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HAND OPERATED FIRE EXTINGUISHING DEVICE

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Fig. 1.

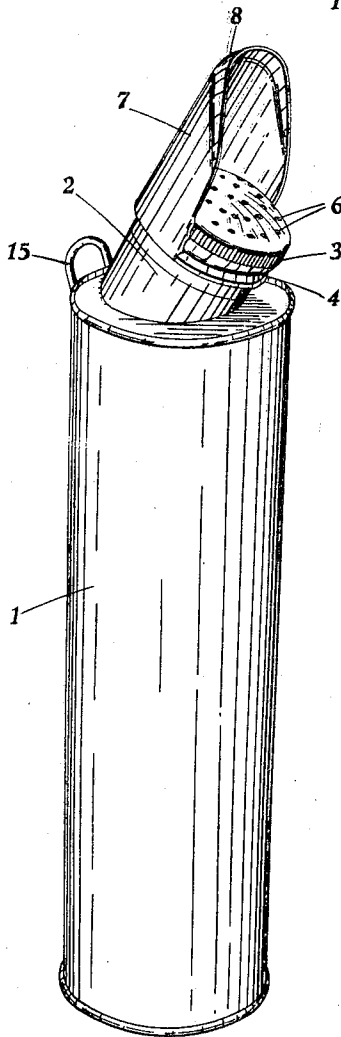


Fig. 2.

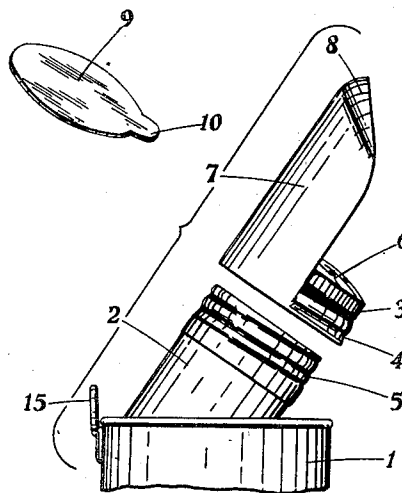
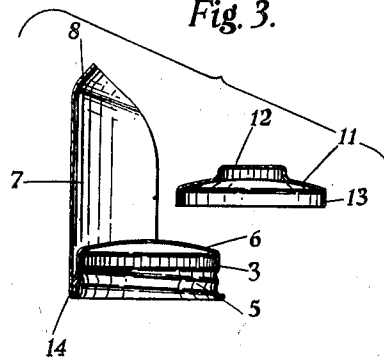


Fig. 3.



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HAND OPERATED FIRE EXTINGUISHING
DEVICELlewellyn Oliver Evans, Southgate, London,
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4 Claims. (Cl. 299—103)

This invention relates especially to hand operated fire extinguishing devices of the type comprising a container for fire extinguishing liquid or powder and a delivery tube or nozzle at one end through which the contents can be ejected. The device is, however, also useful for spraying liquids or powders for other purposes, such as disinfecting or insect destroying, provided it be filled with an appropriate preparation for the purpose contemplated.

An important object of the invention is to provide a simple and effective device of the type comprising a container and a delivery tube or nozzle at one end, by which the contents can be projected with reasonable accuracy, and without relying upon the actuation of mechanical moving parts such as pump plungers. Thus the costs of production can be kept low and reliability in operation secured.

A further object is to prevent the contents, usually embodying chemicals dissolved in water, from being projected onto the operator when using the device, thus protecting the person and/or garments from possibly harmful effects.

Another object is to secure efficient results by ensuring that the contents is adequately divided, atomised or sprayed when projected, whereby it has been found that relatively small quantities may suffice for the purpose contemplated. Efficient results also depend upon the projected contents being adequately directed as it issues from the device, and the invention aims to secure this result without mechanically moving parts.

Accordingly in an embodiment of the invention the delivery tube is adapted to deliver its contents in the form of spray through a number of small perforations, that may be formed in a cap fitting on or in its outer end, and is furnished with a hood or screen projecting generally in line with said tube beyond its outer end, adapted to assist in directing the projected contents in the desired direction and substantially to prevent said contents being projected onto the operator.

The container may conveniently consist of a cylinder closed at one end, and furnished with a delivery tube at the other end preferably extending at an angle to the longitudinal axis of the cylinder.

In order that the invention may be fully understood and readily carried into effect, the same will now be described more particularly with reference to the accompanying drawing, which illustrates it by way of example.

In the accompanying drawing—

Fig. 1 is a perspective view of the device show-

ing also means for sealing the perforations to prevent undesired spilling or evaporation of the contents.

Fig. 2 is a side elevation of Fig. 1 showing a perforated cap for the delivery tube detached, and having affixed thereto the hood or screen.

Fig. 3 is a detail sectional view of one form the cap and hood shown in Fig. 1 may assume, together with alternative means in the form of a second cap for sealing the perforations.

Referring now more particularly to the drawing, in which similar references indicate similar parts, 1 is the container, conveniently of cylindrical form, 2 is the delivery tube, 3 is a cap fitting on the outer end of the delivery tube 2 both parts preferably being screw threaded as shewn at 4 and 5, and perforations 6, through which the contents can be projected from the container via the delivery tube, are shewn formed in the cap 3.

The hood or screen 7 projecting generally in line with the delivery tube 2 is shewn attached to the cap 3, and this facilitates detachment of the cap, but it could be affixed to the delivery tube 2. Moreover the end of the delivery tube 2 could be perforated and removable closure means provided for the container 1 at its other end. The hood 7 as may be seen preferably extends about half round the delivery tube 2 when in operative position, and preferably tapers away towards its upper end and preferably is there furnished with an intumed lip 8 making an angle of about 45° with the body of the hood 7 at its tip. This form of hood 7 has been found to be adapted to assist in directing the projected contents of the device in the desired direction and substantially to prevent said contents being projected onto the operator.

9 in Fig. 1 indicates readily removable means for sealing the perforations 6, in the form of a cap or disc adapted to adhere to the cap 3 by means of adhesive and to be detached by means of a tab 10.

Fig. 3 shows alternative sealing means for the perforations 6 in the form of a second cap 11 furnished with a handle or grip 12, and adapted to fit on the cap 3 in which the perforations are formed. In this case space should be left between the hood 7 and the outer end of cap 3 to permit the flange or lip 13 of the cap 11 to be placed in position. If the hood 7 be attached to the cap 3 by solder 14 the latter should consequently be sufficient in thickness to provide the necessary space, and should not extend high enough to prevent the cap 11 fitting properly on the cap 3.

15 in Figs. 1 and 2 indicates means, in the form of a wire ring attached to the container 1, whereby the device can be hung on a hook or nail and thereby suspended in a convenient position.

5 The device may be made of metal e. g. in any ordinary manner used for making so-called tins, and chromium plated or tinned internally or otherwise treated, if desired, with a view to avoiding corrosion, and be finished externally in any
10 appropriate way e. g. with paint, enamel or chromium plate. It could also be made of other appropriate material such as synthetic resin.

Assuming the device is to be used for fire extinguishing, it may be filled with any appropriate
15 fire extinguishing medium, preferably a chemical fire extinguishing and fire proofing or resisting composition such as ammonium chloride and ammonium phosphate, with or without alum, and an appropriate quantity of a solvent such as
20 water, by removing the removable closure, such as cap 3. 2 lbs. of ammonium chloride, 1 lb. of ammonium phosphate and 3 gallons of water make an appropriate composition, whilst if alum be used 1 lb. thereof may be added to the above. It
25 is intended that suitable packets of chemicals should be available to the public to serve as refills for the containers, and it should then only be necessary to insert the contents of the packets and fill the containers up with water, preferably
30 hot or warm to aid complete solution.

To use the device, it is only necessary to remove the means (if any) sealing the perforations, and to swing the container backward gently, say over
35 one shoulder, and then to swing it forwards smartly in the direction it is desired to project the contents. The hood 7 with inturned lip 8 serves substantially to prevent the contents being flung back over the operator on the back swing,
40 and enables the projected spray to be directed with sufficient accuracy for practical purposes on the forward swing. Preferably the operator when using the device grasps the container 1 near its bottom end.

45 It will be obvious to those versed in the art that the invention is susceptible of various changes or modifications in the shape and construction of its various elements without departing from the invention, the scope of which is
50 defined in the appended claims.

I claim:

1. A hand-operating distributing device for spraying finely divisible substances by a swinging or throwing movement comprising an elongated
5 container, a delivery tube affixed to the end of said container and extending therefrom at an angle to the major axis of the container, a closure for the end of the delivery tube provided with
10 spray-producing perforations, and a hood extending from the end of the delivery tube and situated on the side thereof that makes an obtuse angle with the container end whereby when the
15 container is manually swung to deliver the contents of the container through said perforations, said hood will serve to direct the projected contents of the container during the forward swing
and will prevent said contents from being projected onto the operator during the backward swing.

2. A hand-operated distributing device for
20 spraying finely divisible substances by a swinging or throwing movement as described in claim 1, in which the closure for the end of the delivery tube is in the form of a removable cap and the hood is secured to and removable with said cap.
25

3. A hand-operated distributing device for
25 spraying finely divisible substances comprising an elongated container, a delivery tube affixed to one end of said container and inclined relative to the axis thereof, a closure for the end of the
30 delivery tube provided with spray-producing perforations, and a hood semi-circular in cross section extending from the end of the delivery tube and situated on that side thereof which makes
35 an obtuse angle with the container end, the outer end of the hood terminating in an inturned lip, whereby when the operator gives the device a forward swinging movement to project the contents thereof through said perforations, the hood
40 serves to direct the projected contents, while on the backward swing said hood prevents the contents from being sprayed onto the operator.

4. For use in a hand-operated fire extinguishing device and as an article of manufacture, a
45 screw-threaded perforated rose in combination with a hood fixedly secured thereto and extending at its base substantially half way around said rose, said hood tapering towards its tip and being
50 provided at its tip with an inturned lip.

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