J. WAYLAND.

Hatchways for Elevators.

No. 134 334. Patented Dec. 24, 1872.

Fig: 1

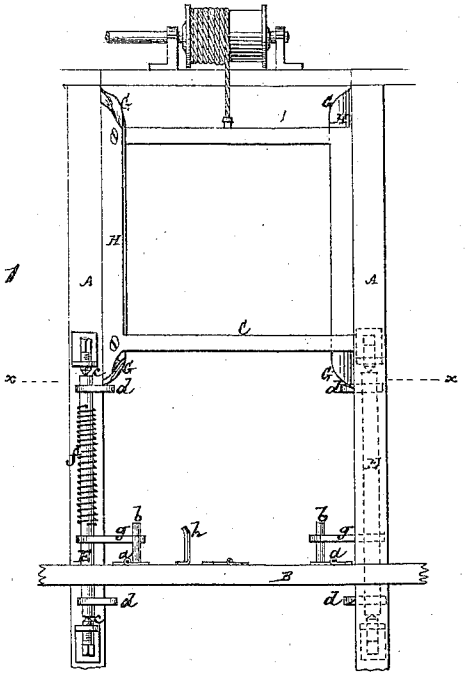


Fig: 2

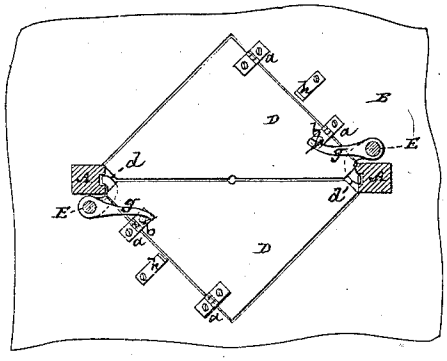
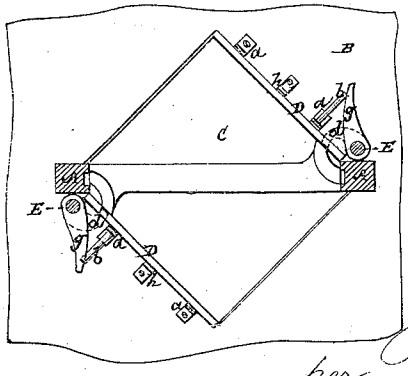


Fig: 3



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UNITED STATES PATENT OFFICE.

JAMES WAYLAND, OF JERSEY CITY, NEW JERSEY.

IMPROVEMENT IN HATCHWAYS FOR ELEVATORS.

Specification forming part of Letters Patent No. **134,334**, dated December 24, 1872.

To all whom it may concern:

Be it known that I, JAMES WAYLAND, of Jersey City, in the county of Hudson and State of New Jersey, have invented an Improvement in Safety Devices for Hoistways, of which the following is a specification:

My invention relates to hoistways up and down through which a car or platform passes, as in the case of elevators in buildings, for the transportation of goods and passengers from one floor to another. It, however, more immediately relates to apparatus connected with such hoistways, whereby the latter are kept closed by doors or protected by gates on the several floors of a building at all times, excepting when the car or platform is passing therethrough, and whereby said doors or gates, which close or protect the openings in the floors through which the hoistway passes, are automatically opened and closed as the car or platform approaches and leaves them. To these ends, the invention consists in a novel combination of means whereby these results are obtained in a simple, practicable, and efficient manner by the car while in motion.

In the accompanying drawing which forms part of this specification, Figure 1 represents a side elevation of a hoistway, in part, with my improvement applied thereto, and showing a car or traveling platform as about, in its descent, to open the hinged flaps or doors of the one floor of a building preparatory to passing therethrough; Fig. 2, a horizontal section on the line X X; and Fig. 3, a horizontal section on the line *x x*, with the doors open, and showing the car in the act of passing through the opening in the floor.

Similar letters of reference indicate corresponding parts.

A A represent the two guide-posts of a hoistway, and B one of the floors of a building through which said hoistway passes. C is the car or traveling platform; and D D the hinged flaps or doors, here shown as meeting or closing obliquely relatively to their hinges *a a*, but which may be arranged so that their meeting-edges have a parallel relation thereto. Each hinged flap or door D is provided with a pin or projection, *b*, on the opening side of the hinge, near either guide-post, and arranged to project upward from the door when the same is closed. Arranged up each guide-post A, on its outer side, next to the hinge of its adjacent flap or door, is a vertical shaft, E, working between screw or other centers *c c*, and projecting to a greater height above the floor B than it does below it. This shaft has crooked arms or levers *d d* near its top and bottom, arranged so that when the flaps or doors D D are closed their outer ends lie within or in proximity to the inner faces of the guide-posts A. A spring, *f*, wound around said shaft or otherwise applied thereto, or, if desired, a weight and cord operating in the place of a spring, serves to keep the arms or levers *d d* in the position described when the doors are closed; but as the car approaches the floor B to pass through it, either up or down, the shafts E are turned against the action of the springs through the instrumentality of the arms *d d* by means of upper and lower cams G G attached to the sides of the car in the vicinity of the guide-posts, and having guide-plates or surfaces H H connecting them above and below for the outer ends of the arms *d d* to rest against after being turned on one side by the upper or lower cams G G, accordingly as the car is moving up or down. The turning to one side or outward of the arms *d d* by the cams G G, opens the doors D D by means of an arm, *g*, attached to each shaft E, operating, as said shaft is turned by its attached arms *d d*, against the pin or projection *b* on either door D, and so to lift or throw back the latter, after which the guide-plates or surfaces H H serve, by the resting of the arms *d* on them, to keep open the doors till the car is clear of the floor B and of the upper or lower arms *d*, according to the direction in which the car is traveling, when the doors D fall and close, by gravity or by the action of the arms *d* through the instrumentality of the springs *f* operating to return said arms to their normal position, or by the aid of special springs *h*, against which the doors press when thrown back or open, the cams G serving, as the arms *d* leave them, to gradually let down the doors. The same means, suitably varied as regards the arrangement or lines of

projection of the lifting-arms and closing-springs, may be applied to open and close mere gates at the sides of the openings in the floors in the place of hinged flaps or doors closing said openings.

What is here claimed, and desired to be secured by Letters Patent, is—

The car or traveling platform C, provided with upper and lower cams G G and connecting side guides or plates H H, in combination with the upper and lower arms *d d* of the shafts E controlled by spring or weight, as described, the arms *g*, and the pins or projections *b* on the doors or gates, for operation substantially as specified.

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Witnesses:
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