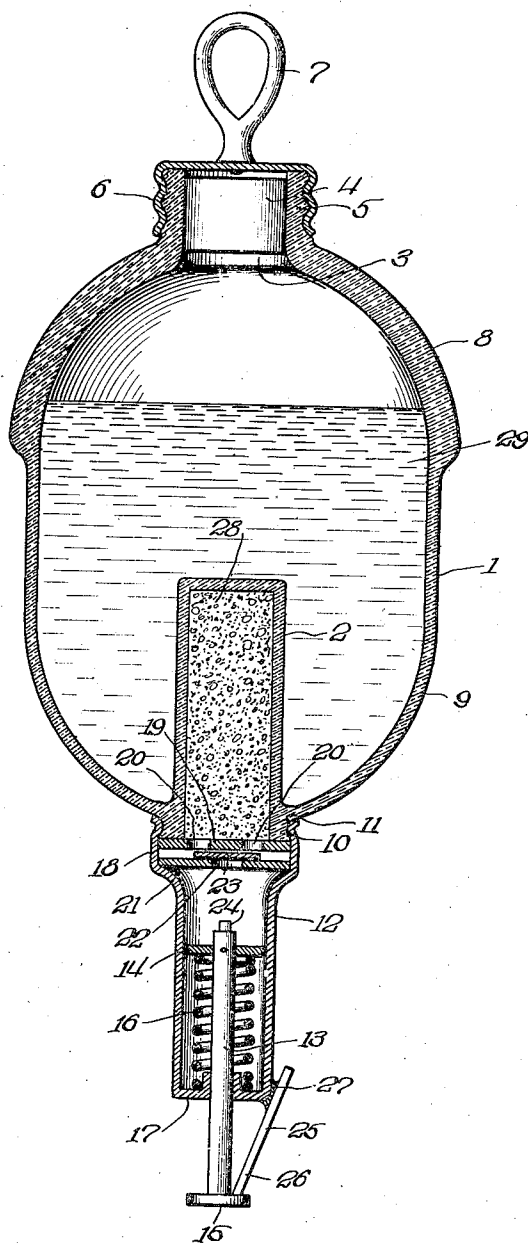


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H. E. DELBARE
MEANS FOR EXTINGUISHING FIRE

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UNITED STATES PATENT OFFICE.

HECTOR E. DELBARE, OF CHICAGO, ILLINOIS.

MEANS FOR EXTINGUISHING FIRE.

Application filed January 3, 1921. Serial No. 434,625.

To all whom it may concern:

Be it known that I, HECTOR E. DELBARE, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Means for Extinguishing Fire; of which the following is a specification.

The invention relates to a method of and means for extinguishing fire.

One of the objects of the invention is the provision of a new and improved method of extinguishing fire.

A more specific object is to provide a method of extinguishing fire which, broadly stated, automatically comminutes a relatively heavy, fire extinguishing agency, by discharge of an explosive in the midst thereof, thereby to convert it into a fog, highly atomized vapor or gaseous body that will settle down over the blaze or fire and smother it.

Another object of the invention is to provide an improved fire extinguishing means, automatically operable at a certain or predetermined rise of temperature to forcibly project and distribute a fire extinguishing agency over a relatively extensive area within which the fire may have originated.

Another object is the provision of a device of the character set forth above, in the body of which an explosive charge of suitable material is normally contained and which is detonated or ignited by impact of a striker released at a predetermined temperature by melting of a retaining fuse whereby to forcibly distribute the fire extinguishing agency over the affected area.

Other, further and more specific objects of the invention will become readily apparent, to persons skilled in the art, from a consideration of the following description when taken in conjunction with the drawings, wherein:—

1 indicates a casing, preferably made of glass or other refractory material, having, preferably, an inturned cylindrical portion 2 and, at its upper end an opening 3, closed by a stopper 4, or other suitable means. The outer surface of the neck or projection 5 is threaded to receive a threaded cap 6, to the upper part of which is secured a loop 7, by which the device may be suspended from any suitable support.

The upper portion of the casing 1, as at 8, is thicker than the body part 9, for a purpose

to be hereinafter more specifically disclosed.

At the lower end of the cylinder portion 2 is a neck or projection 10 having an annular groove 11 for supporting a metallic cylinder, or cap 12. Inside of the cap 12 is a reciprocating plunger or striker 13, carrying a transversely extending guide and abutment 14, on its inner end, and having a head 15 on its outer end. A coil compression spring 16 is located within the cap, or cylinder 12, and has one end contacting the abutment 14 and the other end contacting the head 17, of the cap. The open end of the cap 18 is somewhat larger than the body part and contains a disk 19, perforated as at 20 and another parallel disk 21, perforated as at 22. Between the disks is an explosive cap of fulminate of mercury or other similar suitable material 23, adapted to be exploded by impact due to contact with the reduced end 24 of the reciprocating plunger or rod 13. The spring 16 is held under tension and the striker 13 is held in the position shown in the drawing by means of a fuse member 25, one end 26 of which, is located under the head 15 of the striker and the other end is soldered to the outside end 17 of the cap 12, as at 27 by use of a solder that will melt at a predetermined temperature. The cylinder 2 is filled, preferably, with gun powder, or other similar explosive material, 28, such as slow burning dynamite, and the receptacle or casing 1 is filled with a fire extinguishing agency 29, as for example, carbon tetra-chloride.

When the device is properly prepared as described, it may be suspended near the ceiling of a room on a support, by means of the loop 7. When the temperature of the region approximating the device is raised to a dangerous degree, it usually is due to the presence of the fire that is located within the range of the device. Upon the occurrence of the fire, the solder 27 is melted or fused, whereupon the spring 16 will urge the striker 24 toward the detonating cap 23. The end 24 will enter the opening 22 in the disk 21 and by impact with the explosion cap 23 will discharge it. The effect of the discharge through the aperture 20 in the disk 19 will ignite the powder 28 in the cylinder 2, causing an intense abrupt explosion and thereby atomizing the liquid 29, within the container 1. The explosion will become so violent that the liquid will be pulverized

or atomized into a fog or vapor, and owing to the nature of the vapor being heavier than the atmosphere, it will settle down as a fog and envelop the fire, driving out the oxygen, which otherwise would support combustion, and smother the flames.

The upper wall 8 of the container 1 is made heavy so as to withstand, to some extent, the effect of the explosion and prevent radiation of the material in the vertical, or substantially vertical, direction, and cause most of it to be violently projected or radiated in a downward direction.

Tetra-chloride of carbon is a non-supporter of combustion; is capable of being converted into fog or vapor in the manner described, and will not injure the most delicate fabric with which it may come in contact. It is frequently used as a cleanser for removing grease and other stains or soil from delicate fabrics and, therefore, it is in no sense an agent that will destroy highly susceptible material with which it may be brought into contact.

The device may also be used as a grenade and may be thrown by hand upon a blaze, the result being to fracture the glass and spread the contents of the container. The explosive 28, that is located in the cylinder 2, may be of a character that will become explosive only when detonated, and which will burn slowly without danger of producing any abrupt disturbance. When the de-

vice is used as a grenade and thrown upon the fire, a shock of that character will not be sufficient to loosen the fuse link 25, but it will be sufficient to scatter the contents of the container, and the explosive 28 in that event will burn without harm, or it will become extinguished by contact with the fire subduing agency.

The interior of the device is substantially hermetically sealed and therefore atmospheric and other disturbances will not be harmful or interfere with its operation.

Having described my invention what I claim as new and desire to secure by Letters Patents, is:—

A fire extinguisher comprising a glass receptacle to contain extinguishing material having an integral cylinder to contain an explosive, open at its outer end and having a neck around the opening; a metal cylinder secured to the neck; a pair of disks having perforations out of register, adjacent the neck and within the metal cylinder; a percussion-cap within the metal cylinder and between the disks; a striker-pin in said metal cylinder arranged to pass thru one said disk; a spring to potentiate said pin and within the metal cylinder, and a low melting solder to hold the pin retracted.

In testimony whereof I hereunto subscribed my name.

HECTOR E. DELBARE.