

I. D. CROSS.
Fire-Escape.

No. 204,299.

Patented May 28, 1878.

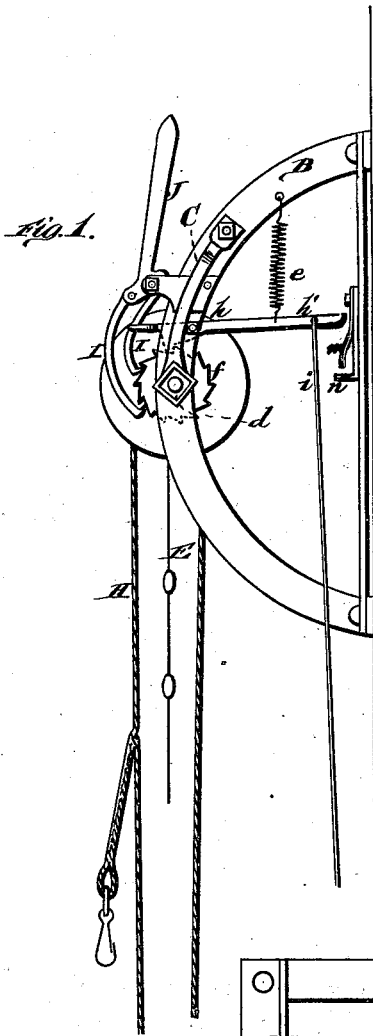


Fig. 2.

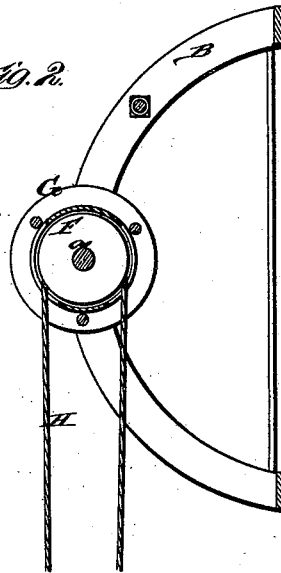


Fig. 1.

Fig. 3.

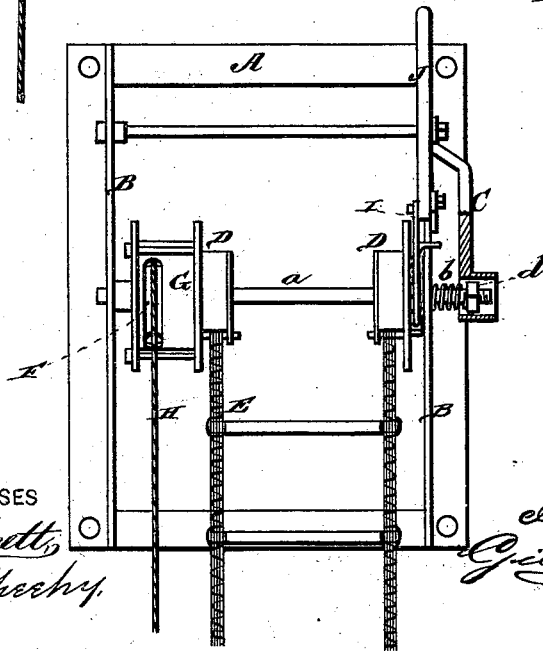
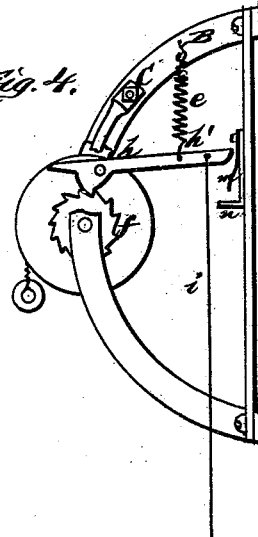


Fig. 4.



WITNESSES

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IRA D. CROSS, OF SAN FRANCISCO, CALIFORNIA.

IMPROVEMENT IN FIRE-ESCAPES.

Specification forming part of Letters Patent No. 204,299, dated May 28, 1878; application filed March 2, 1878.

To all whom it may concern:

Be it known that I, IRA D. CROSS, of San Francisco, in the county of San Francisco and State of California, have invented a new and valuable Improvement in Fire-Escapes; and I 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 side view of my fire-escape with the ladder lowered and the double pawl-lever applied for winding the same. Fig. 2 is a side view of a portion, and Fig. 3 is a front view, thereof. Fig. 4 is a side view, partially broken away, showing the ladder wound up.

The nature of my invention consists in the construction and arrangement of certain devices as improvement upon fire-escapes for which Letters Patent were granted to me July 24, 1877, No. 193,489, and February 12, 1878, No. 200,260, as will be hereinafter more fully set forth, and pointed out in the claims.

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

A represents the frame, secured to the front of a building immediately below a window or cornice of the building. B B are the semicircles on said frame, in which the shaft *a* has its bearings. *b* is the spring, and *d* the nut, on the end of said shaft, to regulate the speed of the descent of the ladder. C is the arm for holding the nut *d* from turning. In the present case the arm or wrench is attached to one of the semicircles B, and need not be taken off from the nut *d*.

On the shaft *a* are keyed the flanged drums D D, to which the ladder E is attached, and around which it is wound, said ladder being constructed in the same manner as described in my former patents above referred to.

To one of the drums D, on the outer side, is attached a hollow flanged drum, G, within which, upon the shaft, is placed a loose pulley, F, and around this pulley is passed a rope sling, H, passing out through a slot in the drum G.

This sling and drum, as arranged, afford a ready means of rescuing persons who are unable to descend upon the ladder, and also for hoisting fire-hose up to any floor while the firemen use the ladder, one not interfering with the other. The sling rolls up on its drum at the same time, and exactly the same number of times around the drum, as the ladder does. When the ladder and sling run down, the sling will hang right for immediate use.

Near one end the shaft *a* is provided with a ratchet-wheel, *f*, into which takes a pawl, *h*, held therein by a spring, *e*. The pawl *h* has a handle, *h'*, and also a wire, *i*, running down along the front of the house. When it is desired to run down the ladder and sling from the upper window, the handle *h'* of the pawl is pulled, when the inner end thereof will slide off the end of a spring, *m*, and against a stop, *n*, and be held by said spring. Before coiling up the ladder and sling the spring *m* is pressed inward, and the pawl is pulled back by the spring *e* to engage with the ratchet-wheel *f*.

A double-acting lever, J, as shown in Fig. 1 of the drawings, is then attached to the semicircle B, said lever having two hook-pawls, I I, to engage with the ratchet-wheel, and by working said lever back and forth the ladder and sling are simultaneously coiled up.

I am aware that it is not broadly new in a fire-escape to use a drum for winding a flexible ladder, in connection with a loose pulley carrying a sling, and a rod or rods revolving with the drum to receive the winding-sling.

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

The combination, with the ladder and its drums, of the ratchet-wheel *f*, pawl *h*, with handle *h'*, springs *e m*, and stop *n*, substantially as and for the purposes herein set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

IRA DAVIS CROSS.

Witnesses:

W. H. WIESTER,
JOHN F. MYERS.