(Model.) 2 Sheets—Sheet 1.

J. B. MOORE.

Fire Extinguisher and Chemical Engine.

No. 242,675. **Patented June 7, 1881.**

Fig. 1.

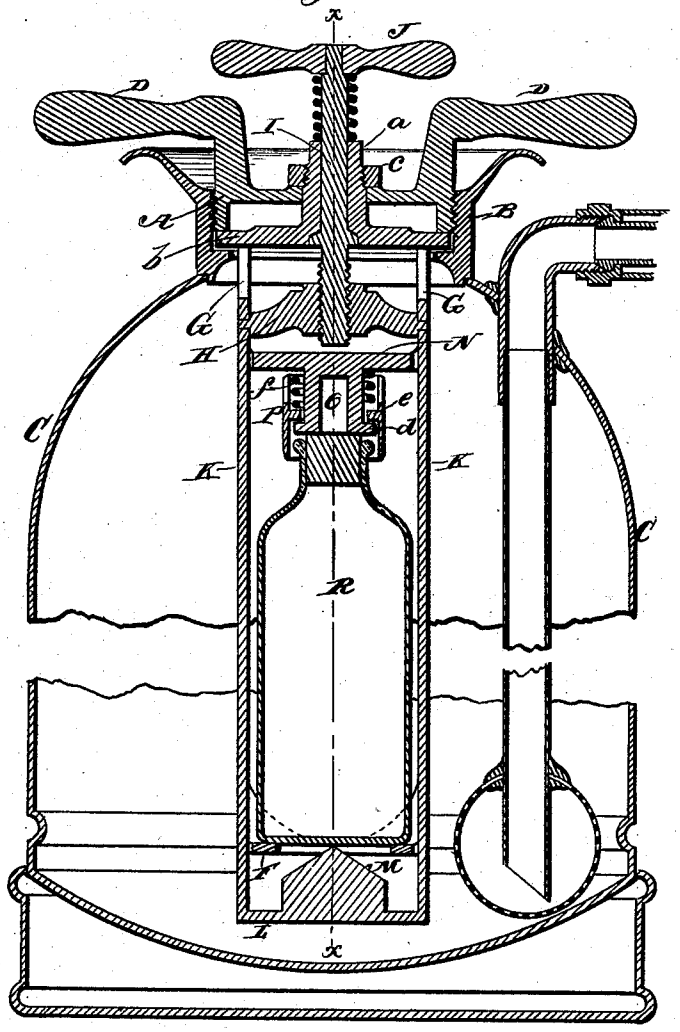
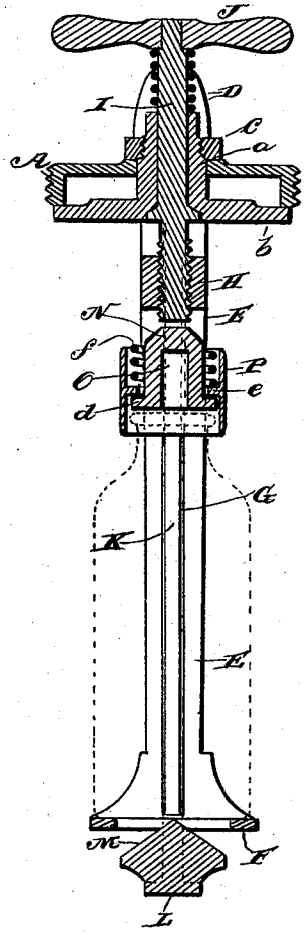


Fig. 2.



Witnesses.
Robert Burnett.
J. A. Rutherford

Inventor.
James B. Moore.
By James L. Norris.
Atty.

N. PETERS. Photo-Lithographer, Washington, D. C.

(Model.)

2 Sheets—Sheet 2.

J. B. MOORE.

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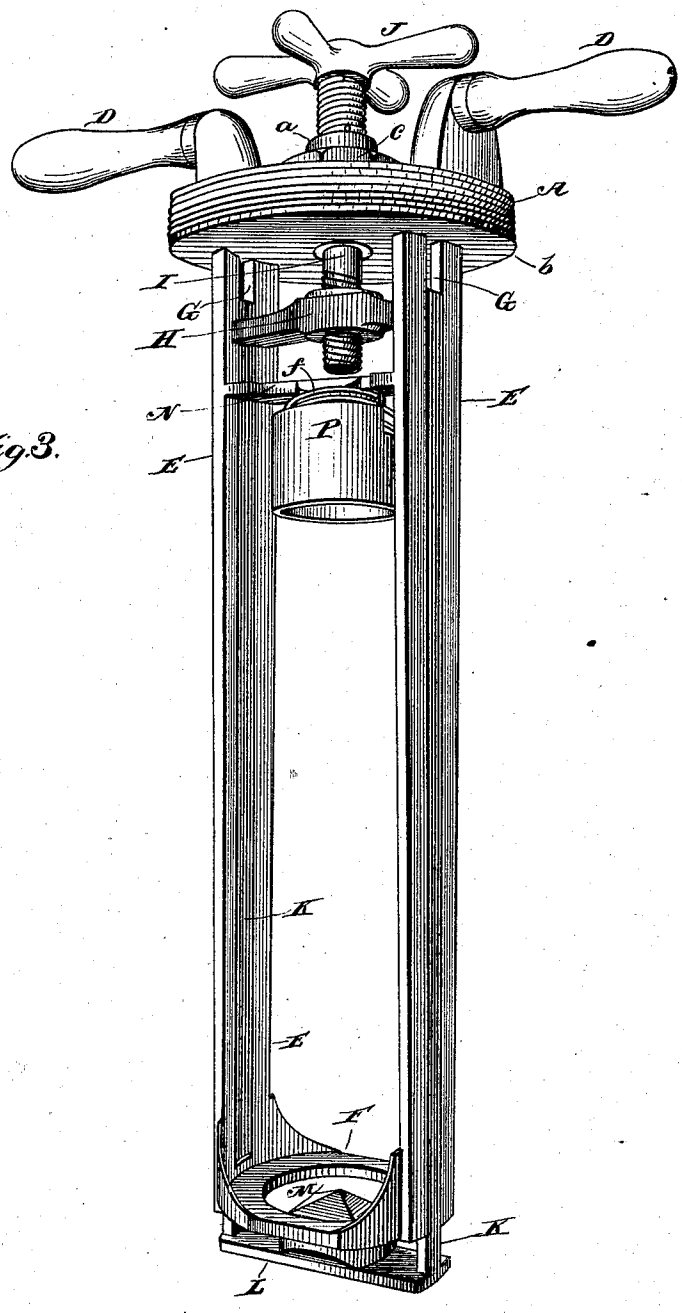


Fig. 3.

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UNITED STATES PATENT OFFICE.

JAMES B. MOORE, OF NEW ORLEANS, LOUISIANA.

FIRE-EXTINGUISHER AND CHEMICAL ENGINE.

SPECIFICATION forming part of Letters Patent No. 242,675, dated June 7, 1881.

Application filed February 14, 1881. (Model.)

To all whom it may concern:

Be it known that I, JAMES BRADNER MOORE, a citizen of the United States, residing at New Orleans, in the parish of Orleans and State of Louisiana, have invented certain new and useful Improvements in Fire-Extinguishers, of which the following is a specification.

This invention relates to that class of apparatus for extinguishing fires in which a portable or stationary vessel contains a chemical solution and an acid, the latter being contained in a suitable receptacle, and the union of the chemicals accomplished by fracturing the acid-receptacle to permit the acid to mingle and combine with the chemical solution in the vessel, the reaction of the chemicals by such union evolving carbonic-acid or other gas, which forcibly ejects the liquid from the vessel upon the fire to be extinguished.

The objects of my invention are to provide an effective and simple arrangement of mechanism for fracturing the acid-receptacle, and to liberate the acid at a point remote from the mouth of the acid-receptacle, and within the chemical solution at a point near the upper portion of the extinguisher-vessel, whereby the union of the chemicals can be instantaneously effected with ease and convenience. These objects I accomplish by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a vertical central sectional view of the invention applied to an ordinary portable fire-extinguisher; Fig. 2, a vertical sectional view on the line *x x* of Fig. 1. Fig. 3 represents a detached perspective view of my improved devices for supporting the acid-receptacle and for fracturing the same when required.

The letter A indicates a screw-threaded ring or head, which is adapted to the screw-threaded mouth B of the vessel C, and is furnished with handles D, by which to rotate it for connecting and disconnecting the same. The ring or head is swiveled on a circular hub, *a*, of the stationary plate *b*, and is confined in place by a nut, *c*.

To the under side of the stationary plate *b* is attached a stirrup, consisting of two parallel bars or frames, E E, connected at their lower ends by an open ring, F, which constitutes the support for the acid-receptacle. The bars or frames E E are slotted vertically, as at G, the slots extending from end to end of the same, and serving to receive and guide the ends of a cross-head, H, through the center of which passes the threaded end of a stem, I, the latter extending through the plate *b* and ring or head A, and having at its outer end a suitable handle, J, by which the screw can be manipulated to rotate the screw-stem and slide the cross-head vertically.

To the ends of the cross-head are attached vertical rods K K, which rest within and are guided in their sliding movements by the slots G of the stirrup, and project beyond the lower end thereof, the lower extended portions of the rod being connected by a bar, L, which is provided at its center with an angular pointed projection or lug, M, which is adapted to rise through the opening in the ring F, and constitutes a fracturing device which is adapted to advance toward the bottom of the acid-receptacle for breaking or rupturing the same, as hereinafter explained.

At a point below the cross-head H the bars or frames E are connected by a rigid and stationary cross-bar, N, provided on its under side with a depending hub, O, having at its lower edge a projecting flange, *d*, and on this hub is arranged a sleeve, P, having an inward-projecting flange, *e*, to retain it in place. A spiral or other spring, *f*, is arranged within the sleeve, above its flange *e*, this spring acting on the cross-bar N and flange of the sleeve to throw the latter downward, such construction permitting the sleeve to yield upward to admit the mouth of the acid-receptacle within.

In operation the acid-receptacle R is placed with its bottom resting on the ring-support F, and the sleeve P is pressed upward to permit the mouth of the receptacle to pass under it, after which the sleeve is caused to press down over the mouth of the bottle by means of the spring *f*, thereby securely confining the receptacle in place. When it is desired to fracture the acid-receptacle to permit the union of the chemicals the stem I is rotated to elevate the cross-head H, which draws up the rods K and the projection or lug M, causing the point of the latter to impinge against the central portion of the bottom of the receptacle and force

the latter upward until the limit of elasticity of the bottle is reached, when the receptacle will be effectively fractured, the point of departure of the fracture always commencing at the bottom of the receptacle. This provides for the liberation of the acid at a point remote from the mouth of the acid-receptacle, and within the chemical solution at a point near the upper portion of the vessel, thereby effecting the instantaneous union and thorough mingling and combination of the chemicals and the prompt evolution of the gas.

Although I have shown and described the fracturing device as carried and guided against the bottom of the acid-receptacle by means of rods arranged to move in vertical slots in the stirrup, I do not wish to confine myself to such arrangement, as the parts could be interchanged. For instance, the support for the receptacle could be suspended by a single rod or rods, and the rod or rods carrying the fracturing device be arranged at the sides of the same.

The acid-receptacle is of glass or other suitable material which can be fractured by the action of the fracturing device.

What I claim is—

1. In a chemical fire-extinguisher, the combination, with a stationary support for the acid-receptacle suspended from the top portion of the extinguisher-vessel, of a movable fracturing device arranged beneath the lower end of the said receptacle and connected with devices controllable from the exterior of the extinguisher-vessel, for imparting an upward drawing action to the fracturing device to break the bottom of the acid-receptacle and liberate the acid at a point near the upper portion of the extinguisher-vessel, substantially as described.

2. The combination, with a stationary support for an acid-receptacle, of vertically-sliding rods provided at their lower ends with an attached fracturing device arranged beneath the said support and connected at their upper ends with devices controllable from the exterior of the extinguisher-vessel, for imparting an upward sliding movement to the rods, substantially as described.

3. The combination, with a support for the acid-receptacle, of guided vertical rods, a cross-head connected with the upper ends thereof, a screw-threaded stem for sliding the cross-head, and a fracturing device connected with the lower ends of said rods and adapted to advance toward the bottom of the acid receptacles by the action of the screw-threaded stem, substantially as described.

4. The combination, with a support for the acid-receptacle, of two sliding rods connected by a cross-head which is moved by a screw-threaded stem, and provided at their lower ends with a bar, to which is fixed an angular projection adapted to advance toward the bottom of the acid-receptacle by the action of the screw-threaded stem, substantially as described.

JAMES BRADNER MOORE.

Witnesses:
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PAUL SAURÉS.