

(No Model.)

C. M. GREENMAN.
HATCHWAY GATE FOR ELEVATORS.

No. 382,037.

Patented May 1, 1888.

Fig. 1.

Fig. 4.

Fig. 5.

Fig. 3.

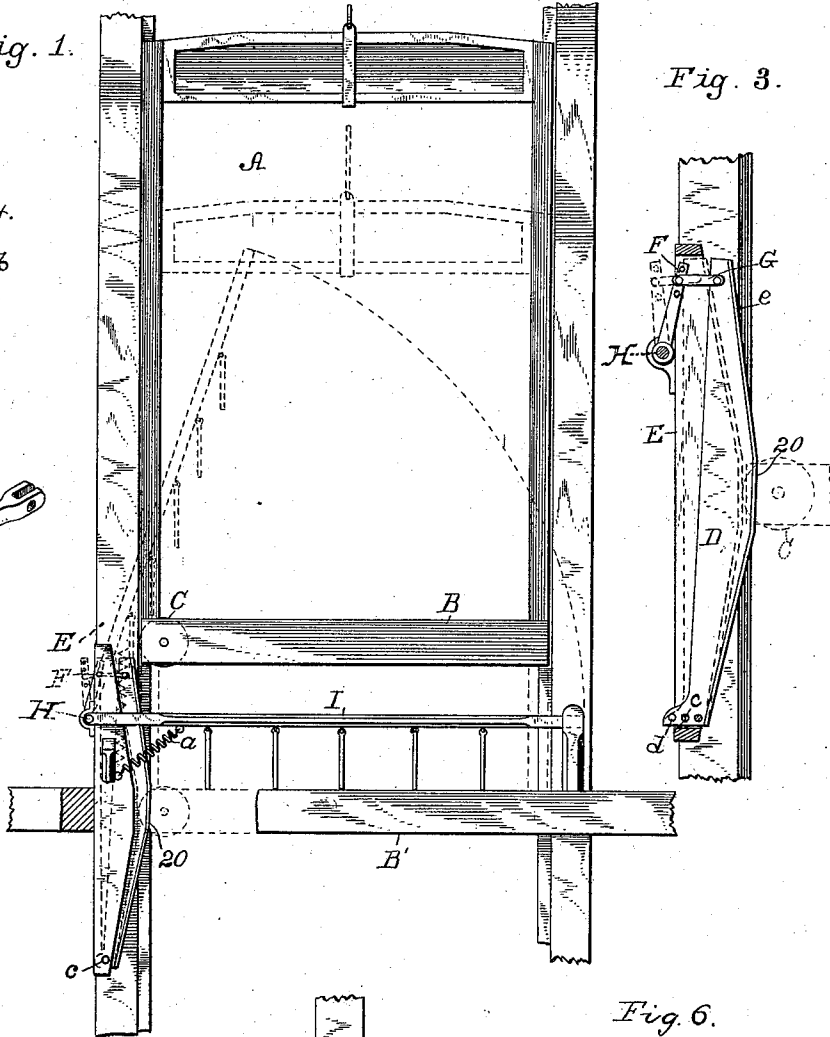
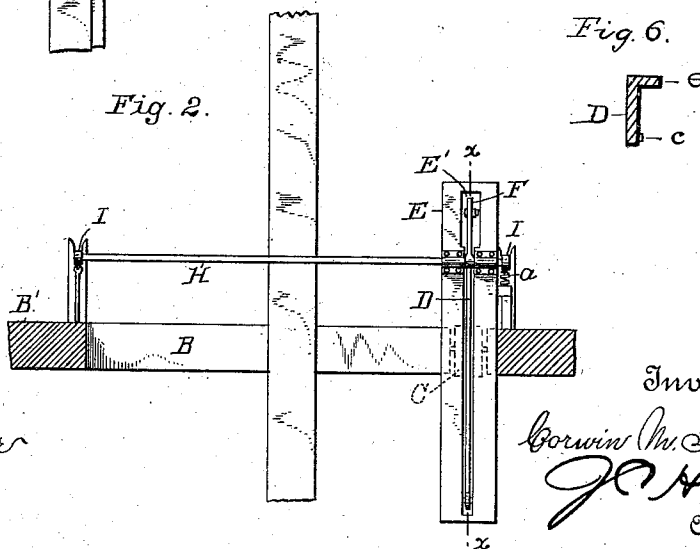


Fig. 2.

Fig. 6.



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HATCHWAY-GATE FOR ELEVATORS.

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Application filed December 5, 1887. Serial No. 256,981. (No model.)

To all whom it may concern:

Be it known that I, CORWIN M. GREENMAN, of Wyandotte, Wyandotte county, Kansas, have invented certain new and useful Improvements in Hatchway-Gates for Elevators, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

This invention relates to mechanism for guarding the hatchways of or approaches to elevators; and it may be said to consist in the devices and the peculiar combination, construction, and arrangement of devices hereinafter set forth, and pointed out in the claim.

In the drawings, which illustrate the manner of carrying out my invention, Figure 1 is a broken side elevation of an elevator to which my invention has been applied. Fig. 2 is a broken end view of same. Fig. 3 is a detail sectional view illustrating the operation of a double inclined plane used in making up the invention, the section being taken on line *x x*, Fig. 2. Fig. 4 is a detail view in perspective of an arm used in making up the invention. Fig. 5 is a detail view in perspective of a link that is used to connect the arm and the double inclined plane, and Fig. 6 a detail sectional view of the flange upon the inclined plane.

A indicates an elevator car, cage, or platform of any desired construction. In the floor B is journaled an anti-friction roller, C, which engages the double inclined plane D upon the post E. Said post is located at one side of the hatchway, and is provided with a longitudinal slot or opening, E', in which said inclined plane operates. The lower end of said plane is provided with a series of apertures, *d*, and is pivoted to said post by means of pin *c*, which is passed through any one of said series of apertures that may be desired.

Extending across one end of the hatchway is a rock-shaft, H, which carries an arm, F, and suitable bars or gates. The upper end of the inclined plane D is connected to arm F by means of link G, so that when said inclined plane is pushed outwardly by the upward and downward movements of the car or platform the roller C will engage the inclined portions of the plane and raise the gate or gates, as shown more clearly by dotted lines in Fig. 1.

To present a larger bearing-surface for the face of roller C, I prefer to form the inclined plane D of a metallic sheet and turn its inner edge over at a right angle to its main body, or, in other words, form a flange, *e*, on its inclined edge. This provides a comparatively broad track upon the edge of the plate for engagement with said roller. By setting the lower end of the inclined plane D farther in, by means of series of apertures *d* in its lower end, the stroke of said plane may be varied, thereby raising the gate to a greater or less height, as may be desired; also, by connecting the outer end of link G to a different aperture of the series of apertures *b*, formed in the arm F, the height to which the gate is raised may be varied.

It will be observed that the gate or gates I are fixed at one end to the shaft H, so that during operation their outer ends will describe the arc of a circle.

When the roller C becomes disengaged from the inclined plane D during operation, the gates I may either drop into a closed position by gravity, or a suitable coiled spring, *a*, may be connected to said gate, so as to permanently tend to close it, as shown.

It will be observed that the plate D is provided with a straight or flat portion, 20, at about the middle of its length, and it will also be observed that said straight portion is arranged substantially in the same plane as is the floor B' of the building, so that when the roller C engages the straight portion 20 the platform B, the roller, and the floor will each be in about the same plane, and the gates will be held up or open as long as the parts are in such position.

An additional function of the straight portion on plate D is to permit the platform B to be stopped a little above or a little below the floor B' and yet hold the gate in an open position, thus dispensing with overexactness in stopping and starting the platform, which is much to be desired.

Of course it should be evident I may use but a single gate in some cases, cutting off the shaft H close up to the post E; or I may extend said shaft across the hatchway and locate another gate there and have it guard the op-

posite side of the hatchway, and yet both gates will be operated by the action of the single roller C, as I here show.

It will be observed that the double inclined plane D extends an equal distance above and below the building-floor B', so that it may be engaged by the platform in passing either up or down.

Having thus described my invention, what I claim is—

The combination of a double inclined plane having a straight portion at the middle of its length, and arranged in the elevator-hatchway so that said straight portion will be opposite the floor of the building, said plane being pivoted at its lower end, so that its upper end may vibrate in a vertical plane, a rock-shaft extending at

right angles to said inclined plane and provided with an arm extending at right angles from said shaft, a link which connects said arm to the upper end of said inclined plane, a radially-moving bar or gate, also extending at right angles from said shaft, and a roller carried by the platform of the elevator, which engages said inclined plane during the upward and downward movements of said platform, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

CORWIN M. GREENMAN.

Witnesses:

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