(No Model.)

W. W. WOOD.

LOCKING DEVICE FOR ELEVATORS AND ELEVATOR DOORS.

No. 553,379. Patented Jan. 21, 1896.

Fig. 1.

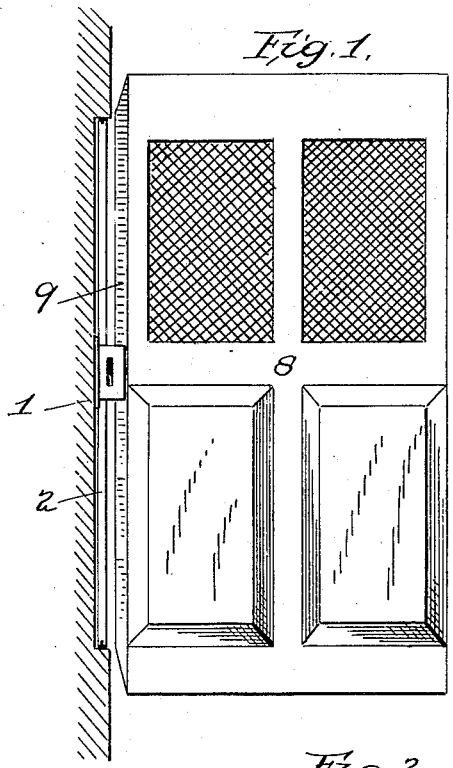


Fig. 4.

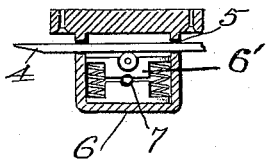


Fig. 2.

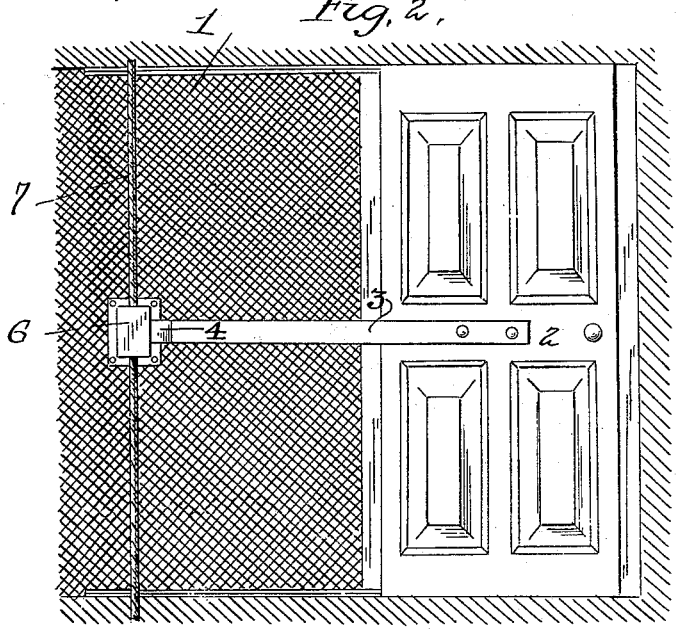
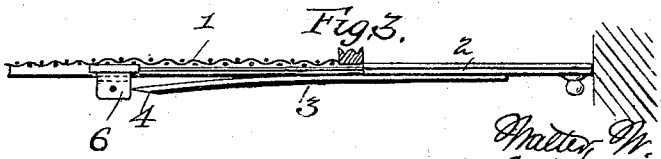


Fig. 3.



Attest
Walter Donaldson
F. L. Middleton

Inventor
Walter W. Wood,
by Ellis Spear Atty.

UNITED STATES PATENT OFFICE.

WALTER WOLFE WOOD, OF HONESDALE, PENNSYLVANIA.

LOCKING DEVICE FOR ELEVATORS AND ELEVATOR-DOORS.

SPECIFICATION forming part of Letters Patent No. 553,379, dated January 21, 1896.

Application filed August 26, 1895. Serial No. 560,578. (No model.)

To all whom it may concern:

Be it known that I, WALTER WOLFE WOOD, a citizen of the United States, residing at Honesdale, in the county of Wayne and State of Pennsylvania, have invented certain new and useful Improvements in Locking Devices for Elevators and Elevator-Doors, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to elevator-cages and elevator-shaftings, and it is the object thereof to provide efficient means for locking an elevator-door in closed position during the ascent and descent of the elevator-cage with means for automatically releasing the locking means as the elevator-cage reaches the door, and also means for preventing the accidental or intentional starting of the elevator-cage when the door is open.

To this end the invention includes an arm carried by the door with means for engaging the same when the door is closed to lock said door in that position, a clamping device through which the controller-rope passes, and means carried by the cage for disengaging said arm to permit of the opening of the door and at the same time to move said arm in such a position that upon the opening of the door it will cause the controller-rope clamp to operate and thereby prevent the movement of said rope until the door is closed.

The invention also includes the details of construction as will be hereinafter described, and particularly pointed out in the claims.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of a cage, showing the front wall of an elevator-shaft in section. Fig. 2 is a side elevation of the front wall of the elevator-shaft, and Fig. 3 is a plan view of the same. Fig. 4 is a view of a detail.

A portion of the front wall of an elevator-shaft is shown at 1, in which slides the door 2 upon suitable tracks, and to the inside of this door, near the center thereof, is secured the spring-arm 3, one end of which projects past the edge of the door and is tapered, as at 4, to insure it readily entering the slot 5 in a casing 6 secured to the wall 1. This casing incloses a clamp 6′, through which the controller-rope 7 passes.

When the elevator-shaft door 2 is closed, the end 4 of the arm 3 rests against the side of the casing 6, and the door is thus locked in closed position. Thus means are provided for engaging said arm to prevent the movement of said door, and the door can only be released by disengaging the arm 3 from said casing, this being accomplished automatically by the elevator-cage as it reaches said door in its upward or downward movement, as will be hereinafter described.

The elevator-cage 8 is provided on its front face with the projecting guide 9, which is the means for disengaging the end of the arm 3 from the casing, the upper and lower ends thereof being beveled, and this guide is adapted to come into contact with and press the end of the arm 3 inwardly to register with the slot 5 in the casing 6 as the elevator reaches the door. Means are provided for entering the casing and operating the casing, and in the present instance these means consist of the arm 3, the end of which being now disengaged from the casing 6 the door can be slid back by the elevator-operator, the wedge-shaped or tapered end 4 entering the slot 5 and pressing the sides of the clamp held in the casing 6 together, this clamp constituting the means for clamping the controller-rope, the controller-rope 7 being interposed between the same, thus constituting means adapted to be operated by said arm to clamp said controller-rope. The rope will be thus effectually held and the starting of the elevator-cage prevented until the door is again closed, when the end of the arm 4 will be withdrawn from within the casing 6 and permit the clamp therein to release the rope 7, the end of the arm springing outwardly and again engaging the side of the casing 6.

Having now described my invention, what I claim is—

1. In combination, the elevator cage, the door, the controller rope, the arm carried by said door, the means for engaging said arm to prevent the movement of said door and the means adapted to be operated by said arm to clamp said controller-rope, substantially as described.

2. In combination, the elevator cage and door, the casing, the clamp therein, the controller rope passing through said clamp, and

means carried by said door, adapted to enter said casing and operate said clamp to hold said rope against movement, substantially as described.

3. In combination, the elevator cage, the door, the controller rope, the casing the means held therein for clamping said rope, the arm carried by said door, said arm being adapted to bear on said casing to prevent the movement of the door, and to be moved to enter said casing and operate said clamping means.

4. In combination, the elevator cage and door, the spring arm carried by said door, the slotted casing engaging the end of said arm for preventing the opening of the door, the clamp held in said casing, the controller rope adapted to be held thereby, the means carried by the elevator cage for disengaging the end of said arm from the casing to permit the opening of the door whereby said arm will enter the slot in said casing and operate said clamp to hold said controller rope and prevent the starting of the elevator cage, substantially as described.

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

WALTER WOLFE WOOD.

Witnesses:

J. A. KIRKPATRICK,

W. L. O'CONNELL.