F. J. S. MIELY.

SLIDING DOOR FASTENER.

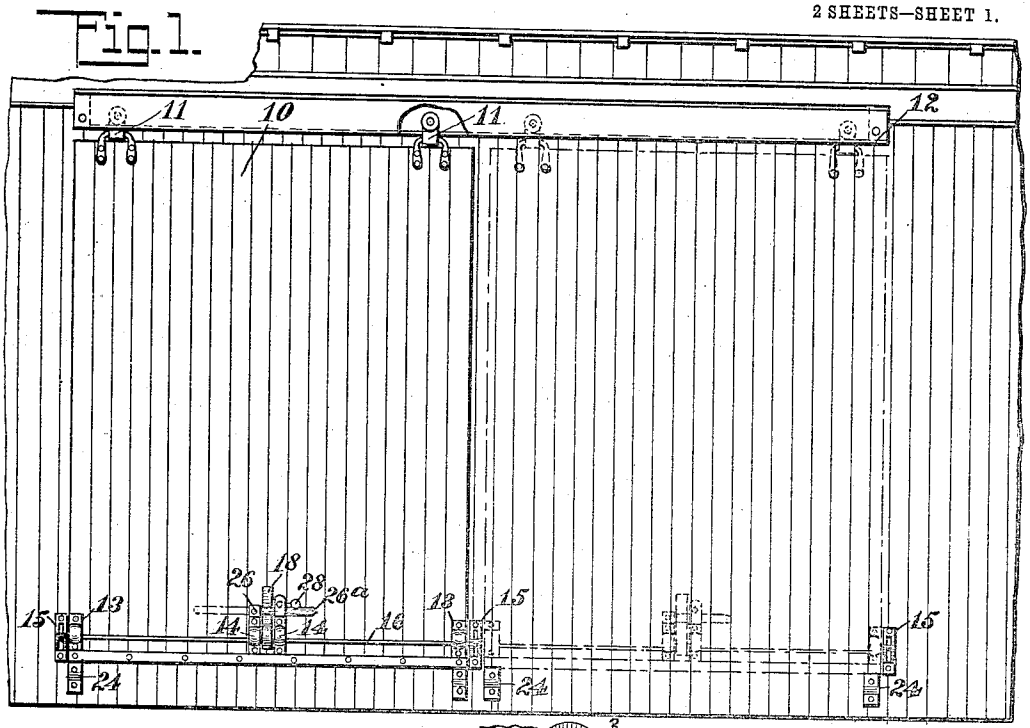
APPLICATION FILED JUNE 3, 1909.

943,362.

Patented Dec. 14, 1909.

2 SHEETS—SHEET 1.

Fig. 1.



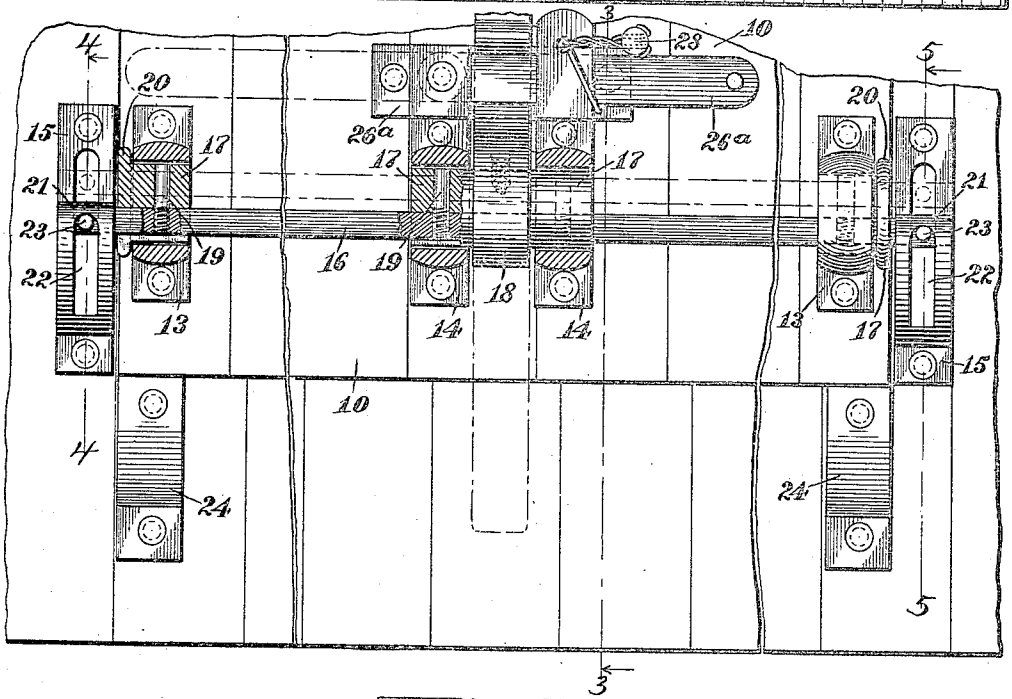


Fig. 2.

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Fig. 3.

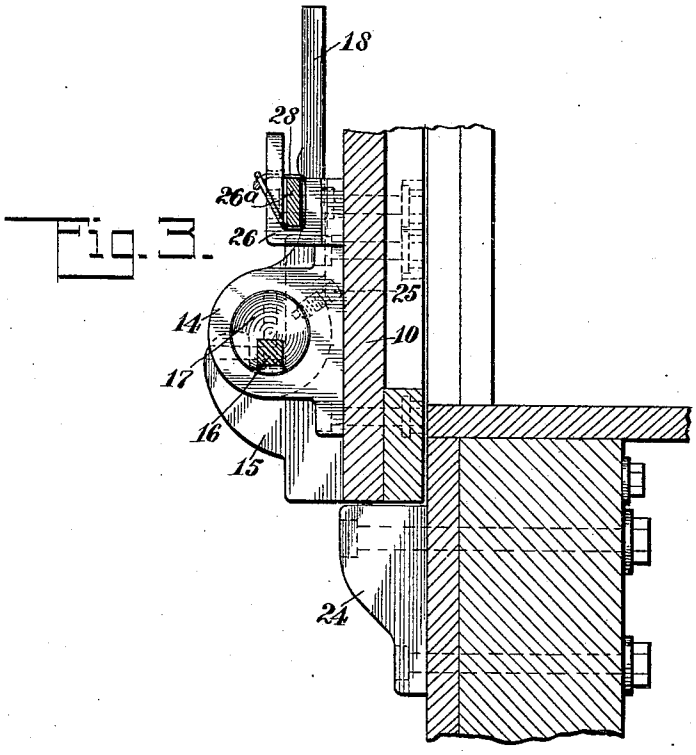


Fig. 4.

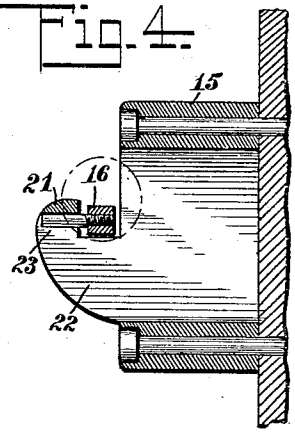
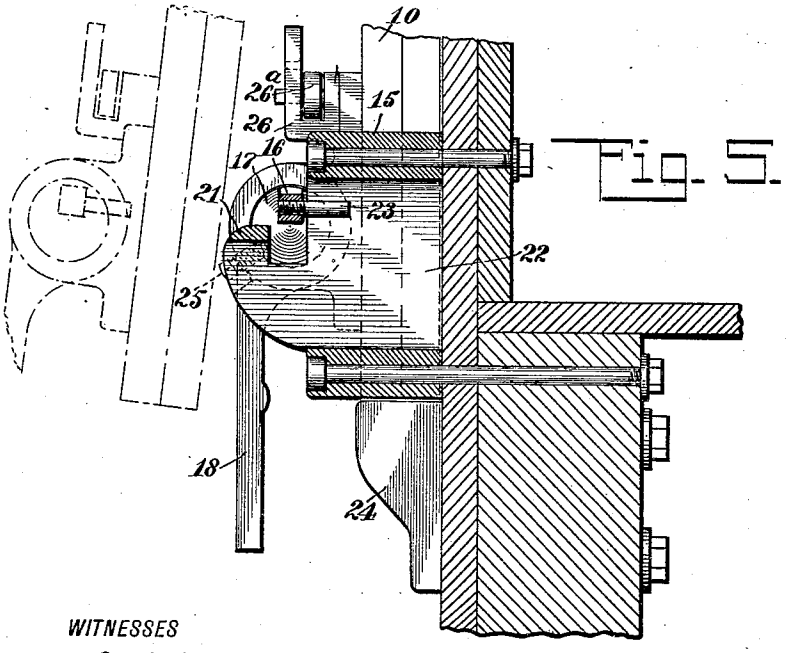


Fig. 5.



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SLIDING-DOOR FASTENER.

943,362. Specification of Letters Patent. Patented Dec. 14, 1909.

Application filed June 3, 1909. Serial No. 499,834.

To all whom it may concern:

Be it known that I, FRED JAMES SMITH MIELY, a citizen of the United States, and a resident of Gunnison, in the county of Gunnison and State of Colorado, have invented a new and Improved Sliding-Door Fastener, of which the following is a full, clear, and exact description.

The invention is an improvement in door fasteners, designed more especially for box-car doors which are mounted to slide and to swing outwardly at the bottom on the door hangers.

The invention in general consists of door brackets, door-jamb keepers, a cross-shaft having eccentrics journaled in the brackets, and a hand lever to revolve the shaft into and out of locking engagement with the keepers.

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 views.

Figure 1 is a fragmentary side elevation of a box-car having my improved door fastener applied thereto; Fig. 2 is a broken view of the fastener on an enlarged scale and partly in vertical section; Fig. 3 is a section on the line 3—3 of Fig. 2; Fig. 4 is a section on the line 4—4 of Fig. 2; and Fig. 5 is a section on the line 5—5 of Fig. 2.

A box-car door 10, for which my improved door fastener is especially constructed, is supported to swing outwardly at the bottom on the hangers 11, which are slidable on the usual track 12, and principally comprises brackets 13 and 14, keepers 15, a cross-shaft 16, having eccentrics 17 attached thereto and journaled in the brackets, and a hand-lever 18 secured to the cross-shaft between the brackets 14 and serving to revolve the end portions of the shaft into and out of locking engagement with the keepers. All of the brackets are suitably secured to the lower portion of the door, with the brackets 13 arranged adjacent to the side edges of the door, and the brackets 14 positioned adjacent to the center of the door and separated sufficiently to admit of the hand-lever 18 being placed between them. The keepers 15 are secured to the car side, one adjacent to each door jamb, and another is similarly arranged to lie adjacent to the outer edge of the door when the latter is in its extreme open position. The shaft 16 is preferably square and the eccentrics are held against longitudinal movement thereon by screws 19, said screws being threaded into the shaft and loosely fitting openings extending through the eccentrics. The eccentrics of the brackets 13 each have a collar 20 at its outer end to hold the shaft against endwise movement. The eccentrics are each slotted out from the periphery, with the slots of sufficient width and depth to neatly fit and receive the full thickness of the shaft. By this construction the eccentrics may be applied to the shaft from the side without necessitating the passing of the eccentrics over the shaft ends.

The keepers 15, as best shown in Figs. 4 and 5, each have an outwardly and upwardly extending hooked portion or finger 21, which, as also the body of the keeper, is approximately vertically and centrally slotted, as indicated at 22, with the top of the slot in the hook terminating a substantial distance below its top edge. A pin 23 projects laterally from each end portion of the shaft 16 and is arranged to register with the slot 22 in one of the keepers when the door is in a fully closed or open position, whereby when the shaft 16 is revolved, the pins 23 will pass into the slots 22 and will move into engagement with the top edge or wall of the slot in the finger 21, as shown in Fig. 4. In this movement of the shaft the hand lever 18, by which the operation is effected, travels from the depending position shown in Fig. 5 to the upturned position against the car door, as shown in Fig. 3, the shaft itself moving into the hooks or behind the fingers of the adjacent keepers, thus effectually locking the door against both an outwardly swinging movement at the bottom and vertical movement. The weight of the door when in either closed or open position is relieved from the hangers and also from the end portions of the shaft 16 when the latter is in locking position, by supporting blocks or brackets 24, fixed to the outside of the car, in positions to provide seats for the bottom edge of the door and lift the doors slightly on the hangers. The hand-lever 18 is shown to be secured to the cross-shaft by a screw 25, the head or outer end of which is arranged at the rear side of the lever in an inaccessible place when the latter is thrown to locking position, as shown in Fig. 3. Above the brackets 14 is fixed to the car door a block 26 having spaced bifurcated por-

tions or prongs, one of which pivotally supports a locking lever 26ª, and the other forms a keeper for said lever and is provided with an aperture near the top to receive the usual car seal 28, which locks the lever in place. The lever 26ª as mounted, swings in a plane at right-angles to the plane of movement of the hand-lever 18, which it locks when the hand-lever is in an upturned position, the lever 26ª passing to the front of the hand-lever in locking the latter and sealing the car, as shown in Figs. 2 and 3. In moving the car door to and from an open position, the pivotal connections afforded by the hangers permit of the door being swung out of the path of the central or intermediate keeper 15, as well as the supporting blocks or brackets 24.

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

1. In a door fastener, brackets, keepers, and a shaft having eccentrics journaled in the brackets to move it into and out of the keepers to respectively lock and unlock the door.

2. In a door fastener, brackets, a shaft having eccentrics journaled in the brackets, keepers, each having an outwardly-projecting hook and provided with a longitudinal slot terminating a slight distance below the top of the hook, pins extending laterally from the end portions of the shaft adapted to register with the slots of the keepers, and a hand-lever to revolve the shaft and the pins, respectively into and out of the hooks and slots.

3. In a door fastener, brackets, keepers, a shaft having eccentrics journaled in the brackets, a hand-lever to revolve the shaft into and out of locking engagement with the keepers, and a locking lever pivotally supported to swing in a plane at right-angles to the plane of movement of the lever and move into locking position at the outer side thereof.

4. The combination of a sliding door mounted to swing outwardly at the bottom, brackets fixed to the door, fixed keepers arranged at the opposite sides of the door, a shaft having eccentrics journaled in the brackets, and a hand-lever fixed to an intermediate point of the shaft to revolve it into and out of locking engagement with the keepers.

5. The combination of a door, brackets secured to the lower portion of the door, a shaft having eccentrics journaled in the brackets, fixed keepers arranged at opposite sides of the door when the door is in both open and closed positions, means to revolve the shaft into and out of locking engagement with the keepers, and means slidably supporting the door, adapting it to be swung outwardly at the bottom out of the path of the intermediate keeper in moving the door to and from a closed position.

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

FRED JAMES SMITH MIELY.

Witnesses:

GEORGE HETHERINGTON,

HARRY W. MILLSPAUGH.