(No Model.) 2 Sheets—Sheet 1.

W. M. MILLER.

FIRE ESCAPE.

No. 295,127. Patented Mar. 11, 1884.

Fig. 1.

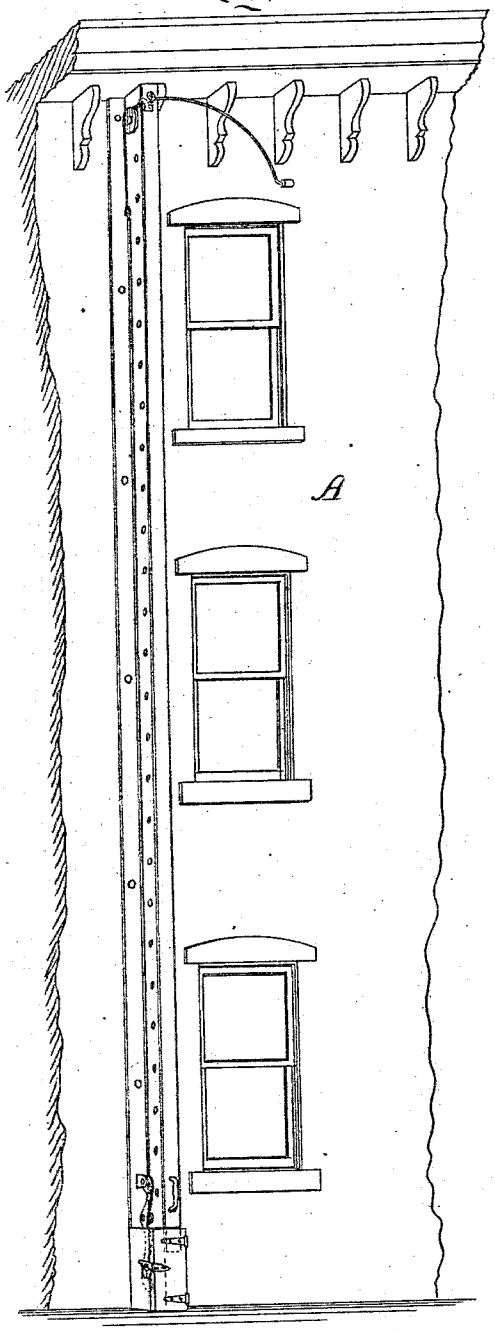
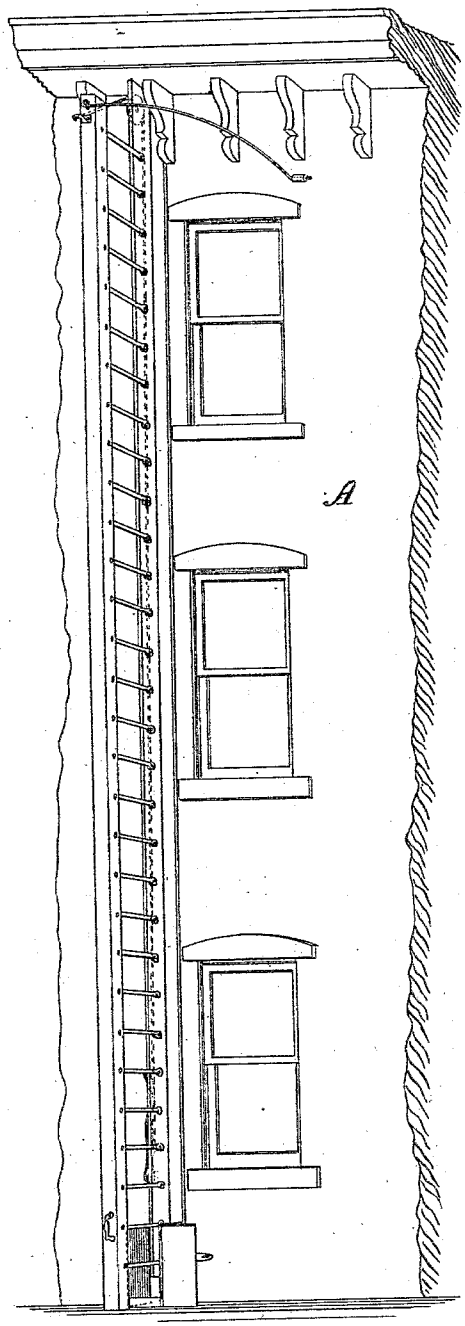


Fig. 2.



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(No Model.) 2 Sheets—Sheet 2.

W. M. MILLER.

FIRE ESCAPE.

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Fig. 3.

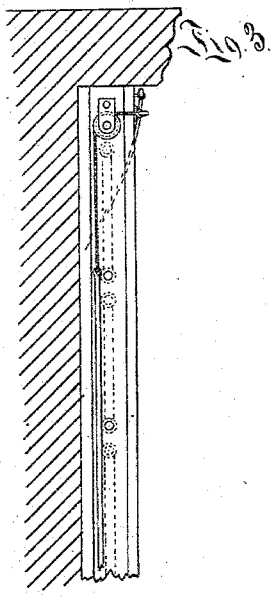
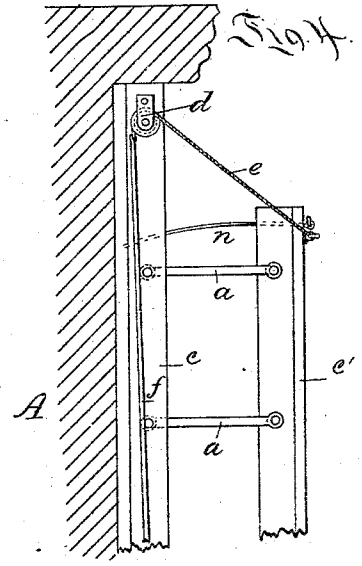
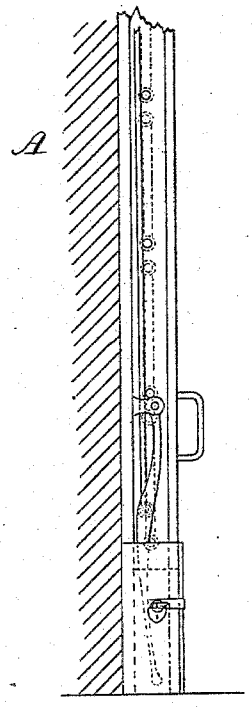


Fig. 4.





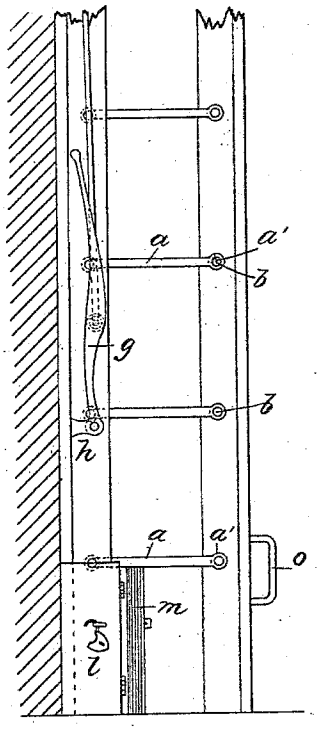
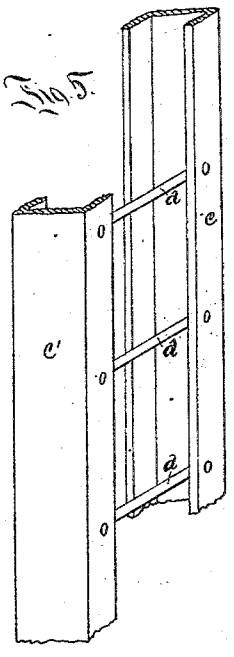


Fig. 5.



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UNITED STATES PATENT OFFICE.

WILLIAM M. MILLER, OF NEW CUMBERLAND, WEST VIRGINIA, ASSIGNOR OF TWO-THIRDS TO ROBERT HAMILTON AND WILLIAM HOOPER, BOTH OF SAME PLACE.

FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 295,127, dated March 11, 1884.

Application filed December 28, 1883. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM M. MILLER, a citizen of the United States, residing at New Cumberland, county of Hancock, State of West Virginia, have invented or discovered a new and useful Improvement in Fire-Escapes; and I do hereby declare the following to be a full, clear, concise, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—like letters indicating like parts—

Figure 1 is a perspective view of my improved fire-escape attached to the wall of a house, and as folded up when not in use. Fig. 2 is a similar view, showing the fire-escape open and ready for use. Fig. 3 is a side view, showing the parts folded together. Fig. 4 is an enlarged side view, showing the fire-escape ready for use. Fig. 5 is a perspective view, showing a modified form of uprights.

My invention relates to that class of fire-escapes which consist of ladders permanently attached to the walls of a house and in convenient proximity to the windows thereof.

The object of my invention is to so construct a fire-escape of the class above referred to that when not needed it may be closed or folded up against the wall of the house, so as not to disfigure or present an unsightly object; and, in general terms, my invention consists in the construction and combination of parts, all as more fully hereinafter described and claimed.

In the drawings, A indicates the wall of a building, to which is secured, in convenient proximity to the windows B, a ladder, C. The ladder C is formed of suitable lengths of angle-iron, *c c'*, forming the uprights, and a series of suitably-spaced iron rounds or steps, *a*. The rounds *a* are formed of round bar-iron, and are provided at each end with eyes *a'*. Through these eyes *a'*, and into holes in one of the flanges of the angle-iron, are passed and suitably secured therein headed bolts or rivets *b*. The bolts *b* should be of such size as to allow the eyes of the rounds to rotate around them, for a purpose to be presently stated.

One of the angle-irons, as *c'*, is preferably made shorter than the angle-iron *c* by an amount equal to the length of one of the rounds. At or near the top of the longer angle-iron, *c*, is secured a sheave, *d*, over which passes a chain or wire rope, *e*, one of whose ends is secured at or near the top of the shorter angle-iron, *c'*, the opposite end of the chain or wire rope *e* being secured, after passing over the sheave *d*, to one end of a rod, *f*. The opposite or lower end of the rod *f* is pivoted to a lever, *g*, near its center, and this lever *g* is pivoted to a lug, *h*, secured to the angle-iron *c*. Around the lower end of the angle-iron *c*, I construct a box, *l*, provided with a door, *m*, which is adapted to be locked, when closed, by any suitable means.

The ladder constructed as above described is secured in any suitable manner by one of the flanges of the angle-iron *c* to the walls of a house in convenient proximity to the windows thereof. To prevent any lateral oscillation of the angle-iron *c'* when the ladder is in use, I attach a brace-rod, *n*, to the top of the angle-iron *c'*, and pivotally secure the opposite end of the brace to the wall A. While I have shown only one brace, I may, if necessary, employ two or more, the number employed being dependent upon the length of the ladder.

When the ladder is not in use, it is to be folded up against the wall of the house. This can be effected by pulling down on the handle end of the lever *g*, which will pull down the rod *f* and chain *e*, thereby raising the angle-iron *c'* and drawing it in against the angle-iron *c*. It will be noticed that the parts are so adjusted that when the lever *g* has passed through an arc of one hundred and eighty degrees and again lies against the angle-iron *c*, (see Fig. 3,) the angle-iron *c'* will have been drawn in against the angle-iron *c*, and also that the rod *f* has passed beyond the pivot of the lever *g*; hence it is necessary, in order to pull down the angle-iron *c'* in opening the ladder, that the lever *g* should be pulled out sufficiently to bring the rod *f* in front of the pivot of the lever. To open the ladder for

use, I attach a handle, *o*, to the angle-iron *c'*. This handle *o* and the lever *g* should be located so as to be easily reached from the ground. The handle of the lever *g*, when turned down, as shown in Figs. 1 and 3, will be inside of the box *l*, and therefore when the door of the box is closed and locked the ladder cannot be used, except by those possessing keys to the lock of the door.

The angle-irons *c* and *c'*, when closed together, form a box or trough, and prevent the access of snow or ice to the inside of the box. Box-like pieces of iron may be used in place of the angle-irons *c c'* to form the uprights. (See Fig. 5.)

The stationary ladder fire-escapes now in use are objectionable as defacing the building, and, as they are constantly open and ready for use, they afford opportunity to intruders to enter the house. It has been attempted to overcome this last objection by having the permanent ladder extend only from the second story up, and depending upon a movable ladder to descend from the second story; but this movable ladder is not always at hand. The above objections, however, are entirely overcome in my fire-escape, as the ladder, when not in use, is folded up compactly against the wall, and cannot be used, except by those who have a key to the box in which the lever and lower ends of the ladder are inclosed.

I claim herein as my invention—

1. In a fire-escape, the angle-irons *c c'*, one of which is secured to the walls of a house, in combination with the rounds *a*, pivotally secured to the angle-irons, whereby the angle-irons may be folded together or opened out into ladder form, and the box *l*, adapted to inclose the lower ends of the angle-irons when folded together, and provided with a suitable fastening device, substantially as set forth.

2. In a fire-escape, the angle-irons *c c'*, in combination with the rounds *a*, pivotally secured to the angle-irons, the chain *e*, rod *f*, and lever *g*, said lever being adapted to raise the outer leg of the ladder, and to hold it in such raised position, substantially as set forth.

3. In a fire-escape, the angle-irons *c c'*, in combination with the rounds *a*, pivotally secured to the angle-irons, the chain *e*, rod *f*, lever *g*, and the box *l*, adapted to inclose the lower ends of the angle-irons and the handle of the lever when the ladder is folded, and provided with a door, substantially as set forth.

In testimony whereof I have hereunto set my hand.

WILLIAM M. MILLER.

Witnesses:
J. SNOWDEN BELL,
R. H. WHITTLESEY.