

(No Model.)

N. NEWMAN.
FIRE ESCAPE.

No. 459,613.

Patented Sept. 15, 1891.

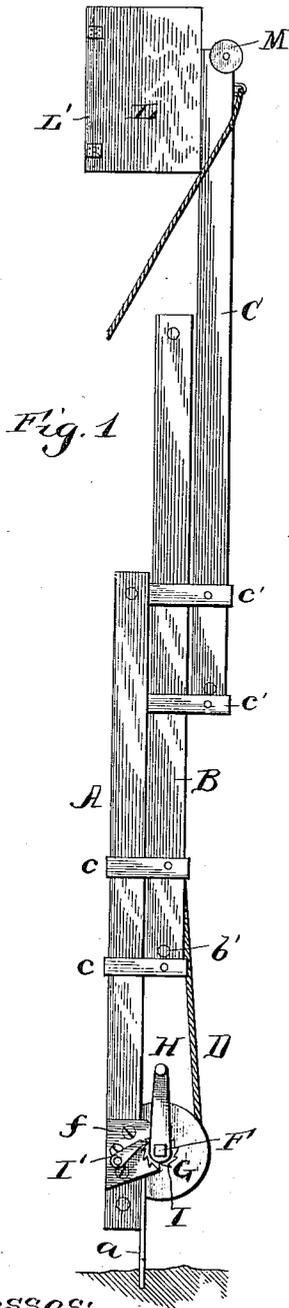


Fig. 1

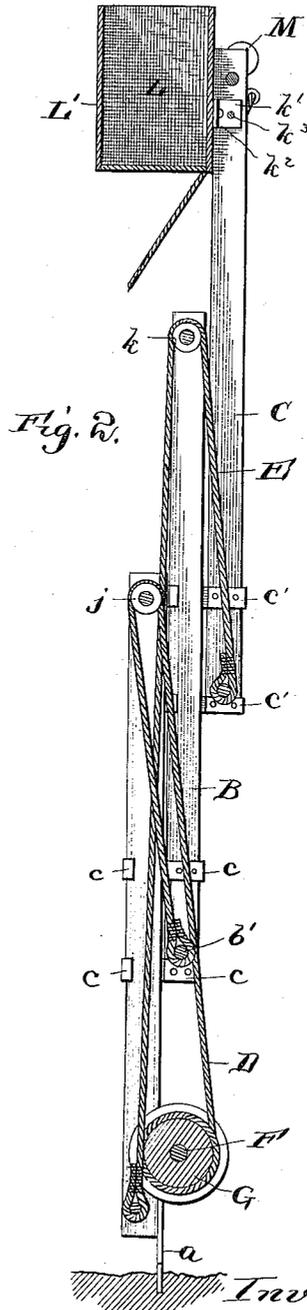


Fig. 2.

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By his Attorney
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UNITED STATES PATENT OFFICE.

NELSON NEWMAN, OF SPRINGFIELD, ILLINOIS, ASSIGNOR OF TWO-THIRDS TO
GEORGE A. SANDERS AND SAMUEL J. WILLETT, BOTH OF SAME PLACE.

FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 459,613, dated September 15, 1891.

Application filed January 19, 1891. Serial No. 378,284. (No model.)

To all whom it may concern:

Be it known that I, NELSON NEWMAN, a citizen of the United States, residing at Springfield, in the county of Sangamon and State of Illinois, have invented certain new and useful Improvements in Fire-Escapes; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My present invention relates to improvements in fire-escapes; and the object of the invention is to provide a portable escape apparatus which can be quickly operated to safely convey persons from the elevated stories of a burning structure to the ground, and which can be compactly folded together, so as to be stored within a small space.

With these and other ends in view my invention consists in the combination of devices and novel construction and arrangement of parts, as will be hereinafter fully described and claimed.

To enable others to understand my invention I have illustrated the same in the accompanying drawings, in which—

Figure 1 is a side elevation, and Fig. 2 is a longitudinal central sectional view, of a fire-escape embodying my invention.

Like letters of reference denote corresponding parts in both figures of the drawings, in which—

A B C designate the sections or members of my improved fire-escape, which are connected to each other and so constructed that they can be extended and contracted longitudinally with dispatch and safety.

The lower or base section A of my escape is provided with spurs or feet *a a*, adapted to be forced into the ground to insure the apparatus remaining steadily in place, and this base-section also carries the power-hoist for raising the sections B C at any desired elevation, said power-hoist comprising the ropes D E and the operating-shaft F. This shaft F is journaled in suitable brackets or plates *f*, fixed to the sides of the lower section A of the escape,

and on the shaft, between the sides of said section A, is rigidly fixed or keyed a drum G, to which drum one end of the cord, rope, or cable D is fastened. The shaft F also carries a crank or handle H for conveniently operating the shaft, and a ratchet-wheel I is fixed to the shaft between the crank and one side of the section A, with which ratchet engages a pawl I', pivoted to one of the bracket-plates *f*, in which the power-shaft is journaled. The intermediate section or member B is connected at its lower end to the base-section A by means of the keepers or slides *c*, and the upper section C is in like manner connected to the intermediate section B by the slides *c'*. I preferably employ four slides to connect one section of the escape to the other, and said slides are preferably of the hook-shaped form herein shown to closely embrace the side pieces of the sections or members, the parts being so arranged that the section B slides lengthwise on the section A and the section C moves lengthwise on the section B, said sliding movements of the sections B C being automatically and simultaneously effected by the arrangement of ropes D E. At the upper end or on the upper rung of the section A is a grooved pulley or sheave *j*, and on the upper end of the intermediate section B is another sheave *k*, arranged above the sheave *j* and drum G. The rope or cable D is fixed at one end to the drum G, passes over the sheave *j* at the upper end of section A, and has its other end made fast to the lower rung *b'* on the intermediate section B, while the other cable or rope E has one end made fast to the lower rung on the base-section A, thence passes to and over the pulley or sheave *k* on the upper end of section B, and has its other end made fast to the lower rung of the top or upper section C of the escape. By this arrangement of pulleys and ropes the sections B C of the escape are caused to simultaneously move upward when power is applied to the shaft F, and the sections are extended one above the other to any desired height, in which position they may be held by the pawl engaging with the ratchet. The upper end of the top section C carries a car or box L, having on its side next adjacent to the sec-

tion C a bracket k' , provided with outwardly-extending ears k^2 , which fit between the side pieces of the section C, and through said ears k^2 and the side pieces passes a shaft or pin k^3 , that
 5 connects the car or box to the section C, said box resting against the side pieces of the section. The outer side of the car remote from the section has a door or gate L' , which is
 10 hinged to the car and adapted to be opened to permit ready egress and ingress to and from said car, which is very desirable. On the side pieces of the upper section C are provided contact-rollers M , which are loosely
 15 journaled and are adapted to ride against the building or other structure as the apparatus is elevated. Guy-ropes N are also attached to the upper ends of the side pieces of the top section C to enable the section to be pulled
 20 down should it meet with an obstruction, or for other purposes.

This being the construction of my improved fire-escape, the operation may be briefly described as follows: The escape in its folded position is planted alongside of the burning
 25 building or other structure with the guide-rollers on section C resting against the wall, and the shaft F then rotated in order to pull on the ropes or cables $D E$, and thereby project the sections $B C$ and the car to the proper
 30 story. The car having received its load of one, two, or any desired number of persons, the pawl is disengaged from the ratchet and the car allowed to descend by gravity, or its own weight and load, the occupants of said
 35 car descending by the rungs on the section A after the sections $B C$ have been lowered to the lowest point, the hinged door to the car enabling the persons to readily have access to the lower section, as the car lies immedi-
 40 ately above said sections $A B$.

I am aware that changes in the form and proportion of parts and details of construction can be made without departing from the

spirit or sacrificing the advantages of my invention.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A fire-escape comprising the foldable sections connected together for longitudinal
 50 movement, the rollers journaled on one side of the upper section, the car arranged on the opposite side of the upper section over the other sections of the escape, the bracket fixed
 55 to the car and having the lugs or ears arranged between the side pieces of the upper section, the rod or shaft passing through the side pieces of the upper section and the ears
 60 of the bracket, and the power-drum and cables for raising the middle and upper sections of the escape, substantially as described.

2. A fire-escape comprising the base-section
 A, having the spurs or feet and the pulley j at
 its upper end, the intermediate section B ,
 65 having the pulley k , the upper section C , the slides engaging with the sections to permit longitudinal movement thereof, the power-
 drum, the cables passing over the pulleys $j k$
 and connected to the several sections in the
 70 manner shown and described, the rollers M , journaled on the upper section C on the inner
 side thereof, the car L , arranged on the outer
 side of the upper section, and the bracket
 75 fixed to the car and secured to the side pieces of the upper section, said car resting against the inner edges of the side pieces of the upper
 section and provided with a door on its outer
 side, substantially as described, for the purpose set forth.

In testimony whereof I affix my signature in
 80 presence of two witnesses.

NELSON NEWMAN.

Witnesses:

DORA ADAMS,
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