(No Model.)

M. N. BRAINARD.

FIRE ESCAPE.

No. 278,865. Patented June 5, 1883.

Fig 1

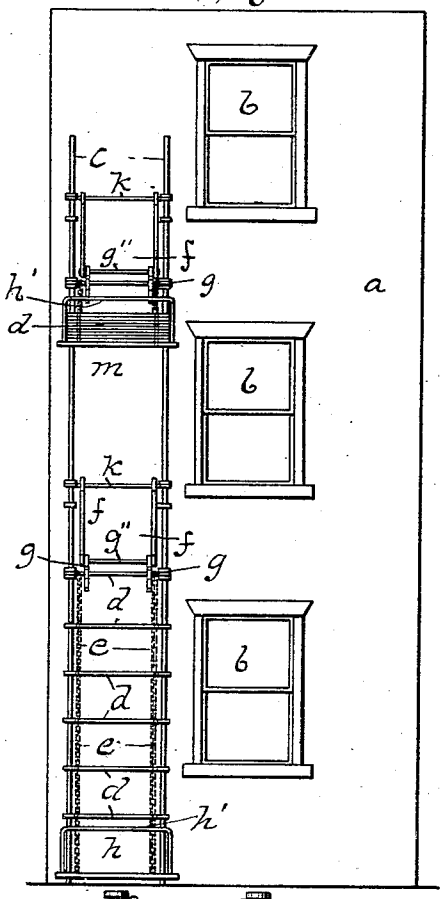


Fig 2.

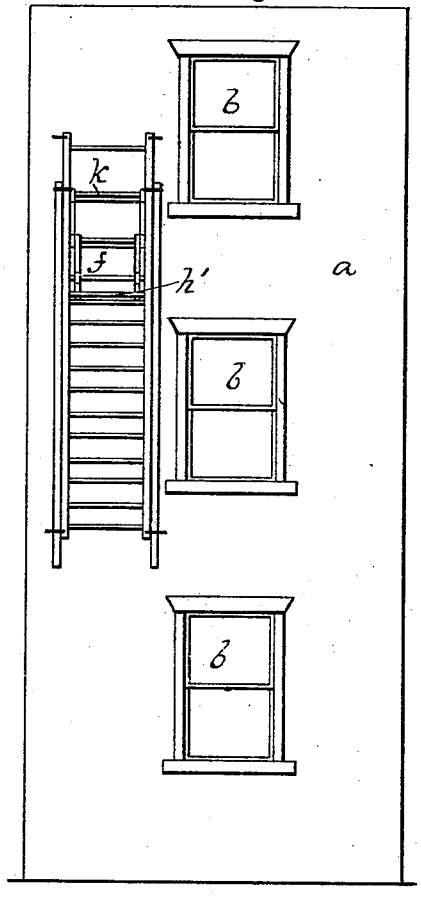


Fig 3.

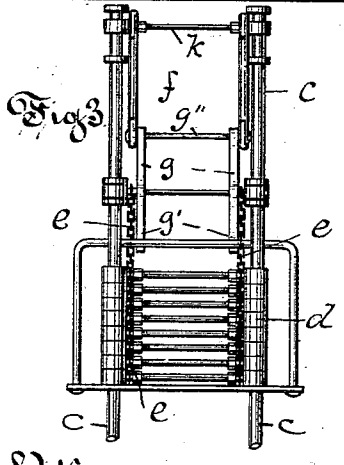
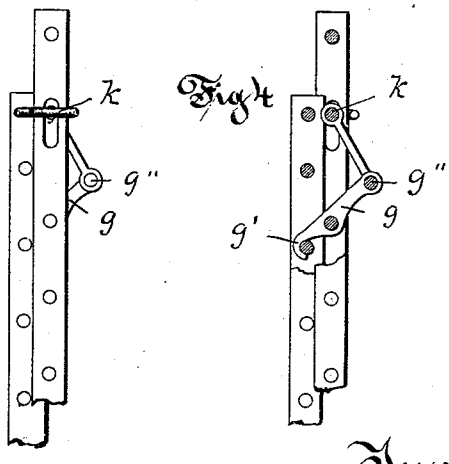


Fig 4.



Witnesses
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UNITED STATES PATENT OFFICE.

MARVIN N. BRAINARD, OF HARTFORD, CONNECTICUT, ASSIGNOR OF ONE-HALF TO RICHARD J. ALLYN, OF SAME PLACE.

FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 278,865, dated June 5, 1883.

Application filed March 7, 1883. (No model.)

To all whom it may concern:

Be it known that I, MARVIN N. BRAINARD, of Hartford, in the county of Hartford and State of Connecticut, have invented a new and useful Improvement in Fire-Escapes, of which the following is a description, reference being had to the accompanying drawings, where—

Figure 1 is a front view of one form of my device, shown as applied to the face of a building. Fig. 2 is a front view of an alternate form of my device, also shown as applied to the outer wall of a building. Fig. 3 is a detail view of the automatic lock used with my device. Fig. 4 is a detail side view of ladders fastened by my device.

My improvement relates to the class of fire-escapes designed to be permanently fixed to the walls of buildings; and it consists in the apparatus for and means of securing such ladders to the buildings in such a manner that they are withdrawn from certain sections of the wall until the time comes for their use, and the vacant sections are at once filled when any one attempts to use the completed sections.

In the accompanying drawings, the letter *a* denotes the face of a building; *b*, windows in the same; and *c*, guide-rods or stays fastened in a vertical position against the face of the wall within reach of the windows, and extending from the ground to any desired height on the wall. These stays or guides are secured to brackets placed at suitable intervals on the walls, leaving the spaces between the brackets free for the play of the sliding rungs *d*, which are held at suitable regular intervals by the flexible wires or ropes *e* when the ladder is extended. At convenient positions—that is, on about the level of the bottom of each window—the automatic catch *f* is secured. This catch is composed of the pivoted latch *g*, having hook *g'* at its lower limit, adapted to hold a rod, *h'*, which forms either the rung of the ladder or the upper part of the frame *h*. Two of these latches are usually employed—one at each side of the ladder—having the connecting-rod *g''* and arms extending upward and pivoted to a rod, *k*, vertically movable in its side supports and occupying a position in the ladder at an equal interval with the other rungs, of which it forms one. In the form shown in Fig. 1 the frame *h* is arranged to slide up and down in the side supports, and its lower part is placed below the movable rungs, so that on sliding the frame upward the ladder is folded up, as shown at *m* in the figures.

The operation of this device is as follows: When the arm and folding ladder above it are supported by the catch, and a person puts his weight upon the rung *k*, that rung is at once depressed, the frame released, and the ladder rapidly extended by the falling of the frame and movable rungs to the position shown in Fig. 1. In case the person descending fail to step upon the rung *k*, he will be obliged to make use of the cross-arm *g''*, as the next rung, and the effect in releasing the folded ladder will be the same.

It will be seen that the ladder-sections may be folded up under protection of a case, if desired, and are always ready for immediate use, at the same time being withdrawn from the spaces between the sills until such times as they are to be used.

The movable rung or the latch may be connected with the wires of an alarm-system, the bell of which may be located in the central office, so that due notice may be received there of any attempt to use the ladders surreptitiously.

In the form of my device shown in Fig. 2 a ladder of ordinary form is attached by clamps to the fixed portion or stays in such manner as to slide readily upon them. The catch and its operating parts which are used to sustain the ladder are identical with those shown in the former device, already described.

I claim as my invention—

1. In combination, in a fire-escape, the fixed guides or stays, the folding ladder-sections, retained and operated by the automatic catch, all substantially as described.

2. In combination, in a fire-escape, the fixed guides *c*, rungs adapted to slide on the guides, the flexible rung-connections *e*, the pivoted latch *g*, pivoted to the sliding rungs *k*, all substantially as described.

MARVIN N. BRAINARD.

Witnesses:
CHAS. L. BURDETT,
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