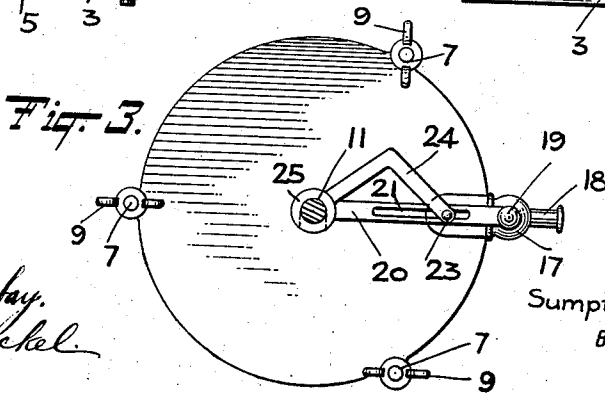
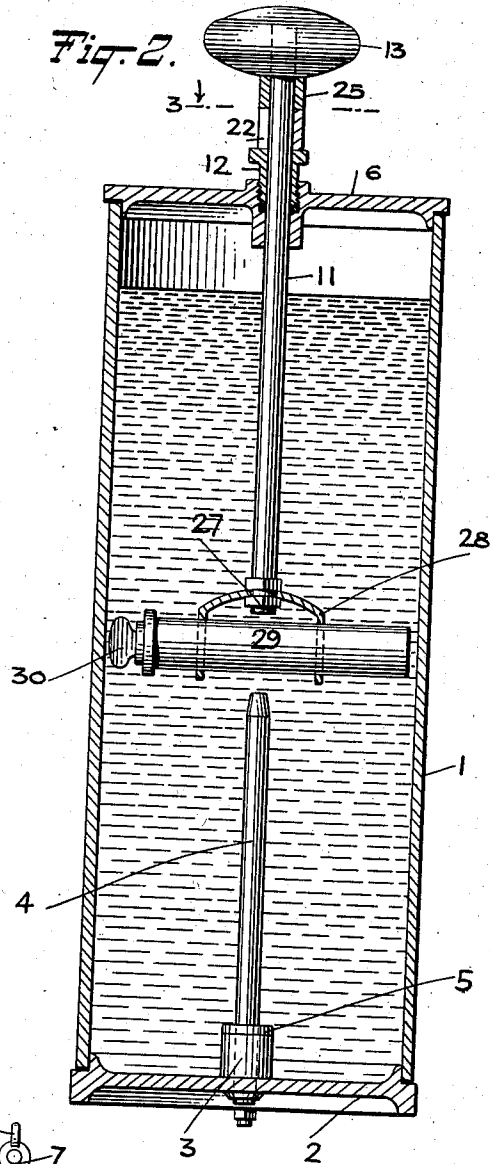
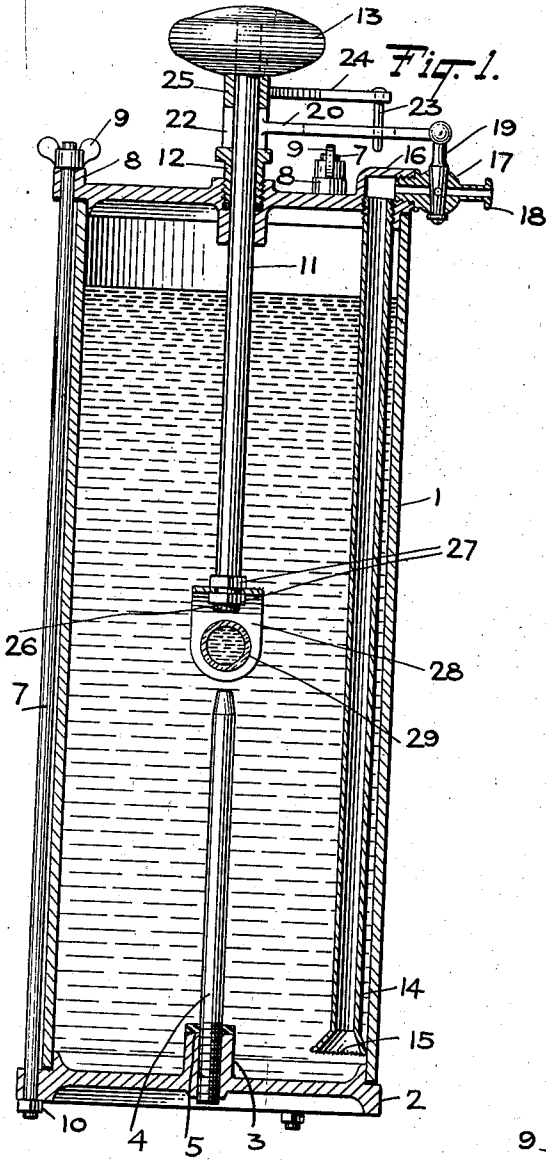


S. L. HARWOOD.
FIRE EXTINGUISHER.
APPLICATION FILED MAY 2, 1912.

1,062,463.

Patented May 20, 1913.



WITNESSES

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UNITED STATES PATENT OFFICE.

SUMPTER LEA HARWOOD, OF DUBLIN, GEORGIA.

FIRE-EXTINGUISHER.

1,062,463.

Specification of Letters Patent.

Patented May 20, 1913.

Application filed May 2, 1912. Serial No. 694,805.

To all whom it may concern:

Be it known that I, SUMPTER L. HARWOOD, a citizen of the United States, and a resident of Dublin, in the county of Laurens and State of Georgia, have invented a new and Improved Fire-Extinguisher, of which the following is a full, clear, and exact description.

My invention relates to an improvement in fire extinguishers, and it comprises certain novel features of construction by means of which the likelihood of the extinguisher being injured or made to operate when not needed, by rough handling, is practically eliminated, while at the same time the device remains capable of being put to instant use when occasion arises.

Reference is to be had to the accompanying drawings forming a part of this specification, in which the same characters of reference indicate the same parts in all the views.

Figure 1 is a longitudinal sectional view of my extinguisher; Fig. 2 is another longitudinal sectional view taken on a plane at right-angles to the plane of section to Fig. 1; and Fig. 3 is a horizontal sectional view on the line 3 of Fig. 2.

Referring particularly to the drawings my extinguisher comprises a hollow body 1 having a head 2 closing one end of the same, this head being provided with an inward-extending boss 3, which has a screw-threaded bore to receive a rod 4. The inner end of this bore may be provided with a packing shown at 5, which surrounds the rod 4 and serves to make a liquid-tight connection between the bore and the stem to prevent leakage of the contents of the body 1. The other end of the extinguisher is provided with a head 6, the two heads 2 and 6 being secured together by means of tie-rods 7 passing through lugs 8, which extend outward from the peripheries of the heads, these tie-rods being tightened by means of wing nuts 9, at one end, and ordinary nuts or heads 10 at the other. They hold the head 6 to the body, and a suitable packing may be arranged between the heads and the ends of the sides of the body to make a perfectly tight joint.

The head 6 is provided centrally of the same with a packing gland comprising a nut 12, through which passes an operating rod 11. This operating rod terminates at its outer end in a knob or handle 13, and extends inward to a point adjacent the inner

end of the rod 4. The inside of the casing 1 contains suitable chemicals in liquid solution, and the rod 11 serves to carry a suitable reagent by means of which fire extinguishing gas can be generated whenever occasion arises to put the fire extinguisher into use.

Inside the casing 1 and extending almost the entire distance from the head 2 to the head 6 is a tube 14 having at its lower end a piece of gauze 15. This tube 14 has screw-threaded engagement with an aperture in the head 6, and communicates with the interior of a cap 16 which is preferably made integral with the head 6, this cap 16 having a screw-threaded bore which receives a nipple 17 terminating in a flange 18, this nipple being hollow, and the flange 18 serving to secure the end of a hose thereon. The bore through the nipple 17 is controlled by a valve 19, so that the flow of gas from the interior of the body 1 can be controlled.

The numeral 20 indicates an operating arm for the valve 19, and it is provided with a longitudinal slot 21. At its outer end this arm 20 has a lateral recess 22 which fits around the rod 11 outside of the casing; and when this notch or recess receives the rod the valve 19 will be closed.

24 represents an arm fixed to the rod 11 by means of a hub 25, this hub being secured to the rod by any suitable means, such as a set-screw, at the outer end of the same adjacent the knob 13. This arm carries a pin 23 which engages with the slot 21, and normally the hub 25 will rest upon the outer end of the rod 20 in which the recess 22 is formed to retain the knob 13 a certain distance from the head 6. The end of the rod 20 is thickened, as shown in Figs. 1 and 2, and the recess 22 is formed in the thickened portion, so that the thickened end containing the recess will take up a considerable space between the outer end of the nut 12 and the inner end of the hub 25.

The inner end of the rod 11 is threaded, as shown at 26, and this threaded inner end receives a pair of locking nuts 27, between which is secured a yoke 28. This yoke has aligned perforations through which passes a glass tube 29. This glass tube is closed by a stopper 30. The body 1 is adapted to contain a basic liquid solution, such as ordinary soda; and the glass tube 29 will ordinarily contain sulfuric acid. When the parts are in the position shown in the drawings the valve will be closed and the end of the arm

20 having the recess 22 will hold the rod 11 in such position that the glass tube 29 will be spaced from the end of the rod 4. In this position the parts will be inoperative, and no matter how much rough handling the extinguisher may be subjected to the tube 29 will be kept away from the rod 4, so as not to be broken at the wrong time, and thus generate gas when it is not needed.

10 In case of emergency, however, the knob 13 is grasped by the hand and turned. Owing to the fact that the arm 24 is fixed to the rod 11, this arm will turn with it, rotating the arm 20 through its pin and slot engagement therewith. The valve 19 will be opened and the thickened end of the arm 20 having the recess 22 will be swung away from the rod 11. The knob 13 can now be pushed to move the rod 11 inward, driving the glass tube 29 against the rod 4, and breaking it so as to liberate the acid which it contains. The acid will at once generate carbonic acid gas, which is very inert, and does not support combustion. This gas will

25 displace the atmosphere from the vicinity of the fire and smother the flames by depriving them of oxygen, and the fire will thus be quickly extinguished. I may of course use any chemicals which will serve the purpose and form gas which will extinguish the fire; and I wish to have it understood that the description and drawings illustrate but one embodiment of my invention, and that I do not care to be limited

30 to the exact details herein shown and described, except in so far as set forth in the accompanying claims.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. In an improvement of the kind described, the combination of a hollow body having a discharge nozzle, a valve for controlling the same, a sliding rod passing through the wall of said body, a vessel carried on the inner end of said rod, said body and said vessel being adapted to contain chemicals, means carried by the interior of the body adjacent said vessel to strike and break the same, said rod being mounted to rotate with respect to said body, and a connection between said valve and said rod, whereby the rod can be turned to open the valve and then moved to force the vessel against the projection inside the body to break the same and allow the chemicals to react, part of the products of said reaction passing outward through said nozzle.

2. In an improvement of the kind described, the combination of a hollow body having a discharge nozzle, a projection inside of said hollow body, a rod passing through the wall of said body into the same, a vessel carried by said rod at its inner end adjacent said projection, said body and said vessel being adapted to contain chemicals, a valve for said nozzle, means carried by said valve for engaging the rod, to keep the vessel away from the projection, and means carried by the rod to engage the valve to open the same and move said holding means out of position, whereby the rod can be forced inward to strike the vessel against the projection and break the same to allow the chemicals to react, part of the products of said reaction passing outward through the nozzle.

3. In a device of the kind described, the combination of a hollow body, a projection inside of said body, a rod extending through the wall of said body, a vessel carried at the inner end of said rod, said vessel and said body containing chemicals, a discharge nozzle for said body, a valve in said nozzle having an arm with a thickened end, said thickened end having a recess receiving the outer end of said rod, and an arm non-rotatably secured to said rod beyond said valve arm and having pin and slot engagement with said valve arm, whereby when the rod is turned the valve will be opened and the arm thereof swung away from the rod to permit the rod to be forced inward to break the vessel against the projection and allow the chemicals to react, part of the products of said reaction passing outward through said nozzle.

4. In an improvement of the kind described, the combination of a hollow body having a discharge opening, means for controlling said discharge opening, an arm carried by said controlling means having a stop thereon, means for movably mounting a fragile vessel containing a chemical in said body engaged by said stop, and an arm carried by said last-named means engaging the first arm to move the controlling means to open position before the said vessel can be broken.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

SUMPTER LEA HARWOOD

Witnesses:

G. L. DIXON,

H. R. MOFFETT.