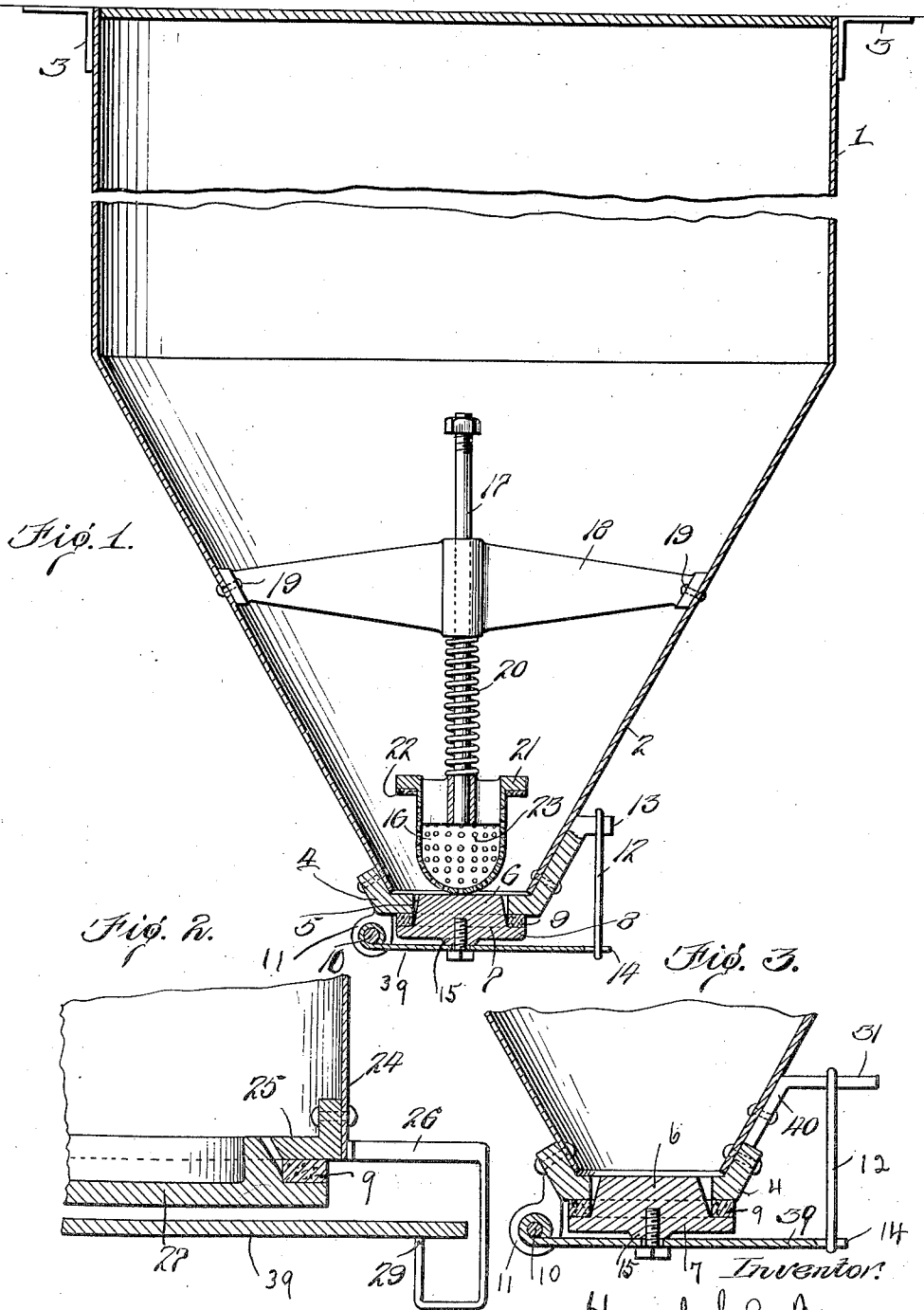


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FIRE EXTINGUISHER.
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HAROLD A. BRAMAN, OF PROVIDENCE, RHODE ISLAND.

FIRE-EXTINGUISHER.

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To all whom it may concern:

Be it known that HAROLD A. BRAMAN, citizen of the United States of America, residing at Providence, in the county of Providence and State of Rhode Island, has invented certain new and useful Improvements in Fire-Extinguishers, of which the following is a specification.

My invention relates to fire extinguishers and more particularly to a thermally controlled automatic extinguisher employing a highly volatile extinguishing fluid adapted to be ejected from the container by gravity.

An object of the invention is to make provision whereby fires in buildings may be readily extinguished without injury to the contents of the building from the action of the fire extinguishing medium. Another object is to make certain the constant readiness of the extinguishing means without deterioration. Another object is to insure proper automatic distribution of the extinguishing means when occasion arises. A still further object is to provide a simple, inexpensive automatic extinguisher which can be readily installed.

In the accompanying drawings wherein several embodiments of my invention are illustrated:

Figure 1 is a vertical sectional view of my invention;

Fig. 2 is a vertical sectional view of a modified form of my invention;

Fig. 3 is a fragmentary view partly in section illustrating a modified form of fusible link support.

Referring to the drawings and more particularly to Fig. 1, the numeral 1 designates a liquid tight and air tight metallic container of any suitable shape, preferably cylindrical and preferably formed with a conical shaped bottom 2. The container 1, which is adapted to hold a highly volatile fire extinguishing fluid is adapted to be detachably bolted to the ceiling of a building by means of brackets 3.

Bolted to the lower end of the container 1 is a cap plate 4 apertured as at 5, to receive the tapered or conical portion 6 of a valve or closure 7. The valve 7 is tapered as shown, to permit hinged movement into and out of the opening 5 and is provided with a shoulder or flange 8 adapted to seat a cork washer or other packing 9 the upper face of which bears against the cap plate

4 to insure a liquid and air tight joint between these parts. The valve 7 is normally held in closed position by means of a plate 39 hinged as at 10 to a lug 11 integrally formed on and depending from the cap plate 4. This plate 10 is normally held in the position illustrated in the drawings by means of a readily fusible link 12 looped at its upper and lower ends respectively over an extension 13 formed on the cap plate 4 and the free edge 14 of the hinged plate 39, the latter being thus held in tight engagement with the protuberance or fulcrum 15 formed on the valve 7.

A hollow perforated liquid distributor 16 is mounted within the container 1 by means of a stem 17, slidably guided in a spider 18 in turn bolted to the inner face of the container walls as at 19. The distributor is normally spring pressed against the inner face of valve 7 by a coil spring 20 engaging at opposite ends the spider 18 and distributor 16 as will be readily apparent from an inspection of Fig. 1.

In practice a highly volatile liquid which will not corrode metal or injure fabrics and the like and which is adapted to give off a heavier-than-air gas when exposed to air, is placed in the container 1, and the latter is then attached to the ceiling of a building. It will be understood that the number of containers to be employed will be regulated according to the number of cubic feet of space to be protected, the capacity of the container and the fire extinguishing qualities of the liquids employed.

When a fire occurs in proximity to one of the containers and the temperature rises sufficiently as a result thereof, the readily fusible link 12 will give way under the action of the heat and the pressure of the distributor 16, and the hinged plate 10 together with the valve 7 will be caused to swing to open position. Simultaneously with the opening of the valve 7 the distributor is forced outwardly through the opening 5 until this movement is arrested by the flange 21 coming in contact with the cap plate 4. Preferably a cork or other packing washer 22 effects a tight joint between said flange and cap plate. The liquid fire extinguishing medium within the container will now be forced under its own weight outwardly through the perforations 23 in a manner readily understood. The ejection

of the fire extinguishing liquid is also facilitated by virtue of the pressure generated within the container by the action of the heat from the conflagration and the liquid will as a result be sprayed over a considerable area. If deemed desirable the pressure in the container may be raised by the use of compressed air.

Any suitable means (not shown) may be provided for refilling the containers, but the latter will preferably be detached and shipped to the manufacturer for this purpose.

In Fig. 2, I have shown a slightly modified form of invention in which a cylindrical container 24, having an interiorly positioned cap plate 25 is employed. This modification also differs from the preferred form of my invention in that the valve 27 and the fusible link 26 are of slightly different construction. The fusible link 26 is connected to the container wall at one end and has its free end bent around the free edge of the hinged plate 39, for the purpose of supporting the latter upon its extremity 29.

The device of Fig. 3 is identical with the preferred form with the exception that the fusible link 12 is looped at one end over the arm 31 of a bracket 40 secured to the

container wall, and at the other end looped over the free edge 14 of the hinged plate 39.

Having thus described my invention what I claim is:

A fire extinguisher comprising a container adapted to contain a fire extinguishing fluid, said container having a conical shaped bottom formed with an opening at its apex, a cap plate secured to said bottom having an aperture registering with said opening, an upwardly and forwardly extending extension formed on one side of said cap plate and a downwardly extending lug on the other side thereof, a plate hinged at one edge to said lug, said plate having a valve secured to its upper face, adapted to normally close said aperture, and a fusible link looped over the free end of said plate and over said extension for the purpose of holding said valve in closed position, and means automatically operative for forcing said valve and plate to swing to open position when said fusible link becomes severed.

In testimony whereof I affix my signature in presence of two witnesses.

HAROLD A. BRAMAN.

Witnesses:

JOHN N. DALTON,
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