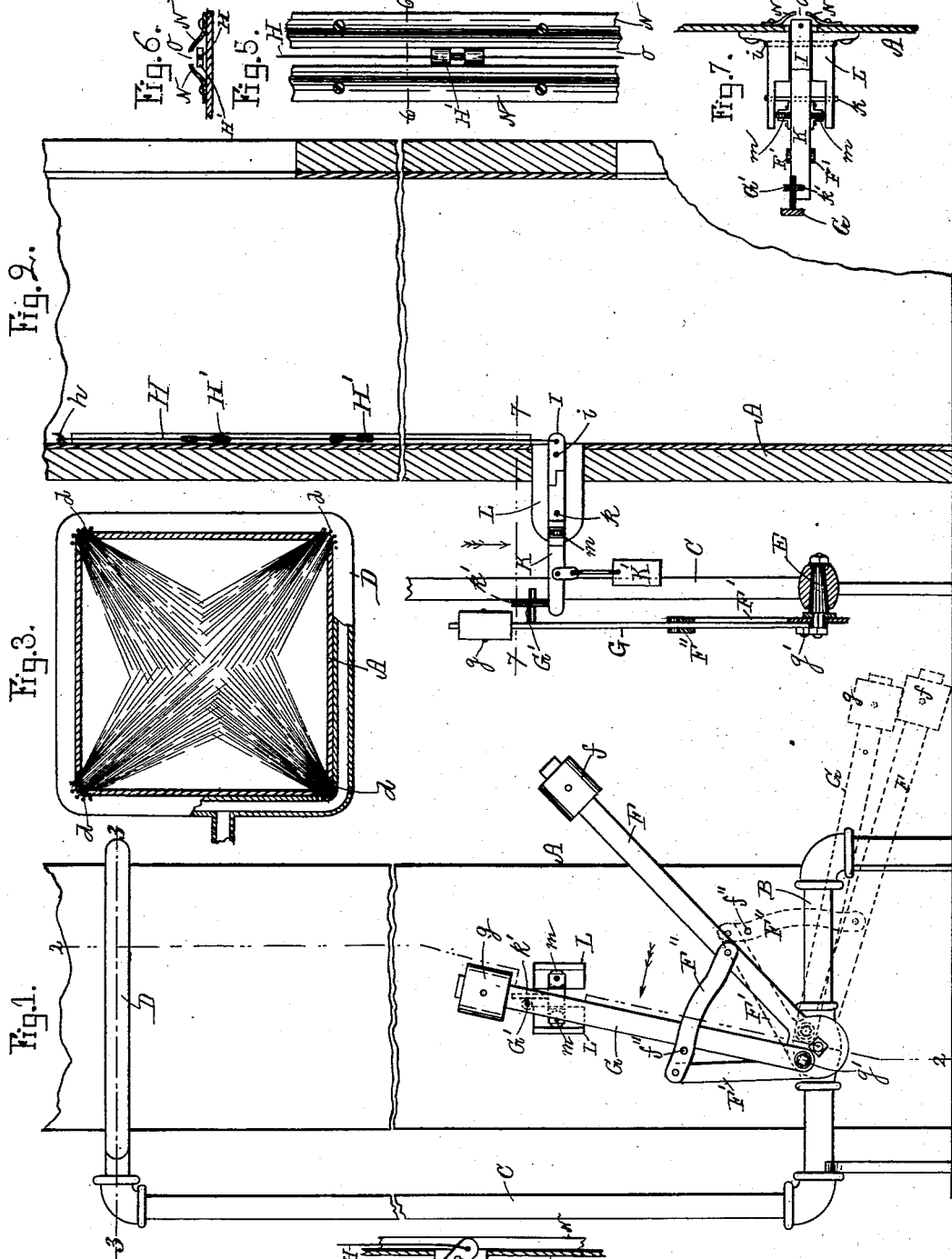


(No Model.)

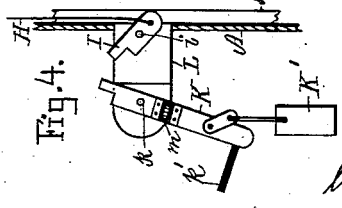
D. C. STILLSON.
AUTOMATIC FIRE EXTINGUISHER.

No. 568,886.

Patented Oct. 6, 1896.



Witnesses
Lauritz, W. Höller,
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Inventor:
Daniel C. Stillson
 by *Wm. Andren*
his atty.

UNITED STATES PATENT OFFICE.

DANIEL C. STILLSON, OF SOMERVILLE, MASSACHUSETTS.

AUTOMATIC FIRE-EXTINGUISHER.

SPECIFICATION forming part of Letters Patent No. 568,886, dated October 6, 1896.

Application filed December 16, 1895. Serial No. 572,225. (No model.)

To all whom it may concern:

Be it known that I, DANIEL C. STILLSON, a citizen of the United States, and a resident of Somerville, in the county of Middlesex and State of Massachusetts, have invented new and useful Improvements in Automatic Fire-Extinguishers, of which the following, taken in connection with the accompanying drawings, is a specification.

This invention relates to improvements in automatic fire-extinguishers of the kind in which a water valve or cut-off on a supply-pipe is normally held closed against its seat by means of wire provided at intervals with fusible metal couplings that will melt in case of a fire as soon as the heat reaches the melting-point of such fusible couplings, and thereby causing the water-supply valve or cut-off to be opened, so as to force the water out through suitable sprinklers located at convenient places, according to the nature of the room, building, elevator-well, &c., that is to be protected by the device.

The invention is carried out as follows, reference being had to the accompanying drawings, wherein—

Figure 1 represents a side elevation of the improved automatic fire-extinguisher shown in normal position as applied to an elevator-well. Fig. 2 represents a longitudinal section on the broken line 2 2 shown in Fig. 1. Fig. 3 represents a cross-section on the line 3 3 shown in Fig. 1. Fig. 4 represents a detail side view of the tripper-levers shown in released positions. Fig. 5 represents a detail front view of the wire and wire-guards. Fig. 6 represents a cross-section on the line 6 6 shown in Fig. 5, and Fig. 7 represents a detail cross-section on the line 7 7 shown in Fig. 2.

Similar letters refer to similar parts wherever they occur on the different parts of the drawings.

In the drawings, A represents the inclosing walls of an elevator-well, as usual.

B represents the water-supply pipe, located at or near the lower portion of said well. Said supply-pipe is connected to a stand-pipe C, which is provided at its upper end with a perforated sprinkler-pipe D, surrounding the well A, as shown in Figs. 1 and 3.

The sprinkler-pipe D is provided with a se-

ries of perforations *d d d*, through which the water is forced into the well, as shown in Fig. 3.

I wish to state that I do not confine myself to this particular kind of sprinkler; neither do I wish to confine myself to the use of the device for an elevator-well only, as other or well-known forms of sprinklers may be used for rooms, buildings, elevator-wells, &c., without departing from the spirit of my invention.

E represents the valve or cut-off on the supply-pipe B, and to the stem of said valve is secured a lever F, having attached to its upper end a weight *f*, as shown in Figs. 1 and 2.

G is a hammer-lever pivoted at *g'* to the lever F and provided at its upper end with a head or hammer *g*. (Shown in Figs. 1 and 2.)

The pivoted hammer-lever G is normally held in the position shown in Fig. 1 by mechanism, as will hereinafter be described, and when in such normal position it serves to hold the valve-lever F and its valve E in closed position, (shown in Fig. 1,) and for such purpose I prefer to make on the lever F a supporting-bar F', the upper end of which is connected to the lever F by means of suitable links F'', on which there is a rest projection or pin *f''*, resting against the hammer-lever G when the latter is held in the normal position shown in Fig. 1.

Within the upper end of the well or room is secured at *h* the wire H, connected at intervals to fusible couplings H', as shown in Fig. 2. The lower end of said wire H is secured to a pivoted pawl-lever I, that is pivoted at *i* and adapted to interlock with a releasing-lever K, pivoted at *k* and provided with a weight K', as shown in Fig. 2. The pawl and releasing levers are preferably pivoted to a box or bearing L, as shown in Figs. 1, 2, 4, and 7, and in practice I prefer to provide the lever K with antifriction-rollers *m m*, adapted to bear against the inside of the box L, as shown in Fig. 7, so as to avoid frictional resistance when the lever K is released. To the free end of the lever K is secured an upwardly-projecting pin or extension *k'*, against which the hammer-lever G is normally held, said hammer-lever G having for this purpose a pin or pin and roll G' on one side, as shown in Figs. 1, 2, and 7.

For the purpose of protecting the wire H

and its fusible couplings H' from injury or contact I inclose such parts between stationary protecting plates or ribs N N, between the outer edges of which there is left an open space O (shown in Figs. 5, 6, and 7) to permit the heat, in case of a fire occurring in the vicinity of said wire, to be communicated to the fusible couplings H'.

The operation is as follows: If a fire should occur in the well A or vicinity of the wire H, the latter is caused automatically to be broken by the melting of the fusible couplings H', causing the pawl I to be released from the lever K, which will be swung by the weight K' to the position shown in Fig. 4, thus liberating the hammer-lever G, which will fall against the valve-lever F and turn the latter to the position shown in dotted lines in Fig. 1, thereby causing the valve E to be opened and allowing the water from supply-pipe B to be forced up through pipe C and out through sprinkler-pipe D, as represented in Fig. 3.

Having thus fully described the nature, construction, and operation of my invention, I wish to secure by Letters Patent and claim—

In an automatic fire-extinguisher, in combination a water-supply pipe, a valve or cut-off thereon and a sprinkler device, a weighted valve-lever on said valve and a pivoted hammer-lever, a wire with fusible connections, a pivoted pawl connected to said wire and a pivoted weighted releasing-lever held by said pawl-lever and means for holding the hammer-lever and valve-lever in position and the valve closed substantially as and for the purpose set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 9th day of December, A. D. 1895.

DANIEL C. STILLSON.

Witnesses:

ALBAN ANDRÉN,
LAÜRETZ N. MÖLLER.