

(No Model.)

W. F. WEBER.
FIRE ESCAPE APPARATUS.

No. 601,029.

Patented Mar. 22, 1898.

Fig. 1.

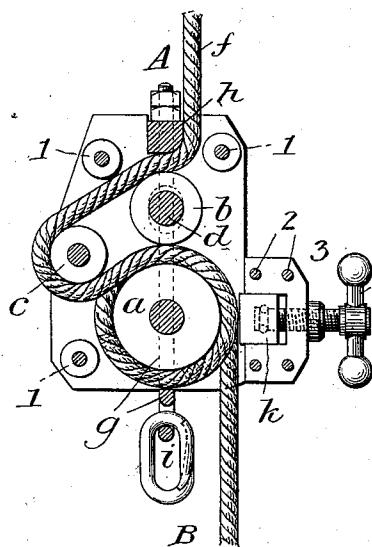


Fig. 2.

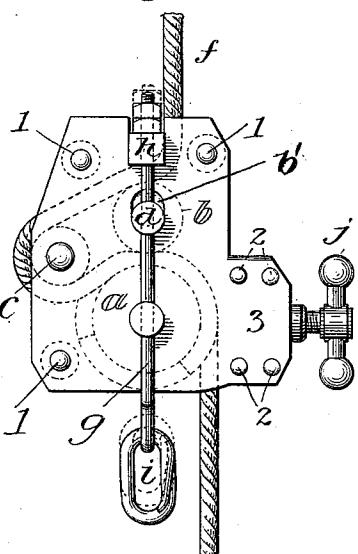


Fig. 3.

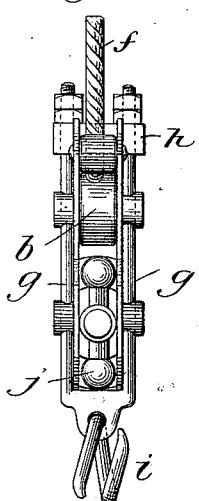


Fig. 4. *Fig. 5.*

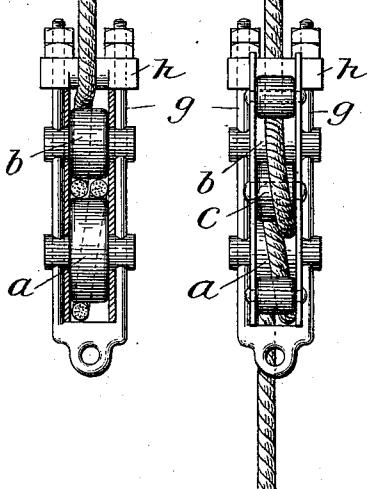


Fig. 6.

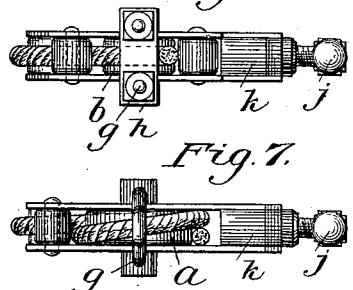
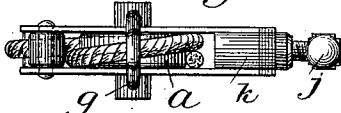


Fig. 7.



Witnesses.

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UNITED STATES PATENT OFFICE.

WILLIAM F. WEBER, OF NEW YORK, N. Y.

FIRE-ESCAPE APPARATUS.

SPECIFICATION forming part of Letters Patent No. 601,029, dated March 22, 1898.

Application filed January 14, 1897. Serial No. 619,222. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM F. WEBER, a citizen of the United States, residing at the city of New York, county of New York, State of New York, have invented certain new and useful Improvements in Fire-Escapes, of which the following is a specification.

My invention relates to that class of fire-escapes in which the person descending from the elevation is supported by a mechanism that runs upon a suspended rope or cable; and the invention consists in an organization of apparatus, hereinafter set forth in detail, wherein the weight of the person descending throws into operation a brake or retarding device that insures a descent at moderate speed.

I am aware that fire-escapes of the class to which my invention relates have been proposed in which the weight of the person descending automatically applies a brake. My organization, however, differs from those that have heretofore been proposed.

In the accompanying drawings, which illustrate my invention in a practical and efficient form, Figure 1 is a side view with one of the side plates removed; Fig. 2, a side elevation with the rollers and the course of the rope indicated by dotted lines; Fig. 3, an end elevation; Fig. 4, a vertical transverse section; Fig. 5, an elevation of the opposite end to that shown in Fig. 3; Fig. 6, a top view, and Fig. 7 a bottom view.

In this particular form in which I have elected to illustrate my invention the mechanism is composed of two side plates secured parallel to each other, with a suitable space between them, by spacing and securing rivets 1 2. Two rollers or pulleys *a b* revolve upon shafts mounted in the side plates, the openings or bearings for the shaft *D* of the roller *b* being elongated, as shown by the full lines *b'* in Fig. 2 and by the dotted lines in Fig. 1, to permit the vertical movement of the roller *b*. The axes of these two rolls are shown arranged in the same vertical plane, and to one side thereof is arranged a third roller *c*, or instead of a roller *c* may be a fixed cylinder. The projecting ends of the shafts of the rollers *a b* are perforated to receive the respective legs or branches of a yoke or bail *g*, which slide therein and are connected at their upper ends by a cross-bar *h*, which is

preferably of rectangular shape in cross-section at its ends to fit the corresponding recesses in the side plates of the apparatus and between the plates is curved or rounded at one of its lower corners. The yoke *g* at its lower end may be provided with an eye to receive a split ring *i*, to which a harness or strap for supporting the person to descend may be attached. The rope or cable *f* passes between the cross-bar *h* (against its rounded edge) and the roll *b*, thence over the roll or cylinder *c*, and thence around the roll *a* one or more times. A brake-block *K*, attached to a screw-rod, is suitably mounted in the part 3 of the frame that is secured by the bolts or rivets 2 and is provided with a handle, so that the block *K* may be forced toward the roller *a* to grip the rope when desired.

It will be apparent that when the weight of the person to descend is exerted upon the yoke *g* the cross-bar *h* is drawn down against the rope *f* and toward the pulley *b*. If, therefore, this pulley were stationary, the strain would press the bar *h* against the rope, causing it to act as a brake. This would permit the mechanism and the suspended person to travel down at a reasonable speed upon the rope, the upper end of which would of course be suitably secured. I prefer, however, to construct the bearing of the roller *b* as already described, so that it shall have a vertical movement, and thus the pressure of the bar *h* against the rope *f* forces it against the pulley *b* and forces the pulley down upon the rope that is disposed around the roller *a*. This construction in my judgment affords a more certain action and permits a smooth even descent of the person at a moderately-regulated speed without calling for any action on his part. This I consider important, because in the nervous and excited condition in which most persons would be when escaping from a burning building they cannot be expected to manipulate by hand a brake device that will regulate their descent, and consequently there would, in the absence of such provision as I have made, be danger of fatal accident. If the person to descend with my improved device, however, wishes at any time to totally arrest his descent, he may do so by the manipulation of the brake-block *K*.

I have shown the invention embodied in

an organization the practical usefulness and utility of which I have demonstrated; but it is apparent that the details of construction may be varied without departing from the 5 principles of my invention.

I claim as my invention—

1. In a fire-escape, the combination substantially as set forth, of the frame of the mechanism, rollers mounted therein over or 10 around which the suspended rope or cable passes, the upper one of said rollers being mounted to move vertically in its bearings, a vertically-slidable bail or yoke by which the person to descend is supported, and the 15 cross-bar connecting its upper ends and arranged above the vertically-movable roller, whereby the strain of the weight of the person is exerted to press the vertically-movable roller toward a stationary roller to grip the 20 rope between them and thereby to control the descent of the person.

2. In a fire-escape, the combination of the side plates, their connecting bolts or rivets, the roller *a* turning upon the shaft whose ends project beyond the side plates, the roller *b* turning upon a shaft whose ends project beyond the side plates and vertically movable in elongated bearings therein, the bail or yoke to support the person to descend and whose branches pass through apertures in 30 the ends of said shafts, and a cross-bar connecting the upper ends of the branches of the yoke, substantially as and for the purpose set forth.

Signed at New York city, in the county of 35 New York and State of New York, this 12th day of January, A. D. 1897.

WILLIAM F. WEBER.

Witnesses:

A. WEHMEYER,
C. R. ESDORN.