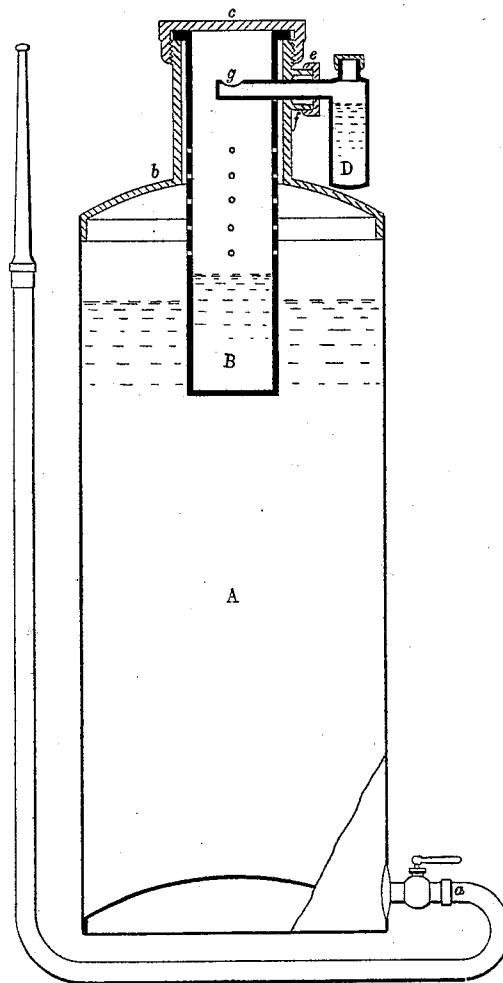


H. L. McAVOY.
Fire-Extinguishers.

No. 150,066.

Patented April 21, 1874.



— WITNESSES —

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UNITED STATES PATENT OFFICE.

HUGH L. McAVOY, OF BALTIMORE, MARYLAND.

IMPROVEMENT IN FIRE-EXTINGUISHERS.

Specification forming part of Letters Patent No. 150,066, dated April 21, 1874; application filed February 25, 1874.

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 a fire-extinguisher, in which the extinguishing liquid is forced from the apparatus by gas generated in the said apparatus, and admitted to the surface of the liquid only, as distinguished from that class of extinguishers wherein the gas generated by a union of chemicals in the liquid used as the extinguishing agent, is necessarily mixed with it.

I have found by experiment, that while carbonic-acid gas is a non-supporter of combustion, and if a union can be maintained between it and water until the liquid is brought into contact with a flame, the character of the liquid as an extinguisher of fire is improved, an impossibility exists of maintaining a union between the gas and water for a sufficient length of time after the liquid leaves the nozzle of the extinguisher-pipe to cause the gas to be, in fact, any acquisition to the fluid. Heretofore many efforts have been made by persons to effect this union of the gas and water in the best and most rapid manner, supposing that a speedy and thorough union of the gas, as a non-supporter of combustion, with the water was of the highest importance. In my invention, however, I propose to use the gas merely as a means for ejecting the water from the extinguisher, the gas being generated by the mixture of acid and soda in a chamber separate from that containing the extinguishing fluid, the gas thus generated being allowed to escape from the mixing-chamber through apertures therein to the surface of the extinguishing liquid, upon which it rests, and operates to force it out from the extinguisher, as may be required.

The drawing represents a vertical section of an extinguisher having such features therein as will serve to illustrate the method claimed as my invention.

A represents the body of the extinguisher, having an ordinary bottom, and the usual discharge *a*. The top *b* of the extinguisher rises into a neck supporting a composition generator, B, provided with a flange resting on the top of the neck, and tightly held in position by the screw-cap *c*. The acid-receptacle is represented by D, made, of some acid-proof substance, into the shape and character of a handle, and adapted to be revolved on the horizontal tube, forming a part thereof, passing through the neck. The horizontal tube is packed by means of a gland and stuffing-box, *e f*. The inner end of the tube is closed, an opening, *g*, being placed in the tube near its end. The generator B is kept provided with a necessary amount of water with soda in solution. When the extinguisher is not in use, the acid receptacle or handle stands upright, as seen in the drawing, the acid occupying the bottom of the receptacle; but when the apparatus is to be brought into service, the handle is inverted, the acid finding passage through the opening *g* into the generator B, and mixing with the soda and water. The result is the generation of a gas, which finds escape through the apertures *h* to the surface of the extinguishing liquid in the body of the extinguisher. A sufficient pressure is thus produced to eject the extinguishing liquid from the apparatus when the discharge-cock connecting with the hose shall have been opened.

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

The combination, with the exterior invertible acid-receptacle D, of the chemical mixing-chamber or generator B inclosed within the upper part of the extinguisher, and perforated to admit of the passage of the gas generated by the mixture of the chemicals to the surface of the extinguishing-liquid, substantially as specified.

In testimony whereof I have hereto subscribed my name in the city of Baltimore, this 16th day of January, A. D. 1874.

H. L. McAVOY.

Witnesses:

GEORGE H. HOWARD,
JNO. T. MADDOX.