

H. F. FRANKLIN.
SLIDING DOOR LOCK.
APPLICATION FILED MAY 13, 1912.

1,032,595.

Patented July 16, 1912.

Fig. 1.

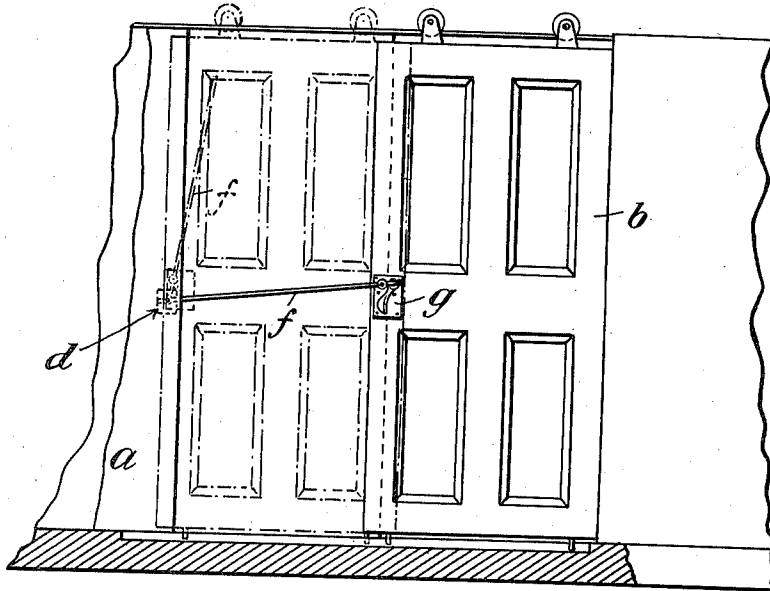


Fig. 2.

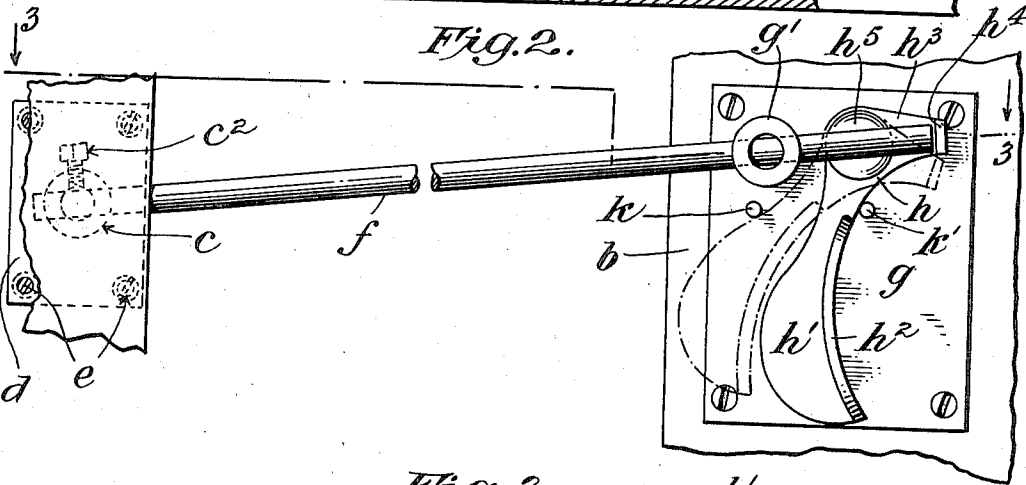
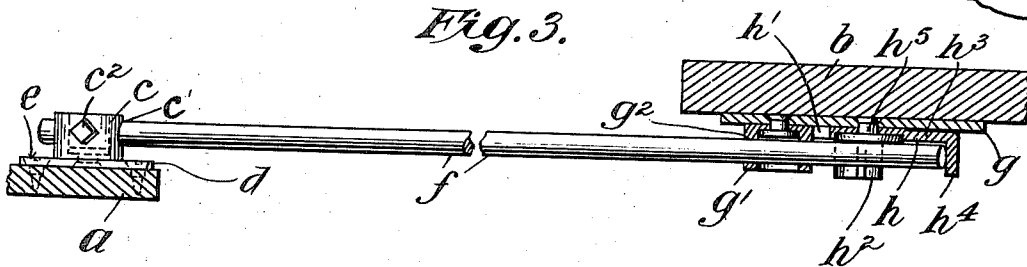


Fig. 3.



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UNITED STATES PATENT OFFICE.

HUBERT F. FRANKLIN, OF BROOKLYN, NEW YORK, ASSIGNOR TO RELIANCE BALL-BEARING DOOR HANGER COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

SLIDING-DOOR LOCK.

1,032,595.

Specification of Letters Patent.

Patented July 16, 1912.

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To all whom it may concern:

Be it known that I, HUBERT F. FRANKLIN, a citizen of the United States, residing in the borough of Brooklyn, county of Kings, State of New York, have invented certain new and useful Improvements in Sliding-Door Locks, of which the following is a specification, reference being had to the accompanying drawings, which form a part hereof.

This invention relates to locks for sliding doors.

It has for its object to simplify the construction of such locks, to reduce the number of parts thereof, to eliminate spring or like catch-actuating means, to cheapen the cost and to provide a lock which may be readily fitted to any sliding door.

For purposes of description, the present invention is herein illustrated as attached to an elevator door of usual construction.

Reference is now to be had to the accompanying drawings in which—

Figure 1 is a view of the inner side of a closed elevator door, to which the improved lock is attached. Fig. 2 is a fragmentary enlarged view of the parts of the device when in locking position. Fig. 3 is a view taken on the plane indicated by the line 3—3 in Fig. 2, looking in the direction of the arrows.

On the inner face of the casing *a* in which the door *b* slides, is a swivel block *c* mounted on a bracket *d* readily attachable to the casing by screws *e*.

The swivel block *c* may be formed as a cylinder having diametrically opposed apertures *c'* in the walls thereof to receive a rod *f* which may be secured readily and adjustably in the block *c* by a set screw *c²*.

On the door *b* preferably adjacent the inner edge thereof and at a convenient height, is secured a plate *g* on which is mounted a second swivel block *g'* of the same construction as that above described, save that no set screw is employed as the rod *f* is adapted to have a free sliding movement through the apertures *g²* in the walls of the block. On the plate *g* in juxtaposition to the swivel block *g'* is pivotally attached an operating lever *h* having a depending arm *h'* provided with a suitable handle *h²* for a purpose to be hereinafter set forth. The other arm *h³* of the operating lever *h* extends approximately at right angles to the depending arm

h' and has a flange *h⁴* formed on its end in a plane normal thereto.

The weight of the depending lever arm *h'* is so disposed with relation to the pivotal support *h⁵* of the lever *h* as to cause the arm to hang in a substantially vertical position, while the lever *h* has its arms *h'* and *h³* so related angularly that when the depending arm *h'* is in a substantially vertical position the flange *h⁴* lies on a line intersecting the axes of the swivel block *g'* and the pivotal support *h⁵* when the door is closed. This flange *h⁴* may be moved from such position, however, by grasping the handle *h²* and swinging it toward the swivel block *g'*. This swinging movement may be limited by a stud *k* mounted on the plate *g*, while if desired, another stud *k'* may be provided to limit the movement of the handle *h²* in the opposite direction.

From the above description it will be understood that the rod *f*, which must be at least long enough to extend from the flange *h⁴* through the swivel block *c* on the casing *a*, is secured in the said block *c* by the screw *c²* when the opposite end of the rod *f* abuts against said flange *h⁴* in the closed position of the door. Movement of the door is then prevented as the flange carrying arm *h³* lies parallel to the rod *f* and there is no tendency for the lever *g* to swing on its pivotal support *h⁵*. The necessary alinement of the axes of the swivel block *c*, the swivel block *g'*, the pivotal support *h⁵* and the flange *h⁴* may be obtained by raising or lowering the plates *d* and *g* relatively to each other before securing them to their respective supports. In this initial adjustment it will be understood that the rod *f* should be mounted in an inclined position so that the flange *h⁴* may be more readily swung out of its path, and so that the two swivel blocks will have sufficient angular relation when the door is open to maintain the rod *f* inside the casing in a substantially vertical position.

In operation, the door may be opened by swinging the flange *h⁴* downward out of the path of the free end of the rod *f* after which continued pressure on the handle *h²* causes the door to slide in the casing. The swivel block *g'* becomes a moving fulcrum for the rod *f* and swings the latter upward and inward toward the casing *a*. When the door is open the angular relation of the swivel block *c* on the casing *a* and the swivel block *g'* on the door

b is such as to cause the rod f to lie in a substantially vertical position and accordingly wholly within the casing. Upon sliding the door b to closed position the weight of the depending arm h' of the lever h automatically throws the flange h^4 into the path of the free end of the rod f .

While the swivel block c constitutes a desirable element for securing the rod f to the casing, it is to be understood that many equivalents therefor may be employed. In fact, a swivel mounted as a separate element may be omitted entirely and the fixed end of the rod may be bent at right angles and secured in a recess in the casing. The same may be said of the swivel block g' on the door. The function of this block is primarily to guide the rod f in its movement and so it will be readily seen that any guiding means which permits the rod to swing through an angle of approximately ninety (90) degrees may be used.

What I claim is:

1. The combination with a casing and a sliding door, a locking device comprising a swivel mounted on the casing, a rod secured to said swivel, a second swivel carried by the door and in which the rod is slidably disposed and a locking member mounted on the door and movable across the free end of the rod.

2. In combination with a casing and a sliding door, a locking device comprising a swivel mounted on the casing, a rod secured to said swivel, a second swivel carried by the door and in which the rod is slidably disposed, an operating lever mounted on the door and having an arm normally parallel to the rod, a flange carried by said arm, and an operating handle carried by said arm

to oscillate the same to move the flange across the free end of the rod.

3. In combination with a casing and a sliding door, a locking device comprising a swivel mounted on the casing, a rod secured thereto, a swivel mounted on the door to which the rod is slidably attached, said swivels being in different horizontal planes, and locking means secured to the door movable across the free end of the rod.

4. In combination with a casing and a sliding door, a locking device comprising a rod pivotally secured to the casing, a guide for the rod carried by the door and a locking member mounted on the door and movable across the free end of the rod.

5. In combination with a casing and a sliding door, a locking device comprising a rod pivotally secured thereto, a guide for the rod mounted on the door, said rod being mounted in an inclined position and locking means secured to the door and movable across the free end of the rod.

6. In combination with a casing and a sliding door, a locking device comprising a swivel mounted on the casing, a rod secured thereto, a second swivel on the door in which the rod is slidably mounted, a lever mounted on the door and having a flange movable across the free end of said rod and gravity actuated means to automatically position said flange on the axis of the rod in juxtaposition to the free end thereof when the door is in closed position.

This specification signed and witnessed this 9th day of May A. D., 1912.

HUBERT F. FRANKLIN.

Signed in the presence of—

E. M. TAYLOR,

WORTHINGTON CAMPBELL.