

W. H. BROCK.
Self-Closing Hatchways.

No. 151,199.

Patented May 26, 1874.

Fig. 1.

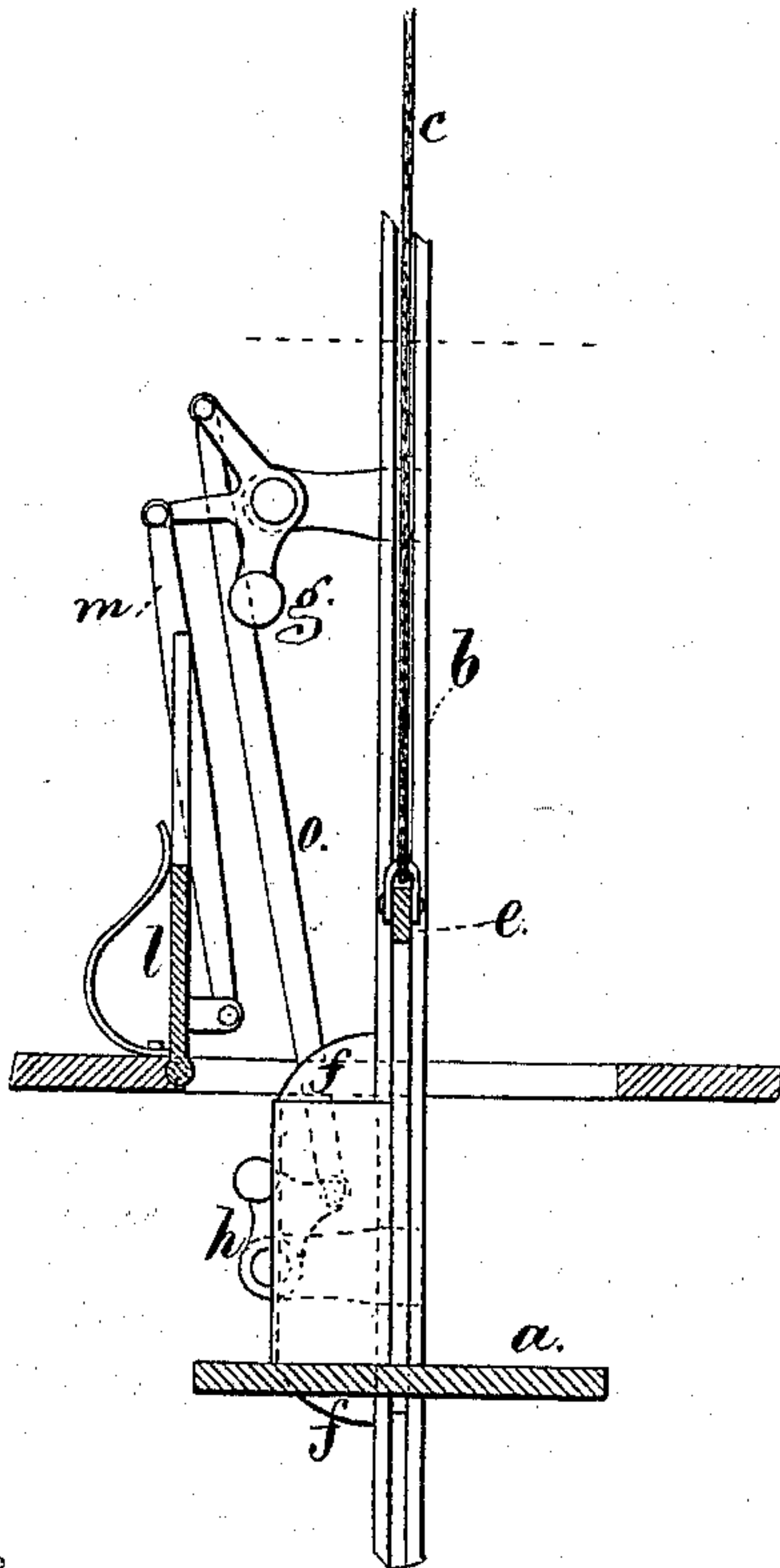


Fig. 2.

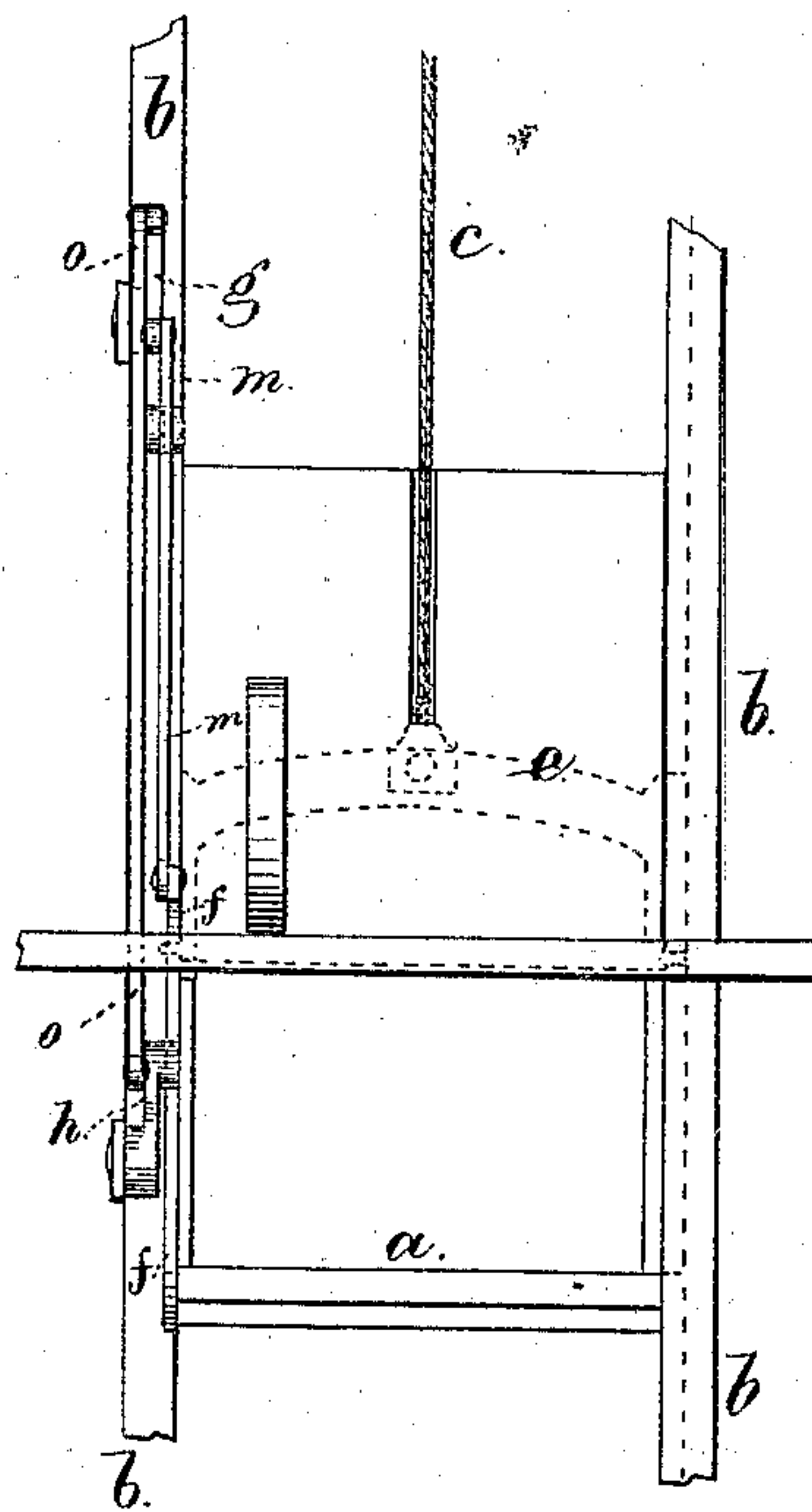
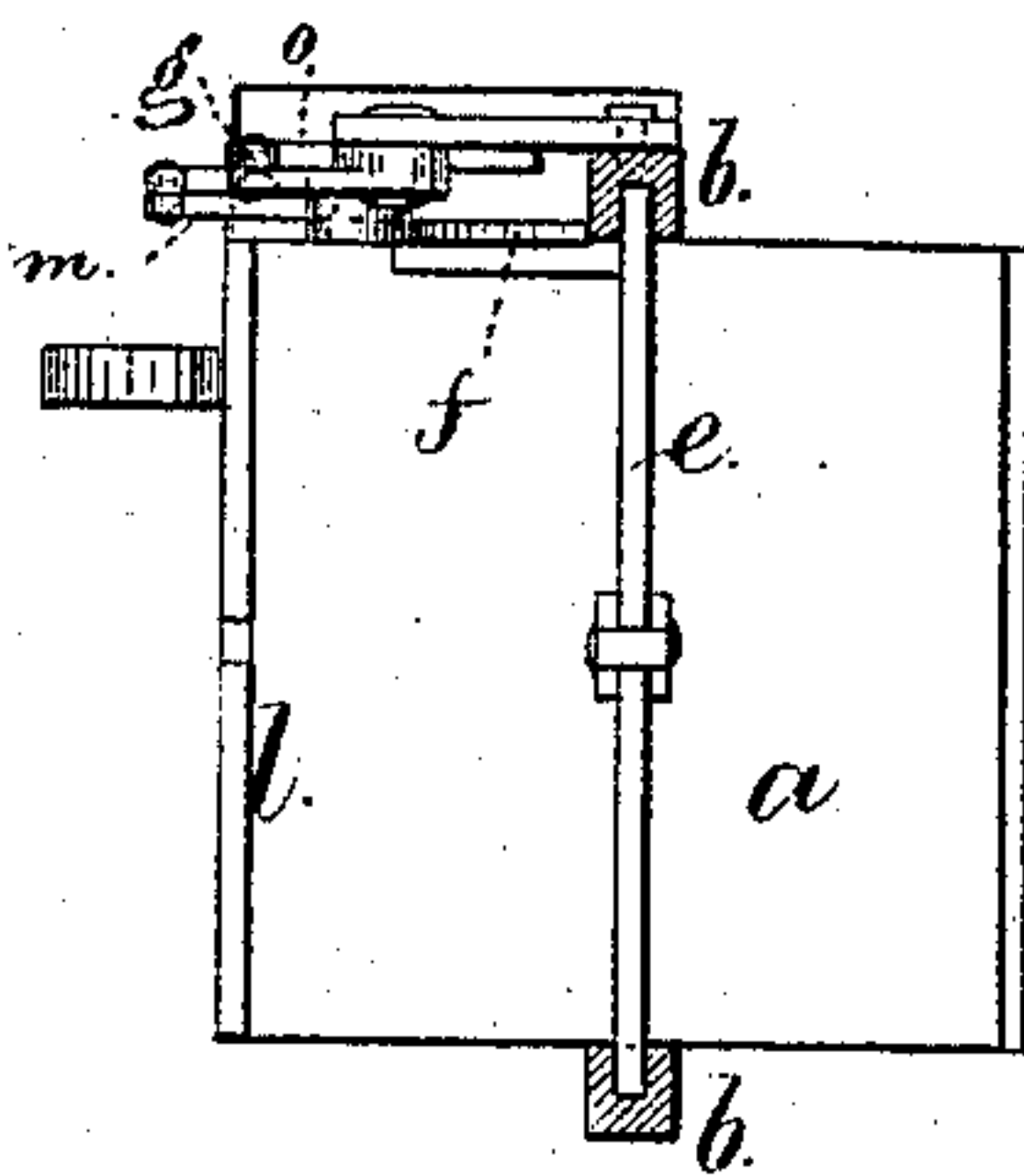


Fig. 3.



Witnesses

Chas. H. Smith
Geo. D. Pinckney

Inventor.

William H. Brock,
per Lemuel W. Terrell

att'y.

UNITED STATES PATENT OFFICE.

WILLIAM H. BROCK, OF BROOKLYN, E. D., ASSIGNOR TO JABEZ A. BOSTWICK, OF NEW YORK, N. Y.

IMPROVEMENT IN SELF-CLOSING HATCHWAYS.

Specification forming part of Letters Patent No. **151,199**, dated May 26, 1874; application filed April 15, 1874.

To all whom it may concern:

Be it known that I, WILLIAM H. BROCK, of Brooklyn, E. D., in the county of Kings and State of New York, have invented an Improvement in Opening and Closing Hatches, of which the following is a specification:

A device has been constructed for opening and closing hatches as a car or platform has been drawn up or down, and in which the hatch is hinged and connected by a rod to a lever acted upon by a projection at the side of the platform, so as to open the hatch as the car or platform descends, and as the same ascends the hatch is opened by the contact therewith of a car or parts connected to the platform.

My invention consists in an arrangement of levers and rods above and below the hatch, whereby the hatch is opened as the car ascends, and closed as it descends, without the parts of the car or platform coming into contact with such hatch, thereby lessening the risk of injuring the hatch by contact therewith of the platform, and causing the operations to be performed more reliably and without concussion.

In the drawing, Figure 1 is a vertical section at right angles to the hinges on which the hatch swings. Fig. 2 is an elevation with the hatch open, and Fig. 3 is a sectional plan at the line *x x*.

The platform *a* or car is shown as moving in guideways *b*, and drawn up by a rope or chain, *c*, attached by the cross-head *e*. A cam-piece,

f, is attached at one side of the platform. It is shaped so that it will operate upon the bent levers *g* or *h*, and press the vertical, or nearly vertical, arms of such levers back and open the hatch *l*. The lever *g* is connected to the hatch *l* by a rod, *m*, and the levers *g* and *h* are connected together by the rod *o*.

It will now be evident that as the car or platform *a* descends, its cam-piece *f* presses back the bent lever *g*, and by the rod *m* raises the hatch up vertical. It cannot close as the car or platform passes it, and the cam *f*, coming into contact with the bent lever *h*, holds the hatch until the platform has sufficiently descended, after which the cam projection *f* allows the lever *h* to move gradually and the hatch to close. The reverse movements open the hatch as the car or platform is raised, the cam *f* moving the lever *h*, and, by the rod *o*, lever *g*, and rod *m*, to the hatch *l*, opening such hatch in advance of the car or platform.

I claim as my invention—

The lever *h* below the hatch *l*, connected, by the rod *o*, to the lever *g* above the hatch, in combination with the rod *m*, connecting the lever *g* to the hatch, and the cam *f* upon the car or platform, to operate these levers *g* and *h*, as and for the purposes set forth.

Signed by me this 7th day of April, 1874.

WILLIAM H. BROCK.

Witnesses:

ALFRED J. POUCH,
JAS. F. KER.