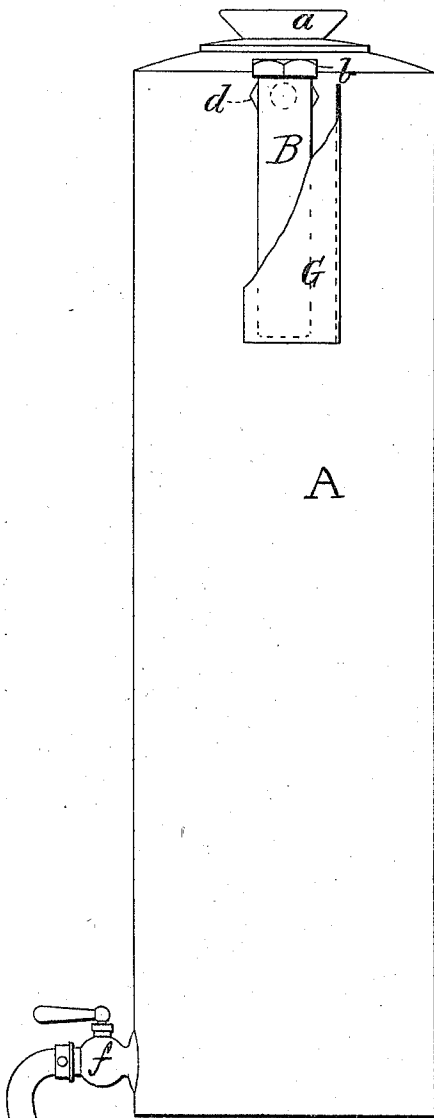


H. L. McAVOY.
Fire-Extinguishers.

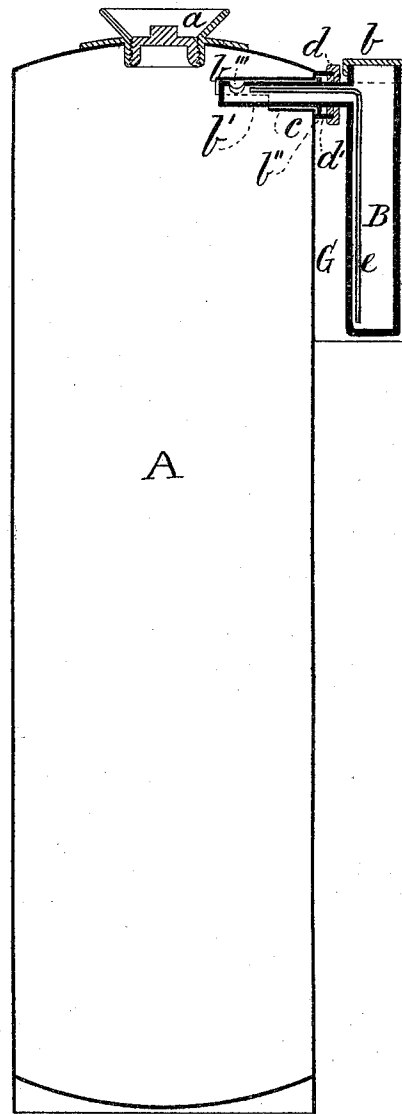
No. 139,906.

Patented June 17, 1873.

— FIG. I. —



— FIG. II. —



— WITNESSES. —

— INVENTOR. —

Ernest Howard.
W. W. Wharton.

Hugh L. McAvoy
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attys.

UNITED STATES PATENT OFFICE.

HUGH L. McAVOY, OF BALTIMORE, MARYLAND.

IMPROVEMENT IN FIRE-EXTINGUISHERS.

Specification forming part of Letters Patent No. **139,906**, dated June 17, 1873; application filed May 21, 1873.

To all whom it may concern:

Be it known that I, HUGH L. McAVOY, of the city of Baltimore and State of Maryland, have invented certain Improvements in Fire-Extinguishers, of which the following is a specification; and I do hereby declare that in the same is contained a full, clear, and exact description of my said invention, reference being had to the accompanying drawing and to the letters of reference marked thereon:

My invention relates to improvements in that class of fire-extinguishers in which water impregnated with carbonic-acid gas is the extinguishing agent, and the expansive force of the gas used to project the liquid from the machine. My invention is designed to cheapen the machine and facilitate its prompt preparation for use.

In the accompanying drawing forming a part of this specification, Figure 1 is a vertical exterior view of my improved extinguisher. Fig 2 is a vertical section of the same.

Similar letters of reference indicate similar parts of the invention in both views.

A is the generator in which the solution of soda in water is placed. The water and accompanying ingredient are put into the generator through the funnel-shaped opening *a*, closed by the screw-cap. B is the acid-chamber, which is made of some material adapted to resist the action of the acid. The upper end is closed by a screw-cap, *b*. The acid-chamber is placed outside of the generator, in the form and character of a handle, a branch tube, *b*, placed at the upper part of the chamber at a right angle from the side thereof, forming a stem upon which the chamber can turn. The stem *v'* is fitted within a pipe, *c*, projecting into the generator from the side thereof, a screw-cap, *d*, fitting over a gland, *d'*, upon the outside of the generator, co-operating with an annular projection *b''*, upon the stem *b'*, to render the joint tight. The end of the stem *b'* within the generator is closed, a small opening, *b'''*, being made in the stem as an outflow for the acid, when, as hereinafter described, the machine is to be fitted for service.

In explaining the mode of operation of the extinguisher, I will also describe the construction and use of the parts thereof yet remaining to be described.

Supposing the generator to be charged with the prepared liquid, and the acid-chamber

with acid, and it is desired to create a pressure within the generator; to fit the machine for service, it is first strapped to the back of the operator; he then inverts the acid-chamber, causing the acid to flow into the generator through the opening *b'''*. A part of the pipe *c* is cut away that the flow of the acid from the stem *b'* may not be obstructed. The action of the chemicals when mixed being immediate, and the pressure in the generator commencing at once, a difficulty might arise by reason of the pressure in the generator being greater than that in the acid chamber, and thus prevent the flow of the acid from the chamber to the generator. To obviate this danger I place a small equalizing-pipe, *e*, within the acid-chamber, one end of the pipe reaching well down into the chamber, and the other nearly to the hole *b'''*, in the stem *b'*. By this means the pressure at the extremity of the acid-chamber is equalized with that at the top of the generator. When the mixture has taken place and the pressure in the generator is established, the operator opens the cock *f*, and the extinguishing liquid is projected to the point towards which the hose and nozzle *F F'* are directed.

A guard, *G*, is fastened to the side of the extinguisher, by means of which the acid-chamber is protected from blows which would either damage it or produce the effect of charging the generator with gas when the use of the machine is not needed.

Having described my invention, what I claim as new, and wish to secure by Letters Patent of the United States, is—

1. An acid-chamber placed at the outside of the extinguisher, and adapted to be moved as a handle upon a hollow stem extending within the generator, the said stem being perforated to admit of the flow of the acid from the chamber into the generator when the said chamber is inverted, as set forth.

2. The equalizing-pipe *e*, in combination with the acid-chamber B, stem *b'*, and opening *b'''*, as and for the purpose specified.

In testimony whereof I have hereto subscribed my name in the city of Baltimore this 20th day of May, in the year of our Lord, 1873.

HUGH L. McAVOY.

Witnesses:

WM. T. HOWARD,
THOS. MURDOCH.