

(No Model.)

C. H. BAKER.
FIRE ESCAPE.

No. 480,759.

Patented Aug. 16, 1892.

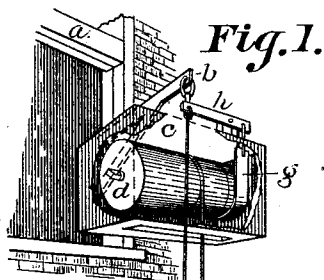


Fig. 1.

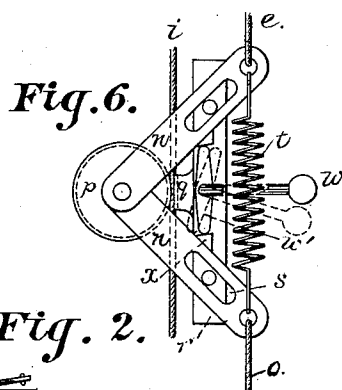


Fig. 6.

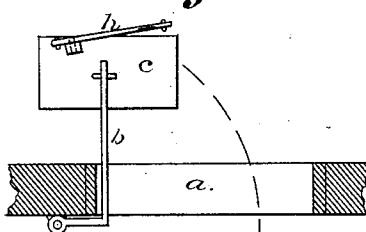


Fig. 2.

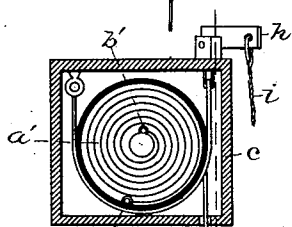


Fig. 3.

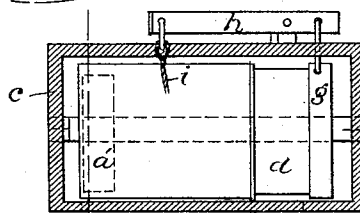


Fig. 4.

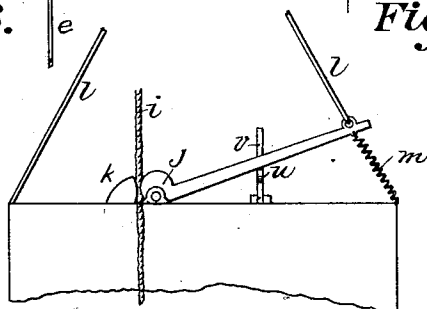


Fig. 5.

Witnesses:

Frank H. Verill
A. B. Williams

Inventor:

Charles H. Baker,
Per E. J. Verill
att'y.

UNITED STATES PATENT OFFICE.

CHARLES H. BAKER, OF PORTLAND, MAINE.

FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 480,759, dated August 16, 1892.

Application filed September 19, 1891. Serial No. 406,165. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. BAKER, of Portland, in the county of Cumberland and State of Maine, have invented certain new and useful Improvements in Fire-Escapes; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification, in which—

Figure 1 is a perspective view showing fire-escape in position. Fig. 2 is a plan view of same. Fig. 3 is a cross-section of the windlass and box. Fig. 4 is a longitudinal section of the same. Fig. 5 is a detail view showing one method of regulating the descent of the basket. Fig. 6 is a detail view showing another method of regulating the descent of the basket.

The same letters refer to like parts.

This invention is specially designed for use on the outsides of hotels, factories, and other high buildings. It is further designed to regulate automatically the descent of the basket.

It consists of a suitable swinging crane attached to the window-frame, a box having a windlass journaled therein, a friction-band and lever for operating it, and a carriage having attached thereto a cable passing around said windlass.

It further consists in means for regulating the descent of the carriage and for returning the carriage to its first position.

In said drawings, *a* represents a window-frame, *b* a swinging crane hinged to the window-frame in such manner that when not in use it may be turned to the inside of the building. Supported upon said crane is a box *c*, in the end of which is journaled a windlass *d*. Wound around said windlass is a cable *e*, having a basket-carriage *f* attached to its lower end in such manner that said basket may be raised and lowered by the revolution of the windlass.

Attached at one end to the box is a friction-band *g*, adapted to pass around the windlass. The other end of said band is connected with a lever *h*, by means of which the band is operated. Attached to the free end

of the lever is a rope *i*, by means of which the person in the carriage can work the lever, and thus lower the carriage.

To regulate the descent of the carriage and render it self-operating, I attach to the side of the carriage a pivoted cam-lever *j* and adjacent thereto a cam-block *k*, between which the rope *i* passes, and by which it is more or less firmly gripped, according as the lever *j* is raised or lowered. The rope *i* is attached to the carriage by four strands *l*, one of which is attached to the free end of the lever *j*, and between the lever and the corner of the carriage is a spring *m*, so arranged that the greater the weight in the carriage the more will that side of the basket be depressed and the more firmly will the rope *i* be gripped by the cam-lever, which in turn regulates the friction-band on the windlass, so as to give just sufficient resistance to permit the carriage to descend slowly.

Instead of the device shown in Fig. 1 that shown in Fig. 6, which involves the same principle, may be employed. This consists of a V-shaped hinged lever *n*, having one arm attached to the ring *o*, which holds the upper ends of the strands *l* in Fig. 1, and the other to the cable *e*. At the joint in said V-shaped lever is a block or roll *p*, and adjacent thereto is a grip-block *q*, which may be held on a bar *r*, attached to the arms of said lever by pins passing through slots *s* in said lever. Between the two arms is a spring *t*. The rope *i* is arranged to pass between the block *q* and roll *p*. When the weight is in the carriage, the spring *t* is drawn down thereby, and consequently the roll will force the rope *i* more or less firmly against the block *q*, and thus regulate the lever as before.

To hold the carriage while the person is getting in, I have a device to lock the carriage to the rope *i*, which may be arranged in any convenient way, two of which are shown. In Fig. 5 a pivoted arm *v* is attached to the side of the carriage and has thereon a shoulder *u*, adapted to receive and hold the lever *j*. The shoulder should be high enough so that when the lever *j* is placed thereon the cam on the end of said lever will grip the rope *i* sufficiently to hold it in position until the weight in the carriage will cause the friction-band to act on the windlass. In Fig. 6 the same re-

sult is secured by means of a lever w , having arms w' , pivotally attached to the bar r and adapted to turn against the inclined faces of blocks x , rigidly set on the arms of the lever n . Thus when the lever w is set in the position shown it forces the arms apart and causes the roll p to grip the rope i against the block q , and thus act upon the friction-band, as before. As the carriage descends the spring a' in the end of the windlass is wound up, one end b' being attached to the windlass and the other c' being attached to the side of the carriage, and when the weight is removed from the carriage the spring will unwind and will turn the windlass in the opposite direction, thus causing the carriage to return to its first position.

Having thus described my invention and its use, what I claim, and desire to secure by Letters Patent of the United States, is—

1. In a fire-escape, a windlass journaled in a suitable box, a friction-band, a lever attached to one end of said band, and a brake-rope attached to said lever, in combination with a carriage having a supporting-cable adapted to be wound around said windlass and a spring-actuated clutch adapted to clasp the brake-rope with a force proportional to the weight in the carriage, substantially as and for the purposes set forth.

2. In a fire-escape, a windlass journaled in a suitable box, a friction-band, a lever to operate said band, and a brake-rope attached to the end of said lever, in combination with a carriage having a supporting-cable adapted to be wound around said windlass, said cable having a section composed of a V-shaped jointed lever having its ends connected by a spring and a clutch adapted to engage the brake-rope, substantially as and for the purposes set forth.

3. In a fire-escape, a windlass journaled in a suitable box, a coil-spring in one end of said windlass adapted to constantly tend to wind up said windlass, a friction-band, a lever adapted to operate said band, and a brake-rope, in combination with a carriage having a supporting-cable adapted to be wound around said windlass and a spring-actuated clutch adapted to clasp the brake-rope with a force proportional to the weight in the carriage, substantially as and for the purposes set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

CHARLES H. BAKER.

Witnesses:

ELGIN C. VERRILL,
B. J. LANAHY.