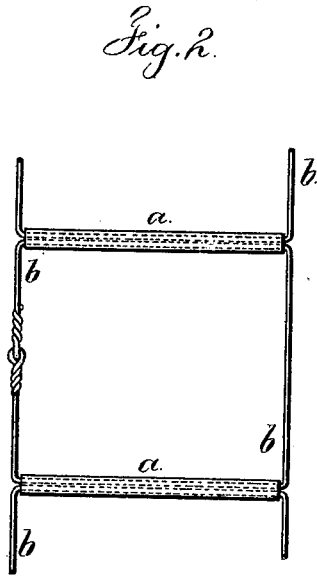
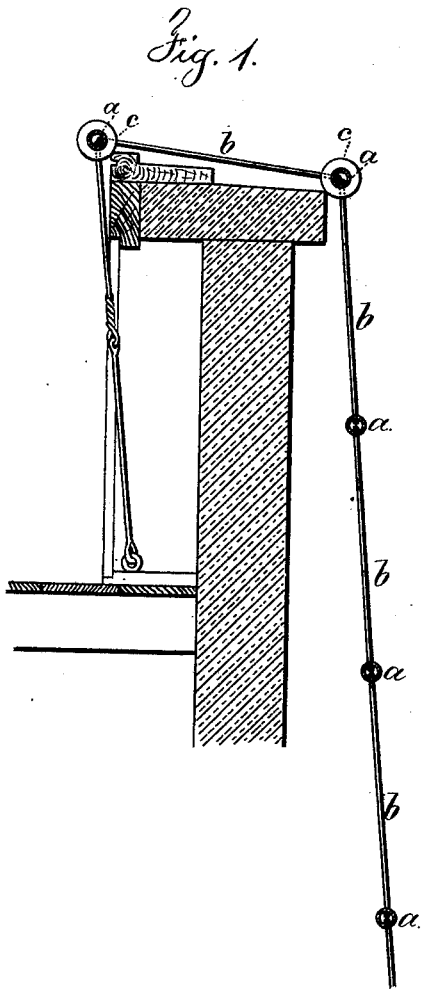


T. F. STEVENSON.
Fire-Escape.

No. 197,059.

Patented Nov. 13, 1877.



Witnesses

Chas. H. Smith
Geo. T. Pinckney

Inventor.

Thos. F. Stevenson.

per Lemuel W. Sewell,


Att'y

UNITED STATES PATENT OFFICE.

THOMAS F. STEVENSON, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN FIRE-ESCAPES.

Specification forming part of Letters Patent No. **197,059**, dated November 13, 1877; application filed September 12, 1877.

To all whom it may concern:

Be it known that I, THOMAS F. STEVENSON, of the city of Brooklyn, State of New York, have invented an Improvement in Fire-Escapes, of which the following is a specification:

Numerous fire-escapes have been made in which tubular and other rungs are employed.

My present invention is for connecting metallic tubular rungs in a very strong and reliable manner, so that the ladder may fold up into a small compass, and be ready for instant use.

I make use of wires passing through the tubular rungs and bent to form parallelograms or oblong frames, extending from one rung to the next, the wires passing through the respective rungs, so as to act similar to hinges in folding up the ladder into a compact form.

In the drawing, Figure 1 is a section illustrative of the manner of connecting this ladder to a window-sill, and Fig. 2 is a front elevation.

The rungs *a a* are metal tubes, and they are connected by the oblong wire frames *b b*, such frames being made complete and independent of each other by twisting or otherwise securing the ends of the wires together in each frame. The top part of one frame and the bottom part of the frame next above pass through each rung. The wires, however, are not connected, so that each frame can be folded against the next when the ladder is be-

ing packed for transportation, or for stowing away beneath the window-sill or in any other convenient position.

It will generally be preferable to have a removable panel below the window-sill, to inclose the ladder in a box formed at this place; and the ladder will, by preference, be attached at or near the floor, and be thrown out of the window and rest upon the sill; and, in order that the rungs at the sill may be convenient for grasping, it is preferable to make use of disks or hubs *c* to raise the rungs off the sill, and at the same time prevent the wires from coming into contact with the window-sill.

It will be apparent that each wire frame may be made of one wire of sufficient strength, with the ends united, or that two or more wires may be used in each frame, wound together or in the form of wire rope. The wires near the window should be the strongest.

I claim as my invention—

The fire-escape ladder composed of metal tubes and independent wire frames connecting such tubes, the wires of two frames passing through each tube, substantially as set forth.

Signed by me this 10th day of September, A. D. 1877.

THOS. F. STEVENSON.

Witnesses:

GEO. T. PINCKNEY,
WILLIAM G. MOTT.