

W. GUNNARSON.
FIRE ESCAPE.

No. 473,572.

Patented Apr. 26, 1892.

FIG. 1.

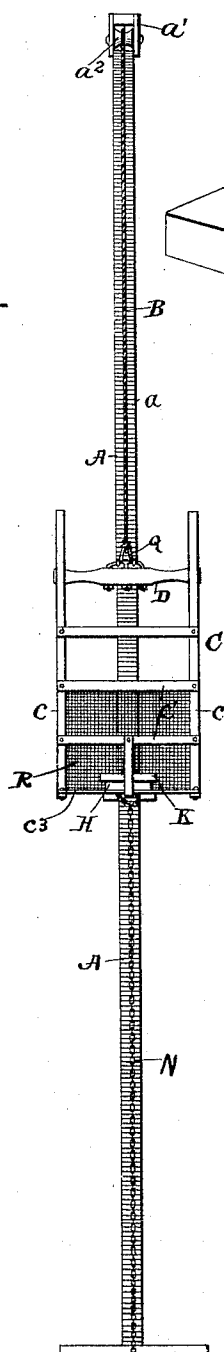


FIG. 7.

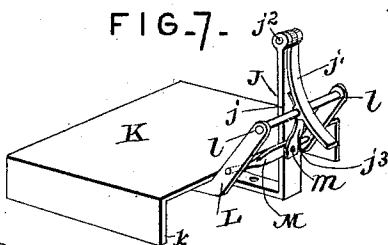
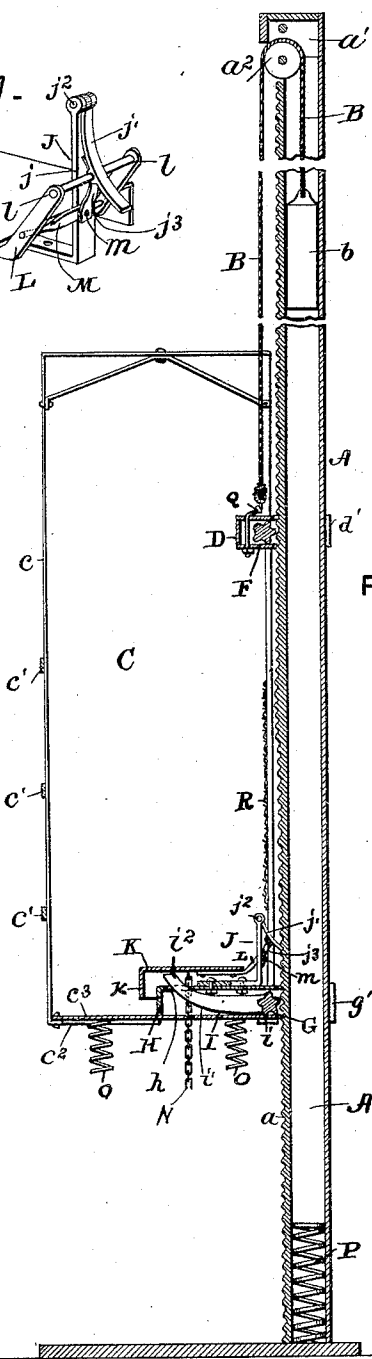


FIG. 2.



Witnesses

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FIG. 3.

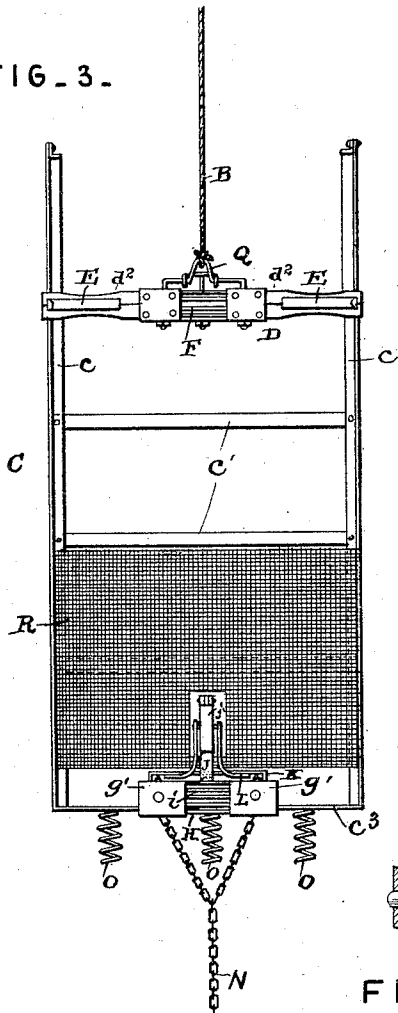


FIG. 4.

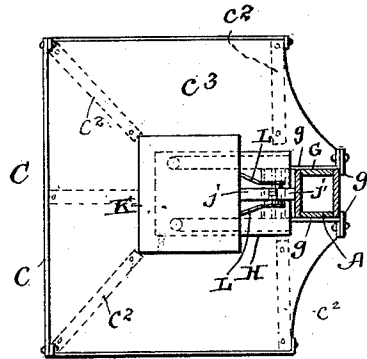


FIG. 6.

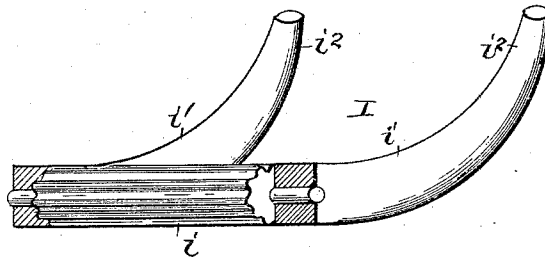
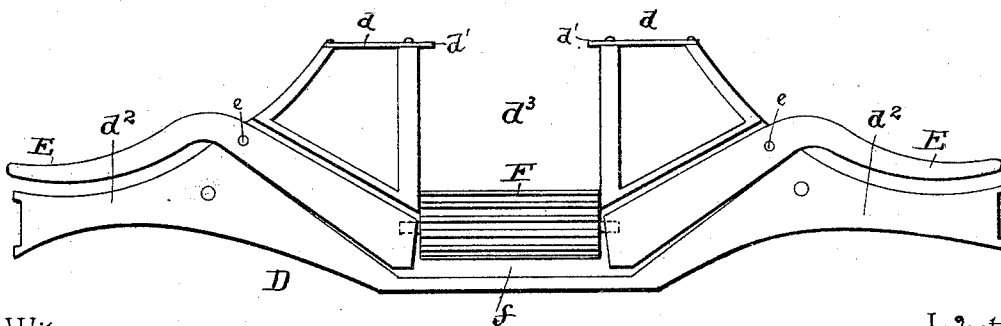


FIG. 5.



Witnesses

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UNITED STATES PATENT OFFICE.

WAHLTZER GUNNARSON, OF JAMESTOWN, NEW YORK, ASSIGNOR OF ONE-HALF TO PETER SANDBERG AND PETER DROTS, OF SAME PLACE.

FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 473,572, dated April 26, 1892.

Application filed November 17, 1891. Serial No. 412,190. (No model.)

To all whom it may concern:

Be it known that I, WAHLTZER GUNNARSON, a citizen of the United States, residing at Jamestown, in the county of Chautauqua and State of New York, have invented a new and useful Fire-Escape, of which the following is a specification.

This invention relates to fire-escapes; and it has for its object to provide a fire-escape that is to be used upon the walls of buildings, and one which can be easily controlled and manipulated by the person carried by the same, and one in which at any point in its travel to and from the ground may be stopped or slowed up at will, according to the weight of a person within the car, and to this end to provide a fire-escape having an overbalanced car, which will be automatically started upon its descent by the person stepping within the same, and also to provide one which after the car has descended to the ground will immediately travel back to the point desired.

With these and many other objects in view, which will readily appear as the nature of the invention is better understood, the same consists in a fire-escape having an automatically-controlled car constructed in the novel manner hereinafter more fully described, illustrated, and claimed.

In the accompanying drawings, Figure 1 is a front elevation of a fire-escape constructed in accordance with my invention and detached from the building. Fig. 2 is a vertical longitudinal sectional view of the same. Fig. 3 is a rear elevation of the car. Fig. 4 is a top plan view of the same. Fig. 5 is a detail sectional view of the upper brake bar and shoe. Fig. 6 is a detail in perspective of the lower brake-shoe. Fig. 7 is a detail in perspective of the supplemental platform.

Referring to the accompanying drawings, A represents a rectangular tubular track that is designed to be secured upon the side of a building by means of hooks or other suitable securing devices, whereby the same may be securely fastened thereon, and the said track is provided with a serrated or toothed face *a* and has its upper end inclosed by the cap *a'*, within which is journaled the supporting-pulley *a²*, over which travels the cable or rope B, working within said tubular or hollow track

and carrying at its end within said track a weight *b* of sufficient weight to overbalance the traveling car C, secured to the other end of the rope without the track, sufficiently so that the weight of a person will not cause the car to be brought to the ground dangerously fast.

The fire-escape car C, carried by the weighted cable or rope B, is constructed of an open metallic frame-work comprising opposite vertical rectangular frames *c*, connected by the front parallel cross-braces *c'* and the diagonal and parallel bottom braces *c²*, to which is securely bolted the main platform *c³*, upon which the person carried thereby is supported. Transversely bolted to the rear vertical bars of said side rectangular frame *c* is the upper hand-brake bar D. Said bar is provided with a rectangular rear recess or opening *d³*, that is approximately of the same size as the rectangular track, and is adapted to take over the same as the car travels up and down said track, and the outer ends of the sides of said rectangular recess or opening and the bar D are overlapped by the retaining-plates *d*, forming lips or projections *d'*, that take behind the rear side of the tubular track, and thus hold the bar and the car to which it is attached securely to the track in its travel thereover. The upper bar D is located at a suitable distance from the bottom of the car in order that the same may be readily reached by the hands of the person within the same, and to either side of the rear rectangular recess therein the same terminates in hand-grasps *d²*, over which work the operating portions of the brake-levers E, pivoted within said bar at *e*, and extending inwardly toward the rear rectangular recess in the same, and said levers without the bar are curved to correspond with the hand-grasps of the bar, so that the levers may be readily grasped by the fingers of both hands to operate the same.

Journaled in the end of each lever within the bar is the serrated or toothed brake-roller F, located within the recess *f* in rear of the recess *d*, and said roller, as controlled by the levers, is adapted to be thrown forward within the rear recess of said bar and against the serrated or toothed face of the track over which the car travels to impede the motion of

the same or entirely stop the car when used in conjunction with the other brake mechanism to be presently described.

The rear edge of the main platform c^3 is provided with a central rectangular recess G, corresponding to that in the upper bar D, and is adapted to receive the rectangular tubular track, over which the rear side of the car travels, and said recess is surrounded by the side flanges g and the outer overlapping flanges projecting over the edges of said side flanges g , and forming projecting lips g' , that take behind the rear side of said track or within grooves adapted for their reception, and thus with the upper brake-bar the said car is steadily and firmly held over the vertical tubular track, and is thus allowed to freely travel up and down the same. Upon said main platform, directly in rear of the rectangular recess therein, is secured a cover H, provided near each inner end with the openings or perforations h and accommodates and incloses the lower friction foot-brake I. The foot-brake I comprises a serrated-rubber friction-roller i , similar to that in the hand-brake located directly below the same and journaled in the outer ends of the sliding bars i' , provided with rearwardly - extending and upwardly-curved rounded ends i^2 , that normally project through the openings h in the top of the inclosing cover H and extend slightly above the same, being designed to be pressed downward and force the roller out and tightly against the serrated or toothed face of the track by devices located thereover. Suitably bolted to the top of said cover is the L-shaped stop-bracket J, and to the vertical arm j of the same is pivoted the stop-dog j' , pivoted to the extreme end of said arm at j^2 and normally pressed out into engagement with the cogs or serrations of said track by means of the outwardly-pressing leaf-spring j^3 , also secured to said arms j of the L-shaped bracket. A supplemental pivoted platform K is designed to be located directly above said cover H, and is provided with the depending flanges k , partly inclosing the same. To the under side of said supplemental platform K is securely fastened the bottom ends or portions of the arms L, extending rearwardly from the rear edge of said supplemental platform and outwardly at an incline therefrom, said arms being transversely connected by the operating pin or bolt l passing therethrough and through said downwardly-extending stop dog or pawl j' . A supporting-bar M is loosely journaled in each of said rearwardly and upwardly extending bars L, and is rigidly secured at m to the vertical arm j of said L-shaped bracket J, and it can be readily seen that the tension of the spring j^3 will hold the dog normally into engagement with the teeth of said track, and thereby hold the supplemental platform parallel with the main platform of the car, as will be apparent.

When a person steps into the car to descend to the ground, the same will not begin its

downward descent until said person has stepped upon the hinged supplemental platform K, which will simultaneously cause the pawl j' to be withdrawn from engagement with the track and will bear upon the upwardly-projecting ends i^2 of the foot-brake I, and thus cause the friction-roller i to bear against the serrated face of the track, and, according to the weight of the person, the pressure of said roller-brake upon the track will be proportionate thereto to impede the travel of the car according to the weight therein. Being thus always impeded to a certain extent in its downward travel, by simply throwing the upper hand-brake against the track the motion of the car may be entirely stopped at the will of the operator.

When the car is at its upper limit, in order to draw the same downward to the point desired, a chain N is provided for that purpose and, extending from the ground, passes through the bottom of the car and is connected with the hinged platform, whereby the dog may be thrown out of engagement and the car drawn downward. Spring-buffers O are secured to the bottom of the car, and thus avoids shock to the person within the same when the car reaches the bottom in case the same should come down faster than intended, and the said tubular track is also provided with a spring-cushion P, located in the bottom thereof, for the weight b to come in contact with when the car is run up in order to avoid damage to the track or pulley inclosed in the upper end of the same. The hoisting-rope B is connected with said car by means of a suitable bracket Q, secured to the upper side of the upper lever-bar D, and thus provides a convenient connection between the car and the overbalanced rope controlling the movements of the same.

The construction and operation of the herein-described fire-escape is thought to be otherwise apparent without further description. It is of course understood that an inclosing wire-netting R may surround the car to give further safety to the same.

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

1. In a fire-escape, a tubular track adapted to be secured to the side of a building, a car adapted to travel over said track and provided with squared rectangular recesses taking over said track, friction-roller brakes located in said recess and adapted to be manually and automatically thrown against the outer face of said track, and an overbalanced cable connected to said car and working within said tubular track, substantially as set forth.

2. In a fire-escape, a vertical tubular track adapted to be secured to the side of a building, a car adapted to travel over said track, the same comprising an open metallic framework and provided with recesses embracing said track and friction-brakes located directly in rear of said recesses and adapted to be

thrown against the outer face of said track, and an overbalanced cable connected to said car and working within said tubular track, substantially as set forth.

5 3. In a fire-escape, a vertical tubular track provided with an outer serrated or toothed face, a car adapted to travel over said track, the same comprising an open metallic frame-work and provided with recesses embracing
10 said track and with serrated or toothed friction-roller brakes located directly in rear of said embracing recesses and adapted to be thrown manually and automatically against the outer face of said track, and an overbal-
15 anced cable connected to said car and working within said tubular track, substantially as set forth.

4. In a fire-escape, a vertical tubular track, a car traveling upon said track, the same comprising an open metallic frame-work and provided with an upper brake-bar having a recess embracing said track, levers pivoted within said bar and a friction brake-roller journaled in the inner ends of said levers in rear
25 of said recess and adapted to be operated by the hands, a bottom platform having a recess embracing said track and an automatically-operated friction-brake located in rear of said platform-recess, and an overbalanced cable
30 connected to said car and working within said tubular track, substantially as set forth.

5. In a fire-escape, a rectangular tubular track provided with an outer serrated or toothed face, a car traveling over said track and provided with an upper brake-bar secured in the rear of the same and provided with a squared recess embracing said track, hand-levers pivoted within said bar and extending without and within the same, and a
40 serrated brake-roller journaled in the inner ends of said levers in rear of said recess, a bottom platform having a rectangular recess directly in line with the recess of the upper brake-bar and a serrated roller-brake located
45 in rear of said platform-recess and adapted to be automatically operated by the weight of the person within the car, and an overbalanced cable connected to said car and working within said tubular track, substantially
50 as set forth.

6. In a fire-escape, a vertical tubular track, a car traveling upon said track and provided with a main platform having a recess embracing said track, an upper hand-operated brake
55 secured to said car, a cover secured to said platform and provided with top perforations, brake-arms having rearwardly and upwardly

curved rounded ends projecting through said top perforations and carrying at their outer ends within said cover a friction-brake directly in rear of said recess, a supplemental platform hinged over said cover and adapted to bear upon the projecting ends of said brake-arms when stepped upon and throw the brake upon the track, and an overbalanced cable
65 connected to said car and working within said tubular track, substantially as set forth.

7. In a fire-escape, a vertical tubular track, a car traveling upon said track and provided with a main platform having a recess embracing said track, an upper hand-operated brake secured to said car, a cover secured to said platform and provided with top perforations, brake-arms having rearwardly and upwardly curved ends projecting through said
75 top perforations and carrying at their outer ends within said cover a friction-brake directly in rear of said recess, a spring-actuated stop-pawl mounted over said cover and normally engaging said track, a supplemental
80 hinged platform connected to said pawl and normally located over the projecting ends of said brake-bars, and an overbalanced cable connected to said car and working within said track, substantially as set forth.

8. In a fire-escape, a vertical tubular track, a car traveling upon said track and provided with a main platform having a recess embracing said track, a cover secured to said platform and provided with top perforations, brake-arms having rearwardly and upwardly
90 curved ends projecting through said top perforations and carrying at their outer ends within said cover a friction-brake directly in rear of said recess, a bracket supported upon
95 said cover, a spring-actuated stop-pawl pivoted to said bracket and normally engaging said track, a supplemental platform having rearwardly and upwardly inclined arms immediately hinged to said bracket and con-
100 nected at their outer ends with said stop-pawl, said platform normally lying over the projecting ends of said brake-bars, and an overbalanced cable connected to said car and working within said track, substantially as
105 set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

WAHLTZER GUNNARSON.

Witnesses:

JAMES A. FOWLER,
JAMES L. WEEKS.