

(No Model.)

H. FRAHM.
FIRE ESCAPE.

No. 586,173.

Patented July 13, 1897.

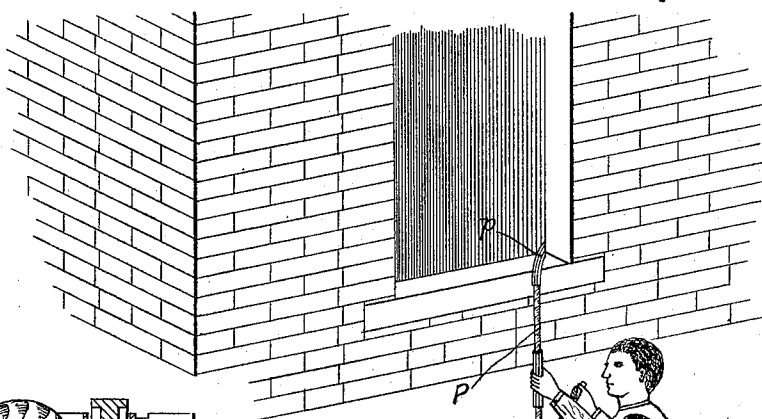


Fig. 1.

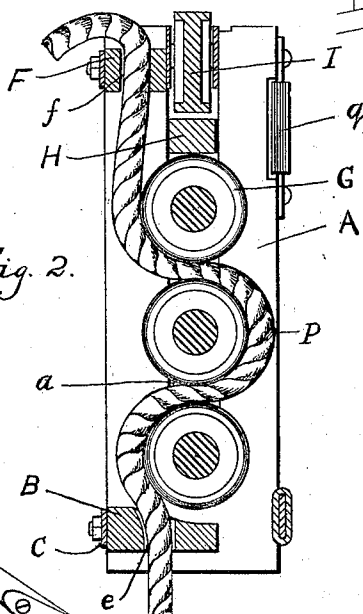


Fig. 2.

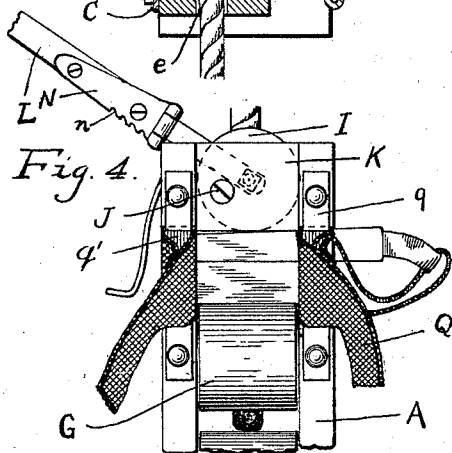


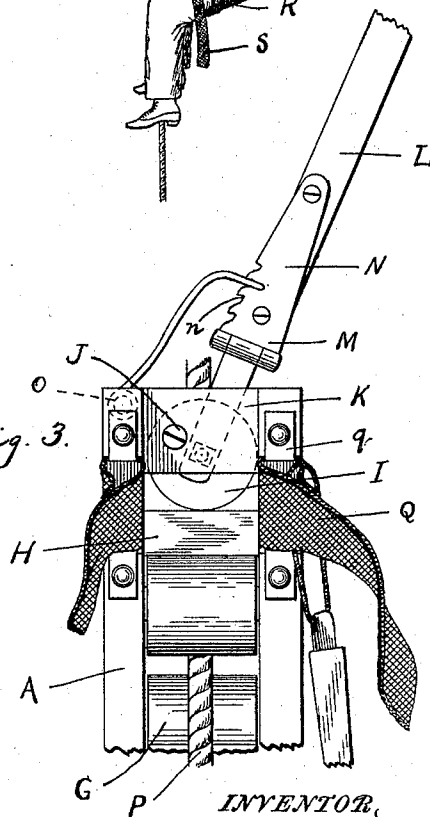
Fig. 4.

WITNESSES

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Fig. 3.



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FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 586,173, dated July 13, 1897.

Application filed September 12, 1896. Serial No. 605,637. (No model.)

To all whom it may concern:

Be it known that I, HANS FRAHM, a citizen of the United States, residing at Benson, in the county of Douglas and State of Nebraska, have invented certain new and useful Improvements in Fire-Escapes; and I do hereby 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.

This invention relates to certain new and useful improvements in fire-escapes; and it has for its objects among others to provide a simple and cheap portable fire-escape that can be carried in the valise and quickly set up in operative position. I provide means for adjusting the tension of the rollers between which the rope runs, so that the escape may be adapted for a child or for a heavy person or persons, and I also provide a brake mechanism, under the control of the person on the escape, by which he can regulate his descent while in motion.

Other objects and advantages of the invention will hereinafter appear, and the novel features thereof will be specifically defined by the appended claims.

The invention in this instance resides in the peculiar combinations and the construction, arrangement, and adaptation of parts, all as more fully hereinafter described, shown in the drawings, and then particularly pointed out in the claims.

The invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this specification, and in which—

Figure 1 is a perspective view of my improved fire-escape. Fig. 2 is a vertical section through the same. Fig. 3 is a detail showing the brake mechanism. Fig. 4 shows the wedge in position.

Like letters of reference indicate like parts throughout the several views.

Referring now to the details of the drawings by letter, A designates the side bars of the frame of the escape, which may be of any suitable length and at their lower ends are connected by the bars or plates B, strengthened by the metallic bars C. These side bars are provided with the vertical slots *a*, which are open at their upper ends, as shown. Be-

tween the side bars at their lower ends is secured one of the bars B, which has an opening *e*, through which the rope passes and which constitutes the lower rope-guide. F is the upper rope-guide. It consists of a block held between the upper ends of the side bars and has a hole *f*, through which the rope passes.

G are rollers, preferably of rubber, having their shafts extended into the grooves in the side pieces, as shown, and in which they are free to play vertically.

H is the bearing-block, which rests upon the shaft of the upper roller and is notched upon its under side to receive the roller, as shown. It is designed to be pressed down upon the shaft of the upper roller by the eccentric I, which is mounted on the shaft J, held in the metallic plates K, secured between the side bars, as shown, the eccentric being designed to be actuated and turned on its pivot by the lever L, which is connected with the arm M, extending from the eccentric, as shown, the lever being hinged to this arm, as shown at M, so that it can be folded down between the side bars when packed or not in use. This lever is provided with the metal plate N, which is toothed, as shown at *n*, and this toothed plate is designed to be engaged by the pawl, pivotally mounted, as at *o*, between the plates K and its free end turned at a right angle, as shown, and provided with a notch to engage the teeth of the said plate.

P is the rope, one end of which is designed to be secured within the room to a hook or any suitable fastening and is shown as provided with a rubbersleeve or tube *p*, designed to protect the hands against injury by friction of the rope. The other end of the rope is passed down through the upper rope-guide and in between the rollers and then down through the lower guide, as shown. This rope may be of any suitable length to extend to the ground.

Q are straps secured to the irons *q* upon the front face of the side bars, these straps being provided with rubbersleeves *q'*, around which the strap passes, and the front faces of the side bars being provided with recesses to accommodate the said loops. One of these straps is provided with a buckle of any suitable character to engage the other strap, the strap

being designed to be passed around the body of the person and engaged in the said buckle.

R are additional straps formed with loops and designed to receive the limbs of the person and provided with buckles whereby they may be adjusted.

S is another strap secured as shown and adapted for a second person to step in should more than one person desire to descend at the same time.

The operation will be apparent. The upper end of the rope is secured within the room and the other end passed out of the window. The person places himself in the harness furnished by the straps, and then by taking hold of the tube with one hand and the lever with the other he can readily regulate his descent. If more pressure is desired, the lever is turned so as to move the eccentric on its pivot and press the bearing-plate down, so as to crowd the rollers together and increase the tension or friction on the rope. The lever may be held in its adjusted position by the pawl engaging the toothed plate on the lever.

Additional friction may be obtained by means of the wedge T, which is connected by a strap or otherwise to the side bar or to the upper strap and designed to be inserted between the bearing-block which bears on the shaft of the upper roller and the under face of the plates K, as indicated. This wedge may be inserted so as to set the device for a person of a good weight.

Modification in detail may be resorted to without departing from the spirit of the invention or sacrificing any of its advantages.

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

1. A fire-escape comprising the side bars, rollers mounted therein, a pressure-block bearing on the shaft of the upper roller and an eccentric acting on said block, a lever connected with the eccentric, and means for holding the same in its adjusted position, substantially as described.

2. The combination with the side bars and the straps secured thereto of the rope-guides held between the side bars, the rollers mounted in grooves in said side bars, the rope passed through the rope-guides and around said rollers, a bearing-block acting upon the shaft of the upper roller, and an eccentric acting on said block, and a lever connected with said eccentric and having a notched plate and a pivoted pawl adapted to engage said plate, as described.

3. The combination with the grooved side plates and the rollers having their shafts mounted in said grooves of the bearing-block acting on the shaft of the upper roller, the eccentric mounted to act on said block, and

a removable wedge adapted to be inserted above said block, substantially as described.

4. The combination with the grooved side plates and the rollers having their shafts mounted in said grooves of the bearing-block acting on the shaft of the upper roller, the eccentric mounted to act on said block, and a removable wedge adapted to be inserted above said block, an arm extending from the eccentric, and a lever pivotally connected with said arm, substantially as described.

5. The combination with the grooved side plates and the rollers having their shafts mounted in said grooves of the bearing-block acting on the shaft of the upper roller, the eccentric mounted to act on said block, and a removable wedge adapted to be inserted above said block, an arm extending from the eccentric, and a lever pivotally connected with said arm, a notched plate on said lever, and a pawl pivoted to one of the side bars and having a notched end engaging said plate, substantially as described.

6. The combination with the grooved side plates and the rollers having their shafts mounted in said grooves of the bearing-block acting on the shaft of the upper roller, the eccentric mounted to act on said block, and a removable wedge adapted to be inserted above said block, an arm extending from the eccentric, and a lever pivotally connected with said arm, a notched plate on said lever, and a pawl pivoted to one of the side bars and having a notched end engaging said plate, the upper and lower rope-guides, the straps secured to the side bars, and the rope passed through the rope-guides and around the rollers, substantially as described.

7. The combination with the grooved side plates and the rollers having their shafts mounted in said grooves of the bearing-block acting on the shaft of the upper roller, the eccentric mounted to act on said block, and a removable wedge adapted to be inserted above said block, an arm extending from the eccentric, and a lever pivotally connected with said arm, a notched plate on said lever, and a pawl pivoted to one of the side bars and having a notched end engaging said plate, the upper and lower rope-guides, the straps secured to the side bars, and the rope passed through the rope-guides and around the rollers, and a removable wedge adapted to be inserted above the bearing-block, substantially as described.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

HANS FRAHM.

Witnesses:

C. V. NIEMAN,
PHILIP POTTER.