

(No Model.)

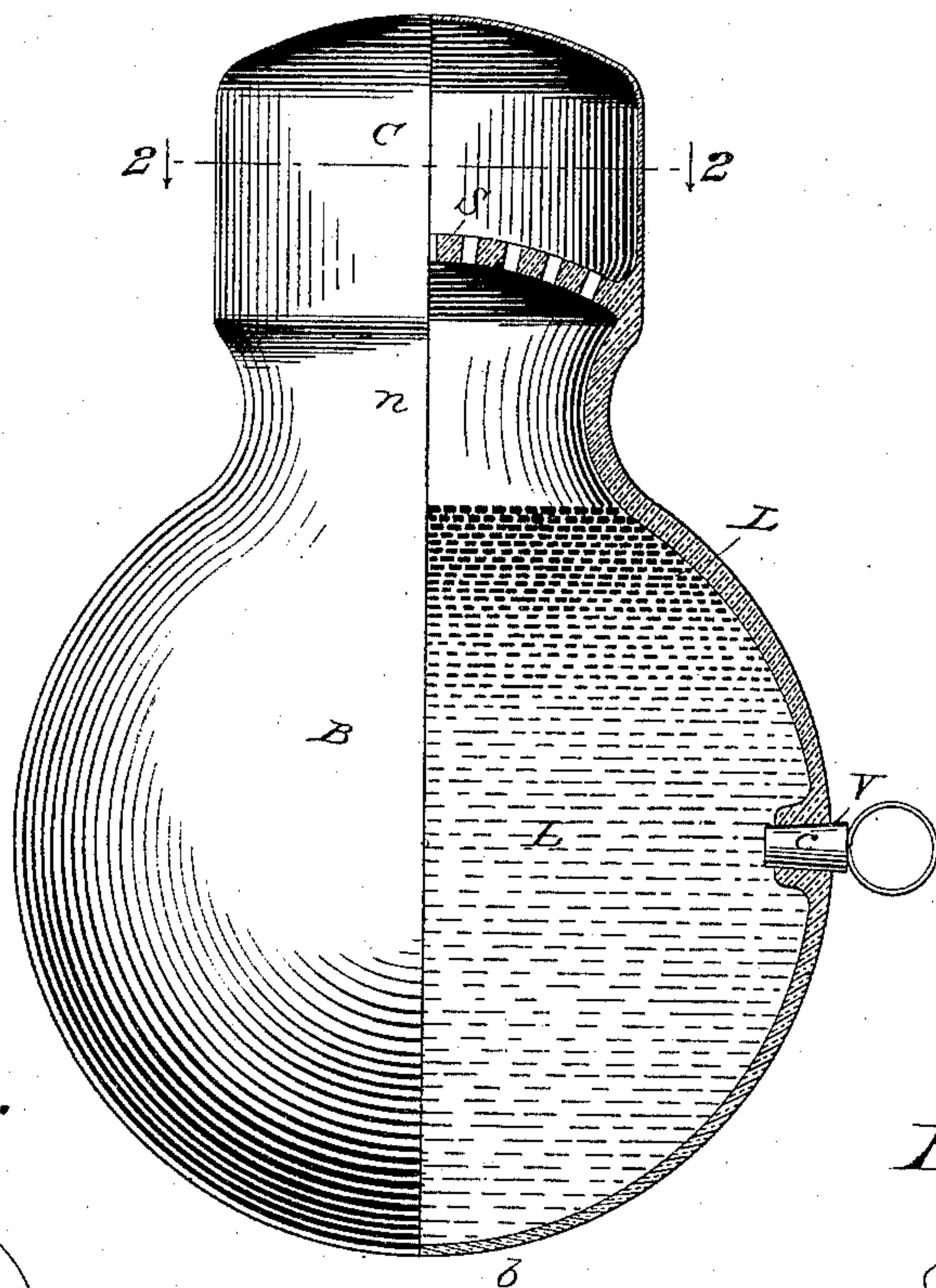
N. MITCHELL.

HAND GRENADE FIRE EXTINGUISHER.

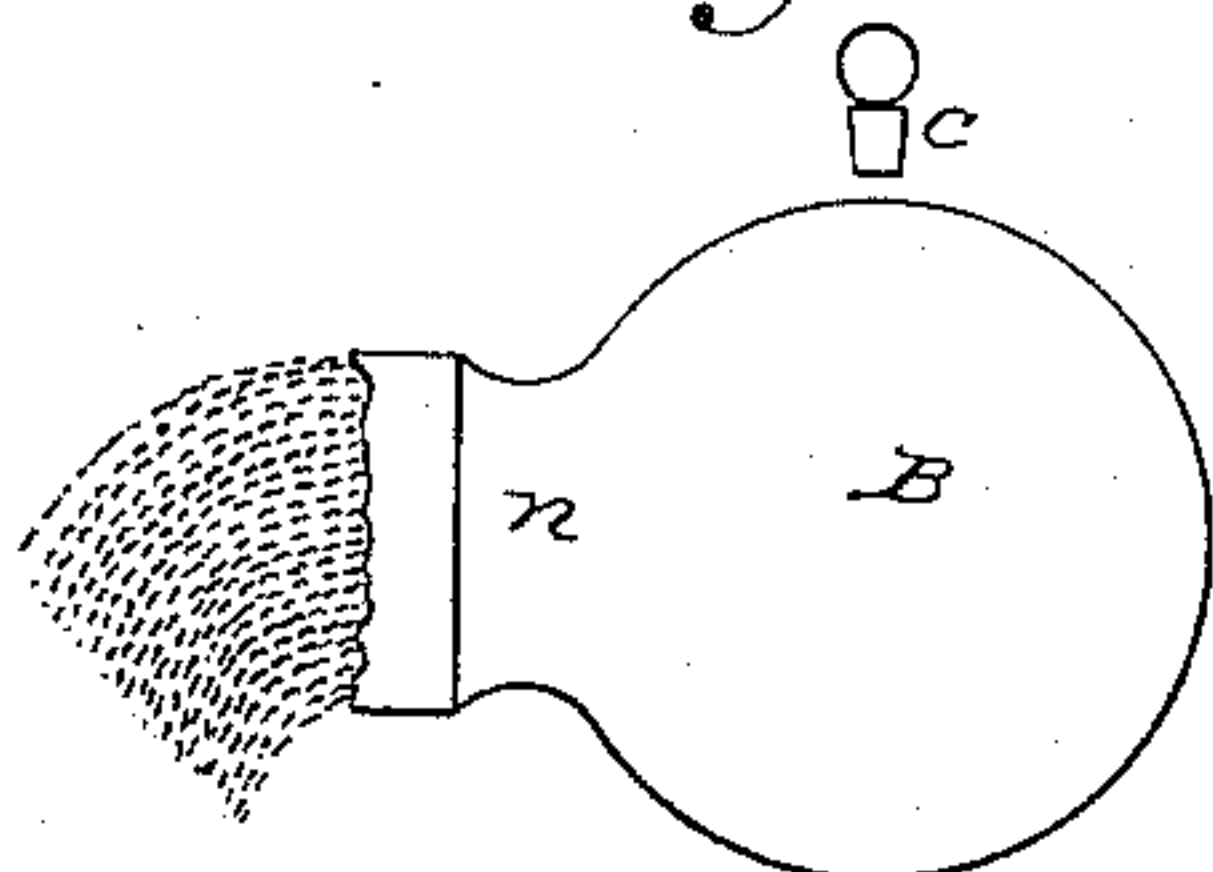
No. 324,577.

Patented Aug. 18, 1885.

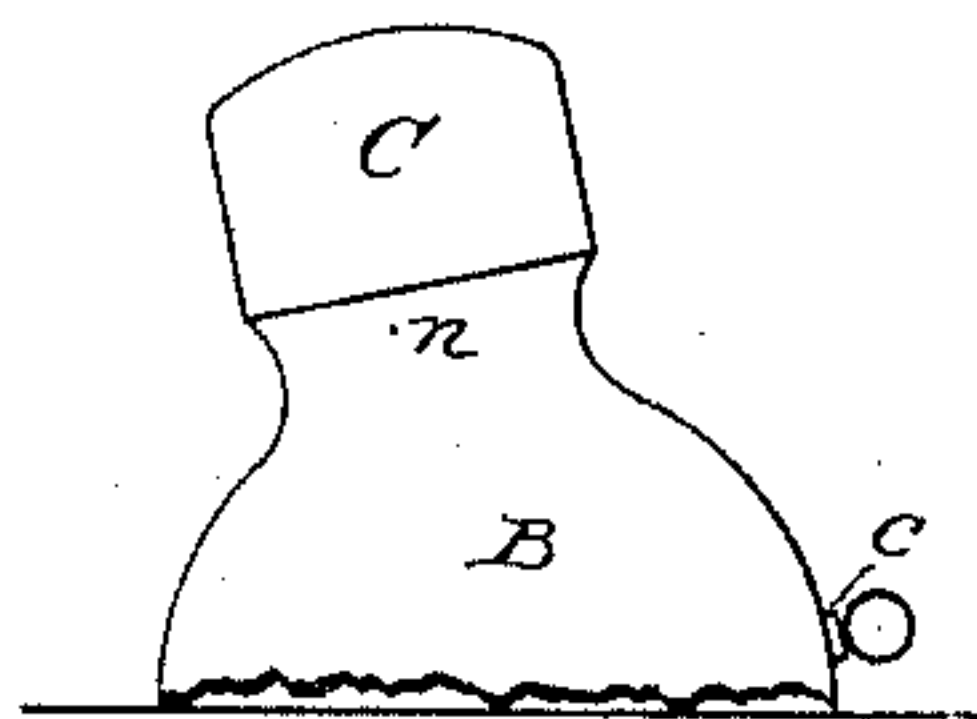
*Fig. 1.*



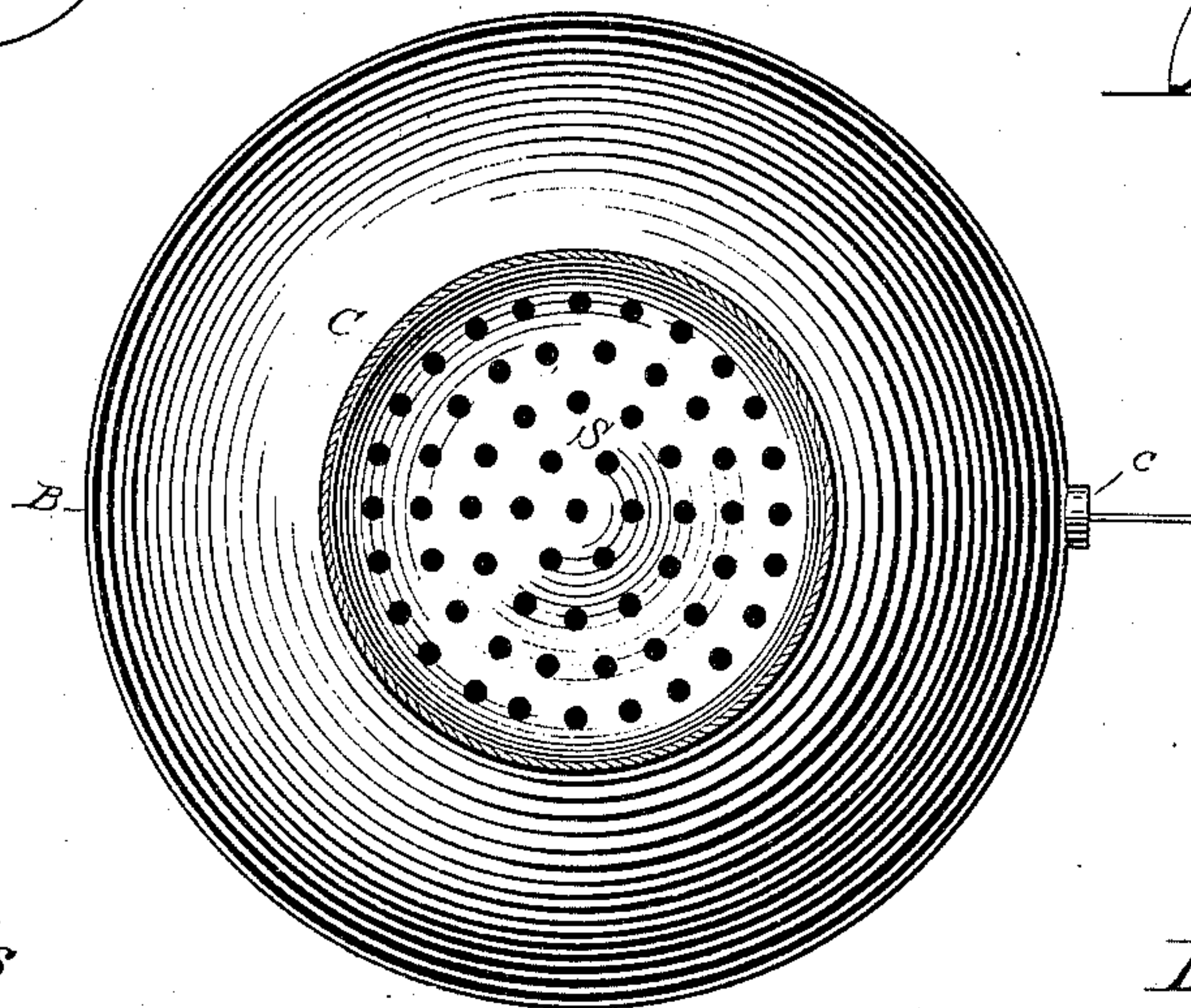
*Fig. 3.*



*Fig. 4.*



*Fig. 2.*



*Witnesses*

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# UNITED STATES PATENT OFFICE.

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## HAND-GRENADE FIRE-EXTINGUISHER.

SPECIFICATION forming part of Letters Patent No. 324,577, dated August 18, 1885.

Application filed April 11, 1885. (No model.)

*To all whom it may concern:*

Be it known that I, NOAH MITCHELL, a citizen of the United States, residing at New York, in the State of New York, have invented a new and useful Improvement in Portable Fire-Extinguishers, of which the following is a specification.

This invention relates to that class of fire-extinguishers in which "chemical" liquids are employed, and primarily to those which are made of a small size and frangible, so as to be thrown as "hand-grenades," and to break on striking any hard object.

Heretofore the latter have most commonly been limited to this mode of use, which renders them valueless when a fire breaks out in a soft mass of any inflammable substance, or for extinguishing those most frequent home fires which occur in curtains and drapery. Others have been adapted to discharge their contents by pouring, and not otherwise.

The primary object of my present invention is to provide for throwing from such portable extinguishers a spray of the fire-extinguishing liquid, as more effective than a heavy single stream for quickly subduing and extinguishing fires in curtains, drapery, and the like, while it is at the same time more economical, and may avoid unnecessarily deluging a floor.

Another object is to provide for readily and instantaneously opening the sprinkler which forms the spray, and by the same means hermetically sealing up the liquid until it is required for use, and exposing to view the sprinkler, so as to suggest its employment; and a last object of the invention is to combine said spraying or sprinkling capacity with adaptation to be thrown and to break on striking a hard object, so as to instantaneously discharge the entire contents of the extinguisher when the nature or location of the fire renders this mode of attack available.

This invention consists, first, in a portable fire-extinguisher charged with a chemical liquid, and having a sprinkler, a cap for hermetically sealing the latter, and a stoppered vent, the latter being constructed of transparent glass permanently united with the body of the extinguisher and adapted to be easily broken by or against any hard object, and, secondly, in constructing said body of such

extinguisher with a thin bottom, adapting it to break when thrown, while its upper part is made sufficiently thick to support said sprinkler and cap, as hereinafter more fully set forth.

A sheet of drawings accompanies this specification as a part thereof. Figure 1 of these drawings is a half section and half elevation of a grenade fire-extinguisher illustrating this invention. Fig. 2 is a plan view of the same, partly in section; and Figs. 3 and 4 are small scale elevations thereof, illustrating different modes of use for which the same is adapted.

Like letters of reference indicate corresponding parts in the several figures.

My improved extinguisher is constructed and provided with a hollow body, B, supplied with a suitable chemical liquid, L, Fig. 1, a rose-sprinkler, S, a cap, C, for hermetically sealing the latter, and a combined filling-mouth and vent, V, tightly closed by a cork, c, or a like stopper, until the extinguisher is required for use, together with a handle or handles, n or H h, by which to manipulate it to direct the escaping spray of the liquid when said stopper and cap are removed. When the sprinkler S is to be employed, as illustrated by Fig. 3, it is first exposed by removing said cap C. The stopper c is then drawn, so as to admit air at the combined filling-mouth and vent V, and the extinguisher is then ready to be effectively used with economy and avoidance of deluging, as aforesaid.

The extinguisher, apart from its cap C and stopper c, is made in one part of glass or pottery ware, with said cap C of thin glass fused on or otherwise permanently attached by a tight joint, so as to exclude air, and at the same time expose to view the sprinkler S, which it covers, and to provide for readily and instantaneously opening the sprinkler, as aforesaid, by breaking the cap by or against any hard object; and said stopper c is in the form of a cork tightly inserted in the combined filling-mouth and vent V, after the extinguisher is filled, and provided with a ring to facilitate withdrawing it. The extinguisher is represented with its cap C removed and its vent-stopper c withdrawn in Fig. 3. A contracted neck, n, facilitates suspending this extinguisher and forms its handle. To provide for the effective use of this extinguisher



as a hand-grenade, as aforesaid, the body B is constructed with a thin lower part or bottom, *b*, Fig. 1, which would naturally strike first when the extinguisher is thrown, and, becoming thus crushed in, as represented in Fig. 4, would discharge the whole of the contents at once.

The details of the vent-stopper *c*, together with details of shape and proportions not essential to the respective parts of my invention, as hereinafter claimed, may be departed from without materially changing the extinguishers.

I am aware that a stationary fire-extinguishing apparatus has been provided with fixed sprinklers having glass covers to confine the water until the covers are broken, and that an acid-bottle in a chemical fire-extinguisher has been constructed with a thin bottom to adapt it to be crushed in by a screw, and that fire-extinguishing hand-grenades have been constructed with thin ribs to facilitate or insure breakage on striking any hard object. My invention does not include any such departures from the construction and mode of operation hereinbefore set forth.

Having thus described my said improvement in portable fire-extinguishers, I claim

as my invention and desire to patent under this specification—

1. A portable fire-extinguisher having a hollow body of glass or the like, charged with a suitable chemical liquid, and having a sprinkler integral therewith, and a cap of thin glass hermetically attached by fusing or the like, which seals the sprinkler, exposes it to view, and is adapted to be instantaneously removed by breaking it, substantially as herein specified.

2. The within-described portable fire-extinguisher, having a hollow body of glass or the like, charged with a suitable chemical liquid, and having a sprinkler integral therewith, inclosed by a hermetically-attached cap of thin glass, a contracted neck by which to handle the extinguisher, a combined filling-mouth and vent in one side of the body, provided with an air-tight stopper, and a thin convex bottom opposite said neck and sprinkler, substantially as shown, whereby the extinguisher is adapted to be used either as a sprinkler or as a grenade, at will, as herein set forth.

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Witnesses:

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