(No Model.)

J. WALSH.

FIRE ESCAPE.

No. 325,998. Patented Sept. 8, 1885.

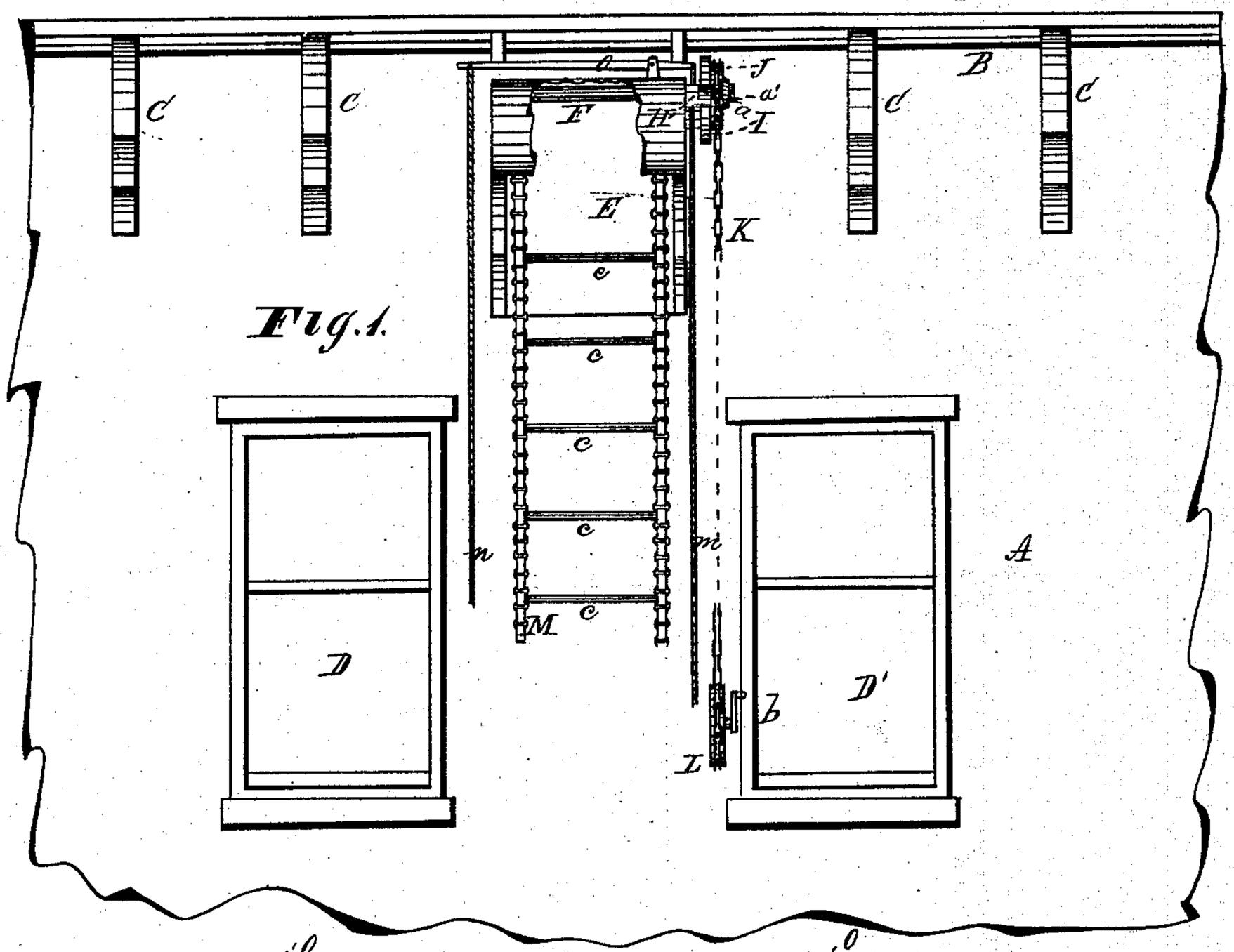


Fig. 1.

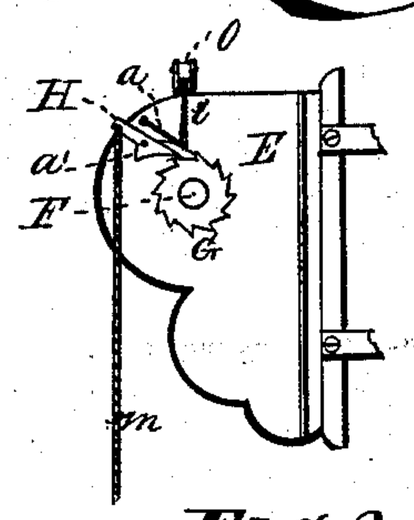
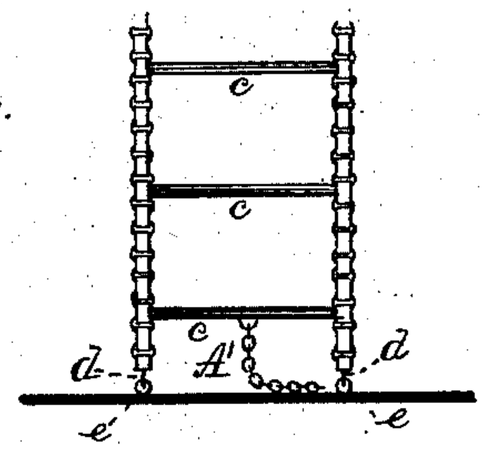


Fig. 2.



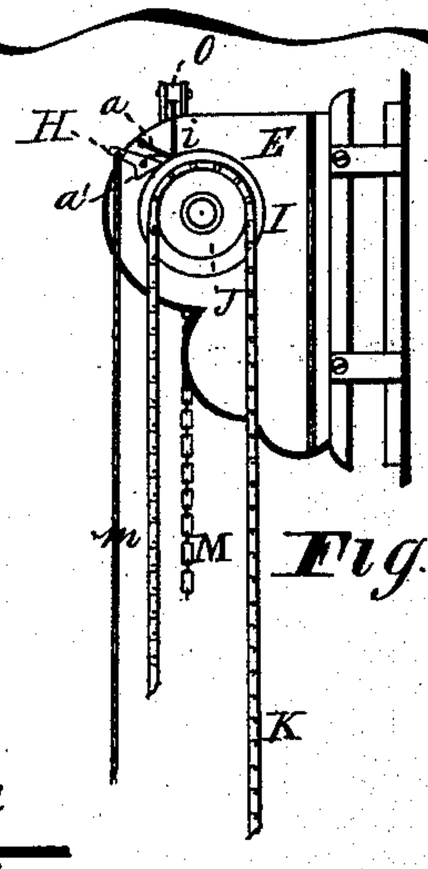


Fig. 3.

Witnesses.
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UNITED STATES PATENT OFFICE.

JOHN WALSH, OF CLEVELAND, OHIO.

FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 325,998, dated September 8, 1885.

Application filed May 29, 1885. (No model.)

To all whom it may concern:

Be it known that I, JOHN WALSH, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented new and useful Improvements in Fire-Escapes; and I do hereby declare that the following is a full and complete description of the same.

The object of the above alleged improvement in fire-escapes is to provide an easily-accessible device by which persons may escape expeditiously and with safety from the upper stories of a building in the event of fire, and which device, when not in practical use for the purpose mentioned, is wound up out of the way and securely protected from the weather by means of a hood forming a part of the device.

The following is a full detailed description of the fire-escape, and which is illustrated by the accompanying drawings, making a part of this specification, in which—

Figure 1 represents a portion of the upper story of a building to which the fire-escape is attached. Figs. 2 and 3 are side views of the said device.

Like letters of reference denote like parts in the several figures.

As shown in Fig. 1, A represents the upper story of a building, of which B is the cornice, C the brackets, and D D′ the windows. To the said building is secured the fire-escape above mentioned, the construction of which is substantially as follows:

In the box or hood E is journaled, in the sides thereof, a shaft F. A portion of the hood is shown as broken away that the shaft may be seen. On the end of the shaft projecting through the side of the hood is secured a ratchet-wheel, G, Figs. 1 and 2, and in connection therewith a pawl, H, and spring *a*, the use of which will presently be shown. Also to the shaft is secured a friction-wheel, I, in relation to the periphery of which is arranged a rubber, *a′*, forming a part of the pawl. Said rubber and wheel I constitute a brake for controlling the motion of the shaft F, above referred to. Furthermore, on the shaft is secured a sprocket-wheel, J, over which passes a chain, K, down to and around a corresponding wheel, L, attached in any suitable way to the wall of the building and near the side of the lower part of the window, as seen in Fig. 1. Said wheel L is provided with a handle, *b*, for operating it for a purpose presently manifest.

To the portion of the shaft F covered by the hood is connected one end of a flexible ladder, M, the length of which being more or less, as the height of the building to which the fire-escape is attached may require. The latter, above mentioned, preferably consists of two flat chains, M, connected to each other by the bars *c*, forming the rundles or rounds of the ladder, the lower end of the sides of which terminate in hooks *d d*, respectively, as seen in Fig. 1.

The practical use of the above fire-escape is as follows: As seen in Fig. 1, the hood E and its attachments are secured to the side of the building immediately under the eaves or cornice, and so arranged in its relation to the windows below that when the chain ladder is let down, as seen in Fig. 1, it will pass or hang between the windows, so that it can be easily reached from either one of them, for a person to descend thereon to the ground, to which the lower end of the ladder is made fast by the hooks *d d*, above mentioned. To keep the ladder in place while being used, the hooks for said purpose are caught in the eyes *e*, fixed in the pavement, which, when done, tension is given to the ladder to render it rigid by giving a turn to the wheel L in the direction to wind up the ladder, in which condition it is held by the pawl and ratchet-wheel.

That the ladder may be let down and drawn up, as may be required, is the object of the sprocket-wheels and chain above described. For the reason that the hood is placed up under the cornice or eaves, it is therefore out of reach for winding up the ladder. That this may be done from the window is the purpose of the wheels J and L and the chain K. Now, to wind up the ladder on the shaft F, it is easily and readily done by turning the wheel L by the crank or handle *b*, which, as a consequence, will revolve the shaft F and wind up the ladder thereon, and when wound up it is retained in that condition by the pawl and ratchet-wheel described.

To let down the ladder, a pull is made on the cord or wire *m*, within easy reach of the window. This pull on the cord will lift the pawl from its engagement with the ratchet-

wheel, and at the same time will press the rubber H on the edge of the wheel I, causing a frictional resistance to the weight of the ladder, and thereby allow it to descend without violence.

In the event the cord or wire *m* cannot be reached from the window D′, in consequence of a partition-wall within the building, or for other reasons, the pawl can be operated from the window D by pulling on the cord or wire *n*, depending on the major arm of the lever O. The minor arm of the lever is attached by a link, *i*, Figs. 2 and 3, to the pawl. Now, on pulling upon the said cord *n* the lever will disengage the pawl from the ratchet-wheel and force the rubber on the friction-wheel I, as in the former instance and for the same purpose.

It is preferred to have the fire-escape placed under the eaves, as shown in the drawings; but it may be placed directly over a window, or in any other location that may be thought proper. Under some conditions the ladder may be let down and wound up without the use of the chain K and wheels I and L. In that case the handle or crank is applied directly to the shaft for that purpose. The wheel L is shown as being at the upper window, and the pull rope or cord *n* at the same place. It is not essential that they be located at the upper window. Practically, it is better that they be near a lower range of windows.

A′ is a chain attached to the ladder, by which to start the unwinding of the ladder when the pawl is lifted from the ratchet-wheel.

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

In a fire-escape, the combination of the hood E, shaft, and ladder attached to said shaft, spring, pawl and ratchet-wheel, and brake consisting of the wheel I and rubber *a′*, pull-cord, sprocket-wheels and chain for operating the shaft-lever O, link *i*, and pull-cord, all constructed and arranged to operate substantially as described, and for the purpose specified.

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

JOHN WALSH.

Witnesses:
J. H. BURRIDGE,
S. C. HORGAN.