

I. H. ALLEN.  
FIRE-ESCAPE.

No. 192,403.

Patented June 26, 1877.

Fig. 1.

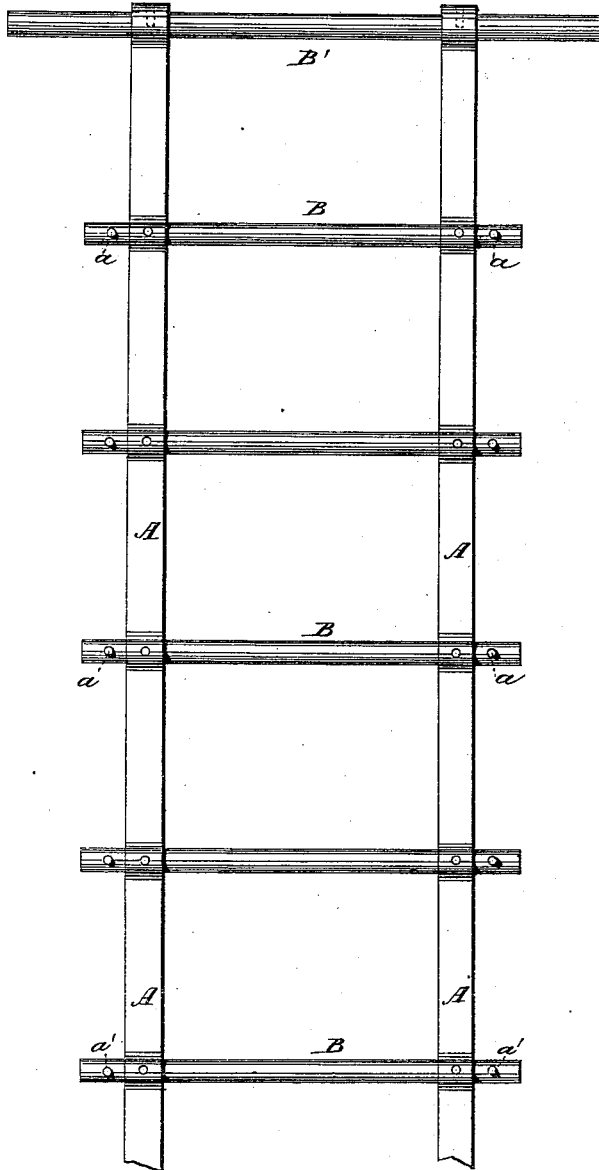


Fig. 2.

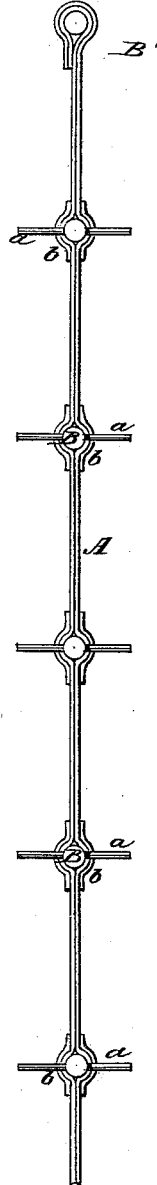
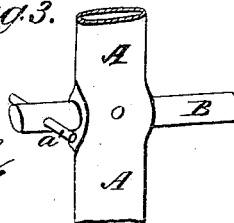


Fig. 3.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

ISAAC H. ALLEN, OF BLACK CREEK, ONTARIO, CANADA.

## IMPROVEMENT IN FIRE-ESCAPES.

Specification forming part of Letters Patent No. 192,403, dated June 26, 1877; application filed May 28, 1877.

*To all whom it may concern:*

Be it known that I, ISAAC H. ALLEN, of Black Creek, in the county of Welland, Province of Ontario, and Dominion of Canada, have invented a new and Improved Fire-Escape Ladder, of which the following is a specification:

This invention has relation to ladders which are especially designed for enabling persons to escape from the upper stories of burning buildings; and the nature of my invention consists in a flexible or folding ladder in which the rounds or foot-rests are secured to strips of webbing woven in such manner that it affords proper strength and durability at points where the rounds pass through it, as will be hereinafter explained.

In the annexed drawings, Figure 1 is a front view of my ladder. Fig. 2 is an end view, and Fig. 3 is a modification.

Similar letters of reference indicate corresponding parts.

A A designate the side supports of the ladder, and B B are the rounds thereof, which latter may be made of hard wood, and they have studs or arms *a* fixed into their ends for the purpose of having them stand off from a wall far enough to afford good foot-hold to a person ascending or descending.

The top round B' is longer than the others,

for the purpose of readily securing it to a window.

The side supports are made of webbing, which is woven tubular, or of double thickness, with openings transversely through it at proper intervals to receive the rounds, as shown at Fig. 3.

In the process of weaving the webbing, I shall thicken it so as to make it strongest at those points where it is subjected to the most wear and strain. This may be done by stitching strips of cloth to the webbing, as shown in Fig. 2, at *b*, but I prefer to adopt the plan above described.

It will be seen that the flexible tubular side strips A A will sustain the rounds B on both sides when they are nailed or otherwise fixed in their places, and that they prevent the rounds from tilting.

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

A flexible fire-escape ladder composed of side supports A A for the rounds B, made of tubular webbing, strengthened, substantially as described.

ISAAC H. ALLEN.

Witnesses:

G. H. WILLIAMS,  
JOHN G. REILLY.