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J. M. MILLER.

ACID BOTTLE CAGE FOR FIRE EXTINGUISHERS.

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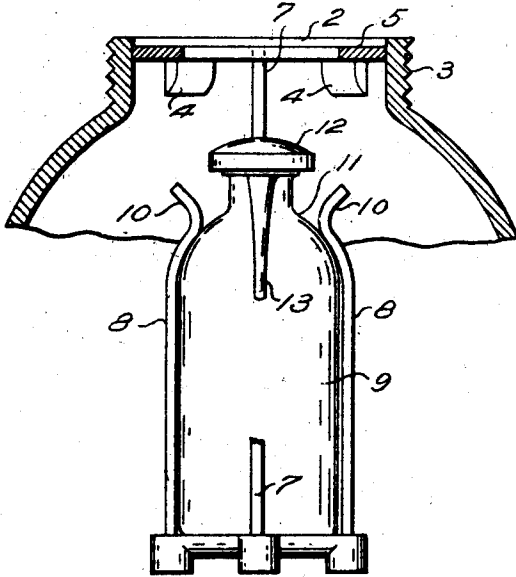


Fig. 1.

Fig. 2.

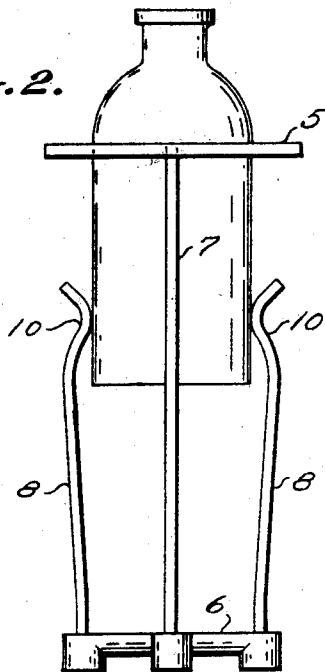
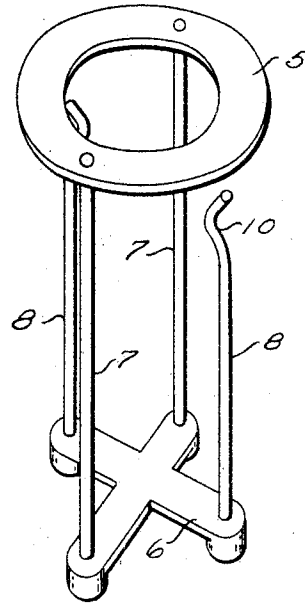


Fig. 3.



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UNITED STATES PATENT OFFICE.

JOSEPH M. MILLER, OF CHICAGO, ILLINOIS.

ACID-BOTTLE CAGE FOR FIRE-EXTINGUISHERS.

No. 883,326.

Specification of Letters Patent.

Patented March 31, 1908.

Application filed April 30, 1906. Serial No. 314,534.

To all whom it may concern:

Be it known that I, JOSEPH M. MILLER, a citizen of the United States of America, and a resident of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Acid-Bottle Cages for Fire-Extinguishers, of which the following is a specification.

This invention relates to chemical fire extinguishers and has particular reference to the bottle holder or "cage" for supporting the acid bottle.

Chemical fire extinguishers of the class to which this invention relates, usually consist of a casing or tank having an opening at its upper end and containing a liquid suitable for fire extinguishing purposes. A bottle containing an acid or chemical is supported in a fixed position in the upper part of the casing with its mouth spaced away from the cap which closes the casing, the mouth of the bottle being usually closed by a loose cap. The liquid in the casing also contains an agent which, when mixed with the chemical in the bottle, causes a rapid formation of gas, the pressure of which is used for discharging the liquid from the casing. The mixing of these chemicals is usually accomplished by inverting the casing and permitting the chemical in the bottle to flow out.

The main objects of this invention are to provide a simple and improved form of cage for supporting the acid bottle in fire extinguishers of this class, and to provide a construction for such cages which will permit the bottle to be readily inserted or withdrawn from the cage, to be supported in a fixed position within the casing, to be readily removed from or inserted in the cage without withdrawing the cage from the casing, and to provide a resilient form of clip capable of holding a bottle in a partly lifted position in the cage for convenience in filling the same. I accomplish these objects by the device shown in the accompanying drawings, in which:

Figure 1 is a side elevation, partly broken away, of an acid bottle cage constructed according to this invention, the casing of the fire extinguisher being shown in section and partly broken away. Fig. 2 is a side elevation of the cage showing the bottle supported in a partly lifted position. Fig. 3 is a perspective view of the cage with the bottle removed.

In the construction shown in the draw-

ings, the casing 1 of the fire extinguisher is provided at its upper end with an opening or throat 2 having a threaded neck 3. The cap of the fire extinguisher which closes the opening 2 is of well known construction and is not shown in the drawings. The interior of the neck 3 is provided with a plurality of lugs 4 which form shoulders for supporting the bottle holder or cage. The cage consists of a ring 5 which is of suitable size to fit within the neck and rest upon the lugs 4. A bottom 6, is secured in parallel relation with the ring 5 and is rigidly connected therewith by a pair of upright side supports 7 which are fastened to the bottom at opposite ends of one of the arms thereof. Spring clips 8 formed of resilient wire are rigidly fastened to the opposite ends of the other arm of the bottom 6 and extend upwardly so as to provide a cage for confining an acid bottle 9 between said vertical wires when seated upon the bottom 6. The clips 8 are bent inward at 10 near their upper ends so as to extend over the shoulder 11 of the bottle and support the same when the casing is inverted.

The clips 8 are bent outwardly above the bends 10 so that they will spring outward to permit the bottle to be inserted into position. The usual loose cap 12 is provided for closing the neck of the bottle and has the shank 13 which extends into said neck to prevent the cap from falling out of place when the extinguisher is inverted or turned on its side.

The operation of the device shown is as follows: The bottle is inserted into the cage by passing the same downward through the ring 5 and pushing it down until the clips 8 engage its shoulder and hold it firmly in position. The yielding structure of the clips 8 causes the same to bear upon the bottle to prevent its rattling, and also to accommodate themselves to variations in the size of the bottles. When the casing 1 is inverted after its outer cap has been screwed into place, the bottle is supported by the clips 8 so that the cap 12 of the bottle will fall away from the mouth sufficiently to permit the fluid contents of the bottle to run out and mix with those of the casing.

For convenience in filling the bottle, it may be partly lifted from the cage and will be held by the clips 8, in such partly lifted position, as shown in Fig. 2. This permits it to be filled without entirely removing it from the cage. A further advantage of this

structure is that the bottle may be removed or held in a partly lifted position or replaced into the cage without the removal of the cage from the casing. This feature is of great
5 advantage to the persons who refill the bottle with acid in that it greatly reduces the amount of handling of the bottle and reduces the liability of getting acid upon the hands.

What I claim as my invention and desire
10 to secure by Letters Patent is:

In a fire extinguisher, the combination of a casing having an upwardly opening neck with an internal seat for a ring, a ring supported on said seat, a pair of rods depending
15 from the ring, a bottom supported by said rods, a second pair of rods of spring material, having their upper ends diverging and terminating below and free from said ring,

and each having an inwardly projecting shoulder, a bottle adapted to pass freely
20 through said ring while said ring is on said seat, and being held upon said bottom by said shoulders with the bottle mouth upward, said shoulders being adapted to also support said bottle in a partly withdrawn
25 position, with its mouth projecting above the ring, while said ring is on said seat, and the bottle holder formed of said ring, rods and bottom being adapted to be lifted bodily
30 from said casing with said bottle.

Signed at Chicago this 28th day of April 1906.

JOSEPH M. MILLER.

Witnesses:

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