No. 754,037. PATENTED MAR. 8, 1904.

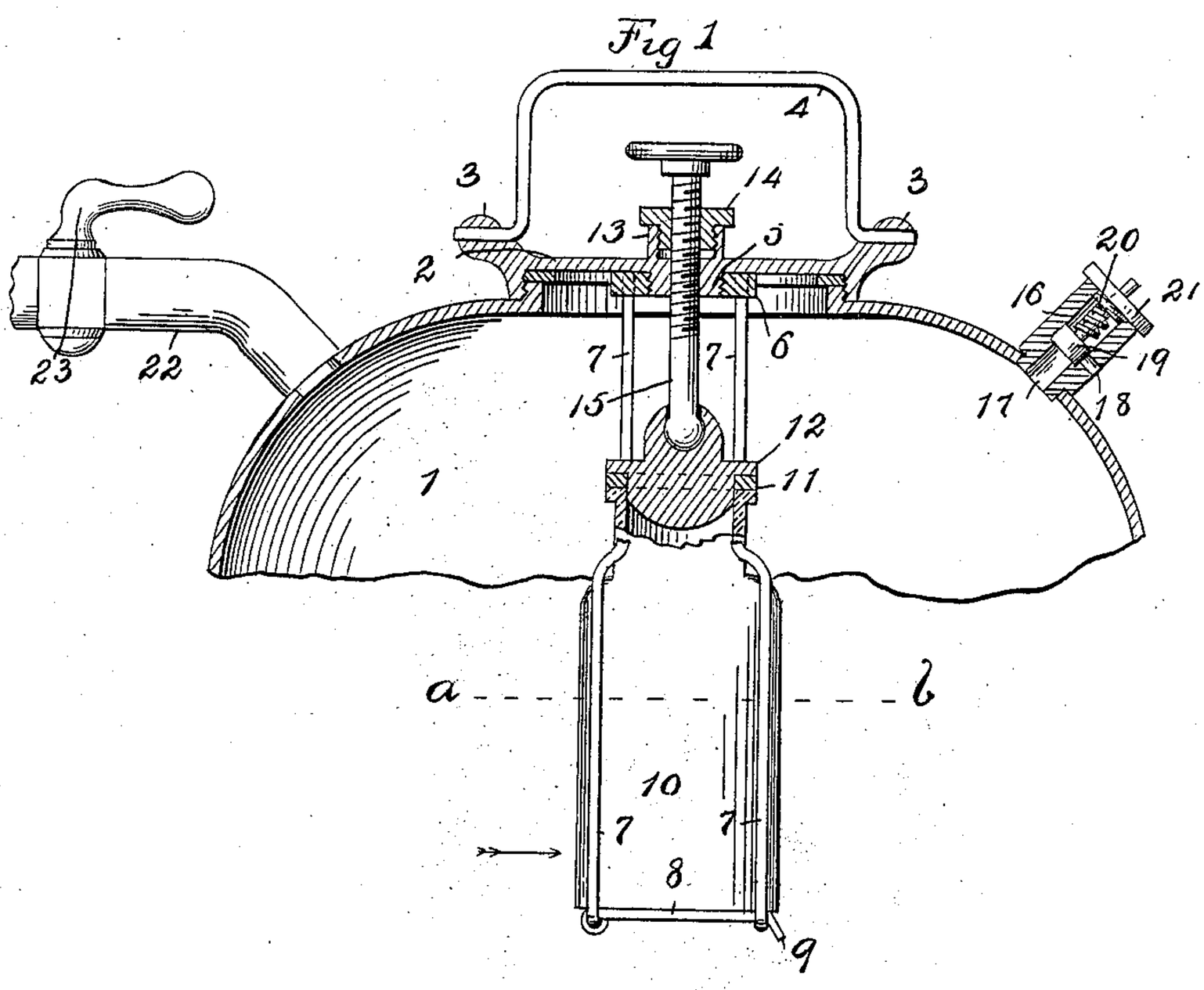
G. A. ANDERSON.

FIRE EXTINGUISHER.

APPLICATION FILED JUNE 23, 1902.

NO MODEL.

Fig 1



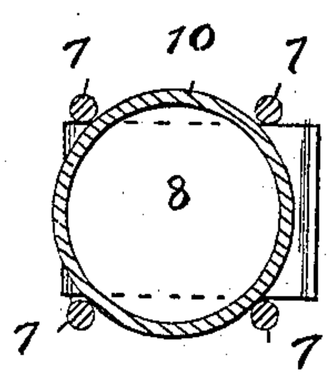


Fig 3

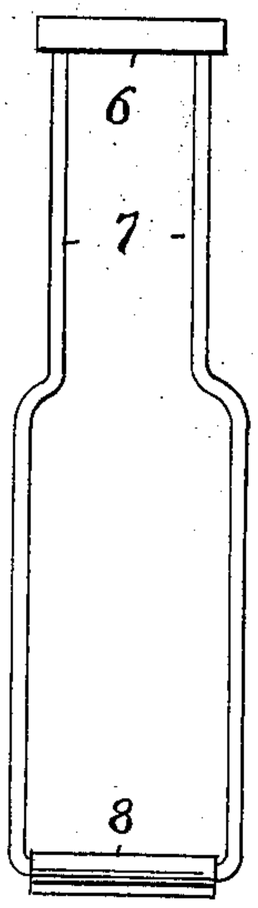


Fig 2

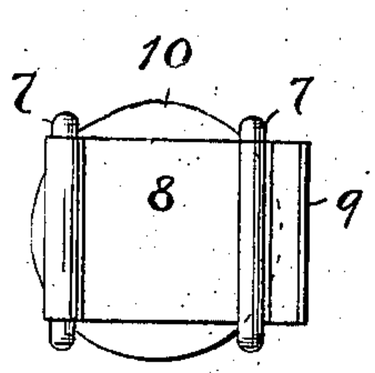


Fig 4

WITNESSES:

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No. 754,037. Patented March 8, 1904.

UNITED STATES PATENT OFFICE.

GUSTAF A. ANDERSON, OF KANSAS CITY, KANSAS.

FIRE-EXTINGUISHER.

SPECIFICATION forming part of Letters Patent No. 754,037, dated March 8, 1904.

Application filed June 23, 1902. Serial No. 112,771. (No model.)

To all whom it may concern:

Be it known that I, GUSTAF A. ANDERSON, a citizen of the United States of America, residing in Kansas City, in the county of Wyandotte and State of Kansas, have invented a new and useful Improvement in Fire-Extinguishers, of which the following is a specification, reference being had therein to the accompanying drawings, forming a part thereof.

My invention relates to improvements in fire-extinguishers.

The object of my invention is to provide a fire-extinguisher that is economical to manufacture and so constructed that the inner parts are readily accessible for the purpose of refilling the bottle containing the acid or for removing the parts for repairing.

My invention provides, further, a novel form of bottle-holder, the construction of which permits the ready extraction or insertion of the bottle containing the acid.

My invention provides also a novel form of bottle-stopper that securely seals the mouth of the bottle and prevents the emission from the bottle of acid-fumes.

Other novel features of construction are hereinafter fully described and claimed.

Referring to the drawings which illustrate my invention, Figure 1 is vertical central sectional view of the upper part of an extinguisher having fitted thereto the parts comprising my invention. In this view the bottle and a part of the bottle-holding device is shown in side elevation, parts of the same being shown in section. Fig. 2 is a side elevation view of the bottle-holding device shown detached. Fig. 3 is a cross-section taken on the dotted line *a b* of Fig. 1. Fig. 4 is a bottom view of the same.

Similar characters of reference indicate similar parts.

I indicates the gas-receptacle, which contains the water having an alkali in solution. It is provided at its upper end with a central circular screw-threaded boss having a central hole therethrough. Fitted to the boss is a cap 2, provided at its periphery with two diametrically opposite ears or lugs 3, having transverse holes therethrough, in which are fitted the ends of a swinging bail 4. On the under side of the cap is a circular boss 5, screw-threaded and having fitted thereon a nut 6, which has secured to it the upper ends of two U-shaped arms 7, disposed parallel with each other and having hinged to the horizontal portion of one arm a horizontal platform 8, the free end of which normally rests upon the horizontal portion of the other arm. The outer free end of the platform 8 is provided with a downwardly-extending lip 9, which serves to prevent the platform from slipping off the U-shaped arm on which it rests. Upon the platform 8 is mounted a bottle 10, which contains the acid that is mixed with the alkali solution in the gas-receptacle when the apparatus is to be used. The upper end of the bottle around the mouth is provided with a ground surface upon which rests a gasket of a soft metal not corrodible by the acid, such as lead. Upon the gasket 11 rests the stopper 12, which is provided with a projection on its under side fitting within the neck of the bottle.

The cap 2 is provided on its upper side with a central boss 13, provided with a central hole, which is screw-threaded and has fitted to it a screw-threaded plug 14, in which is mounted a vertically-movable operating-rod 15, the periphery of which is screw-threaded and fitted to a central screw-threaded hole in the cap 2. The lower end of the rod 15 has a universal-joint connection with the stopper 12. This is formed by means of a ball on the lower end of the rod, fitting a correspondingly-shaped hole in the upper end of the stopper.

16 indicates a fitting secured to the wall of the gas-receptacle 1 and provided with a longitudinal central hole 17, having leading therefrom through the side a lateral hole 18. A valve 19 is mounted in the longitudinal hole of the fitting 16, which is provided with a seat for the valve. The valve normally closes both the side opening 18 and the longitudinal hole 17. It is held in its seat by a spring 20, which encircles the stem of the valve and is held in place by a screw-threaded abutment 21, which is adjustably mounted on the fitting in the hole 17 thereof. An outlet-pipe 22 is provided in the wall of the gas-receptacle 1 and has fitted to it a cock 23, adapted to close the same. When in use, if it is desired to close

the cock 23 the gas-pressure sometimes will rise above the safe limit. In such event the spring 20 will be forced, with the valve 19, upward until the valve uncovers a portion of the hole 18, at which time a portion of the gas will pass out the said hole, thus preventing too great a pressure of gas in the gas-receptacle. By adjusting the cap or abutment 21 the proper pressure of the spring 20 is secured.

Between the plug 14 and the cap 2 is placed packing material 23.

If it is desired to remove the bottle 10, the cap 2 is unscrewed, and the cap and bottle-supporting mechanism is removed from the gas-receptacle 1. The operating-rod 15 is then so turned as to vertically elevate it, carrying with it the stopper 12 and the gasket 11. The bottle is then slightly raised in the frame and the U-shaped arms 7 are sprung apart at their lower ends, so as to free the platform 8, which is then swung down, and the bottle can then be removed by forcing it downwardly from between the arms 7. It can then be filled with acid, if needed, and replaced between the arms 7, after which the platform 8 is swung on its hinge into the position shown in Fig. 1. By having the lead gasket 11 fit on a ground upper end of the bottle a tight joint is made at the mouth of the bottle, the universal-joint connection between the rod 15 and the stopper 12 permitting the stopper to rest evenly on all the upper surface of the gasket 11 even if the supporting-frame for the bottle is not exactly perpendicular to the rod 15.

My invention is capable of many modifications, while retaining its spirit.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a fire-extinguisher, the combination with the closing-cap, of a member connected therewith, two U-shaped bottle-supporting arms secured to the said member at their ends, and a platform for the bottle hinged to the horizontal portion of one of said arms and having its other free end adapted to rest upon the horizontal portion of the other U-shaped arm, substantially as described.

2. In a fire-extinguisher, the combination with the closing-cap provided with a boss on its inner side, of a nut mounted on the said boss and having screw-threaded connection therewith, two U-shaped bottle-supporting arms secured at their ends to the said nut, and a platform for the bottle hinged to the horizontal portion of one of said arms and having its free end provided with a lip and adapted to rest upon the horizontal portion of the other U-shaped arm, substantially as described.

3. In a fire-extinguisher, the combination with the bottle having a ground surface encircling the mouth, of the cap provided with a screw-threaded boss on its inner side, a nut mounted thereon, two U-shaped arms secured to the nut at their ends, a platform on which the bottle rests hinged to the horizontal portion of one of the U-shaped arms and adapted to have its free end rest upon the horizontal portion of the other U-shaped arm, a soft-metal gasket resting upon the said ground surface of the bottle, a stopper resting upon the gasket, and an operating-rod adapted to be moved vertically through the cap and having a universal-joint connection with the stopper, substantially as described.

4. In a fire-extinguisher, a bottle-supporting frame comprising a pair of U-shaped arms disposed parallel with each other, a plate secured to their upper ends, and a platform for the bottle hinged to the horizontal portion of one of the U-shaped arms and having its free end adapted to rest upon the horizontal portion of the other U-shaped arm, the said platform being provided outside the latter-named arm with a downwardly-extending lip, substantially as described.

5. In a fire-extinguisher, the combination with the liquid and gas receptacle provided with a hole, of a cap for closing said hole, two U-shaped arms supported at their ends by the said cap and movable toward and from each other at their lower ends, a bottle-supporting platform hinged to one of said U-shaped arms and resting at its free end upon the horizontal portion of the other of said U-shaped arms, the platform being provided with means for preventing disengagement normally of the platform from the arm on which its free end rests.

6. In a fire-extinguisher, the combination with the liquid and gas receptacle provided with a gas-outlet and means for controlling the flow therefrom, and having a hole in the top, of a cap covering said hole and provided with means for being releasably secured to the receptacle, two U-shaped arms of substantially equal length and supported at their upper ends to the cap and movable toward and from each other at their lower ends, a horizontal plate having one end formed into a tubular portion which encircles the horizontal portion of one of said U-shaped arms, the other end of the plate resting upon the horizontal portion of the other U-shaped arm and provided with a downwardly-extending lip outside of and preventing outward movement of said arm, an acid-receptacle having an opening at its upper end and resting upon said plate, and releasable means for closing the said opening in the acid-receptacle.

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

GUSTAF A. ANDERSON.

Witnesses:
WARREN D. HOUSE,
R. E. HAMILTON.