(No Model.)

W. J. SMITH.

FIRE ESCAPE.

No. 399,709. Patented Mar. 19, 1889.

Fig. 1.

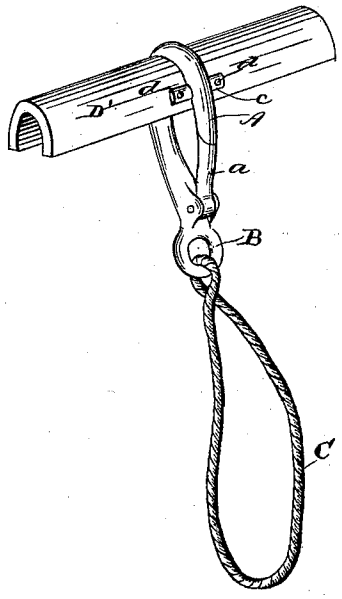


Fig. 2.

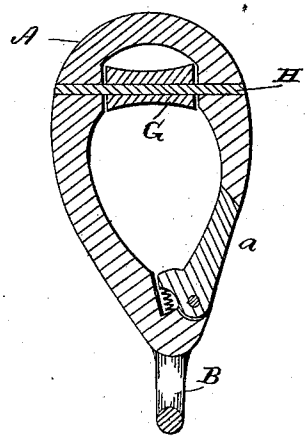


Fig. 3.

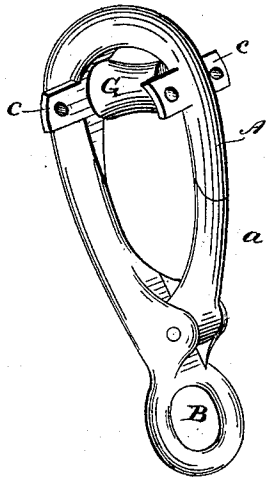
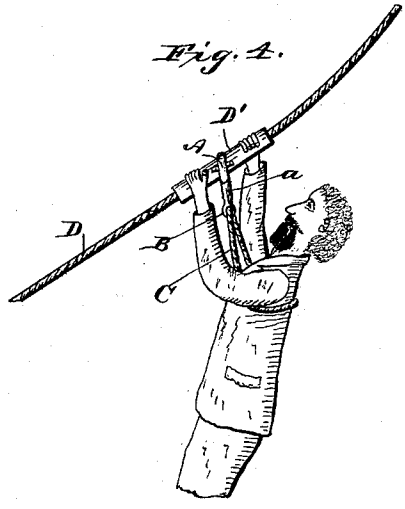


Fig. 4.



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UNITED STATES PATENT OFFICE.

WINFRED J. SMITH, OF ROCHESTER, NEW YORK.

FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 399,709, dated March 19, 1889.

Application filed December 13, 1888. Serial No. 293,447. (No model.)

To all whom it may concern:

Be it known that I, WINFRED J. SMITH, of Rochester, in the 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 the figures and 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 and 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, or requiring the return of any portion to the point from which escape is to be made; and to this end it consists in certain novelties of construction and combination of parts, all as will be hereinafter described, and the novel feature 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 sectional view through the attaching-hook; Fig. 3, a view of the hook or traveler with the brake removed, and Fig. 4 a view showing the manner of using the device.

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

In devices of this general 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 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, my invention consists, broadly stated, in providing an open-sided hook, A, preferably with a spring-latch, *a*, thereon, constituting a snap-hook, to an eye, B, in the lower portion of which is attached a loop, C, of rope or other suitable material, arranged to be slipped under the arms of the person using the escape; or, if desired, other suitable attaching devices could be used. This hook is adapted to be caught over a suitable rope or cable, D, Fig. 4, suspended from above the window or other position desired, 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 loop 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 operator's descent, particularly when the supporting-cable hangs straight, 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 of an open-sided collapsible piece or pieces, D′, of flexible material, constructed in the present instance of canvas-and-rubber hose, attached to the sides of the hook by rivets *d*, passing through the hose, and suitable lugs or ears, *c*, formed upon the 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 operator's hands when hanging from the loop C. By squeezing these brake-pieces on the rope or cable D the speed of descent can be regulated as desired. These brakes D′, being on opposite sides of the hook, also serve as handles by which the operator can steady himself and prevent swinging.

For the purpose of preventing undue wear

on the rope, and also of lessening friction on the hook, I provide a small friction-roller, G, inside the latter, pivoted on a small axle or stud, H, secured in opposite sides, as shown, arranged to turn freely, and it is upon this that the operator is supported in the present embodiment, though it is evident that this could be dispensed with, if desired, and the inner side of the hook bear directly on the rope.

While it is eminently desirable that a snap-hook embodying a spring-latch be employed, as it prevents all liability of becoming detached from the cable D during descent, it is obvious that this could be dispensed with without departing from the spirit of my invention.

From the above and the accompanying drawings the manner of using the device will be apparent, and its cheapness and simplicity will at once 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 D fastened to the inside of windows of factories or other places where a number of persons are engaged, capable of being thrown out and extending to the ground, and a number of devices constructed in accordance with my invention kept in proximity thereto to be used only in cases of 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 operator, 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, substantially as described.

2. The combination, with the hook adapted to be applied to a rope or cable from the side, and a loop or belt arranged to be applied to the person of the operator secured thereto, of an open-sided collapsible brake secured to the hook, substantially as described.

3. The combination, with the snap-hook and the loop or belt arranged to be applied to the person of the operator, 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 an open-sided hook and the roller journaled in the upper portion thereof, adapted to operate on the top of the suspending-rope, of a loop or belt arranged to be applied to the person of the operator, substantially as described.

6. The combination, with an open-sided hook and a roller journaled in the upper portion thereof, adapted to operate on the top of the suspending-rope, and an open-sided brake secured to the hook, of a loop or belt arranged to be applied to the person of the operator, substantially as described.

7. The combination of the hook having lugs on the side thereof, the pieces of collapsible material secured thereto, and the loop or belt arranged to be applied to the person of the operator, substantially as described.

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