No. 654,482. Patented July 24, 1900.

F. W. NEBELTHAU.

FIRE ESCAPE.

(Application filed July 3, 1899.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

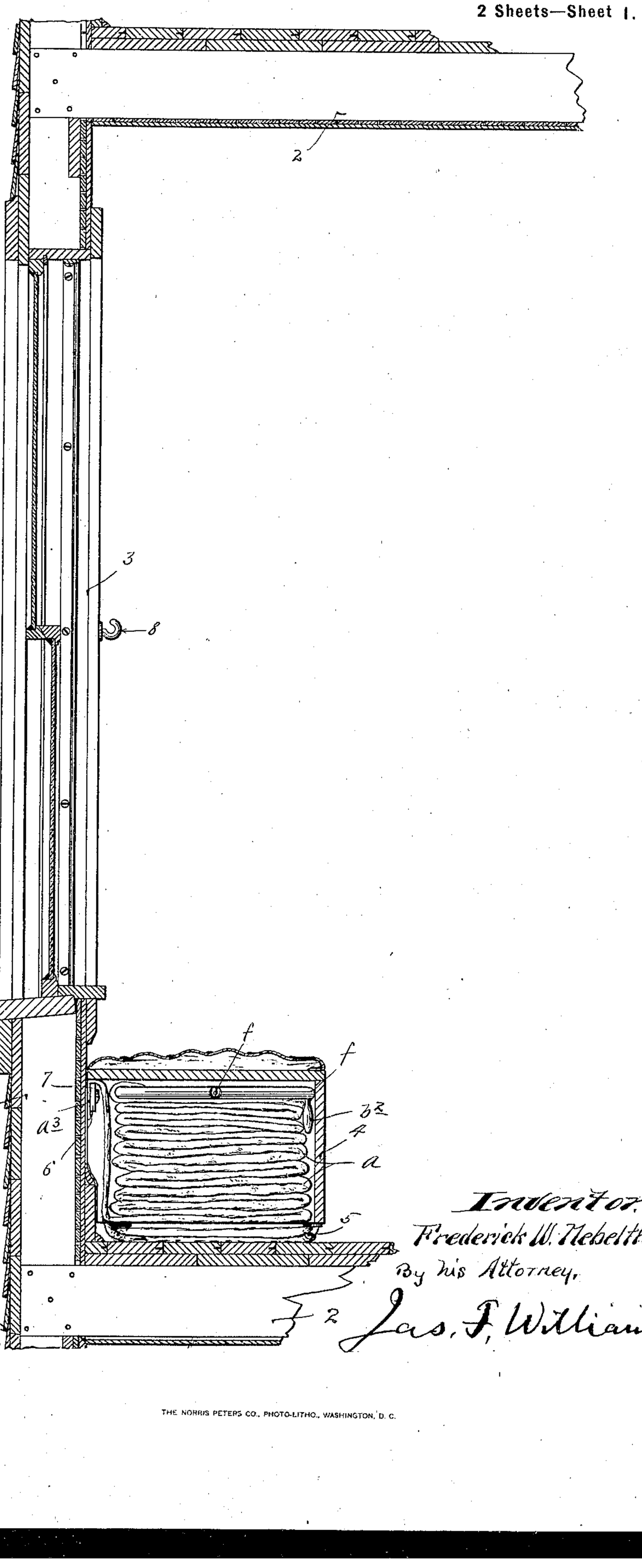

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Fig. 3.

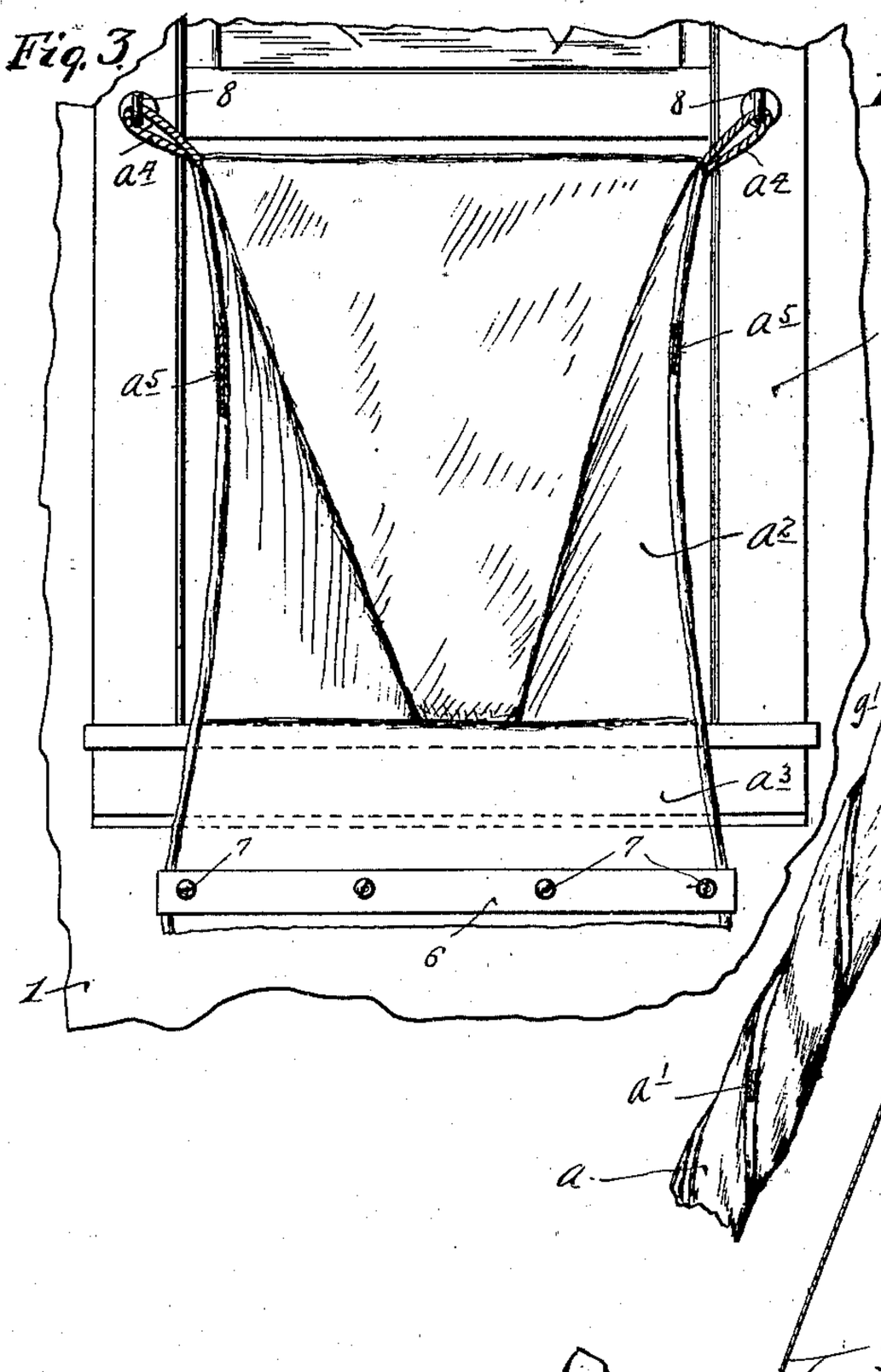


Fig. 2.

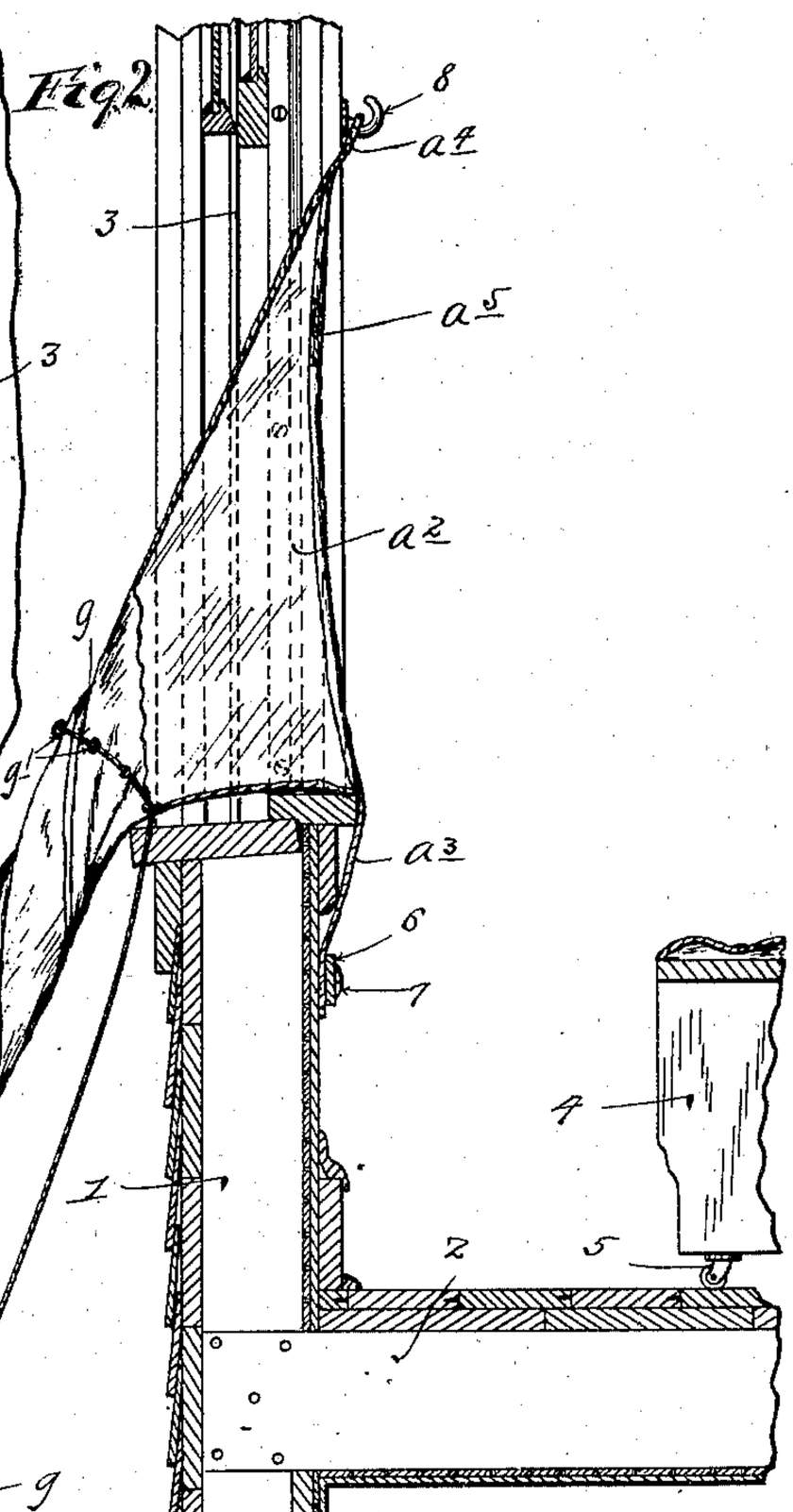
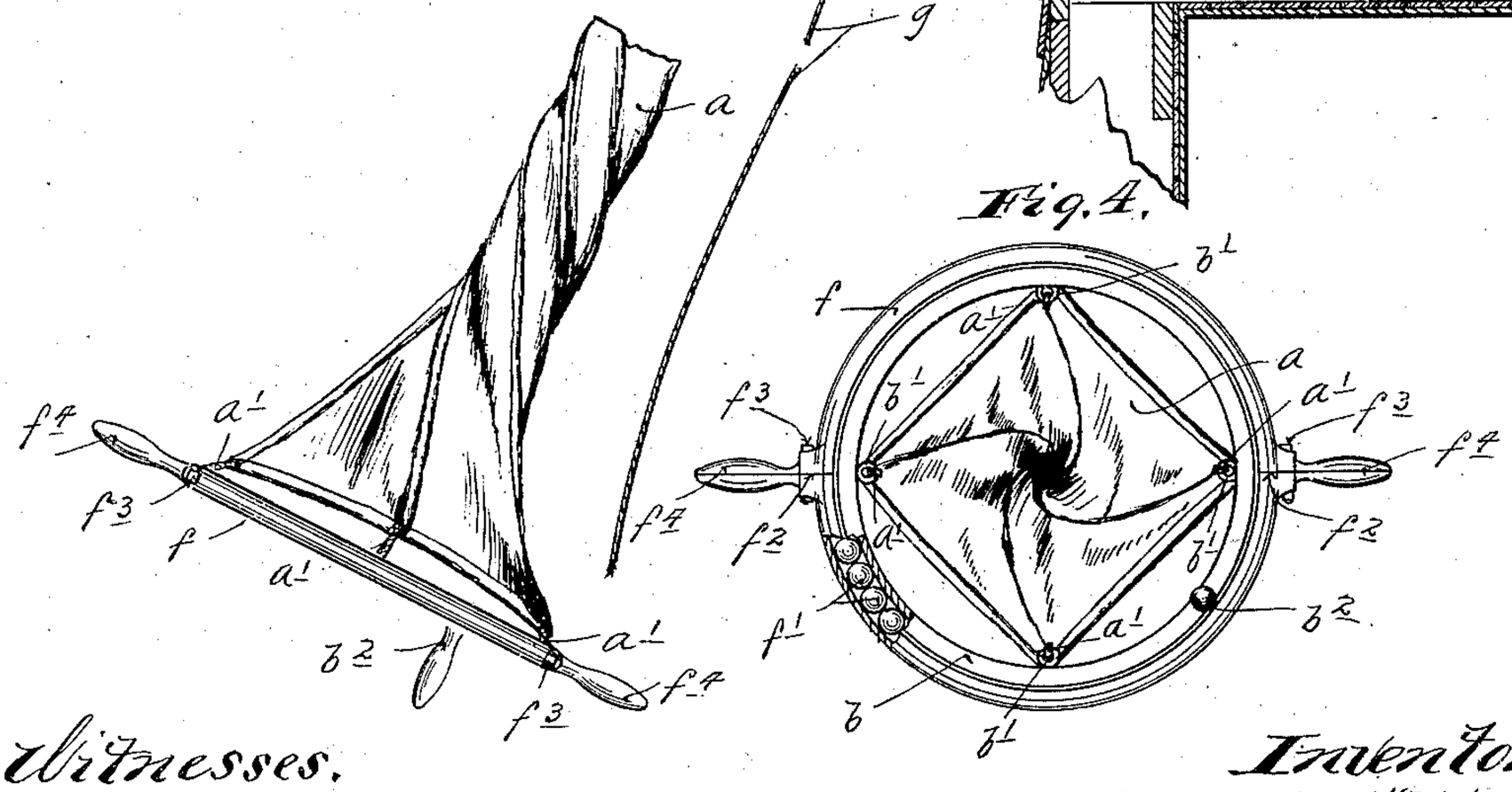


Fig. 4.



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UNITED STATES PATENT OFFICE.

FREDRICK W. NEBELTHAU, OF MINNEAPOLIS, MINNESOTA.

FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 654,482, dated July 24, 1900.

Application filed July 3, 1899. Serial No. 722,652. (No model.)

To all whom it may concern:

Be it known that I, FREDRICK W. NEBELTHAU, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, 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, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention has for its object to provide an improved fire-escape which may be easily and quickly handled, will operate safely, and which is adapted for general application to buildings in such manner that it will ordinarily be out of the way, but may be readily positioned for use.

To these ends my invention consists of the novel devices and combinations of devices hereinafter described, and defined in the claims.

The invention in its preferred form is illustrated in the accompanying drawings, wherein like characters indicate like parts throughout the several views.

Figure 1 is a view in vertical section, showing a portion of a building with one of my improved fire-escapes applied thereto, the said fire-escape being shown in its folded or inoperative position. Fig. 2 is a similar view to Fig. 1, but with the fire-escape shown in its operative position ready for use. Fig. 3 is an elevation showing a portion of the window to which the fire-escape is attached and showing the upper or receiving end of the fire-escape viewing the same from the inside of the building, and Fig. 4 is a bottom plan view of the lower end of the fire-escape.

The numerals 1 and 2 indicate, respectively, the walls and the floors of the building, and the numeral 3 indicates one of the windows thereof, to which my improved fire-escape is attached. The numeral 4 indicates a seat or couch, which is in the form of a box having an open bottom and one open side. This seat or couch is shown as mounted on casters 5, and it is adapted to be placed with its open side against the wall 1, immediately under the window 3, for a purpose which will presently appear.

In my improved fire-escape I employ as a means for permitting and controlling the escape of persons from the building a long and flexible tube a, which in its normal or untwisted condition is preferably rectangular in cross-section and is reinforced at its angles or corners by longitudinally-extended cords or ropes a', that run from end to end of the said tube. The tube a must of course be of sufficient length to extend from the window to which it is attached to the ground or near to the ground, and it is preferably constructed of asbestos fabric or other fabric treated with asbestos, although it may of course be constructed of many other flexible materials, which should, however, in all cases be treated with some preparation making it as near fireproof as possible.

At its upper end the tube a is flared or increased in cross-section, as shown at a^2, and it is provided with a lower flap a^3, which, as shown, is permanently secured to the wall 1, immediately below the window 3, by means of a detachable cleat 6, as shown, held by screws 7. At its upper corners the enlarged receiving end a^2 of the tube a is shown as provided with loop-eyes a^4, formed as part of a reinforcing rope or cord a^5, which is run around the margin of the said end a^2 to give the same the proper strength. These loop-eyes a^4 are adapted to be hooked over the hooks 8, which are suitably secured to the inner sides of the window-frame. When the loops a^4 are secured to the hooks 8, the receiving end of the tube will be held open, so that a person may readily enter the tube, and could not, in fact, easily pass through the open window without entering the tube.

At its lower or delivery end the tube a is secured to a twisting-ring b, this connection, as shown, being accomplished by securing the lower ends of the reinforcing cords or ropes a' to suitable eyes b', which project inward from the said ring b, as best shown in Fig. 4. In this manner the lower end of the tube is so attached to the so-called "twisting-ring" b that a person making a descent through the tube a will readily pass through the said ring b. The ring b is provided with a crank or hand piece b^2, by means of which the said ring may be turned to twist the tube a, as presently described.

The twisting-ring b is mounted in a sup-

porting-ring f, bearing balls f' being mounted to run in suitable grooves or channels formed in the outer and inner surfaces, respectively, of the said rings b and f. The so-called "bearing-ring" f is preferably formed in two parts, being split at f^2 and secured together by small nutted bolts f^3 and being further preferably provided with a pair of hand-pieces f^4, that are also split on the said line f^2, as best shown in Fig. 4.

For a purpose which will hereinafter appear a choke rope or cord g is formed in a loop around the upper portion of the tube a, just below its upper or entrance end a^2, being, as shown, threaded through eyelets g', secured on the outer surface of the said tube. The lower end of the so-called "choke rope" or cord g will, when the device is in use or ready for use, hang to the ground, so that it may be operated by a person standing below or on the ground.

When the device is out of use, the loops a^4 are detached from the hooks 8 on the window-frame, and the tube is piled up in the form of manifold, as clearly indicated in Fig. 1. The seat or couch a^4 may then be readily placed over the manifold, and the fire-escape will be entirely out of the way and out of sight. At the same time the fire-escape is always available for use.

When it is desired to use the fire-escape, the seat or couch 4 may be quickly removed therefrom, and it is then only necessary to pick up the discharge end of the fire-escape, to which the rings b and f are secured, (these rings being found at the top of the manifold,) and throw the same out of the window. Then it is only necessary to hook the loops a^4 onto the hooks 8 to put the device into condition for use.

To easily control the descent of persons through the tube a requires two persons on the ground who will support the delivery end of the said tube by means of the hand-pieces f^4. One of these persons, by taking hold of the crank b^2 of the twisting-ring b, will turn the said ring so as to twist up the tube a, as shown in Fig. 2. When the tube a is properly twisted, a person jumping into the receiving end of the tube will descend but a very short distance therein, on account of the twists. The operator holding the crank b^2 will then untwist the tube, so as to control the speed of descent of the person within the tube. After one person has entered the tube a another person may be prevented from following too closely into the tube by drawing on the choke-rope g, thus contracting the upper or entrance end of the tube a.

My improved fire-escape above described is of small cost and is efficient for the purposes had in view.

It will of course be understood that I do not limit myself to the specific details of construction above described, but, on the contrary, that my invention is capable of a large range of modification.

What I claim, and desire to secure by Letters Patent of the United States, is as follows:

1. A fire-escape, comprising a flexible tube provided with means for securing its upper end to a building and with a rigid or inflexible twisting band or ring at the lower end of said tube, by means of which ring said tube may be twisted and through which ring the person making the descent may pass, substantially as described.

2. A fire-escape comprising a flexible tube provided with means for securing it to a building at its upper end and a twisting-ring at the lower end of said tube through which the person descending may pass, in combination with a supporting ring or band in which said twisting-ring is mounted, the said parts operating substantially as described.

3. A fire-escape comprising a flexible tube provided with means for securing it to a building at its upper end and a twisting-ring at the lower end of said tube through which the person descending may pass, in combination with a supporting ring or band surrounding said twisting-ring and bearing-balls working in grooves formed respectively in said twisting and supporting rings, substantially as described.

4. A fire-escape comprising a flexible tube provided with means for securing its upper end to a building, and the twisting-ring b at the lower end of said tube, having the crank b^2, and the supporting-ring f mounted on said ring b by means of ball-bearings f', substantially as described.

5. In a fire-escape, a flexible tube securable at its upper end to a building, in combination with the choke-rope applied near the receiving or upper end of said tube for contracting the same, substantially as and for the purposes set forth.

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

FREDRICK W. NEBELTHAU.

Witnesses:

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F. D. MERCHANT.