

J. M. STROUT.
Self-Closing Hatchways.

No. 147,999.

Patented Feb. 24, 1874.

Fig. 1.

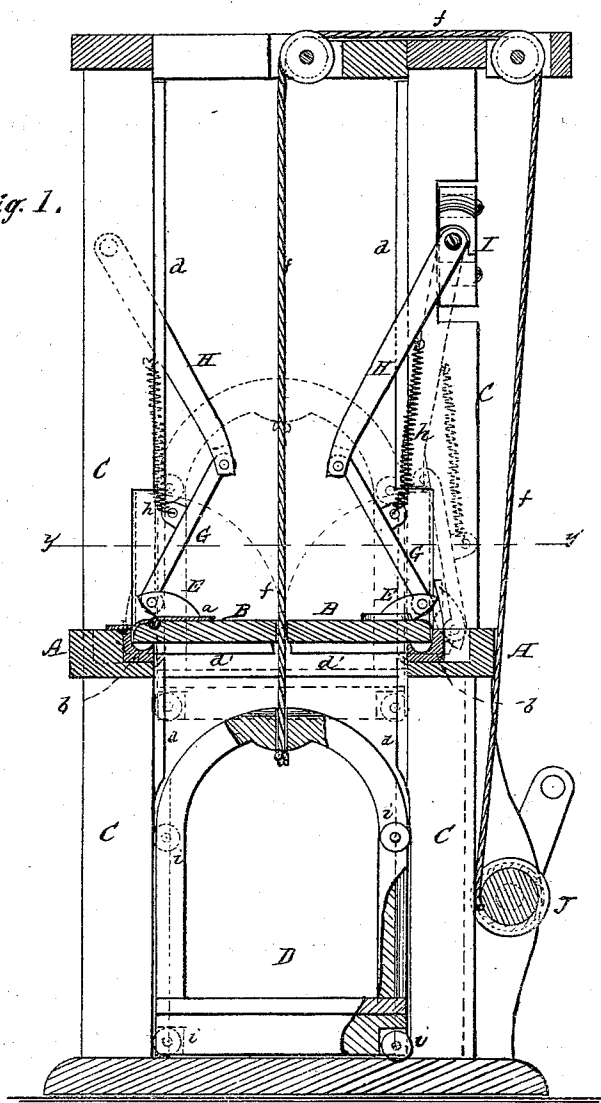


Fig. 2.

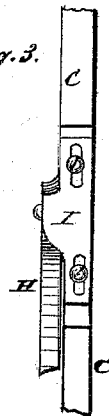
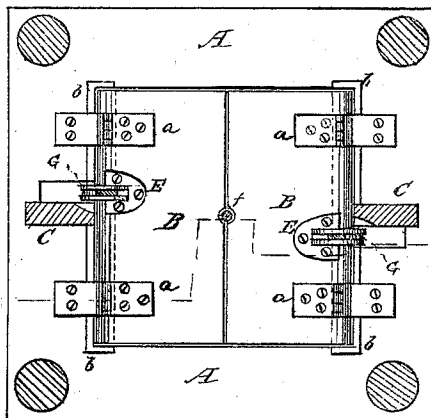


Fig. 3.



WITNESSES:

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JESSE M. STROUT, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO HIMSELF
AND CHARLES O. STROUT, OF SAME PLACE.

IMPROVEMENT IN SELF-CLOSING HATCHWAYS.

Specification forming part of Letters Patent No. **147,999**, dated February 24, 1874; application filed
January 29, 1874.

To all whom it may concern:

Be it known that I, J. M. STROUT, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Means of Opening and Closing Hatchways of Elevators; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification.

The nature of my invention consists in the construction and arrangement of an automatic device for opening and closing hatchways for elevators by the movement of the carriage, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a vertical section; Fig. 2, cross-section through line *y y*. Fig. 3 shows the lever adjustment.

A represents the floor, in which are hinged the hatches B B. Each hatch is hinged by means of two hinges, *a a*, the joints of which are a short distance inward from the edge, so that the inner edge of the hatch turns downward when the hatch opens upward. Under the hinged edge of the hatch is a concave bearing-bar, *b*, which prevents any dirt or dust from passing through the hatch. C C represent the two upright timbers, one on each side of the hatchway, which timbers are, on their inner sides, provided with a vertical guide, *d*, to enter corresponding grooves on the sides of the elevator-carriage D. The guide *d* on each side is cut away, as well as a portion of the timber C, to allow the hatch to open vertically, and on the under side of the hatch is attached a guide, *d'*, to take the place of the cut-away part of the guide *d*. On top of each hatch B is secured a short lever, E, which extends a trifle beyond the inner edge, and to this lever is pivoted another lever, G, the upper end of which is bent inward and pivoted to the

lower end of a third lever, H. The upper end of this lever is pivoted to a block, I, which is made adjustable upon the timber C by any suitable means. The two levers G and H are connected by means of a spring, *h*, the tendency of which is to throw their jointed ends inward, so as to draw the outer end of the lever E upward and close the hatch. The carriage D is raised and lowered by a windlass, J, and cord *f*, or other suitable means. As the carriage D ascends, it strikes the under sides of the hatches B B and opens the same to allow the carriage to pass, the levers G H being thereby thrown back and extended nearly to a straight line. As the carriage passes the hatch the springs *h h* throw the jointed ends of said levers inward, the levers H H following against the lower edges of the carriage until the carriage has risen sufficiently to allow the levers to close the hatches. In descending, the carriage D presses upon the levers H H, forcing their lower ends outward, which movement, through the medium of the levers G and E, opens the hatches and allows the carriage to pass, the hatches closing in like manner after the carriage has passed through. On the carriage D are suitable friction-rollers, *i i*, where the levers H H otherwise would come in contact with it and wear. This automatic device is applicable to any elevators for warehouses, hotels, or other private and public buildings.

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

The combination, with the hatches B B, hinged substantially as described, of the levers E, G, and H, and springs *h*, constructed and arranged substantially as and for the purposes herein set forth.

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

JESSE MARTIN STROUT.

Witnesses:

CHAS. F. STROUT,
WATSON TAYLOR.