H. L. CARPENTER.

FIRE EXTINGUISHER.

APPLICATION FILED JUNE 25, 1906.

899,952. Patented Sept. 29, 1908.

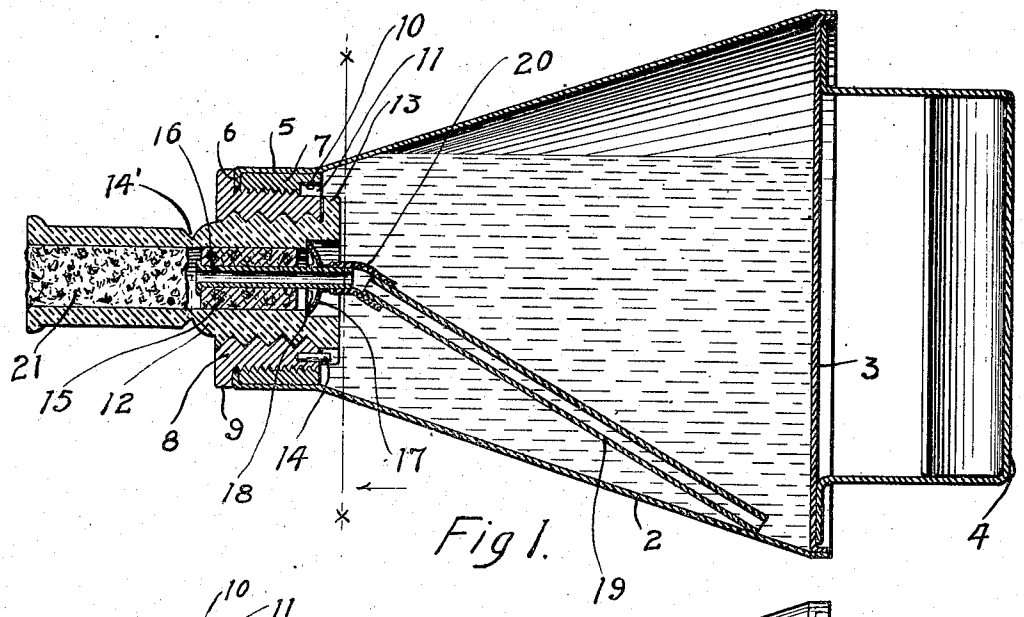


Fig 1.

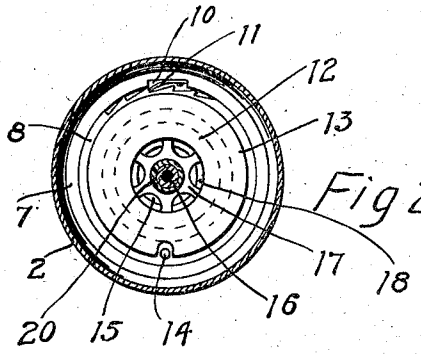


Fig 2.

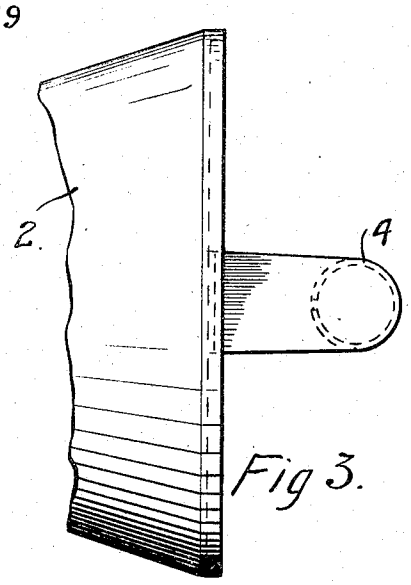


Fig 3.

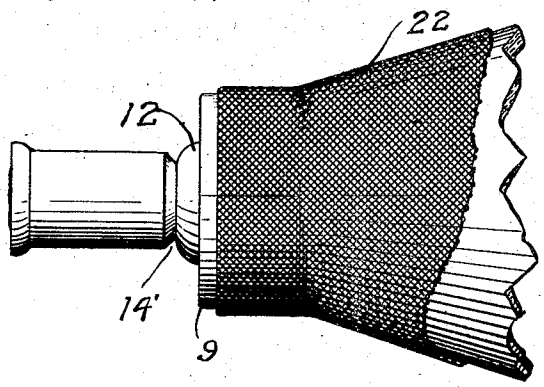


Fig 4.

WITNESSES

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FIRE-EXTINGUISHER.

No. 899,952. Specification of Letters Patent. Patented Sept. 29, 1908.

Application filed June 25, 1906. Serial No. 323,282.

To all whom it may concern:

Be it known that I, HENRY L. CARPENTER, of Minneapolis, county of Hennepin, State of Minnesota, have invented certain new and useful Improvements in Fire-Extinguishers, of which the following is a specification.

My invention relates to fire extinguishers of the portable type and the object of the invention is to improve the devices illustrated and described in Letters Patent of the United States, issued to William W. Sykes on the 4th day of April, 1905, No. 786,779, and to me on the 29th day of August, 1905, No. 798,565.

A further object is to provide a fire extinguisher which will be more simple and practicable to manufacture and more certain of successful operation when used.

A further object is to provide a means for closing the mouth of a fire extinguishing device which can also be applied to a non-refillable bottle.

Other objects of the invention will appear from the following detailed description.

The invention consists generally in the various constructions and combinations all as hereinafter described and particularly pointed out in the claims.

In the accompanying drawings, forming part of this specification; Figure 1 is a longitudinal sectional view of a fire extinguisher embodying my invention. Fig. 2 is a sectional view on the line *x*—*x* of Fig. 1. Fig. 3 is a detail view illustrating the base or lower portion and the handle of the receptacle. Fig. 4 is a detail view of the upper portion of the receptacle showing a slightly modified construction.

In the drawing, 2 represents a receptacle preferably conical in form, made of metal, having a bottom 3 and a handle 4 for convenience in lifting the extinguisher and holding it at arms length. The receptacle is preferably made of metal to avoid breakage so far as possible and also for convenience of manufacture and the conical body portion terminates in a cylindrical neck 5 having an inwardly turned flange 6 at its upper edge. A metallic ring or bushing 7 fits snugly within this neck and is interiorly threaded to receive an exteriorly threaded plug 8 having a flange 9 which engages the top of the receptacle and limits inward movement of the plug. The inner edge of the bushing 7 has a recess 10 wherein a ratchet spring 11 is fixed and the inner end of the plug 8 has a series of ratchet teeth thereon which are engaged by the said spring. The ratchet teeth slip past the spring when the plug is screwed into the bushing and prevent the plug from being unscrewed or removed from the neck when it is once in place therein.

The neck 12, preferably of glass has a threaded inner end to fit the threads of the plug 8 and a flange 13 to bear on the inner end of the plug when the parts are assembled. A pin 14 is inserted into a socket in the inner end of the plug 8 and this projects into a recess 13′ in the flange 13, thereby preventing the neck from being rotated independently of the plug. In assembling the parts the glass neck will be first inserted through the plug 8 and the latter secured into the bushing and when it is seated therein will be prevented from turning by the ratchet device heretofore described.

The neck 12 is provided with a weakened area formed by an annular groove 14′ provided in the outer surface of the neck near the point where it enters the plug 8. A stopper 15 is fitted within the inner end of the neck 12 and is provided with a tube 16 extending therethrough and forming a communicating passage leading through the cork. The tube 16 has a flanged outer end as shown and at its inner end is provided with a spring metal spider device 17, the edges of which fit within an annular recess 18 in the inner end of the neck, thereby effectually locking the stopper in place and preventing the pressure of the contents of the receptacle from blowing the stopper out of the neck. A tube 19 is provided within the receptacle and joined to the inner end of the tube 16 by a flexible connection 20 which allows the tube 19 to drop down and rest upon the wall of the receptacle so that its receiving end will always be submerged in the liquid. The tube 19 may be of glass or metal as preferred, the flexible joint being of some suitable material which will not be affected by the fire extinguishing liquid. The outer end of the tube 16 terminates at a point opposite the groove 14′ and the neck beyond the tube 16 is filled with a suitable plastic material such as clay or concrete 21 which will positively prevent the escape of pressure from the receptacle and can be easily filled in to the neck when the extinguisher is being charged. In place of the concrete or other plastic material the outer end of the neck may be closed by a suitable cork and sealed in the ordinary way.

From the foregoing description it is evident that as soon as the neck is broken off along the line of the groove 14', and this being the weakest part will be the point of breakage when the neck is struck against a sharp corner or other object, the pressure in the receptacle being immediately released, will force the fire extinguishing liquid out through the tube and by holding the device and pointing the neck toward the fire a stream of the liquid can be directed thereon from a considerable distance, depending of course, upon the pressure in the receptacle.

In some instances it may be desirable to provide a glass instead of a metal receptacle and in that case I prefer to provide a wire shield or covering 22 inclosing the bottle and protecting it from accidental breakage and also preventing the flying glass from injuring the person using the extinguisher in case the bottle should be too heavily charged.

The size and shape of the receptacle may of course, be varied and I do not wish to be confined to the particular form illustrated herein.

This invention may be utilized in a non-refillable bottle, the outer end of the neck being closed by any suitable means as a plastic material which will harden when dry, or by glass or any substance which will positively close the neck and prevent access to the inner stopper. The space between the closing means and the inner stopper will be provided but the annular groove forming the weakened area may be omitted, and when it is desired to open a bottle the neck will be cut with a glass cutter around the space between the inner and outer stoppers and the glass weakened sufficiently to permit the neck to be broken off, then the inner stopper will be removed and access to the contents of the bottle obtained.

When used in a non-refillable bottle the tube extending through the inner stopper will, of course, be omitted and the locking device will be unnecessary, except perhaps where the bottle is filled with an effervescent liquid.

The outer end of the neck will be closed by a substance which will harden or set when dry or cold, such as cement or glass, suitable means being provided between the interior of the bottle and the closing means to prevent the means while in a molten or plastic state from flowing down the neck into the receptacle. This closing means cannot be dug out, and to obtain access to the receptacle it will be necessary to weaken the neck by a glass cutter or other tool so that a clean break can be made and the liquid poured out.

I claim as my invention:

1. As a new article of manufacture, a receptacle having a neck provided with a weakened area, means closing said neck above and below said area, a tube extending through said inner closing means, a second tube within said receptacle and a flexible joint connecting said tubes and permitting said last named tube to lie upon the wall of said receptacle with its upper open end submerged in the contents thereof and means at the inner end of said first named tube for locking it and said inner closing means in said neck, substantially as described.

2. As a new article of manufacture, a receptacle having a neck provided with a weakened area, a stopper closing the inner end of said neck below said area and a spider device provided at the inner end of said stopper for locking it in said neck, and means for closing said neck between its outer end and said area, substantially as described.

3. As a new article of manufacture a bottle having a glass neck adapted to be broken off between the end of the neck and shoulder of the bottle, means such as molten glass adapted to be filled into the outer end of the neck to close the same, and a stopper device arranged within said neck between the said plastic material and the interior of the bottle and adapted to prevent said molten glass from flowing into the bottle or bits of glass from entering therein when the neck is broken off, substantially as described.

4. As a new article of manufacture, a vessel adapted to contain liquid under pressure and having an open upper end, a bushing fitting within said open end, a plug fitting within said bushing and interiorly threaded, a glass neck fitting within said plug and having a flanged inner end to bear upon the corresponding end of said plug, said neck having a weakened area intermediate to its ends, a stopper closing the inner end of said neck, means for locking said stopper in said neck, a plastic material filling the outer end of said neck between it and said weakened area, and a tube projecting into said receptacle and communicating through said stopper with the space between it and said plastic material, substantially as described.

5. As a new article of manufacture, a vessel adapted to contain liquid under pressure and having a neck provided with a weakened area intermediate to its ends, and an annular recess near its inner end, a stopper fitting within the inner end of said neck, a tube extending through said stopper and having a flanged outer end, means mounted on the inner end of said tube and projecting into said recess to lock said stopper and tube against accidental discharge, a second tube having a flexible connection with the inner end of said first named tube, and a plastic material arranged to fill said neck between said weakened area and its outer end and to harden or set and prevent access to said stopper, substantially as described.

6. As a new article of manufacture, a receptacle having a glass neck, means adapted

to be filled into the other end of the neck in a plastic or molten form to close and seal the same and means within the neck to prevent such closing means from flowing into the receptacle while in a molten or plastic form and means at the inner end of said preventing means for locking it in said neck, substantially as described.

7. A fire extinguishing device comprising a vessel substantially conical in form, provided with a handle, and a plug fitting within its open upper end, a glass neck fitting within said plug and provided with a weakened area, means closing said neck upon each side of said area, said inner closing means being provided with a discharge passage leading therethrough and a tube fitting within said passage and means at the inner end of said tube for locking it and said inner closing means.

In witness whereof, I have hereunto set my hand this 16th day of June 1906.

HENRY L. CARPENTER.

Witnesses:

RICHARD PAUL,

J. H. BALDWIN.