

(No Model.)

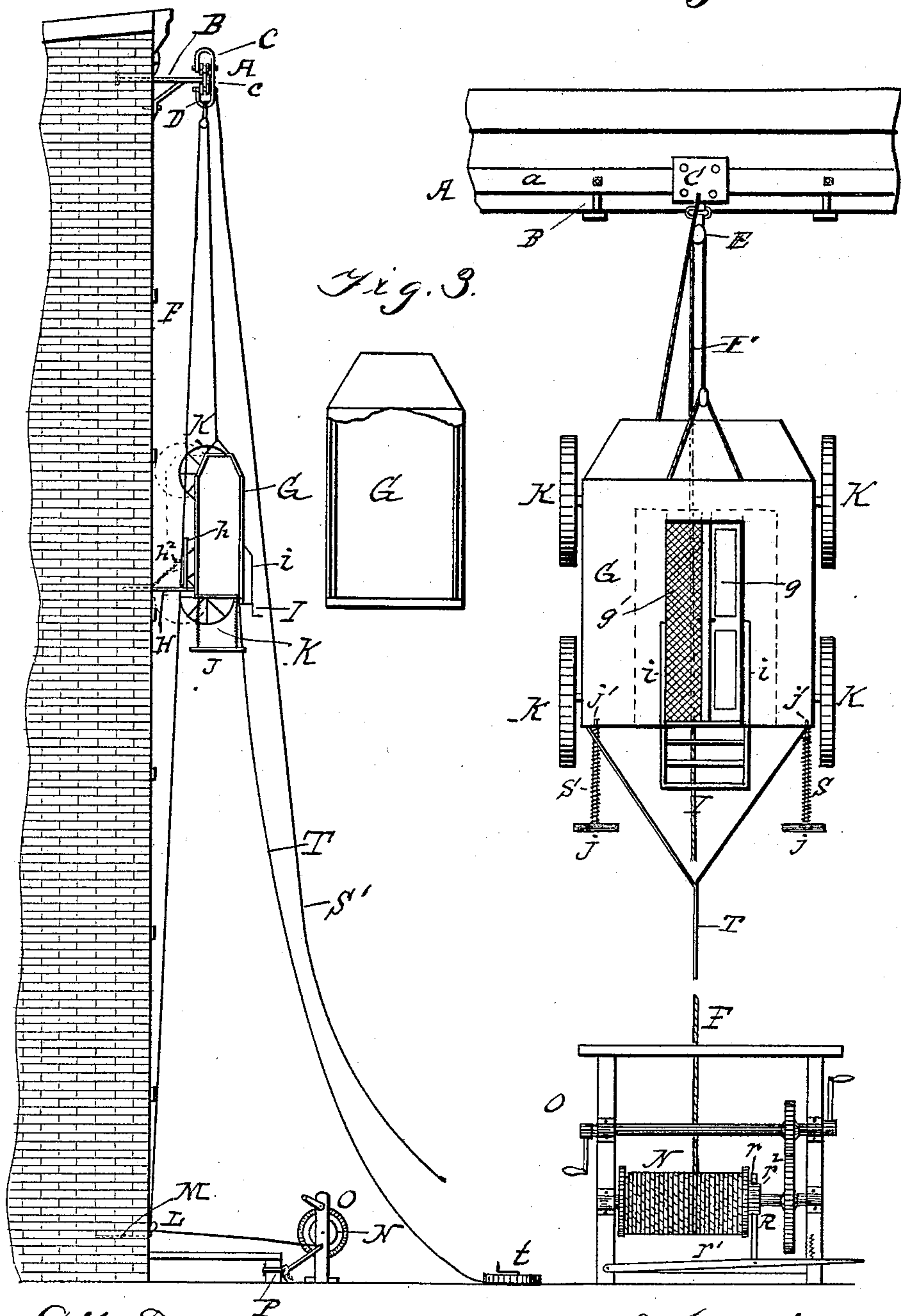
T. J. BERGERON & F. BEDARD.  
FIRE ESCAPE.

No. 481,888.

Patented Aug. 30, 1892.

*Fig. 1.*

*Fig. 2.*



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# UNITED STATES PATENT OFFICE.

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## FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 481,888, dated August 30, 1892.

Application filed October 1, 1891. Serial No. 407,468. (No model.)

*To all whom it may concern:*

Be it known that we, THELESPHORE J. BERGERON and FIRMIN BEDARD, citizens of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Fire-Escapes; and we 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.

Our invention relates to certain new and useful improvements in fire-escapes, and to that particular class in which an elevator adapted to give egress to the windows or other exterior openings of a building is raised or lowered from a traveler mounted upon and traversing a railway permanently secured to one or more sides of the building, the operation of raising and lowering being accomplished by means of a windlass or other suitable power; and it consists of the peculiar construction and arrangement of the various parts, as will be hereinafter more fully described, and specifically set forth in the claims.

In the accompanying drawings, Figure 1 represents a side elevation of our improved apparatus applied to the side of a building, showing the elevator in vertical section to show the hollow walls; Fig. 2, a front elevation of the same; and Fig. 3, a detail view of the elevator, partly in section and partly broken away to show the hollow walls and the sliding doors therein.

Similar letters of reference indicate similar parts throughout the several views.

The letter A indicates a metal railway, which is permanently attached to the building, consisting of a rail *a*, rigidly secured to brackets B, fastened by bolts and nuts to the wall of the building, as shown in Fig. 1. The railway may run entirely around the building or upon one or more sides, as may be convenient or desirable.

Mounted upon the rail *a* is a traveler C, consisting of metal frame *c*, having journaled therein two sets of wheels—an upper set and a lower set—the wheels of each set being double-flanged to hold them onto the rail. The traveler is provided with a swiveled hook

or loop D, to which is secured a pulley-block E, which receives an elevator-cable F.

The elevator G is constructed of sheet metal with double walls having a space between them and is provided with two openings, one for ingress and the other for egress. Each opening is provided with two sliding doors, one door *g* being of sheet metal and the other door *g'* being of netted or woven wire. These doors may be used at will. When there is danger from the flames entering the elevator or when running through intense heat, the sheet-metal door *g* is used to close the opening and the woven-wire door *g'* slid back into the space between the walls of the elevator at one side of the openings; but if there be no danger from either cause then the doors *g'* may be used and the doors *g* slid back into the space between the walls at the other side of the openings.

Pivoted to the rear side of the elevator at the bottom of the opening is a gangway H, to be raised and lowered at the windows or openings by means of a lever *h*, operated from within the elevator. The free end of the gangway is formed with hooks, which catch onto the window-sills for the purpose of holding and steadying the elevator. A chain *h*<sup>2</sup> serves to prevent the gangway from dropping below a horizontal plane. A short flight of steps I, supported by hand-rails *i i*, leads from the opening made in the front side of the elevator. The elevator is also provided with a yielding platform J for cushioning the shock or preventing rebound when the elevator strikes the ground on its descent. The cushion or platform J is composed of two metal plates *j j*, connected to rods *j' j'*, which pass up through holes made in the floor of the elevator and are secured by nuts. A spiral spring S surrounds each rod between the plate and the bottom of the elevator. These springs are of sufficient strength to withstand the shock of a sudden descent. As the elevator descends and the plates strike the ground the springs cushion the shock, the rods passing up through the holes in the floor of the elevator as the springs compress.

The elevator is further provided with suitable means for insuring an unobstructed and



safe ascent and descent, and the same consists of four guiding-wheels K K K K, each journaled on a short arm secured to the elevator at each of the four inner corners on the sides thereof. In either the ascent or descent of the elevator the wheels strike any obstruction there may be on the side of the building and guide the elevator over the same.

The elevator is attached to the cable F, which, running through the pulley-block E and a detachable pulley-block L, fastened to an eyebolt M, is secured at the other end to the drum N of a windlass O, which is rigidly fastened by any suitable means to eyebolts P, passing through the curb and secured by nuts. A ratchet-wheel and pawl serve to hold the elevator at any desired point. The revolutions of the drum are controlled by a brake R, consisting of a shoe  $r$ , connected to a pivoted foot-lever  $r'$  and contacting with a pulley  $r^2$ , rigidly secured on the drum-shaft.

The elevator may be moved from one end or side of the building or from one window to another adjacent one by means of a guy-line  $S'$ , and the same may be guided and steadied in its ascent and descent by means of a guy-line T, the slack of the line being taken up or paid out by means of an ordinary line-reel  $t$ , held and operated by a fireman or other person.

It is evident that the elevator may be constructed of various sizes and that the walls may be of a single thickness instead of double. It is also evident that the traveler may have but three wheels—two upper and one lower—instead of four.

The apparatus may be quickly placed in operative position. All that is required to be done is to place the windlass in proper position, secure it to the eyebolts, fasten one end of the cable to the elevator and the other end to the drum of the windlass, and the apparatus will be ready for action. When not in use, the ends of the cable may be kept coiled in a box secured to the building, while the elevator and windlass may be kept in any convenient place readily accessible. Instead of using the windlass as a power to raise and lower the elevator, any other suitable power may be used. It is unnecessary to describe the operation of the apparatus, as the same is

perfectly obvious from the foregoing description.

Having thus fully described our invention, what we claim, and desire to secure by Letters Patent of the United States, is—

1. In a fire-escape, the combination, with a railway permanently attached to the building, a traveler mounted upon said railway, an elevator constructed with hollow walls and having its front and rear openings each provided with a solid door and a woven-wire door, and a cable connecting the elevator with the traveler for raising and lowering said elevator, substantially as specified.

2. In a fire-escape, the combination, with a railway permanently attached to the building, of a traveler mounted upon said railway, an elevator constructed with hollow walls and provided at each of its openings with two doors of the kind described and with guide-wheels, and a suitable raising and lowering cable connecting the traveler with the elevator, substantially as specified.

3. In a fire-escape, the combination, with a railway permanently attached to the building, a traveler moving thereon, and suitable raising and lowering tackle, of an elevator constructed with hollow walls and provided with a solid and an open-work door at each opening, with guide-wheels at the inner or rear side corners, and with a yielding platform at the bottom thereof, substantially as specified.

4. In a fire-escape of the character described, the combination, with the railway, traveler, and hoisting-cable, of an elevator provided with a solid and an open-work door at each opening, with guide-wheels and a hinged gangway, a yielding platform, and with a suitable guy-rope for guiding the elevator in its ascent and descent, and a guy-rope for moving the traveler across the side of the building, substantially as specified.

In testimony whereof we affix our signatures in the presence of two witnesses.

THELESPHORE J. BERGERON.  
FIRMIN BEDARD.

Witnesses:

ALFRED FRESHET,  
O. TISSIEN.