(No Model.)

T. MASON.

ELEVATOR.

No. 481,577. Patented Aug. 30, 1892.

Fig. 1.

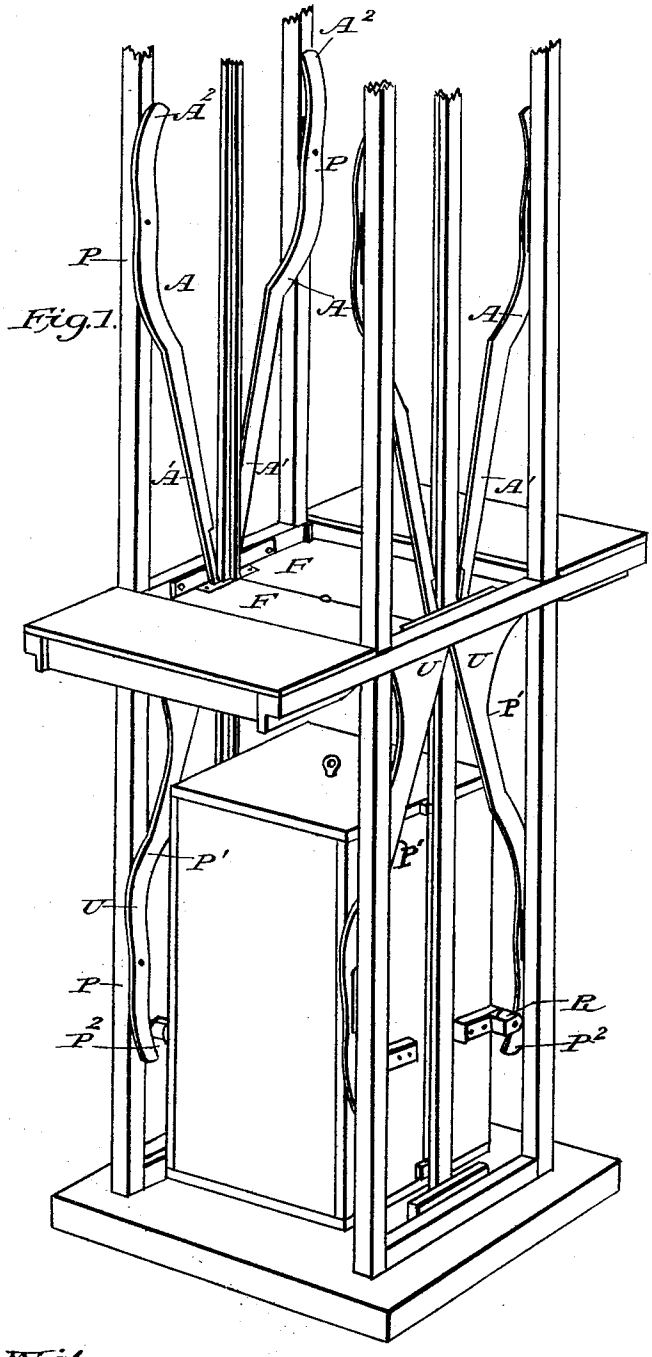
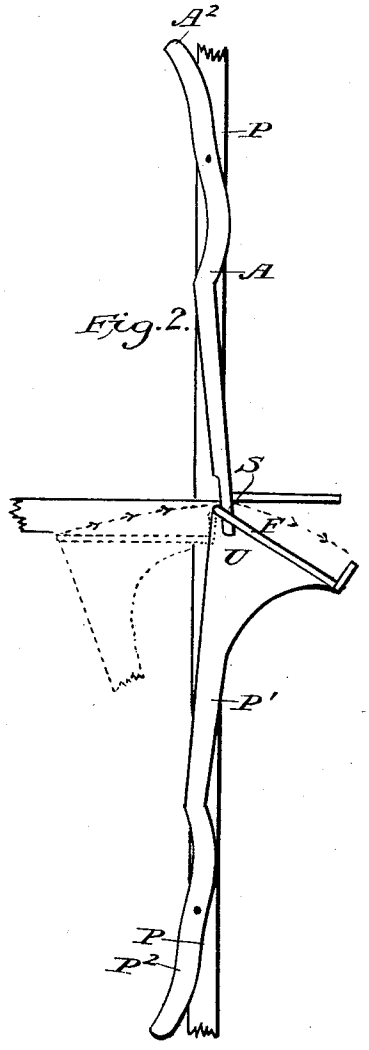


Fig. 2.



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THOMAS MASON, OF TOPEKA, KANSAS.

ELEVATOR.

SPECIFICATION forming part of Letters Patent No. 481,577, dated August 30, 1892.

Application filed July 17, 1891. Serial No. 399,887. (No model.)

To all whom it may concern:

Be it known that I, THOMAS MASON, a citizen of the United States, residing at Topeka, in the county of Shawnee and State of Kansas, have invented a new and useful Improvement in Elevator Hatchway-Doors, of which the following is a specification.

My invention relates to improvements in self-closing hatchway-doors; and its objects are to provide a covering for hatchways that will be closed when the elevator-car is not passing through and that will open automatically as the elevator-car approaches. I attain these objects by the mechanism illustrated in the accompanying drawings, in which similar letters of reference indicate like parts.

Figure 1 is a view of the framework of an elevator, showing the cage at the bottom and the hatchway-door closed. Fig. 2 is a view of one of the hatchway-doors swung back, showing the support and plan of working the same.

In the drawings, F F are double hatchway-doors meeting in the center, made in the form of brackets, the upper surface in a horizontal plane when closed, and resting against each other.

U U U U are two pair of curved levers below the doors rigidly secured at their upper ends to the doors and near the extreme lower ends are pivoted at P P P P to the posts on the sides of the elevator-well. The levers have curved arms P′, which project into the elevator-well when closed and support the doors F F. These levers have another curved arm P^2, which projects into the well and into the path of the car, whereby the doors are rocked on the pivots when said curved arms P^2 are contacted with by the car. The pivots P below the doors on the sides of the well support the levers U U U U and the doors F. Said levers and doors rock on these pivots. Similar pivots are placed above the doors and support two pair of curved levers.

A A A A designate a double pair of curved levers above the doors, secured to the sides of the well by pivots P P P P. The lower ends of these levers play loosely in loops on the doors. The levers A are provided with curved arms A′, which project into the elevator-well when the doors are closed. Said levers have also a curved elongation A^2, which extends beyond the pivots into the elevator-well in the path of the car.

R R R R are projections on the elevator cage or car to engage the curved arms of the levers, and thus open and close the doors. When the doors are closed, the curved levers permit the projections on the cage to pass by the ends farthest from the doors and the pivots, and then the projections R engage the arm on the curved levers between the pivots and the doors. As the levers are pressed the doors rock back, assisting the opening by their own weight after they pass the vertical line of support. As the doors open, the ends of the levers farthest from the doors are projected into the well. When the cage ascends, the projections on the cage push against said curved ends of the levers and throw the doors back into place and close them. The lower supporting-levers hold the doors firmly closed, because the center of gravity is inside the line of support, any weight placed on the doors simply holding them more secure. The doors, being rigidly attached to the lower levers, move in an arc of a circle and come to a horizontal position only when closed.

Having thus fully described my invention, what I desire to claim is—

1. The combination of a lever pivoted to the side of an elevator-well and having a curved arm projecting into said well, a hatchway-door rigidly secured to the lever and adapted to swing therewith in an arc of a circle, and an elevator-car provided with a projection adapted to engage the curved arm of the lever to rock the same and to swing the door out of the path of the car, all substantially as described.

2. The combination of a lever pivoted to the side of an elevator-well and having a curved arm projecting into the well, a hatchway-door rigidly secured to the lever, a lever located above the door and having its upper end projecting into the well and its lower end loosely connected to the door, and an elevator-car provided with a projection to engage the levers to operate the door, all substantially as described.

3. The combination of two pairs of levers U, pivoted to the sides of an elevator-well and having their lower ends projecting into the

well, doors F, rigidly secured to the top of each pair of levers, two pairs of levers A, pivoted above the doors and having their upper ends projecting into the well and their lower ends loosely connected to said doors, and an elevator-car provided with projections adapted to engage the levers to rock the same and to swing the doors out of the path of the car, all substantially as described.

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