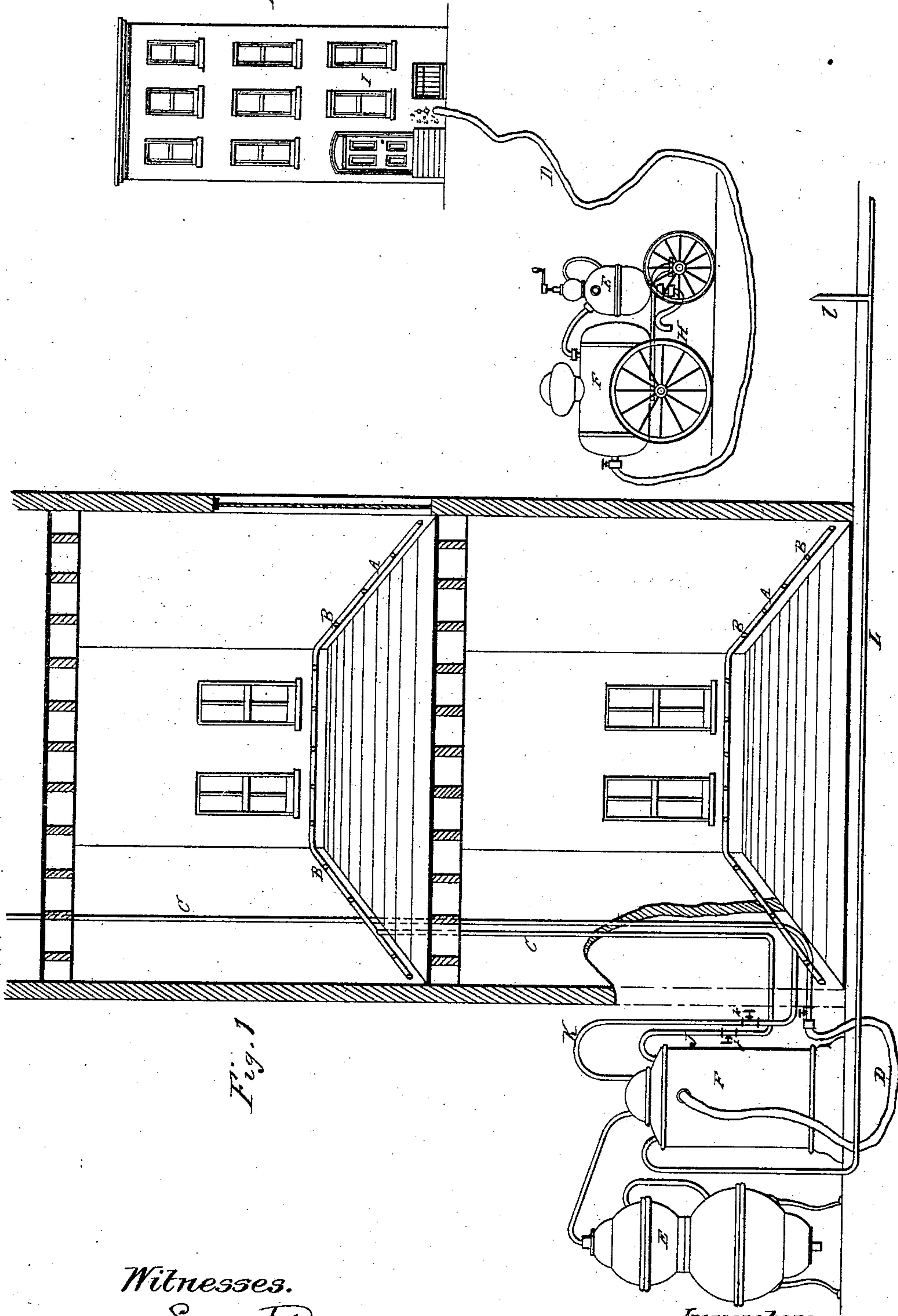


S. S. LIPPINCOTT.
Fire-Extinguishers.

No. 153,355. 2

Patented July 21, 1874.



Witnesses.

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UNITED STATES PATENT OFFICE.

SAMUEL S. LIPPINCOTT, OF NEW YORK, N. Y.

IMPROVEMENT IN FIRE-EXTINGUISHERS.

Specification forming part of Letters Patent No. **153,355**, dated July 21, 1874; application filed March 8, 1873.

To all whom it may concern:

Be it known that I, SAMUEL S. LIPPINCOTT, of the city of New York, State of New York, have invented a certain Method of Saving Vessels and Buildings from Destruction by Fire, of which the following is a specification:

My invention relates to that class of fire-extinguishers which operate by injecting carbonic-acid gas into a building, vessel, or apartment in sufficient volume to extinguish fire.

My improvements consist in confining the gas in readiness for use under heavy pressure in suitable reservoirs, and conducting the gas through a system of pipes carried around the lowest parts of the respective apartments to be protected, and having their delivery through a number of nozzles close to the floor, so that the heavy gas may settle first over the whole lower parts, and may completely fill the apartment and effect its purpose without danger of being carried off by the upward draft of the fire, as when introduced at any considerable height above the floor, or when introduced in a single or small number of jets.

In the accompanying drawings, Figure 1 represents a vertical section of a building and elevations of apparatus, showing my invention applied. Fig. 2 shows an elevation of a building, and of a gas generator and reservoir placed on wheels.

Similar letters of reference indicate corresponding parts in the various figures.

A A represent pipes, extending around the sides near the surface. B B are the openings or the branches for the outlet of the gas. C C are pipes running down from the apartments above to a point of access ready for a hose attachment from a gas apparatus or reservoir, either stationary or movable, D showing the hose conveying the gas from the generators E and reservoirs F.

In Fig. 2, E and F represent a generator and reservoir erected upon a carriage, H, constituting a fire-engine for city use, and D is the hose for conveying the gas to the

building I, in the manner already described with reference to the stationary apparatus E F, (shown in Fig. 1;) i^1 i^2 i^3 showing couplings, by which the hose D may be attached for filling different stories or apartments with gas.

If preferred, the stationary apparatus E F (shown in Fig. 1) may be used with permanent metallic pipes J K for the various apartments, said pipes being provided with stop-cocks j k .

L represents a street-main, which may conduct the gas from a generating apparatus and reservoir, F, of sufficient capacity, and supply it through branches l to any one or more of the buildings in a street or city, as required.

The above description of the mode of applying my invention to buildings will enable any one to apply it with like effect to vessels and other structures.

I am aware that it has before been proposed to inject carbonic-acid gas into buildings for the purpose of extinguishing fires; and, also, that it has been proposed to conduct steam through a system of pipes and deliver it through a number of discharge-orifices for the same purpose. This, therefore, I do not claim.

It is an indispensable feature of my improvement that carbonic-acid or other extinguishing gas devoid of free oxygen is introduced through a number of openings surrounding the apartment close to the floors—that is to say, within the limits of the lower currents of air, from which combustion is supported in a burning apartment.

This mode of introducing the gas effects two peculiar results, which are of great practical importance, to wit: First, the extinguishing-gas, instead of being carried off with the ascending products of combustion and rendered ineffective, as in the ordinary mode of applying it, rises in direct contact with the incandescent matter, and causes the instantaneous extinction of the fire. Second, a pressure is produced and maintained in the lower part of the room, so as to prevent any

influx of fresh air by atmospheric pressure from outside, which influx being an inevitable consequence of the upward draft unless gas be introduced in the particular manner I have specified, so as to fill the vacuum or obviate the tendency to a vacuum in the lower part of the room.

What I claim as new, and desire to secure by Letters Patent, is—

The combination of the pipes A, surrounding the several apartments near the floor

thereof, the nozzles B, arranged to deliver a number of jets, the conducting-pipes D C, and a suitable reservoir, F, the whole operating as herein described, to deliver a large volume of carbonic-acid gas over the entire lower stratum of any apartment.

SAML. S. LIPPINCOTT.

Witnesses:

T. C. CONNOLLY,
H. H. BURTON.