

No. 673,204.

Patented Apr. 30, 1901.

**T. F. HANDLY.
FIRE EXTINGUISHER.**

(Application filed July 25, 1898.)

(No Model.)

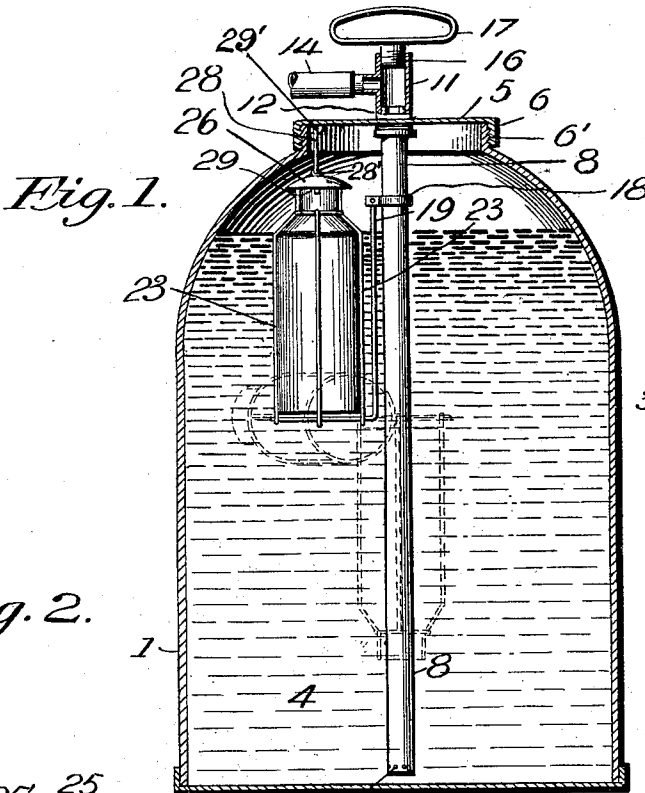


Fig. 2.

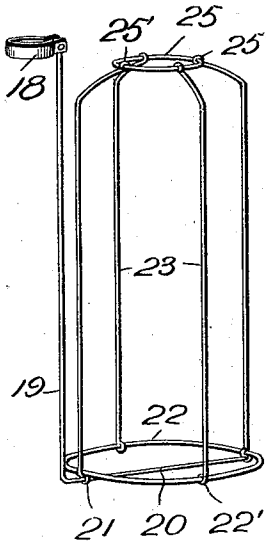
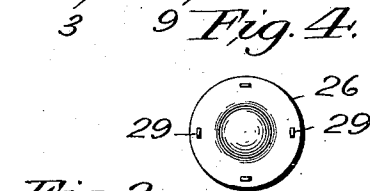


Fig. 3.

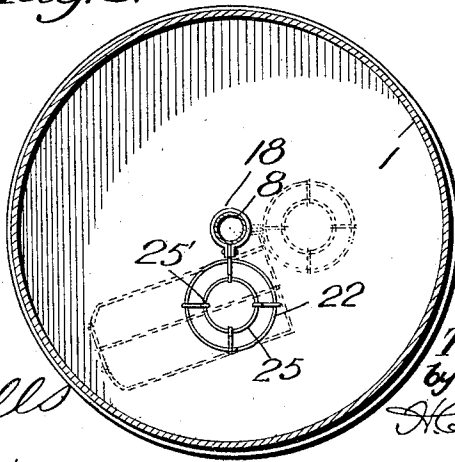
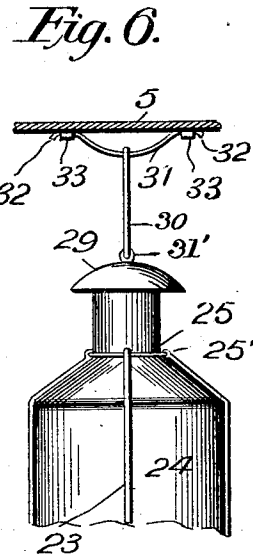


Fig. 6.

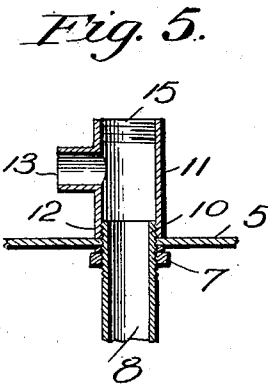


Fig. 5.

WITNESSES:

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UNITED STATES PATENT OFFICE.

THOMAS F. HANDLY, OF ALLEGHENY, PENNSYLVANIA.

FIRE-EXTINGUISHER.

SPECIFICATION forming part of Letters Patent No. 673,204, dated April 30, 1901.

Application filed July 25, 1898. Serial No. 686,786. (No model.)

To all whom it may concern:

Be it known that I, THOMAS F. HANDLY, a citizen of the United States of America, residing at Allegheny, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Fire-Extinguishers, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to certain new and useful improvements in fire-extinguishers.

The object of my invention is to construct a fire-extinguisher having an acid-receptacle suspended therein, which is adapted to be inverted by means of the outlet-tube and suspended therefrom in such a manner that a complete neutralization of the acid contained therein will be effected.

My invention consists in providing a suitable cage to contain the acid-receptacle which is pivotally secured to a suspending-rod secured to the outlet-tube and a sealing means for the mouth of the acid-receptacle.

My invention further consists in the novel combination and arrangement of parts hereinafter more fully described, illustrated in the accompanying drawings, and particularly pointed out in the claims.

In describing the invention in detail reference is had to the accompanying drawings, in which—

Figure 1 is a central vertical section of a fire-extinguisher embodying my invention, showing the acid-receptacle in its sealed position in full lines and in dotted lines its position when the outlet-tube is turned to break the seal and permit the inversion of the acid-receptacle and its cage. Fig. 2 is a detail perspective view of the cage which holds the acid-receptacle. Fig. 3 is a horizontal sectional view of the extinguisher, showing the normal position of the cage in full lines and in dotted lines the positions it assumes when the seal of the acid-receptacle is broken. Fig. 4 is an underneath plan view of the sealing-cap. Fig. 5 is a vertical sectional view of the upper portion of the outlet-tube, the coupling therefor, and a part of the closure-cap for the extinguisher-receptacle. Fig. 6 is a side view of a part of the acid-receptacle and its cage, showing a modified form of sealing-cap.

Referring to the drawings, in which like numerals of reference indicate corresponding parts throughout the several views, 1 indicates the fire-extinguisher receptacle, having a mouth or opening 2, and a bottom 3, suitably secured thereto.

4 denotes the alkaline solution contained in the extinguisher shown in broken lines.

5 is a closure-cap for the mouth of the extinguisher-receptacle, and has a screw-threaded collar formed integral with its under face, as at 6, and is adapted to be secured to the extinguisher, as at 6'. The closure-cap has an opening formed therein at its center to receive the outlet-tube 8.

8 is an outlet-tube, which is perforated at one end, as at 9, and screw-threaded exteriorly at its opposite end, as at 10. The outlet-tube 8 is adapted to be secured in the closure-cap 5 by means of the screw-threaded collar 7, which prevents the tube being pulled outwardly when operated. The outlet-tube extends above the closure-cap 5 a certain distance, as shown in Fig. 4. The extending end of the outlet-tube is adapted to receive a coupling 11, which is interiorly screw-threaded, as at 12. Formed integral to one side of the coupling is a discharge-pipe 13, which is adapted to receive or have suitably secured thereto a hose-pipe 14 for carrying off the extinguishing solution. The upper end of the coupling is interiorly screw-threaded, as at 15, and is adapted to receive the supporting end 16, which is exteriorly screw-threaded, of the operating-handle 17. The supporting end of the handle is also used as a closure or stopper for the upper end of the coupling 11. Secured to the outlet-tube, on the upper part thereof, is a clamp 18, which has pivotally secured thereto a suspending-rod 19, which is of the length of the cage containing the acid-receptacle. The rod is bent at right angles, as at 20, and is pivotally secured, as at 21, to the ring 22 of the cage. This rod supporting the cage containing the acid-receptacle when the cage has been inverted by the turning of the handle 17, and owing to the rod being pivotally secured to the ring 22, allows for a to-and-fro motion of the cage and acid-receptacle.

The cage for holding or sustaining the acid-receptacle is formed of a series of rods 23,

bent to conform to the shape of the acid-receptacle 24, and the upper ends of these rods are secured to a ring 25, which is of less diameter than the ring 22. The upper ends of the rods 23 are secured to the ring 25 as at 25' and the lower ends as at 22'.

26 indicates a sealing-cap for the mouth of the acid-receptacle. I may also term this a "sealing" or "securing" plate. The cap or plate 26 has formed integral with its lower face a series of lugs or projections 29 for securing the mouth of the receptacle in the desired position. The cap or plate 26 also acts as a means for securing the cage and the receptacle in an elevated position until the same are inverted by means of the outlet-tube. The upper face of the cap or plate 26 is pivotally secured to a rod 28, as at 28', and this rod is pivotally secured to the lower face of the closure-cap 5, as at 29'.

In Fig. 5 I have shown a modified form of a rod for suspending the sealing cap or plate, and it consists of a rod 30, which is pivotally secured to the upper face of the cap or plate, as at 31', and the opposite end of the rod is rigidly secured to a spring 31. This spring 31 is turned upward at 32 to prevent the displacement thereof from the guides 33, in which the spring is slidably secured. The guides 30 are formed integral with the lower face of the closure-cap 5.

It will be readily apparent that when the outlet-tube is turned by means of the handle 17 the neck of the acid-receptacle will be dislodged from the sealing means, and owing to the cage which contains the acid-receptacle being pivotally secured to the suspending-rod it will immediately invert itself and assume the position shown in vertical dotted lines in Fig. 1.

The acid-receptacle will discharge the acid contained therein on its downward movement, and when finally suspended in the position as shown in Fig. 1 the entire amount of acid will be eliminated thereby, resulting in a complete neutralization of the acid, and the necessary quota of extinguishing and expelling gas will have been generated. The solution will then be thoroughly impregnated with the gas.

It will be noted that various changes may be made in the details of construction without departing from the general spirit of my invention.

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

1. In a fire-extinguisher, an outlet-tube suitably arranged therein, a cage constructed of a series of wire rods, an acid-receptacle mounted in the said cage, a suspending-rod suitably connected at its upper end to the said tube and pivotally connected at its lower end to the said cage, and means secured to the said outlet-tube for inverting the said cage and acid-receptacle which when inverted

are suspended by the said rod, substantially as set forth.

2. In a fire-extinguisher, an outlet-tube suitably arranged thereon, a cage, an acid-receptacle mounted therein, a suspending-rod for the said cage and acid-receptacle connected to the said outlet-tube and pivotally connected to the said cage, and means for completely inverting the said cage and acid-receptacle, substantially as set forth.

3. In a fire-extinguisher, an outlet-tube suitably arranged therein, a cage constructed of a series of wire rods, an acid-receptacle mounted in the said cage, a suspending-rod suitably connected at its upper end to the said outlet-tube and pivotally connected at its lower end to the said cage, sealing means for the said receptacle arranged in the said extinguisher adapted to retain the receptacle in an upright position, and means secured to the said outlet-tube for completely inverting the said cage and acid-receptacle which when inverted are suspended by the said rod, substantially as set forth.

4. In a fire-extinguisher, the combination of an outlet-tube, a cage, an acid-receptacle mounted therein, a suspending-rod for the said acid-receptacle and cage connected to the said outlet-tube and pivotally connected to the said cage, means for sealing the said receptacle retaining the same and the cage in an elevated position, and means secured to the said outlet-tube for completely inverting the said receptacle and cage, substantially as set forth.

5. The combination of an extinguisher-receptacle, an outlet-tube arranged therein, a suspending-rod suitably connected to the said tube, a cage constructed of a series of wire rods secured thereto, an acid-receptacle mounted therein, a sealing-plate suspended in the said extinguisher-receptacle for sealing as well as supporting the said receptacle in an elevated position, and means secured to the said outlet-tube for completely inverting the acid-receptacle, the said acid-receptacle when inverted being suspended by the said rod, substantially as set forth.

6. In a fire-extinguisher, the combination with the liquid-receptacle having a closure-cap, of an outlet-tube rotatably mounted in said cap, means connected to the outer end of said tube for rotating same, a clamp secured to the outlet-tube within the receptacle, a suspending-rod pivotally connected to said clamp, a cage pivotally suspended on said rod, an acid-receptacle carried by said cage, and a seal adapted to seal and support the acid-receptacle when the latter is in an upright position, the said seal being adapted to be broken by the rotating of the outlet-tube to permit the cage to swing upon its pivot and the cage and acid-receptacle to hang inverted in the receptacle while the acid-receptacle is discharging its contents.

7. In a fire-extinguisher, the combination

with the liquid-receptacle having a closure-cap, of an outlet-tube rotatably mounted in the cap and extending within the receptacle, a suspending-rod pivotally connected to the
5 outlet-tube within the liquid-receptacle, a cage pivotally supported on said rod, an acid-receptacle carried by said cage, and a spring-seal carried by the closure-cap for sealing and retaining the acid-receptacle in an upright
10 position, the said acid-receptacle being adapted to be released from its seal by the turning of the outlet-tube and be suspended in the inverted position while discharging its contents, substantially as described.

15 8. In a fire-extinguisher, the combination with a liquid-receptacle having a closure-cap,

of a cage, an acid-receptacle carried by said cage, a spring-seal carried by the closure-cap for sealing and retaining the acid-receptacle in an upright position, and a rotatable out- 20 let-tube from which the cage is pivotally suspended whereby upon the rotating or turning of said tube the seal is broken and the cage and acid-receptacle permitted to fall inverted within the liquid-receptacle, substantially as 25 described.

In testimony whereof I affix my signature in the presence of two witnesses.

THOMAS F. HANDLY.

Witnesses:

JOHN NOLAND,
E. W. ARTHUR.