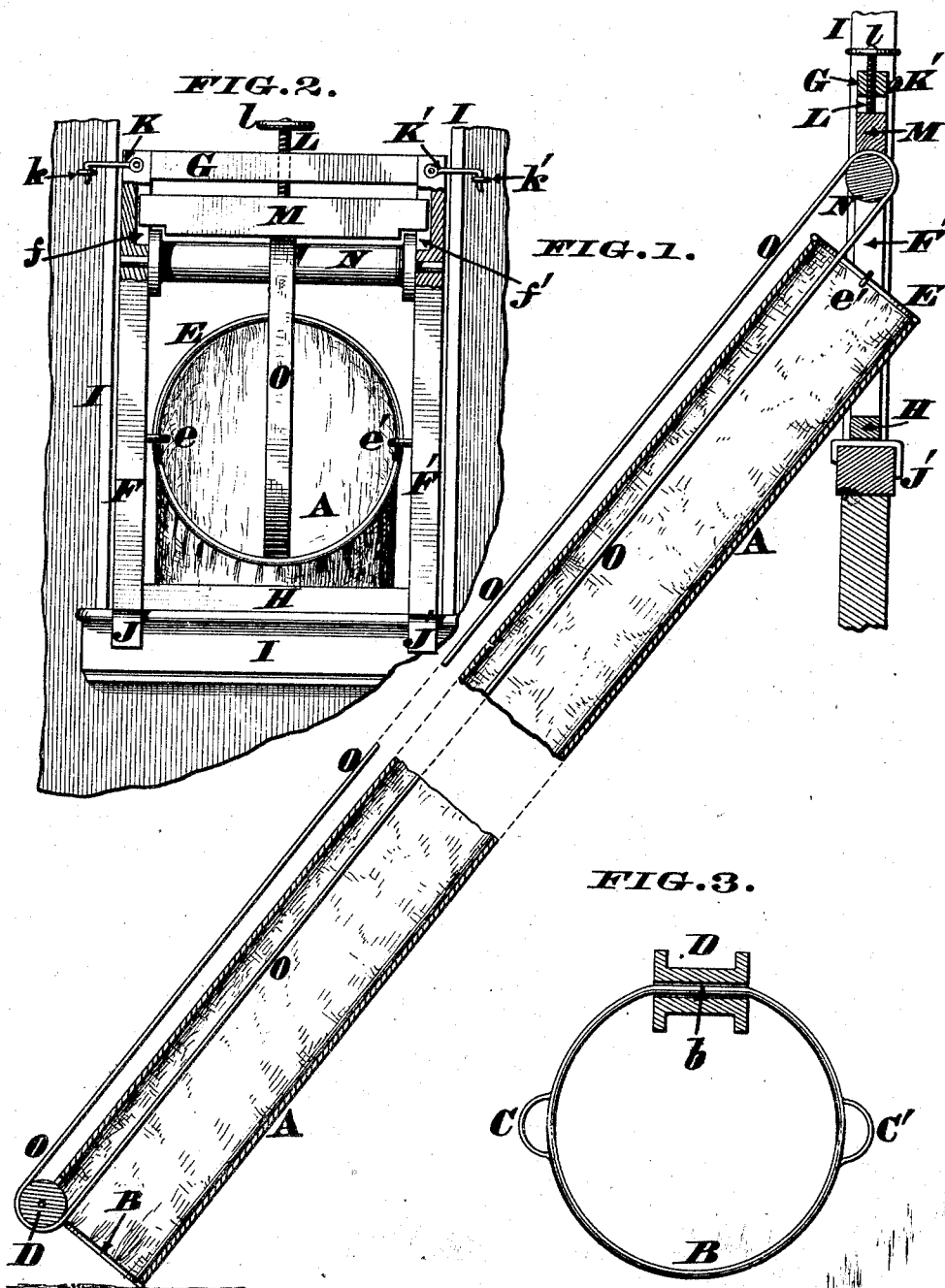


(No Model.)

B. FOX.
FIRE ESCAPE.

No. 522,981.

Patented July 17, 1894.



Attest.
Samuel M. Quinn
Chas. McQuincy

Inventress.
Barbara Fox.
by James H. Wayman.
Att'y.

UNITED STATES PATENT OFFICE.

BARBARY FOX, OF NAPOLEON, INDIANA.

FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 522,981, dated July 17, 1894.

Application filed April 16, 1894. Serial No. 507,712. (No model.)

To all whom it may concern:

Be it known that I, BARBARY FOX, a citizen of the United States, residing at Napoleon, in the county of Ripley and State of Indiana, 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, reference being had to the annexed drawings, which form part of this specification.

This invention relates to those apparatus which enable the inmates of a building to escape therefrom, in the event of a fire, by sliding down within a canvas tube or chute whose upper or receiving end is connected to a frame capable of being readily secured in the opening of a window or door, while the lower or discharging end of said tube reaches to the ground; and my improvement comprises a special form of brake mechanism, which is so constructed as to insure the safe descent, at the same time, of a greater or less number of people, according to the emergency, the details of said mechanism being hereinafter more fully described, and then pointed out in the claim.

In the annexed drawings, Figure 1 is a vertical section showing my improved fire-escape in condition for use, the central portion of the chute being broken away to indicate that it may be of any desired length. Fig. 2 is an enlarged elevation of the frame to which the upper end of the chute is connected, the frame being attached to the inner side of a window. Fig. 3 is a similar elevation of a ring, and its accessories, at the lower end of said chute or tube.

A represents a chute or tube made of sail cloth or other stout flexible-material, and of such a diameter as to permit an adult to slide down within it, the length of said chute being determined by the elevation of the window or door to which the fire escape is applied. The lower or discharging end of this tube is attached to, and constantly distended, by a heavy ring B, to whose sides handles C, C', may be applied, for the purpose of steadying said tube: the upper part of the ring being perfectly straight, for a limited distance, as seen at *b*, in Fig. 3. Journaled upon this straight bearing *b* is a flanged roller D, the use of which will presently appear.

The upper end of the chute is similarly distended by another heavy ring E, which latter is coupled to a pair of upright stiles F, F', by links or staples *e*, *e'*, the top and bottom of said stiles being united by cross bars G, H. These parts, F, F', G, H, form a rectangular frame of such a size as to be readily inserted within the opening of an ordinary window or door, and when thus applied said frame may be secured with any convenient fasteners. In Fig. 2, this frame is seen fitted in a window opening I, and provided with claws J, J', that engage over the window-sill. Said frame may also have hooks K, K', to catch into staples *k*, *k'*, of the window casing.

L is a screw, tapped in the cross-bar G, and having at its upper end a hand-wheel or crank *l*, while its lower end is in contact with a clamp-rail M, whose ends traverse longitudinal grooves *f*, *f'*, of the stiles F, F'. Journaled in these stiles, and arranged parallel with the rail M, is a flanged shaft or long roller N, around which is passed an endless flexible-band O. This band may be made of rope or leather, but leather is preferred, and is sufficiently long to pass around the other roller D, at the bottom of the chute. Consequently, one half of this band or belt is external, with reference to the chute A, while the other half traverses said tube, from end to end.

My fire-escape is arranged to operate in the following manner: When the apparatus is to be permanently applied to a tall building, such as a hotel, the frame F F' G H, can be fitted within a special opening, and the chute A, and band O be drawn up to said opening and retained in a compact shape by fasteners capable of being readily detached in the event of a fire. In such an emergency, these fasteners are unloosened and the chute permitted to unfold and descend to the ground, after which act, the handles C, C', are grasped by people in the street, who then draw the lower end of the tube as far away from the building as circumstances will admit. By this proceeding the chute is straightened out and rendered free from folds or bends, thereby affording an unobstructed, inclined passage from the window to the ground. The occupants of the building then enter the open, upper end of the tube, one at a time, grasp

the belt O, with their hands, and slide down within said tube, feet foremost, the attendant of the escape regulating the speed of the descent.

5 If a single person is descending, the screw L is so advanced as to produce a limited pressure of the rail M upon the belt O, but as the escape becomes more crowded, the pressure is increased accordingly. It will thus be
10 seen that my brake-mechanism enables the escape to be so regulated as to insure a safe and gradual descent of people within the tube; no matter how few or many are to be accommodated at the same time. Further-
15 more, suitable slings may be temporarily coupled to the belt, for the purpose of lowering children, which slings can be detached at the bottom of the chute.

Again, by making the roller N somewhat
20 long, the belt O can shift to either side of the chute, and yet be subjected to the clamping device, and, if desired, the periphery of said roller, and also of the other roller D, may be covered with leather or rubber to prevent
25 wear and tear of said belt. Or, a rubber roller may be journaled in the rail M, and

bear upon the belt. Finally, the chute can be wholly or partially lined with leather or rubber, and a hammock may be attached to its lower end to deaden any possible shock. 30

I claim as my invention—

In combination with a fire-escape consisting of a flexible chute having rings attached to its ends, and the upper ring coupled to a frame capable of being secured in a window 35 or door; the roller D, journaled upon the lower ring B; the roller N, journaled in said frame; the endless belt O, passing around these rollers, and having one portion extend to said chute, while its other portion passes 40 through the latter, from end to end; the adjustable rail M, moving within said frame; and a device for applying pressure to said rail; all as herein described, and for the purpose stated.

In testimony whereof I affix my signature in 45 presence of two witnesses.

BARBARY FOX.

Witnesses:

SUSIE MYERS,

ELIZABETH JOHNSON.

It is hereby certified that in Letters Patent No. 522,981, granted July 17, 1894, upon the application of Barbary Fox, of Napoleon, Indiana, for an improvement in "Fire-Escapes," an error appears in the printed specification requiring the following correction, viz: In line 39, page 2, the word "extend" should read *external*; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed, countersigned, and sealed this 24th day of July, A. D. 1894.

[SEAL.]

WM. H. SIMS,

First Assistant Secretary of the Interior.

Countersigned:

JOHN S. SEYMOUR,
Commissioner of Patents