No. 893,153.

PATENTED JULY 14, 1908.

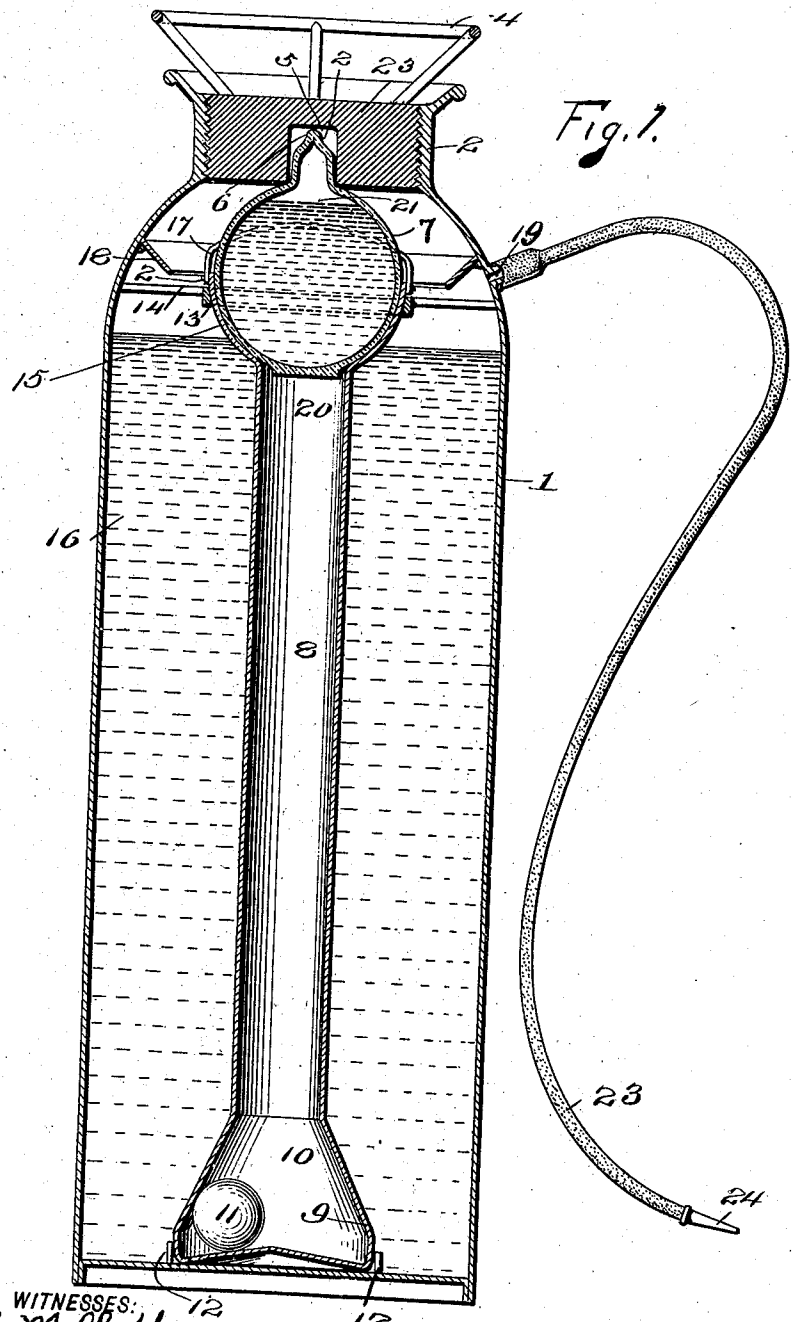
H. W. EGGLESTON.

FIRE EXTINGUISHER.

APPLICATION FILED MAY 17, 1906. RENEWED MAY 9, 1908.

2 SHEETS—SHEET 1.

Fig. 1.



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2 SHEETS—SHEET 2.

Fig 2

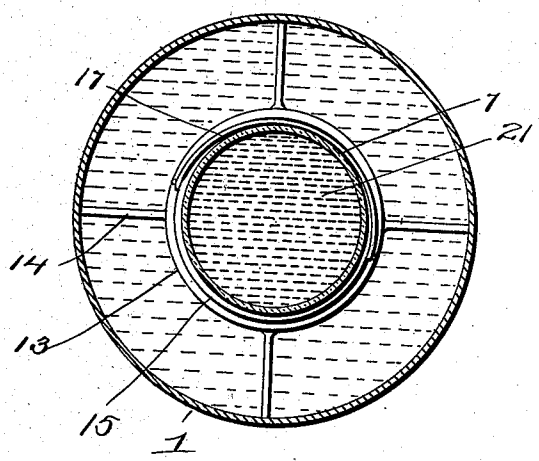
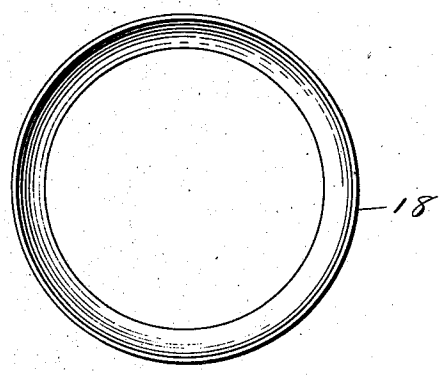


Fig 3



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UNITED STATES PATENT OFFICE.

HORACE W. EGGLESTON, OF BINGHAMTON, NEW YORK.

FIRE-EXTINGUISHER.

No. 893,153. Specification of Letters Patent. Patented July 14, 1908.

Application filed May 17, 1906, Serial No. 317,408. Renewed May 9, 1908. Serial No. 431,853.

To all whom it may concern:

Be it known that I, HORACE W. EGGLESTON, a citizen of the United States, residing at Binghamton, in the county of Broome and State of New York, have invented certain new and useful Improvements in Fire-Extinguishers, of which the following is a specification.

This invention relates to improvements in fire extinguishers, and more particularly to what are commonly known as hand fire extinguishers.

The invention comprises the production of a suitable tank, a tube closed at one end positioned within said tank, a receptacle supported by the open end of said tube containing an acid, and means positioned within said tube for breaking the receptacle positioned in the open end of said tube for permitting the two liquids to intermingle.

The invention further comprises the production of a tube closed at one end positioned within a suitable receptacle, the closed end being enlarged for accommodating a weight which is adapted to fall by gravity to the open end of said tube when the tank is inverted, a receptacle containing acid positioned in the open end of the tube and adapted to be broken by the ball formed upon the closed end against the same, means for holding the open end in proper relation to the tank, and means for preventing parts from the broken receptacle, containing the acid, entering the main tank.

The object in view is the production of a tank in which a plurality of liquids is situated, but in independent receptacles, and means for causing the intermingling of the liquids when the tank is inverted.

Another object of the invention is the production of a fire extinguisher in which fire extinguishing fluid is placed, and a receptacle hermetically sealed containing acid located within said tank and adapted to be broken for permitting the acid to intermingle with the fire extinguishing fluid, and means for preventing the broken parts of the receptacle from entering the discharge opening formed in one side of the tank.

With these and other objects in view, the invention comprises certain novel constructions, combinations and arrangements of parts, as will be hereinafter fully described and claimed.

In the accompanying drawings:—Figure 1 represents a vertical section through a fire extinguisher embodying the features of my invention. Fig. 2 is a sectional view on the line 2—2 of Fig. 1. Fig. 3 is a detached plan view of a guard ring or flange forming a part of my invention.

1 indicates a suitable tank adapted to hold fire extinguishing liquid and is formed with the usual screw-threaded opening 2 in which is placed a cap 3 having hand holes 4 for carrying the tank and handling the same. The cap or plug 3 is formed with a hollowed out portion 5 which is adapted to accommodate the hermetically sealed end 6 of an acid containing receptacle 7. The acid containing receptacle 7 is positioned in the open end of the tube 8 which is located preferably centrally of the container or tank 1. The lower end of the tube 8 is enlarged as at 9 and is closed at the end as at 10. The end 10 is convexed or bent upwardly so as to make an inclined bottom for the end of the tube 8. Normally resting within this enlarged portion 9 and on the inclined bottom 10 is a ball of any suitable heavy material 11. The inclined surface 10 causes the ball 11 to normally remain near the outer edge of the enlarged portion 9, so that it will not be liable to pass through the tube 8 until the container carrying with it the tube 8 has been almost completely inverted. Suitable lugs, as 12, are secured to the bottom of tank 1 for holding the lower or closed end of the tube 8 in proper position, while a ring 13 held in place by suitable brackets or arms 14 holds the upper or open end of the tube in position. The upper or open end of the tube 8 is enlarged so as to be of a cup-shaped contour for receiving the globular-shaped receptacle 7. The cup-shaped portion 15 may be made of any convenient size, and is shown in the drawing large enough to accommodate substantially half of the receptacle 7, but it will be evident that any size cup will accomplish the purpose desired, if the same is large enough to project or extend beyond the liquid 16 contained in the container 1. Bail-shaped handles, as 17, are pivotally secured to the enlarged portion 15 for adapting the tube 8 to be more readily inserted and removed from the container 1.

Secured to or made integral with the tank 1 is a flange 18 positioned opposite approximately the center of the acid containing receptacle 7 and surrounding the same. This

flange 18 is so positioned as to receive and retain any broken parts when the container is in operation so as to hold the same from entering the discharge opening 19.

The container 7 is made of fragile material and is formed at one end with a flattened portion, as 20, against which the ball 11 strikes when the container is inverted. Opposite the flattened portion 20 is a small extension 21 which fits into the opening or hollowed out portion 6 of the cap 3. The portion 21 is the place through which the acid in the receptacle 7 was passed when filling the same and then was sealed at the end, as at 22, for preventing the deterioration of the acid by contact with the air. By thus placing the acid in the receptacle and hermetically sealing the same, the acid is preserved an indefinite time without any danger of deterioration, evaporation or loss from any cause.

In operation when the tank or container 1 is desired to be filled or charged, the fire extinguishing liquid 16 is first placed in the receptacle 1, then tube 8 is placed in position and then the acid containing receptacle 7 placed in position on the enlarged or cup-shaped end of the tube 8. The cap 3 is then screwed into position and the container is then ready for use. In using the same it is only necessary to completely invert the container, and the ball 11 will leave its normal resting place in the enlarged portion 9 of tube 8 and fall by gravity against the flattened portion 10 and break the acid containing receptacle 7. This will permit the acid to freely intermingle with the fire extinguishing fluid 16 and by this intermingling gas is formed in the usual way and the fire extinguishing fluid is forced from the opening 19 through the hose 23 and out the nozzle 24. The broken parts of the acid containing receptacle 7 will naturally fall against the cap 3 and be retained against the same by the flange 18 during the operation of the container and thus the opening 19 will be kept free from any foreign matter.

One of the most important features of this invention is the particular way in which the tube 8 is placed in position. The position and the arrangement of the tube 8 with its enlarged closed end for accommodating a ball permits of the provision of a passage-way containing nothing but air through which the ball is compelled to pass when falling in order to break the receptacle 7. In inventions heretofore it has been very common to have openings near the top of the tube 8 so that when the container is inverted the same will begin to fill with liquid which, of course, will retard the passage of the ball 11. In the present invention, the fire extinguishing fluid cannot reach the interior of the tube 8 until after the ball 11 has broken the acid containing receptacle 7. This feature is considered to be of prime importance and is believed to make the invention of great practical use because of its being always sure of positive operation.

What I claim is:—

1. A fire extinguisher comprising a tank containing fire extinguishing fluid, a tube positioned within said tank and surrounded by said fire extinguishing fluid the interior not communicating with the liquid in said tank, an acid containing receptacle supported by said tube, means for holding said tube centrally of said tank, and means positioned within said tube for breaking said acid containing receptacle when the tank has been substantially inverted for permitting the acid to commingle with the fire extinguishing fluid for generating pressure in said tank.

2. A fire extinguisher comprising a tank containing fire extinguishing fluid, a tube positioned within said tank and surrounded by said fluid having an enlarged closed portion at one end with a beveled bottom and an enlarged cup-shaped portion formed at the opposite end, a ball normally positioned within said enlarged closed end and resting near the outer edge thereof, an acid containing receptacle positioned within the cup-shaped end of said tube and formed with a projecting sealed portion on one side and a flattened portion on the opposite side against which said ball strikes when the tank is inverted, and means secured to said tube for removing the same.

3. A fire extinguishing apparatus comprising a tank containing fire extinguishing fluid, an acid containing receptacle positioned within said tank, means for breaking said acid containing receptacle, and a tube closed at one end and extending to the bottom of said tank for providing an air space for the receptacle breaking means to pass through.

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

HORACE W. EGGLESTON.

Witnesses:

E. M. CLAPP,

M. E. MANNING.