(No Model.)

M. W. COLLET.

LOCK FOR SHAFT DOORS OF ELEVATORS.

No. 565,882. Patented Aug. 18, 1896.

Fig 1

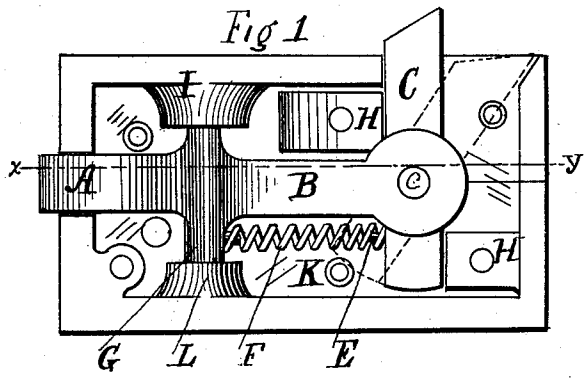


Fig. 2.

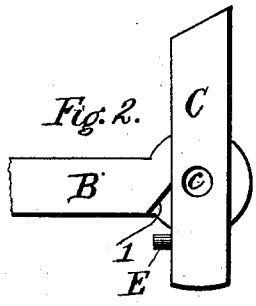


Fig. 3.

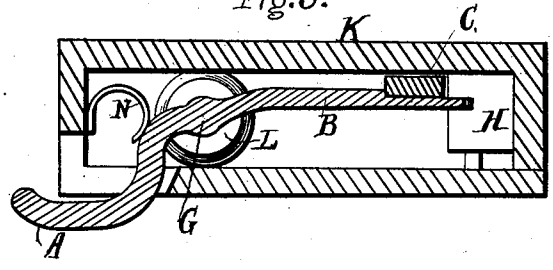


Fig. 4.

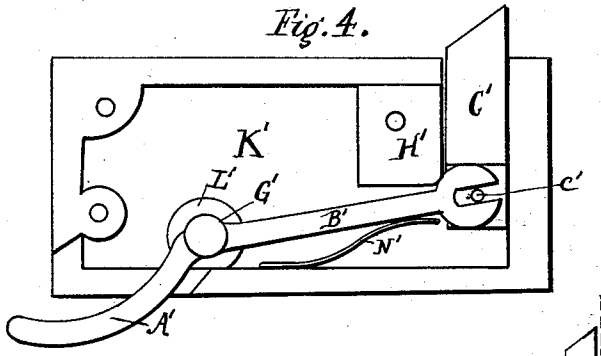


Fig. 5.

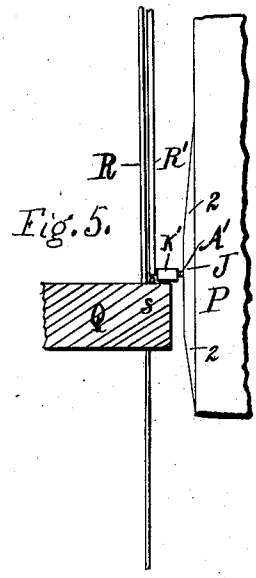
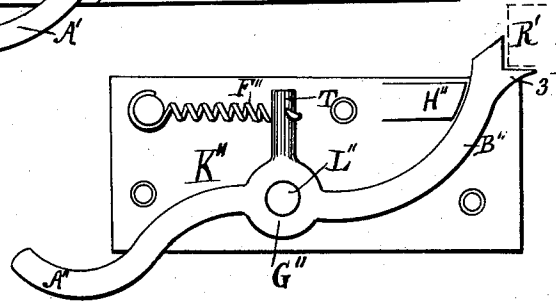


Fig. 6.



Witnesses

M. C. Rehn

J. J. W. Donath

Inventor

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UNITED STATES PATENT OFFICE.

MARK WILKS COLLET, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE ELEVATOR SAFETY CONTROLLER COMPANY, OF SAME PLACE.

LOCK FOR SHAFT-DOORS OF ELEVATORS.

SPECIFICATION forming part of Letters Patent No. 565,882, dated August 18, 1896.

Application filed December 20, 1895. Serial No. 572,775. (No model.)

To all whom it may concern:

Be it known that I, MARK WILKS COLLET, a citizen of the United States, and a resident of the city and county of Philadelphia and State of Pennsylvania, have invented a new and useful Improvement in Locks for the Shaft-Doors of Elevators, of which the following is a clear and sufficient specification, reference being had to the drawings annexed.

The object of my invention is to unlock, automatically, the doors of elevators as the cage comes opposite to them severally and to lock the same again automatically as soon as the cage has moved away from in front of each shaft-door.

Figure 1 is a side elevation of my invented device in a form that is most convenient for overhanging elevator-doors with the face-plate removed. Fig. 2 is a side elevation of the opposite side of some of the interior mechanism. Fig. 3 is a section on the line *x y* of Fig. 1. Figs. 4 and 6 are views of forms of device applicable where the shaft-doors sit back slightly from the edge of the well; and Fig. 5 is a side elevation of part of a carriage, the lock, and shaft-door and adjacent structures in coöperating positions.

Describing now in detail the best forms of device of which I am at present aware, I make the arm A, which comes into contact with the devices moving with the car for moving it to release the catch engaging with the shaft-door, in one piece with the spindle G, which turns in bearings L L, and make also in one piece with the spindle G the arm B, which forms the means for connecting the arm A with the devices engaging the door R. This part of the device consists of the bolt C, which in Fig. 1 is pivoted to the arm B by the pin *c*. In order to prevent the pressure arising from an attempt to press back the door when the lock is on, I place, to strengthen the device, the two lugs H H, secured to the bed-plate K of the lock, on each side of the stop or bolt C, to take the thrust from the backward pressure of the door R. To allow the door to be pushed closed should it be accidentally left open when the elevator is away, I have pivoted the bolt C to the arm B, so that it can turn on the latter into the position shown by the dotted lines, and is held yieldingly in its upright position by the pressure of the spring F, which catches on projection E.

The operation of my device is as follows: As the arm A is pressed back the bolt C is moved out from engagement with the shaft-door and held out of engagement until the car has moved away, as will be described below, and then is moved back into engagement when the car is moved away.

Fig. 4 shows a form of device in which the bolt C′ is slid backward and forward by the arm B′ engaging with the pin *c*′. This arm is attached to the spindle G′, which turns in bearings on the bed-plate K′. The arm A′, which is attached to the spindle G′, comes into contact with the operating devices on the car and operates the device. The spring N′ acts to keep the bolt C′ normally in engagement with the door and the projection or lug H′ prevents a pressure on the bolt C′ from bending the arm B′.

Fig. 6 shows a form of device which is simpler than the above, The arm B″, the arm A″, and the sleeve G″ are made in one piece and turn on the pin L″. The end of the arm B″ is shaped to engage the door, and is held in engagement by the spring F″, secured to an arm T, projecting from the sleeve G″, and to the bed-plate K″. The block or lug H″ takes the door's thrust.

The device for operating the arm A″ is as follows: Upon the car is placed a double inclined projection J, having the two inclines 2 2. As the car rises the incline 2 contacts with the arm A, A′, or A″ and pushes it back, holding the stop or bolt out of engagement with the door until the car is past, and allowing it to be released gradually by sliding off the incline 2. If the car stops when the arm A is pushed back, the door can be opened, and if the door be closed before the car moves it will be locked closed automatically so soon as the car moves away from the landing.

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

1. The combination with the car, shaft, floor-door, of the locking device consisting of the following parts, a bolt, engaging with said

door, lugs in engagement with the bolt, a pivoted lever consisting of an arm engaging with said bolt, and a curved arm engaging with a projection upon the car, and an inclined projection upon the car engaging with said projecting arm, substantially as described.

2. In a locking device for elevators, the combination of the arm A, the arm B and their spindle, the bolt C pivoted to the arm B the lugs H, H, the spring holding the arm B in position to bring the bolt C into engagement with the floor-door, and the floor-door, all substantially as described.

3. In a locking device for elevators, the floor-door, the arm A, the spindle G, the bedplate K, the lugs H, H, the bolt C pivoted to the arm B, the spring holding the bolt in position to engage the door, the spring attached to and acting upon said bolt C, and the arm B all substantially as described.

4. The combination, with the car, shaft, and the floor-door, of a projection upon said car provided with an inclined surface in either direction, and a locking device engaging with the door consisting of the following elements, a part engaging with said door and a pivoted arm for operating same, a movable arm connected operatively to same and projecting into the path traversed by the inclined projection upon the car, and a lug engaging with the part engaging with said door and taking the thrust thereof when the same is endeavored to be pushed backward, substantially as described.

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

MARK WILKS COLLET.

Witnesses:
GEO. W. REED,
AMOS BONSALL.