

J. R. GAMMETER.
FIRE EXTINGUISHER.
APPLICATION FILED MAR. 23, 1912.

1,057,538.

Patented Apr. 1, 1913.

FIG. 1.

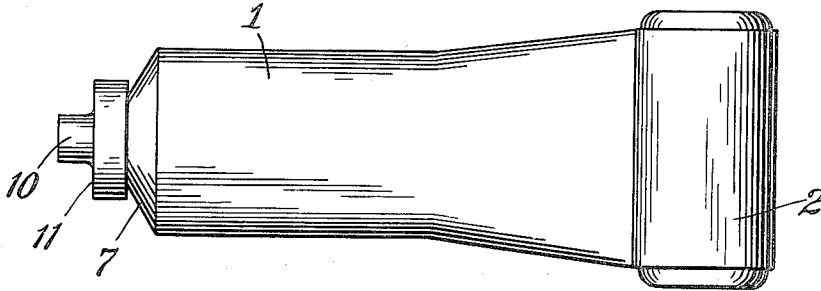


FIG. 2.

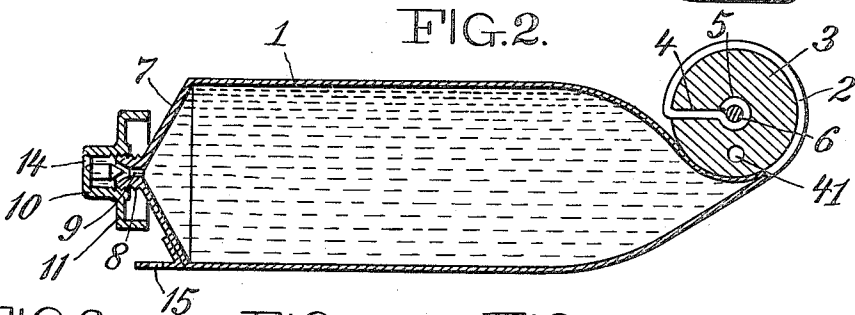


FIG. 3.

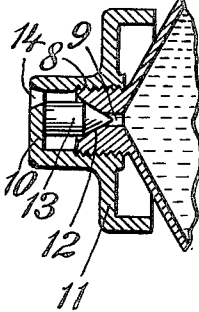


FIG. 4.

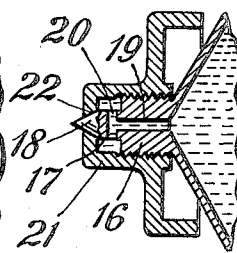


FIG. 5.

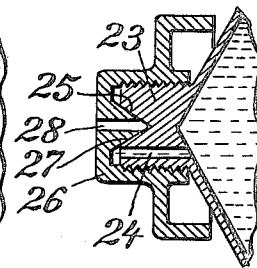
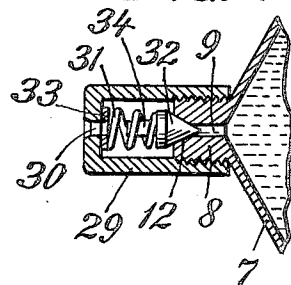


FIG. 6.



Witnesses:
Edmund Quincy Moore
Herold E. Terwilliger

John R. Gammeter Inventor
By *his Attorney* *Seward Davis*

UNITED STATES PATENT OFFICE.

JOHN R. GAMMETER, OF AKRON, OHIO.

FIRE-EXTINGUISHER.

1,057,538.

Specification of Letters Patent.

Patented Apr. 1, 1913.

Application filed March 23, 1912. Serial No. 685,656.

To all whom it may concern:

Be it known that I, JOHN R. GAMMETER, a citizen of the United States, and a resident of the city of Akron, county of Summit, 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 portable or hand fire extinguishers and is designed to provide a fire extinguisher or fire extinguisher package which is very efficient, but in which the container for the fire extinguishing substance is of only nominal cost and can be thrown away when emptied.

My invention consists in a collapsible metal tube filled with a fire extinguishing substance adapted to be squirted from an orifice in the tube by the collapsing thereof. The tube may be made of any suitable material, preferably a soft metal such as seamless drawn lead, or lead and tin. One end of the tube is provided with a suitable nozzle through which the contents of the tube may be squirted. For collapsing the tube I employ a cylindrical hand-roller of suitable diameter secured to the end of the tube, remote from the nozzle, upon which the tube may be rolled up and thus collapsed. Any fire extinguishing agent capable of being squirted from the tube may be employed, for example, carbon tetrachlorid, or a derivative thereof.

In the accompanying drawings which form a part of this specification, I have shown certain preferred embodiments of my invention, but I do not desire to be limited to the detailed structures illustrated any further than as specified in the claims hereunto appended.

In these drawings Figure 1 is a side elevation of a fire extinguisher embodying my invention; Fig. 2 is a longitudinal section of the same; Fig. 3 is a sectional view of a portion of the end of the extinguisher shown in Fig. 2, showing the cap or nozzle closed; Figs. 4, 5 and 6 are sectional views illustrating modified forms of nozzles and closures therefor.

Referring to the drawings in detail, the numeral 1 designates the body of my fire extinguisher, this body being preferably formed of seamless drawn tubing of lead or other flexible metal, or other material of similar properties. One end of this tube is flattened, as indicated at 2, and, in the preferred form of my invention, is secured to a roller 3 of wood or other suitable material, and of sufficient diameter to be conveniently grasped by the hand of the operator. The end of the tube may be secured to this roller in any desired manner, for example, by being inserted in a slot 4 therein, the extreme end being secured in a central enlargement 5 in the roller by being wrapped about a wire or other filler 6. The opposite end of the tube 1 is closed by a head 7, preferably of conical shape, and at the apex of which is the nipple 8 through which is formed the orifice 9. For closing the orifice 9, various devices may be used, for example, as shown in Figs. 1, 2 and 3, a cap or nozzle 10 is used, this cap screwing on the nipple 8, which is externally threaded. The cap is preferably provided with a flanged extension 11 which may be knurled if desired, and by which the cap may be easily screwed in and out to close or open the orifice. The orifice 9 terminates at its outer end in a conical seat 12, while the cap 10 carries a plug or valve 13 having a conical end adapted to fit the conical seat 12. The cap is normally screwed down so as to force the conical end of the plug 13 against the seat 12, and thus close the orifice 9, as shown in Fig. 3, the orifice being opened by screwing the cap out a short distance, as shown in Fig. 2. In order to avoid the necessity of entirely removing the cap 10, which might result in its misplacement or loss, the cap 10 is preferably provided with an opening 14 in its end, from which the extinguishing agent escaping through the orifice 9 will be squirted. The fire extinguisher may be provided with an eye 15, or other suitable device by which it may be hung in any convenient location, if desired.

The operation of my fire extinguisher will

now be readily understood, and as will be apparent, is very simple. In case of fire, it is simply necessary for the operator to grasp the body 1 of the extinguisher in one hand, and unscrew the cap 10 a few turns, so as to withdraw the plug 13 from its seat 12, and permit the extinguishing agent to pass through the orifice 9 and the opening 14. The operator then slowly rotates the spool or roller 3, thus putting pressure upon the contents of the tube and causing the same to be ejected forcibly through the opening 14 in a stream which may be directed at the fire by simply pointing the extinguisher in the proper direction. Owing to the comparatively large cross-section of the tube 1 and the smallness of the opening 14, a very gradual rotation of the roller 3 will serve to maintain adequate pressure upon the contents of the tube. If the fire is extinguished before the tube is emptied, it is simply necessary to screw the cap back into the position shown in Fig. 3, when the extinguisher may be then hung up and the remainder of its contents used when occasion demands.

Fig. 4 shows a modified form of closure for my extinguisher, in which the tube is provided with a screw-threaded nipple 16 terminating in the plug 17 having a conical end 18. The orifice 19 through the nipple leads into a transverse opening 20 extending through the plug, by which the contents of the tube are conducted to the interior of the cap 21. The cap is provided with a conical opening 22 which fits over the conical end 18 of the plug 17 when the cap is screwed down, thus closing the tube. In order to permit the contents of the tube to be squirted upon the fire, the cap is screwed out a few turns, which permits the extinguishing fluid to escape around the conical end 18 and through the orifice 22, these parts acting as a nozzle and serving to form the fluid into a well-defined jet.

In Fig. 5 I have shown another form of closure for my fire extinguisher, in which the screw-threaded nipple 23 is provided with an eccentrically located orifice 24 and with a central depression forming a conical seat 25. The cap 26 is provided with a conical plug 27 adapted to fit the conical seat 25 when the cap is screwed down. A central opening 28 is formed through the cap and through the plug 27, the contents of the fire extinguisher passing through the orifice 24, between the plug 27 and the seat 25 when the cap is screwed out, the fluid being projected from the extinguisher through the opening 28.

In Fig. 6 I have shown a closure for my extinguisher adapted to permit the automatic ejection of the extinguishing fluid upon the application of pressure thereto by

the winding up of the tubing upon the roller 3. In this modification the nipple 8 is of the same construction as that shown in Figs. 2 and 3, it being provided with the orifice 9 and with the conical seat 12. In place of the cap 10 a cap 29 is screwed upon the nipple, this cap having an opening 30 in its end and containing a coiled spring 31 which normally forces a conical plug 32 against the seat 12. When pressure is put upon the fluid contained in the tube, the plug 32 is lifted from its seat, thus permitting the fluid to pass into the interior of the cap 29 and out through the opening 30. When the pressure upon the contents of the tube is relieved, the spring 31 will automatically force the plug 32 back upon its seat. The spring 31 is preferably so arranged as to hold the plug 32 in position, and for this purpose one end of it is permanently secured to the cap 29 by means of the collar 33, while the other end of the spring is secured about a stem 34 projecting from the plug 32.

Another advantage of my extinguisher when made of thin soft metal as described, is that in case of emergency it may be torn open without difficulty and the contents poured quickly over any local fire. For example, if a woman's clothing becomes ignited, she may herself tear open the extinguisher and pour the extinguishing fluid on her dress, and thus quickly smother the flames. This method of procedure is entirely impracticable with any of the extinguishers of the pump type now on the market. Moreover, this characteristic of my extinguisher makes it absolutely impossible for the same to fail to operate at the critical moment as it can always be punctured and the extinguishing fluid utilized. It is practically impossible, however, for my extinguisher to fail to operate in the intended manner as there is no pump plunger to stick, no valves to get out of order, and in order to start the operation of the same all that is necessary is to turn the cap sufficiently to open the nozzle. It is not possible to use up the extinguishing fluid and then replace the extinguisher where in case of emergency it will be discovered to be empty instead of full, as when my extinguisher is emptied it is rolled up and the fact that it has been used is obvious. The external appearance of the extinguisher shows at all times whether or not it is properly charged and in condition to be used.

Having thus described my invention, I claim:

1. A fire extinguisher comprising a collapsible tube filled with a fire extinguishing agent and having a nozzle at one end thereof, the other end of the tube being attached to a hand roller of large diameter by which the

tube may be collapsed and wound up so as to put pressure upon the contents of the tube and cause the same to be squirted from the nozzle.

- 5 2. A fire extinguisher comprising a collapsible metal tube filled with a fire extinguishing agent and having a nozzle at one

end thereof, the other end of the tube being flattened and secured in a slot in a cylindrical hand roller of substantial diameter.

JOHN R. GAMMETER.

Witnesses:

JAMES S. WILSON,
EDMUND QUINCY MOSES.