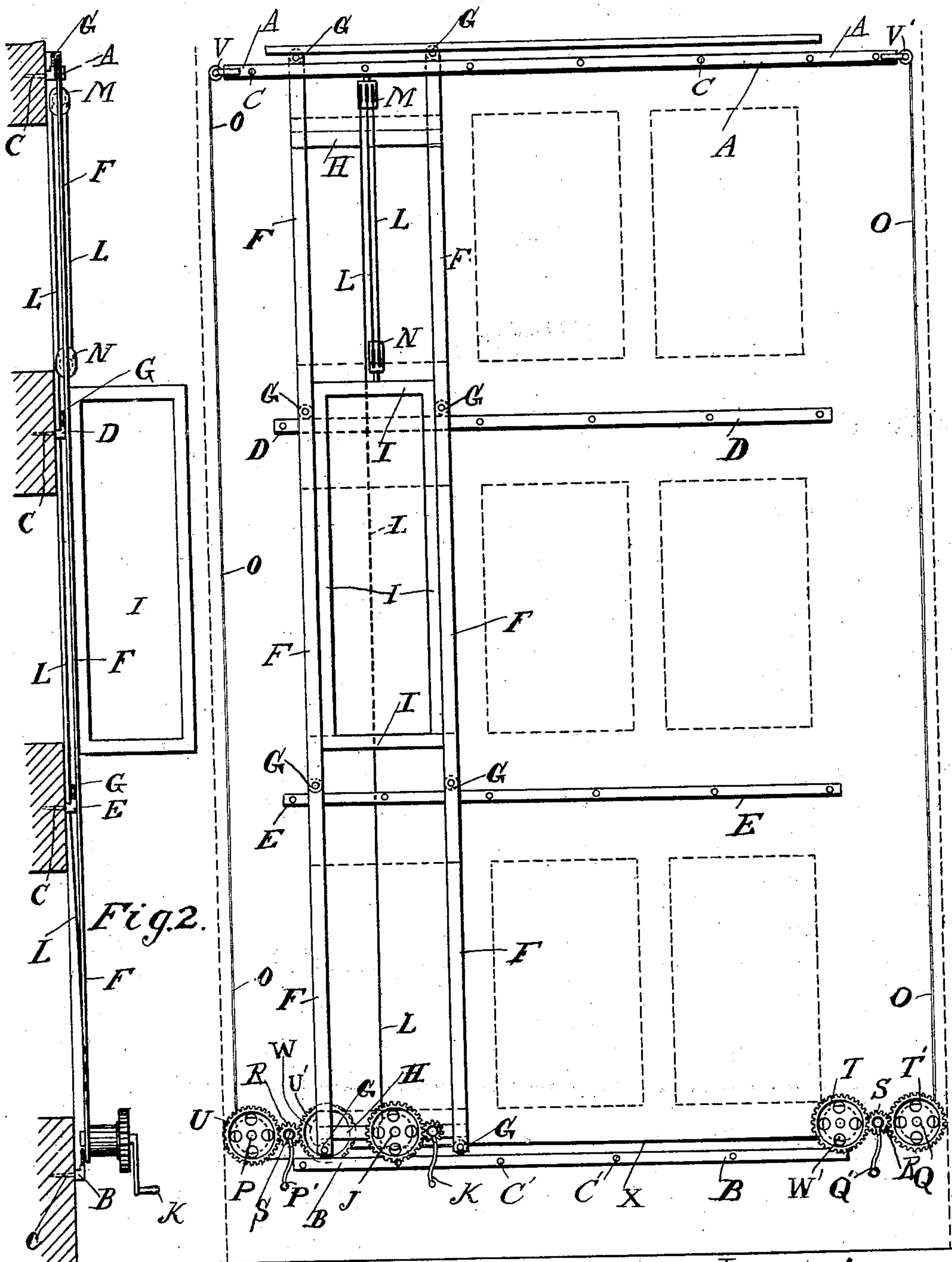


No. 863,222.

PATENTED AUG. 13, 1907.

J. M. ROACH.
FIRE ESCAPE.

APPLICATION FILED APR. 2, 1906.



Witnesses:

H. H. Hunt.

Madassah Day

Fig. 1.

By

Inventor:
John M. Roach.

J. M. Roach
Attorney.

UNITED STATES PATENT OFFICE.

JOHN MARION ROACH, OF LOS ANGELES, CALIFORNIA.

FIRE-ESCAPE.

No. 863,222.

Specification of Letters Patent.

Patented Aug. 13, 1907.

Application filed April 2, 1906. Serial No. 309,515.

To all whom it may concern:

Be it known that I, JOHN MARION ROACH, of the city of Los Angeles, in the county of Los Angeles and State of California, have invented a new or Improved Fire-Escape for Buildings, of which the following is a full, clear, and exact description or specification, reference being had to the annexed drawings and to the letters and figures marked thereon.

My said invention which relates to a new or improved fire escape has for its object to provide means for persons in buildings to escape therefrom easily and quickly on the occurrence of a fire in a building, and to at once pass to the exterior thereof through the windows and other openings in the outer walls of building.

The device constituting my invention is applied wholly to the exterior of the building and no parts thereof are in the building, and it is capable of being operated by an electric motor, by a steam, gas, gasoline or compressed air engine, or by hand, as is shown upon the accompanying drawings.

Manual power is sufficient to operate the device constituting my invention, when the height of the building is not great, say not more than two or three stories in height, but when the building is of a greater height, then I operate the driving gear of my mechanism by means of an electric motor, or an engine operated by steam, gas, gasoline, compressed air, and when available by hydraulic pressure.

Upon the annexed drawings Figure 1, is a diagrammatic front elevation of a portion of a building three stories in height, indicated by dotted lines showing the apparatus constituting my invention as adapted for a fire escape applied thereto. Fig. 2, is in part a transverse section of the building, and in part an elevation of the cage and operating gear for being raised and lowered from the top to the bottom story and horizontally across the front of the building so as to be situated in front of any vertical row of windows and other openings in the front, sides or back of the building as may be required.

My invention consists of the horizontal rails A, which are fastened at the top of the building, and of the horizontal rails B, which are fastened at the bottom of the building. The mode of fastening these rails to the building does not constitute any part of my invention, but as shown by the drawing Fig. 2, they are conveniently held to the building by means of horizontal studs C, passed through holes in the upper and lower rails A, and B, and held in the masonry of the building. In addition to the upper and lower rails A, and B, I use intermediate rails D, and E, similarly fastened to the front, sides, and back of the building as may be required. Upon the several rails A, B, D, and E, the vertical guide bars F, F, are carried by the several anti-friction rollers G, so that the framing constituted of the vertical bars F, F, and the cross bars H,

may move with maximum of ease by rolling by means of the several anti-friction rollers G, upon the horizontal rails A, B, D, and E. Within or between the vertical bars F, F, the cage I, Figs. 1, and 2, is situated, and is capable of being slid upwards and downwards between the bars F, F, by means of the winch J, operated by the handle K, situated between and at the lower part of the bars F, F. The rope L, wound upon the drum of the winch J, passes upwards between the cage I, and the wall of the front, sides or back of the building whereto my fire escape is applied, and the said rope L, is carried through pulley blocks M, and N, at the top of the building, and to the upper part of the cage I, respectively, a sufficient number of times to multiply the power applied to the winch J, and thereby to enable the cage I, to be easily lifted and held at any required position or height between the vertical bars F, F. In this manner the cage I, is readily moved vertically into position outside any window or windows from which persons can escape from a fire within a building, while the said apparatus is moved horizontally in front of a building by the ends of the rope or cable O, being connected to the barrels P, and Q, respectively, of two other winches operated by the handles P', and Q'.

The pinions R, R, on the shafts S, S, upon which shafts the handles P', and Q', respectively, are carried, respectively gear with the two spur wheels T, T', and U, and U', of each of the winches shown at the lower right and left hand ends of Fig. 1, of the drawings, and in addition to the ropes O, connected to the winding drums P, and Q, respectively, and passed over the anti-friction rollers V, V', at the top of Fig. 2, the other winding drums W, W', of the said winches are connected by cross ropes X, so that by turning either handle P', or Q', according to the position of the attendant in relation to the fire escape apparatus, the cage I, and the vertical bars F, F, and the raising and lowering mechanism connected with the cage I, are moved horizontally to any required position on the front, sides or back of the building to which my said fire escape may be applied. The rope X, has its respective ends connected to the drums W, and W', so that the turning of either handle P', or Q', causes both of the ropes O, and X, to be wound on either of the barrels P, and W, and wound off from either of the barrels P', and W', or oppositely, according to the direction in which the horizontally movable frame and its cage I, have to be traversed.

It is to be understood that although I have upon the annexed drawings shown but one cage and one vertical guide and carrying apparatus in which such cage is moved vertically upwards and downwards in any required position, and moved horizontally to any required position so as to bring the cage of the apparatus in front of any window or door-way opening from the

front, sides or back of any building, that my apparatus instead of being constructed with a single cage operated as hereinbefore described, may also be constructed with two or more cages operated in the same manner 5 as is hereinbefore described, and with such additional cage or cages either in a vertical horizontally movable frame provided with guide bars or rods, and raising and lowering mechanism for each cage, or that each such cage may be carried in one such horizontally 10 movable framing as is hereinbefore described, in which case each such cage is operated by separate and independent mechanism or winding gear for traversing the same horizontally along the front, sides or back of a building.

15 It is to be understood that although I have not herein described any particular material for constructing the bottom, the top, the sides and the ends of the cage or cages used in connection with my said invention, yet I desire it to be understood that I prefer to 20 employ material having asbestos or equivalent fire resisting material as its base, which may be filled into the panels of the floor or roof of the cage, as well as into the panels forming the sides and ends, or door thereof.

It is further to be understood that the cage forming part of the apparatus constituting my present invention, 25 may be used as a means for carrying one or more firemen, and one or more flexible hose of pipe, which the fireman or firemen in holding in their hands can with facility direct to any part of the fire within the building. 30

I claim as my invention.

The fire escape apparatus consisting of the horizontally movable vertical frame, the anti-friction rollers carried thereby, the horizontal rails on the vertical face of the building upon which the vertical frame is supported, the 35 cage operated vertically upwards and downwards in the vertical frame, the winch operating the cage in the vertical frame, the double geared winches, the rope connecting the outer drums of the double geared winches, the anti-friction pulleys upon which said rope is supported, the 40 inner drums of the double geared winches, the rope passing directly from one of the inner drums to the other of the inner drums and operatively connecting said inner drums of the double geared winches, the crank handles and pinions for operating the spur gear of the double geared 45 winches, all substantially as hereinbefore described.

JOHN MARION ROACH.

Witnesses:

M. E. BARTON,

ANDREW J. COPP, Jr.