FIRE EXTINGUISHER


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2 Claims. (Cl. 169—26)

My invention relates to new and useful fire extinguishers of the type comprising a frame supporting a fragile container for a fire extinguishing fluid and a spring actuated striker to be projected in a straight line to break the container and thereby release the contents which will be showered on any adjacent burning substance, the striker normally being held in a retracted position by a fusible link.

An object of the present invention is to produce a compact and relatively inexpensive apparatus to be automatically actuated due to excessive heat in the vicinity thereof.

Another object of this invention is to provide a frame carrying the striker and supporting a fragile container, such as a glass bottle of novel construction, that may be manually removed from the frame and thrown into a fire after the manner of a bomb or the nipple portion broken and said container utilized similar to a nozzle to sprinkle or spray the contents on a burning area.

Another object of the present invention is the provision of apparatus of the type mentioned which will be of strong, durable construction, except for the container, and composed of a minimum of parts functioning efficiently under all conditions so that the device is not likely to get out of order, consequently requiring little or no attention or expense from the standpoint of maintenance.

Another object of the invention is to produce an exceedingly simple and efficient frame comprised of an upright or back plate, a bottle supporting hook secured to the upper part of said plate, a guide fixed to the lower part of said plate and including a pair of parallel arms between which is mounted a post to support a spring and the striker.

A further object of the invention is to produce a striker to be projected forwardly in a straight line, which striker includes a pointed head to positively break the neck of the fragile container when impelled by the spring, said striker being held in a retracted position by a fusible link.

A still further object of the invention is to produce a novel fragile container of glass or equivalent material, often referred to as a bottle, and including a bulbous head, a neck and a nipple connected with the outer end of said neck through the medium of a contracted or restricted stem.

With the above and other objects in view this invention consists of the details of construction and combination of elements hereinafter set forth and then designated by the claims.

In order that those skilled in the art to which this invention appertains may understand how to make and use the same I will describe its construction in detail referring by numerals to the accompanying drawing forming a part hereof, in which:

Fig. 1 is a side elevation of a fire extinguisher constructed in accordance with my invention and showing the striker retracted and held by a fusible link.

Fig. 2 is a fragmentary similar view with one of the arms of the guide member broken away to show the striker in elevation.

Fig. 3 is a view similar to Fig. 2 showing the striker projected forwardly as it is released by melting of the fusible link.

Fig. 4 is a section of the frame on the line 4—4 of Fig. 1.

In carrying out my invention as herein embodied 10 represents the upright or back plate having one or more holes 11 for the reception of fastening devices 12, such as screws to secure the apparatus to a wall or other convenient support.

To the back plate 10, adjacent its upper end is secured a container or bottle supporting hoop 13 formed from a section of heavy wire or light rod having the ends flattened at 14 and secured together, as by welding, brazing or the like. Said flattened portions diverge from the point where they are fastened together to constitute legs 15 and the terminals are bent outwardly to form toes 16 which are fixed to the front face of the back plate, as by welding or brazing.

A guide member 17 is produced from flat strip material and fashioned to provide a loop 18, a pair of parallel arms 19 with turned toes 20, the inner ends of which meet and are secured to the front face of the back plate adjacent the lower end of the latter. A post 21 is carried by the portions of the guide member 17 and may be fastened thereto after said guide member has been assembled on the back plate although, by preference, said post is mounted on the guide member prior to the latter being fastened to the back plate. In other words, the guide member 17 and post 21 may be first assembled as a unit and subsequently mounted on the back plate and said post is within the space between the arms. When the parts thus far described are assembled they constitute the frame of the apparatus and the hoop and loop are homocentric with the hoop in a plane spaced above the loop.

About the post 21 is a coil spring 22, of appreciable strength, with its inner end engaging the toe portions 20 of the guide member 17. On the outer end of said spring 22 is mounted the
3 striker 23 which includes a body 24 having a bore 25 running from the rear end to a location short of the forward end and functioning as a socket for the outer end of the spring. The forward end of the striker is fashioned into a pointed or tapered head 26 and has a pin 27 projecting from the circumference thereof which pin is preferably on the lower part of the striker, considered with relation to the assembled position, and projects slightly forwardly to form a good bight.

A hook 28 or equivalent attaching means is carried by the back plate in line with the pin 27 and the sections 29, 30 of a fusible link 31 are engaged with said hook and pin when the striker is retracted to retain said striker in the retracted position and the spring 32 contracted under normal conditions.

The frangible container 32 or bottle generally is of glass and includes a bulbous head 33, a depending neck 34, a restricted stem 35 and a generally inverted cone shaped nipple 36. This container is loosely seated in the container supporting hoop with the neck projecting through the loop of the guide member so that a portion of said neck will be in the path of travel of the striker.

In practice, the striker is retracted against the tension of the spring and fastened in such position by engagement of opposite ends of the fusible link with the hook 28 and pin 27. The container with a fire extinguishing fluid is then mounted in the frame as above set forth. The striker will remain in the retracted position until such time as the fusible link is melted by excessive heat, usually due to a nearby fire. Upon melting of the fusible link, the striker will be released and propelled forwardly with sufficient force, supplied by the spring, to cause said striker to break the neck of the frangible container in a manner somewhat like that illustrated in Fig. 3 wherein the sections of the fusible link are shown pulled apart and one section depicted as falling, along with a fragment 34a of the container neck.

From the foregoing it will be apparent that I have produced an exceedingly efficient apparatus will perform a straight direct blow for insuring a sufficiently large opening in the container to accomplish the desired results and this is made more positive by the pointed head on the striker. Should it become necessary to use the extinguisher manually, the container can be lifted from the frame and thrown into a fire or the nipple struck upon some hard object to break it off leaving a relatively small opening in the restricted stem so that the contents may be directed onto a fire after the manner of a nozzle.

Of course I do not wish to be limited to the exact details of construction herein shown and described as these may be varied within the scope of the appended claims without departing from the spirit of my invention.

Having described my invention what I claim as new and useful is:

1. In a fire extinguisher, a back plate to be suspended from a suitable surface, a guide member comprising a loop and a pair of spaced parallel arms terminating in inturnd toes secured to the back plate adjacent the lower end thereof, a post secured to the toe portions of the guide member and projecting forwardly towards the loop between the arms, a striker comprised of a socketed body and a pointed head, a coil spring having the forward end in the striker socket and surrounding the post with the rear end in engagement with the toe portions of the guide member, means including a fusible link to normally maintain the striker in a retracted position and the spring under compression, and a loop secured to the back plate adjacent the upper end thereof and adapted to support a frangible container having a portion extending into the loop of the guide member to be in the path of forward projection of the striker upon release of the latter.

2. A fire extinguisher comprising a back plate to be suspended in a vertical position, a horizontal post projecting from said back plate at right angles thereto, a striker including a socketed body and a solid head, the socketed body of said striker telescoped over the post, a coil spring mounted in the socketed body and surrounding said post between the back plate and striker head to urge the striker forwardly away from said back plate, a fusible link subject to the action of heat attached to hooks on the back plate and striker to normally maintain the latter in a retracted position, a guide member secured to the back plate and comprising a pair of arms partially housing the striker and a loop beyond the forward end of said striker while the latter is retracted, and a container supporting hoop secured to said back plate adjacent the upper end thereof and adapted to support a bulbous frangible container having a reduced neck projecting into the guide loop to be struck on the side by the striker when the latter is released.

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