

No. 877,792.

PATENTED JAN. 28, 1908.

A. J. MUNSON.

CAR DOOR.

APPLICATION FILED MAY 22, 1906

Fig. 1.

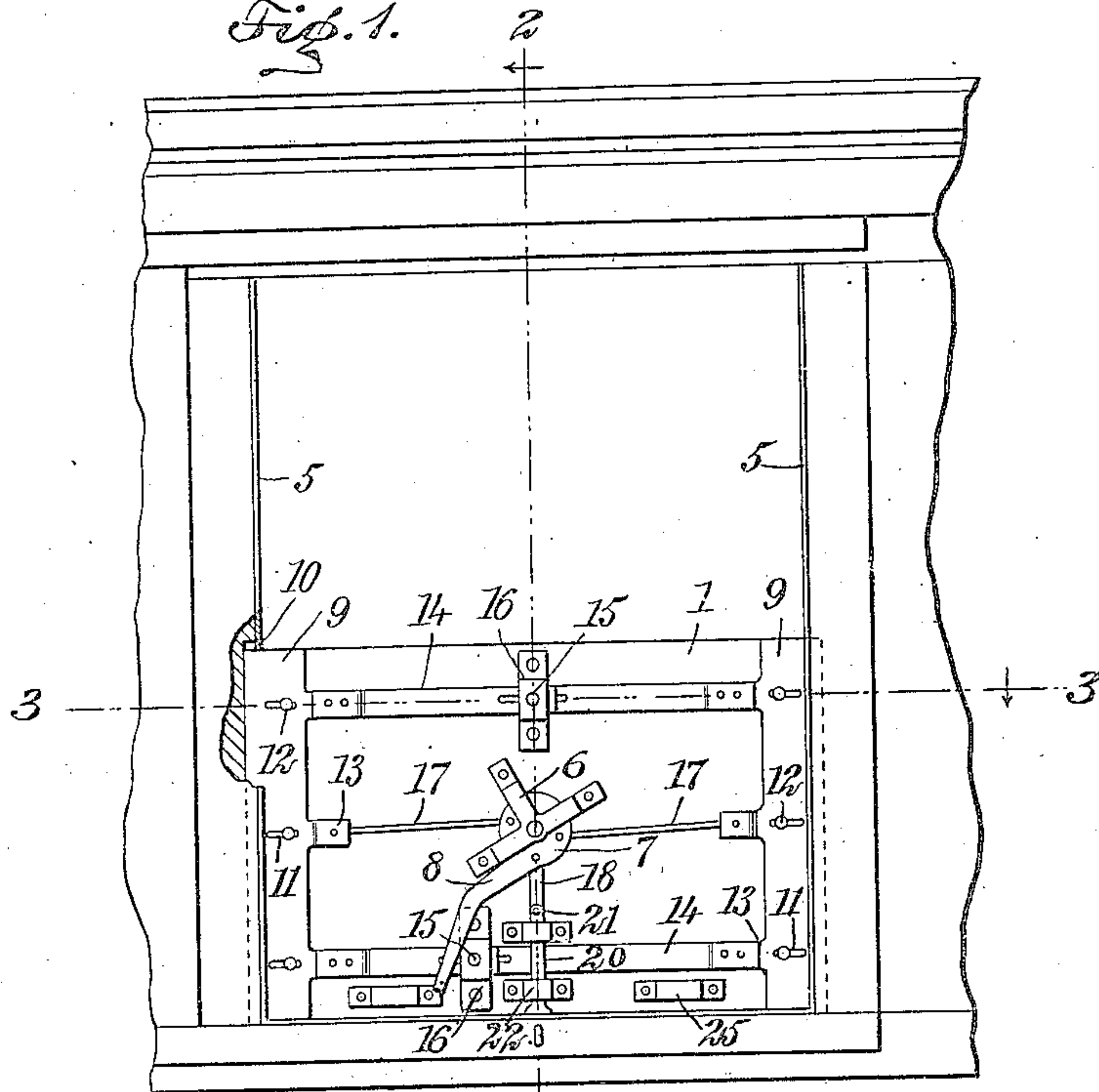


Fig. 2.

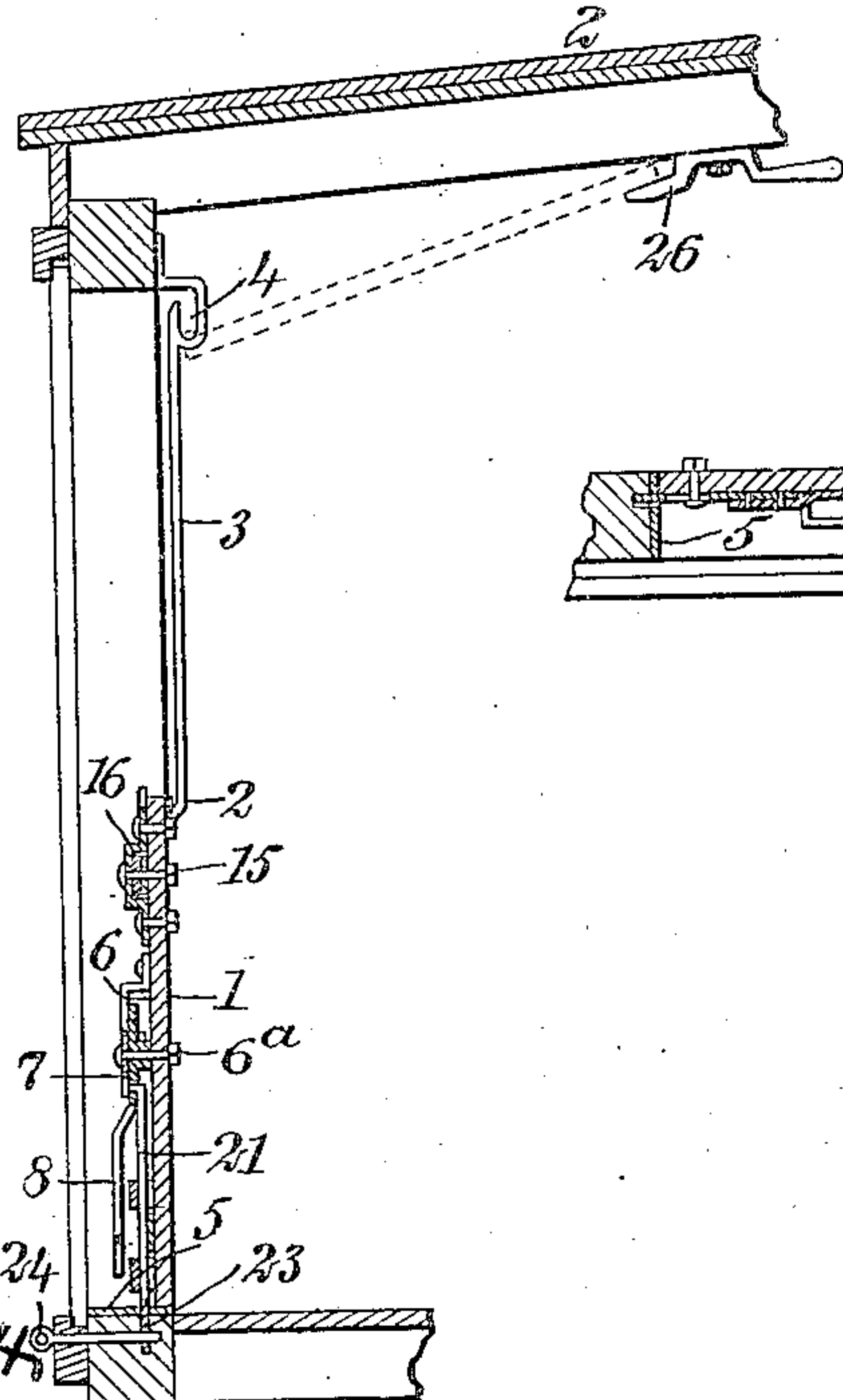
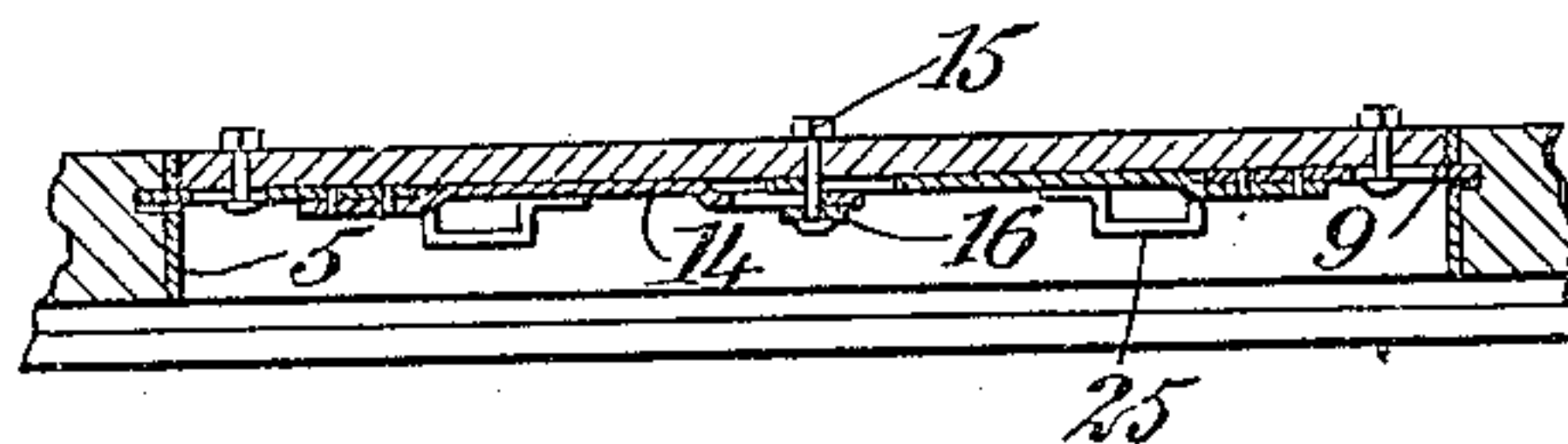


Fig. 3.



WITNESSES

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AARON J. MUNSON, OF GARRETSON, SOUTH DAKOTA.

CAR-DOOR.

No. 877,792.

Specification of Letters Patent.

Patented Jan. 28, 1908.

Application filed May 22, 1906. Serial No. 318,156.

To all whom it may concern:

Be it known that I, AARON J. MUNSON, a citizen of the United States, and a resident of Garretson, in the county of Minnehaha and State of South Dakota, have invented a new and Improved Car-Door, of which the following is a full, clear, and exact description.

This invention is an improvement in car doors, relating to that class of doors employed in box cars when hauling grain and the like. These doors usually project to about half the height of the door opening and fit at the inside of the door frame in order not to interfere with the working of the regular door and form an auxiliary door thereto.

This invention contemplates the production of a car-door of this character, which can be easily operated and locked in position and elevated to be removed entirely out of the way when not in use. The door is provided with a novel locking means to hold it in engagement with the door frame when lowered to its operative position.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a fragmentary view of the box car at the door opening with my improved door applied thereto; Fig. 2 is a transverse, vertical, central section of the same on the line 2—2 of Fig. 1, looking in the direction of the arrow and showing the position taken by the door when out of use, in dotted lines; and Fig. 3 is a horizontal section on the line 3—3 of Fig. 1, of the door, looking in the direction of the arrow.

Referring to the drawing figures, the numeral 1 indicates a short door made of wood or any other suitable material swung at the inner edge of the car door frame. For swinging this door is a metal strip 2 secured to the inner face of the door near its upper edge, having trunnions at each side for engaging between the door frame and brackets 3. The brackets 3 are fastened at the inside of the door frame near the top of the car, where they are bent to form inside hooks 4, and then passed downwardly a sufficient distance to swingingly engage the trunnions when the bottom edge of the door is sub-

stantially in contact with the bottom sill of the door frame. The facings of the door jambs and bottom sill are preferably covered over with sheet metal 5 to strengthen the frame and the engaging parts of the door as shown.

Pivoted between a bracket 6 secured to the outside of the door at its center and the door, on a bolt 6^a, is a disk 7 having an angular lever 8 projecting from it and slightly offset to permit it to be gripped by the hand without coming in contact with the locking bolt hereinafter described.

At the outside of the door and at its vertical edges are metal plates 9 alining with slots 10 in the door jambs of the door opening when the door is closed. These plates are guided on the door by horizontal slots 11 through which pass bolts 12 holding the plates in sliding engagement. These slots are preferably three in number, equally spaced apart and alining with projecting ears 13 directed inwardly from the plates. The top and bottom ears of each plate are attached to metal strips 14 which overlap each other at their meeting ends and are slotted to receive bolts 15. One of each set of the metal strips 14 is offset at its end as shown in Fig. 3 to admit of the other strip sliding under it.

Embracing the ends of the strips for guiding and supporting them, and through which the bolts 15 also pass, are keepers 16 secured to the door. The lower keeper 16 is positioned at one side of the vertical center to escape the mechanism on the door at this point.

Connecting the central ears 13 of the plates 9 are links 17 journaled at their opposite ends in the disk 7 at diametrically opposite points when the plates 9 are at the extreme limit of their outward movement, as shown in Fig. 1. This disk has also a third link 18 journaled in the lower edge of its periphery at right angles to the links 17 and is pivotally connected with a locking bolt 20 at 21, which it is adapted to reciprocate. This bolt slides in a keeper 22 fixed at each side of the lower strips 14, said bolt being designed to be projected into a recess 23 in the bottom sill of the door frame when the door is closed and locked. A pin 24 is passed from the outside of the car transversely through the bottom sill and an eye in the end of the bolt 20 when

it is desired to prevent the withdrawal of the locking means by means of the operating lever 8.

Handles 25 are provided near the bottom 5 of the door for swinging the door on its trunnions to the outside of the car, the door being returned to normal closed position under the action of gravity when the handles are released. These are grasped in raising the 10 door to the dotted position shown in Fig. 2, in which case the trunnions are passed upwardly and into the hooks 4, holding this end of the door against movement, while the free end of the door is secured to the top of the 15 car by a pivotally mounted latch 26.

To unlock the door, the pin 24 is withdrawn and the lever 8 turned to the left, causing the links 17 and 18 to take the tangential position to the disk 7, and withdrawing the plates 9 from the slots 10 and the bolt 20 from the recess 23. By grasping the handles 25 the door can then be swung to either the inside or outside of the car or carried to its inoperative position, as desired. 25 In locking the door in place, it is lowered in position and the lever 8 thrown, as shown in Fig. 1, after which the pin 24 is inserted.

Although I have described the invention in detail, it is to be understood that its scope 30 is limited by the annexed claims only.

Having thus described my invention I claim as new and desire to secure by Letters Patent:

1. The combination of a car door, vertical plates at opposite edges of the door, slots in the door jambs with which the plates are adapted to engage, metal strips extending from the plates and overlapping each other at their ends, keepers for guiding the overlapped ends of the strips, and means pivotally mounted on the door for simultaneously withdrawing and projecting said plates. 40

2. A car-door having locking-plates slidably connected thereto at opposite sides thereof, strips connecting said plates together having overlapping slotted ends, a keeper confining the overlapping ends of the strips, a device passing through the slots of said overlapping ends of the strips and connected with the door and keeper, and means 50 for simultaneously advancing and retracting the locking-plates.

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

AARON J. MUNSON.

Witnesses:

THOS. WANGSNESS,
E. L. SWIFT.