No. 709,519. Patented Sept. 23, 1902.

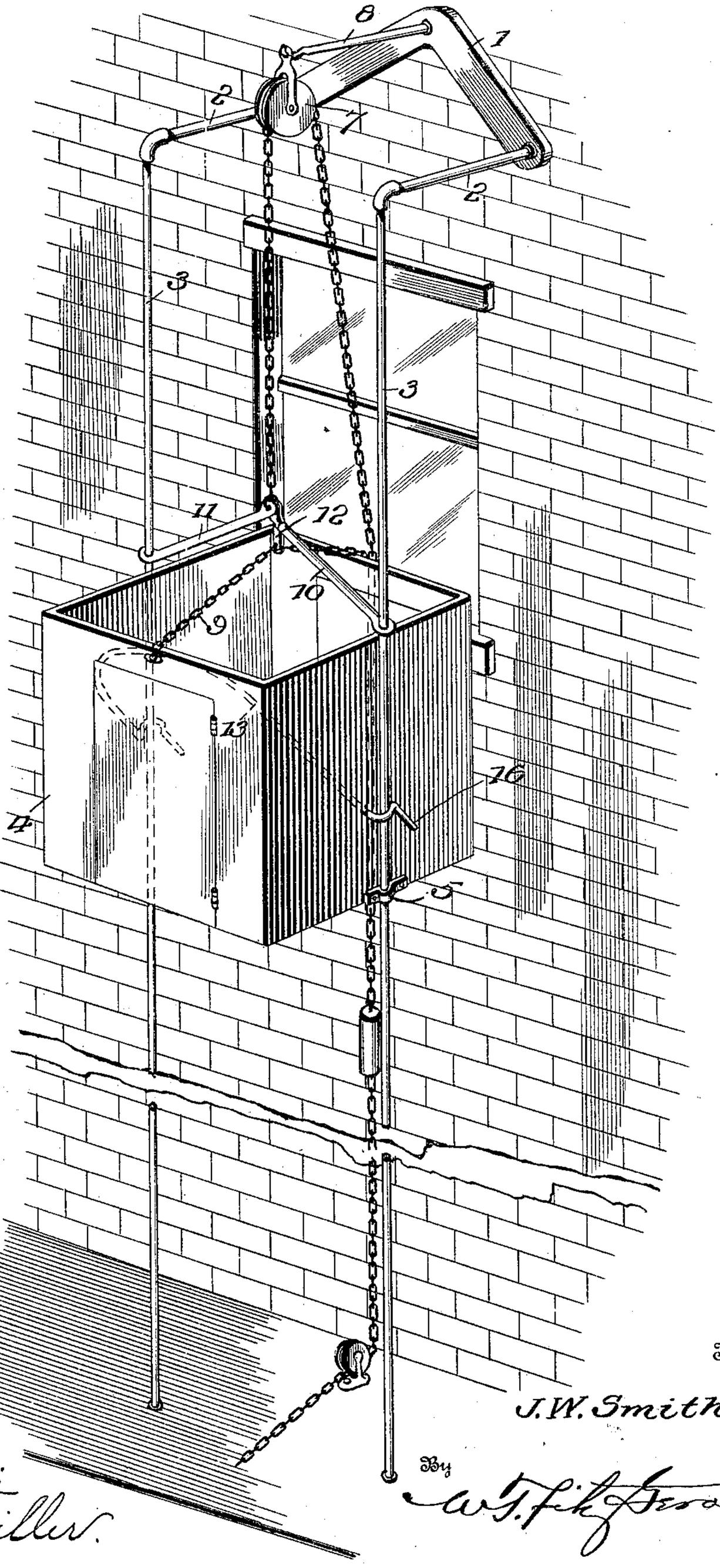
J. W. SMITH.

FIRE ESCAPE.

(Application filed July 3, 1902.)

(No Model.) 2 Sheets—Sheet 1.

FIG. 1.



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(No Model.) 2 Sheets—Sheet 2.

FIG. 2

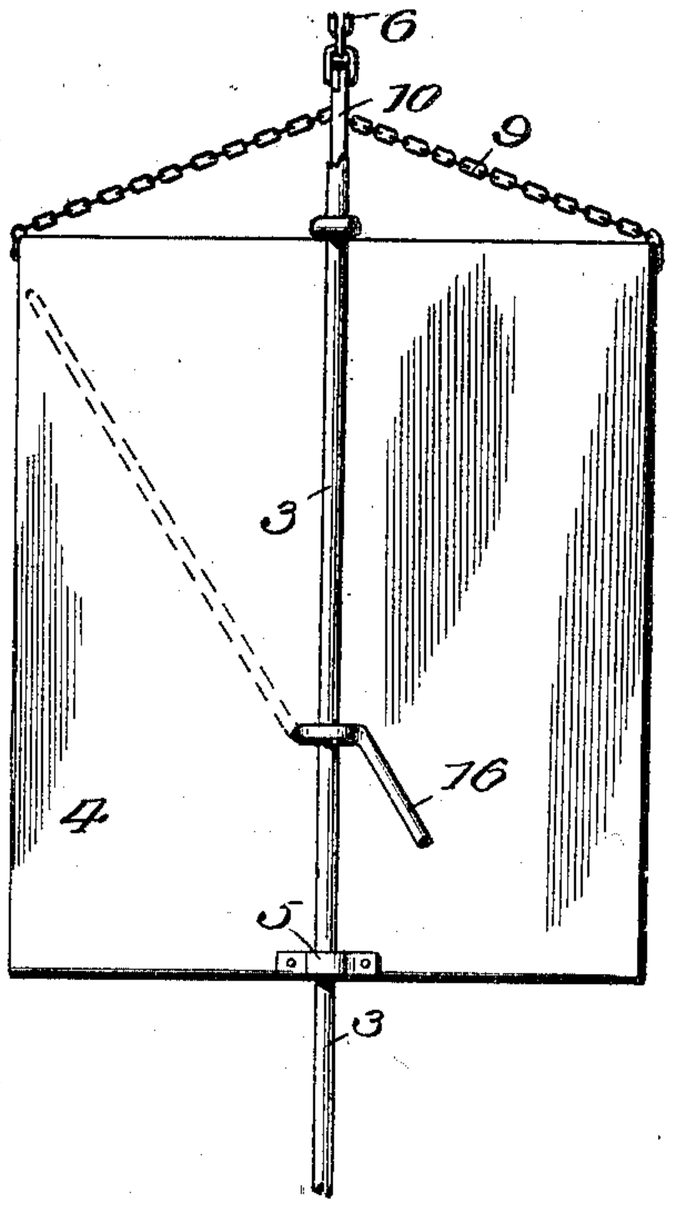


FIG. 3.

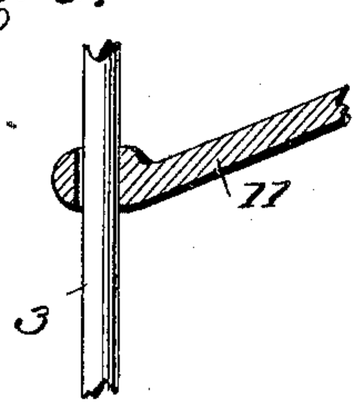


FIG. 5.

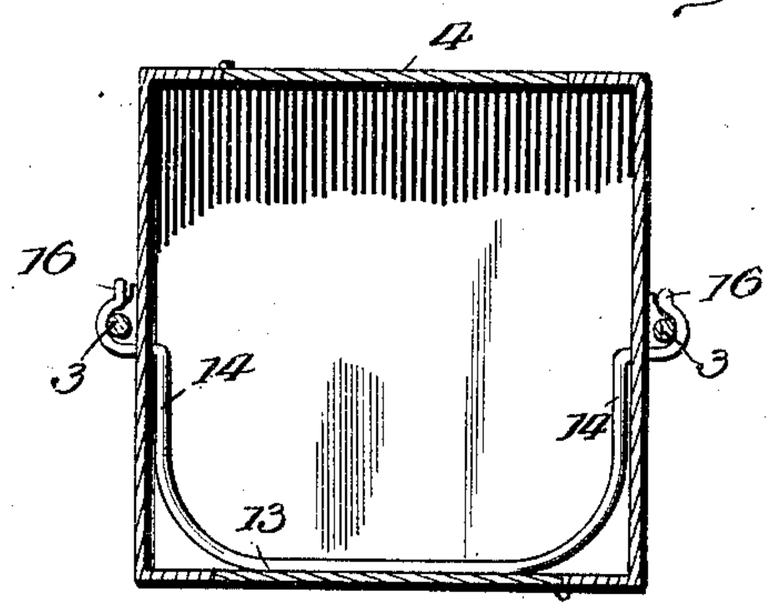


FIG. 4.

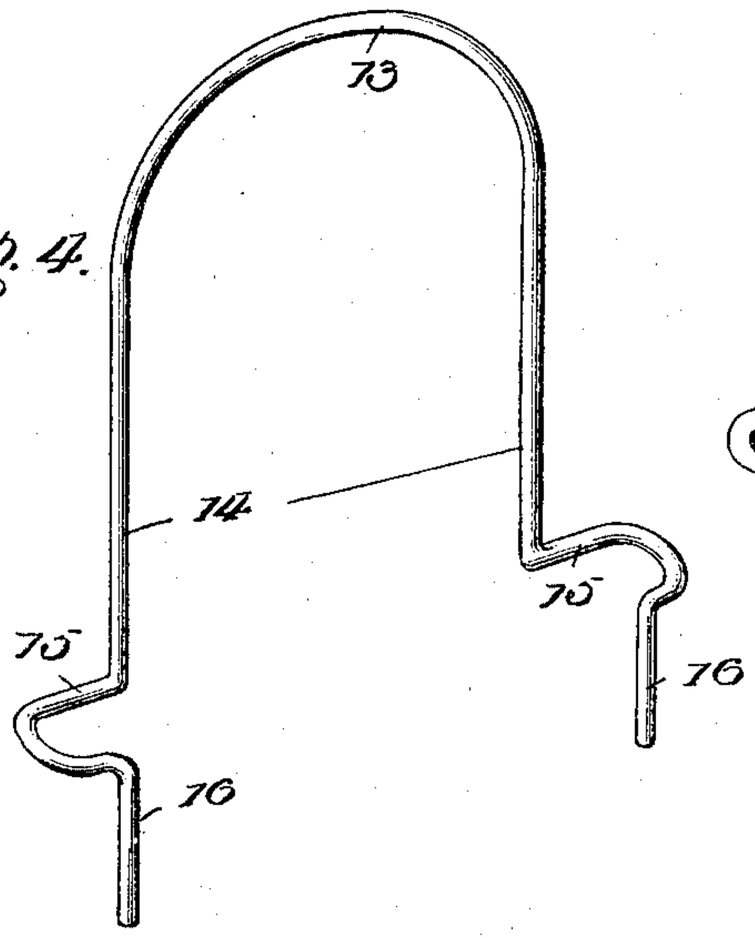
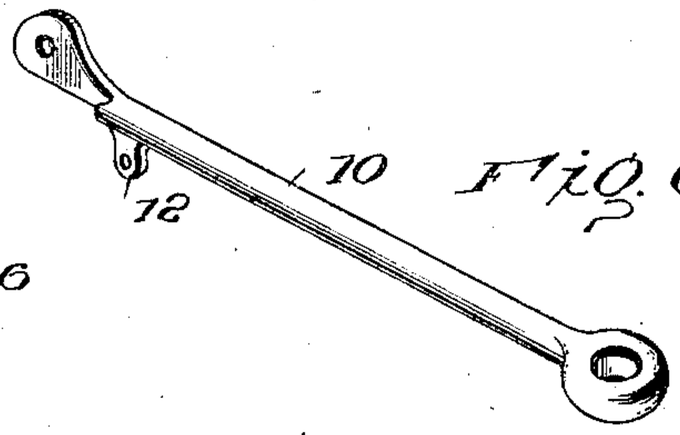


FIG. 6.



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UNITED STATES PATENT OFFICE.

JAMES W. SMITH, OF MENLO, GEORGIA.

FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 709,519, dated September 23, 1902.

Application filed July 3, 1902. Serial No. 114,234. (No model.)

To all whom it may concern:

Be it known that I, JAMES W. SMITH, a citizen of the United States, residing at Menlo, in the county of Chattooga and State of Georgia, 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 life-saving appliances, and more particularly to fire-escapes; and it consists of certain novel features of combination and construction of parts, the preferred form or materialization whereof will be hereinafter clearly set forth in the following specification, considered in connection with the accompanying drawings, which are made a part of this application, and in which—

Figure 1 is a perspective view of my invention complete ready for use. Fig. 2 is a detail view showing a side elevation of my safety-car and illustrating the position occupied by the brake in dotted lines. Fig. 3 is a detail view showing the relation of the gripping-arm to the guiding-rail. Fig. 4 is a detail view of the brake removed from the car and other coöperating accessories. Fig. 5 is a top plan view showing the cage or car partly in section and also showing the relative position of the brake and guiding-rails. Fig. 6 is a detail view in perspective showing one-half of the bail or carrying-handle of the cage or car.

The various details of my invention will for convenience be designated by numerals, the same numeral applying to a similar part throughout the views.

In carrying out my invention I provide a suitable supporting-bracket 1, which is connected to the wall of the building at the upper end thereof, preferably immediately beneath the eaves and over the line of windows to be protected by my safety appliance. The anchoring-bracket 1 is provided with the parallel arms 2 at the lower end thereof, said arms being rigidly united to the upper ends of the guiding-rails 3, as clearly shown in Fig. 1.

The guiding-rails 3 extend downward to the pavement or a contiguous part of the building, as clearly shown in Fig. 1, and are designed to afford a reliable guide and support for the car or cage 4, in which the persons to be saved from a burning building may place themselves by stepping out of the window, as will be clearly obvious. The car is made of any preferred size and is designed to move loosely between the guiding-rails 3, and in order to hold the car reliably in place I provide the cleats or brackets 5, which extend loosely around the rails 3 and are rigidly secured to a proper part of the car, thereby permitting the latter to be freely moved upward or downward as incident to use.

The car 4 is elevated and lowered by means of the cable or chain 6, which extends over the pulley 7, supported by the arm 8, which latter is also rigidly connected to the upper end of the bracket 1.

The cable or chain 6 is operatively connected to the cage by means of the bail 9. In order to insure that the car or cage 4 may not drop violently to the ground in case the cable or chain 6 should become broken, I provide the gripping-arms 10 and 11, the lower ends of which are provided with apertures adapted to loosely receive the rails 3, while the upper ends of said arms are also provided with apertures to receive a link of the chain 6. The arm 10 is provided upon the lower side of its upper end with the depending ear 12, also provided with an aperture adapted to receive a link of the bail-chain 9. This arrangement of the gripping-arms 10 and 11 is provided in order to insure that the lower ends thereof will tightly grip the rails 3 if the cable 6 should become broken, thereby insuring that the weight of the cage or car 4 and the persons within the same will be thrown directly upon the gripping-arms 10 and 11, which, by reason of their peculiar construction and connection with the bail 9, will constitute a toggle-joint, and thereby insure that the outer ends of the gripping-arms will engage or bite the guiding-rails 3 and insure that the downward movement of the car will be instantly arrested.

The construction herein described of the gripping-arms 10 and 11 is designed to meet the emergency arising from the breaking of the chain 6. As long as said chain 6 remains in good condition, however, the outer ends of the gripping-arms 10 and 11 will play freely

downward or upward upon the guiding-rails 3, and it therefore becomes necessary to provide a manually-operated brake, whereby the operator may check his downward movement at any point along the way, and with this purpose in view I provide the brake, which in this instance is formed of one continuous piece of heavy wire or rod so bent as to form the handle 13 and the depending parallel sections 14. After the parallel sections 14 are formed the rod is then bent outward at right angles to itself to provide the journal-like branches 15, which are adapted to rest in suitable bearings provided in a contiguous part of the car-body, while the remainder or end of the rod is so bent as to provide the terminals 16, which latter are adapted to extend inward, so as to engage the track-rails 3 when the handle 13 is moved toward the center of the car, as will be obvious by reference to Figs. 2 and 5.

The bail or handle portion 13 is so formed, as will be obvious by reference to the drawings, that normally it will lie out of the way of the operator or person within the car 4, and it will only be necessary for the person to move said bail toward the middle portion of the car in order to insure that the gripping members or terminals 16 will tightly and securely engage the guiding-rails 3, and thus enable him to stop the car at any desired point or to control the speed of the downward movement thereof.

It will be understood that various modifications and changes may be made in my invention without materially departing from the spirit and scope thereof, and I therefore wish to comprehend in this application all substitutes and equivalents.

Believing that the advantages and manner of using my improved fire-escape or safety appliance for buildings will be made clearly apparent from the foregoing specification, further description is deemed unnecessary.

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

The herein-described safety appliance or fire-escape comprising suitable supporting-rails 3 operatively mounted in position upon the side of a building, in combination with a car or cage; means to operatively connect the car with said guiding-rails; a bail connected to the upper end of said car; a cable attached to said bail and passing around a pulley; a pair of gripping-arms operatively connected to said cable and said car and a brake carried by said car and adapted to be manually controlled whereby a gripping action may be set up between said brake and guiding-rails all operatively combined substantially as specified and for the purpose set forth.

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

JAMES W. SMITH.

Witnesses:
R. M. KING,
H. E. MEGGINSON.