(No Model.)

J. KANE.

AUTOMATIC FIRE EXTINGUISHER.

No. 351,267. Patented Oct. 19, 1886.

Fig. 1.

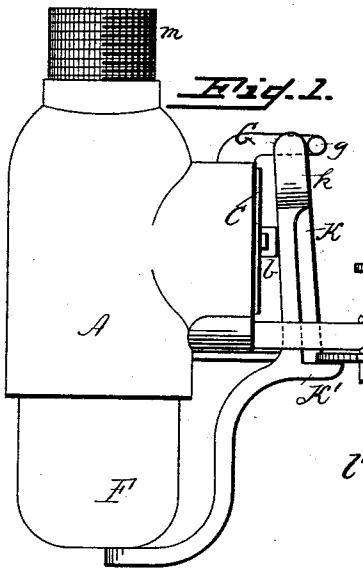


Fig. 2.

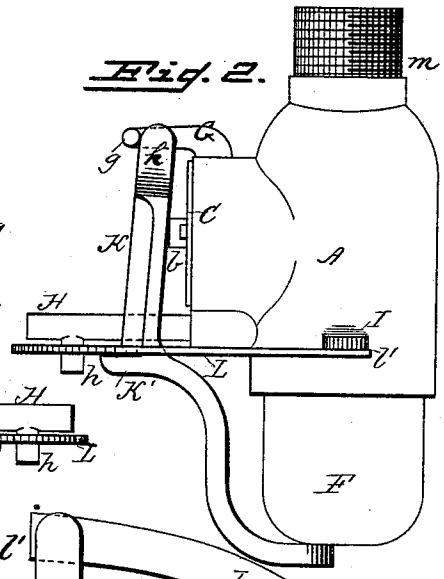


Fig. 3.

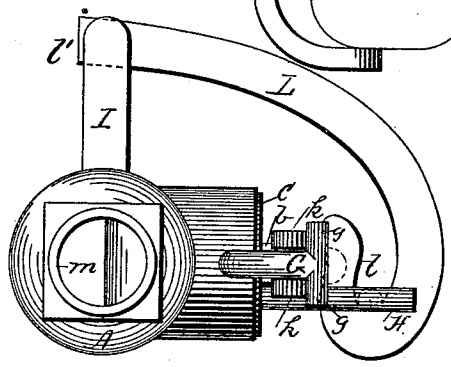


Fig. 4.

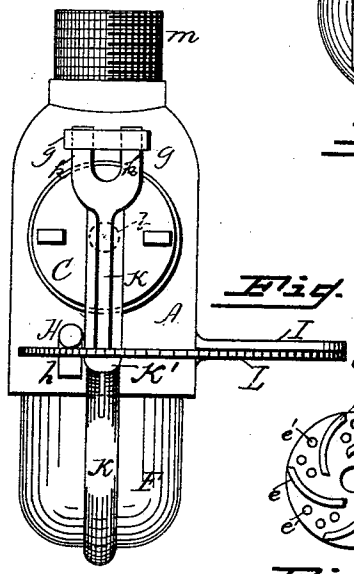


Fig. 6.

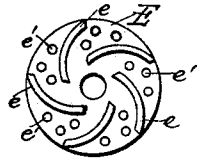
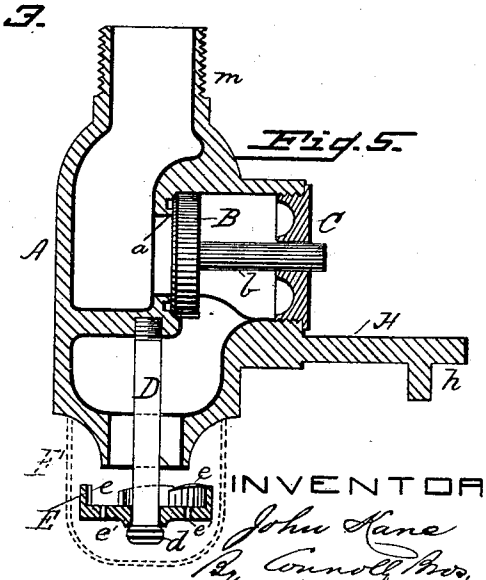


Fig. 5.



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AUTOMATIC FIRE-EXTINGUISHER.

SPECIFICATION forming part of Letters Patent No. 351,267, dated October 19, 1886.

Application filed February 17, 1886. Serial No. 192,244. (No model.)

To all whom it may concern:

Be it known that I, JOHN KANE, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Automatic Fire-Extinguishers; and I do hereby declare the following to be a full, clear, and exact description of the invention, reference being had to the accompanying drawings, which form part of this specification, in which—

Figure 1 is a side elevation. Fig. 2 is another side elevation, opposite side. Fig. 3 is a plan and Fig. 4 a front elevation, all of said views showing the complete device. Fig. 5 is a vertical section of extinguisher, the levers being removed and dust-cap shown in dotted lines; and Fig. 6 is a plan of distributer-wheel.

My invention has relation to that class of automatic fire-extinguishers of which an illustration is found in Letters Patent of the United States dated October 10, 1882, No. 265,827, and in which are employed a valve-chest in a valve normally closed and a distributer which revolves when the valve is opened, the valve being held in its closed position by means of an arm or spring, one end of which is fastened by a fusible alloy or equivalent material.

My improvements consist in the peculiar construction and combinations of parts hereinafter fully specified.

Referring to the accompanying drawings, A indicates the valve-chest, which is preferably of elongated cylindrical form, having a vertical valve-seat, *a*, against which seats a laterally-moving valve, B, whose stem *b* projects through an opening in a screw-plug, C, in the side of the valve-chest.

D is a stationary vertical spindle, on which is loosely fitted a distributer-wheel, E, having vanes *e* or equivalent slotted openings, a head, *d*, on the lower end of the spindle preventing the distributer from leaving said spindle.

F is a cap or shell which fits over the distributer to protect the latter from dust.

G is an arm projecting laterally from the valve-chest, having two transverse projections, *g g*.

H is another arm projecting from the valve-chest, and having a downwardly-projecting pin or stud, *h*.

I is a third arm, projecting laterally from the valve-chest and standing at right angles to the arms G H, the latter being parallel and slightly out of alignment with each other.

K is a lever of peculiar form. Its upper end is bifurcated, forming forks *k k*, which straddle the arm G inside of the projections *g g*. From its forked head it descends straight for some distance, its inner side bearing against the outer end of valve-stem. Below the arm H it curves to one side, bringing its lower end below the cap F, for which it forms a support. At the junction of its straight and curved parts the lever K has a projection, K′, which affords a support for a curved lever, L. Said lever L has a hooked end, *l*, which engages with the pin *h* on arm H, and rests on the projection K′ of lever K. The other end of said lever extends around to the extremity of arm I, and is connected thereto by a fusible joint at *l′*.

When the temperature of the apartment or place in which the extinguisher is placed rises sufficiently to melt or loosen the joint *l′*, the levers K L and cap F drop by gravity, the valve opens, and water passes to the distributer, producing a revolution of the latter, the water-connection being made with a source of pressure-supply by means of a connection at *m*.

Owing to the described construction of the parts, a very powerful pressure in the form of compound leverage is brought to bear on the valve-stem, thereby holding the valve firmly to its seat. At the same time a comparatively slight pressure is imposed on the fusible joint, relieving the latter of severe strain. As soon as the joint loosens or opens under the influence of heat, the levers and cap drop away by gravity and the valve opens freely, allowing unimpeded action of the distributer. As the faces of the valve and valve-seat are vertical, there is little or no tendency for the accumulation of sediment to impede the flow of water or the ready opening of the valve.

Under some circumstances it may be desirable to use the extinguisher in an inverted po-

sition, and this may be done, in which case the dust-cap will be forced off by pressure of the water when the fusible joint melts, and the levers will drop away, as already stated.

The distributer-wheel is flat, as this form insures a better distribution than if it were concave or dish-shaped; and to obtain an instant and direct downward action of water the distributer-wheel is perforated, as shown at *e'*, the water passing downwardly through the perforations without interfering with the revolution of the wheel.

What I claim as my invention is as follows:

1. The combination, in an automatic fire-extinguisher, of a valve-chest, a laterally-opening valve having a vertical seat, a vertical spindle, a rotary distributer-wheel on said spindle, and two intersecting or crossing levers, one of which bears directly against the valve-stem, the other crossing it and having one of its ends held by a fusible joint, substantially as shown and described.

2. The combination, with valve-chest A, having arms G and H, said arms G having transverse projections *g g*, and the arm H, having stud *h*, of lever K, having forked end *k k* and projection K', lever L, having hook *l*, arm I, and valve B, having projecting stem *b*, substantially as shown and described.

3. The combination, with valve-chest A, having a laterally-opening valve, of lever K, which bears against the stem of said valve, and a dust-cap supported by the end of said lever, substantially as shown and described.

4. In an automatic fire-extinguisher, the combination, with a valve-chest, of a distributer consisting of a rotating wheel having vanes whereby it is revolved, and having small holes between the vanes for the passage of water through said wheel, substantially as shown and described.

In testimony that I claim the foregoing I have hereunto set my hand this 15th day of February, 1886.

JOHN KANE.

Witnesses:

M. D. CONNOLLY,

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