

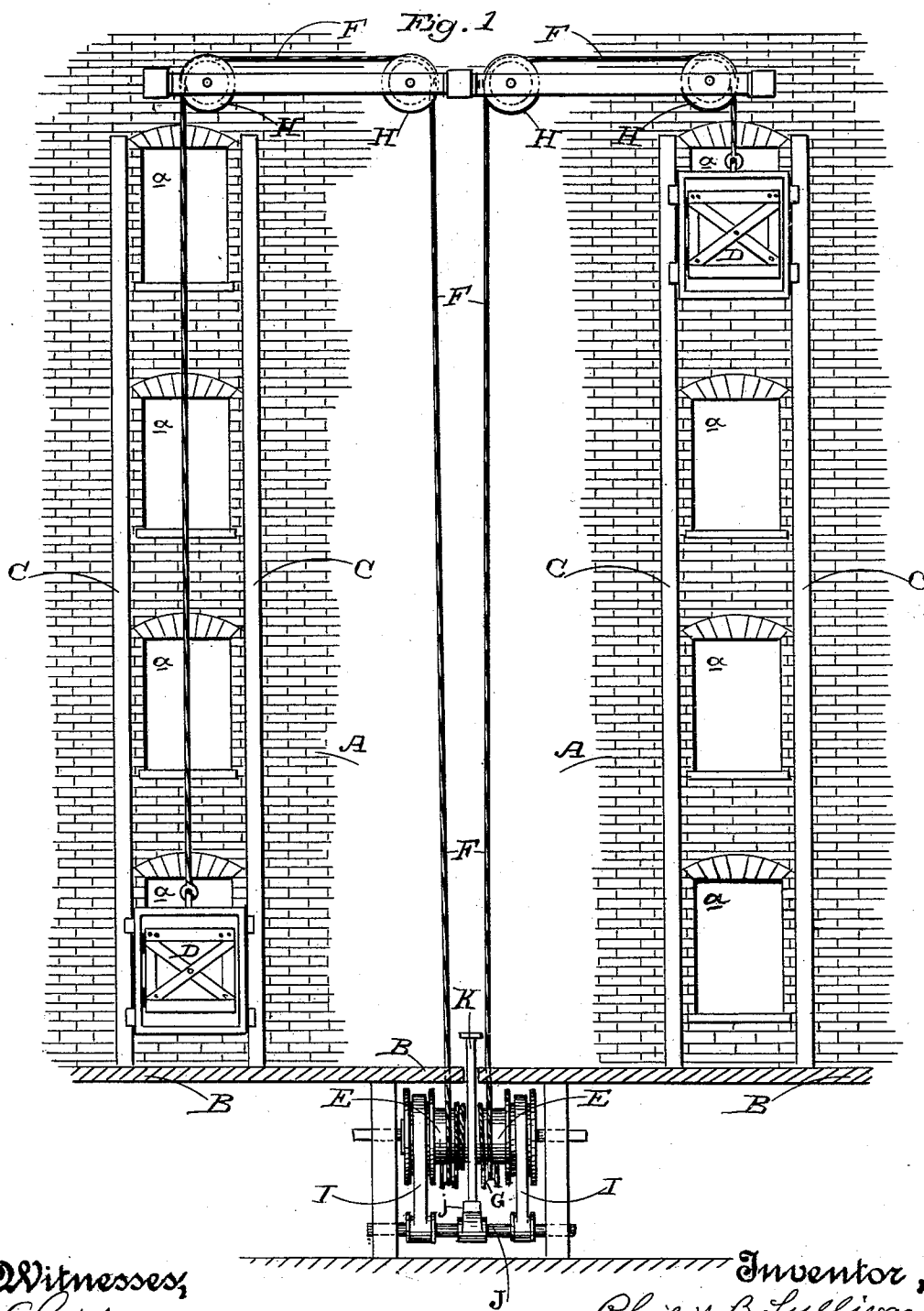
(No Model.)

2 Sheets—Sheet 1.

P. B. SULLIVAN.
FIRE ESCAPE.

No. 484,260.

Patented Oct. 11, 1892.



Witnesses,
J. A. Bayless

Inventor,
Philip B. Sullivan
By Dewey & Co.
attys

(No Model.)

2 Sheets—Sheet 2.

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Fig. 2.

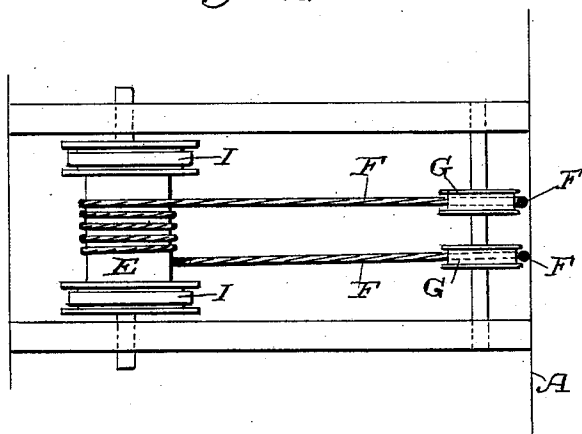
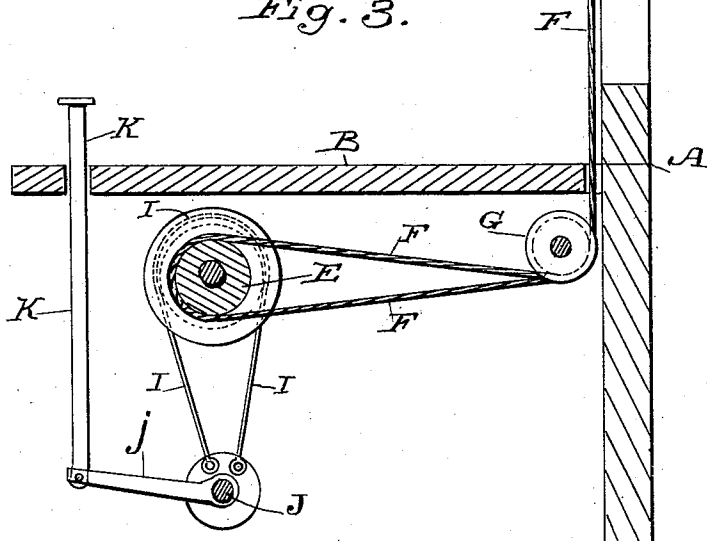


Fig. 3.



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UNITED STATES PATENT OFFICE.

PHILIP B. SULLIVAN, OF TUSCARORA, NEVADA.

FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 484,260, dated October 11, 1892.

Application filed May 25, 1892. Serial No. 434,333. (No model.)

To all whom it may concern:

Be it known that I, PHILIP B. SULLIVAN, a citizen of the United States, residing at Tuscarora, Elko county, State of Nevada, have invented an Improvement in Fire-Escapes; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to the class of fire-escapes; and it consists in oppositely-reciprocating cages fitted and moving in suitable guides on or in the building, a winding-drum situated on the ground below, a brake mechanism for controlling the movement of said drum, a cable wound in opposite directions about said drum and having its ends secured one each to a cage, and suitable pulleys for guiding said cable, all of which I shall hereinafter fully describe.

The object of my invention is to provide a fire-escape the operation of which is due wholly to the weight of the loaded cage, which not only carries down its own passengers, but at the same time elevates the empty or partially-empty cage to position to receive other passengers, whose weight in turn will elevate the first cage after the latter has been relieved of its passengers.

Referring to the accompanying drawings for a more complete explanation of my invention, Figure 1 is an elevation of a building, showing my invention. Fig. 2 is a horizontal plan view of the winding-drum and pulleys G. Fig. 3 is a vertical section of the same.

A represents the wall of a building, the windows *a* of which designate the several stories. B is the sidewalk.

Upon the wall A on each side of the tiers of windows are fixed guides C of suitable character. In these are mounted and adapted to move up and down, the cages D. There are two cages, as shown, and each is adapted to pass a tier of windows and in such relation thereto as to be in position to receive the occupants of the several rooms.

Under the sidewalk B is a winding-drum E. Upon this is wound the bight of a cable F. The two parts of this cable pass from different sides of the drum inwardly and up over separate pulleys G vertically beside wall A to the top. Here they diverge and pass horizontally in different directions over guide-pulleys H and thence downwardly, where each end is

secured to a cage, as shown. The cable is so proportioned that when one cage is down at its lowermost limit the other cage is elevated to its highest limit. The movement of the winding-drum E is controlled by means of a brake, here shown as a double strap-brake I, applied to each end of the drum. This double brake is operated by a rock-shaft J, having a crank-arm *j*, from which a lever K extends upwardly to the sidewalk and is in position to be reached and operated from above.

The operation of my fire-escape is as follows: One cage being always elevated, the occupants of the highest window on that side will enter it. The operator below has previous to this obtained control of lever K and has applied the brakes to the winding-drum, so that he holds the elevated cage at rest. When the passengers are in, as before mentioned, the operator relieves the brakes sufficiently to allow the elevated and now-loaded cage to descend at a safe rate of speed. When the next window is reached, the operator applies the brakes and stops the cage until the occupants of that room can enter, and then he allows it to descend once more, and so on throughout the whole tier of windows. During the descent of the loaded cage the empty cage is ascending, being operated by the winding-drum, which, while playing out the cable end of the first cage, winds up that of the second cage. When the first cage reaches the ground and the passengers leave it, the second cage is fully elevated and the occupants of the tier of windows which it passes can successively enter it and descend, while the first cage, now empty, is ascending. Thus the weight of the loaded cage is the cause of operation of the device, and the whole is under the control of the operator on the sidewalk, who manipulates the brakes.

I do not confine myself to the exact position of parts here shown, but only to their relative positions. The various parts and accessories may be suitably located, housed in, ornamented, &c., without affecting my invention.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

An improved fire-escape consisting of the fixed guides, the oppositely-moving cages adapted to travel between said guides and by

the vertical tiers of windows of a building, a winding-drum under the sidewalk at the base of the building and actuated by the weight of the loaded cage, a cable wound in opposite
5 directions upon said drum and having its ends attached each to one of said cages, whereby the drum is turned under the weight of the loaded cage to pay out that end of the cable
10 attached to said cage and to wind up that end attached to the empty cage, guide-pulleys for directing said cable, a brake for controlling the

movement of the drum, a lever accessible from the sidewalk, and connections comprising a rock-shaft and a crank-arm connected with the lever for operating the brake, substantially as herein described.

In witness whereof I have hereunto set my hand.

PHILIP B. SULLIVAN.

Witnesses:

OSCAR GRAHAM,
FRANK CURILLEX.