(No Model.)

T. B. SMITH.

FIRE ESCAPE.

No. 289,318. Patented Nov. 27, 1883.

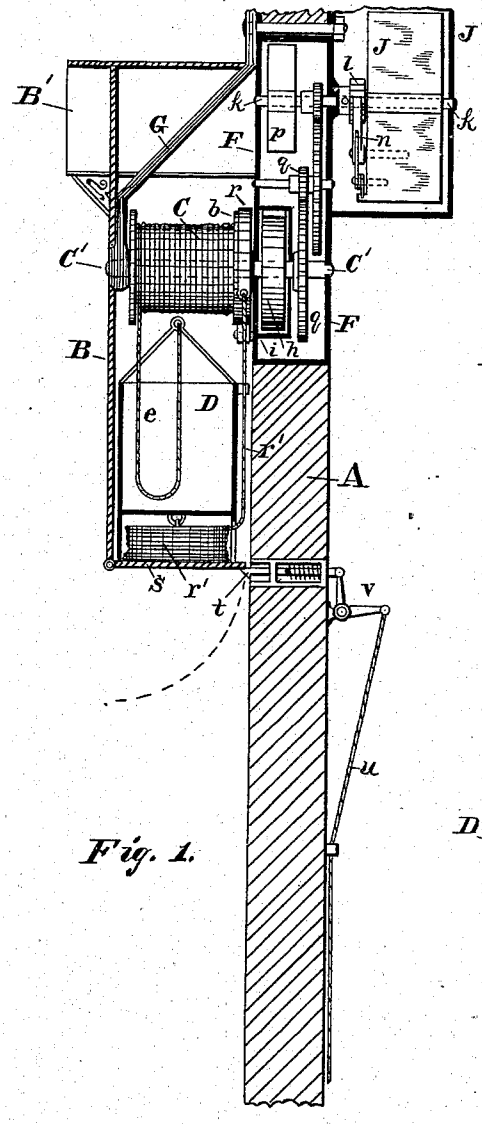

Fig. 1.

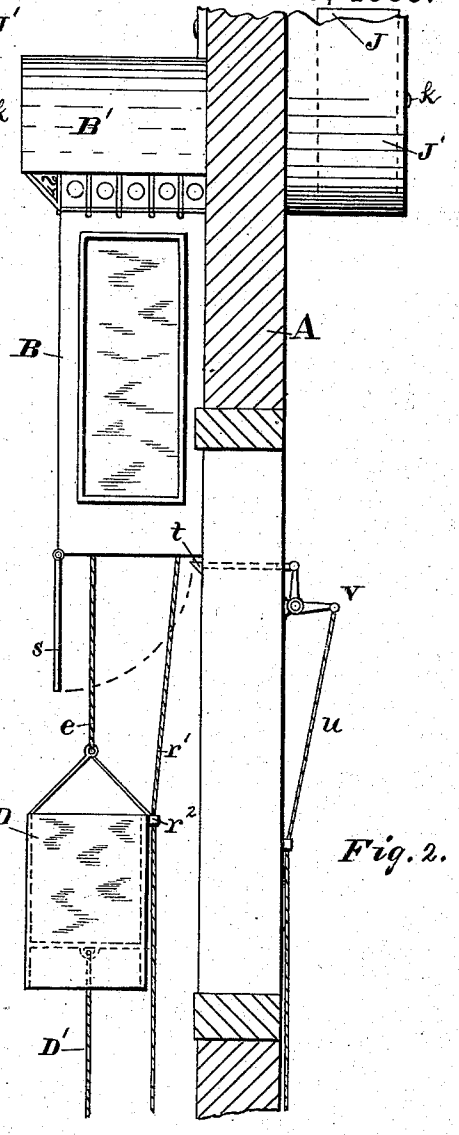

Fig. 2.

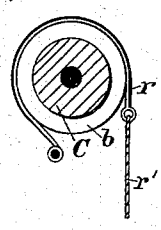

Fig. 3.

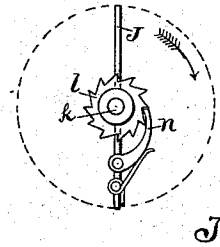

Fig. 4.

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UNITED STATES PATENT OFFICE.

THOMAS B. SMITH, OF BALTIMORE, MARYLAND, ASSIGNOR OF ONE-THIRD TO BENJ. WEBER, OF SAME PLACE.

FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 289,318, dated November 27, 1883.

Application filed July 31, 1883. (No model.)

To all whom it may concern:

Be it known that I, THOMAS B. SMITH, a citizen of the United States, residing at Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Fire-Escapes, of which the following is a specification.

My invention relates to a fire-escape or apparatus for lowering, having a spring adapted to elevate the car or basket. The construction of the parts and their operation will first be described, and the invention then designated in the claim.

In the annexed drawings, which illustrate the improvements, Figure 1 is a side view, in which the parts are shown mostly in vertical section, the car or basket being inclosed, as when not in use. Fig. 2 is a side view, but showing the car or basket in position for use. Fig. 3 is a view of the stop device. Fig. 4 is a side view of the fan which checks the car when descending.

The letter A designates the wall of the building; B, the inclosure for the car and winding-drum on the outside of the wall; B′, the roof of the inclosure; C, the winding-drum, and D the car, suspended by a rope, *e*, from the drum. A frame, F, preferably of metal, is securely fixed in the wall, or may be attached on the inner side of the wall within the building, and all the mechanism is secured in this frame. The drum C projects outward from the wall, and is mounted on a shaft, C′, the inner end of which has bearing in the frame, while the outer end is supported by the hanger-bar G, which inclines down from the top of the frame. Thus the rope which suspends the car passes directly to the ground without having to pass over or under rollers, as would be the case if the drum were on the inner side or within the wall, and the liability of the rope getting caught is avoided. A coiled spring, *h*, has one end fastened to the shaft C′ and the other end to a box, *i*, which incloses the spring, the box being firmly attached to the frame. When the car is lowered, the unwinding of the drum causes this spring to be wound up on the shaft, and the reaction of the spring serves to elevate the car when the load has been removed therefrom.

Means to check the loaded car when descending, so as to prevent its too rapid descent, consist of a fan, J, mounted loosely on a shaft, *k*, so that the latter may turn one way (when the car is being elevated) without rotating the fan, and thereby not hinder the elevation; while a ratchet-wheel, *l*, fixed to the same shaft, is engaged by a pawl, *n*, attached to the fan, so that when the shaft turns the opposite way (as when the car is being lowered) the fan will rotate, and thereby resist a too rapid descent of the car. There may be two such fans on the same shaft, as shown at *p*. The fan is inclosed by a case, J′, and the fan-shaft is connected with the drum-shaft by suitable gearing, *q*.

Means to hold the car at any desired point between its inclosure B and the ground, or to stop it when descending, consist of a brake-band, *r*, applied to a flange or face, *b*, on one end of the drum, and a cord or wire, *r′*, attached to the brake-band, passes through an eye, r^2, on the car. When the apparatus is in use, this cord hangs down to the ground, and is within reach of a person in the car, or of a person at a window of building. The car-inclosure B, at its bottom, is provided with a trap or door, *s*, hinged at one side of the inclosure, and supported at the other side by a spring-bolt, *t*. By this arrangement the hinged trap-door *s* serves as a support, on which the car D sits, as shown in Fig. 1. The brake-rope *r′* may also be coiled up and supported upon this trap-door; also, a rope, D′, which is attached to the bottom of the car, is in like manner supported upon the trap-door. It will be seen that when the spring-bolt *t* is withdrawn the trap-door will fall to the position shown in Fig. 2, and thereupon the car will hang suspended from the drum, and the draw-rope D′ will hang down to the ground, and may be used by any one on the ground or at a window to draw the car down. The trap-door is released by the withdrawal of the spring-bolt, and this is effected by a cord or wire, *u*, running down the wall and connected to the spring-bolt by a bell-crank lever, *v*. It is only necessary to draw on the cord *u* to place the entire apparatus in position for use.

Having described my invention, I claim and desire to secure by Letters Patent of the United States—

In a fire-escape, the combination of a suspended car having a draw-rope, D′, attached to its bottom, a coiled spring to elevate the car, and a car-inclosure, B, provided with a bottom door hinged at one side and supported at the other by a draw-bolt, as set forth.

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

THOS. B. SMITH.

Witnesses:
JNO. ED. MORRIS,
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