

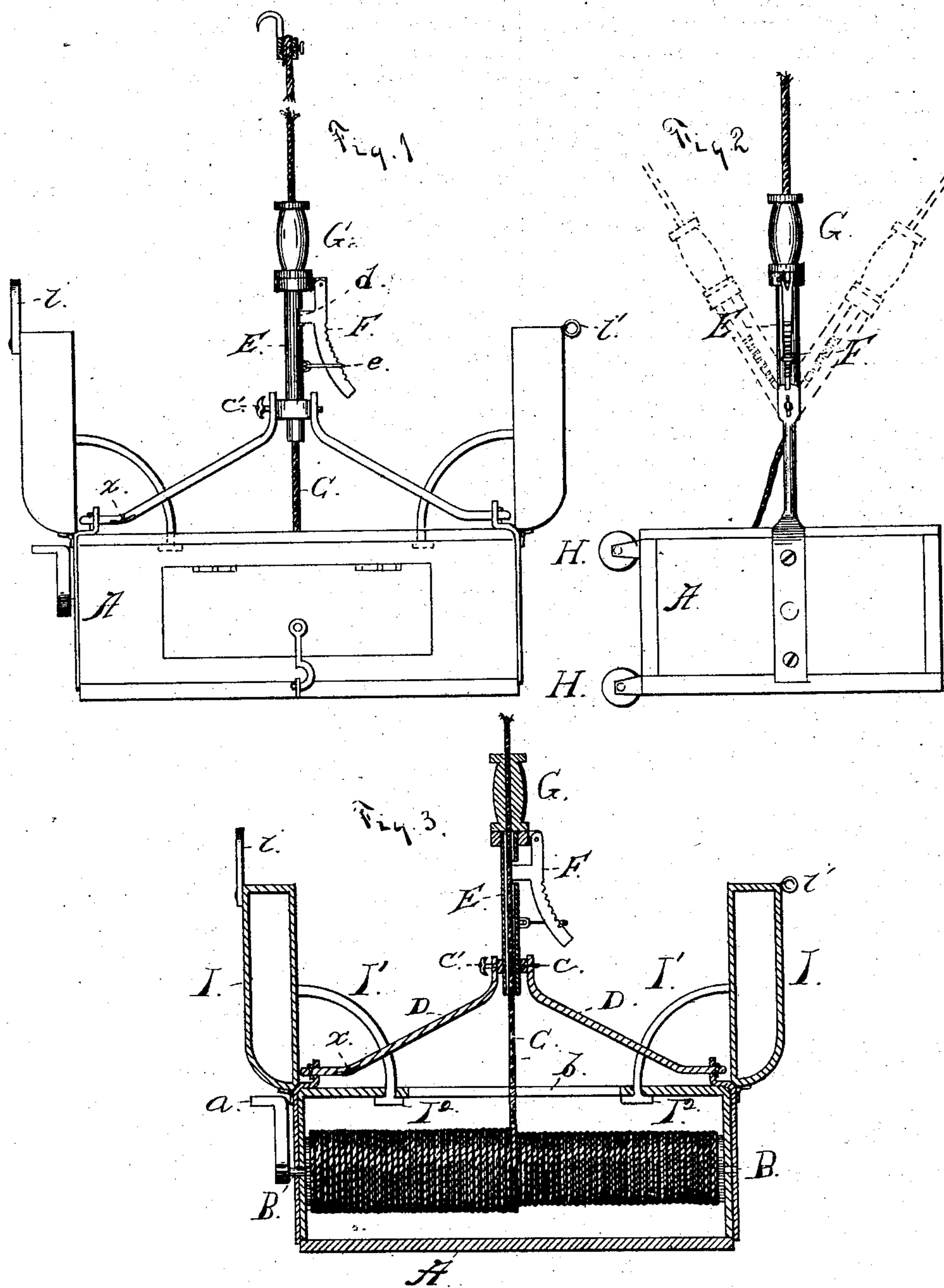
(No Model.)

H. E. DOREN.

FIRE ESCAPE.

No. 292,548.

Patented Jan. 29, 1884.



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UNITED STATES PATENT OFFICE.

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FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 292,548, dated January 29, 1884.

Application filed April 27, 1883. (No model.)

To all whom it may concern:

Be it known that I, HENRY E. DOREN, a citizen of the United States, residing at Grand Rapids, in the county of Kent and State of Michigan, have invented certain new and useful Improvements in Fire-Escapes; and I do 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 ap-
10 pertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

15 This invention pertains to improvements in fire-escapes of that class wherein a rope or cable is wound upon a shaft disposed within a receptacle or box, said shaft having an operating handle or crank, and the rope or cable
20 passed through a slot of the box or receptacle; and it consists of means to aid the safe descent of the occupant thereof escaping from a burning building, and to enable the descending person to maintain an upright position, or the re-
25 ceptacle or platform upon which he is standing to conform to the plane of the side of the building, with the rope or cable reaching out of the window at a different plane or angle to the building, and in other improvements, substantially as hereinafter more fully set forth
30 and claimed.

In the accompanying drawings, Figure 1 is a side view of my improved fire-escape. Fig. 2 is an end view with the lid removed, and
35 Fig. 3 is a vertical longitudinal section thereof.

In carrying into effect my invention, I employ a suitable receptacle or box, A, preferably oblong in shape, with a door in its side, to permit access thereto, to effect the disconnection of the rope or cable, after descending, in
40 the operation of the device, as will appear hereinafter.

B is a shaft supported in the ends of and extending centrally through the receptacle or
45 box A, said shaft having a crank or handle, a, affixed thereto to allow its operation.

C is a cable or rope wound upon the shaft and passed up through a longitudinal slot, b, in the top of the receptacle A, said slot being
50 arranged about in a vertical plane with hori-

zontal radii of the shaft, as the point best adapted to take or draw the rope or cable off the shaft, with the rope or cable wound in several layers or coils thereon.

D is the bail, consisting of two bent pieces 55 of metal having one end journaled in the bar D', secured to the ends of the receptacle A, and having their upper ends bent as shown, with the upper or straight convergent ends of the pieces of the bail separated and forming 60 bearings for a rock-shaft or collar, c, disposed between said ends of the bail. This collar is secured to one of the rods of the bail by a thumb-nut, c', so that the said bar may be readily released therefrom, for the purposes 65 hereinafter described. One of the pieces of the bail is hinged at x, as shown, so that it may turn down, but is practically rigid as to any upward bending.

E is a sleeve rigidly fixed in the collar c, and 70 consequently adapted to partake of the movement of the latter, and to permit the rope or cable to pass through it.

F is a pressure-brake, the same consisting of a lever pivoted at its upper end to the same 75 end of the sleeve E, and having a projection or detent, d, extending through a slot or aperture in the said sleeve, and adapted to bear against the rope or cable, as seen in Fig. 3, while the lower arm of said lever is notched 80 and embraced by a loop or bail, e, articulated to the sleeve E, whereby the speed of descent can be retarded and the person be enabled thus to descend with safety.

G is a hand-hold slipped upon the rope or 85 cable, and resting upon the sleeve E, to provide a grasp or hold upon the rope or cable without causing the blistering or injuring of the hand, as would be the case were it applied directly to the rope or cable from frictional 90 contact therewith.

The rope or cable being adjusted to the window-sill or other convenient part of the window-frame by means of the hook f at its upper end, it will be noticed that during the descent of the escaping person standing on the 95 receptacle the rock-shaft or collar c will permit the sleeve and hand-hold to conform to the direction or angle of the rope or cable extending out obliquely to the plane or side of the 100

building, while the receptacle or box will be allowed to adjust itself to the plane of the side of the house, whereby friction and difficulty in descending are lessened and the person permitted to maintain a perfectly-erect position. The cable or rope is passed through the door in the side of the receptacle to and wound up on the shaft by turning its crank or handle when it is first coiled thereon.

On the side of the receptacle A which moves next the house I secure the casters or rollers H at each corner, so as to facilitate the ease of descent of the platform, the said roller passing readily over slight projections in the walls, such as window caps and sills. These rollers are also useful in conveying the device from place to place.

The lids I I are hinged on opposite ends of the receptacle A, and are provided with the curved bars I', which extend within the casing, as shown, and are formed with the stops I² on their lower ends, which prevent the lids from turning back beyond the vertical position shown in Figs. 1 and 3. In the operation of the device, these lids may be turned up as shown, and provide seats for the escaping persons, and when the escape is not in use the thumb-nut C' may be removed, and one of the bars, D, being hinged as shown in Figs. 1 and 3, the said bar is laid flat down on the box, in line with the length thereof, while the other bar, with the collar c and sleeve E, turns down diagonally across the receptacle, and the lids, when lowered, cover these parts, when by the hook i and eye i', or in other suitable manner, the escape has the appearance of an ordi-

nary trunk, and may be carried from place to place by the user as a trunk, and will therefore be of particular and great advantage to commercial and other travelers.

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

1. In a fire-escape, the combination, with the receptacle and rope or cable, of the sleeve and its collar or rock-shaft adapted to move independently of the bail of the receptacle, substantially as and for the purpose set forth.

2. In a fire-escape, the combination, with the rope or cable sleeve, of the pressure-brake having a notched lever pivoted to the said sleeve and provided with a detent or projection passing through a slot or aperture in the sleeve, and the articulated bail or loop connected to the sleeve and embracing the lever, substantially as and for the purpose set forth.

3. The fire-escape, substantially as described and shown, consisting of the receptacle A, the windlass B, having crank a, the rope or cable, the bail D, constructed as described, the collar c, sleeve E, hand-hold G, and the lids I, having curved brace-bars I', hinged to the opposite ends of the receptacle, and adapted to provide seats for the operators when turned up, and a cover for the box when turned down, as set forth.

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

HENRY E. DOREN.

Witnesses:

S. O. B. KIMM,
PETER H. ELEVELD.