

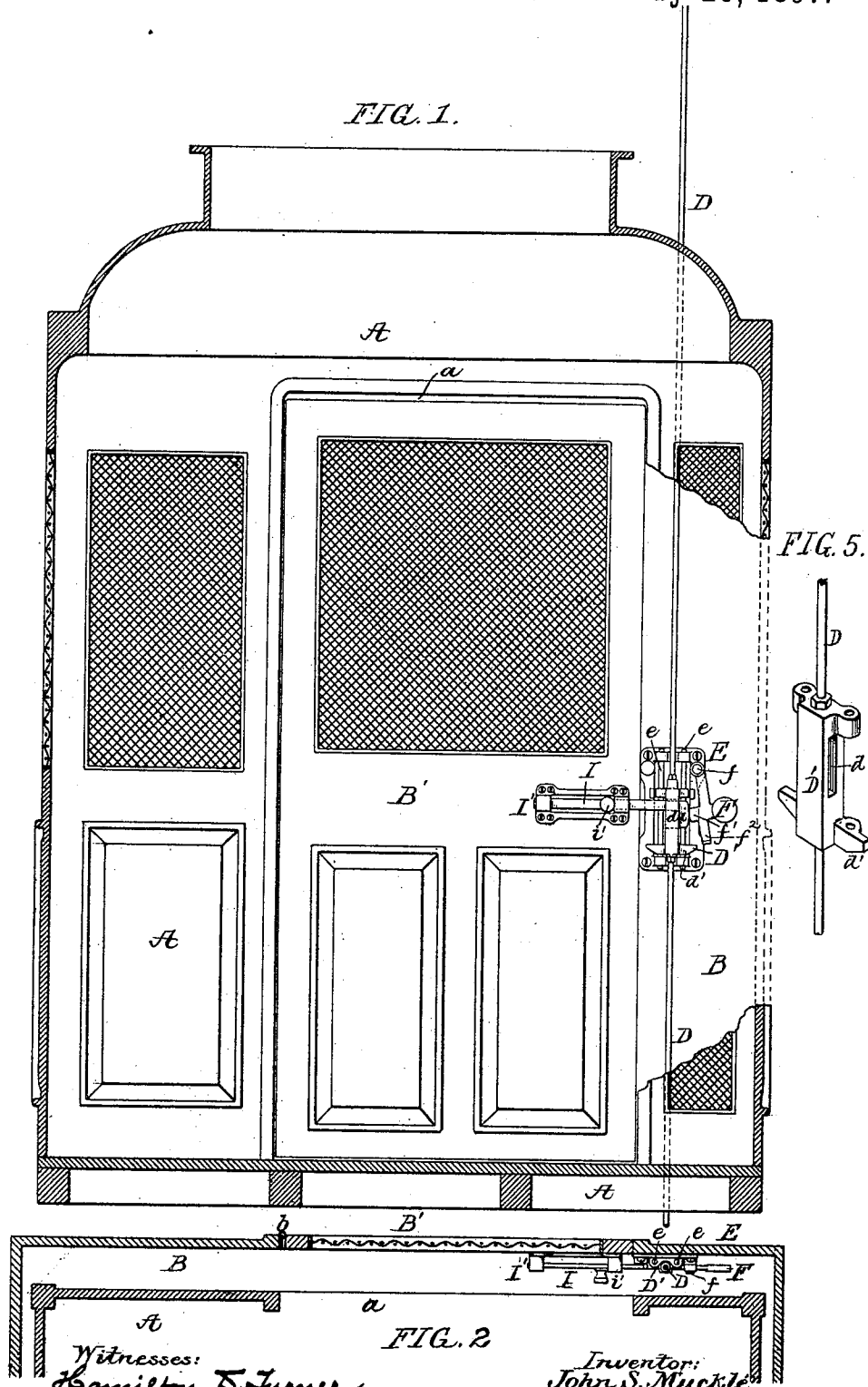
(No Model.)

3 Sheets—Sheet 1.

J. S. MUCKLÉ. ELEVATOR MECHANISM.

No. 583,332.

Patented May 25, 1897.



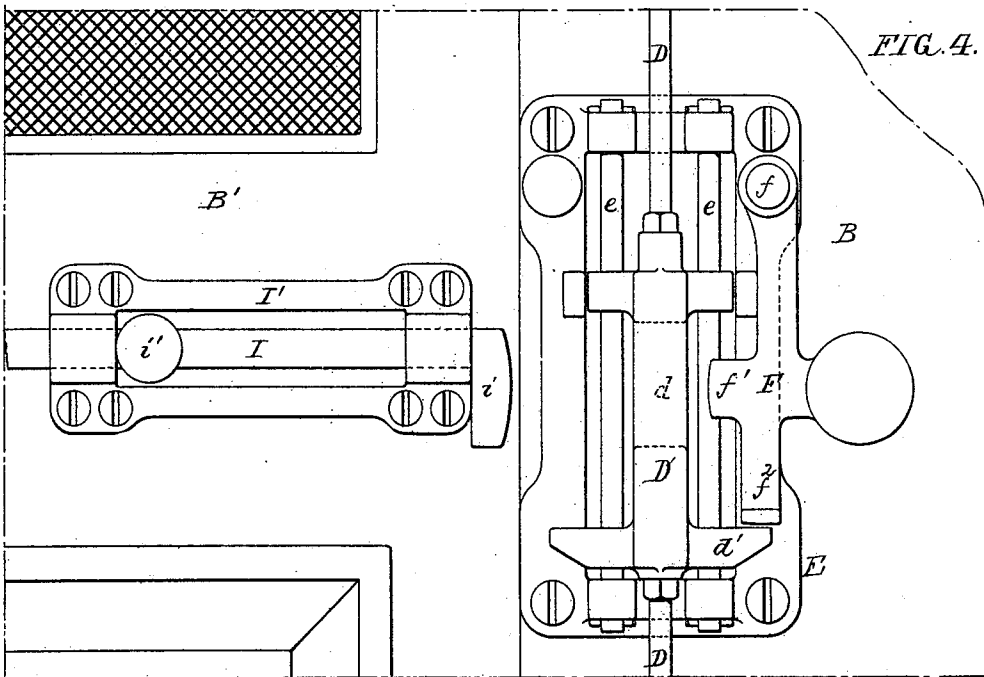
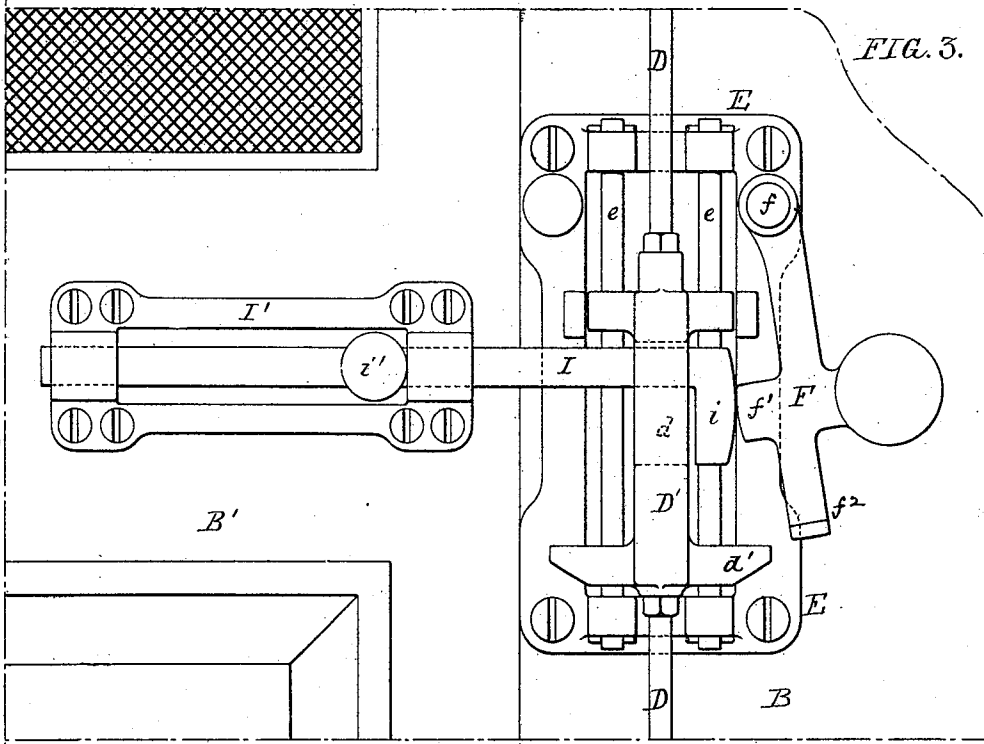
Witnesses:
Hamilton D. Turner
Will. A. Barr.

Inventor:
John S. Mucklé
 by his Attorneys,
Houson & Houson

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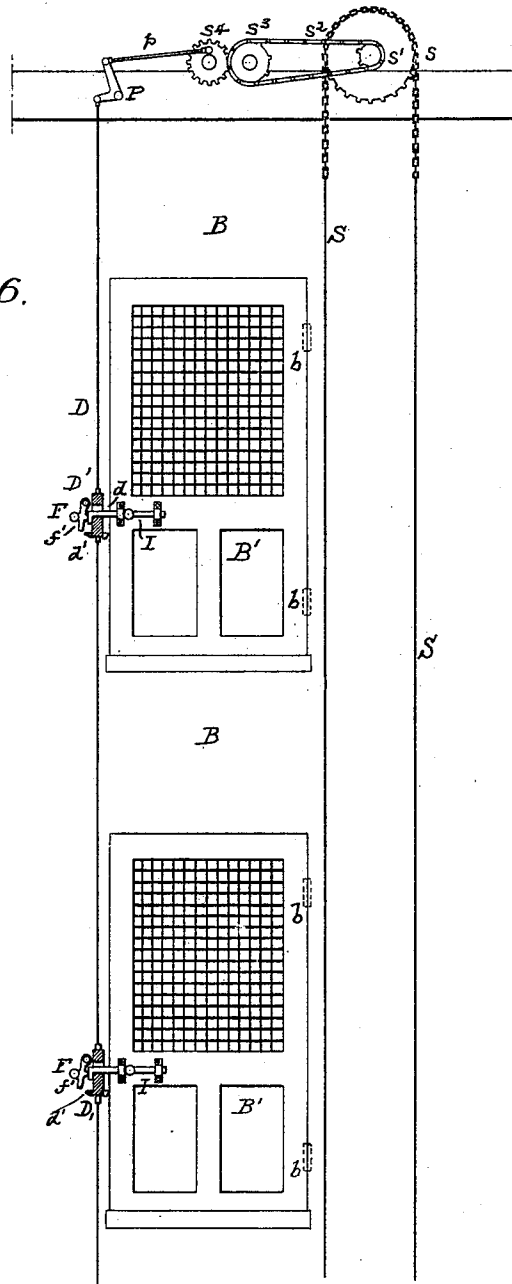
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FIG. 6.



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UNITED STATES PATENT OFFICE.

JOHN S. MUCKLÉ, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO M. R. MUCKLÉ, JR., & CO., OF SAME PLACE.

ELEVATOR MECHANISM.

SPECIFICATION forming part of Letters Patent No. 583,332, dated May 25, 1897.

Application filed December 31, 1896. Serial No. 617,639. (No model.)

To all whom it may concern:

Be it known that I, JOHN S. MUCKLÉ, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain
5 Improvements in Elevator Mechanism, of which the following is a specification.

The object of my invention is to provide mechanism for locking the car of an elevator when opposite a landing and when the landing-door is opened and to lock the landing-door in the closed position when the elevator-car is not at the landing.

My invention is especially adapted for use in connection with hinged landing-doors
15 which either swing out from the elevator-car or into the car and in which the controlling mechanism is governed by mechanism within the car of the rope or rod type.

In the accompanying drawings, Figure 1 is
20 a vertical sectional view of an elevator-car with the landing-door in the distance. Fig. 2 is a plan view of sufficient of the elevator well and car to illustrate my invention. Fig. 3 is an enlarged view of the locking mechanism in the position shown in Fig. 1. Fig. 4 is
25 a view of the locking mechanism, showing the bolt withdrawn; and Fig. 5 is a perspective view of the block. Fig. 6 is a view showing the landing-door-locking mechanism and controlling-rope.

A is the car, having the usual passage-way *a*.
B are the walls of the elevator-well, and B' is one of the landing-doors, hinged at *b* to swing out from the elevator-car.

35 D is a rope, chain, or rod within the elevator-well and provided with a series of blocks D' and forming a movable element. This element is connected with any suitable controlling mechanism so that it will have a certain
40 limited vertical movement when the said mechanism is actuated.

Referring to Fig. 6, S is the controlling-rope, which passes around a wheel *s* at the head of the elevator-well, and on the shaft of
45 this wheel is a sprocket-wheel *s'*, around which passes a chain *s²* to a sprocket-wheel *s³*, carrying a gear-wheel which meshes with a gear-wheel *s⁴*. P is a bell-crank lever one arm of which is connected to the rod or cord D, and
50 the other is attached to a rod *p*, connected to a crank-pin on the wheel *s⁴*, so that when the

controlling-rope S is operated the blocks will be raised or lowered and when the blocks are locked the controlling-rope is also locked.

One of the blocks D' is situated near each
55 landing and adapted to guide rods *e e* on a plate E, in the present instance, which is secured to the inner wall of the elevator-well. Each block is perforated at *d* to allow for the passage of the headed bolt I. In the present
60 instance this bolt has an L-shaped head *i* and is adapted to a plate I', secured to the door B', and has also a handle *i'*, by which it is operated. The bolt has sufficient movement so that it can be drawn back clear of
65 the door-jamb, as shown in Fig. 3, and can be projected entirely through the block D', as shown in Figs. 1 and 4, so that it will be engaged by the block when the block is moved.

Pivoted at *f* to the plate E is a weighted
70 arm F, having a projection *f'*, which rests against the end of the bolt I when it is in the block. The end *f²* of the arm passes over a projection *d'* on the block D' when the bolt I
75 is withdrawn, so as to lock the block from any vertical movement while the bolt is free and the door opened. As soon as the door is closed and the bolt thrown the end of the bolt will strike the projection *f'* and will force
80 the arm F away from the block and its end *f²* out of engagement with the projection *d'* of the block, thus releasing the block and its mechanism and allowing the controlling
85 mechanism to be operated to raise or lower the car. The bolt allows the block to move up a certain distance with the controller, so that when the block is raised it will prevent the withdrawal of the bolt, and consequently the opening of the door, until the elevator-
90 car again comes to a rest. By this means I can readily apply locking mechanism to elevator-plants provided with hinged or swinging doors as readily as those having sliding
95 doors.

By arranging the arm F as shown the arm will lock the block before the bolt leaves it, so as to insure either the locking of the door by the block or the locking of the block by the arm.

I claim as my invention—

1. The combination of the elevator-well, a

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hinged landing-door, an elevator-car, controlling mechanism, a movable element in the elevator-well connected to the controlling mechanism, a pivoted arm adapted to prevent the movement of the said element when the door is opened and a slidable bolt on the hinged door adapted to be engaged by the said element when the door is closed, substantially as described.

2. The combination of an elevator-well, a hinged landing-door, an elevator-car, controlling mechanism, a rope connected to the controlling mechanism, a perforated block on said rope opposite the door, a pivoted arm adapted to engage the block, a sliding bolt on the door having a head at one end, said bolt being adapted to enter said perforated block when the door is closed and to release the block from the control of the pivoted arm, so that on the withdrawal of the bolt the car will be locked and the door may be opened, substantially as described.

3. The combination of the elevator-well, a landing-door, a bolt thereon, a car, controlling mechanism, a movable block connected

to the controlling mechanism, said block having a projection, a pivoted arm adapted to engage with the projection on the block and to be acted upon by the bolt of the door, substantially as described.

4. The combination of the elevator-well, a landing-door, an elevator-car, and controlling mechanism, a plate E secured on the wall of the well, a perforated block adapted to slide on the plate, a bolt on the door adapted to enter the perforation in the block, an arm pivoted to the plate E and having a projection in line with the bolt and an end adapted to engage a projection on the block when the bolt is withdrawn so as to prevent the vertical movement of the block, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN S. MUCKLÉ.

Witnesses:

WILL. A. BARR,
JOS. H. KLEIN.