(No Model.)

E. J. MOORE.

FIRE ESCAPE.

No. 266,183. Patented Oct. 17, 1882.

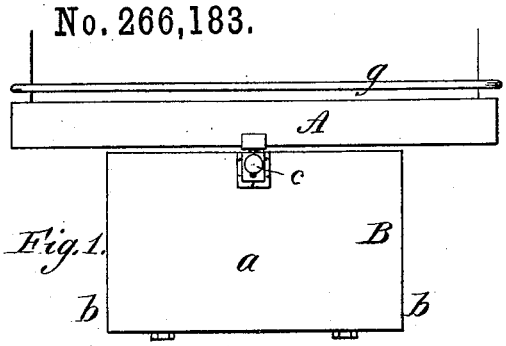

Fig. 1.

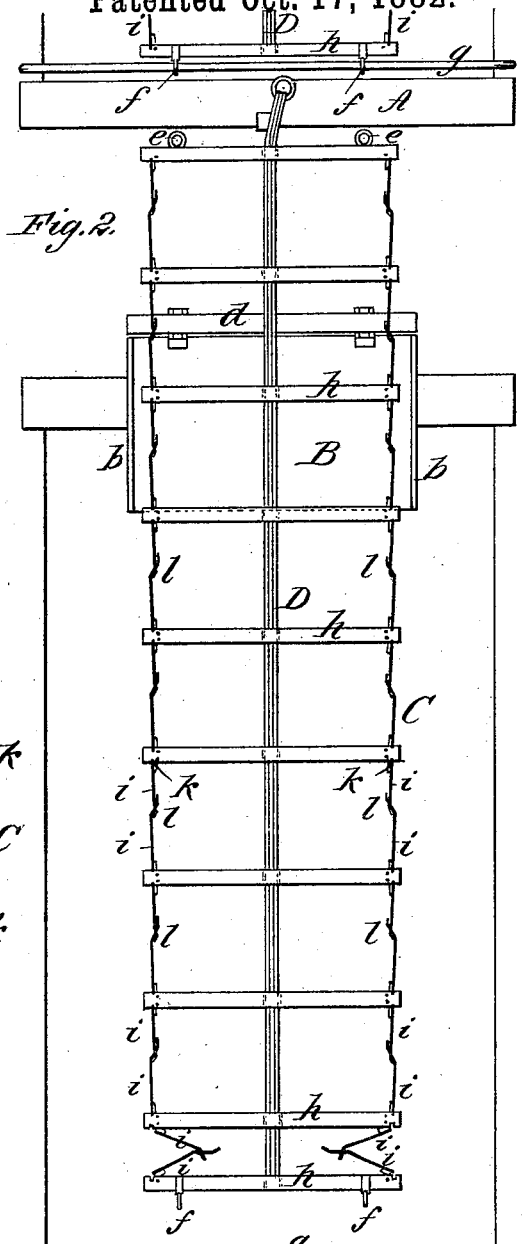

Fig. 2.

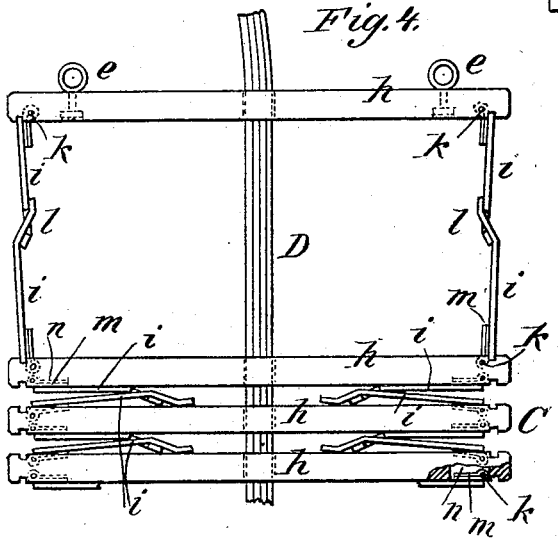

Fig. 4.

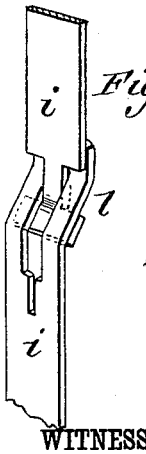

Fig. 5.

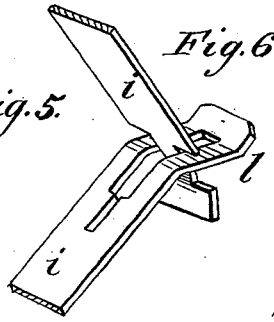

Fig. 6.

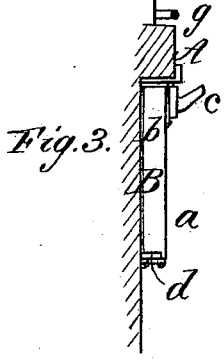

Fig. 3.

WITNESSES:

Donn Twitchell.

C. Seagwick

INVENTOR

E. J. Moore

BY Munn & Co

ATTORNEYS.

UNITED STATES PATENT OFFICE.

ELBRIDGE J. MOORE, OF NEW YORK, N. Y.

FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 266,183, dated October 17, 1882.

Application filed February 9, 1882. (No model.)

To all whom it may concern:

Be it known that I, ELBRIDGE J. MOORE, of the city, county, and State of New York, have invented certain new and useful Improvements in Fire-Escapes, of which the following is a full, clear, and exact description.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 of the drawings is a front view of the sill portion of the window of a building, with a box or case inclosing the fire-escape as one section thereof. Fig. 2 is a front elevation of one section mainly as extended for use, and with other sections in part above and below the extended section, showing the lower partial section as closed, also showing the relation of the sections to the windows of a building. Fig. 3 is a vertical transverse section or profile of the outside of a building in part, with the box containing a section of the fire-escape in position. Fig. 4 is a front view, upon an enlarged scale, of my improved folding-ladder fire-escape in part, as partly extended; and Figs. 5 and 6 are views in perspective of one of the jointed sides of the ladder.

This invention relates to fire-escapes for buildings in which folding ladders are used; and it consists in a self-adjusting folding sectional ladder of novel construction. This ladder is designed to be attached to each story of a building, and is or may be made up of independent ladders or ladder-sections that combined form a continuous ladder extending from roof to pavement, said sections being secured by hooks to a bar or window-sill below and by hooks under a window-sill above. Thus applied, the ladder folds against the building, and when not in use is concealed from sight by a box, case, or cover, which may be of ornamental construction, and which is capable of being thrown open and the ladder being dropped into working position by the mere opening of a clasp or other simple fastening, the whole forming a perfect fire escape ladder free from objections of architectural disfiguration.

A A indicate the window-sills of a building, and B a box or case for containing the folding-ladder section arranged beneath each sill. Each of these cases, which may be of ornamental configuration on its exterior, is made up of a front, *a*, and sides *b*, secured above by a hasp or fastening, *c*, and hinged below to a bottom, *b*, which is jointed or hinged in the rear to the wall of the building, so that on unclasping the hasp *c* the case is thrown open against the wall and the ladder or ladder-section left free to drop into working position. Each ladder or ladder-section C is secured by hooks or eyebolts *e* under one window-sill, and when extended may be held or fastened below by hooks *f* to the window-sill beneath or to a bar, *g*, on the window-sill. Said ladders are each composed of a series of iron rounds, *h*, constructed to lie close one upon the other when the ladder is closed, and united at their ends with one another by flat side pieces, *i i*, which are united by a joint, *k*, at their ends to the rounds they respectively connect, and have a knuckle or knee-joint, *l*, intermediately of their length to provide for their flexing inward and closing against the rounds throughout their length when the ladder is closed, as partly shown in Fig. 2 and shown in Fig. 4. The joints *k* not only serve as a means of attachment for the ends of the side pieces, *i i*, but also as guides for them in closing, and for this purpose the ends of said side pieces, *i i*, are formed with tongues *m*, which enter recesses *n* in the rounds in close proximity to the pivot-pins of the joints; or said side pieces may be formed with outside lips on opposite sides of their ends to receive the rounds within them, thus also forming guides, as in the case of the tongues *m*. This latter construction is preferred when the rounds are made of tubes. The backs of the rounds may have pins or projections on them to keep the ladder clear of the wall or copings thereon when extended, and so that room will be provided for a person in descending to place the front portion of his feet on the rounds. The joints *l* of the side pieces, *i i*, may be ordinary hinge, knuckle, or knee joints, flexing inward when the ladder is extended; but it is preferred to form each side piece, which is composed of two equal sections, with the extremity of one of said sections of a T shape and the extremity of the other section with a T-shaped recess, into which the T-shaped portion of the first-named section is

fitted, as shown more clearly in Figs. 5 and 6. This mode of constructing the joint *l* insures its flexing inward whenever it is desired to fold up the ladder.

Fastened to the lower round, *h*, of each ladder C is a strap, D, of leather or other suitable material. This strap passes freely through slots in the other rounds, and serves as a means of closing the ladder by pulling on the upper end of it and securing it, if desired, by hitching it onto a pin in the wall or in the case B, said strap being suitably perforated for the purpose. The ladder is dropped round by round in succession, as the jointed sides *i i* straighten themselves out, by simply releasing the strap D from its fastening to the wall or box.

In the case of fire it is only necessary to unclasp the hasp *c*, which may be done by the foot, when the box B will open against the wall, and the ladder C is free to drop or open and unfold by simply releasing the strap D from the pin in the wall or box, or it may be released by the box B in opening. Such ladder, when not sufficiently long to reach the ground, may then be secured by its lower hooks, *f*, to the window-sill beneath or to the bar *g* thereon. The next ladder or ladder-section of the window beneath may then be similarly dropped, and so on for any number of ladder-sections in succession, as one story after another is reached, till a continuous ladder is formed which reaches to the ground or pavement.

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

1. The combination, with the middle slotted rounds, *h*, connected by flexible sides, of the fastening-strap D, made fast to the lowest round of the ladder, passing through slots of the other rounds, and adapted to be fastened at the upper end to a pin, as described.

2. The combination, with the rounds *h*, of the side pieces, *i i*, constructed intermediately of their length to flex inward, and united at their outer ends to the rounds by joints *k*, and provided at said joints by tongues *m* and recesses *n*, substantially as specified.

ELBRIDGE J. MOORE.

Witnesses:
C. SEDGWICK,
JOHN A. FOLEY.