L. LIVINGSTON.

FIRE AND MARINE ESCAPES.

No. 194,778. Patented Sept. 4, 1877.

Fig. 1.

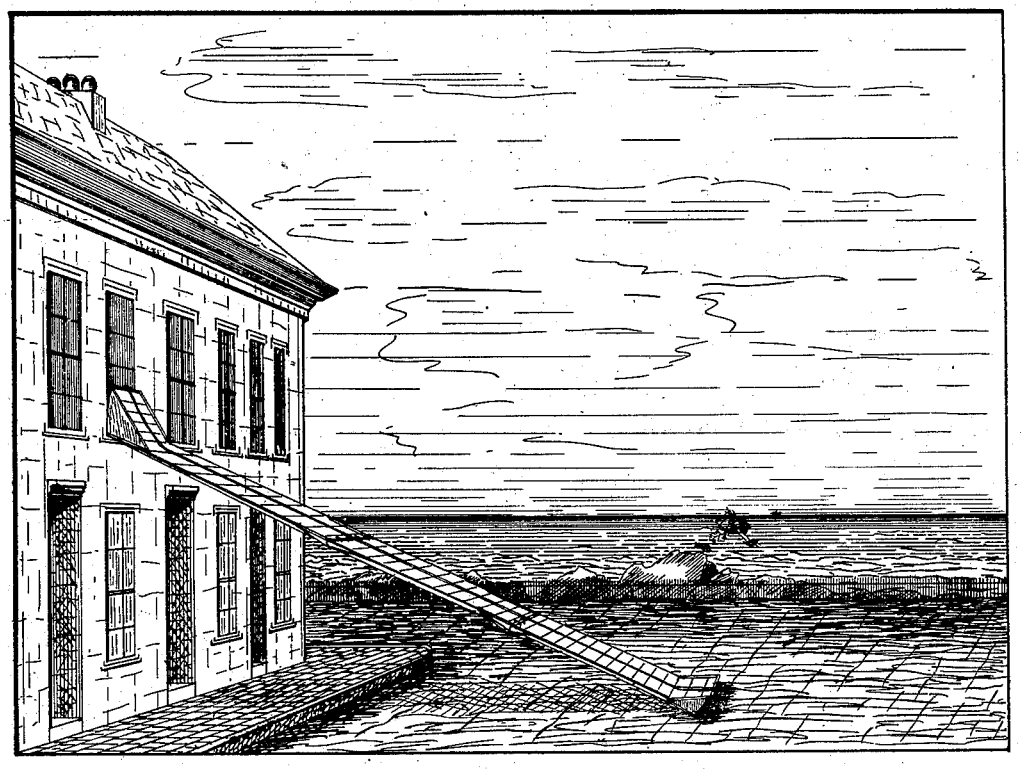


Fig. 2

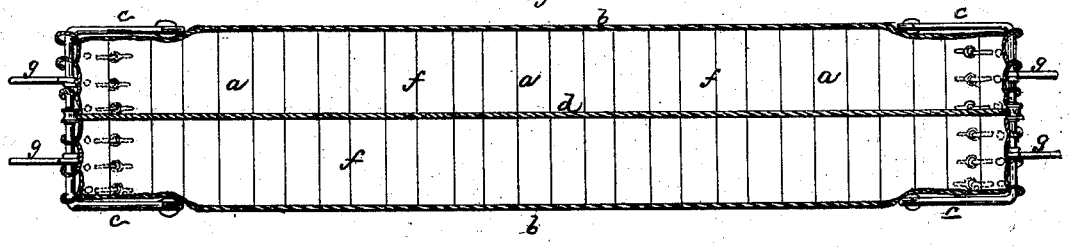
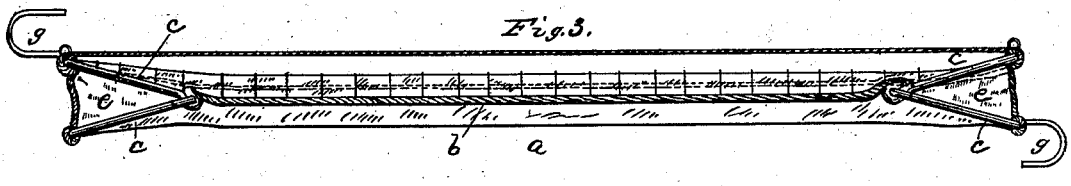


Fig. 3.



Witnesses.

L. H. Latimer,

John W. Johnson.

Inventor.

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UNITED STATES PATENT OFFICE.

LOUIS LIVINGSTON, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN FIRE AND MARINE ESCAPES.

Specification forming part of Letters Patent No. **194,778**, dated September 4, 1877; application filed July 9, 1877.

To all whom it may concern:

Be it known that I, LOUIS LIVINGSTON, of Boston, in the county of Suffolk and State of Massachusetts, have invented an Improved Fire and Marine Escape, of which the following is a specification:

The object of my invention is to provide a ready means of escape from a burning building when the usual interior means of exit have been cut off by the flames. It is also designed as a means for safely transferring persons, more especially women and children, from a wrecked or sinking vessel to a boat without danger of their being lost overboard.

The invention consists of a flexible tube, made of canvas or other suitable material, the open ends of which are provided with hinged metallic frames, upon which frames are secured large hooks or catching devices, by means of which the said tube may be readily attached to a building or vessel from which the escape is to be made. These hooks are to be attached to the opposite side of each end of the tube, so that a number of the same can be connected together when one or two are not long enough to reach to the upper part of a building.

Referring to the drawings, Figure 1 represents my invention as applied to a building and also to a vessel. Fig. 2 is a plan or top view, and Fig. 3 is a side view of the same.

a a is a tube, composed of canvas or other suitable flexible material, provided with stout cords or ropes *b b*, at the sides and center, to stay and strengthen it.

At each end of the canvas tube is a metal frame, *c c*, hinged so as to open and close similar to the frame of a carpet-bag. The sides of these frames are supplied with gore-pieces *e e*, as continuations of the tube.

To one side of each end frame *c c* of the tube are attached strong hooks *g g*, placed on opposite sides of each end, as shown in Fig. 3, by means of which the upper end of a tube may be attached to a window-frame or other part of a building, or to the side of a vessel, and so that several tubes may be connected together in order to reach any desired height of a building.

A rope, *d*, passes through the tube at the center, and serves as a guide or holdfast for persons passing through the tube.

f f are short ropes secured to the center and edges of the tube, on one side, to serve as a foot-ladder for persons to pass up or down on the outside in case of such necessity.

When required for use, the end of the tube may be drawn up by means of a cord which may be thrown up to persons at an upper window or other high part of a building, or raised in any other convenient manner. Additional tubes may then be attached to each other to make a continuous tube of the required length, and the lower end may be held by the hands of persons there stationed, or securely attached to any convenient stationary object.

By means of my invention helpless women and children may be safely transferred from the higher stories of a building in flames to the ground. The invention is especially adapted for the protection of women and children who are obliged to escape from a burning building in their night-clothes, who would otherwise be exposed to the view of the multitude, and also to the inclemency of the weather.

As a means of transferring women and children from a wrecked or sinking vessel to a boat, my invention will be found applicable and effectual in saving them from falling into the water.

The tubes may be rolled or folded in a small compass, so as to occupy but a small space for storage or transportation.

When used as a fire-escape it is designed to impregnate the canvas, or material of which the tube is made, with some suitable fire-proof preparation.

I am aware that canvas tubes have been used as a means of escape from a burning building. This I do not claim; but

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

A fire-escape consisting of one or more canvas tubes, *a*, provided at each end with a hinged mouth-piece or frame, *c c*, and hooks *g g*, arranged and operating substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

LOUIS LIVINGSTON.

Witnesses:

J. H. ADAMS,

J. MELLEDGE FLAGG.