(No Model.)

J. E. HARMAN.

FIRE ESCAPE.

No. 422,345. Patented Feb. 25, 1890.

Fig. 1.

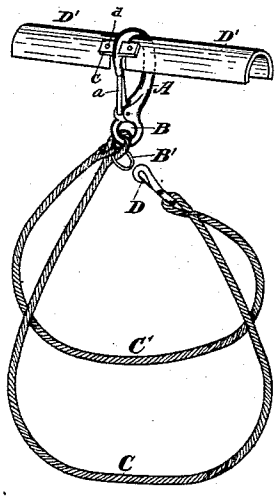


Fig. 2.

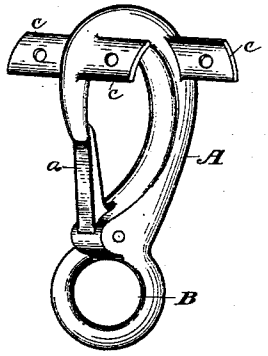


Fig. 3.



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UNITED STATES PATENT OFFICE.

JOSEPH E. HARMAN, OF ROCHESTER, NEW YORK.

FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 422,345, dated February 25, 1890.

Application filed December 4, 1889. Serial No. 332,489. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH E. HARMAN, of the city of Rochester, county of Monroe, and State of New York, 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 same, reference being had to the accompanying drawings, forming a part of this specification, and to letters of reference marked thereon.

My present invention relates to that class of fire-escapes in the use of which the operator slides down a suitable rope or cable suspended from the upper portion of a building from which it is desired to escape, the speed of his descent being regulated by a suitable brake acting upon the rope or support and controlled by himself; and it has for its object to so improve their construction that they can readily be attached to or detached from any suitable rope or cable without the necessity of threading it through a perforation or opening, thus enabling any number of persons to use the same rope or cable without requiring the return of any portion to the point from which the escape is to be made; and to this end it consists in certain novelties of construction and combinations of parts, all as will be hereinafter described, and the novel features pointed out in the claims at the end of this specification.

In the drawings, Figure 1 is a perspective view of my invention; Fig. 2, a view of the hook or traveler with the brake removed, and Fig. 3 a view showing the manner of using the device.

Similar letters of reference in the several figures denote similar parts.

In devices of this description heretofore employed it has been customary to provide some form of traveler, to which the operator attaches himself by his hands or otherwise, permanently applied to the rope or cable and incapable of removal therefrom except at the ends; but these devices are objectionable in that if more than one person is to use the escape the traveler must be returned to first position, which necessitates the employment of additional ropes or cables, liable to become fouled or caught in the hurry and excitement attending a fire.

As illustrated, the invention consists, broadly stated, in providing an open-sided hook A, preferably with a spring-latch *a* thereon, constituting a snap-hook having an eye B in the lower portion, to which is attached a loop C C′ of rope or similar material for attachment to the body of the user. The loop or belt C is preferably formed of a single piece of rope, with a loop in one end, secured to the eye B of the snap-hook, then doubled, and to the end of this loop is attached a snap-hook D, adapted to be engaged with a ring B′ near the hook A. It will be noted that one of the portions C′ of the loop is shorter than the other, and that when applied around the middle of the operator the weight of his body will rest in a measure upon loop C, while loop C′ will support his back, as shown in Fig. 3, thus making a comfortable seat for him.

The hook A is adapted to be caught over a suitable rope or cable E, Fig. 3, suspended from above the window and either held at an angle by persons below or allowed to hang straight, preferably the former, while the operator swings clear of the building and allows himself to descend to the ground by gravity, the loops C C′ supporting him if the rope be held at an angle, as shown, and as soon as he is clear of the upper end another person having one of the loops and attached hooks can hook over the rope and descend in like manner, as many as desired making their escape in this way, and as soon after one another as the hooks can be applied, because each preceding one is out of the way of the next almost as soon as he has swung himself clear.

It is of course desirable that some braking device be provided for regulating the user's descent, and this should also be of such nature as to be readily applied to the cable and located relative to the supporting-hook, so as not to be liable to get out of position when the hook is applied, and the preferable form of this consists in an open-sided collapsible piece or pieces of flexible material, constructed, in the present instance, of canvas and rubber fabric—such as hose is made of—attached to the sides of the hook by rivets *d* passing through it and suitable lugs or ears *c* formed upon opposite sides of the hook, as

shown; one piece D′ being located on each side of the hook, so as to form a better grip for the user's hands when suspended from the loop C C′. By squeezing these brake-pieces on the rope or cable E the speed of descent can be regulated as desired, and as they are located on opposite sides of the hook also serve as handles by which the user can steady himself and prevent swinging.

While it is eminently desirable that a snap-hook embodying a spring-latch be employed, as it prevents all liability of becoming detached from cable E during descent, it is obvious that this could be dispensed with without departing from my invention. It is also obvious that instead of forming the suspending-loops C C′ of a single piece of rope two separate pieces of rope or canvas could be employed, the snap-hook serving to secure them around the user's body, as before.

From the above and the accompanying drawings the manner of using the device will be apparent, and its simplicity and cheapness will recommend it, also the fact that any number of persons can use the same cable upon which to descend, not requiring experience or instruction as to the manner of using.

In practice it is proposed to have ropes or cables E fastened to the inside of the windows of factories, hotels, or other places where a number of persons are capable of being thrown out and extending to the ground, and a number of escapes constructed in accordance with my invention kept in proximity thereto to be used only in case of an emergency.

I claim as my invention—

1. In a fire-escape to be used upon a suspended rope or cable, the combination, with a loop or belt arranged to be applied to the person of the user, of an open-sided suspending-hook attached thereto for engaging the rope and an open-sided brake for operating on the rope when in the hook independently of the latter, substantially as described.

2. The combination, with the hook adapted to be applied to the rope or cable from one side and a loop or belt arranged to be applied to the person of the user secured thereto, of an open-sided collapsible brake secured to the hook, and operating on the rope when in the latter, but independent of it, substantially as described.

3. The combination, with the snap-hook and the loop or belt arranged to be applied to the person of the user, of the open-sided collapsible brake secured to the hook, substantially as described.

4. The combination, with the hook and the loop or belt arranged to be applied to the person of the operator, of the open-sided pieces of collapsible material, secured on opposite sides of the hook, substantially as described.

5. The combination, with the suspending-hook, of the two loops C C′ and the hook attached to their ends for securing them simultaneously around the person of the user, substantially as described.

6. The combination, with the suspending-hook, of the two loops C C′ and the snap-hook attached to their ends, and the ring B, with which said hook co-operates, substantially as described.

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