B. A. RICHARDSON.

FIRE-ESCAPES.

No. 193,895. Patented Aug. 7, 1877.

Fig. 1.

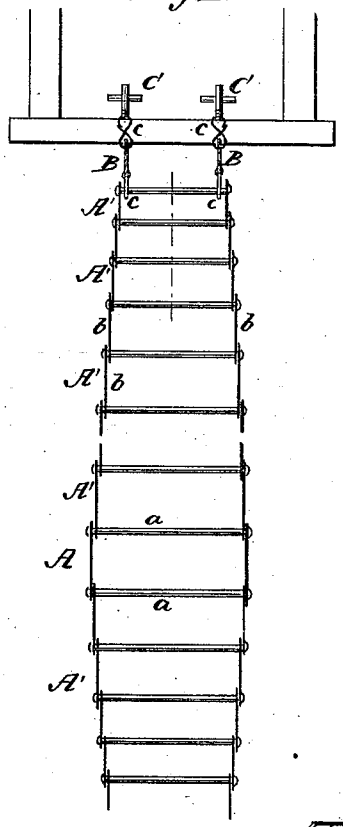


Fig. 2.

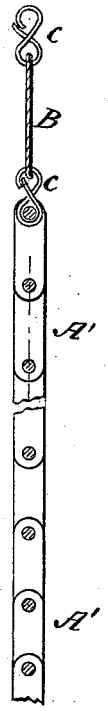


Fig. 3.

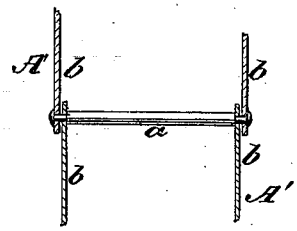


Fig. 5.

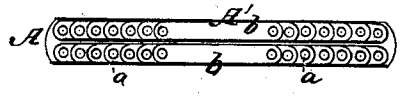
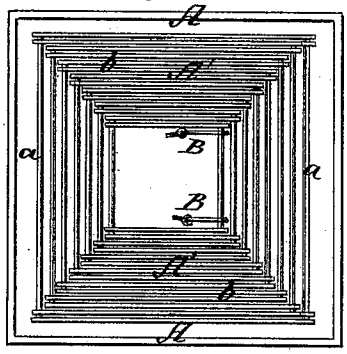


Fig. 4.



WITNESSES:

E. Wolff

J. N. Scarborough.

INVENTOR:

B. A. Richardson

BY Munn & Co

ATTORNEYS.

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

BENJAMIN A. RICHARDSON, OF NORFOLK, VIRGINIA.

IMPROVEMENT IN FIRE-ESCAPES.

Specification forming part of Letters Patent No. **193,895**, dated August 7, 1877; application filed June 11, 1877.

To all whom it may concern:

Be it known that I, BENJAMIN A. RICHARDSON, of Norfolk, in the county of Norfolk and State of Virginia, have invented a new and Improved Fire-Escape, of which the following is a specification:

The object of my invention is to save life and property in case of fire, by affording means for persons to safely descend from the windows or roof of a building.

In the annexed drawings, Figure 1 shows a portion of my improved ladder suspended from a window sill. Fig. 2 is a side view of the upper end of the ladder. Fig. 3 is a sectional view, showing the manner of connecting the rounds or foot-rests to the links. Fig. 4 is a plan view, showing the ladder folded and in a box. Fig. 5 is a section taken longitudinally through the ladder-sections when folded.

Similar letters of reference indicate corresponding parts.

The letters A A′ designate linked sections composing the improved ladder. The section A is the largest, and is a rectangular frame, having rounds *a a* rigidly secured to it, and arranged as shown in Fig. 5, to which sections A′ are pivoted.

The links or side pieces *b b* of the section A are about double the width of the side pieces of the sections A′, so that all of these sections will fold closely within the said section A.

The section A is mid-length of the ladder, and the sections A′ fold into each other and into section A. Consequently the sections A′ gradually diminish in size from the middle section to the terminal sections.

The links or side pieces *b* are applied on the shouldered ends of the rounds *a*, as shown in Fig. 3, and held in their places by riveting the extremities of the rounds.

B B designate short ropes or chains, which have strong snap-hooks *c c* fixed to them, for the purpose of attaching the ladder to a window-sill, or to the cornice of a building.

I shall use gimlet-pointed screws *c c*, with cross-bars fixed to their heads, which screws are fixed into the window-sill, and the suspension ropes or chains B B attached to them, as shown in Fig. 1.

The cross-bars on the screws serve as handles, and aid a person in mounting the ladder.

By my invention I construct a long ladder, which, when it is folded, will occupy a very small space.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

A fire-escape ladder having one large link-section, A, at or near the middle, and on each side, pivoted thereto, smaller ones, A′, successively decreasing in size toward each end, as shown and described, so that all the link-sections A′ will fold within each other, and then within the middle section A, as specified.

BENJAMIN A. RICHARDSON.

Witnesses:

JOS. J. LAWLER,

R. F. LAWLER.