

F. & W. H. LEWIS & D. O. HOLMAN.  
FIRE ESCAPE.

No. 193,259.

Patented July 17, 1877.

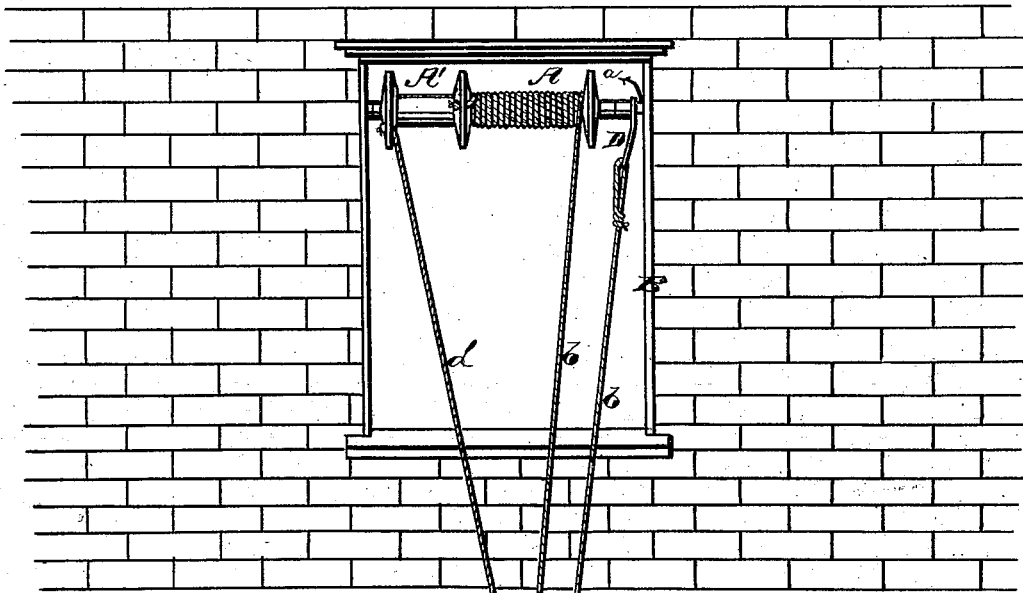


Fig. 1.

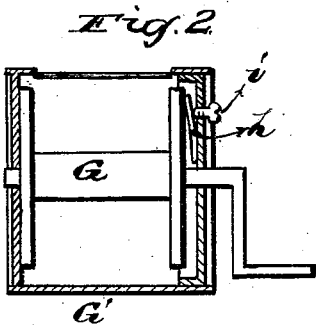


Fig. 2.

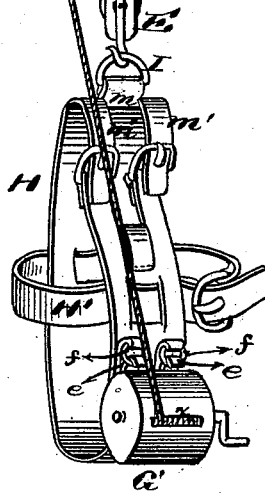
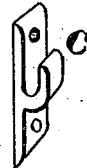


Fig. 3.



WITNESSES  
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# UNITED STATES PATENT OFFICE.

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NEW YORK.

## IMPROVEMENT IN FIRE-ESCAPES.

Specification forming part of Letters Patent No. 193,259, dated July 17, 1877; application filed  
May 12, 1877.

*To all whom it may concern:*

Be it known that we, FRIEND LEWIS, WILLIAM H. LEWIS, and DAVID O. HOLMAN, of Adams, in the county of Jefferson and State of New York, have invented a new and valuable Improvement in Fire-Escapes; and we do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a plan view of our fire-escape as applied. Fig. 2 is a sectional view, and Fig. 3 is a perspective detail of the same.

The nature of our invention consists in the construction and arrangement of a fire-escape, composed of a window roller or spool, a hanger, regulation-reel, and harness, as will be hereinafter more fully set forth.

The annexed drawing, to which reference is made, fully illustrates our invention.

A A' represent a double spool or reel, placed upon a shaft, *a*, attached to the inside of the window-casing B, near the top, by means of brackets or boxes C C screwed to the window-case. *b* is the suspension-rope, which is fastened to a hanger, D, placed upon one end of the spool-shaft *a*. The other end of this rope is fastened to the center flange of the double spool, and passes through a tackle-block, E, which is attached to the harness. *d* is a friction-cord, used by the operator to regulate his speed in descending. This rope is wound on the shaft of the regulating-reel G, which is inclosed in a case, G', provided with hooks *e e*, fastened in rings *f f* on the harness. The other end of the regulating-cord *d* is attached to the spool A', so that when a person is descending this rope will wind onto the spool A' from the regulating-reel G on the harness. This part A' of the double spool is larger in diameter than the part A, on which the suspension-cord *b* is wound, so as to give a leverage over the suspension-cord.

The object of passing the suspension-cord to the hanger D, then passing through the tackle-block E, and fastening the other end to the spool A, is to reduce the speed in descending, and to give more leverage with the regulating-cord *d*, and to insure safety.

The reel-case G' has an opening, *x*, on top for the cord *d* to pass through. One end of the case is stationary, and the other fastened with screws, and on the inside of this latter head or end is a friction brake, *h*, which is forced against the spool-flange by means of a thumb-screw, *i*, for the purpose of creating friction to regulate the speed of the descent.

The harness H is cut from one straight piece of leather or canvas in such a manner that the center strip *m* is turned back to hold a fastening, I, for the tackle-block E on the suspension-rope *b*, and the two outside strips *m' m'* come forward for shoulder-straps and buckle to the main harness on the breast. The main harness H passes down the back, up between the legs, and buckles to the shoulder-straps *m' m'* over the breast. On this part are the two rings *f f* for the attachment of the regulation-reel.

The harness is further provided with a wide belt, H', which buckles snugly around the waist.

With this device a person can easily and with safety draw himself back into the window by pulling on the cord *d*, or turning the crank of the reel G. A man can let down his wife, children, and baggage, draw up a fireman, and then let himself down, when he gets ready, by keeping the regulation-reel in the room with him at first, and, when he himself descends, take the reel with him.

What we claim as new, and desire to secure by Letters Patent, is—

1. In a fire-escape, the combination of a double spool, a suspension-cord, with tackle-block, a harness and regulating-reel, with cord, substantially as and for the purpose described.

2. The combination of the double spool A

A', hanger D, suspension-cord *b*, tackle-block E, and harness H, substantially as and for the purpose described.

3. The harness H, provided with the loop I, shoulder-straps *m' m'*, waist-strap H, reel G, slotted reel-case G', brake *h*, and cord *d*, substantially as described, and for the purpose set forth.

In testimony that we claim the above we

have hereunto subscribed our names in the presence of two witnesses.

FRIEND LEWIS.  
WILLIAM H. LEWIS.  
DAVID O. HOLMAN.

Witnesses:

CHAS. C. COOPER,  
E. B. COOPER.