No. 883,679. PATENTED MAR. 31, 1908.

J. A. E. ANDERSON.

PORTABLE FIRE EXTINGUISHER.

APPLICATION FILED APR. 5, 1906.

Fig. 1.

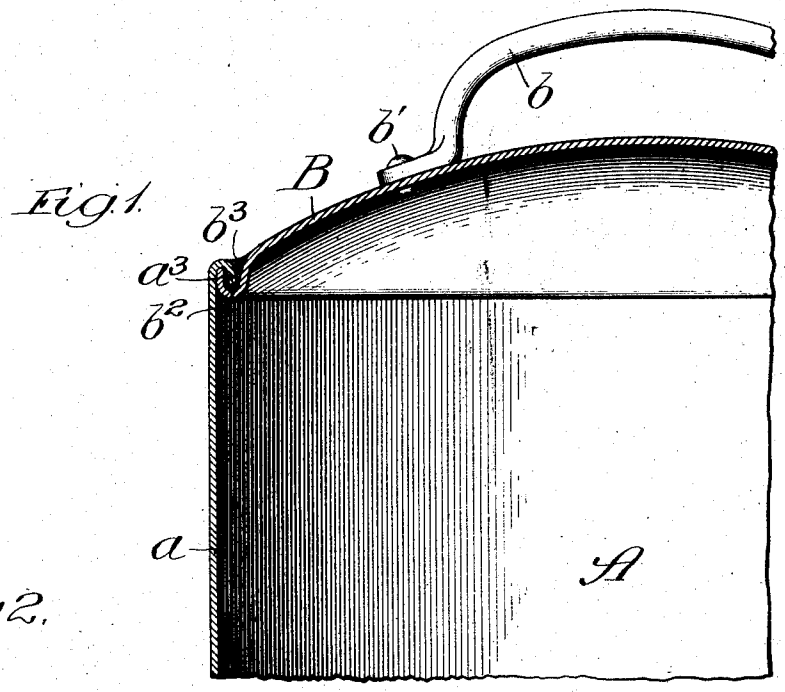
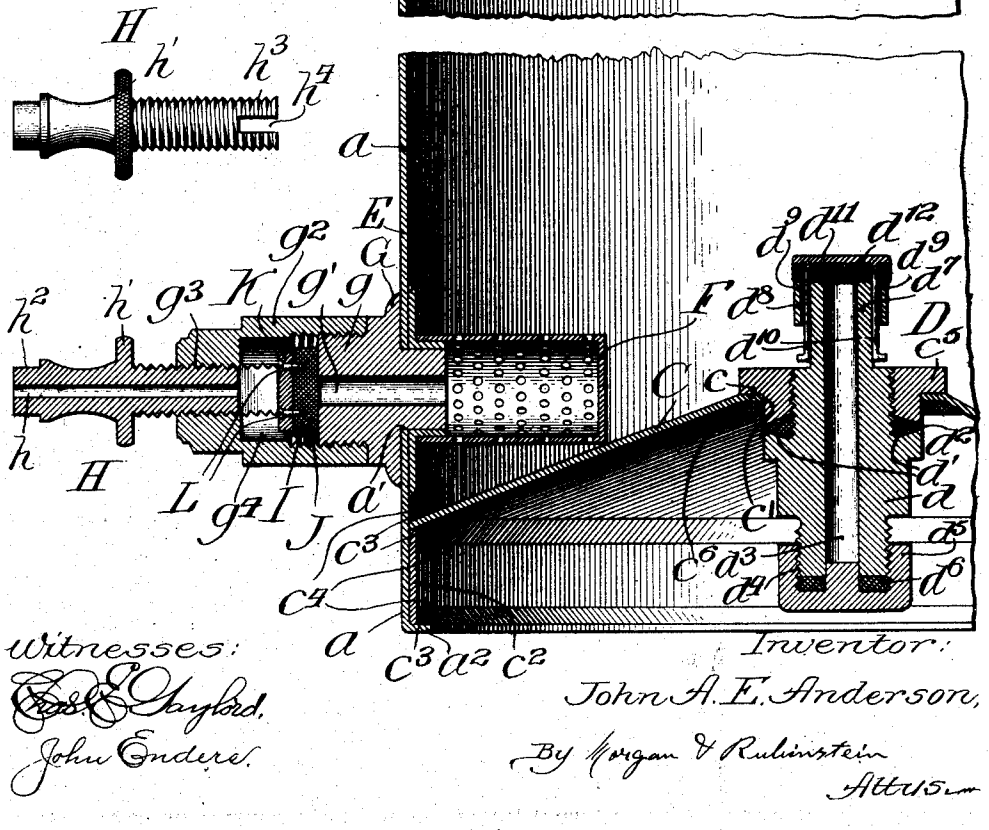


Fig. 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

JOHN A. E. ANDERSON, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF TO SAMUEL A. HITCHCOCK, OF CHICAGO, ILLINOIS.

PORTABLE FIRE-EXTINGUISHER.

No. 883,679. Specification of Letters Patent. Patented March 31, 1908.

Application filed April 5, 1906. Serial No. 310,053.

To all whom it may concern:

Be it known that I, JOHN A. E. ANDERSON, a citizen of the United States, residing at 88 Park street, in the city of Chicago, county of Cook, and State of Illinois, have invented a new and useful Improvement in Portable Fire-Extinguishers, of which the following is a specification.

My improvement relates to that class of fire extinguishers which are adapted for instant use, can be used by one person to throw a stream of water or chemical fluid on a fire.

The object of my invention is to secure the highest resistance by the tank to internal pressure combined with the lightest material; to combine the filling with both air and fluid to the same aperture in the tank; to increase the force of the stream by air pressure; to combine the outlet and discharge nozzle, and to reduce the cost of the extinguisher.

The manner in which I accomplish my object is described in the following specification and illustrated in the accompanying drawings, in which:

Figure 1 is a central vertical sectional view of the extinguisher, with all its parts in their relative positions. Fig. 2 is a view of the nozzle separated from the discharge valve.

In the drawings A is a tank constructed of suitable material, size and shape. The body of the tank —*a*— is preferably of cylindrical form having an aperture —a^1— near the bottom for the discharge, and a flange —a^2— at the bottom edge and a curved flange —a^3— at the top edge. Engaged in this top flange is the top B of the tank; this is convex in outward form and provided with a handle —*b*— which is riveted to the top by rivets —b^1—. The circular edge of this top is flanged to form a channel —b^2—. This channel is adapted to receive the flanged edge of the body of the tank. These flanges are affixed together by a body of solder —b^3—, the parts being well sweated together. The bottom C of the tank is conical in form having a flat top —*c*— and a central aperture —c^1—. This bottom is adapted in diameter to fit the interior of the body of the tank and to rest on a ring —c^2— which rests on the bottom flange —a^3— of the body of the tank and is affixed to the interior of said body. The external and internal joints formed by this body of the tank, flange, ring and bottom are strengthened by wire rings, —c^3— and by bodies of solder —c^4— which are sweated into these parts. The ring —c^3— and the conical shape of the bottom places the center of the bottom some distance into the interior of the tank. In the aperture —c^1— a flanged bushing —c^5— is affixed by a body of solder —c^6— sweated into the bottom C and the bushing. The interior of this bushing is threaded and forms part of a valve D through which the tank is filled. Screwed into this bushing is the body —*d*— of the valve, the shoulder —d^1— of this part is under cut and with the bottom of the bushing forms a V shaped space between these parts. In this space is a lead ring —d^2— adapted to fit the V shape and under pressure this ring is forced inward on to the threaded part thereby forming a perfect air and water tight joint.

Through the center of the part —*d*— is a passage way —d^3—. On the external threaded end —d^4— is a cap —d^5— containing a lead gasket —d^6— adapted to close the passageway —d^3— and to form a perfect air and water tight joint. The length of the part —*d*— and the cap —d^5— is adapted to bring the bottom of the cap within the base line of the bottom flange on the body part of the tank. In the interior of the tank the part —*d*— of the valve is in the form of an extended neck —d^7— and a head —d^8—. Through this head are two vertical holes —d^9—, adapted to hold pins —d^{10}— which are adapted to be moved in them. Affixed to the ends of these pins is a cap —d^{11}—. Attached to this cap by these pins is rubber disk —d^{12}— adapted to cover the head —d^8— and to form a valve to open and close the passage way —d^3. The movement of this valve is limited by the heads on the pins —d^{10}— which are adapted to engage the underside of the head —d^8—. In the interior of the body of the tank and registering with the aperture therein is a flanged ring E, this ring is permanently affixed to the tank and forms a support for the discharge valve connections. Affixed to this ring in the interior of the tank is a perforated cylindrical strainer F. Supported in the flanged ring E and in the aperture —a^1— and on the body of the tank is a flanged bushing —G —having a threaded part —*g*— and a central passage way —g^1. Fitted on to this bushing is a cylindrical extension —g^2— having a central aperture —g^3—, and chamber —g^4—. This aperture is threaded and adapted to support a nozzle

H, having a central aperture —h— a knurled bead —h^1— and is adapted at —h^2— to receive and hold a hose. The threaded end —h^3— has a slot —h^4— and is adapted to extend into the chamber —g^4—. In this chamber is a valve I consisting of a rubber disk J adapted to cover the end of the bushing and close the hole therein. Affixed to this disk is a metallic cap K secured to the disk by screws L. This cap is somewhat larger in diameter than the end —h^3— of the nozzle, which is adapted to engage it and to force it and the disk against the end of the bushing.

When the extinguisher is constructed as described and illustrated, it is operated as follows: The tank is placed with the bottom up. The cap —d^5— is removed from the body of the valve D and the water or chemical mixture run into the tank through the hole —d^3— and valve —d^{12}— which drops to the limit allowed by the pins —d^{10}—. When the tank has been thus filled to the limit desired, an air pump is then attached to the threaded end —d^4— and the tank filled with the pressure desired. This air pressure closes the valve when the pump stops. The pump is removed and the cap screwed in place. The extinguisher is then set on the flanged bottom and is ready for instant use. With the thumb and finger on the beaded part of the nozzle, a single turn releases the valve —I— allowing the fluid to pass into the chamber —g^4— through the slot —h^4— and through the nozzle. The reversing of the nozzle closing the valve.

What I claim as new and desire to secure by Letters Patent is:

1. In a fire extinguisher of the kind described the combination comprising a tank having a cylindrical body flanged at top and bottom, a top flanged into the top of said body, a ring supported on the bottom flange inside of said body and affixed thereto; a conical bottom affixed on said ring and in said body; a combination water and air valve affixed in the apex of said bottom, said valve consisting of a bushing, a member insertible in said bushing, a compressibe ring adapted to form a joint between said bushing and member, a movable valve on the end of said member in said tank, and a cap on the external end of said member; a discharge valve in the side of said main body, consisting of a bushing, a chamber supported thereon, a valve in said chamber, and a nozzle supported in said chamber adapted to close said valve.

2. In a fire extinguisher of the kind described the combination with a sheet metal tank consisting of a flanged body and flanged top affixed in said main body of a conical shaped bottom extending upward in said tank, said bottom being joined to said main body and supported on a ring affixed inside said main body and bottom flange thereon; and a discharge valve affixed in said main body of said tank consisting of a fixed bushing, a cylindrical extension having an internal chamber and adapted to be supported on said bushing; a valve adjustable in said chamber and a nozzle supported in said extension and adapted to engage and close said valve substantially as described and for the purposes specified.

3. In a fire extinguisher of the kind described the combination with a sheet metal tank consisting of a flanged body, a flanged top joined thereto, a bottom affixed therein and conical in form; of a combined water and air valve affixed in said bottom, said valve consisting of a main body affixed in said bottom and having a central aperture extending into said tank, an external cap adapted to close the outer end of said body and aperture therein, and a valve adjustably supported on the internal end of said body adapted to close the inner end of said aperture; and a discharge valve affixed in said tank, and an adjustable nozzle supported in said valve adapted to open and close said discharge valve, substantially as described and for the purposes specified.

4. In a fire extinguisher of the kind described the combination of a tank having fixed top and bottom, said bottom being conical in form, and a combined water and air valve affixed in said bottom; with a discharge valve affixed in said tank, said valve consisting of a flanged bushing affixed in said tank, a chambered cylindrical extension attached to said bushing and having a threaded aperture adapted to support a nozzle, a valve movable in said chamber in said extension, and a threaded nozzle, supported in said extension, having a slotted end, said slotted end being adapted to engage and close said valve in said chamber, substantially as described and for the purposes specified.

5. The combination with the bottom of a fire extinguisher of the kind described; of a combined water and air valve, one of the members of said valve being affixed in said bottom, the face of said member having an inward bevel, the main body of said valve being insertible in said fixed member, and having a shoulder beveled inward and forming together with the beveled face of said fixed member an annular V shaped channel, the bottom of said channel forming the base of the angle; and a lead ring adapted to fit in said channel and to form a removable water and air tight joint, substantially as described and for the purposes specified.

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Witnesses:
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