No. 867,689. PATENTED OCT. 8, 1907.

J. WENIG.

FIRE ESCAPE.

APPLICATION FILED FEB. 18, 1907.

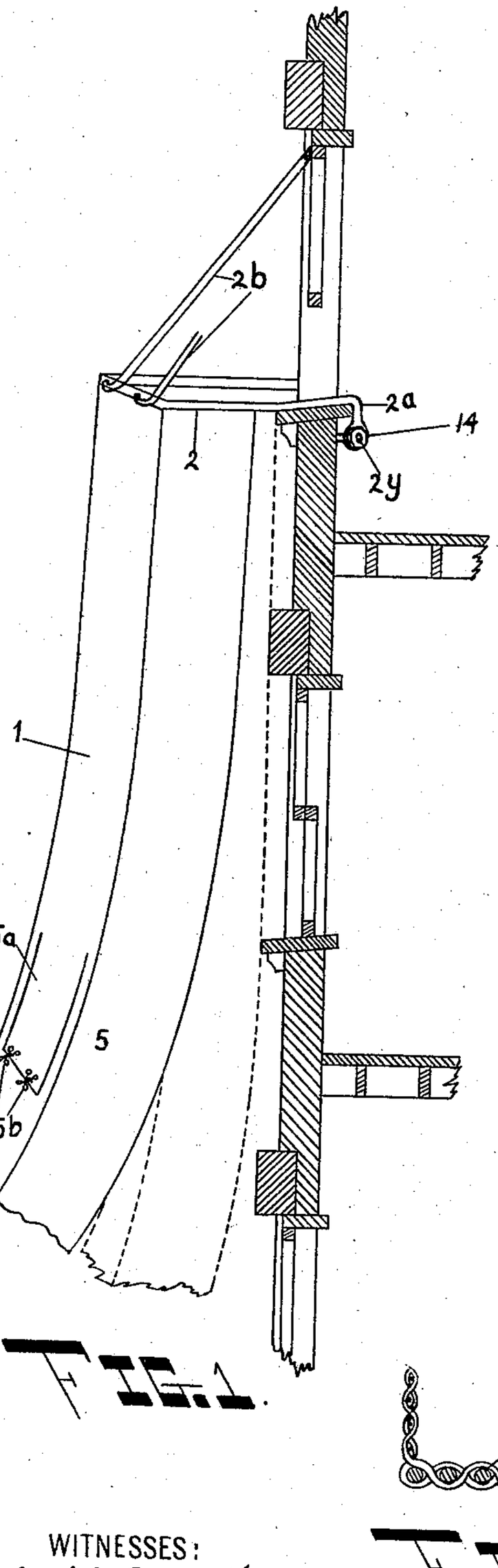

FIG. 1.

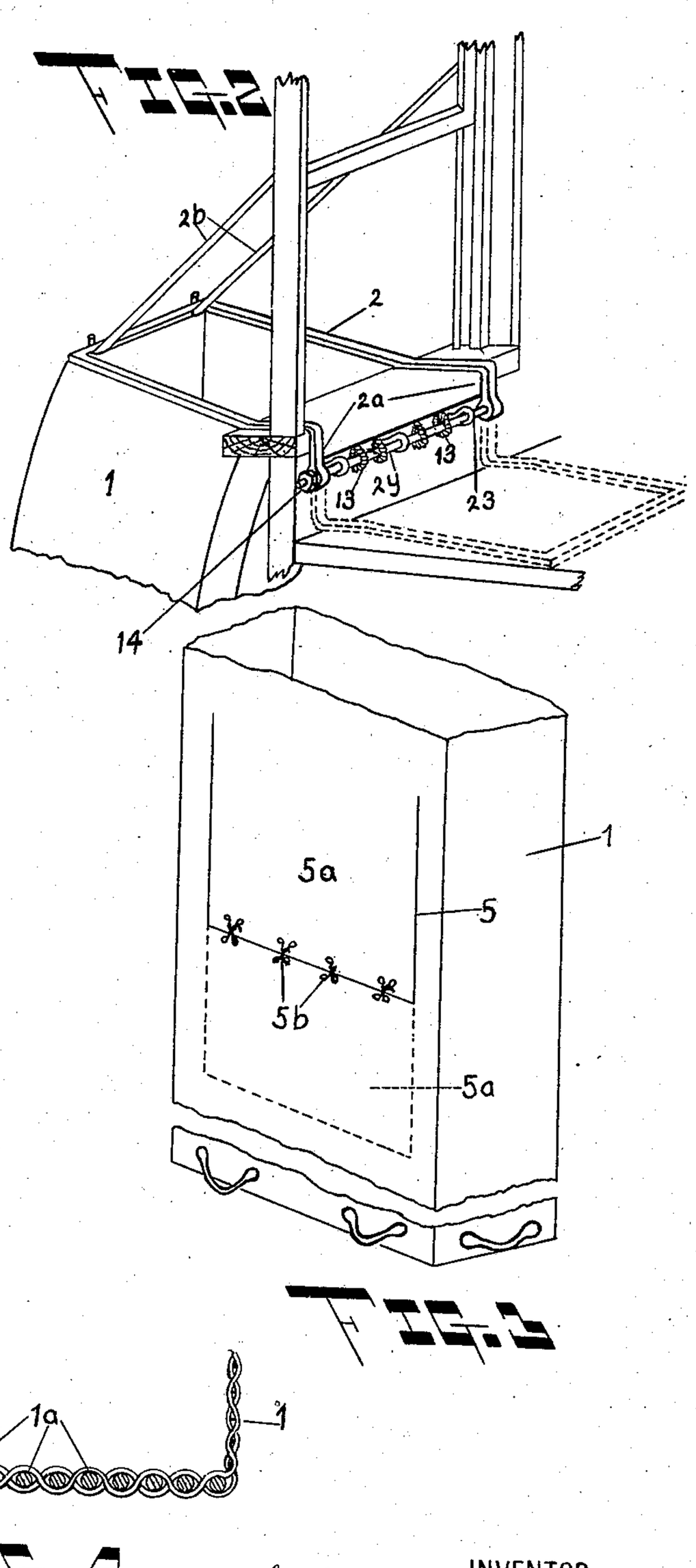

FIG. 3.

FIG. 4.

WITNESSES:
Carl F. Bergren
Ralph S. Warfield

INVENTOR
John Wenig
BY
Geo. B. Willcox
ATTORNEY

UNITED STATES PATENT OFFICE.

JOHN WENIG, OF MOUNT PLEASANT, MICHIGAN.

FIRE-ESCAPE.

No. 867,689. Specification of Letters Patent. Patented Oct. 8, 1907.

Application filed February 18, 1907. Serial No. 358,093.

To all whom it may concern:

Be it known that I, JOHN WENIG, a citizen of the United States, residing at Mount Pleasant, in the county of Isabella and State of Michigan, 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.

This invention is an improvement in fire escapes and relates more particularly to that class of fire escapes in which a tube of flexible fire-proof material, as asbestos or other suitable material, is secured to the building at its upper end and suitably held at its lower end, so as to form an inclined or curved chute, through which persons may descend from the building to the street.

My improved construction comprises a chute of woven asbestos or similar fire-proof material secured to the building and operating in the manner above noted.

My invention consists of novel means for strengthening the chute to prevent persons from falling through holes or rips accidentally cut in its length, for fastening and sustaining the upper end of the chute, and also for providing exit openings intermediate the ends of the chute to enable a ten-story chute to be applied to a six-story building, for instance.

With these objects in view, together with certain others, which will appear later in the specification, one form of my invention is embodied in the device illustrated in the accompanying drawings, and the equivalents thereof.

In the drawings, Figure 1 is a part sectional view of a building showing the chute attached. Fig. 2 is a detail perspective view of the means for attaching the upper end of the chute to the building. Fig. 3 is a detail perspective view of the lower end of the chute showing an intermediate exit opening, and Fig. 4 is an enlarged detail in cross section of the bottom or inner face of the chute.

As is clearly shown in the drawings, the device consists essentially in the chute (1) of woven asbestos or equivalent material suitably fire-proofed in any convenient manner, the chute being provided at its upper end with a solid U-shaped frame (2) of metal or equivalent material, the arms of which frame, when in use, rest upon the window sill and project inside the building, the inner ends of the frame being hooked, as shown at (2^a) and apertured to receive a rod (2^y), which rod also passes through a series of eyes (23) secured beneath the window sill within the room, as shown. The outer end of the frame is bent slightly upward to facilitate the entrance of persons into the chute, the upper ends of the sides and front face of the chute being secured to the U-shaped frame in any suitable manner. Pivotally secured at their upper ends to the window casing are the links (2^b), their lower free ends being conveniently hooked to removably engage the outer end of the U-shaped frame to assist in its support, if necessary.

The entire chute is formed, preferably of asbestos suitably woven, the inner face or bottom of the chute having asbestos ropes (1^a) (1^a) interwoven with the material to impart additional strength thereto, metal wires being interlaced with the ropes which latter are spaced apart from each other, say from two to four inches. In this manner that face of the chute which must sustain the greatest weight and most wear is so strengthened that it is practically impossible to accidentally rip or tear it.

Even if the material should be ripped, the net-work of ropes will prevent the rip from spreading and letting persons through, and will retain the chute intact. The upper ends of the ropes may protrude from the upper end of the under face of the chute and form the loops (13) through which the rod (2^y) is threaded. Thus it will be seen that the frame (2) does not have to support the entire weight of the chute and by reason of the loops and rod, the chute can withstand an enormous pulling strain, the upper edge of the under face of the chute passing over the window sill to enable the use of short loops. Nuts (14) prevent the disengagement of the rod from the loops and the hooked inner ends of the frame, which are journaled on the rod, leaving the opening of the chute at its upper end in position to receive the person to be passed to the street below. It is plain that eyelets or grummets may be used in place of the loops, if desired.

On the outer face of the chute, I form exit openings (5) (5) protected by means of the extensions (5^a) (5^a) depending below the opening and inside the chute. The openings may be closed by any convenient means, as the hooks (5^b), for instance. The object of these exit openings is to permit a long chute to be applied to a low building. Obviously, if the chute was longer than the height of the building, the persons descending would strike the ground with a thud, or if the end of the chute were held up, such persons would have to crawl to the lower open end of the chute, but by providing these openings, they can emerge from a long chute without crawling to the extreme end thereof.

I prefer in practice to provide any desired number of openings on the outer face of the chute.

When the chute is not in use, the frame at the upper end, is swung back through the window on the rod (2^y) until its outer end lies on the floor of the room, and after which the chute is folded upon the frame. It is then only necessary, in case of emergency, to throw the chute out of the window, swing the frame out and fasten the links (2^b) in place, if the latter are used. The lower end of the chute is seized by persons in the street

and drawn out away from the building, so that the chute is suitably inclined and is either held in place by firemen or fastened to any convenient support, when it is ready for use.

It is evident that many changes and alterations might be made in the form and arrangement of the several parts described without departing from the spirit and scope of my invention, and I have merely illustrated one of the many embodiments which my invention may assume. Consequently, I do not wish to limit myself to the exact construction herein set forth.

Having thus fully disclosed my nvention, what I claim as new is—

1. A fire escape comprising a flexible chute, an approximately U-shaped frame, to which the upper edges of the outer and side faces of the chute are secured, the arms of the frame being bent, hooks formed on the inner ends of the arms, the frame adapted to rest on a window sill with the hooked ends depending inside, strengthening ropes extending longitudinally of the under face of the chute, the upper ends of the ropes terminating in loops protruding from the upper edge of the inner face of the chute, a rod engaging the hooks of the arms and threaded through the loops and eyes through which the rod passes, to retain the chute in position.

2. A fire escape comprising a flexible chute, an approximately U-shaped frame, to which the upper edges of the outer face and sides of the chute are secured, the free ends of the U-shaped frame resting upon the window sill, hooks formed on the free ends of the frame and depending within the building, the ends of the hooks being apertured, a rod secured within the building, the hooks journaled on the rod, the upper edge of the inner face of the chute being supported by the rod.

3. A fire escape comprising a flexible chute, a substantially U-shaped frame open at one end, the upper edges of the outer face and sides of the chute secured to the frame, a rod secured within the building, the inner ends of the frame journaled on the rod, the upper end of the inner face of the chute extending between the arms of the frame into the building and there secured.

4. A fire escape comprising a flexible chute, an approximately U-shaped frame, to which the upper edges of the outer face and sides of the chute are secured, a rod secured to the building, the inner ends of the frame being journaled on the rod, the upper edge of the inner face of the chute extending over the window sill into the building and being secured to the rod.

5. A fire escape comprising a chute, a frame to which the upper edges of the outer face and sides of the chute are secured, a rod secured to the building, the inner ends of the frame being journaled on the rod, the upper end of the inner face of the chute extending over the window sill into the building, longitudinally extending strengthening ropes embedded in the inner face of the chute, the upper ends of the ropes projecting beyond the upper end of the inner face of the chute and formed into loops, the rod passing through the loops.

6. A fire escape comprising a flexible chute, an approximately U-shaped frame, the upper edges of the outer face and sides of the chute being secured to the frame, the outer end of the frame being bent upwardly, the inner ends of the arms of the frame resting on the window sill, and a rod secured within the building, the inner free ends of the arms being journaled on the rod, the upper edge of the inner surface of the chute being connected to the rod.

7. A fire escape comprising a chute, a substantially U-shaped frame to which the upper edges of the chute are secured, a rod secured within the building, the inner ends of the frame extending within the building and journaled on the rod, and longitudinally extending strengthening ropes embedded in the chute.

8. A fire escape comprising a flexible chute, an approximately U-shaped frame to which the upper edges of the outer face and sides of the chute are secured, a suitably supported rod, the inner ends of the frame being journaled on the rod, pivotally secured braces, and hooks on the free ends of the braces adapted to removably engage the outer overhanging end of the frame.

9. A fire escape comprising a chute, a substantially U-shaped frame to which the upper edges of the chute are secured, and a rod secured within the building, the inner ends of the frame extending within the building and journaled on the rod.

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

JOHN WENIG.

Witnesses:
RALPH S. WARFIELD,
A. A. EASTERLY.