

J. H. STEINER.
Fire-Extinguishers.

No. 147,879.

Patented Feb. 24, 1874.

Fig 1.

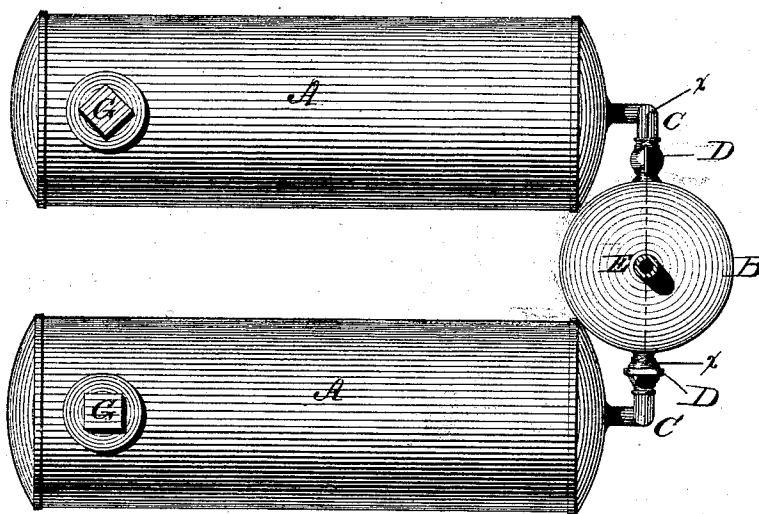
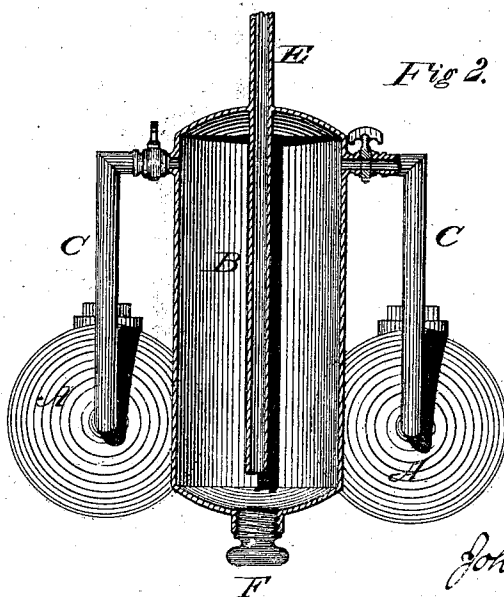


Fig 2.



Witnesses.

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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN FIRE-EXTINGUISHERS.

Specification forming part of Letters Patent No. **147,879**, dated February 24, 1874; application filed February 6, 1874.

To all whom it may concern:

Be it known that I, JOHN H. STEINER, of Albany, in the county of Albany and State of New York, have invented certain Improvements in Fire-Extinguishers, of which the following is a specification:

My invention consists in combining with a fire-extinguisher a chamber, into which the gas and water are passed before being discharged from the apparatus; the objects being to cause a more thorough mingling of the gas and water, and to produce a continuous, steady stream.

Figure 1 is a top-plan view of a double-cylinder extinguisher provided with my improvement, and Fig. 2 a vertical section of the same on the line *x x*.

A A represent two ordinary extinguishers or generators, which are to be filled with water, and charged with an acid and an alkali, for the purpose of producing carbonic-acid gas, which is to be mingled with the water and discharged upon the fire, as usual. The extinguishers or generators form no part of my present invention. They may be made of any suitable form, and provided with any of the known arrangements for charging them. In the drawing, G G represent caps, covering openings through which the acid and alkali are introduced. C C are the discharge-pipes, connected one to each of the generators A, for the purpose of conducting the mingled gas and water therefrom. These pipes are each provided with a cock, D, by means of which the discharge from each cylinder may be shut off or varied independently of the other. B is the chamber or cylinder forming the subject of my present invention. It is arranged in an upright position, and has both pipes C connected to its upper end, as shown in both figures, so that both cylinders A discharge their contents into the chamber or cylinder B. E is the discharge or delivery pipe of the apparatus, extending down into the chamber C nearly to its bottom, as shown in Fig. 2. F is a plug in the bottom of the chamber C, to admit of its being drained and washed out when required.

When the apparatus is in operation, the mingled gas and water escape from the generators or cylinder A, through the pipes C, into

the chamber or cylinder B, from the bottom of which they pass up through the pipe E, from which they are carried through a hose or pipe, and delivered upon the fire, as usual. At the time the gas and water issue from the generators or cylinders A, they are very imperfectly mingled, so that if carried directly to the fire, as usual, a broken, sputtering stream is produced, the gas and water often issuing alternately; the operation being very imperfect, a large portion of the gas being wasted, and the stream falling short of the point to which it should be thrown. By the use of the chamber C, the gas and water are thoroughly mingled, and a steady, unbroken stream produced. Another advantage arising from the use of the cylinder is, that the gas and air collect in the top thereof, and form an elastic cushion, which serves to equalize the pressure and steady the stream.

In operating the apparatus shown, one generator is discharged, and then the other brought into use, the first one being recharged while the second is discharging, and so on alternately, so that a continuous discharge is kept up from the issue-pipe E. The gas which remains in one generator after all the water is discharged therefrom, instead of being wasted, as usual, is permitted to pass into the chamber C, and mingle with the water from the other generator. In this way the gas is all utilized, and the water thoroughly impregnated therewith.

In addition to the advantages, above mentioned, arising from the use of the chamber C, there is another, viz., that it causes a thorough dissolution and mixture of the chemicals, so that the largest possible amount of gas is produced, and the acid completely neutralized, so that in case it becomes necessary to throw the stream upon dry-goods or like materials no injury will be done thereto aside from the simple wetting.

Although I have shown my chamber in connection with the two generators, it is obvious that it may be used with either a single generator or with three or more of them. It is also obvious that the form and location of the chamber are immaterial, provided it receives the contents of the generator or generators. It is further obvious that the delivery-pipe,

instead of being carried down through the top of the chamber, may be introduced at the bottom.

Having thus described my invention, what I claim is—

In combination with one or more generators or extinguishers, A, a chamber, C, connected thereto, substantially as shown and described,

so that the entire contents of the generators are discharged into said chamber, as and for the purposes set forth.

JOHN H. STEINER.

Witnesses:

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