E. L. BURNHAM.

Fire-Escape.

No. 210,596. Patented Dec. 10, 1878.

Fig. 4.

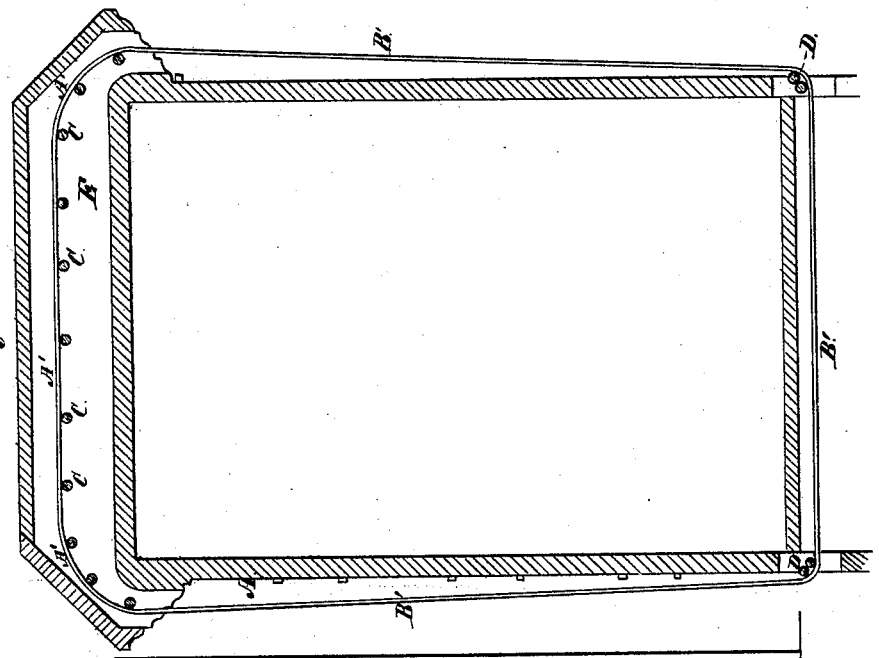


Fig. 2.

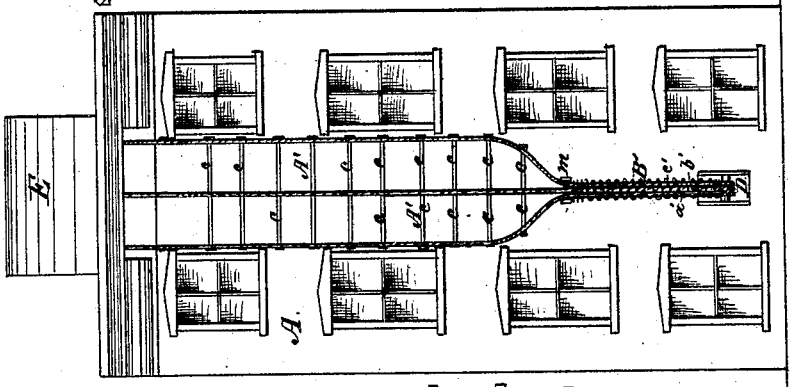


Fig. 3.

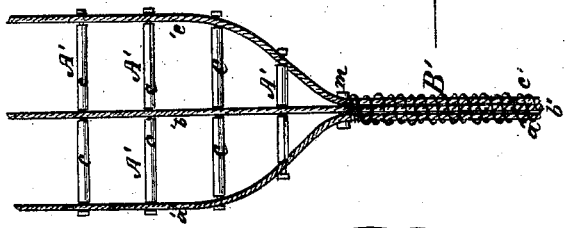
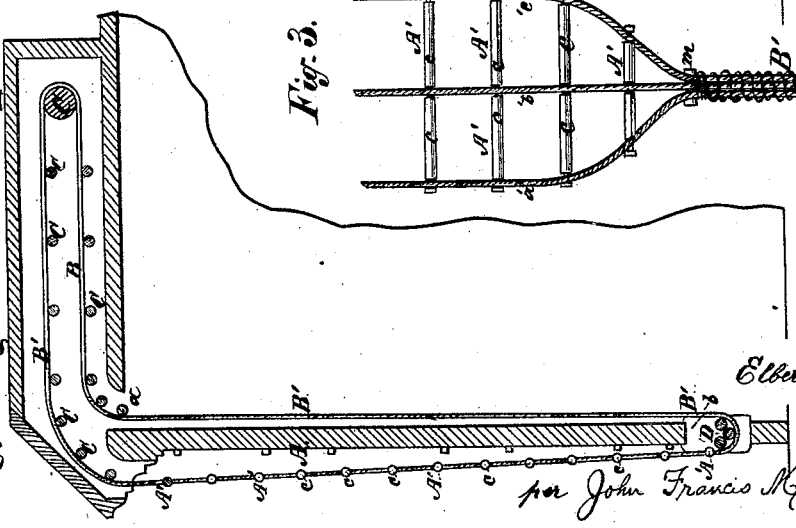


Fig. 1.



Witnesses

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UNITED STATES PATENT OFFICE.

ELBERT L. BURNHAM, OF YONKERS, NEW YORK.

IMPROVEMENT IN FIRE-ESCAPES.

Specification forming part of Letters Patent No. **210,596**, dated December 10, 1878; application filed May 29, 1878.

To all whom it may concern:

Be it known that I, ELBERT L. BURNHAM, of the city of Yonkers, county of Westchester, State of New York, have invented certain Improvements in Fire-Escapes, of which the following is a specification:

This invention comprises a ladder consisting of endless strands, so combined with a house or structure that when required for use the rounds of the ladder may be let down the outer wall of the building to afford egress from or access to the several stories of the latter, and when not required for use it can be drawn up with the rounds upon the roof, or within the walls of the building, the ladder being constructed with a portion devoid of rounds, which portion alone remains exposed upon the outer wall when the apparatus is not required for operation. By this means all the advantages of a fixed ladder on the outer wall of the building are secured without the disfigurement always incident to the use of such fixed ladder exposed on the outer surface of the building.

The invention also comprises certain other novel combinations of parts, whereby the principle of construction and operation aforesaid is most advantageously applied.

Figure 1 is a vertical sectional view representing my invention. Fig. 2 is a front view thereof, showing the ladder brought down nearly into position. Fig. 3 is a detail view of one portion thereof. Fig. 4 represents a modification of the same.

A is the front of the building, and A′ B′ the endless strands of the ladder. C represents a system of rollers upon the roof or near the top of the building. D represents one or more rollers at the bottom.

The ladder A′ B′ is placed upon the rollers C and D, one part of the ladder passing behind or back of the wall A through an opening, *a*, at the roof and out near the ground through another opening, *b*.

The ladder is composed of a part, A′, having rounds *c* and a portion, B′, which is devoid of rounds.

It is manifest that by pulling upon the ladder in the requisite direction either within or without the wall A, the part A′, with the rounds *c*, may be brought down so as to stand from the top to the bottom of the wall A, at the outside thereof, and, being firmly held within easy reach of the windows of a building, will afford all the advantages of a fixed safety ladder or escape. When the ladder is not required for use it is moved in an opposite direction. The part having the rounds *c* is brought upward to the roof, and lies out of the way upon the system of rollers C, while the part B′, which is devoid of rounds, lies vertically upon the outer surface of the wall A, and, being comparatively inconspicuous, detracts but very little from the appearance of the building as compared with a fixed ladder applied in the ordinary manner.

When the part A′ is brought into position for use, as just explained, a stop, *m*, duly provided on the ladder, strikes the sides of the opening *b* and checks the further movement of the ladder in that direction, and thus holds the ladder against the stress brought upon it by actual use.

In order to reduce the size and conspicuousness of the part B′ to the utmost, the three strands *a′ b′ c′* of the part A′ are brought close together and bound or otherwise secured side by side, as represented in Fig. 3; or they may be woven into one. These strands may be either of wire rope, or of chains of suitable size and diameter of links, or of other flexible material suitable for the purpose.

In some cases the construction of the apparatus may be modified, as shown in Fig. 4, the endless ladder passing entirely over the roof of the building, down on one side and up on the other; but except in minor features of operation this change does not affect the principle of my said invention.

In order to shield the part A′ of the ladder when not in use, a box or covering, E, may be provided over the same, when desired.

I claim as my invention—

1. The ladder with endless strands, having the part A′ with rounds and the part B′ devoid of rounds, in combination with the wall

A and rollers C, substantially as and for the purposes herein set forth.

2. The combination of the stop *m* with the ladder having endless strands, constructed as described, and the wall A, all substantially as and for the purpose herein set forth.

3. The ladder with endless strands, having its part B′, which is devoid of rounds, formed of the strands *a′ b′ c′*, brought together and united, substantially as and for the purposes herein set forth.

ELBERT L. BURNHAM.

Witnesses:
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