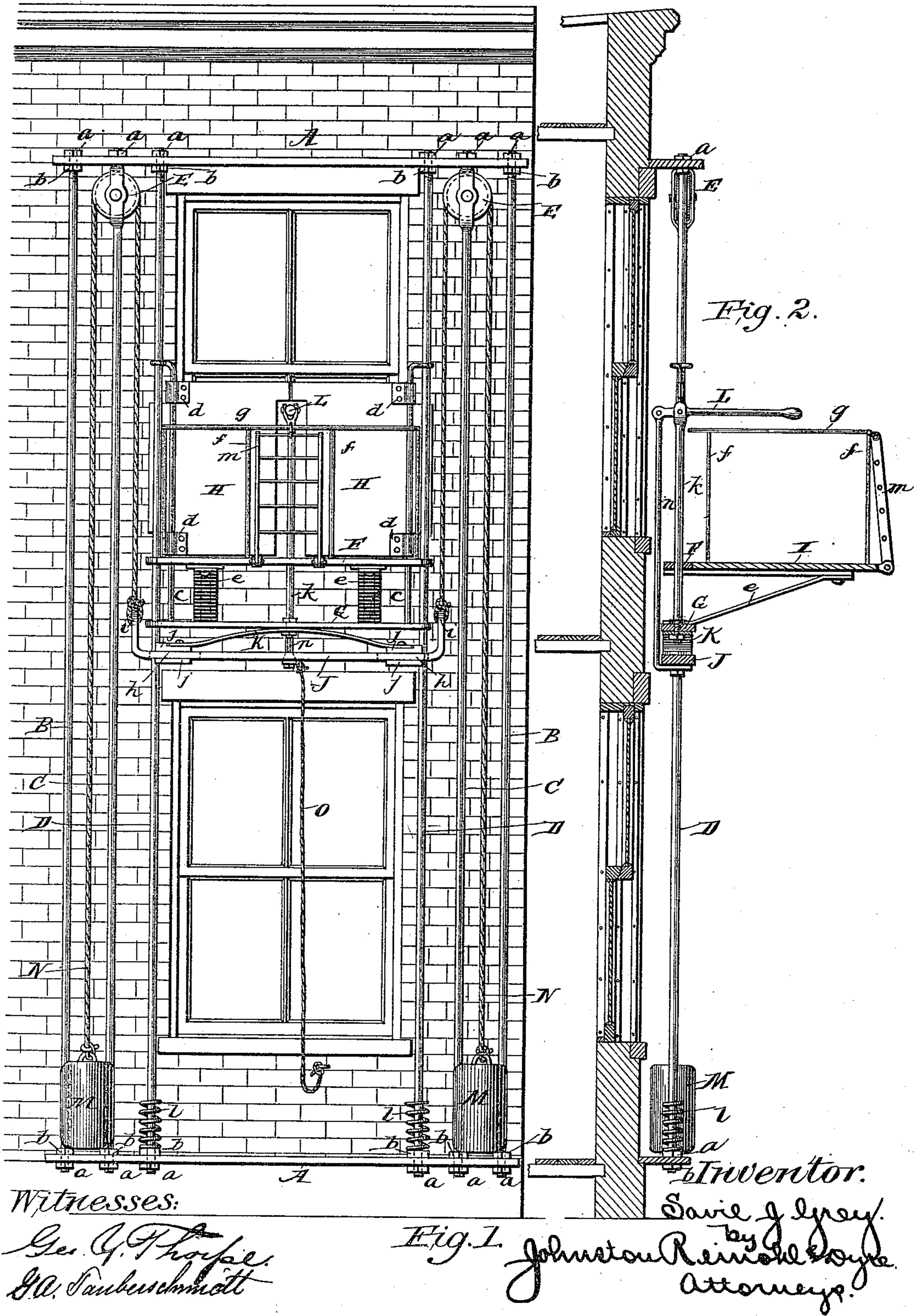


**S. J. GREY.**  
**FIRE ESCAPE.**

No. 438,542.

Patented Oct. 14, 1890.





# UNITED STATES PATENT OFFICE.

SAVIL JESTICE GREY, OF MORGANTOWN, KENTUCKY.

## FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 438,542, dated October 14, 1890.

Application filed February 11, 1890. Serial No. 340,006. (No model.)

*To all whom it may concern:*

Be it known that I, SAVIL JESTICE GREY, a citizen of the United States, residing at Morgantown, in the county of Butler and State of Kentucky, have invented certain new and useful Improvements in Fire-Escapes; and I 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.

My invention relates to fire-escapes, and has for its object the production of an effective and durable life-saving apparatus to be applied to buildings of any size and character.

The invention will be hereinafter described, and particularly pointed out in the claims.

In the accompanying drawings, which form part of this specification, Figure 1 represents a front elevation of my invention applied to a building and ready for use, and Fig. 2 a central vertical section of same.

Reference being had to the drawings and the letters thereon, A indicates plates of cast or wrought metal firmly secured to a building above and below a tier of windows by bolts, or if applied while the building is in course of construction said plates may be embedded a sufficient distance in the masonry. Plates A are each drilled at the proper intervals on either side of the windows for the reception of wire ropes, wrought-iron rods or tubes B C D, secured in position by nuts *a* above and below plates A, respectively, and jam-nuts *b* on the opposite sides thereof.

In the upper ends of rods C are located sheaves E, the function of which will hereinafter appear.

Rods D serve as a track or way whereon the car ascends and descends, being secured to said rods by sliding joints.

The platform of the car consists in two parallel plates F and G, the latter of which is a suitable distance below the former to insure the greatest strength, both reaching from side to side, loosely embracing track-rods D, and themselves joined by rods *c*, which, extending some distance above, terminate in a loop loosely encircling rods D, and forming another bearing upon the same. These rods *c* also serve to receive the hook members of hinges *d*, forming part of doors H, which open

outward upon the platform, and when closed may serve to shield occupants of the car from flames shooting from windows which the car must pass in its descent. The doors H are provided with projecting lips at their inner upper corners, which overlap when closed, leaving below a vertical slot between the edges of the two doors, in which a brake-lever moves, as will hereinafter appear.

To the plate F is bolted the metallic floor of the car I, which is braced by right-angled triangle brackets *e e*, riveted in position with an apex thereof resting on the upper surface of plate G. Said floor I is provided with a suitable number of stanchions *f*, supporting a hand-rail *g*, to prevent persons falling from the car while in its descent, and at the front thereof is hinged a short ladder *m* to assist persons in reaching the ground in safety when circumstances are such as to prevent the car resting thereon, as in case of an area-way.

Below the car is located an all-important element of my invention—namely, the brake mechanism—which consists in a stout plate of wrought metal J, also connecting rods D; but in this plate the apertures *h*, through which said rods pass, are elongated slightly, and the ends of the plate are bent up between rods C and D at right angles and are provided with openings *i*. Above and below elongated apertures *h* are metallic blocks *j*, riveted together at their centers, permitting of a lateral movement in the direction of the slots. To these blocks *j* is rigidly secured a stout leaf-spring K, on the convex center of which plate G of the platform rests, in which position it is secured by a bolt *k* passing through both and extending up through plate F above the floor I of the car.

To the under side of plate J is firmly secured a bar *n*, which passes up back of all of said plates a height equal to that of bolt *k*, where it serves as a fulcrum for a lever L of the second class, which operates through the medium of bolt *k* upon spring K for regulating the descent of the car, as will be hereinafter described.

M indicates counter-weights, which slightly overbalance the weight of the car and its brake mechanism, and being provided with grooves in their sides, partly embracing rods



B C, are designed to move freely thereon, the rods serving as guides or ways.

N represents wire ropes secured to the counter-weights M, passing up over sheaves  
5 E and connected to openings *i* in plate J.

O indicates another wire rope secured to the device in order that it may be operated from the ground should this be found necessary.

10 The extreme lower ends of rods D are encircled by springs *l*, intended to break the fall if the car should by any means make too rapid a descent.

The parts being substantially as described,  
15 the operation in case of fire is as follows: Persons having entered the car through an open window, their weight operates upon spring K, through the medium of bolt *k*, to compress or flatten the spring. This forces  
20 blocks *j* to the outer ends of apertures *h* and causes them to exert great force upon rods D, the friction produced thereby preventing the car from moving until the lever L in the hand of an operator is raised, the result of  
25 which is to relieve the pressure on spring K and therefore upon the rods D, and the car descends more or less rapidly just in accordance with the manipulation of the lever.

It is obvious that the device may be put to  
30 other uses than that of a fire-escape, as it would afford an excellent balcony; and, furthermore, a bell or signal might be located at each window to be struck by the passing car; or the rods B, C, and D might consist of pipes,  
35 to which hose could be coupled and the pipes used to convey as many streams of water to the top of the building, without departing from the spirit of my invention.

Having thus fully described my invention,  
40 what I claim is—

1. In a fire-escape, the combination of a track or way, a car constructed to slide upon said way, an automatic friction-brake applied by the weight of the load of the car, and a  
45 brake-releasing mechanism operated direct from the car, substantially as described.

2. In a fire-escape, the combination of a frame consisting of way-rods and connecting-plates, a car adapted to move vertically there-  
50 on supported upon a platform by one or more

brackets and provided with baffle-plates or doors at the rear thereof having a space between their inner edges to admit a brake-operating lever and overlapping lips above, a counter-weight connected to the car by a rope  
55 passing over a sheave, and a brake mechanism, substantially as described.

3. In a fire-escape, the combination of a frame consisting of way-rods and connecting-plates, a car adapted to travel vertically there-  
60 on supported upon a platform and provided with baffle-plates or doors at the rear thereof, and a ladder hinged to the front, counter-weights having grooved sides for engaging vertical guideways and connected to the car  
65 by ropes passing over sheaves, coil-springs encircling the lower end of the ways, and a brake mechanism, substantially as described.

4. In a fire-escape, the combination of a frame consisting of way-rods and connecting-plates, a car supported upon a platform, baf-  
70 fle-plates, counter-weights connected to the car by ropes passing over sheaves, and a brake mechanism consisting of brake-blocks attached to a leaf-spring and adapted to be  
75 thrown in contact with way-rods on which the car travels by compression of the spring automatically and released by operation of a lever located in the car, substantially as de-  
80 scribed.

5. In a fire-escape, the combination of a frame consisting of way-rods and connecting-plates, a car supported upon a platform, baf-  
85 fle-plates, counter-weights connected to the car by ropes passing over sheaves, and a brake mechanism consisting of a leaf-spring secured to the bottom of the platform and provided with brake-blocks at its ends secured in elongated slots in a plate beneath and adapted to  
90 be thrown in contact with way-rods by compression of the spring automatically and released through the medium of a lever fulcrumed in a standard secured to the bottom plate, substantially as described.

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

SAVIL JESTICE GREY.

Witnesses:

S. A. TERRY,  
WM. E. DYRE.