(No Model.)

A. NEWHALL.

FIRE ESCAPE.

No. 266,502. Patented Oct. 24, 1882.

Fig. 2.

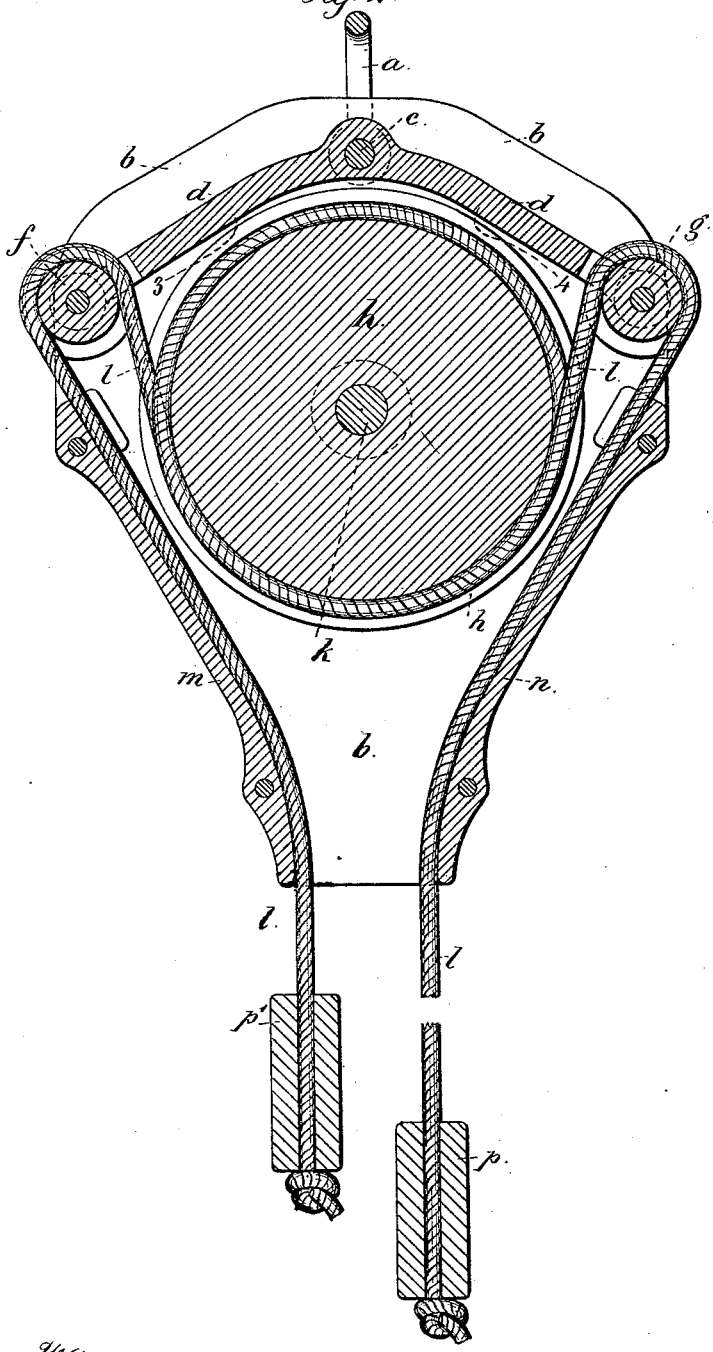
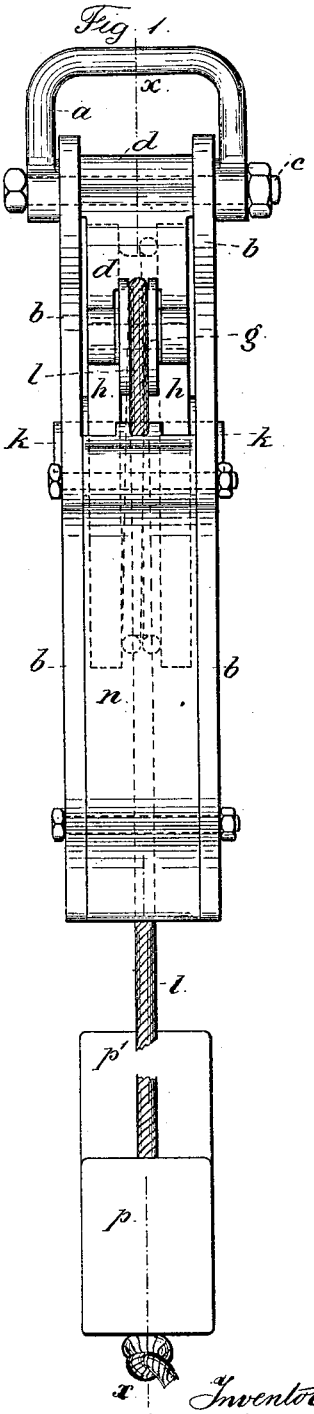


Fig. 1.



Witnesses:
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UNITED STATES PATENT OFFICE.

ALLEN NEWHALL, OF BROOKLYN, NEW YORK, ASSIGNOR TO HIMSELF AND JOHN C. DICKINSON, OF SAME PLACE.

FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 266,502, dated October 24, 1882.

Application filed April 17, 1882. (No model.)

To all whom it may concern:

Be it known that I, ALLEN NEWHALL, of Brooklyn, in the county of Kings and State of New York, have invented an Improvement in Fire-Escapes, of which the following is a specification.

Frictional devices have been used with ropes, by which a person can descend on the outside of a building in case of fire, and in some instances the rope has passed around a pulley and the weight of the person has served to apply friction to such pulley in proportion to the said weight.

My invention relates to the combination with the rope-wheel of a double-acting lever-brake, controlled by the portion of the rope that is in use, so that the lever is actuated by the weight of the person in descending, and as one end of the rope is drawn down the other end is drawn up, so as to be ready for a second person to make use of in descending.

In the drawings, Figure 1 is an edge view of the fire-escape, and Fig. 2 is a section at the line *x x*.

The ring, hook, or loop *a* is used to suspend this fire-escape. It may be permanently connected to a suspending eye or hook, or it may be removed therefrom when not in use.

The cheek-pieces or side frames, *b b*, are supported by the loop or ring *a*, the bolt *c* passing transversely through the parts. This bolt *c* also forms the pivot for the brake-lever *d*, and at the ends of this brake lever there are sheaves or wheels *f* and *g*.

The main wheel or sheave *h* is between the cheeks *b*, and supported by an axle or pin *k*. There is a deep groove in the periphery of this wheel *h* that is wide enough for the rope *l*, which makes nearly one and a half coil around such wheel *h*, and passes up over the respective grooved sheaves *f* and *g*, and then descends within the shell and in contact with the inner faces of the inclined jaws *m n*. These jaws are bolted fast between the cheeks *b b*, and form with them the shell, and both ends of the rope pass out at the mouth between *b b* and *m n*. If the groove in the wheel *h* is V-shaped, the rope may pass only across below its lower side instead of making one and a half turn. There are one or more weighted knobs or grasping-pieces *p p'* at the respective ends of the rope. These may be made as loops or stirrups for the foot to be placed in, while the rope is grasped by the hands, or the hands alone may be depended on to grasp the rope above the knob *p* or *p'*. I, however, prefer to use a strap that is to be buckled around the person below the arms.

When in position for use a person grasps and pulls upon one of the ends of the rope—say the rope at the knob *p'*—the weight thereon draws down the wheel *f*, and with it the lever *d*, applying a powerful friction between the lever at 3 and the surface of the wheel *h*. This prevents said wheel *h* turning too fast, and hence the person will descend by gravity, but will not come down too quickly, as the greater the weight of the person the greater will be the friction of the brake-lever upon the wheel *h*. At the same time the rope draws over the inner surface of the jaw *m*, and there is a friction thereon that lessens the speed of descent. As one end of the rope is drawn down by the person that is using the escape the other end of the rope is drawn up, ready to be used by another person. The weight of a person at the knob *p* swings the lever *d* and brings the part 4 of the lever into contact with the surface of the wheel *h*, applying friction to the same, and the rope, as it is drawn down, runs over the inner surface of the jaw *n*, and the detaining friction required is applied to the rope as the person descends.

I claim as my invention—

1. The combination, with the wheel *h*, and the suspending shell for the same, of the brake-lever *d*, the wheels *f g* at the respective ends thereof, and the rope passing around the wheels *h*, *f*, and *g*, substantially as set forth, whereby the lever is brought into action as a brake when either end of the rope is descending, substantially as set forth.

2. The combination, with the wheel *h*, of a suspending-shell having the inclined jaws *m n*, the lever *d*, the wheels *f g* at the ends of such lever, and the rope *l*, the parts being arranged so that the rope draws over the surfaces of the jaws *m n*, substantially as set forth.

Signed by me this 5th day of April, A. D. 1882.

ALLEN NEWHALL.

Witnesses:
GEO. T. PINCKNEY,
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