Feb. 21, 1950 C. J. MARCHELL 2,498,131

FIRE EXTINGUISHER

Filed Nov. 3, 1944

Fig. 1.

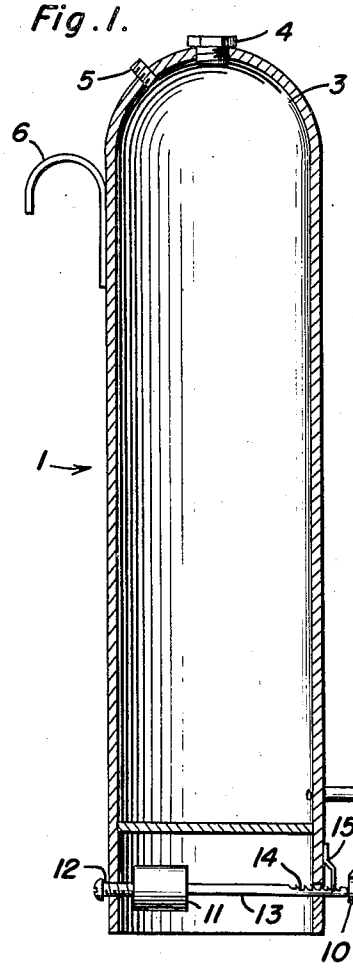



Fig. 2.

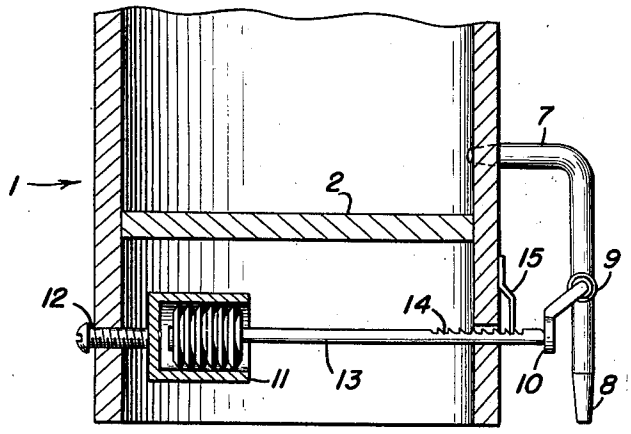



Fig. 4.

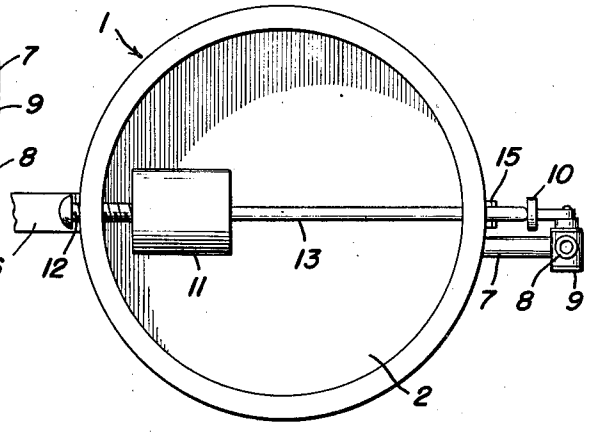
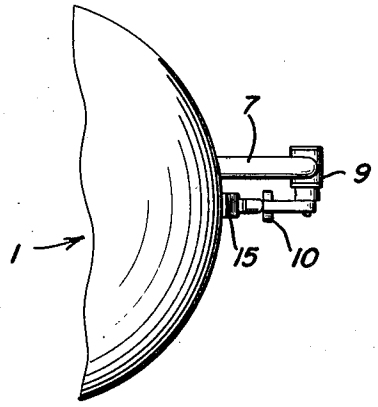



Fig. 3.




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## FIRE EXTINGUISHER

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Application November 3, 1944, Serial No. 561,705

3 Claims. (Cl. 169—26)

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The present invention relates to new and useful improvements in fire extinguishers of the portable type, and has for its primary object to provide, in a manner as hereinafter set forth, a thermally-controlled device of this character which will automatically discharge the contents when the surrounding atmosphere rises above a predetermined temperature.

Other objects of the invention are to provide an automatic fire extinguisher of the aforementioned character which will be comparatively simple in construction, durable, highly efficient and reliable in use, compact, light in weight, and which may be manufactured at low cost.

All of the foregoing and still further objects and advantages of the invention will become apparent from a study of the following specification, taken in connection with the accompanying drawing wherein like characters of reference designate corresponding parts throughout the several views, and wherein—

Figure 1 is a vertical sectional view of a fire extinguisher constructed in accordance with the present invention,

Figure 2 is an enlarged vertical sectional view through the bottom portion of the device,

Figure 3 is an enlarged fragmentary top plan view, and

Figure 4 is an enlarged view in bottom plan of the extinguisher.

Referring now to the drawing in detail, it will be seen that the embodiment of the invention which has been illustrated comprises a tank 1 of suitable dimensions and material. The tank 1 includes an elevated bottom 2.

The tank 1 is for the reception of water or any other suitable extinguishing fluid, also air under pressure for ejecting the fluid. Toward this end, the rounded top portion 3 of the tank 1 has threadedly mounted therein a removable filler plug 4. Also mounted in the upper portion 3 of the tank 1 is an air valve 5. A handle 6 is provided on the back of the tank 1 adjacent the top thereof.

Mounted on the front of the tank 1 adjacent the bottom 2 thereof is a forwardly and then downwardly extending discharge pipe 7. A nozzle 8 is connected to the discharge pipe 7 and interposed in the pipe is a valve 9. An arm 10 is fixed on the valve and extends rearwardly and downwardly relative to the discharge pipe.

Mounted horizontally in the lower portion of the tank 1 beneath the bottom 2 thereof is a bellows type thermostat 11. One end of the thermostat 11 is adjustably secured to the lower

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portion of the tank 1 through the medium of a screw 12. Connected to the other end of the thermostat 11 is a rod 13 which extends slidably through an opening provided therefor in the front portion of the tank 1 for engagement with the arm 10. The rod 13 includes a notched portion 14. A resilient dog or latch 15 on the front of the tank 1 is engageable with the notched portion 14 of the rod 13 for preventing retraction of said rod after it has been actuated by the expanding thermostat 11.

It is thought that the operation of the device will be readily apparent from a consideration of the foregoing. Briefly, with the arm 10 in the position shown in the drawings, the valve 9 is closed. However, should the surrounding atmosphere rise above a predetermined temperature, the adjustably mounted thermostat 11 will expand and move the rod 13 forwardly. The rod 13, which is engaged at its forward end with the arm 10, swings the latter forwardly and upwardly, thereby opening the valve 9. The resilient latch 15 engages the notched portion 14 of the rod 13 for retaining the valve 9 in an open or discharging position, even though the thermostat 11 should return to contracted position in the event that the temperature of the surrounding atmosphere should drop. When the valve 9 is thus opened, the extinguishing fluid is discharged from the tank 1 by the air under pressure in the upper portion of said tank. The construction and arrangement, it will be observed, is such that, if desired, the valve 9 may readily be manually opened by swinging the arm 10 upwardly by hand. By adjusting the screw 12, the thermostat 11 may be caused to function at different temperatures.

If desired, the device may be used as an audible fire alarm or signal. Toward this end, the tank 1 is charged with compressed air or any other suitable gas. A whistle is connected to the nozzle 8 or substituted therefor on the valve 9. Then, when the valve 9 is opened by the expanding thermostat 11, the air under pressure in the tank 1 is discharged therefrom and blows the whistle.

It is believed that the many advantages of a fire extinguisher constructed in accordance with the present invention will be readily understood, and although a preferred embodiment of the device is as illustrated and described, it is to be understood that changes in the details of construction and in the combination and arrangement of parts may be resorted to which will fall within the scope of the invention as claimed.

What is claimed is:

1. A portable fire extinguisher including a tank having an elevated bottom wall forming a cavity therebeneath, filling and discharge openings in said tank, a fluid discharge conduit and nozzle connected with said discharge opening, a valve in said conduit, a thermostat, an actuating rod connecting said thermostat to said valve for actuation thereof, adjusting means for regulating the thermal range of movement of said thermostat and non-return means on said actuating rod for preventing valve closing movement thereof, said thermostat and actuating rod being received in the cavity in said tank.

2. A portable fire extinguisher including a tank having an elevated bottom wall forming a cavity therebeneath, filling and discharge openings in said tank, a fluid discharge conduit and nozzle connected with said discharge opening, a valve in said conduit, a thermostat, an actuating rod connecting said thermostat to said valve for actuation thereof, adjusting means for regulating the thermal range of movement of said thermostat and non-return means on said actuating rod for preventing valve closing movement thereof, said thermostat and actuating rod being received in the cavity in said tank, an operating lever secured to said valve, said actuating rod extending into abutting engagement with said lever.

3. A portable fire extinguisher including a tank having an elevated bottom wall forming a cavity therebeneath, filling and discharge openings in said tank, a fluid discharge conduit and nozzle connected with said discharge opening, a valve in said conduit, a thermostat, an actuating rod connecting said thermostat to said valve for actuation thereof, adjusting means for regulating the thermal range of movement of said thermostat and non-return means on said actuating rod for preventing valve closing movement thereof, said thermostat and actuating rod being received in the cavity in said tank, said non-return means including a plurality of notches on said actuating rod and a resilient latch engageable with said notches.



CHARLES J. MARCHELL.

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