



(No Model.)

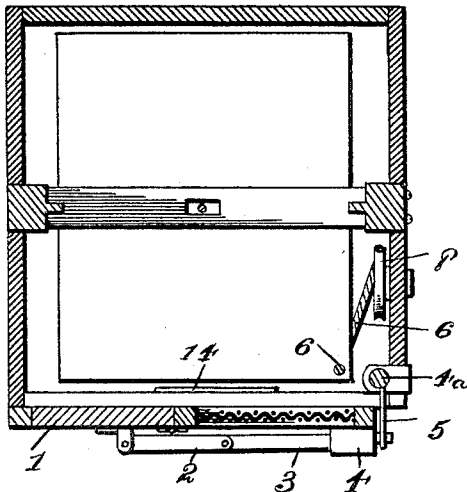
2 Sheets—Sheet 2.

R. W. HARE.  
ELEVATOR LOCK.

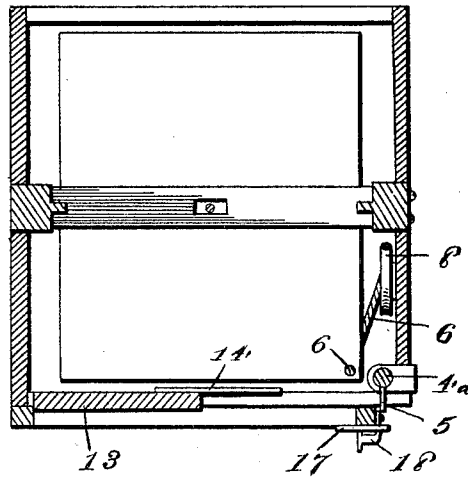
No. 581,860.

Patented May 4, 1897.

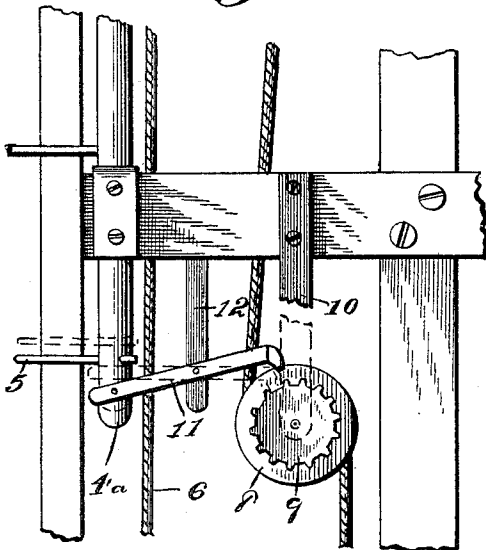
*Fig. 3.*



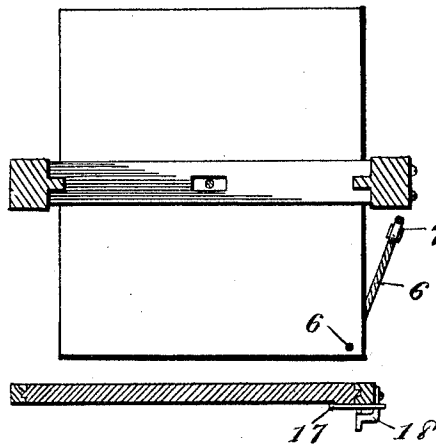
*Fig. 4.*



*Fig. 5.*

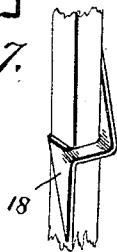


*Fig. 6.*



Witnesses: *Fig. 7.*

*J. B. McGirr.*  
*D. V. Chadwick.*



*Inventor:*

*Robert W. Hare*  
*by H. C. Evert atty*

# UNITED STATES PATENT OFFICE.

ROBERT W. HARE, OF ALLEGHENY, PENNSYLVANIA.

## ELEVATOR-LOCK.

SPECIFICATION forming part of Letters Patent No. 581,860, dated May 4, 1897.

Application filed January 7, 1896. Serial No. 574,605. (No model.)

*To all whom it may concern:*

Be it known that I, ROBERT W. HARE, a citizen of the United States of America, residing at Allegheny, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Elevator-Locks, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to certain new and useful improvements in locking devices for elevators, and relates particularly to those that are automatic in their operation.

15 The invention has for its object the construction of a locking device of the above-referred-to class whereby the elevator-car will be securely locked while the door is open or the gate is raised and cannot be operated until the door is again closed or the gate lowered.

20 The invention has for its still further object the construction of a locking device for this purpose that will be entirely automatic in its operation, thus requiring no additional mechanism for the operator to handle, and that can be secured in the elevator-shaft without interfering in any manner with the operation of the car or gate.

25 A still further object of the invention is to provide a locking device of the above-described class that will be extremely simple in its construction, strong, durable, and effectual in its operation, and comparatively inexpensive to manufacture.

30 With the above and other objects in view the invention finally consists in the novel construction, combination, and arrangement of parts to be hereinafter more particularly described, and specifically pointed out in the claims.

35 In describing the invention in detail reference is had to the accompanying drawings, forming a part of this specification, and wherein like figures of reference indicate similar parts throughout the several views, in which—

40 Figure 1 is a front view of an elevator-shaft. Fig. 2 is a side view thereof. Fig. 3 is a sectional view taken on the line  $xx$  of Fig. 1. Fig. 4 is a view taken on the line  $yy$  of Fig. 1. Fig. 5 is an enlarged detail view of the hand-line-controlling mechanism, and Fig. 6

is a sectional view taken on the line  $zz$  of Fig. 1.

55 In the drawings, 1 denotes a form of door applied at a floor of a building, and to the door is pivoted a link 2, which in turn is pivoted to a slide 3, having a beveled end, said slide 3 being slidable in a casing or bearing 4. A rod 4<sup>a</sup> is arranged to slide vertically in the shaft, preferably in one corner thereof, and arms 5 project outwardly therefrom and are adapted to be engaged by the end of the slide 3, whereby the rod is elevated when the door 1 is swung open. When the door is closed, the slide 3 is withdrawn and the weight of the rod causes it to descend to its normal position, as shown in full lines in Fig. 5, while in dotted lines the position of the rod and its arms is shown when the slide 3 is in engagement with either of the arms 5, presuming, of course, that all of the floors have doors similar to that shown at the top.

60 The hand-line 6 operates over a series of pulleys 7 and a controlling-pulley arranged on the shaft, having a toothed wheel 9, said shaft being suitably hung in a bracket 10.

65 A lever 11 is pivoted to a support 12 and to the sliding rod. This lever is provided with a toothed end to engage the toothed wheel when the rod 4 is elevated by the arm of the door, such engagement resulting in the locking of the controlling-pulley, which renders the hand-line inoperative during such engagement.

70 In connection with the hinged door I also illustrate a transversely-slidable door 13, provided with an extension 14, having an inclined edge 15, adapted to engage the arms of the rod to elevate it, as will be apparent. I have also shown a vertically-slidable door 16, having an extension 17, which engages the arms of the slidable rod. The support 18 holds the door 16 suspended.

75 The construction, as well as the operation and advantages, will be understood from the foregoing description, and it will be noted that various changes may be made in the details of construction without departing from the spirit of my invention.

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

1. In an elevator the combination of the

controller-rope, floor-doors, slides connected with said doors, a rod extending the length of the elevator-shaft and adapted to be actuated by the slides, a lever connected to said rod, 5 a toothed wheel adapted to be engaged by the lever, said wheel being engaged by said controlling-rope, substantially as described.

2. In an elevator, the combination of the controller-rope, floor-doors, slides connected 10 with said doors a rod extending the length of the elevator-shaft and adapted to be operated by said slides, and connections whereby said controller-rope is locked by the movement of said rod, substantially as described.

3. In an elevator, the combination of the controller-rope, floor-doors, a vertical rod extending the length of the elevator-shaft, connections whereby said rod is moved by the opening of the doors, a lever connected to the 15 rod, a toothed wheel adapted to be engaged by the lever and a pulley on the shaft of the toothed wheel, the controller-rope passing around said pulley, substantially as described.

4. In an elevator the combination of the 25 controller-rope, floor-doors, a vertically-slidable rod extending the length of the elevator-shaft, slides adapted to operate said rod, links connecting said slides and doors, a lever connected with said rod, a toothed wheel adapted

to be engaged by said lever, a pulley on the 30 shaft of the toothed wheel, the controller-rope passing around said pulley, substantially as described.

5. In an elevator the combination of the controller-rope, floor-doors, a rod extending 35 the length of the elevator-shaft, means whereby said rod is moved by the opening of any one of the doors, and connections whereby said controller-rope is locked by the movement of said rod, substantially as described. 40

6. In an elevator-lock, a rod reciprocable in the elevator-shaft said rod being provided with an arm at each floor, the door at each floor having a cam secured thereon adapted to engage the arm and operate the rod, a line 45 and weight attached to the upper end of the rod, a lever connected to said rod at its lower end and provided with cogs and a cog-wheel secured to the motor-controlling sheave and adapted to be engaged by said lever, substan- 50 tially as shown and described.

In testimony whereof I affix my signature in presence of two witnesses.

ROBERT W. HARE.

Witnesses:

ALFRED M. WILSON,  
LOUIS MOESER.