No. 638,465.

Patented Dec. 5, 1899.

H. C. KARPENSTEIN.

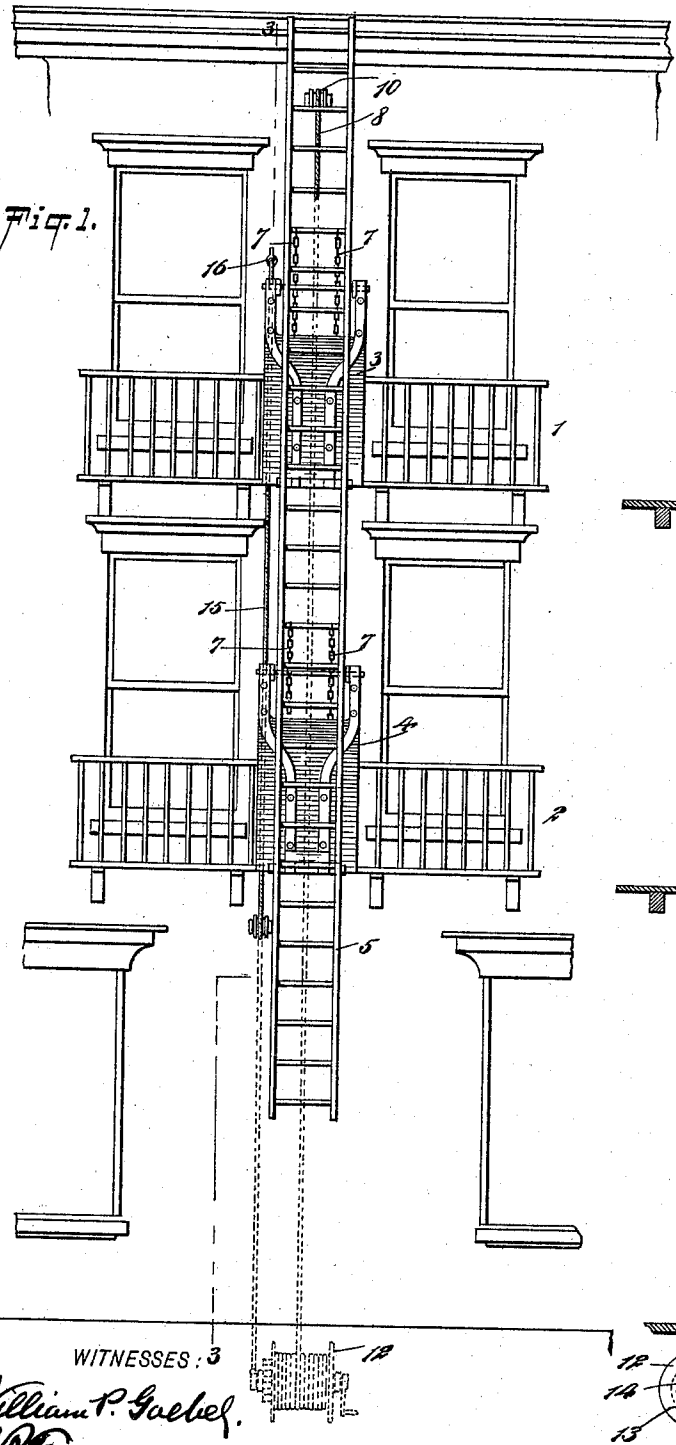
FIRE ESCAPE.

(No Model.)

(Application filed Mar. 15, 1899.)

2 Sheets—Sheet 1.

Fig. 1.



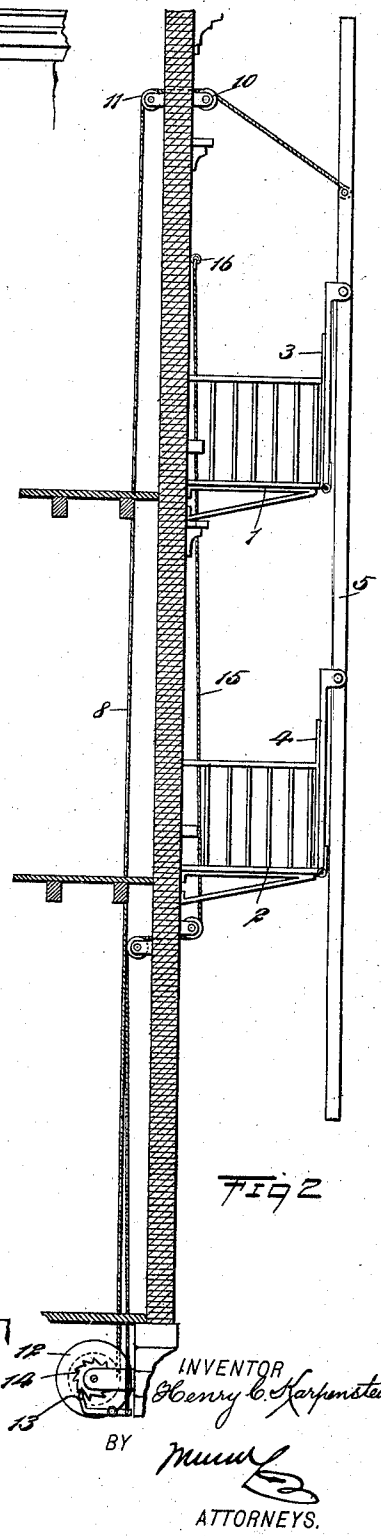


Fig 2.

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(No Model.) 2 Sheets—Sheet 2.

Fig. 3.

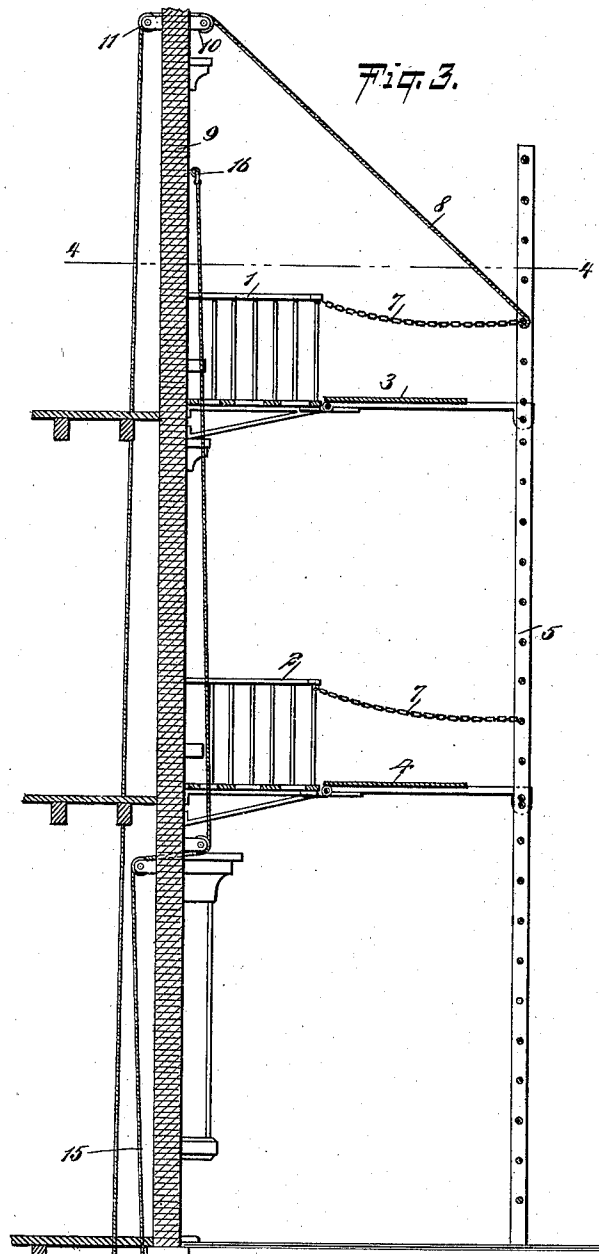


Fig. 4.

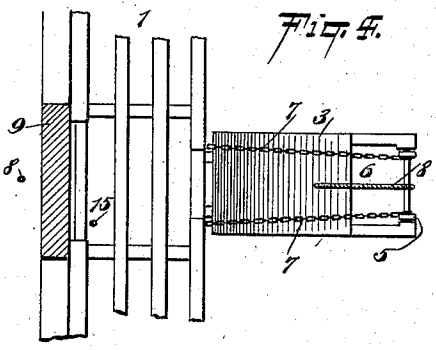


Fig. 6.

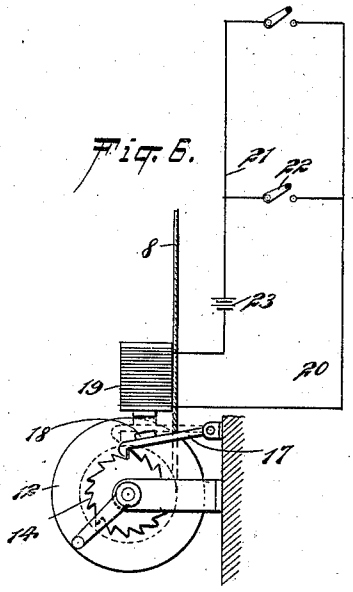
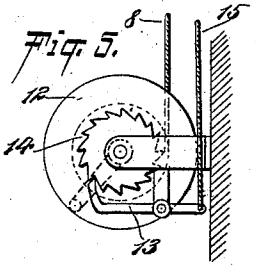


Fig. 5.



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UNITED STATES PATENT OFFICE.

HENRY C. KARPENSTEIN, OF NEW YORK, N. Y.

FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 638,465, dated December 5, 1899.

Application filed March 15, 1899. Serial No. 709,178. (No model.)

To all whom it may concern:

Be it known that I, HENRY C. KARPENSTEIN, of the city of New York, borough of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Fire-Escape, of which the following is a full, clear, and exact description.

This invention relates to improvements in fire-escape ladders designed to be placed on the outer side of a building and having a simple means for holding the ladder in its elevated or inoperative position, and also having means for releasing the holding means, so that the ladder may fall by gravity to a position to reach the ground or other landing-place to permit imperiled persons to descend the ladder to a place of safety.

I will describe a fire-escape embodying my invention and then point out the novel features in the appended claims.

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

Figure 1 is a front elevation of a fire-escape embodying my invention and showing the ladder in its elevated position on a building. Fig. 2 is a side view thereof with parts in section. Fig. 3 is a section on the line 3 3 of Fig. 1 and showing the ladder in its lowered position. Fig. 4 is a section on the line 4 4 of Fig. 3. Fig. 5 is a detail showing the holding and releasing mechanism, and Fig. 6 shows a modified form of holding and releasing mechanism.

Referring to the drawings, 1 2 designate fire-escape platforms secured to the walls of a building and in such position that access may be had to them from windows. While I have shown but two platforms, it is obvious that a greater number may be employed, depending, of course, upon the number of stories of a building. Having connection with the fixed platforms 1 2 are swinging platforms 3 4, and the outer ends of these platforms 3 4 have pivotal connection with the side rails of the ladder 5.

An opening 6 is provided in each platform, so that a person may pass through said opening while descending the ladder on the inner side. Flexible hand-rails 7 extend from the upper portions of the platforms 1 2 to the ladder. These hand-rails are to prevent people from falling off the platforms 3 4 while walking to the ladder, and, of course, being flexible or made of chains they will fold up when the ladder is in its elevated position.

As an elevating means for the ladder I employ a rope or cable 8. This rope or cable is fastened to the ladder near its upper end and passes through an opening in the wall 9 of the building and over the rollers 10 11, shown, respectively, on the outer and inner sides of the wall. The rope or cable 8 connects with a winding-drum 12, located in the building. I have here shown it as located in the cellar and the rope or cable passing through openings formed in the several floors. The holding means for the drum and rope or cable consists of a swinging dog 13, engaging with a ratchet-wheel 14 on the drum 12.

Connected to the dog 13 is a releasing rope or cable 15, which extends upward to a point above the upper platform. A portion of this releasing rope or cable is shown as arranged within the building and another portion as arranged at the outer side of the building and passing up to the platforms 1 and 2 and connected at its upper end to a fastening device 16. If desired, this rope or cable 15 may extend wholly within the inner side of the building.

The normal position of the ladder 5 is as indicated in Figs. 1 and 2. Should it be desired to lower the ladder in case of fire or the like, a person by drawing upward on the rope or cable 15 will release the dog 13 from the ratchet 14, thus allowing the lifting rope or cable to unwind, so that the ladder 5 will swing downward by gravity to the position indicated in Fig. 3. A suitable crank will be attached to the drum 12 to permit of the winding of the lifting rope or cable to raise the ladder.

In Fig. 6 I have shown the holding and releasing dog 17 as provided with an armature 18, coacting with an electromagnet 19, from which wires 20 21 extend upward through the building and are provided at suitable points with normally open switches 22. A battery 23 will of course be included in the circuit. Obviously by closing either one of the switches the current will be closed through the battery and through the electromagnet 19, which will

draw the dog 17 out of engagement with the ratchet 14, so that the ladder may fall, as before described.

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

1. A fire-escape, comprising platforms rigidly fixed to a wall of a building, platforms having swinging connection with the fixed platforms, a ladder having pivotal connection with the arms extended outward from the swinging platforms, there being a space between the outer end of the swinging platform and the ladder through which a person may pass, a lifting rope or cable having one end connected to the upper end of the ladder, a drum in the lower portion of the building with which the other end of the said rope or cable connects, and a retarding and releasing device for the drum, substantially as specified.

2. A fire-escape, comprising platforms rigidly attached to a wall of a building, platforms having swinging connection with the fixed platforms, a ladder having pivotal connection with the swinging platforms, a hoisting rope or cable, connected at one end to the ladder, a drum to which the other end of the cable is attached, a ratchet-wheel on said drum, a dog for engaging with the ratchet-wheel, an electric circuit and an electromagnet in said circuit for releasing the dog from the ratchet-wheel, substantially as specified.

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Witnesses:
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