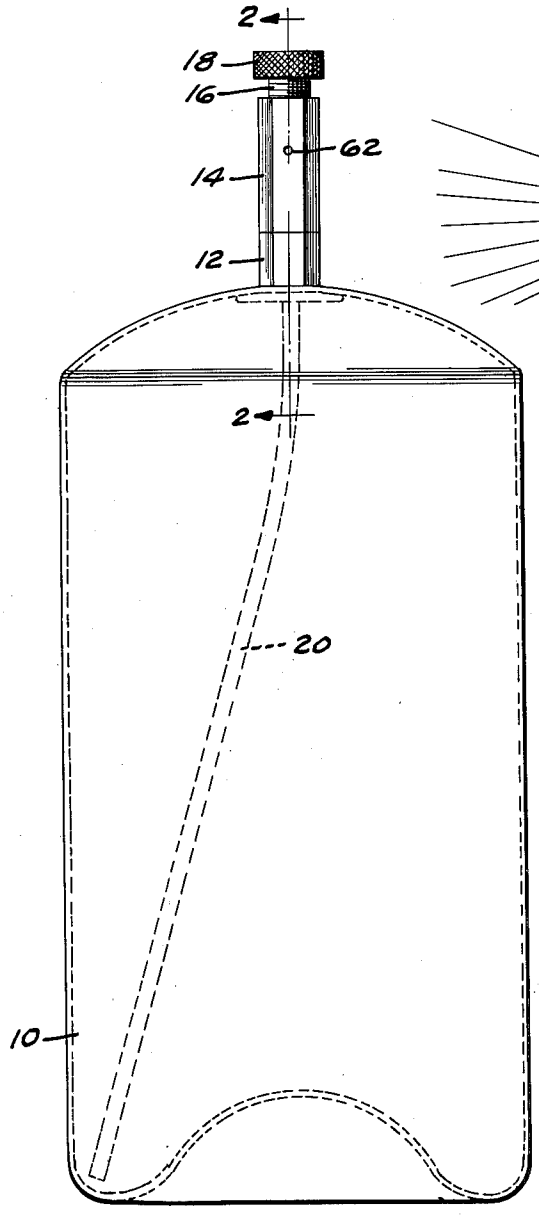
Feb. 19, 1952 F. L. REEVES 2,586,088

LEAKPROOF FIRE EXTINGUISHER

Filed Feb. 17, 1950 2 SHEETS—SHEET 1

FIG. 1.



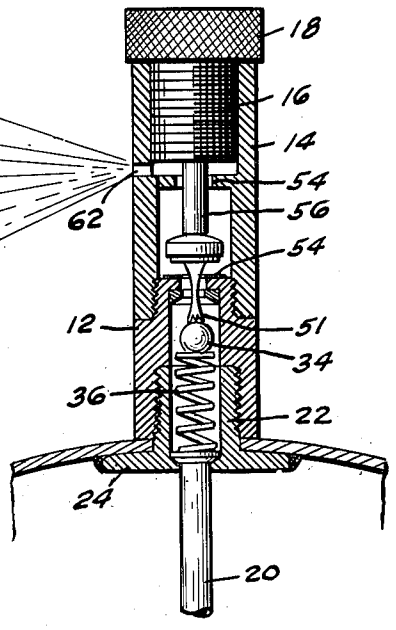


FIG. 3.

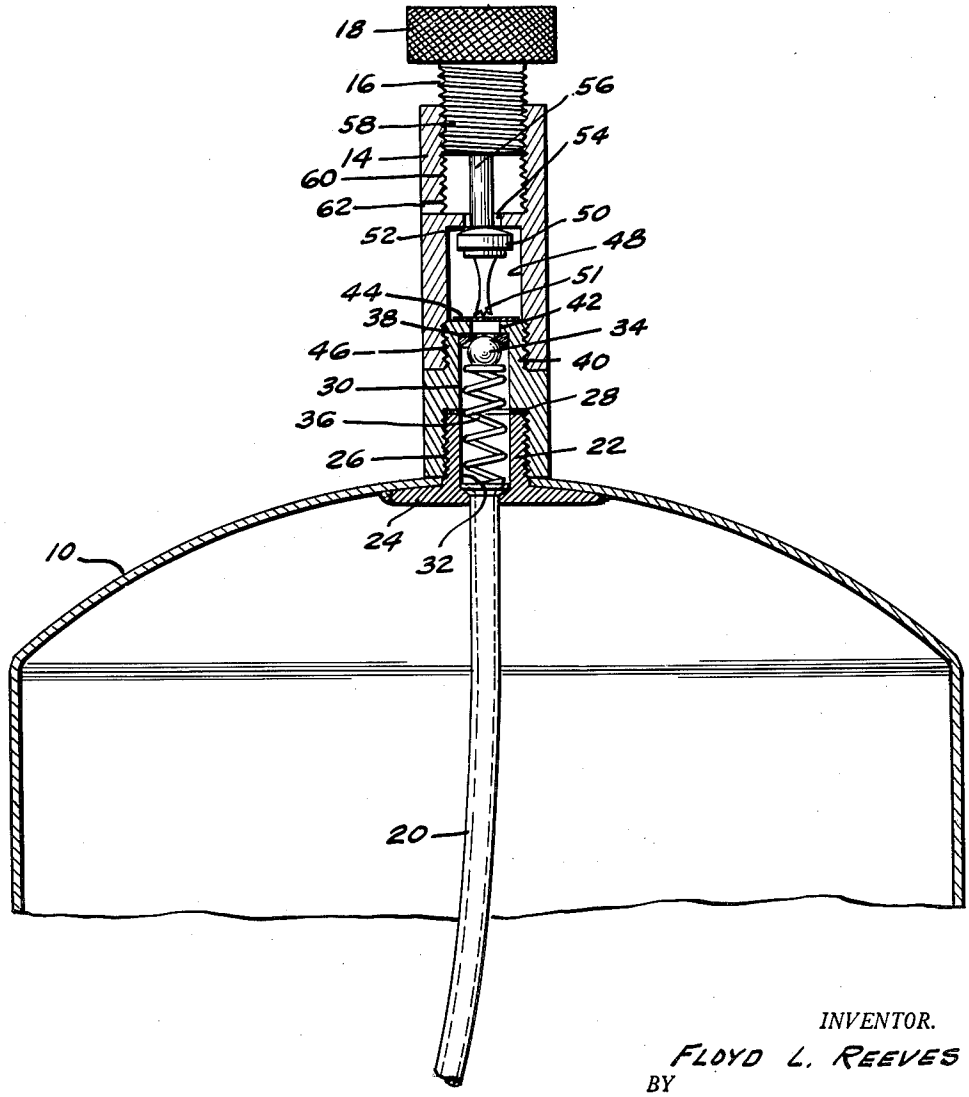
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FIG. 2.



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LEAKPROOF FIRE EXTINGUISHER

Floyd L. Reeves, Smithton, Ill.

Application February 17, 1950, Serial No. 144,769

2 Claims. (Cl. 169—31)

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My invention relates to improvements in fire extinguishers and similar devices.

My invention relates more particularly to portable fire extinguishers of the type which may be carried in trucks, automobiles or similar vehicles, although it will be understood that the principles of construction found therein may be applied to larger or so-called stationary types of fire extinguishers as well.

The principal object of the present invention is to provide an improved fire extinguisher and which may contain air or gas under pressure or a liquid chemical such as CO_2 (carbon dioxide) or carbon tetra chloride which forms gas and expands rapidly when freed, it being one of the principal features of my improved construction that the container therefor is rendered absolutely leak-proof during all times except when it is desired to use the same.

A further object of the invention is to provide a leak-proof fire extinguisher of the type described which employs a valve member normally assisted in being held in sealing position by the pressure in the container itself.

A further object of the invention is to provide a leak-proof fire extinguisher of the type described which employs a spring pressed ball check valve normally held in position by the spring and the pressure in the container, but adapted during use to be unseated so that the gas or liquid chemicals therein may be released when needed.

A further object of the invention is to provide a construction of the type described that is comparatively simple in construction, yet highly efficient and capable of long and hard use without becoming broken or out of order.

Other objects and advantages will be more apparent from the following description wherein reference is had to the accompanying drawings, upon which

Fig. 1 is a front elevational view of a fire extinguisher embodying my principle of invention;

Fig. 2 is a cross-sectional view on an enlarged scale taken generally on the line 2—2 of Fig. 1; and

Fig. 3 is a view similar to Fig. 2 showing the parts in a changed position.

In the embodiment of the invention which I have chosen to illustrate and describe herein, in Fig. 1 I have shown a fire extinguisher which may include the container 10 a coupler member 12, a nozzle member 14 and a releasing member 16 provided with a knurled knob 18 at the end thereof.

Referring generally to Fig. 2 wherein the parts

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are shown in cross section, the container 10 may be of the usual type adapted to contain air or gas under pressure or any liquid chemical that may form a gas and expand rapidly when released, the pressure being formed being a combination of chemicals, a tubular member 20 being provided in the interior of the container having its end extending generally to a position adjacent the lower end of the container. The upper end of the tubular member 20 may be fixedly seated in a threaded plug member 22 which has a flange 24 so that it may be soldered or otherwise suitably fastened in the upper end of the container 10.

The coupler member 12 may be provided with a tapped opening 26 adapted to screw-threadedly connect the same to the plug 22, a gasket 28 being provided for an effective seal between the parts. The coupler 12 and the plug 22 may be provided with the aligned axial openings 30 and 32 respectively to provide a chamber to receive the ball valve 34 normally held in position by the coiled spring member 36 against the valve seat 38.

The coupler 12 may be provided with a reduced threaded extension 40 which has an opening 42 therein, the same being normally closed by a diaphragm seal 44 of the usual type employed on fire extinguishers.

The nozzle 14 is provided with the tapped axial opening 46 adapted to be screw-threadedly mounted upon the extension 40, the nozzle having a chamber 48 within which a retaining valve 50 is mounted, the seat 52 thereof being of a pliable compound normally adapted to seat against the opening 54 with the stem 56 extending therethrough. I provide an enlarged shoulder 58 on the stem 56 terminating in the knob 18, the part 58 being screw-threaded to engage in the tapped opening 60 in the upper end of the nozzle 14. The jet 62 may extend outwardly from the opening 60 through the wall of the nozzle as shown.

When the fire extinguisher above described has been filled with a chemical, the ball check valve will normally close the discharge opening from the same, and the diaphragm seal 44 may be placed over the opening 42. The nozzle 14 can then be mounted upon the coupler 12 with the valve 50 in the position shown in Fig. 2.

When it is desired to use the extinguisher, the knob 18 is turned and the toothed extension 51 on the valve 50 is adapted to pierce the diaphragm seal 44 and continue on downwardly to depress the ball valve 34 so that the fluid under pressure may pass upwardly through the conduit 20 and out through the nozzle 62. When sufficient of

the contents has been used, the knob 18 may be turned back to the position shown in Fig. 2 and the ball check valve will again seal in the balance of the contents. In addition, when it is desired to refill the fire extinguisher with a chemical or gas, it is only necessary to remove the nozzle 14, fill the same, apply a diaphragm seal 44, replace the nozzle and the extinguisher is ready for its next use.

While I have shown and described a specific embodiment of the invention, it will be apparent to those skilled in the art that changes and modifications may be made in the exact details shown, and I do not wish to be limited in any particular; rather what I desire to secure and protect by Letters Patent of the United States is:

1. For use with a leak-proof container for fire extinguisher fluid the combination with a screw-threaded plug extending from said container of a coupler connected to said plug, said plug and said coupler having axially aligned openings forming a chamber, a spring-pressed ball valve mounted in the chamber formed in said plug and coupler, a diaphragm seal secured over the opening of said chamber in the end of said coupler, a nozzle secured to the end of said coupler, and manually operable valve means connected to said nozzle for moving said ball valve to permit release of the contents of said container, said valve means having a screw-threaded shank for mounting the same in said nozzle, and a movable valve member having a pointed extension for piercing said diaphragm seal and holding said ball valve open, said

movable valve member having a pliable head normally sealing the fluid passage in said nozzle.

2. For use with a leak-proof container for fire extinguisher fluid the combination with a threaded plug extending from said container of a coupler having a tapped opening for axially aligned connection to said plug, said plug and said coupler having axially aligned openings therein forming a chamber, a spring-pressed ball valve mounted in said chamber closing one end of the same, a diaphragm seal secured over the closed end of said coupler, a nozzle secured to the same end of said coupler, manually operable means connected to said nozzle for moving said ball valve to permit release of the contents of said container, said means having a knob, a shank screw-threadedly mounted in the end of said nozzle, and a valve member movable by said shank and having a pointed extension for piercing said diaphragm seal and holding said ball valve open, said valve member having a pliable head normally sealing the fluid passage in said nozzle.

FLOYD L. REEVES.

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