(No Model.)

J. H. McELROY.

FIRE ESCAPE.

No. 271,498. Patented Jan. 30, 1883.

Fig. 1.

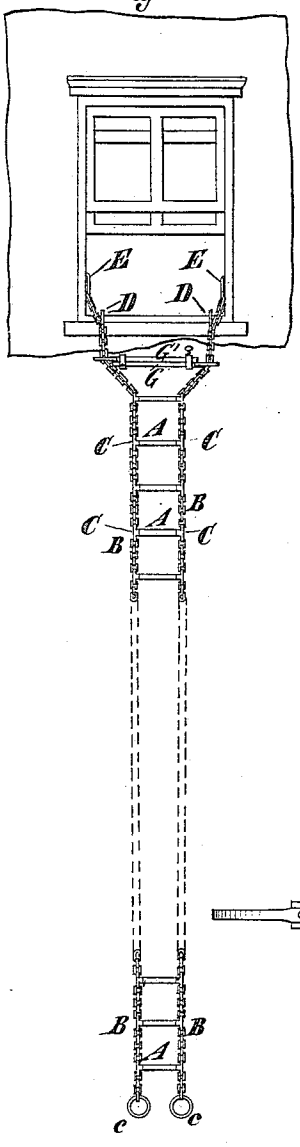


Fig. 2.

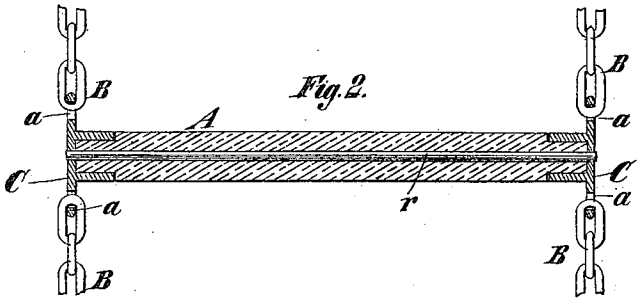


Fig. 3.

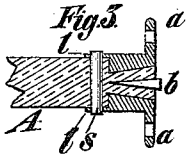


Fig. 4.

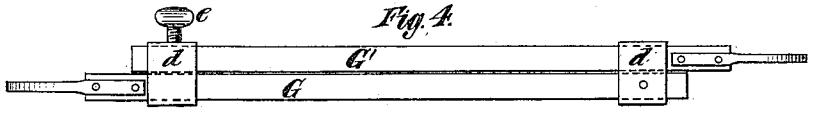
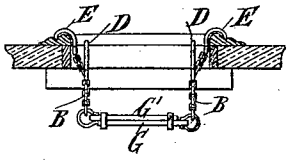


Fig. 5.



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UNITED STATES PATENT OFFICE.

JAMES H. McELROY, OF MIDDLETOWN, NEW YORK.

FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 271,498, dated January 30, 1883.

Application filed July 1, 1882. (No model.)

To all whom it may concern:

Be it known that I, JAMES H. McELROY, of Middletown, in the county of Orange and State of New York, have invented a certain new and useful Improvement in Fire-Escapes, of which the following is a specification.

This improvement relates to fire-escapes of the kind which consist of flexible ladders having their rungs connected by metallic chains or equivalent devices.

The improvement consists in the combination, in a fire-escape, with rungs and chains or like devices extending between them, of ferrules made in the form of caps, covering the ends of the rungs, and provided with means whereby the chains or like devices may be secured to them, and rods extending longitudinally through the rungs and fastened at their ends in the caps and securing them together.

The improvement also consists in the combination, with a fire-escape having its rungs connected by chains or like devices, of hooks connected to the upper end of the chains or like devices for securing the same to the sill of a window, and other hooks for securing them to the jambs of the window.

The improvement also consists in the combination, with a fire-escape having its rungs connected by chains or like devices, and having such chains or devices extended above the top rung, and provided with fastenings for securing them to a window, of an extensible brace adapted to hold the said chains or devices apart, so as to prevent the weight of the ladder or any weight thereon from drawing the fastenings from the window or out of the positions they are desired to occupy.

In the accompanying drawings, Figure 1 is a front view of a ladder embodying my improvement and a window in a building to which it is applied. Fig. 2 is an enlarged view of one of the rungs of the ladder and its appurtenances. Fig. 3 is an enlarged view of one end of a ring and appurtenances of modified form. Fig. 4 is an enlarged view of the extensible brace; and Fig. 5 represents a horizontal section of the window, showing the manner of securing the ladder thereto by hooks engaging with the jambs and sill.

Similar letters of reference designate corresponding parts in all the figures.

A designates the rungs of the ladder. They may be made of wood or other suitable material.

B designates chains whereby the rungs are connected together, and which extend above the top rung and below the bottom rung. Preferably ordinary cable-linked chain will be employed, as that will be less liable to kink than other kinds. In lieu of chains, metallic ropes may be used, if desirable.

C designates metal ferrules fitting upon the ends of the rungs A, and made in the form of caps. As shown in Fig. 2, the two ferrules of the rung are secured in place by means of a metal rod, *r*, passing through the ferrules and rung and clinched at the ends beyond the ferrules. These ferrules severally have eyes *a* extending above and below them, in line with the rungs, and affording convenient provision for fastening the chains or like devices to the ferrules. These ferrules not only protect the ends of the rungs, but also serve as connections between the rungs and the chains or like devices which extend from them.

In Fig. 3 the rung A is made of wood, as before, but the ferrules do not cover the ends of the rungs. Wedges *b* are driven into the ends of the rungs to expand them into the ferrules and prevent the latter from becoming detached. The ferrules are also provided with lugs *l*, through which pass rivets *s*, serving as additional means for securing the ferrules in place. The ferrules have eyes *a* like those of the ferrules first described.

The chains B extend above the top rung, and are provided with hooks D, whereby they may be fastened to the sill of a window, and other hooks E, whereby they may be fastened to the jambs, as best shown in Fig. 5. These chains also extend below the lowermost rung, and at the ends are provided with rings *c*, forming hand-pieces, whereby the fire-escape may be steadied.

In connection with the upper portion of the chains, I employ an extensible brace, G G'. It consists of two sections, each of which has a strap or keeper, *d*, to hold the two together, and yet allow of their sliding upon each other lengthwise. A screw, *e*, serves to secure them in any positions to which they may be adjusted. This brace holds the upper portions of the chains apart and prevents the weight of or on the fire-escape from drawing them toward

each other and disengaging them from each other.

This fire-escape is simple, strong, and durable. It may be rolled up compactly and stowed away in a small space until needed. When needed it may be easily applied.

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

1. In a fire-escape, the combination, with rungs and chains or like devices extending between them, of ferrules, made in the form of caps, covering the ends of the rungs, and provided with means whereby the chains or like devices may be secured to them, and rods extending longitudinally through the rungs and fastened at their ends in the caps, and securing them together, substantially as specified.

2. The combination, with a fire-escape having its rungs connected by chains or like devices, of hooks connected to the upper ends of the chains or like devices for securing the same to the sill of a window, and other hooks for securing them to the jambs of the window, substantially as specified.

3. The combination, with a fire-escape having its rungs connected by chains or like devices, which also extend above the top rung, and are provided with fastenings for securing them to a window, of an extensible brace for the upper portions of the chains or like devices, substantially as specified.

JAMES H. McELROY.

Witnesses:
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