

Jan. 8, 1924.

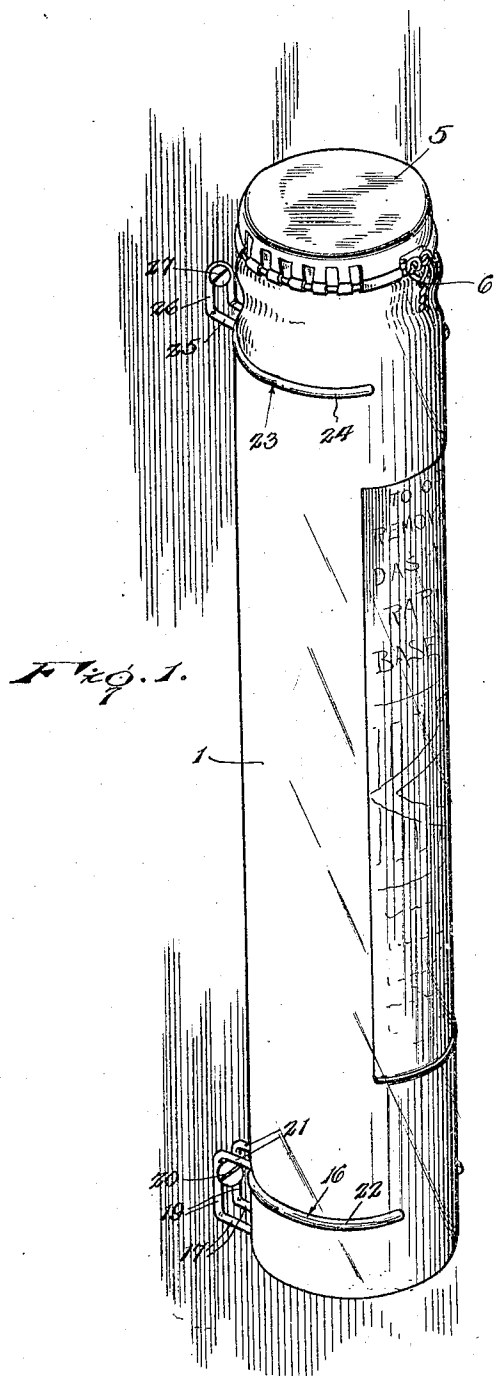
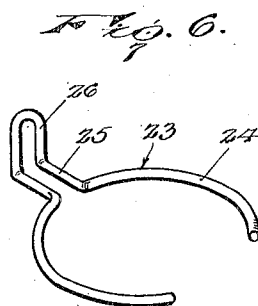
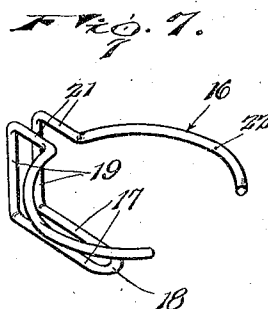
1,480,085

H. W. LINARD

FIRE EXTINGUISHER

Filed May 18, 1921

2 Sheets-Sheet 1



Inventor

H. W. Linard.

By

Law & Lacey, Attorneys

Jan. 8, 1924.

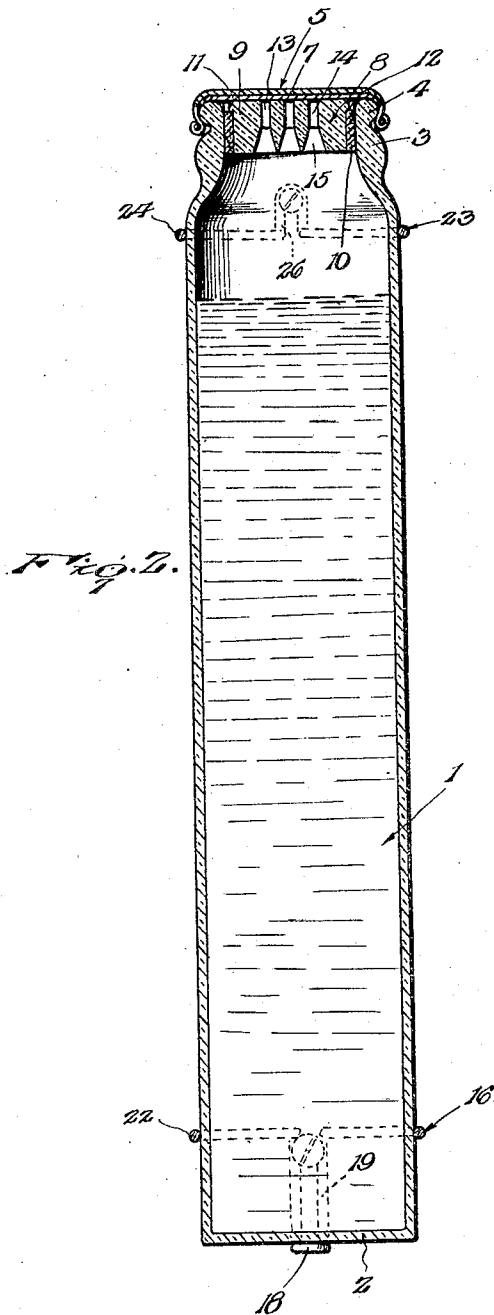
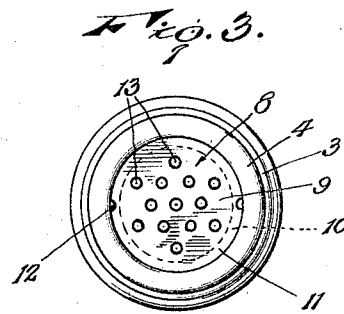
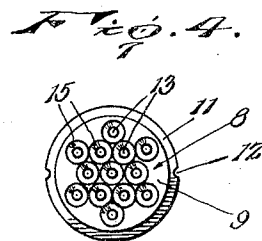
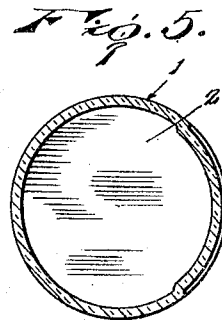
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H. W. LINARD

FIRE EXTINGUISHER

Filed May 18, 1921

2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE.

HOWARD W. LINARD, OF DAYTON, OHIO, ASSIGNOR TO THE KANARD COMPANY, OF DAYTON, OHIO, A CORPORATION OF OHIO.

FIRE EXTINGUISHER.

Application filed May 18, 1921. Serial No. 470,514.

To all whom it may concern:

Be it known that I, HOWARD W. LINARD, a citizen of the United States, residing at Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Fire Extinguishers, of which the following is a specification.

This invention relates to hand fire extinguishers and more particularly to that type comprising a container from which a contained liquid is to be discharged through a sprinkler top. The successful use of an extinguisher of this type is dependent upon the delivery of the contained fluid from the container in a plurality of far-reaching streams or jets so that the flames may be blanketed by the gases or vapors from the extinguishing fluid and the fluid thus employed in the most effective manner and without waste. However extinguishers of this type, as ordinarily constructed, are provided in their tops with perforations of uniform diameter throughout through which the extinguishing liquid is to be discharged, but it has been found that in the use of an extinguisher so constructed, the liquid cannot be discharged in jets or streams to any great distance, and much of the liquid is wasted or spilled without reaching the zone where it would be effective. Therefore it is one of the primary objects of the present invention to provide a novel form of sprinkler top for an extinguisher of the type mentioned, the discharge orifices of the top being so formed as to result in the discharge of the liquid therethrough with an increased velocity so that the streams will be far-reaching and may be effectively directed onto the flames.

Another object of the invention is to provide an extinguisher of the type referred to which may be instantly brought into use without the employment of tools or keys or the manipulation of valves or similar parts and in which provision is made against evaporation of the extinguishing liquid.

Another object of the invention is to provide an extinguisher of the type mentioned which will be highly efficient in use and which may be replenished after a period of use.

In the accompanying drawings:

Figure 1 is a perspective view of the extinguisher embodying the invention, the view illustrating also a set of brackets by which the extinguisher is designed to be supported upon a wall or similar surface;

Figure 2 is a vertical diametric sectional view through the extinguisher;

Figure 3 is a top plan view of the extinguisher, the closure cap therefore being removed;

Figure 4 is a bottom plan view of the sprinkler head of the extinguisher removed from the container.

Figure 5 is a horizontal sectional view through the container;

Figure 6 is a perspective view of the upper bracket for supporting the container;

Figure 7 is a similar view of the lower bracket.

The extinguisher embodying the invention comprises a container which is indicated in general by the numeral 1 and which may be formed of glass, non-corrosive metal, or in fact any material found suitable for the purpose and which will not be corroded or subject to deterioration through contact with the extinguishing liquid which is to be stored within the container. The container is preferably of the hollow elongated cylindrical form shown in the drawings and is provided with a closed bottom 2 and an open mouth surrounded by a neck 3 having a peripheral bead 4 at its upper edge thus adapting it for the removable application thereto of a closure cap 5 of a well-known type and which by the manipulation of a finger lever 6 constituting a component part thereof, may be clamped to the neck of the container or unclamped and released therefrom. This cap closure 5 is provided with the usual packing or lining 7 to afford a liquid-tight fit and the same may be of any material which will not be subject to deterioration in the presence of the extinguishing liquid.

The mouth of the container is fitted with a sprinkler top which is indicated in general by the numeral 8 and this top may be of glass, porcelain, or any other material found suitable for the purpose and comprises a cylindrical body 9 of a diameter somewhat

less than the diameter of the mouth of the container and having fitted thereto a surrounding gasket 10 of any material adapted to provide for the top being frictionally fitted into the mouth of the container and which will not be subject to deterioration in the presence of the extinguishing liquid stored in the container. The body 9 is preferably provided at its top with a circumscribing shoulder 11 against which the upper edge of the gasket 10 is designed to seat in the manner shown in Figure 2 of the drawings, and this shoulder may be provided for example at diametrically opposite points with notches 12 adapting it for the application of any tool similar to a spanner wrench for working the top loose from the mouth of the container when it is desired to replenish the same. The body 9 is formed with any desired number of discharge orifices indicated by the numeral 13 which are arranged in any desired manner, and inasmuch as the body 9 is of considerable thickness, these orifices are relatively long as compared with their diameter. Each orifice 13 throughout substantially the upper half of its length is of uniform diameter, as indicated by the numeral 14, but throughout the lower half of its length is flared or gradually increased in diameter as indicated by the numeral 15.

When the sprinkler top 8 is properly fitted into the mouth of the container, 1, the upper face of the body 9 thereof will be substantially flush with the upper side of the bead 4 which surrounds the mouth of the container, and therefore when the closure cap 5 is applied to the mouth of the container, the packing lining 7 thereof will not only tightly seat against the edges of the bead 4 but will also cover and close the discharge ends of the orifices 13, and thus evaporation of the contents of the container will be prevented. When it is desired to use the extinguisher, the cap 5 may be instantly removed by manipulation of the finger lever 6 and the container may then be shaken with a quick motion so as to eject the extinguishing liquid through the said orifices and onto the flames. Due to the flared intake ends of the orifices 13, the velocity of the liquid passing through the orifices will be increased in entering the portions 14 thereof and the liquid will therefore be discharged in well-defined far-reaching streams or jets which may be directed with more or less accuracy onto the burning objects. Therefore because of the peculiar form given the discharge orifices 13, the extinguisher is adapted to deliver streams of the extinguishing liquid which may be projected for a considerable distance owing to the high velocity at which they leave the more or less restricted outer ends of the orifices.

Any convenient means may be employed for supporting the container in a normally upright position but I prefer to make use of a set of brackets such as are best illustrated in Figures 1, 6 and 7 of the drawings. The lower one of these brackets is indicated by the numeral 16 and the same may be formed from a single length of wire bent upon itself between its ends to provide parallel portions 17 affording a supporting arm upon which the lower end or bottom of the container 1 may rest, the portions 17 being thence bent to provide other spaced portions 19 projecting upwardly at right angles therefrom and adapted to be secured by the head of a screw or like fastening element 20 having its shank inserted between the said portions 19 and driven into the wall or other supporting surface beside which the extinguisher is to be mounted. From the upper ends of the portions 19, the wire is bent to form forwardly extending portions 21 and laterally curved arms 22 designed to embrace the opposite sides of the lower portion of the container, these arms occupying a horizontal plane above the supporting arm 18 and being preferably resilient.

The other bracket of the set which is to hold the upper portion of the extinguisher is clearly shown in Figure 6 and is indicated in general by the numeral 23 and the same comprises laterally curved gripping arms 24 corresponding to the arms 22 and having shank portions 25 which are connected with an integral upstanding inverted U-shaped attaching portion 26 formed by bending upon itself the intermediate portion of the strand of wire from which the bracket is formed, a screw or other similar fastening element 27 being fitted through this attaching portion and driven into the wall or other support. The arms 24 are designed to partly surround and grip the upper end portion of the container in the same manner that the arms 22 engage the lower portion of the container, and the bottom of the container rests, as stated, upon the supporting arm 18, the container being in this manner securely supported in place and yet being adapted to be instantly taken down for use. Having thus described the invention, what is claimed as new is:

In a fire extinguisher of the class described, a container having a mouth and a surrounding exterior bead, a sprinkling closure for the said mouth comprising a body of substantially circular form provided at its upper side with a circumscribing out-standing shoulder, a packing ring fitted about the body and engaged at its upper edge by the shoulder, the said body and its ring being fitted into the mouth of the container with the surface of the ring contacting the wall to provide a fluid-tight connection.

tion between the parts, the body being provided with a plurality of discharge orifices opening through its upper and lower faces and through which the fluid contained within the container is to be discharged, and a closure for the container comprising a cap removably fitted on to the mouth thereof and retained by said bead and contacting at its inner side with the upper side of the closure body whereby to normally seal the discharge ends of the said orifices. 10

In testimony whereof I affix my signature.

HOWARD W. LINARD. [L. S.]