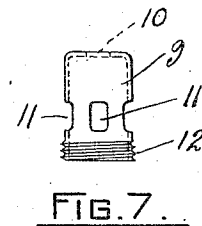
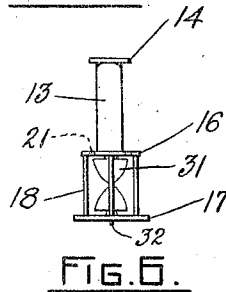
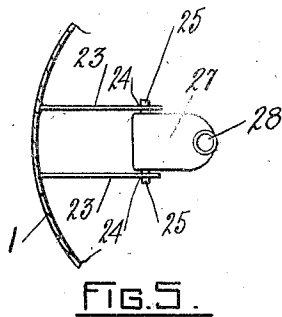
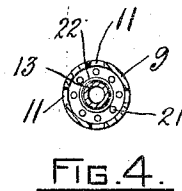
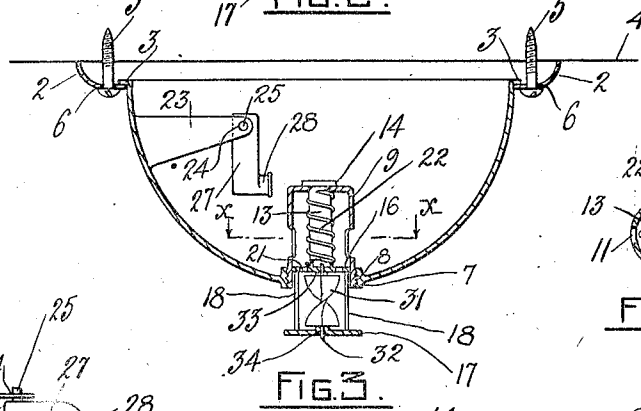
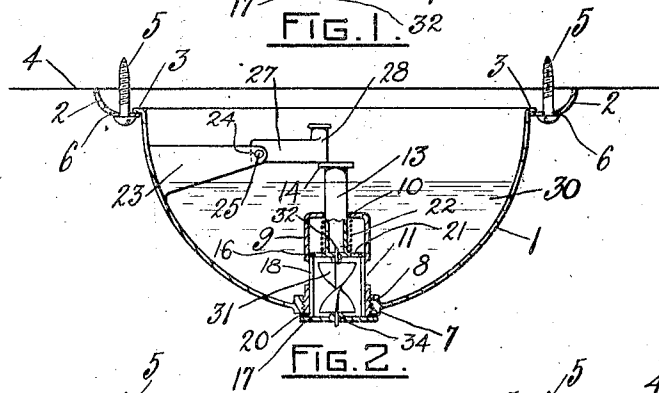


1,063,476.



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# UNITED STATES PATENT OFFICE.

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## FIRE-EXTINGUISHER.

1,063,476.

Specification of Letters Patent.

Patented June 3, 1913.

Application filed July 31, 1912. Serial No. 712,410.

*To all whom it may concern:*

Be it known that I, GEORGE A. THORNTON, a citizen of the United States, residing at Pawtucket, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Fire-Extinguishers, of which the following is a specification.

My invention relates to automatic fire extinguishers and its essential objects are to automatically distribute a liquid fire extinguishing material when the surrounding temperature has attained a predetermined degree; also to automatically commingle the chemicals and liquids intended to be discharged from the extinguisher; and to attain these objects in a simple and inexpensive structure.

To the above ends essentially my invention consists in such parts and such combinations of parts as fall within the scope of the appended claims.

In the accompanying drawings, Figure 1 is a side elevation of my novel extinguisher, Figs. 2 and 3, vertical central sections of the same in closed and open positions, respectively, Fig. 4, a section on line *x x* of Fig. 3, Fig. 5, a plan view of the bottle and its support, Fig. 6, a detailed side elevation of the distributing member, and Fig. 7, a side elevation of the housing member for the distributing member.

Like reference characters indicate like parts throughout the views.

In its illustrated form my invention consists of a casing comprising a hemispherically shaped hollow, body portion 1, and a base portion 2, either integral with the portion 1 or engaged therewith in any suitable manner such as by a horizontally, disposed, marginal flange 3 upon the portion 1 overlapping the inner face of the member 2. The portion 2 is attached to the ceiling 4 or other surface to which the device is intended to be attached by screws 5 passing through perforations 6 in the member 2. Integral with the body 1 at its central portion is the ring 7 provided with internal threads 8, which ring bounds a central opening in the lower portion of the casing. A hollow housing 9 of cylindrical shape has an opening 10 in its upper portion, and a plurality of openings 11 in its sides and is provided with threads 12 in its lower portion adapted to engage the threads 8 of the ring

7. Slidably mounted in the opening 10 of the member 9 is a post 13, in the present instance hollow, provided with an annular shoulder 14 at or near its upper end. This post is integral with or fixed to the upper plate 16 of a cage having a lower plate 17 connected with the first plate by vertical rods or braces 18.

The cage and post are slidable in the member 9, and when the cage is in elevated position the upper face of the plate 17 abuts against the lower face of the ring 7 and is normally held in engagement therewith by solder 20 having a fusibility at a predetermined degree of heat determined upon for release. The plate 16 is provided with a plurality of openings 21. The cage is normally downwardly pressed by means of a helical spring 22 surrounding the post 13 pressing with one end against the upper end of the member 9 and with its other end pressing against the plate 16 of the cage member. Integral with or fixed to the interior of the casing is a horizontal bracket consisting in the present instance of parallel arms 23 located in the plane slightly higher than the plane of the top of the post 13, and provided with perforations 24 adapted to receive lateral trunnions or pivots 25 upon the opposite sides of the flat bottle 27, which has an upright neck 28 upon its forward portion extending upwardly from its top face. The trunnions 25 are located near the rear end of the bottle. The lower forward face of the bottle 27 rests upon the upper end of the post 13 in a substantially horizontal position. The body 1 is filled with a liquid 30 with which it is desired to mix a chemical contained in the bottle 27.

The intermixing of well known chemicals with proper liquids in fire extinguishers of this character is well known and has heretofore been performed manually when fire has occurred. In my structure the intermixture is performed automatically by the discharge, at a predetermined degree of heat, of the chemicals from the bottle into the liquid in the body 1, thus. The heat fuses the solder 20 thereby releasing the cage which is forced by the spring 22 downwardly until stopped by the shoulder 14 coming in contact with the upper end of the member 9. The descent of the post or stem 13 removes the support of the bottle 27, and by gravity the latter gradually swings down-

wardly until it assumes a vertical position such as shown in Fig. 3 with the neck 28 horizontally disposed, gradually thus commingling the chemicals in the bottle with the liquid 30 in the body 1. This creates the necessary smothering chemical mixture required in such an apparatus. The mixture passes inwardly through the openings 11 in the member 9 thence downwardly through the openings or perforations 21 in the upper portion of the cage, and along a spiral-shaped blade or fan 31 fixed to a shaft 32 whose upper and lower ends are respectively mounted in openings 33 and 34 in plates 16 and 17. The descent of the mixture impinging upon the blade 31 rotates the latter and evenly distributes the mixture radially.

What I claim is:—

1. In an automatic fire extinguisher, the combination with a hollow body provided with a central opening, of a housing in the opening provided with an opening in its top, a cage slidably mounted in the housing, a post upon the cage extending through the last mentioned opening, solder uniting the cage with the body, a distributing member in the cage, a bracket in the body, and a bottle pivotally connected with the bracket and normally resting upon the post.
2. In an automatic fire extinguisher, the combination with a body adapted to hold a liquid and provided with an opening, of a housing within the body fixed in the opening and provided with an opening in its top, a cage slidably mounted in the housing, a post upon the cage extending through the opening in the housing and provided with an annular shoulder exterior of the housing, a spring upon the post intermediate the housing and the cage, a distributing member mounted in the cage, a bracket in the body, and a bottle pivotally mounted in the bracket and resting upon the end of the post.
3. In an automatic fire extinguisher, the combination with a body, a housing fixed therein, a cage slidably mounted in the hous-

ing, a post upon the cage extending through an opening in the housing, a distributing member rotatably mounted in the cage and carried by said post, a spring upon the post normally tending to force the cage outward and a bottle pivotally mounted within the body and normally resting in upright position upon said post.

4. In an automatic fire extinguisher, the combination with a body adapted to hold a liquid and provided with an opening, of a housing within the body fixed in the opening and provided with an opening in its top, a cage slidably mounted in the housing, a post upon the cage extending through the opening in the housing, spring means in the housing for downwardly pressing the cage, a distributing member mounted in the cage, a bracket in the body, and a bottle pivotally mounted in the bracket and resting upon the post.

5. In an automatic fire extinguisher, the combination of a body adapted to hold a liquid and provided with an opening, a slidable bearing member fixed in the opening by solder fusible at a predetermined temperature, and a receptacle pivotally mounted at one end within the body independent of said slidable member and having its free end supported by the latter.

6. In an automatic fire extinguisher, the combination of a body adapted to hold a liquid and provided with an opening, a slidable bearing member fixed to the body in the opening by solder fusible at a predetermined temperature, a distributing member mounted in the bearing member, and a receptacle pivotally mounted at one end within the body independent of said slidable member and supported in horizontal position by the latter.

In testimony whereof I have affixed my signature in presence of two witnesses.

GEORGE A. THORNTON.

Witnesses:

HORATIO E. BELLOWES,  
FRED W. PERKINS.