

(No Model.)

2 Sheets—Sheet 1.

C. L. MUELLER.
SLIDING DOOR LOCK.

No. 509,089.

Patented Nov. 21, 1893.

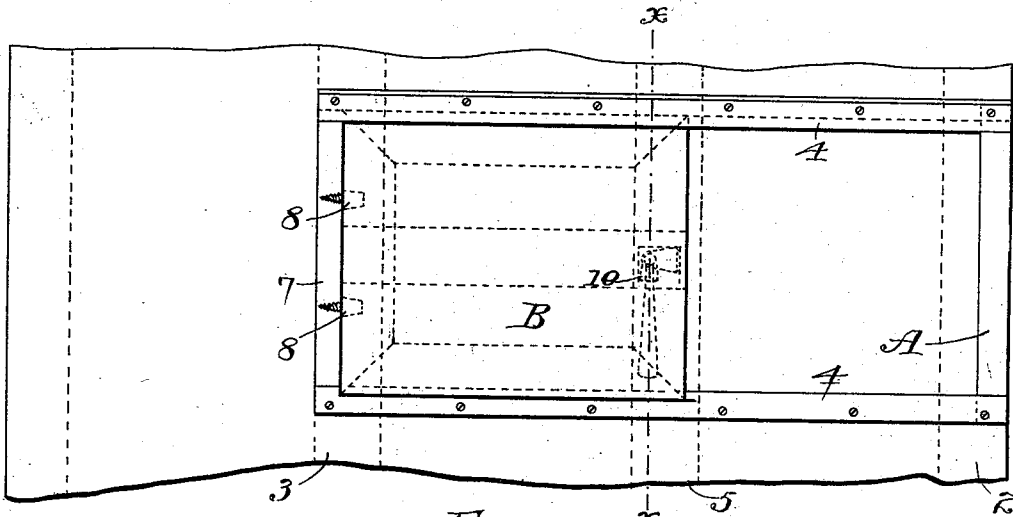


Fig. 1.

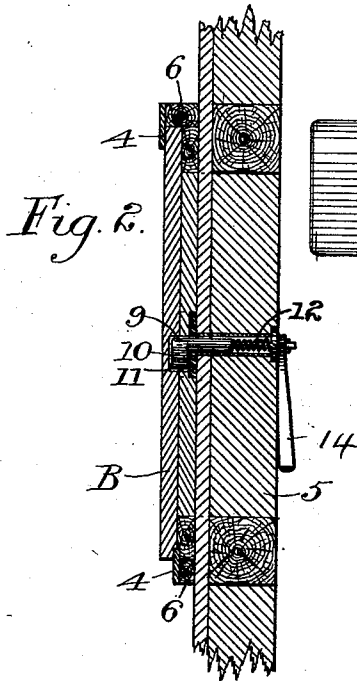


Fig. 2.

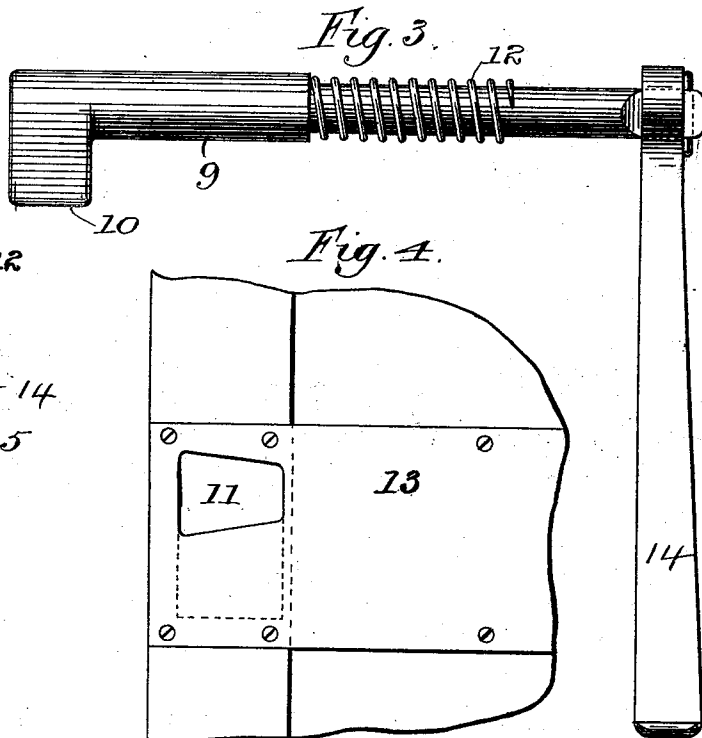


Fig. 3.

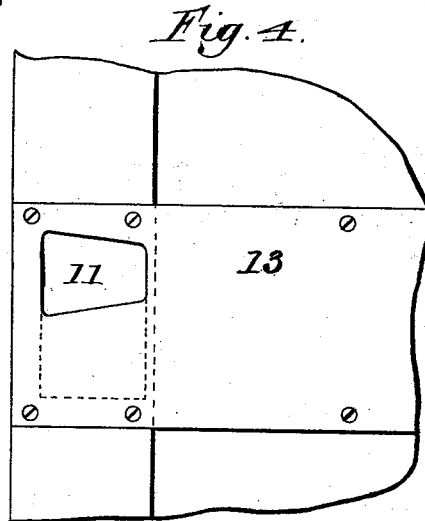


Fig. 4.

Witnesses:-

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J. H. Brown

Inventor:-

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per. Paul M. Mervin
Attorneys.

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Fig. 5.

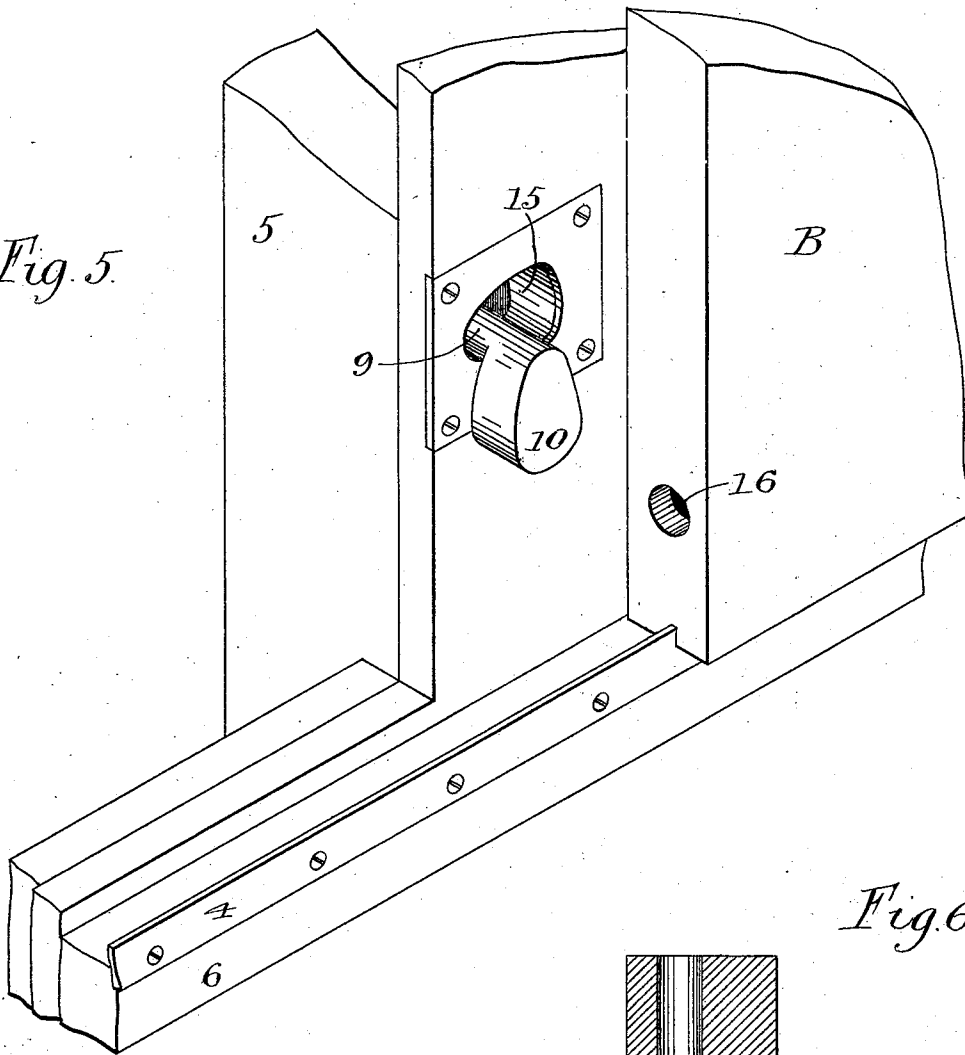
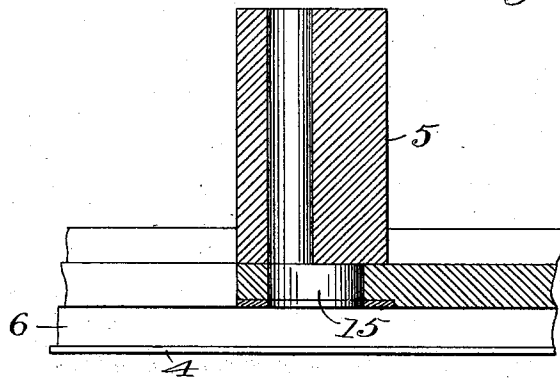


Fig. 6.



Witnesses:-

Le. R. Baldwin
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Inventor:-

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per. *E. D. Merrill*
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UNITED STATES PATENT OFFICE.

CHARLES LOUIS MUELLER, OF BARNESVILLE, MINNESOTA, ASSIGNOR OF
ONE-HALF TO THOMAS F. COLLINS, OF SAME PLACE.

SLIDING-DOOR LOCK.

SPECIFICATION forming part of Letters Patent No. 509,089, dated November 21, 1893.

Application filed August 23, 1892. Serial No. 443,877. (No model.)

To all whom it may concern:

Be it known that I, CHARLES LOUIS MUELLER, of Barnesville, in the county of Clay, State of Minnesota, have invented certain Improvements in End-Doors for Freight-Cars, of which the following is a specification.

My invention relates to railway box freight cars, its object being to provide an end door for the same which may be readily closed from the outside, but which can be opened only from the inside of the car, and the invention consists generally in the construction and combination hereinafter described and particularly pointed out in the claims.

In the accompanying drawings: Figure 1 is an end elevation of a portion of a freight car having my invention applied thereto. Fig. 2 is a detailed section through the door and its fastenings. Fig. 3 is an elevation of the locking bolt. Fig. 4 is an elevation showing the locking plate upon the inner surface of the door. Fig. 5 is a detail isometrical projection of the locking device, showing the socket in the post for the bolt head or catch, and Fig. 6 is a detail horizontal section through said socket.

In the drawings 2, 3 and 5 represent end posts of the car, upon which is secured the door frame A. Arranged in this frame is the door B adapted to slide horizontally upon the guides 4, which are secured upon the horizontal members 6 of the door frame. The upright end piece 7 of the door frame is provided with dowels 8, and the corresponding end of the door has sockets 16 to receive the dowels when the door is closed. Arranged in the post 5 is the loose bolt 9, the outwardly projecting end of which is fitted with a laterally projecting head or catch 10, and the inner end is provided with a counter-balancing handle or arm 14. The bolt is pressed normally outward so as to project beyond the post by means of the spiral spring 12 arranged around the bolt in the hole in the post.

Arranged in the face of the door near its rear edge is the socket 11 adapted to receive the head of the bolt. This socket is partly covered by the plate 13, which extends horizontally along the face of the door, and has an opening registering with said socket, but smaller, and so shaped as to admit the bolt

only when the hook part extends horizontally. The plate covers the lower part of the socket so as to be engaged by the head of the bolt when it has entered the socket and has been turned downward behind the same. When the door is partly opened, the plate presses against the head of the bolt and holds it in the socket 15 in the post 5. This socket is of the same form as that through the plate 13, so that while the bolt head rests therein it is in position to enter the socket in the door, the arm 14 being extended horizontally.

Operation: To open the door, the handle or arm 14 is turned up to a horizontal position, when the bolt can be drawn from the socket into the door and into the socket in the post. The door can then be slipped back, the plate on the door holding the bolt head in the post socket, and the arm in its raised position. Upon closing the door again, the spring 12 shoots the bolt into the door socket, and the arm drops to a vertical position turning the bolt and causing the head to engage the plate 13, thus firmly locking the door in place and making it impossible to open it from the outside. The dowels engaging the forward end of the door and the bolt the rear end, it is impossible to disengage the door from the car even if the guides are torn off, since it is held by attachments which are not accessible from the outside of the car.

I claim as my invention—

1. The combination with the railway car, of the door sliding on the outside thereof, the spring controlled locking bolt arranged in the wall of the car, the lateral spur upon said bolt, the flanged socket in said door to receive the end of said bolt, and automatic means for rotating the bolt in the socket to engage said flange, substantially as described.

2. The combination with the railway car, of the door slidable on the outside thereof, the spring actuated locking bolt arranged in the wall of the car at right angles with the plane of the door, the lateral spur upon said bolt, automatic means for rotating said bolt when shot outward, and means carried by said door adapted to be engaged by the spur on said bolt when it is rotated, substantially as described.

3. In a railway car, the combination of the

door sliding on the outside thereof and having a socket on its inner face with an overhanging lip or flange, a spring bolt in the wall of the car adapted to enter said socket when the door is closed, the lateral spur upon said bolt and the overbalancing arm upon the inner end of said bolt by means of which the bolt is rocked when it has entered said socket, so as to cause said spur to engage said flange, substantially as described.

4. In a railway car, the combination with the door sliding on the outside thereof provided with a socket near its rear edge, of the transverse plate upon the inner face of the door, having an opening registering with, but smaller than, the socket in said door, thus forming an overhanging flange for said socket, and the locking bolt in the wall of the car adapted to automatically enter said socket when the door is closed, and engage the projecting edge of said plate, substantially as described.

5. The combination with the railway car having an end door way, of the upper and lower horizontal guides adjacent to the doorway, the door sliding in said guides and hav-

ing sockets in its front edge and a socket on its inner face near its rear edge, the stop for said door, the projections upon said stop adapted to engage the sockets in the front edge of the door, the transverse plate upon the inner face of said door having an opening therethrough registering with the socket in the door, but of less diameter, thus constituting an overhanging flange for the socket, the slidable and rotatable bolt arranged in the wall of the car and adapted to engage the socket in said door when the door is closed, the hook or lateral projection upon the end of said bolt to engage the flange of said socket, the weighted arm upon the inner end of said bolt, means for holding said bolt with said arm in horizontal position when withdrawn from the door and the spring for actuating said bolt.

In testimony whereof I have hereunto set my hand this 9th day of August, 1892.

CHARLES LOUIS MUELLER.

In presence of—

A. C. PAUL,
FRED S. LYON.