(No Model.)

W. H. CAMPBELL.

FIRE ESCAPE.

No. 553,299. Patented Jan. 21, 1896.

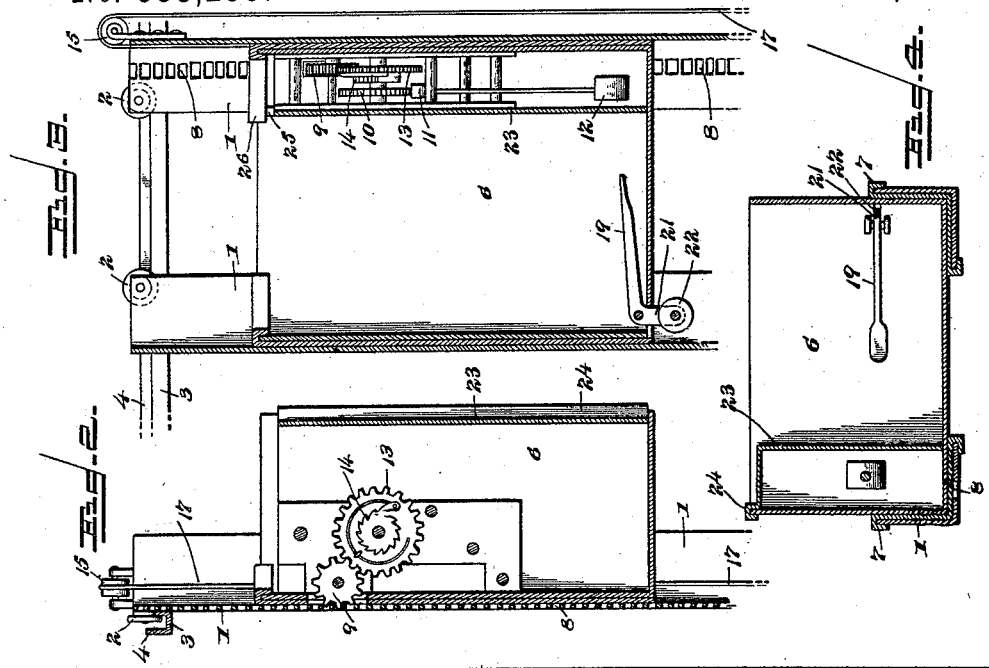

Fig. 2.

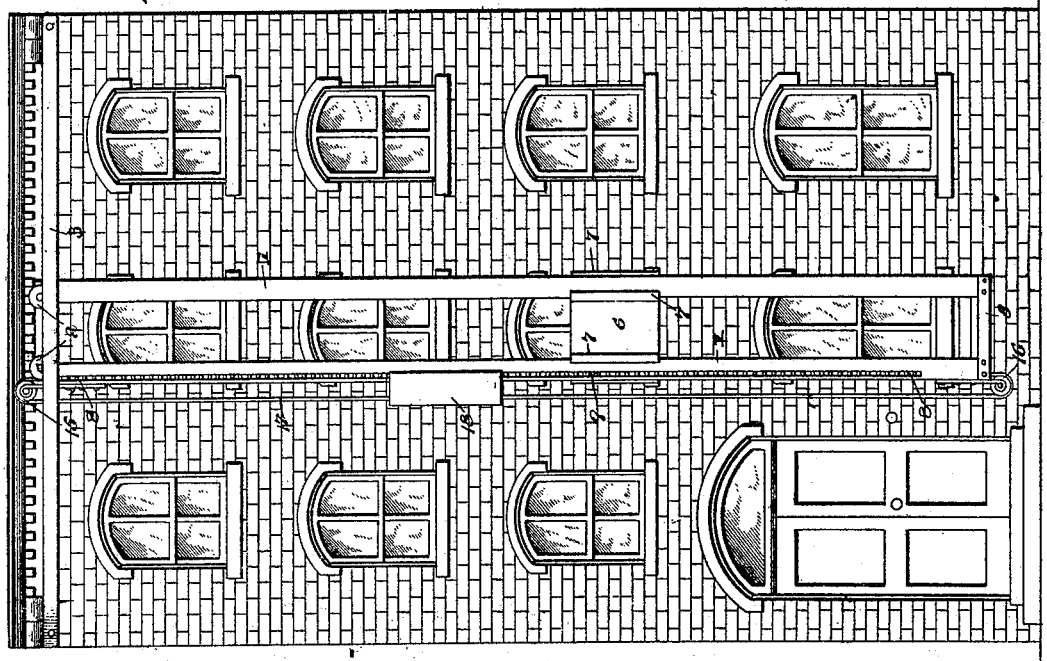

Fig. 1.

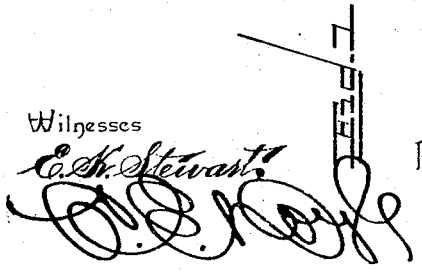

Fig. 7.

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Witnesses
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[illegible]

By his Attorneys.
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UNITED STATES PATENT OFFICE.

WILLIAM HAMILTON CAMPBELL, OF ORTONVILLE, MINNESOTA.

FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 553,299, dated January 21, 1896.

Application filed January 9, 1895. Serial No. 534,329. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM HAMILTON CAMPBELL, a citizen of the United States, residing at Ortonville, in the county of Big Stone and State of Minnesota, have invented a new and useful Fire-Escape, of which the following is a specification.

My invention relates to fire-escapes, and particularly to a device embodying a car or cage provided with a counterbalancing-weight whereby it is elevated automatically after the occupants have left the car, and which is governed in its descent to prevent excessive rapidity when loaded sufficiently to overcome the upward tendency caused by the counterbalancing-weight.

The object in view is to provide a simple and efficient construction adapted to be applied permanently or temporarily to the exterior of a building to enable the occupants to escape with rapidity and without danger.

Further objects and advantages of this invention will appear in the following description, and the novel features thereof will be particularly pointed out in the appended claim.

In the drawings, Figure 1 is a front view of a fire-escape constructed in accordance with my invention applied in the operative position to a building. Fig. 2 is a vertical sectional view of a car. Fig. 3 is a section at right angles to the plane of Fig. 2. Fig. 4 is a horizontal section.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

1 designates parallel cross-sectionally angular guides which may be provided at their upper ends with grooved rollers or travelers 2 to traverse a track 3 which is adapted to be secured to a building adjacent to its cornice, said track having a flange 4 for attachment to the building by means of nails or bolts, and said track may extend from one angle of the building to the other to provide for shifting the guides to bring them opposite any desired window or door of the building. The guides are connected at their lower ends by a cross-bar 5, and the car or cage 6 is provided at intervals from its angles with clips 7 to engage and slide upon the edges of the guides, whereby the latter are held at the proper interval throughout their length and lateral vibration of the car is prevented. Upon one of the guides is arranged a rack 8, which is engaged by a spur-wheel 9, mounted upon the car with its spindle in a horizontal plane, and connected with this spur-wheel by means of intermediate gearing is an escapement-wheel 10, in operative relation with which is arranged an escapement-lever 11, having a weighted arm or pendulum 12. In the construction illustrated a gear 13 meshes with the spur-wheel and is connected with the escapement-wheel by means of a clutch 14, whereby during the ascent of the car the spur-wheel and the intermeshing gear rotate independently of the escapement-wheel, but during the descent of the car the rotation of the spur-wheel is communicated through the intermediate gear to the escapement-wheel and the rotation of the latter is governed by the vibration of the escapement-lever to prevent excessive rapidity of movement.

Connected at its ends to the car and extending at intermediate points over the upper and lower grooved pulleys 15 and 16 is a continuous chain or cable 17, to which is attached a counterbalancing-weight 18, said weight being sufficient to elevate the car when empty, so that after having descended with a load of passengers it will be again elevated when the passengers leave the car.

In connection with the above-described apparatus I employ a brake, consisting of a retarding brake-lever 19, which is arranged in the car adjacent to the floor thereof, and an arm 21, which carries a brake-roller 22 to bear against one flange of one of the angle-guides, and by placing the foot upon the brake-lever the descent of the car may be still further retarded. The friction caused by the pressure of the brake-roller is sufficient to retard the descent of the car without unnecessarily wearing the parts.

From the above description it will be seen that the car may be arranged opposite any desired window or door in order that the occupants of the building may enter the same, the lateral adjustment being accomplished by means of the travelers which traverse the horizontal track at the top of the building, and while the car is adapted to ascend readily when relieved of its load it is controlled in its

descent to avoid excessive rapidity and insure the safety of the passengers.

The governing mechanism which is carried by the car is inclosed in a casing, of which two sides are formed by a plate 23, provided at the edge of one side with a clip 24 to engage the adjacent edge of the car and at the edge of the other side with an ear 25 to engage a fixed clip 26 on the adjacent wall of the car.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

Having described my invention, I claim—

In a fire escape, the combination of parallel guides, a car mounted to slide upon said guides, a spur-wheel carried by the car and engaging a rack on one of the guides, an escapement wheel connected by intermediate gearing with said spur-wheel, a weighted escapement lever arranged in operative relation with the escapement-wheel, and a counterbalancing weight connected with the car and adapted to elevate the latter when relieved of its load, substantially as specified.

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

WILLIAM HAMILTON CAMPBELL.

Witnesses:
E. F. CRAWFORD,
J. H. KEMERER.