

(No Model.)

W. O. AVERY.

FIRE ESCAPE.

No. 284,994.

Patented Sept. 18, 1883.

Fig. 4.

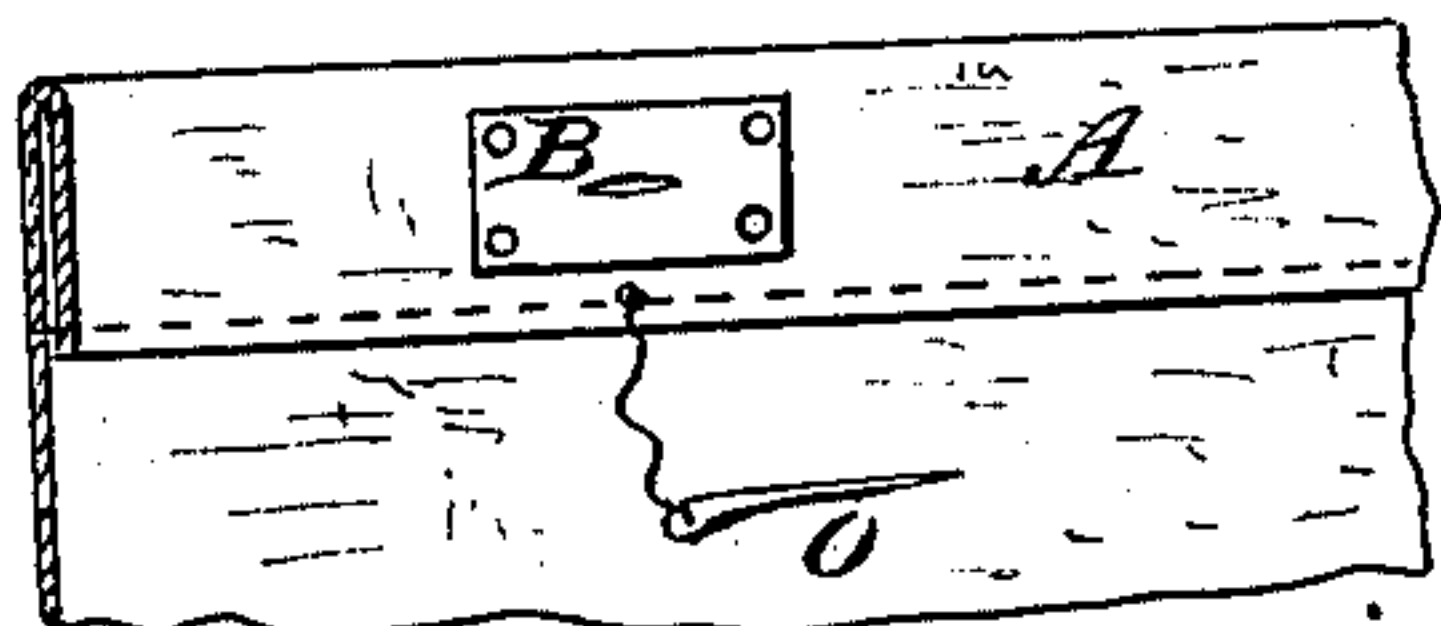


Fig. 1.

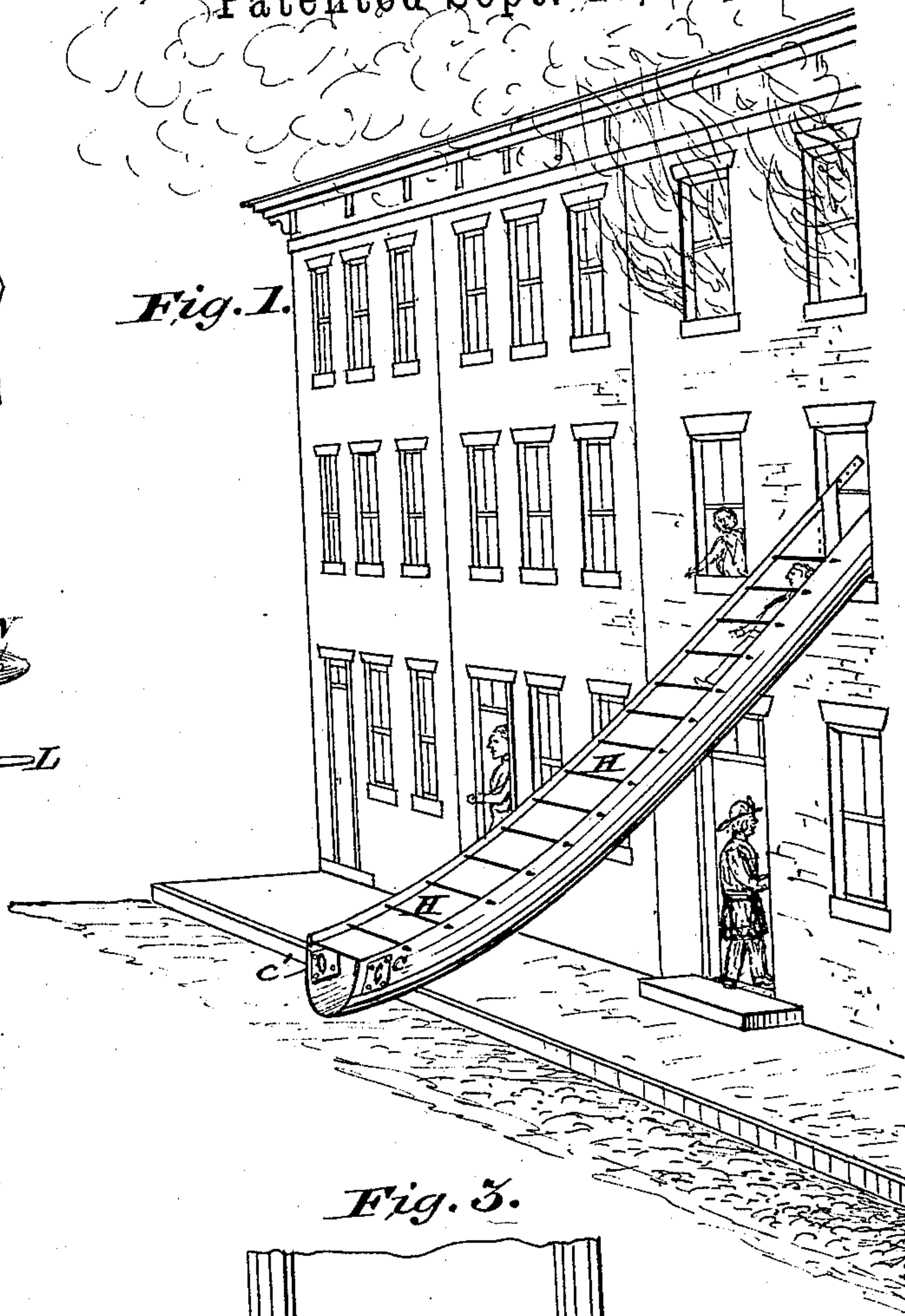


Fig. 5.

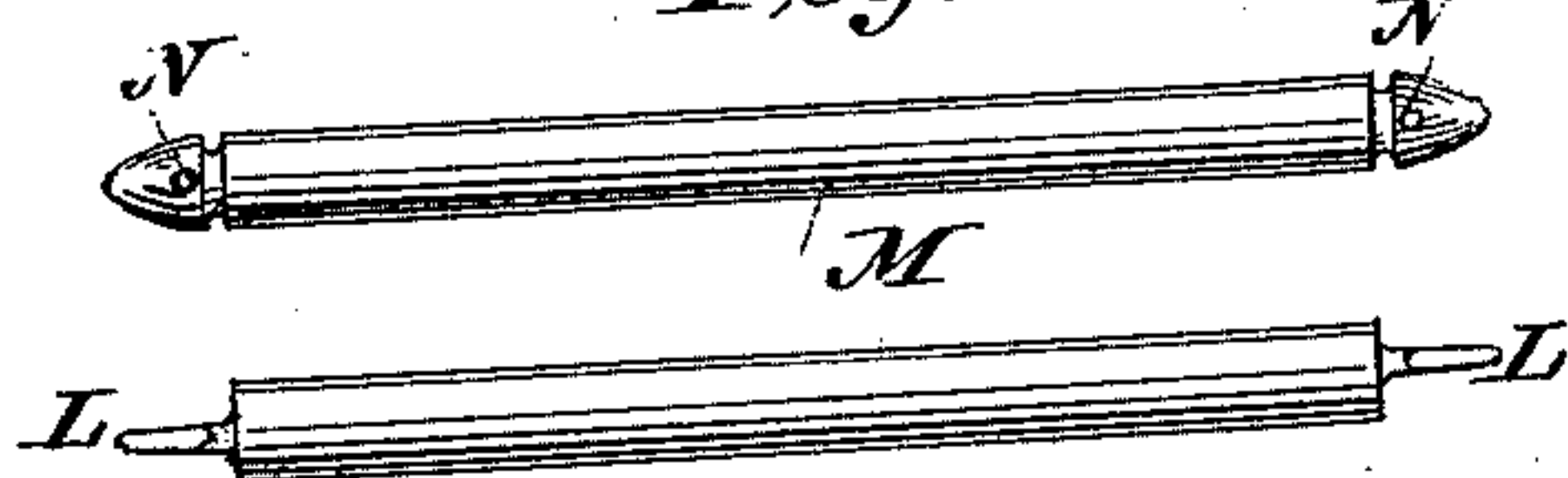


Fig. 2.

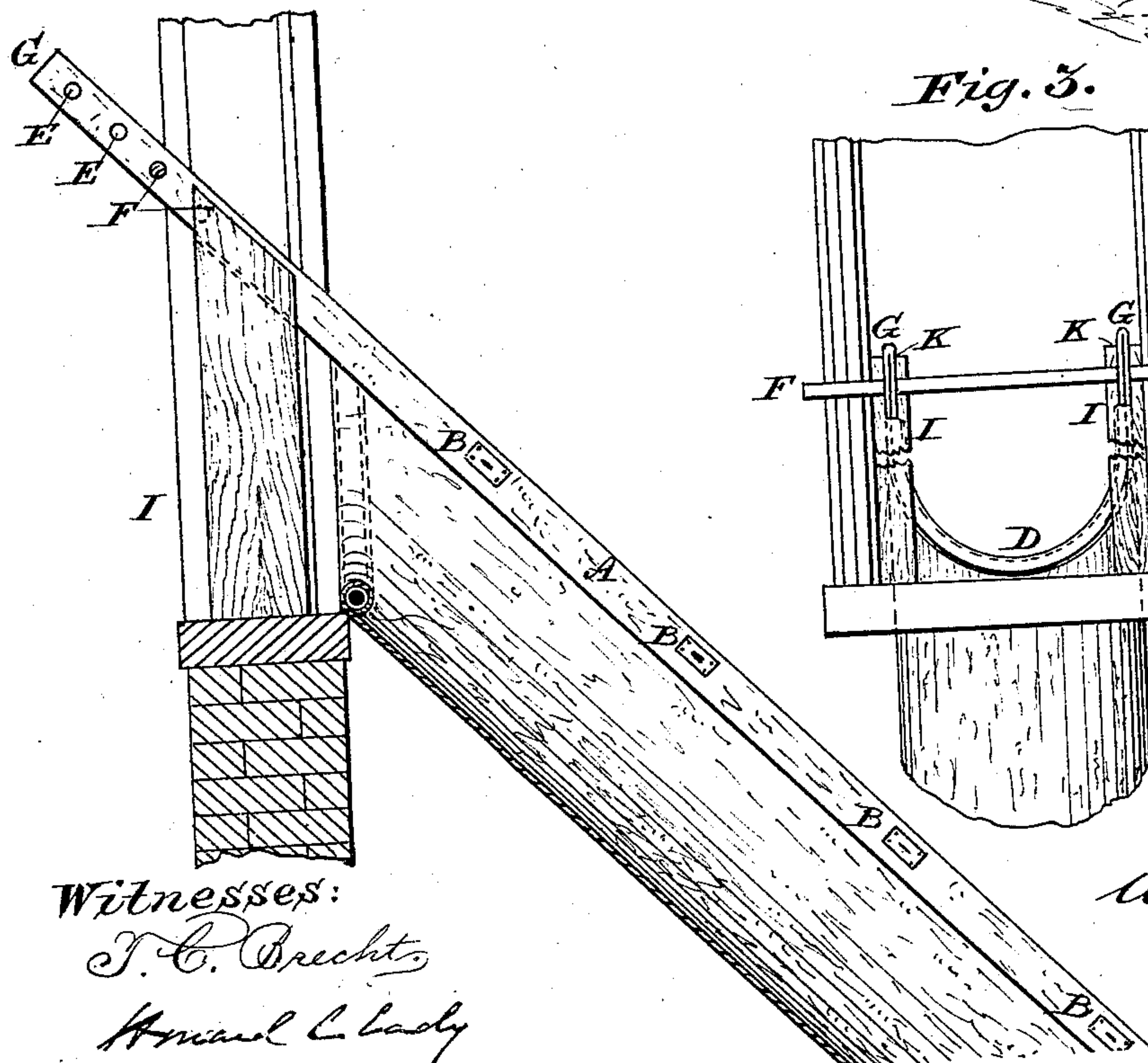


Fig. 3.

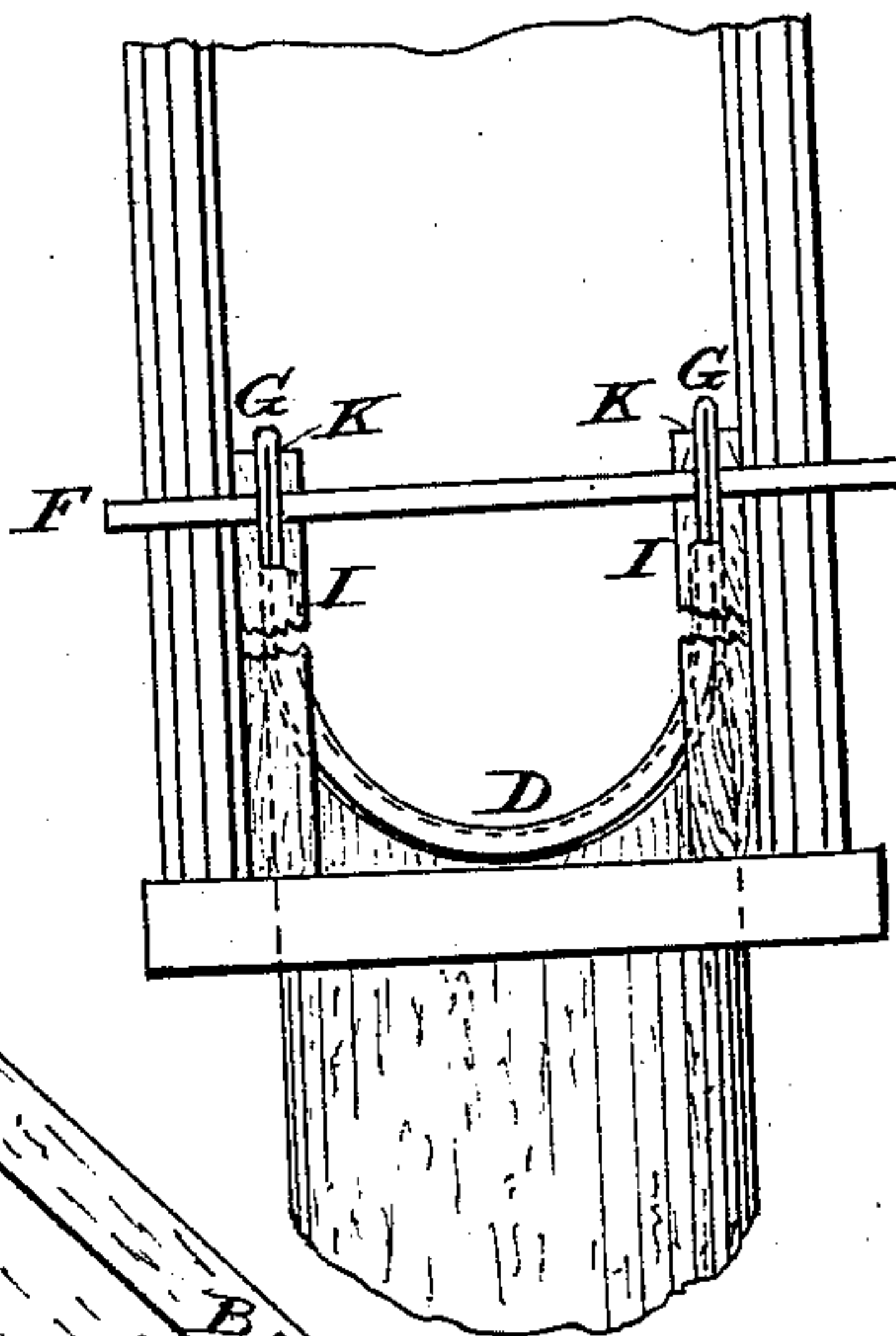
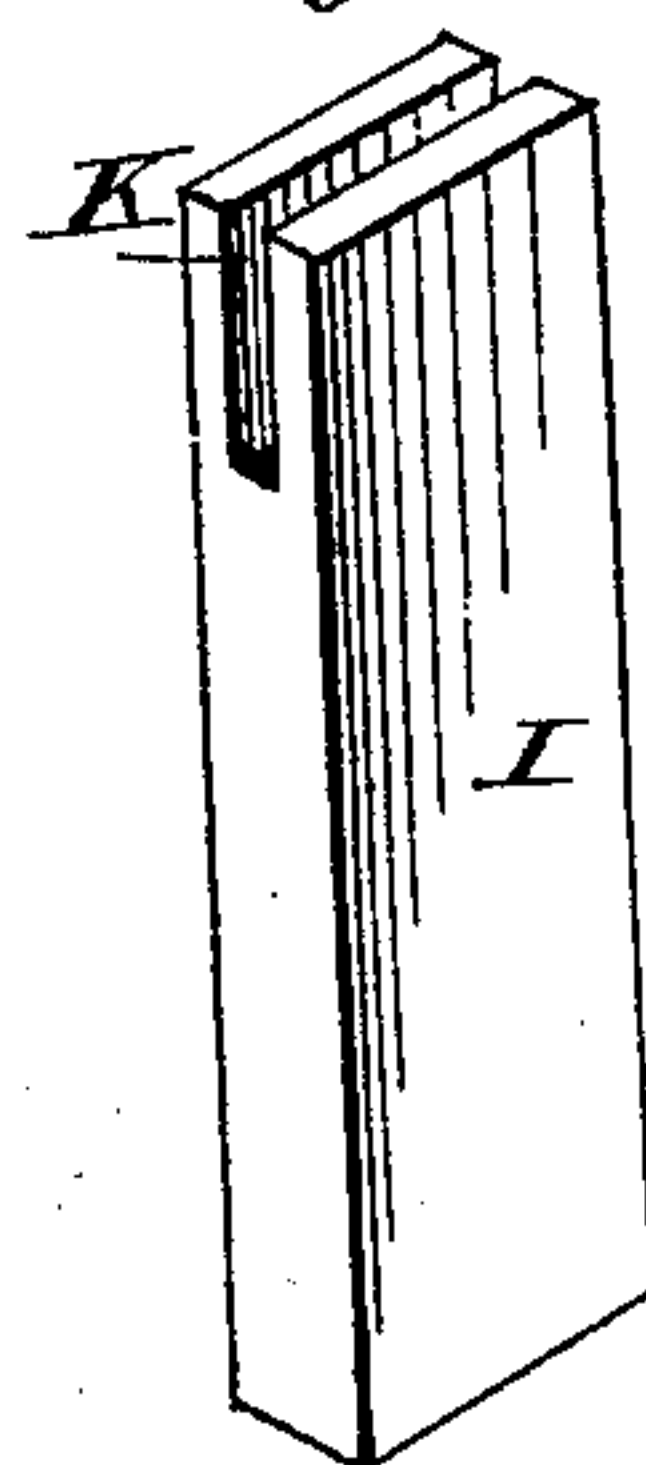


Fig. 6.



Witnesses:

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UNITED STATES PATENT OFFICE.

WILLIAM O. AVERY, OF WASHINGTON, DISTRICT OF COLUMBIA.

FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 284,994, dated September 18, 1883.

Application filed January 23, 1883. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM O. AVERY, a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Fire-Escapes, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to improvements in fire-escapes made in the form of an open chute of canvas or other flexible material, to be suspended from the window of a burning building to the ground.

In the accompanying drawings, Figure 1 shows my fire-escape attached to a building in perspective. Fig. 2 is an enlarged detail section of part of a window with the fire-escape attached. Fig. 3 is a rear or inside view of the window and fire escape attached to the holding or supporting blocks. Fig. 4 is a detail view of the eyelet in the fold of the chute, with the leather strengthening-piece and key. Fig. 5 represents two rungs, having different shaped ends—one flattened, the other with a rounded bevel. Fig. 6 is a perspective view of one of the supporting-blocks.

Similar letters refer to similar parts throughout the several views.

The construction of fire-escapes with my improvements is as follows: I take a long piece of canvas or any other flexible material of suitable width and length, as desired, and fold over each longitudinal edge or side of the same about five inches, making a very wide hem, A. At equal distances from end to end of the cloth, and near the edges thereof, I fasten by rivets, preferably of copper, a piece of ordinary leather, which may be diamond shape or oblong, B, and through the center of such leather and the cloth under it I make a hole, either round or straight, suitable to the purpose hereinafter shown. At one end of the cloth, near the sides thereof, I fasten by rivets two pieces of ordinary leather, extending transverse the length of the chute, one of said pieces, C, being near one side of the chute, and the other piece, C', near the other of said sides. I then cut a slit through each of said pieces and through the cloth under the same, so as to furnish apertures for any person's hands and enable such person to hold the chute up from

the ground and in proper position for the use contemplated. Like apertures may be fastened in like manner at different distances from such end for like use when less length of chute is required. About one foot from the other end of the chute I attach to the said cloth a cheap tube or stiff rod, shaped very nearly in the form of the rim of a half-moon, D, so that it will be on the inside of the chute, and keep the mouth thereof open and in form as shown in Fig. 3. This tube may be covered by any suitable means, as desired. In attaching such tube to the cloth of the chute the same is so cut, formed, fitted, and arranged that the mouth of the chute can be held in a window on a line square with the sides of the building, while the line of the chute runs diagonally to the ground. The upper part of the sides, about five inches in width, being a part of the hem A, is made to consist of additional thicknesses from the line of said tube to the end of said part G, by folding over a portion of the cloth not otherwise needed between the tube and the end of the chute, and these thicknesses are riveted together. I then insert eyelet-holes E in the same, as shown in Fig. 2, whereby to adjust and hold the chute to a bar, F, placed across the inside of windows of various sizes; but any suitable means other than a bar may be used to fasten or secure the upper end of the chute to the inside of a window or building. When a bar is used across a window, I generally place blocks I on each side of the window-sill, of any convenient size and shape, with a slit, K, from the top thereof, through which the ends G of the chute may be drawn, such blocks being of sufficient length to hold the mouth of the chute up to its proper elevation. Any other mode of holding up the mouth of the chute as aforesaid may be adopted. Rungs H are inserted in the holes A, hereinbefore described, to keep the chute in form and proper position when in use. These rungs may sometimes be used to hold on to. If desired, I flatten, (see L,) but generally bevel, (see M,) the ends thereof, and make them with a neck and shoulder, as shown in Fig. 5. In the ends, whether flattened or made with a rounded bevel, I insert an aperture, N, wherein to place a small strap, O, fastened to the cloth above or below, as convenient, and

thereby the rungs may be securely held in place, and yet can be easily and readily removed at will without expense or damage. So many of these rungs as are not likely ever to
5 be removed may be secured in place by any ordinary method.

Having thus described my improvement, it will be seen that I dispense with all cordage, fastened, sewed, or tied onto the chute, and
10 liable to break or tear off or get cut or worn, besides being a source of additional expense in the manufacture of the fire-escape. Again, by having the upper sides of the chute made with continuous ends, properly folded, shaped,
15 fitted, perforated, and prepared, as shown, I attain the greatest possible strength and durability in the simplest manner and at the least expense. Further, it will be seen that by the wide hems running the length of the chute,
20 with the holes inserted therein for the rungs, I have secured greater firmness and strength for the entire apparatus, and again saved expense and also saved repairing the same, as by my method the rungs may be removed at
25 will, without cutting or other waste, and the length of the chute quickly and inexpensively adapted to the requisites of each occasion for its use.

What I claim as my improvements is—

30 1. In fire-escapes, a flexible chute with a longitudinal opening held apart by rungs, the ends of said rungs resting in perforations in a hem on each side edge of the chute, substantially as and for the purposes shown.

2. A flexible chute having its hemmed edges 35 extended and provided with means whereby it may be secured within a window, substantially as and for the purposes shown.

3. A rung for a flexible chute, with apertures at its ends provided with pins or strips, 40 whereby it is secured to the edges of the chute, substantially as and for the purposes shown.

4. The combination, with the extended hems of the chute, of grooved supporting - blocks, 45 substantially as and for the purposes shown.

5. The combination, with the perforated extended hems of a chute, of an adjustable cross-bar, substantially as and for the purposes shown.

6. The combination, with the upper end of 50 a chute having a bow-shaped bracing-rod and perforated extended hems, of an adjustable cross-bar, substantially as and for the purposes shown.

7. The combination, with the upper end of 55 a chute having a bow-shaped bracing-rod and perforated extended hems, of grooved supporting - blocks and an adjustable cross-bar, substantially as and for the purposes shown.

In testimony whereof I affix my signature 60 in presence of two witnesses.

WILLIAM O. AVERY.

Witnesses:

HOWARD C. CADY,
N. CALLAN.