

No. 867,626.

PATENTED OCT. 8, 1907.

G. R. WIKANDER,  
LOCK FOR ELEVATOR DOORS.  
APPLICATION FILED JULY 2, 1907.

FIG.3.

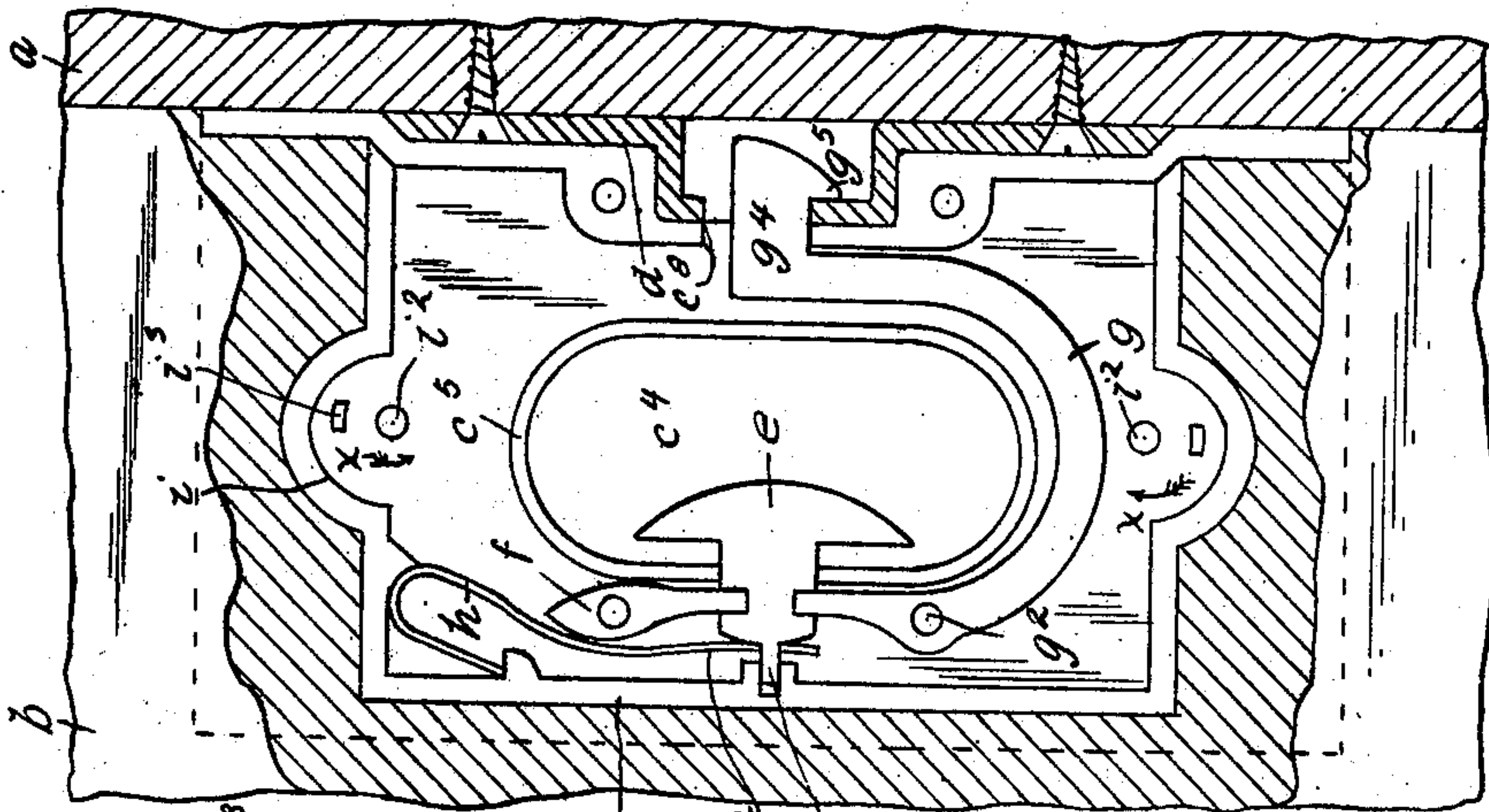


FIG.2.

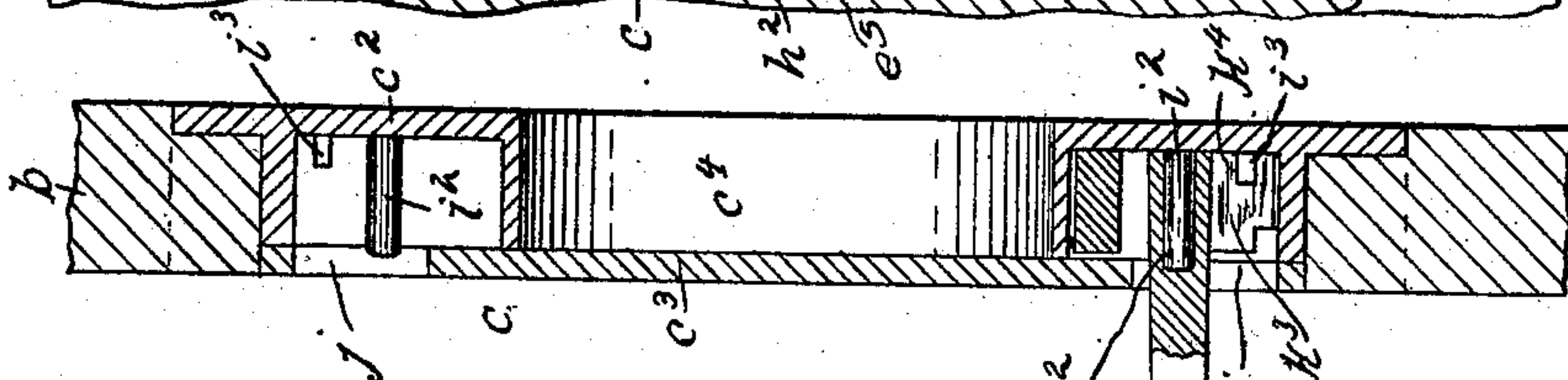
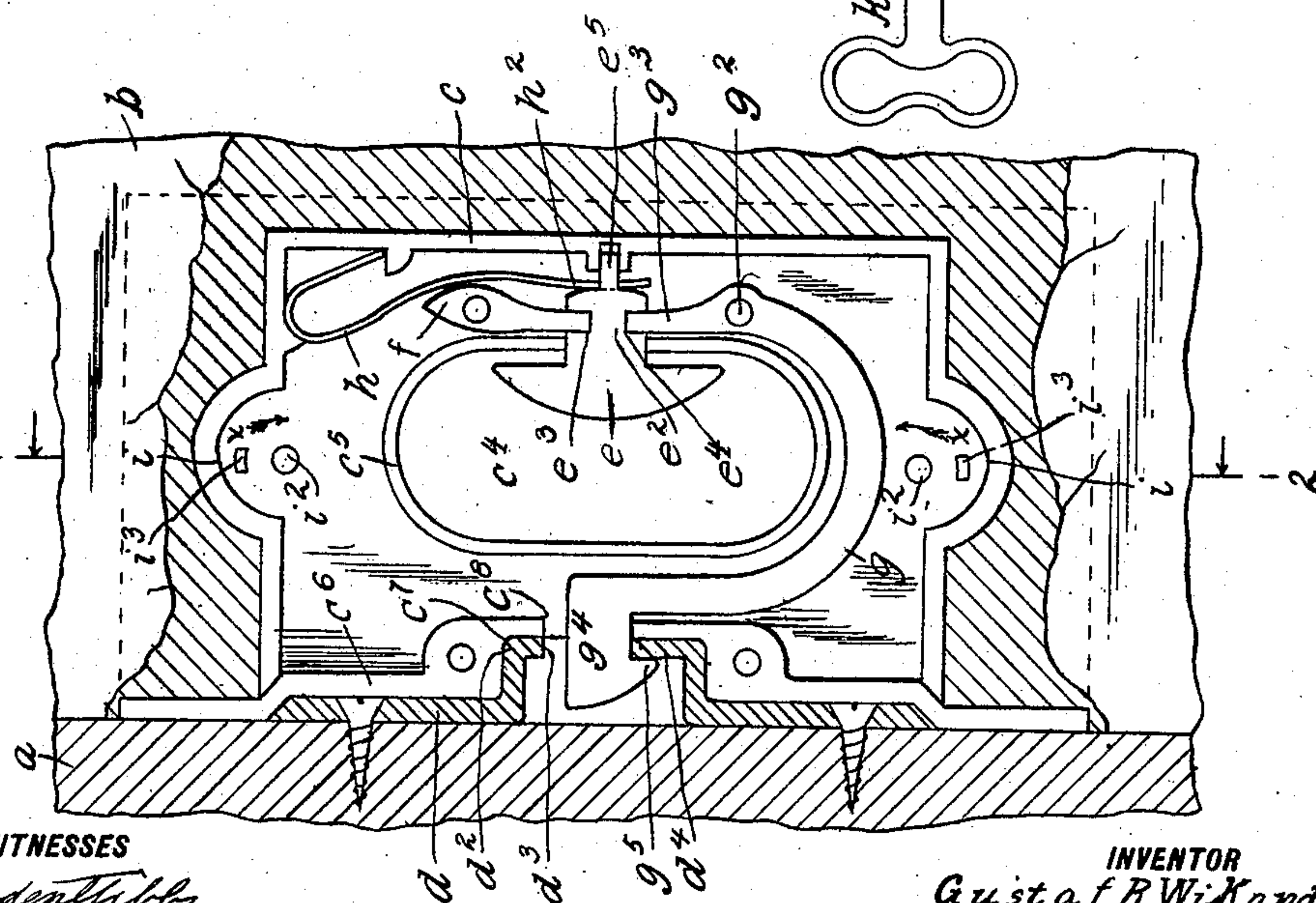


FIG.1.



WITNESSES

*A. Woodentills.*  
*b. E. Mulreany.*

BY

INVENTOR

*Gustaf R. Wikander.*

*Edgar S. S. Co.*

ATTORNEYS



# UNITED STATES PATENT OFFICE.

GUSTAF ROBERT WIKANDER, OF NEW YORK, N. Y.

## LOCK FOR ELEVATOR-DOORS.

No. 867,626.

Specification of Letters Patent.

Patented Oct. 8, 1907.

Application filed July 2, 1907. Serial No. 381,888.

*To all whom it may concern:*

Be it known that I, GUSTAF R. WIKANDER, a subject of the King of Sweden, and residing at New York, in the county of New York and State of New York, have

5 invented certain new and useful Improvements in Locks for Elevator Doors, of which the following is a specification, such as will enable those skilled in the art to which it appertains to make and use the same.

The object of this invention is to provide an improved lock for sliding elevator doors which may be used either as a right hand or left hand lock, and which may be conveniently manipulated from inside the car by hand, and which may be operated from the outside of the car by a key.

15 The invention is fully disclosed in the following specification, of which the accompanying drawing forms a part, in which the separate parts of my improvement are designated by suitable reference characters in each of the views, and in which;—

20 Figure 1 is an outside view of a part of the door frame of an elevator car and a part of the door, and showing my improved lock arranged as a right hand lock, and showing a part of the door frame and a part of the door in section, and the outside of the lock case removed;

25 Fig. 2 a longitudinal section on the line 2—2 of Fig. 1, and showing the outside of the lock case in position; and, Fig. 3 a view similar to Fig. 1 but showing the lock arranged as a left hand lock.

In the drawing forming part of this specification, reference being made to Figs. 1 and 2, I have shown at 30 *a* a part of one side of the frame of an elevator door, and at *b* a part of the door; and in the practice of my invention, I provide a lock which may be set into the door as shown in the drawing or secured to one side thereof, if

35 desired. My improved lock comprises a case *c* having an inner plate *c*<sup>2</sup> and an outer removable plate *c*<sup>3</sup>, and the inner plate *c*<sup>2</sup> is provided centrally with an oblong opening *c*<sup>4</sup> formed by an inwardly directed wall *c*<sup>5</sup>, formed integrally with the inner plate *c*<sup>2</sup>, and the opening *c*<sup>4</sup> and wall *c*<sup>5</sup> are oblong in form, the greatest length thereof being the vertical length, and the upper ends of the opening *c*<sup>4</sup> are preferably circular or segmental in form as is also the wall *c*<sup>5</sup> which incloses said opening.

45 The side *c*<sup>6</sup> of the case *c* adjacent to the part *a* of the door frame has a counter-sunk recess *c*<sup>7</sup>, and, in practice, I secure to the part *a* of the door frame, a strike plate *d* having an inwardly directed portion or keeper *d*<sup>2</sup> adapted to enter the recess *c*<sup>7</sup> and provided with an opening 50 *d*<sup>3</sup> which corresponds with an opening *c*<sup>8</sup> in the wall of the recess *c*<sup>7</sup>, or in the counter-sunk portion of the side wall *c*<sup>6</sup> of the case *c* in which the recess *c*<sup>7</sup> is formed.

Within the opening *c*<sup>4</sup> of the case *c* is placed a block *e* having a shank *e*<sup>2</sup> which passes loosely through the side wall *c*<sup>5</sup> of the opening *c*<sup>4</sup> opposite the opening *c*<sup>8</sup>, and 55 pivoted at the upper side of said shank is a short arm *f*

which enters a recess *e*<sup>3</sup> in the shank *e*<sup>2</sup> of the block *e*, and pivoted on the lower side of said shank is a curved lock arm *g*. The arm *g* is pivoted at *g*<sup>2</sup> and the shorter end *g*<sup>3</sup> thereof is adapted to enter a recess *e*<sup>4</sup> in the shank 60 *e*<sup>2</sup> of the block *e* similar to the recess *e*<sup>3</sup>, and the longer end of the arm *g* extends around the bottom of the opening *c*<sup>4</sup>, and around the wall *c*<sup>5</sup> of said opening at the lower end thereof, and said arm extends upwardly parallel with said opening, and is provided with an 65 outwardly directed extension *g*<sup>4</sup> adapted to pass through the opening *c*<sup>8</sup> and the opening *e*<sup>3</sup>, and is provided with a nose *g*<sup>5</sup> adapted to engage the lower wall *d*<sup>4</sup> of the opening *d*<sup>3</sup> in the keeper *d*<sup>2</sup> formed on the strike plate, and to lock and hold the door in a closed position. 70

A spring *h* is secured in the corner of the case *c* above the arm *f* and one end *h*<sup>2</sup> thereof extends downwardly and is adapted to bear on the outer end of the shank *e*<sup>2</sup> of the block *e*, and to force said block inwardly, and this spring normally serves to hold the parts of the lock 75 in the position shown in Fig. 1.

If the door be open and is moved into the closed position, as shown in Fig. 1, the nose *g*<sup>5</sup> of the outwardly directed extension *g*<sup>4</sup> of the arm *g* will strike the wall *d*<sup>4</sup> of the part *d*<sup>2</sup> of the strike plate *d* and the arm *g* will be 80 raised, and when the door is fully closed the arm *g*, operated by the spring *h*, will drop into the position shown in Fig. 1 and the door will be locked.

In order to open the door all that is necessary is to insert the fingers into the opening *c*<sup>4</sup> from the inner side 85 of the door and press on the block *e*, and this operation will raise the nose *g*<sup>5</sup> of the part *g*<sup>4</sup> of the arm *g* and at the same time open the door. At each end of the case *c* is a semi-circular recess *i* in which is eccentrically placed a post *i*<sup>2</sup>, and backwardly of the post *i*<sup>2</sup> in each 90 of the recesses *i* is a lug *i*<sup>3</sup>, and in order to operate the lock and open the door from the outside of the elevator, the outer plate *c*<sup>3</sup> of the case *c* is provided with key holes *j* which correspond with the posts *i*<sup>2</sup>, and, in practice, I provide a key *k*, the shank of which is provided 95 with a socket *k*<sup>2</sup> adapted to receive the post or posts *i*<sup>2</sup> and the bit *k*<sup>3</sup> of the key *k* is provided with a recess *k*<sup>4</sup> through which the lug or lugs *i*<sup>3</sup> pass in the operation of the key.

By reason of the arrangement of the posts *i*<sup>2</sup>, the key 100 *k* can only be turned in one direction, this direction being indicated by the arrows *x* in Figs. 1 and 2, and in this operation the bit *k*<sup>3</sup> will strike the arm *g* and raise it so as to release the lock and enable the door to be open. 105

In Fig. 3 the position of the parts of the lock are simply reversed in order that the lock may be used on a door which moves to the left, and while I have shown the arm *g* in the bottom part of the case, in both instances, it will be apparent that the position of said 110 arm, and of the arm *f* may be reversed if desired, in which position the arm *g* will be put in the top part



of the case and the arm *f* in the bottom part and the nose *g*<sup>5</sup> of the part *g*<sup>4</sup> of the arm *g* would extend upwardly instead of downwardly and would operate in connection with the top part of the wall *d*<sup>4</sup> of the opening *d*<sup>3</sup> in the strike plate *d* instead of in connection with the bottom part thereof.

The use of the arm *f* in connection with the lock arm *g* insures the proper movement of the block *e* and the shank *e*<sup>2</sup> thereof, and the shank *e*<sup>2</sup> of the block *e* is provided with an outwardly directed tongue *e*<sup>5</sup> which enters the corresponding recess in the inner side of the case *c* and which also serves to guide the shank *e*<sup>2</sup> of the block *e* and regulate the movement of said block, and the part *h*<sup>2</sup> of the arm *h* passes back of the tongue *e*<sup>5</sup>.

With the parts of the lock in the position shown in Figs. 1 and 2, only one of the key recesses *i* and corresponding post *i*<sup>2</sup> is necessary, but if the position of the arms *f* and *g* be reversed, as hereinbefore described, the opposite key recess *i* and corresponding post *i*<sup>2</sup> would be employed.

Although, I have described my invention as particularly applicable to elevators and elevator doors, it will be apparent that the same may be employed in connection with any kind or class of a sliding door, or a sliding door used for any purpose.

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

1. In a lock for sliding doors, a case one side of which is provided with an opening, a block placed in said opening and provided with a shank movable through one side thereof, a spring adapted to bear on said shank and force the block inwardly, arms pivoted on the opposite sides of said shank and adapted to enter recesses formed therein, one of said arms being a lock arm and being curved around said opening and provided with a laterally directed extension which passes outwardly through the side of the case opposite that in which said arms are pivoted.

2. In a lock for sliding doors, a case one side of which is provided with an opening, a block placed in said opening

and provided with a shank movable through one side thereof, a spring adapted to bear on said shank and force the block inwardly, arms pivoted on the opposite sides of said shank and adapted to enter recesses formed therein, one of said arms being a lock arm and being curved around said opening and provided with a laterally directed extension which passes outwardly through the side of the case opposite that in which said arms are pivoted, and a strike plate adapted to be secured to one side of the door frame and provided with a keeper adapted to enter a recess in the adjacent side of the lock and to receive the extension of the lock arm.

3. In a lock for sliding doors, a case one side of which is provided with an opening, a block provided in said opening and provided with a shank movable through one side wall thereof, a spring adapted to bear on said shank and force the block inwardly, arms pivoted on the opposite sides of said shank and adapted to enter recesses formed therein, one of said arms being a lock arm and being curved around said opening and provided with a laterally directed extension which passes outwardly through the side of the case opposite that in which said arms are pivoted, and a strike plate adapted to be secured to one side of the door frame and provided with a keeper adapted to enter a recess in the adjacent side of the lock case and to receive the extension of the lock arm, the other side of the lock case being provided with a key hole through which a key may be inserted to release the lock arm.

4. In a lock for sliding doors, a case one side of which is provided with an opening, around which is a wall, a block placed in said opening and provided with a shank movable through one side of said wall, a spring adapted to bear on said shank and force the block inwardly, a lock arm pivoted adjacent to said shank and one end of which operates in a recess formed therein, the other end of said arm being curved around said opening and provided with a laterally directed extension which passes outwardly through the side of the case opposite that in which said arm is pivoted.

In testimony that I claim the foregoing as my invention I have signed my name in presence of the subscribing witnesses this 29th day of June 1907.

GUSTAF ROBERT WIKANDER.

Witnesses:

C. E. MULREANY,  
A. WORDEN GIBBS.