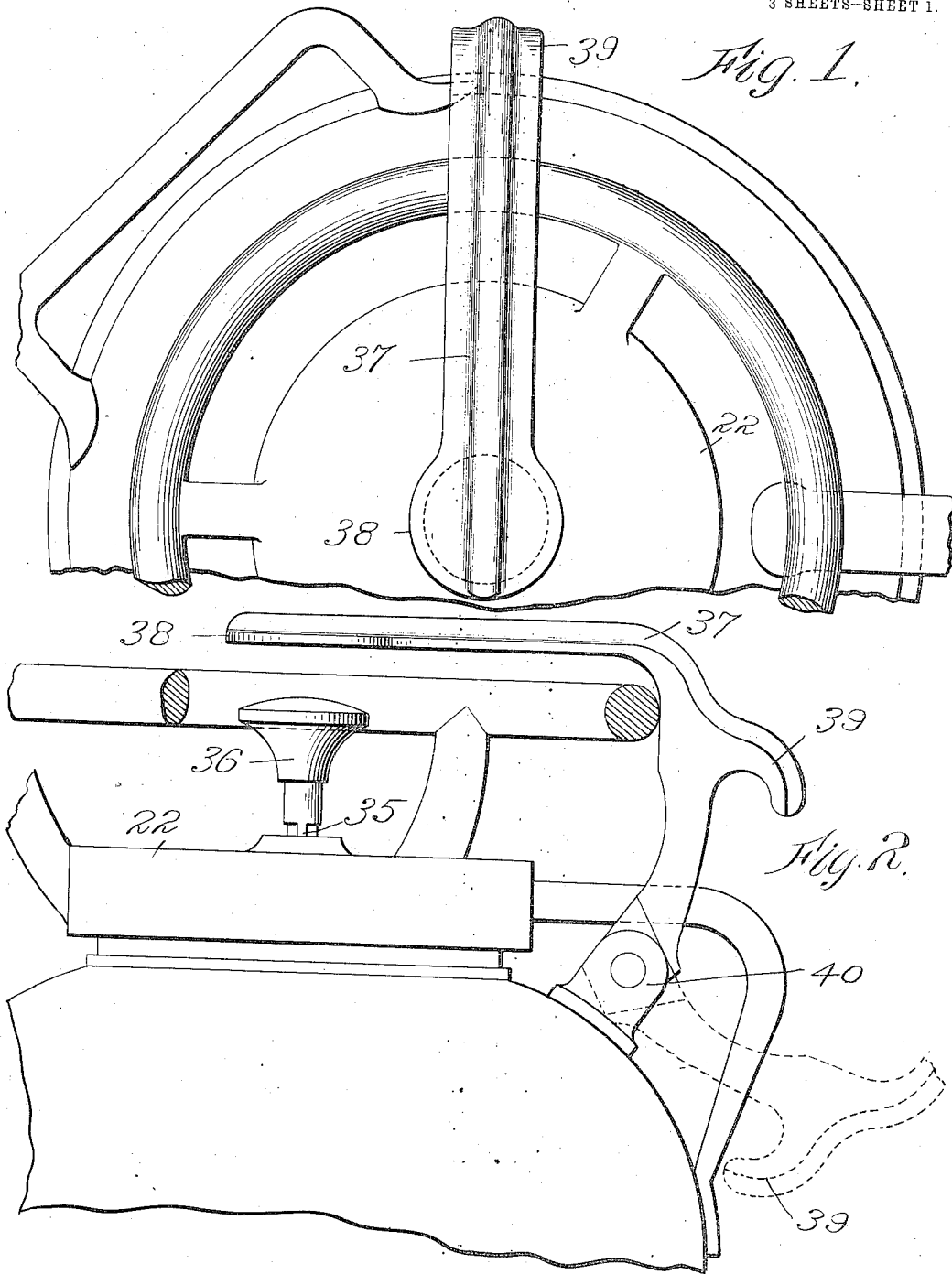


H. M. McCASLIN.
FIRE EXTINGUISHER APPARATUS.
APPLICATION FILED JUNE 2, 1909.

995,883.

Patented June 20, 1911.

3 SHEETS—SHEET 1.



Witnesses:
H. H. Knight
Ray J. Ernst

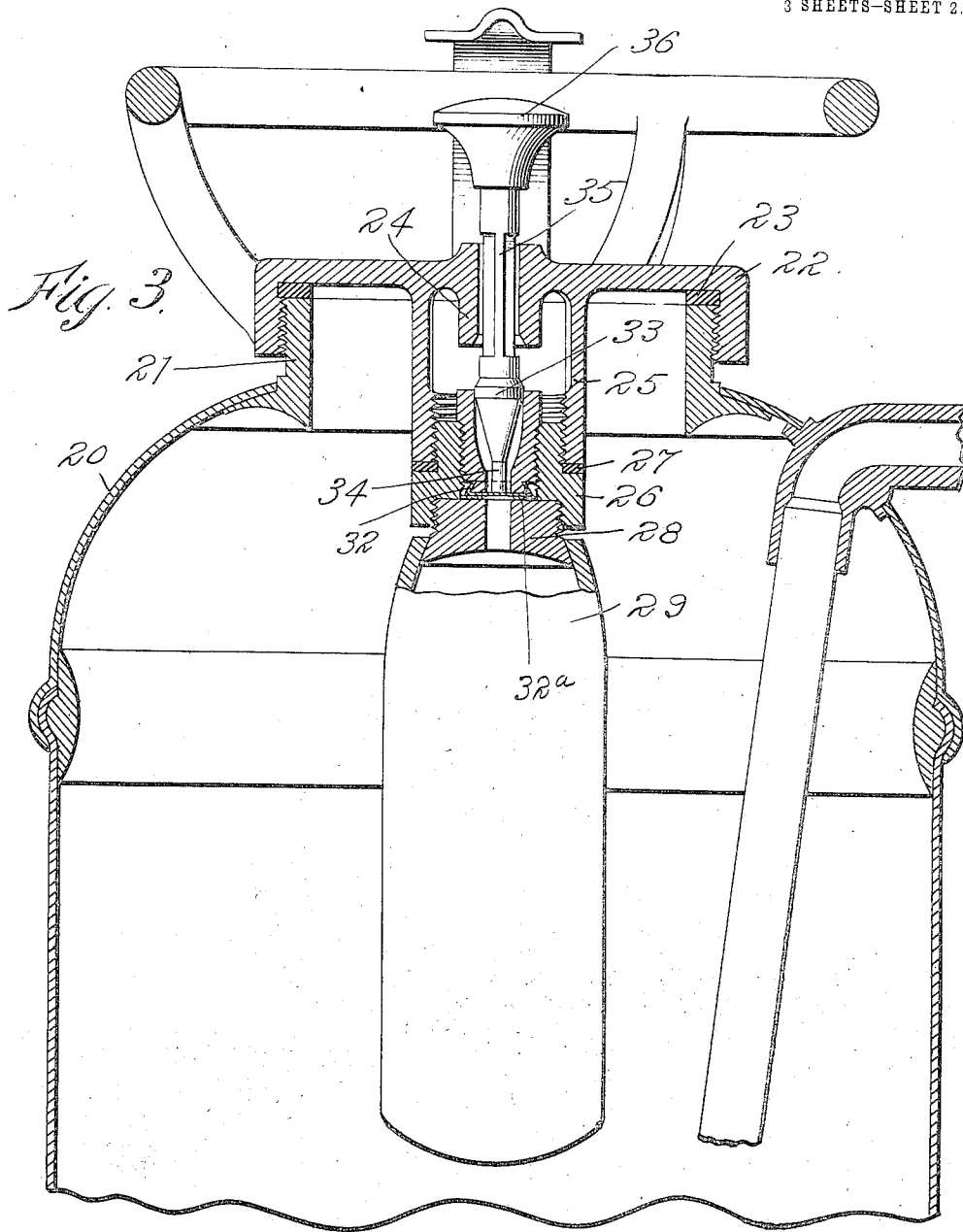
Inventor
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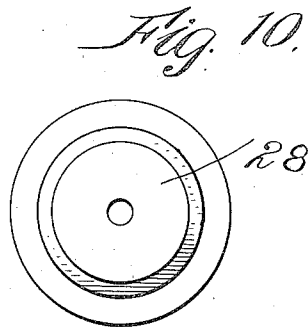
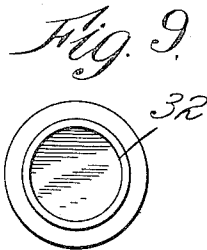
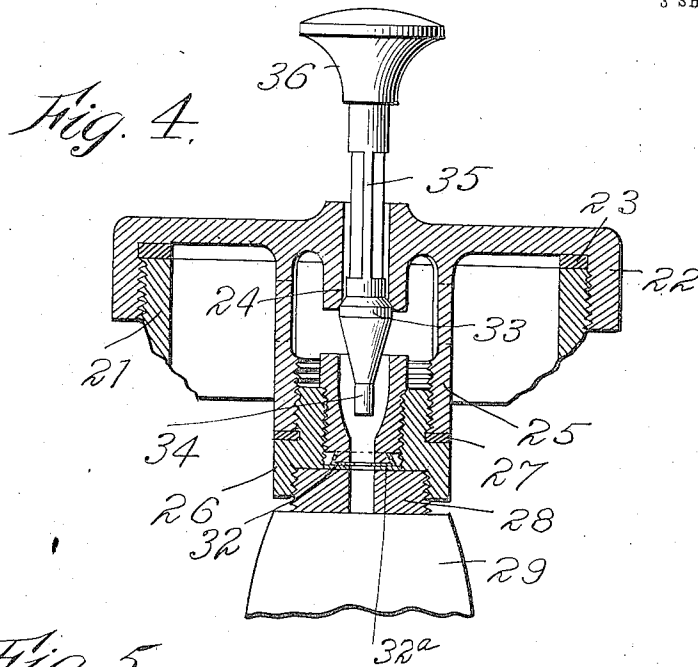
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3 SHEETS—SHEET 3.



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UNITED STATES PATENT OFFICE.

HARRY M. McCASLIN, OF ELMIRA, NEW YORK, ASSIGNOR TO AMERICAN-LA FRANCE
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FIRE-EXTINGUISHER APPARATUS.

995,883.

Specification of Letters Patent. Patented June 20, 1911.

Application filed June 2, 1909. Serial No. 499,807.

To all whom it may concern:

Be it known that I, HARRY M. McCASLIN, a citizen of the United States, and resident of Elmira, county of Chemung, State of New York, have invented certain new and useful Improvements in Fire-Extinguisher Apparatus, of which the following is a specification.

My invention relates in general to fire extinguishers and is more particularly concerned with certain improvements in the pressure medium container and its operating means.

The objects of my invention are mainly to prevent the loss of pressure by the pressure medium during the idle period, to facilitate the filling of the pressure medium container and to permit the natural expansion and contraction of the air in the main tank, without forcing the liquid or extinguisher fluid through the discharge tube during the idle period, and to guard against the accidental or unintentional actuation of the device for setting the apparatus in operation.

Other advantages will be apparent from the detailed description of an embodiment of the essential principles of my invention shown in the accompanying drawings. It is of course understood that any of the features of the invention may be employed in any apparatus where its function is desired.

In said drawings: Figure 1 is a top plan of a portion of a fire extinguisher provided with my improvements. Fig. 2 is an elevation of the same. Fig. 3 is a sectional elevation of the upper portion of a fire extinguisher embodying my improvements. Fig. 4 is a detail view in vertical section of the means for setting the extinguisher in operation. Fig. 5 is a transverse sectional view of the member whose actuation sets the apparatus in operation. Fig. 6 is a detail elevation of an improved sealing nut. Fig. 7 is an underneath plan of the same. Fig. 8 is a detail elevation part in section, of the sealing diaphragm adapted to be applied to the sealing nut. Fig. 9 is a top plan view of the sealing diaphragm shown in Fig. 8, and Fig. 10 is a top plan view of the pressure medium container with connections removed.

Referring now more specifically to said drawings, 20 indicates the extinguisher liquid tank or cylinder, and 21 an externally

threaded neck suitably secured in the upper end of the extinguisher liquid tank. The neck 21 receives the head 22. A washer 23 of suitable material is provided to insure an air-tight joint between the neck 21 and head 22. Head 22 is centrally perforated and provided with an annular flange 24, adjacent to said perforation which forms a seat for the operating member hereinafter described. Surrounding the inner annular flange 24, is an intermediate recessed annular flange 25, which serves as a frame or hanger for suspending the pressure medium container as will appear. The frame 25 is internally threaded and adapted to receive the externally threaded portion of a sleeve 26 which has a lower annular flange, and between the shoulder formed thereby and the frame 25, is preferably disposed a washer 27 of suitable material. The lower annular flange of the sleeve 26 is internally threaded to receive the externally threaded portion of the pressure medium neck 28.

The neck 28 is flaring or beveled below the threaded portion to form a self-closing connection with the pressure medium container or cartridge 29, the upper portion of which is spun in or otherwise suitably contracted upon the beveled sides of the neck piece 28. The parts may in addition be welded, brazed, or otherwise united. In other respects the cartridge 29 may be constructed in any well known manner. The upper portion of the sleeve 26 is also provided with an internal thread which receives the sealing nut 30, shown in detail in Fig. 6. This nut is provided with one or more flat or unthreaded faces 31. This provides for a passageway around the sealing nut when the sealing nut is raised during the filling of the cartridge. The means for filling the cartridge, however, forms no part of my present invention, but may be the same as set forth in my prior application, Serial No. 417,150, filed February 21, 1908. Sealing nut 30 has a central chamber to afford a discharge passage for the pressure medium from the chamber 29 through a corresponding central perforation in the neck 28. The lower portion of the sealing nut is under-cut to receive and retain a sealing diaphragm 32 shown in detail in Figs. 8 and 9. This sealing diaphragm is preferably made of brass and may be contracted upon the under-cut end of the sealing nut by a suitable tool.

A gasket 32^a rests upon the top of the neck 28 and to effectually close the outlet or discharge passage from the cartridge 29 during the idle period of the apparatus, the sealing nut 30 is screwed down, thus forcing the sealing diaphragm down upon the gasket so as to make a tight connection. It is thus apparent that all possibility of a gradual escape of pressure from the cartridge 29 is impossible.

To provide for the discharge of the pressure medium from the cartridge 29 when it is desired to place the apparatus in operation, a puncturing member is provided. This member, to which I shall refer as the operating member, has a head 33 which fits within the central chamber of the sealing nut 30, the chamber being of suitable form to permit a kind of piston movement of the head therein. The head tapers toward the bottom and terminates in a puncturing teat 34. The stem 35 of the operating member is loosely seated within the central flange 24 of the head 22 and is preferably flat sided or paned as clearly shown in Figs. 3 and 4, at the portion which normally rests inside of the flange 24. It is thus apparent that the air inclosed in the tank 20, is in free communication with the outside air, so that it will remain at atmospheric pressure, when the apparatus is not in operation. This prevents the tendency which the liquid might otherwise have of being forced up through the discharge tube of the apparatus when rises of temperature occur in the confined air. A knob 36 is suitably secured on the upper end of the stem 35 of the operating member for convenience of operation. When it is desired to place the apparatus in operation, the knob 36 is struck so as to force the puncturing teat 35 through the sealing diaphragm 32. The pressure of the pressure medium contained in the cartridge 29 escaping into the central chamber of the sealing nut 30, thereupon forces the operat-

ing member upward, whereupon the head of the latter seats against the under portion of the annular flange 24 and effectually prevents the escape of pressure through the perforation therein. To accommodate this action, the contiguous surfaces of the head 34 and the annular flange 24, are preferably ground to a bevel, as shown in Figs. 3 and 4.

To prevent accidental actuation of the operating member, I have provided a guard 37 which is provided with an enlargement 38, normally disposed immediately above the knob 36 of the operating member and provided with a hook portion 39. The guard 37 is pivoted to a lug 40, suitably secured upon the tank 20. The hook portion 39 enables the extinguisher to be hung upon a suitable support, and when so used, the enlargement 38 is thus normally held over the operating member.

I claim:—

1. In a fire extinguisher, the combination with the operating member; of a guard member therefor movable into and out of protecting position and having a hanger portion by which the extinguisher may be hung upon a suitable support to thereby maintain the guard member in protecting position.

2. In apparatus of the character described, the combination with the pressure medium container having an outlet port; of an apertured and paned sealing nut therefor having an undercut portion, and a sealing diaphragm adapted to be turned over upon said undercut portion, whereby the aperture of the sealing nut is closed and the sealing diaphragm adapted to move with the sealing nut toward and away from the outlet port of the pressure medium container.

HARRY M. McCASLIN.

Witnesses:

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