

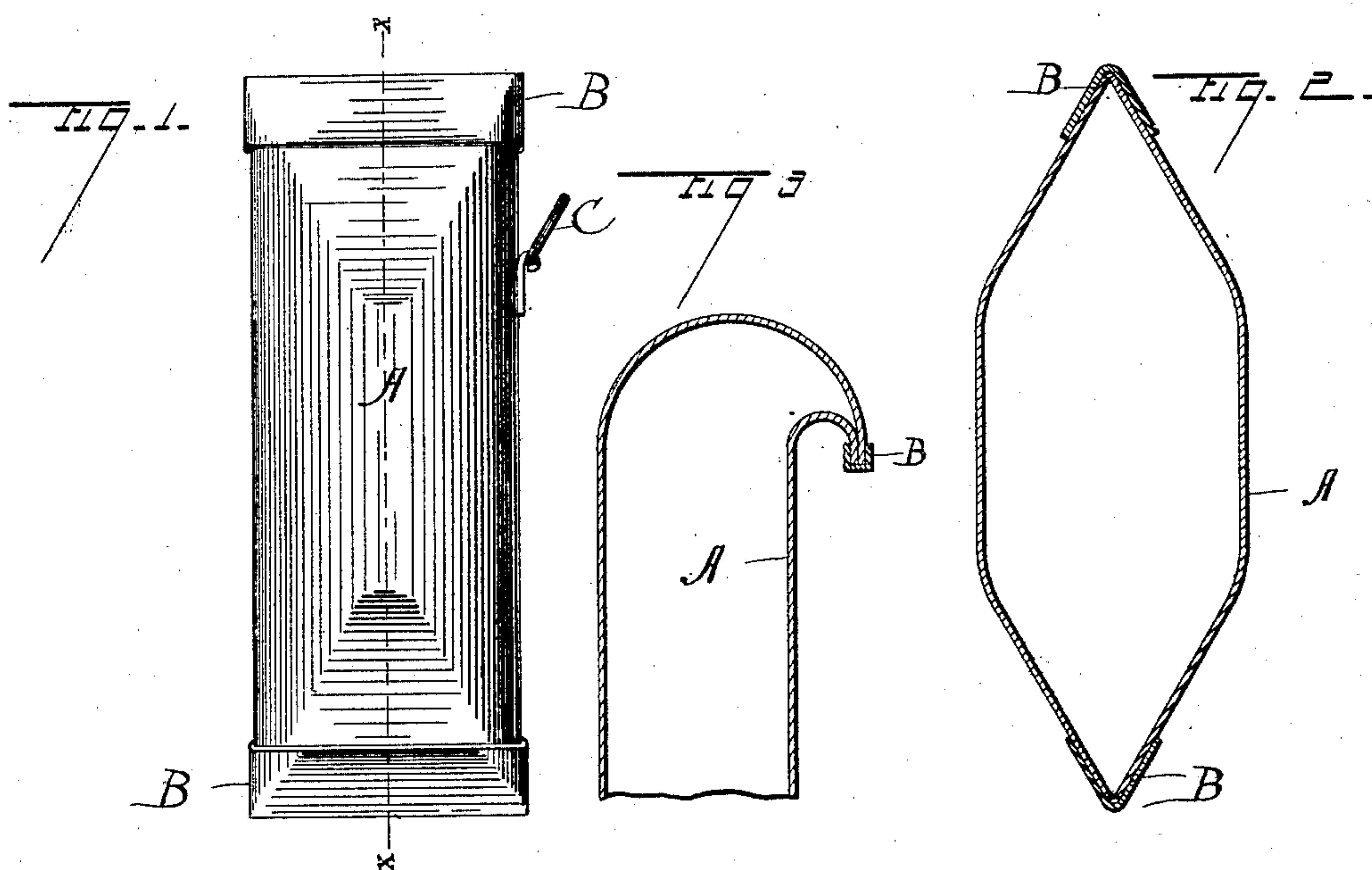
(No Model.)

W. M. LE MOYNE.

FIRE EXTINGUISHER.

No. 328,319.

Patented Oct. 13, 1885.



WITNESSES

*A. S. Paul*  
*E. A. Hubbard.*

INVENTOR

*W. M. Le Moyne,*  
*By Banning Banning*

ATTORNEYS

# UNITED STATES PATENT OFFICE.

WILLIAM M. LE MOYNE, OF CHICAGO, ILLINOIS.

## FIRE-EXTINGUISHER.

SPECIFICATION forming part of Letters Patent No. 328,319, dated October 13, 1885.

Application filed May 25, 1885. Serial No. 166,636. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM M. LE MOYNE, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Fire-Extinguishers, of which the following is a specification.

My invention consists in an automatic fire-extinguisher to be put into buildings, vessels, cars, mines, &c., in such a way as to be affected by heat and explode automatically when the temperature reaches a certain point, this explosion being caused by the inside pressure or expansion occasioned by outside heat, and permitting the expansible extinguishing gases or fumes formed or released thereby to escape to or onto the fire.

In the accompanying drawings, Figure 1 is an elevation of one of my receptacles formed from a short piece of frangible metallic tubing; Fig. 2, a sectional view thereof taken in line *x x*, and Fig. 3 a sectional modification thereof.

A represents a section or piece of tubing; B, the soldered ends thereof, and C a wire loop or hanger.

The vessels or receptacles containing the extinguishing gas or material should be frangible, at least in some one place, and may be made of metal, glass, or any other substance capable of easy fracture, and I prefer a substance whose point of frangibility can be readily and reliably determined. Any number of these receptacles may be put into a room, suspended from the sides or walls, or otherwise, and more preferably at least for dwelling-houses. They may be put into the partition-walls, and thus concealed from view and protected from molestation, while the house is being built.

As above suggested, the vessels or receptacles themselves may be made of any size, form, or material desired; but I prefer short sections of frangible tubing, the ends being closed by fusible joints or otherwise in such a way as to securely confine the contents until an explosion is caused by expansion thereof occasioned by extraneous heat. In the drawings I have shown a short piece or section of a frangible metallic tube, say about an inch in diameter and three inches in length, hav-

ing its sides at each end compressed and soldered or otherwise hermetically sealed and fastened together. The whole or any part of the receptacle may be coated or enameled on the inside with wax or other non-corrosive substances.

The extinguishing material may consist of any suitable gas, liquid or solid, which will expand and operate as an extinguishing gas or fumes upon heating and explosion; but I consider carbonic-acid gas, ammonia-gas compressed to a liquid, or any ordinary powder whose fumes absorb oxygen to be practical and useful for extinguishing purposes. These gases or materials may be used separately or in combination with others, as found desirable.

In operation my automatic extinguisher will be readily affected by heat whenever a fire breaks out in the structure containing them, and the extinguishing gas or material, expanding by reason of the outside heat, will cause them to burst or explode as soon as their point of frangibility is reached, thus allowing the extinguishing-gases so released or formed to permeate the building, room, or space containing the fire to automatically extinguish the same.

My invention is intended, primarily, for the putting out of fires in their incipient stages; but of course my extinguishers will be found useful whenever exploded, even if this should not be until after the fire has gained great headway.

My automatic extinguishers can be manufactured and put in very economically, and so it will only cost a few dollars to provide an ordinary house, ship, car, or other building with a sufficient number to afford ample protection.

My invention differs from other fire-extinguishers now in use, particularly in these respects, that the inside pressure or expansion caused by the outside heat operates automatically to liberate and apply the extinguishing gas or fumes; and, being automatic, my extinguishers are not required to be in any way handled in their use or application, and, especially, when put in walls as the structure is being built, will be protected against displacement, accidents, or carelessness, and therefore be



more lasting and reliable than the ordinary grenades and other fire-extinguishers now in use.

It will of course be understood that the object of frangibility in the vessels is simply to permit their bursting when subjected to the inside pressure or expansion caused by outside heat, and thus to allow the extinguishing gases or fumes to escape; and this object being fully accomplished by frangibility at any point I of course do not in using this term mean that the vessels shall be frangible at all points, or necessarily at more than some one place. Nor do I wish to be understood when using the term "expansible" with reference to my extinguishing gas or material as meaning that such material itself must necessarily be expansible, but simply that in some of its parts or properties it contain sufficient expansibility to accomplish the object in view—as in the case, for instance, of the expanding fumes formed or produced by the explosion of powder. Nor have I intended to use the term "gas" in its technical sense, but in its use I also mean any substance or material from which a gas or fumes proper for extinguishing purposes may be produced by heat.

The essential idea of my invention being the making of an automatic fire-extinguisher consisting of a frangible vessel or receptacle containing an expansible extinguishing gas or material, these terms meaning as above, I do not wish to be understood as in any wise limiting myself to special forms or details of construction; but I disclaim the use of any means outside of the extinguishing-gases themselves, or material for producing them, for exploding or to aid in exploding the receptacles—as, for instance, gunpowder—it being my intention, as already stated, that the inside pressure or expansion of such gases or material caused by the outside heat shall alone perform this office. Nor do I

contemplate that the fusible solder used for sealing the ends of the receptacles shall necessarily operate for this purpose, inasmuch as the receptacles themselves may be frangible at any other point.

I do not now claim the process of extinguishing fires above described, the same being the subject of another application filed May 29, 1885.

I claim—

1. As a new article of manufacture, an automatic fire-extinguisher comprising a closed frangible vessel or receptacle containing an expansible extinguishing-gas or material for producing such a gas or fumes, such vessel or receptacle depending for its fracture and the liberation of its contents upon the expansion of the latter when affected by extraneous heat, substantially as described.

2. As a new article of manufacture, an automatic fire-extinguisher comprising a closed frangible vessel or receptacle containing an expansible extinguishing-gas or material for producing such a gas or fumes, such vessel or receptacle depending for its fracture and the liberation of its contents upon the expansion of the latter when affected by extraneous heat of a certain specified point or degree, substantially as described.

3. As a new article of manufacture, an automatic fire-extinguisher comprising a frangible vessel or receptacle formed from the section of a tube hermetically sealed at both ends, containing an expansible extinguishing-gas or material for producing such a gas or fumes, such vessel or receptacle depending for its fracture and the liberation of its contents upon the expansion of the latter when affected by heat, substantially as described.

WILLIAM M. LE MOYNE.

Witnesses:

EPHRAIM BANNING,  
MASON BROSS.