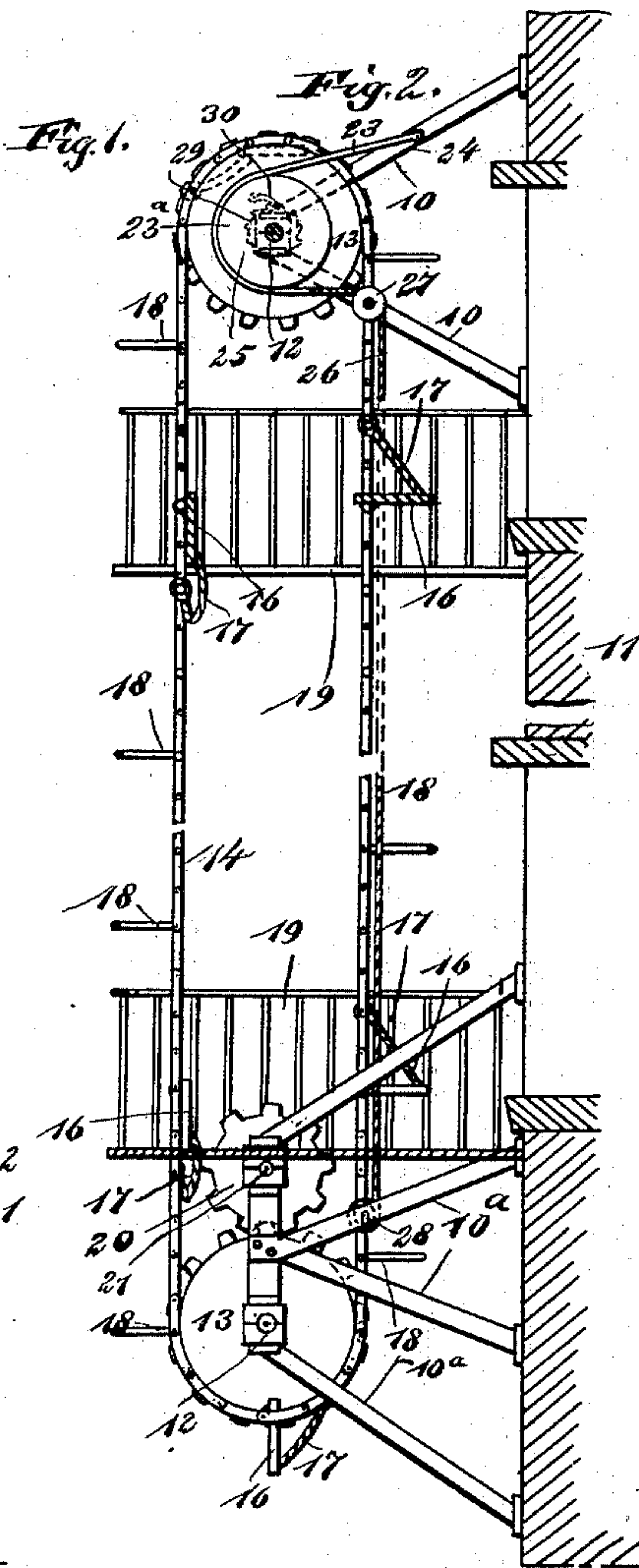
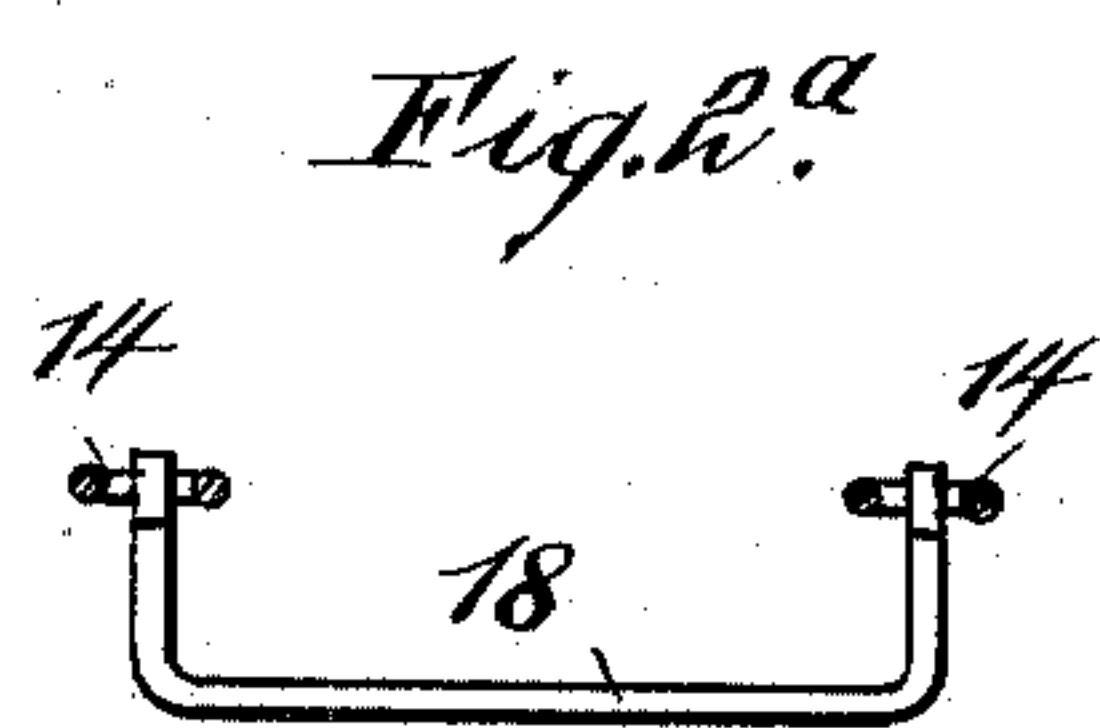


P. LYNCH, Jr.  
FIRE ESCAPE.

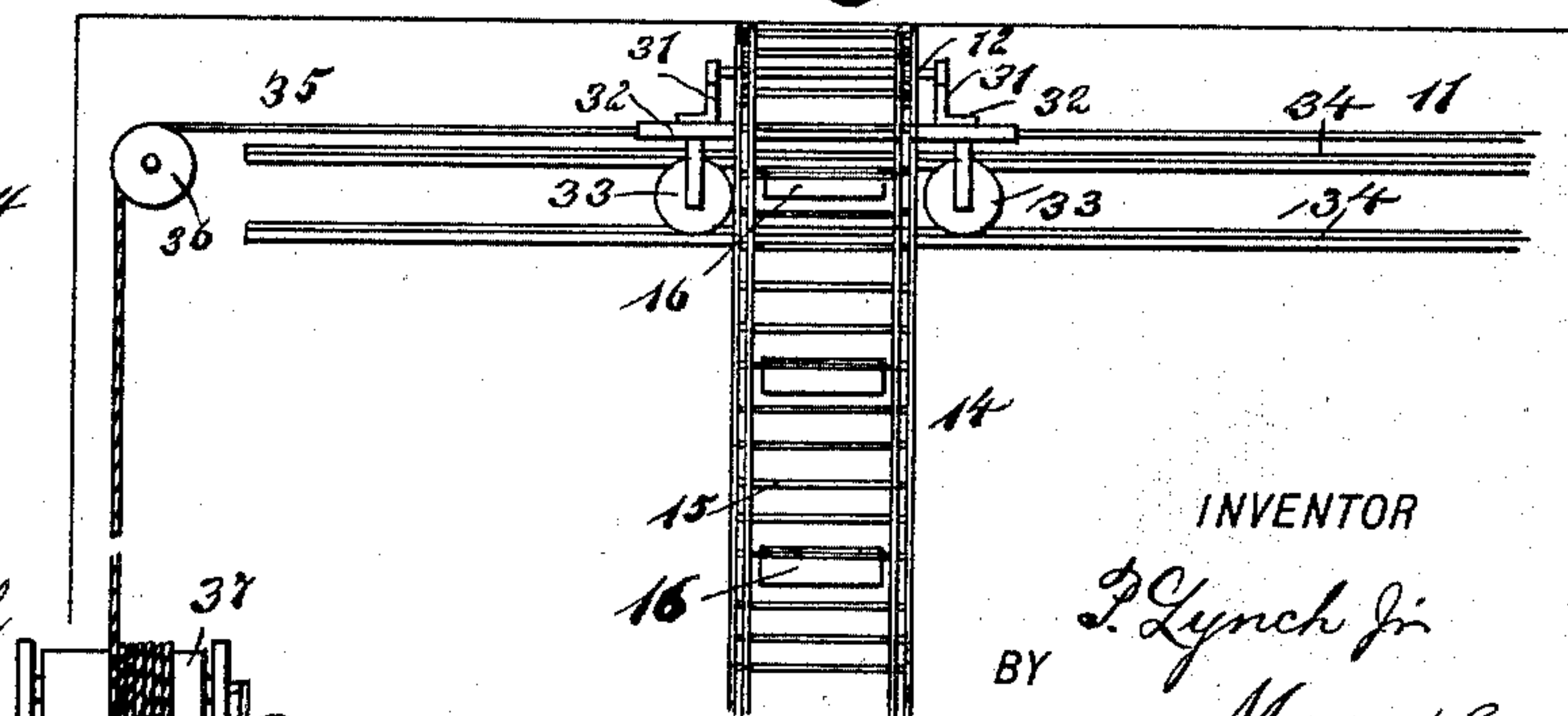
Patented Sept. 27, 1892.



*Fig. 3.*



W. M. Twitchell  
C. Sedgwick



BY *P. Lynch Jr*  
*Munn & Co*  
ATTORNEYS.



# UNITED STATES PATENT OFFICE.

PATRICK LYNCH, JR., OF SUPERIOR, WISCONSIN.

## FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 483,463, dated September 27, 1892.

Application filed April 9, 1892. Serial No. 428,520. (No model.)

### *To all whom it may concern:*

Be it known that I, PATRICK LYNCH, Jr., of Superior, in the county of Douglas and State of Wisconsin, have invented a new and Improved Fire-Escape, of which the following is a full, clear, and exact description.

My invention relates to improvements in fire-escapes.

The object of my invention is to produce a simple form of fire-escape which may be secured to the side of a building, which will enable people to step from the window upon it, and which is provided with a brake mechanism adapted to be operated by the people on the fire-escape or by independent means, so that the speed of the fire-escape may be very nicely regulated.

To this end my invention consists in certain features of construction and combinations of parts, which will be hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views.

Figure 1 is a broken front elevation of the fire-escape embodying my invention. Fig. 2 is a side elevation of the same with parts in section. Fig. 2<sup>a</sup> is a cross-section of the ladder, showing a detail of one of the guards; and Fig. 3 is a broken front elevation of a modified form of the apparatus which is adapted to be moved laterally over a building.

The fire-escape is provided at its upper and lower ends with strong hangers 10 and 10<sup>a</sup>, which are secured to a building 11 and which project outward far enough to permit people to descend on the inner side of the fire-escape. In these hangers are journaled transverse shafts 12, which carry sprocket-wheels 13, over which run chains 14, the chains being connected by rungs 15, so as to form an endless flexible ladder. At intervals on the ladder are steps 16, which are hinged to the rungs and which are connected with rungs above by cords or cables 17, these being of such a length that the steps may drop down into a horizontal position when on the inside of the ladder, as best shown in Fig. 2. In going up the outside of the ladder the steps will drop into a vertical position, as shown in the

same figure. Above the steps 16 are bail-shaped guards 18, which project from the chains and across the ladder, and in these a person may rest when standing upon the steps. Opposite the windows of the building are small balconies 19, which are arranged on opposite sides of the fire-escape, and people may step from the balconies upon the steps 16.

At the lower end of the fire-escape are gear-wheels 20, which mesh with the sprocket-wheels 13 and which are secured to a crank-shaft 21, having handles 22. The fire-escape is adapted to work automatically; but in case the weight is not sufficient to turn it may be turned by the crank-shaft and gear-wheels just described.

At the upper end of the fire-escape is a strap-brake 23, which passes over a pulley 23<sup>a</sup>, fixed to one of the sprocket-wheels 13, the brake being secured at its upper end to one of the hangers, as shown at 24 in Fig. 2, and at its lower end the brake is secured to a rope 26, which passes over a guide-pulley 27 on one of the hangers and down along the side of the fire-escape, being secured at its lower end to a crank-shaft 28, which is journaled in one of the lower hangers 10<sup>a</sup>. It will thus be seen that by grasping the rope 26 a person on the fire-escape may pull upon it, so as to make the strap-brake 23 engage the pulley 23<sup>a</sup>, and the speed of the fire-escape may thus be regulated; but if the load on the escape is very heavy a person at the foot of the escape may operate the brake by manipulating the crank-shaft 28.

On the upper shaft 12 is a ratchet-wheel 29, which engages a pawl 30 on the adjacent sprocket-wheel 13, and this arrangement prevents the escape from moving when a person is climbing up on the outside.

To operate the fire-escape, the people in the building simply step upon the steps 16, and their weight will cause the ladder to turn on the sprocket-wheels 13, so that they may descend in safety, or if a person on the escape is very light, so that the escape moves too slowly, the speed may be increased by means of the crank-shaft 21 and its gear connection with the lower sprocket-wheel. Excessive speed may be reduced by the brake mechanism described above.

In Fig. 3 I have shown a modified form of



the apparatus which may be moved over the entire side of a building. In this case the shafts 12 of the sprocket-wheels are journaled in brackets 31, which are mounted on a carriage 32, having rollers 33, which are held to run in parallel tracks 34, secured to the side of the building 11. A cable 35 extends over side pulleys 36 to a crank-operated drum 37 near the ground, and by winding the cable upon the drum the whole apparatus may be moved over the tracks, so as to bring it into the desired position.

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

1. A fire-escape comprising the upper and lower brackets 10 10<sup>a</sup>, the shaft 12, journaled in the upper brackets and provided with two sprocket-wheels 13, a brake-pulley 23<sup>a</sup> at one end, and a ratchet-wheel 29 at the opposite

end, the pawl 30, engaging said ratchet, the brake-strap passing around said pulley, a rope leading therefrom over a guide-pulley down to one of the lower brackets, a shaft 28, on which the lower end of the rope is wound, the two lower sprockets mounted on a shaft journaled on the lower brackets, the endless ladder mounted on the upper and lower sprockets, and the two gear-wheels meshing with the lower sprockets and having an operating-shaft, substantially as set forth.

2. The combination, with the endless ladder and the steps thereon, of the bail-shaped and outwardly-extending guards secured to the ladder above the steps, substantially as described.

PATRICK LYNCH, JR.

Witnesses:

CLEOPHOS J. MORISSET,  
JOHN B. JIBAWAY.