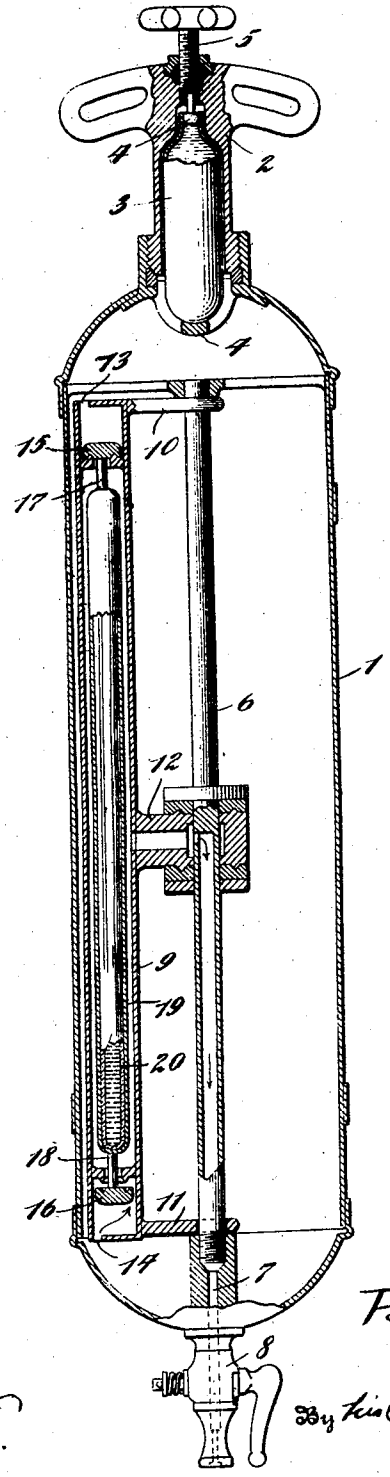
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1,548,151

P. G. MacGREGOR

FIRE EXTINGUISHER

Filed Oct. 15, 1913



Witnesses:
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Patented Aug. 4, 1925. 1,548,151

UNITED STATES PATENT OFFICE.

PETER G. MacGREGOR, OF NEW YORK, N. Y., ASSIGNOR TO PYRENE MANUFACTURING COMPANY, A CORPORATION OF DELAWARE.

FIRE EXTINGUISHER.

Application filed October 15, 1913. Serial No. 795,253.

To all whom it may concern:

Be it known that PETER G. MACGREGOR, a citizen of the United States, and resident of the city, county, and State of New York, has invented certain new and useful Improvements in Fire Extinguishers, of which the following is a specification.

This invention relates to a hand fire extinguisher of the type in which a gas is kept under pressure in a suitable container and released when it is desired to operate the fire extinguisher. The gas when released exerts a pressure upon the fire extinguishing liquid and forces the same out through a peculiar system of valves, all of which will be described more fully hereinafter in connection with the description of the invention as illustrated in the accompanying drawing.

The figure is a sectional side elevation of a fire extinguisher embodying the invention.

A container or receptacle 1, preferably cylindrical in form, contains the fire extinguishing fluid. The receptacle 1 is provided at its upper end with a removable handle 2 which is recessed to receive the small container 3 which holds a compressed gas which acts as an expelling fluid for the fire extinguishing fluid. The container 3 is closed at its upper end by a plug or stopper 4 which is positioned so as to be engaged by the lower end of a hand screw 5 threaded through a tapped opening in the handle communicating with the recess which receives the container 3.

The lower end of the gas container 3 rests upon a support 4, which is attached to the upper end of the receptacle 1.

A centrally mounted shaft 6 is positioned in the receptacle 1, the same being hollow for a portion of its length to provide a separate chamber within the receptacle which communicates with a discharge port or opening 7 extending through the lower end of the receptacle 1 and controlled by a valve 8. Said discharge port 7 and valve 8 form a discharge means which is adapted to direct the fire-extinguishing fluid in an unobstructed trajectory away from said receptacle.

A tubular member 9 contains the valve mechanism and is supported upon the shaft 6 by means of the end members 10 and 11 and the central member 12 so as to be freely revolved about the shaft 6 by the action of gravity and, consequently, will always occupy a position at the lower side of the interior of the receptacle 1 automatically when the same is held horizontally or at an angle.

The opposite ends of the tubular member 9 are provided with openings 13 and 14, respectively. Valve members 15 and 16 are connected together by means of the valve stems 17 and 18 and the tubular member 19 so that the same operate together, one being open when the other is closed, as will be readily understood by reference to the drawing. The valve members 15 and 16 operate in conjunction with suitable seats within the member 19 to control communication between the ports or openings 13 and 14 and the discharge port 7.

A closed tubular chamber of glass 20, partially filled with mercury, is positioned in the tubular member 19. This provides a movable weight, the purpose of this construction being to accelerate the action and to provide for a quick opening and closing of the valve members 15 and 16, rendering the operation thereof positive, as the extinguisher is tilted from one position to another. The additional weight also assists in revolving the valve mechanism about the shaft.

The central supporting member 12 is provided with an opening communicating with the interior of the tubular member 9 and an annular recess surrounding the shaft 6. An opening in one side of the shaft 6 provides a communication from this recess to the opening on the interior of the shaft and from thence to the outlet controlled by the valve 8.

When it is desired to operate the fire extinguisher, the hand screw 5 is turned, forcing the inner end of the same against the plug 4 in the gas container 3, thus opening the same and allowing the compressed gas to escape therefrom. The recess in the handle 2 is somewhat larger than the gas container 3 and allows the gas to pass into the interior of the receptacle 1, thus exerting a pressure upon the surface of the fire extinguishing liquid therein to forcibly eject said liquid through the discharge means.

Assuming the device to stand in the position shown, or tilted to one side or the other, the valve mechanism will occupy the position shown in the drawing. In this position the valve 15 is closed and the valve 16 is open, allowing the liquid in the lower portion of the receptacle 1 to enter the tubular member 9 through the opening 14, past the valve 16, through the recess in the central support

12 into the tubular shaft 6, through the opening 7, and, when the valve 8 is open, is forced out and directed upon the fire.

Should the device be inverted in position the mercury in the tube 20 flowing to the opposite end gives an impact or blow which causes the valve 16 to close and the valve 15 to open. The liquid, which is now in the opposite end of the receptacle 1, enters the tubular member 9 through the opening 13 and flows through the open valve 15 in the manner just described.

It will thus be seen that, regardless of the position of the device, the valve mechanism will automatically position itself so as to take the liquid from the lowest portion of the receptacle and thus insure substantially all of the liquid being forced out. The construction of the valve mechanism insures the quick and positive operation thereof, avoiding the chance of the valves becoming inoperative through failure to open and close properly, thus increasing the efficiency of the device. In other words, in the path from the interior of the receptacle to the discharge means, it is apparent that the fire-extinguishing fluid is always interposed between the fluid under pressure and said discharge means.

It will also be noted that, no matter in what position the device may be held, escape of the released gas through the discharge port 7 is prevented until practically all of the liquid in the receptacle has been discharged therefrom.

What I claim is:—

1. In a fire-extinguishing device, in combination, a receptacle for the fire-extinguishing fluid, said receptacle being provided with a discharge means adapted to direct said fluid in an unobstructed trajectory away from said receptacle, means within said receptacle for supplying fluid under pressure to said receptacle for forcibly ejecting said fire-extinguishing fluid, means whereby said fluid under pressure is effective in all positions of the receptacle to discharge the fire-extinguishing fluid, said last-named means being provided with an unobstructed passage for said fluid to said discharge means.

2. In a fire-extinguishing device, in combination, a receptacle for the fire-extinguishing fluid, said receptacle being provided with a discharge means at one end thereof adapted to direct said fluid in an unobstructed trajectory away from said receptacle, means within said receptacle at the other end thereor for supplying fluid under pressure to said receptacle for forcibly ejecting said fire-extinguishing fluid, means whereby said fluid under pressure is effective in all positions of the receptacle to discharge the fire-extinguishing fluid, said last-named means being provided with an unobstructed passage for said fluid to said discharge means.

3. A fire extinguisher comprising a hollow casing for fire extinguishing liquids provided with a nozzle at one end, a passage in said casing connected to said nozzle, a valve for controlling the flow of liquid through said nozzle, means within said hollow casing for supplying compressed gas to the interior of said casing, and automatic means for connecting said passage to whichever end of said casing is in lowermost position when it is being operated.

Signed at New York city, in the county and State of New York, this 30th day of September, 1913.

PETER G. MacGREGOR.

Witnesses:
LEWIS J. DOOLITTLE,
LUELLA F. LITTLE.