(No Model.)

P. H. SPELMAN.

FIRE ESCAPE LADDER.

No. 267,031. Patented Nov. 7, 1882.

Fig. 1.

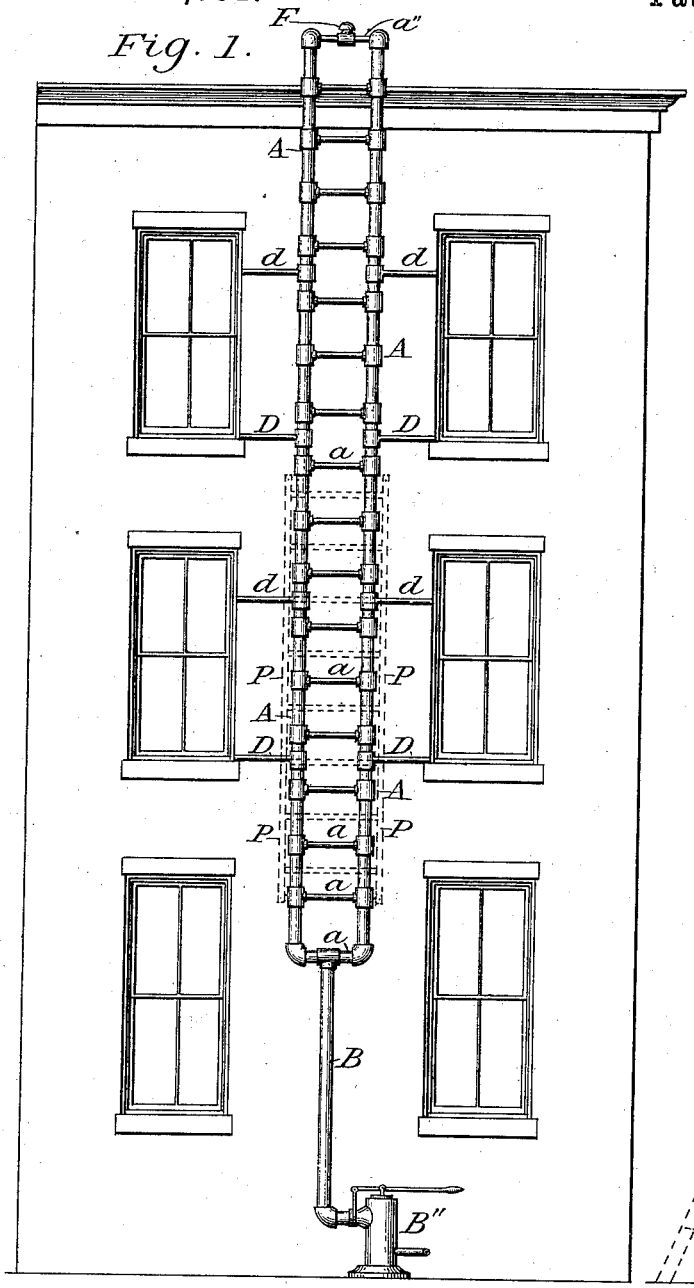
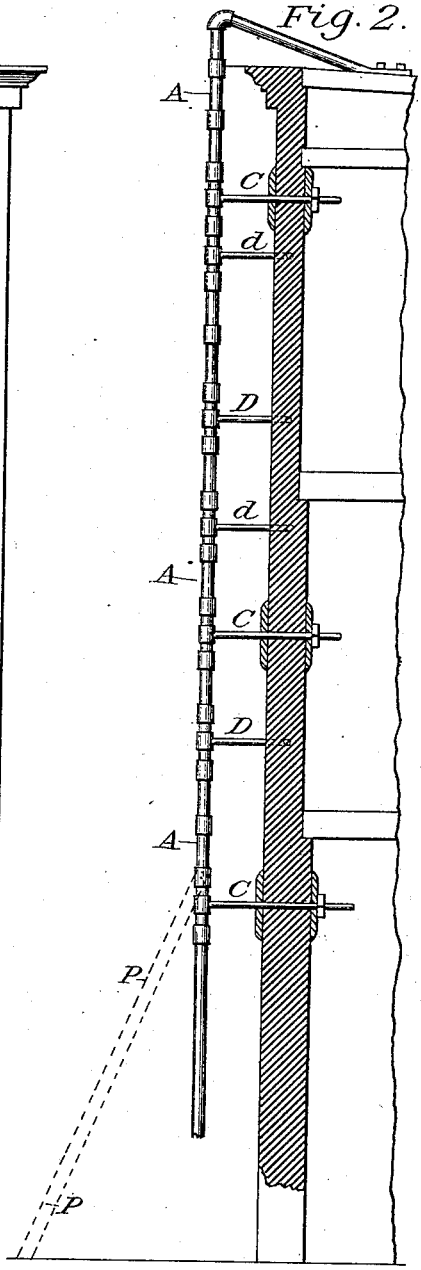


Fig. 2.



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FIRE-ESCAPE LADDER.

SPECIFICATION forming part of Letters Patent No. 267,031, dated November 7, 1882.

Application filed April 7, 1881. (No model.)

To all whom it may concern:

Be it known that I, PATRICK H. SPELMAN, of the city, county, and State of New York, have invented a new and useful Improvement in Fire Escapes and Ladders, of which the following is a specification.

My improvements relate to that class of inventions designed for permanent fire-ladders and fire-escapes; and it consists of a ladder the sides and rounds of which are made of iron pipe, which can be filled with water to keep it cool for use in case of fire, and which may be attached by means of suitable devices to the walls of a building between the windows, and by which at all times the roof or the windows of the separate stories may be reached; or, conversely, the ladder may be reached from the windows in case of necessity, and so placed in relation to the walls of a building that the firemen or other persons can ascend or descend on the inside or between the ladder and the walls of the building, using the said walls as a rest or support for the shoulders in ascending or descending, and thus relieve them from the great labor and fatigue of traversing a perpendicular ladder with nothing but the hands and feet.

That others skilled in the art may make and use the said invention, I now proceed to describe the same as set forth in the following specification.

In the accompanying drawings, Figure 1 is a front elevation of my invention, and Fig. 2 is a side elevation of the same.

Similar letters of reference indicate corresponding parts.

A A A A A A represent the sides of the ladder, and *a a a a* the rounds. They may be of iron or other metal pipe, having for the insertion of the rounds *a a a a* the ordinary T-joint fitting used in steam and gas fitting. On the top round, *a''*, is placed a perpendicular check-valve, F, to admit of the escape of the air from the pipes when being filled with water. The lower round, *a*, is provided with an iron T, to which is connected the pipe B, which is also connected with the pump B''.

B'' is an ordinary suction and force pump, the suction-pipe of which may be connected with a reservoir or vessel holding water, which may be a permanent or temporary connection, at the option of the builder.

C C C are the connecting-rods, which are attached to the ladder at one end and the other end passing through an iron washer on the outside of the wall, and, passing through the walls of the building, may be secured to the inside by star anchor plates or other similar devices; or they may be built in the wall and secured by the common anchor. The portion outside of the wall should also be made of pipe.

D D D D are braces connecting the sides of the ladder with the windows, and answer the purpose of a foot-rail or means of reaching the windows from the ladder, or, conversely, the ladder from the windows.

d d d d are also braces that extend from the ladder to the windows, and may be used as a hand-rail. Both are filled with water in connection with the ladder when in use.

P P P P is a short section of the ladder, working upon a hinge, that may be folded on the standing part when the apparatus is not in use, but which may be thrown down so as to enable the persons descending to reach the ground when required. This section may be made of iron rods or wood or any other suitable material, and is not to be filled with water.

The operation of the invention is, viz: The ladder, being permanently attached to the walls of the building, between the windows, is placed about two (2) feet from the wall. In case of fire in the building the ladder should be first filled with water, which may be done by means of the pump B'', and will fill both sides, rounds, connections, and braces. If any part of the ladder becomes hot from the flames, the water in the pipes will ascend, and in this way a circulation will be maintained that will keep the ladder cool, so that a person can grasp the sides and rounds of the ladder without getting burned. In ascending and descending, the travel should be done on the inside between the walls and the ladder, and the wall of the building used for a rest or support for the shoulders and back. This is found to be necessary, as it is nearly impossible for any one to ascend a perpendicular ladder without great muscular exertion and fatigue.

I am aware that a sectional ladder made of

pipe perforated with holes by which water may be made to flow over them have been used, and that other similar devices have been employed; but my invention differs from these.

What I claim, and wish to secure by Letters Patent, is—

1. The combination, in a fire escape ladder, of the side pipes, A A, and the hollow braces D D *d d*, communicating with said side pipes, substantially as described.

2. The combination, with a ladder placed vertically, and with the supports for the same, of a backing or wall that is parallel with the ladder and in such close proximity to the same as to form a support for the back of the person descending such ladder, substantially as specified, for the purpose set forth.

3. The combination of the side pipes, A A A A, with the transverse pipes or rounds *a a a a*, the fastening-rods C C C, the braces D D and *d d*, the supply-pipe B, and the pump B″, together with the T's and the check-valve F, and the short sectional ladder P P P P, substantially as described, and for the purposes set forth.

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