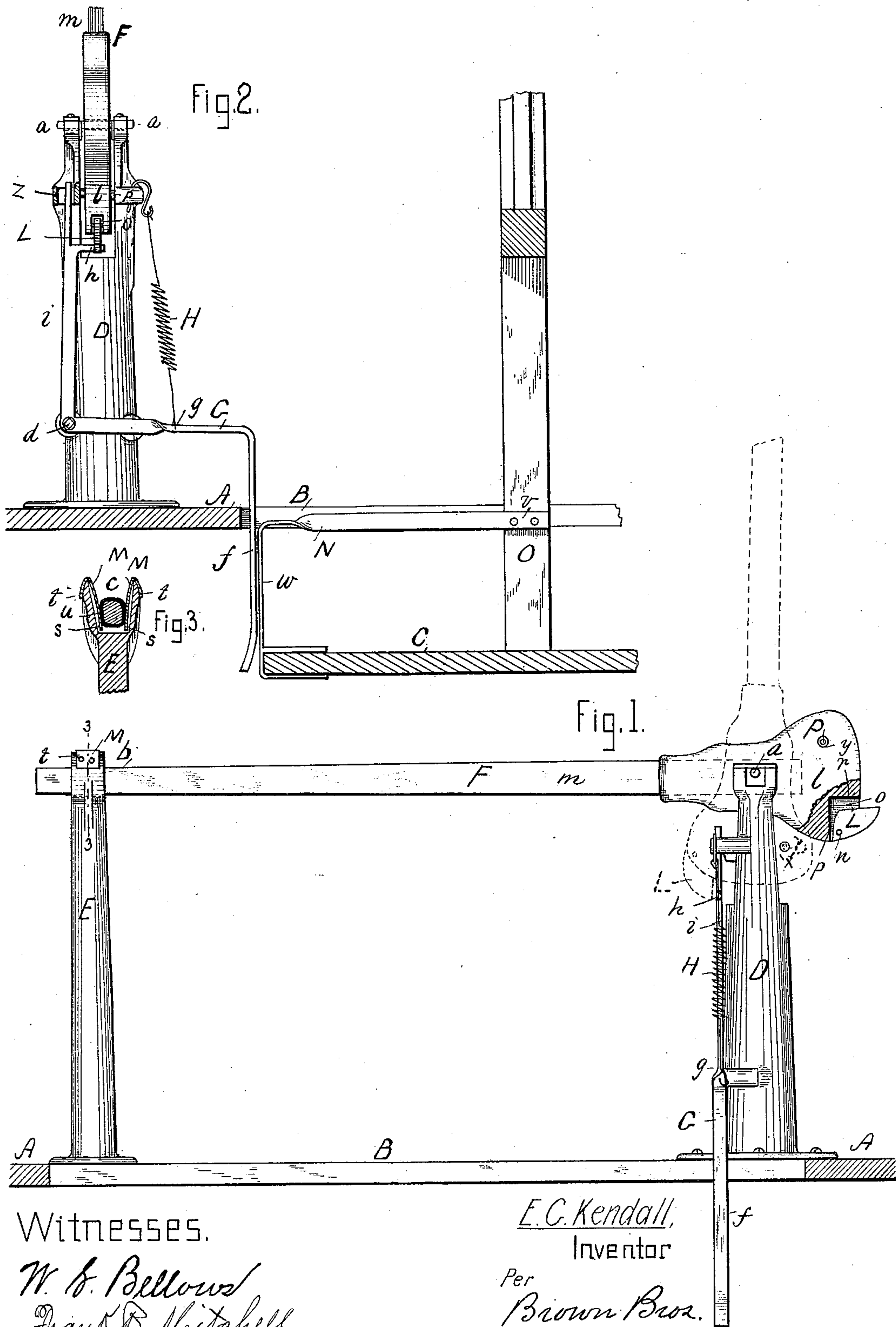


(No Model.)

E. G. KENDALL.
HATCHWAY GUARD.

No. 250,924.

Patented Dec. 13, 1881.



Witnesses.

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UNITED STATES PATENT OFFICE.

EDWARD G. KENDALL, OF BOSTON, MASSACHUSETTS.

HATCHWAY-GUARD.

SPECIFICATION forming part of Letters Patent No. 250,924, dated December 13, 1881.

Application filed October 5, 1881. (No model.)

To all whom it may concern:

Be it known that I, EDWARD G. KENDALL, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Self-Closing-Hatchway Guards, of which the following is a full, clear, and exact description.

This invention relates to improvements in the self-closing-hatchway guards for which Letters Patent of the United States were issued to me, dated November 2, 1880, and numbered 234,042; and it consists of an arrangement of parts, substantially as herein fully described and shown.

In the accompanying plate of drawings this invention is illustrated, Figure 1 being a view in elevation of the guard or gate closed, looking from the hatchway-opening, which is in section; Fig. 2, an end elevation with the guard or gate open, and the hatchway-opening and elevator-platform in vertical section; Fig. 3, a sectional view in detail on line 3 3, Fig. 1.

In the drawings, A represents the floor of a building; B, the opening or hatchway in which the elevator-platform C travels up and down, as ordinarily; D and E, upright posts, rigidly fixed to the floor, at each corner, respectively, of one of the sides of the hatchway-opening.

To the post D, at *a*, is pivoted the bar F, on which pivot it swings vertically. This bar F is the guard or gate to the hatchway-opening B, to which it is applied, and when serving as such lies in a horizontal position, as shown in Fig. 1, its end *b* then resting in a groove, *c*, in the post E.

G is a lever, pivoted at *d* to the side of post D, its lower arm, *f*, extending down into the hatchway-opening below the floor A and projecting slightly in the path or line of travel of the elevator-platform, being held in such position, except when acted upon as hereinafter described, by a spiral spring, H, secured by one end, *g*, to the arm *f* of said lever and by its other end to the post D. When the elevator-platform approaches or is at the floor A it presses against the arm *f* of lever G, swinging it on its pivot, which brings the portion *h* of its arm *i* into position for a weighted pawl, L, pivoted to the end *l* of guard F, to abut against it when the guard is in its upright position, as shown in Fig. 2, to hold the guard in such

upright position for the platform to be reached and loaded or unloaded from the floor, as desired. As the platform moves away from the floor, up or down, it passes from contact with the arm *f* of lever, and the spring H then swings the lever G away from its engagement with the pawl of the guard, when the guard will fall into its horizontal position and close the hatchway.

So far the arrangement and operation of the parts are substantially as described and shown in said Letters Patent, except as to the present invention, which will now be fully described.

The guard F, at its end *l*, is made of cast-iron, having a wooden arm, *m*, inserted therein, and its pivotal point *a* is arranged to be a little above the center of gravity of the guard when in its horizontal position, so that when the guard is up and free to fall the greater part of the metal being then at the left of its pivot will cause the guard to fall to its horizontal position.

The pawl L is pivoted at *n* in an open slot, *o*, in the end *l* of guard, and is so adjusted as to such pivot and the shoulder *p* of said slot that when the guard is upright and the lever in proper position therefor, as described, it will hang down, and by its abutment against the part *h* of arm *i* of lever G and shoulder *p* of said slot hold the guard in its upright position so long as arm *i* of the lever G is in position therefor, which is always when the platform is at or near the floor and in contact with said lever, as before described. If the guard is raised after the platform is at the floor, the pawl L will freely swing on its pivot and pass over the portion *h* into its position to abut against it to hold the guard up, as described, the slot *o* being cut away, as at *r*, to allow sufficient movement of the pawl for such result. When the guard falls its end *b* drops into the open vertical groove or slot *c* in post E, down and between the free ends *s* of two flat springs, M, extending into such slot, said springs being secured by their other ends to the post E, as at *t*. These springs M, by their pressure on the end *b* of guard, serve to hold it from rebound and retain it in the groove. To still further insure such hold, the end *b* of guard which comes in contact with the springs M is encircled, as at *u*, with india-rubber or other

suitable elastic material, rubber, however, being preferable.

N is a bar or arm, attached by one end to the platform C and extending vertically therefrom a short distance above the same, and by its other end to the post O of the platform at *v*. The vertical portion *w* of this bar N is in a position to act on the lever G when the elevator-platform approaches or is at the floor, to hold the guard in an upright position in a similar manner as before described for the elevator-platform itself. By this vertical extension of the platform the guard will be held up after the platform itself has passed below the floor, as shown in Fig. 2, according to the length or height of the vertical portion *w* of said arm.

P is a pin passing through and projecting from the sides of the end *l* of guard, to abut against the post D, as at *x*, to prevent the guard from being swung over too far when raised. The pin P, at its ends, is covered with india-rubber *y*, or other suitable elastic material for a yielding surface.

The vertical arm or extension N of the platform can be attached to and arranged in any desirable manner on the platform other than as described, and can be of any length or height desired, and the guard can be made all of metal or wood, or of any suitable material, and can be adjusted as to its weight at either end to fall as fast or slowly as desired.

The principal advantage of the extension N to the platform is that after the platform has been partially loaded at the floor it can be lowered sufficiently to allow more to be added thereto and still hold the guard upright, which is regulated by the height or length of the vertical portion of such extension.

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

1. In combination with an elevator-platform having an extension, N, a swinging guard, F, pivoted near the hatchway-opening, and a lever, G, having one end arranged to engage with said guard and its other end in the path of said extension, said lever being normally out of engagement with the guard and thrown into position for engagement therewith by the movement of the platform and extension, substantially as described.

2. In combination with an elevator-platform, a swinging guard pivoted near the hatchway-opening, having a weighted pawl, L, and a lever, G, and spring H, all arranged for operation substantially as and for the purpose specified.

3. In combination with a swinging guard pivoted near the hatchway-opening, a spring or springs, M, arranged on a post, substantially as and for the purpose described.

4. In combination with a swinging guard pivoted near the hatchway-opening, and provided with an elastic bearing, *u*, the springs M, arranged on a post, E, substantially as and for the purpose specified.

5. In combination with a post, D, secured near the hatchway-opening, a swinging guard, F, pivoted to said post, and having an attached laterally-projecting pin, P, covered with an elastic material, substantially as and for the purpose specified.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

E. G. KENDALL.

Witnesses:

EDWIN W. BROWN,
WM. S. BELLOWS.