the lever D, so that when the link *g* is fused this 90 pressure will tend to throw the lever down, thus releasing the piece C, which falls, opening the nozzle and allowing the water to escape.

To prevent dust and dirt from clogging up 95 the hole in the cross-piece *b'*, through which the spindle *f* passes, and thus prevent the spindle and the piece C from falling, I surround the hole in the cross-piece with a ridge, *m*, brought up to an edge, as shown, Fig. 100 1, so as to prevent the dust and dirt from lodging and clogging the spindle.

The chief objection to the various forms of automatic fire-extinguishers known to me is

their liability to clog, through long disuse, in factories or other buildings in which the air is filled with particles of dust and other matter. In my improvement I believe this possibility is reduced to a minimum.

After use my extinguisher may be very easily readjusted by an ordinary workman, as none of the parts is lost or injured, save the fusible link, and all that is required is to close the extinguisher and secure it by slipping on a new link.

What I claim is—

1. In an automatic fire-extinguisher, the combination of a supporting-frame, a nozzle, a distributor having a stem movable in said frame, a retaining-lever pivoted to said frame, a fusible link for holding said lever in its operative position, an adjusting-screw carried

by said lever and impinging against said stem, and a set-screw for holding said adjusting-screw in any desired position, substantially as set forth.

2. In an automatic fire-extinguisher, the combination, with a nozzle having a bell-shaped flange or projection, of a supporting-frame attached to said projection, a movable recessed distributor having a conical projection and a spindle or stem, a retaining-lever pivoted to said frame, adjusting and set screws carried by said lever, and a fusible link for holding said lever in its operative position, substantially as set forth.

JOSEPH ANDREW.

Witnesses:

ROBERT WALLACE,
MILAN F. STEVENS.