

J. H. CONNELLY.

FIRE EXTINGUISHING APPARATUS.

No. 170,820.

Patented Dec. 7, 1875.

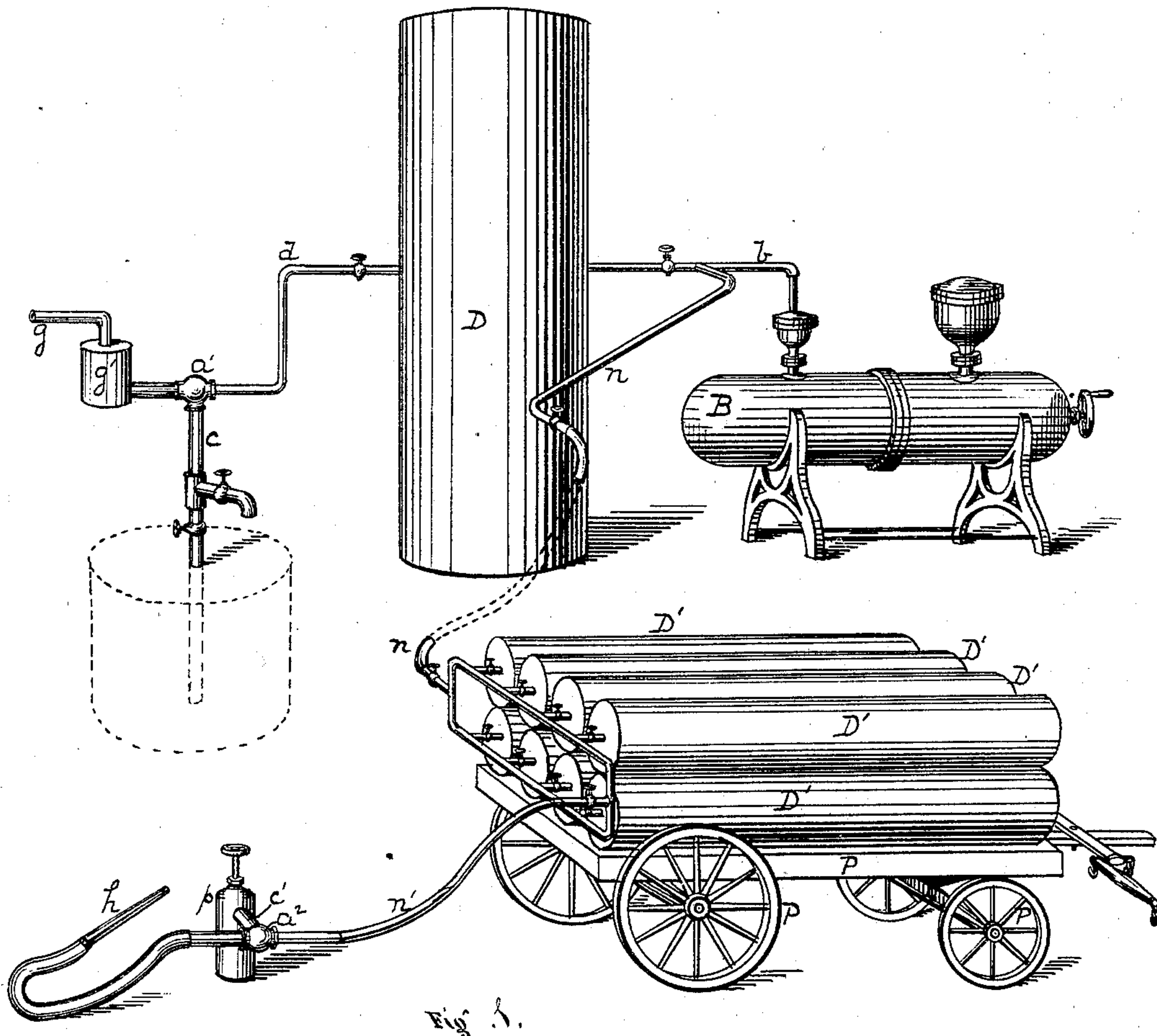


Fig. 1.

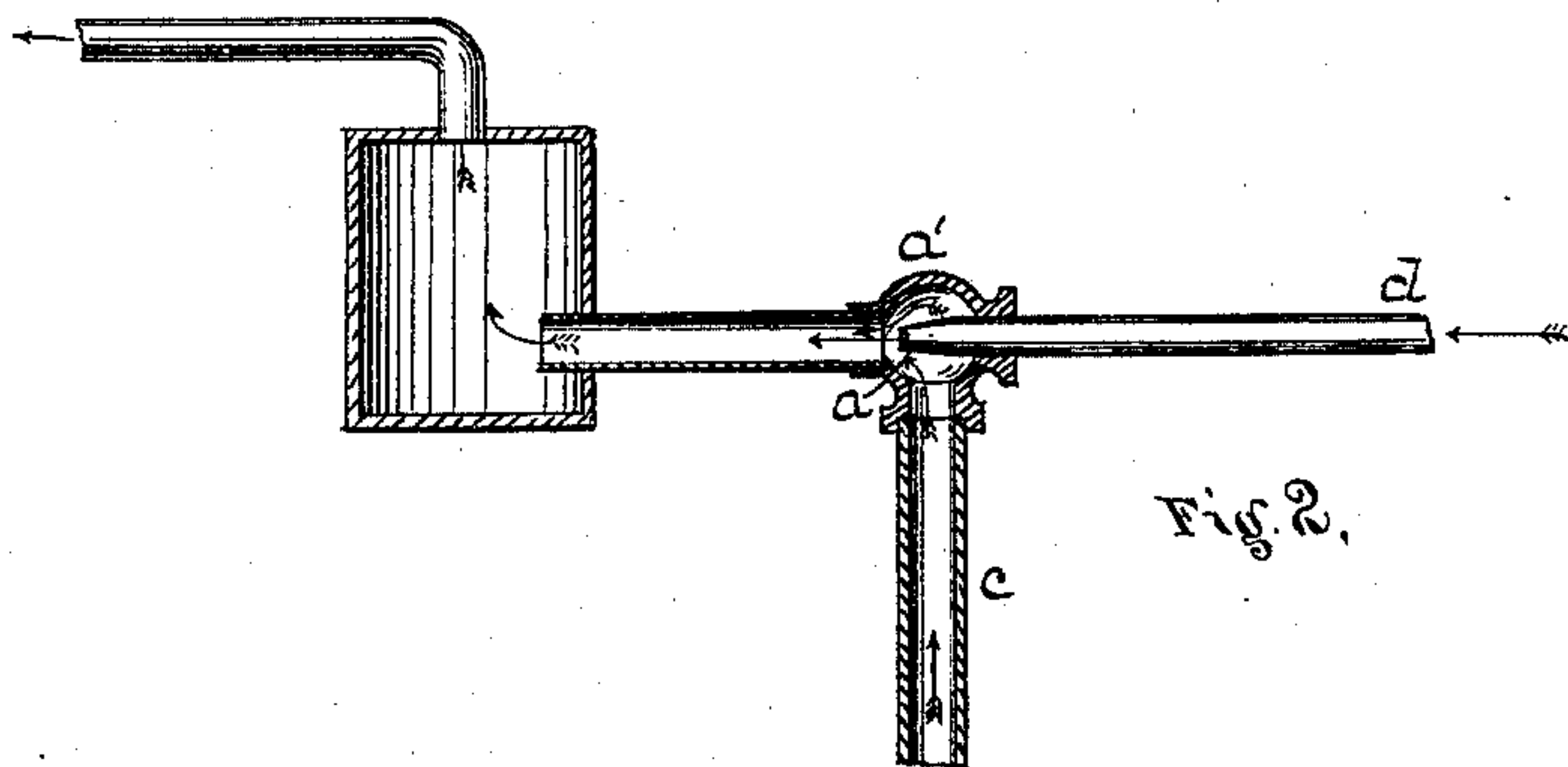


Fig. 2.

Witnesses: *Claudius L. Parker* Inventor: *Joseph H. Connelly,*  
*J. E. Boggs.* by *George W. Christy,*  
his Atty.



# UNITED STATES PATENT OFFICE.

JOSEPH H. CONNELLY, OF NEW BRIGHTON, ASSIGNOR TO JAMES L. HASTINGS AND WILLIAM H. HASTINGS, OF PITTSBURG, PA.

## IMPROVEMENT IN FIRE-EXTINGUISHING APPARATUS.

Specification forming part of Letters Patent No. **170,820**, dated December 7, 1875; application filed September 20, 1875.

*To all whom it may concern:*

Be it known that I, JOSEPH H. CONNELLY, of New Brighton, county of Beaver, State of Pennsylvania, have invented or discovered a new and useful Improvement in Fire-Extinguishing Apparatus; and I do hereby declare the following to be a full, clear, concise, and exact description thereof, reference being had to the accompanying drawing, making a part of this specification, in which—like letters indicating like parts—

Figure 1, by a view in perspective of both a stationary and fixed apparatus, illustrates my improvement; and Fig. 2 is an enlarged sectional view of the ejector employed, and its immediate operative connections.

My invention relates to the use of carbonic-acid gas and water commingled together for extinguishing fires, the commingling of the two, and also the throwing or discharge of both onto the fire being effected by the pressure of the gas as stored in holders or receivers.

B represents any known suitable form of carbonic-acid-gas generator, which connects, by a pipe, *b*, with a stationary gas holder or receiver, D, of any desired capacity, in which the gas is stored to a high pressure by the pressure caused in generating it. From the holder D a pipe, *d*, leads to an ejector-head, *a*<sup>1</sup>, and terminates in such head by an ejector-nozzle, *a*, Fig. 2, in such position relative to a water-supply pipe, *c*, that the escaping gas, acting on the principle of the ordinary siphon pump or ejector, shall, by the force of its escape, raise water, through the pipe *c*, from a tank, well, or other source of supply, and, carrying with it the water so raised, become commingled with it, and both fluids so commingled are, by the gas-pressure, carried along and thrown onto the fire; but, in order to effect a more perfect and complete intermixture, I make a bulge or enlargement on the ordinary discharge-pipe *g*, or arrange a mixing-chamber, *g'*, in the line of such pipe, wherein the agitation caused by the gas will, without interruption of the discharge, cause a more complete mixing of the two fluids.

This construction of apparatus I employ

where a stationary apparatus is desired; but I put it in a portable form by mounting on a truck or wagon, P, a series of holders, D', with a suitable pipe-connection, *n*, detachable at pleasure, for charging the same from the generator B. These holders may, when charged, be run to the fire, and, by a discharge-pipe, *n'*, the gas is conducted, as at *a*<sup>2</sup>, to the same ejector-head, and by the same ejector-nozzle as is shown in Fig. 2, so that the escaping gas shall draw water, by a pipe, *c'*, from a fire-plug, *p*, or other source of water-supply. The force of the escaping gas is thus added to the hydrant-pressure, and the two fluids, being thus commingled, are thrown, as described, from the nozzle *h*.

All the pipes are to be fitted with the necessary cocks and other fittings; and in the portable apparatus, as well as in the stationary, (if two or more holders are used,) the pressure is preferably turned on from each holder in succession, and not from all at once. For the purposes set forth, any suitable form of ejector may be employed; and while I prefer to employ the pressure direct from the generator to store the gas, other known means of compressing and storing may be employed.

The effects of carbonic-acid gas and water on combustion are so well known that the advantages of my improvement need not be more fully set forth.

I claim herein as my invention—

1. In a fire-extinguishing apparatus, the combination of a carbonic-acid-gas generator, connected by a suitable pipe, with an independent holder or holders, an ejector arranged to be operated by such gas in drawing and forcing water, substantially as set forth.

2. The combination of a carbonic-acid-gas holder, an ejector-nozzle, a water-supply pipe, and a mixing-chamber arranged in the line of discharge, substantially as described.

In testimony whereof I have hereunto set my hand.

JOSEPH H. CONNELLY.

Witnesses:

JAS. S. YOUNG,  
MAGNUS PFLAUM.