D. W. ALDERMAN.

SLIDING DOOR FASTENER.

APPLICATION FILED JUNE 29, 1908.

912,930. Patented Feb. 16, 1909.

2 SHEETS—SHEET 1.

FIG. 1

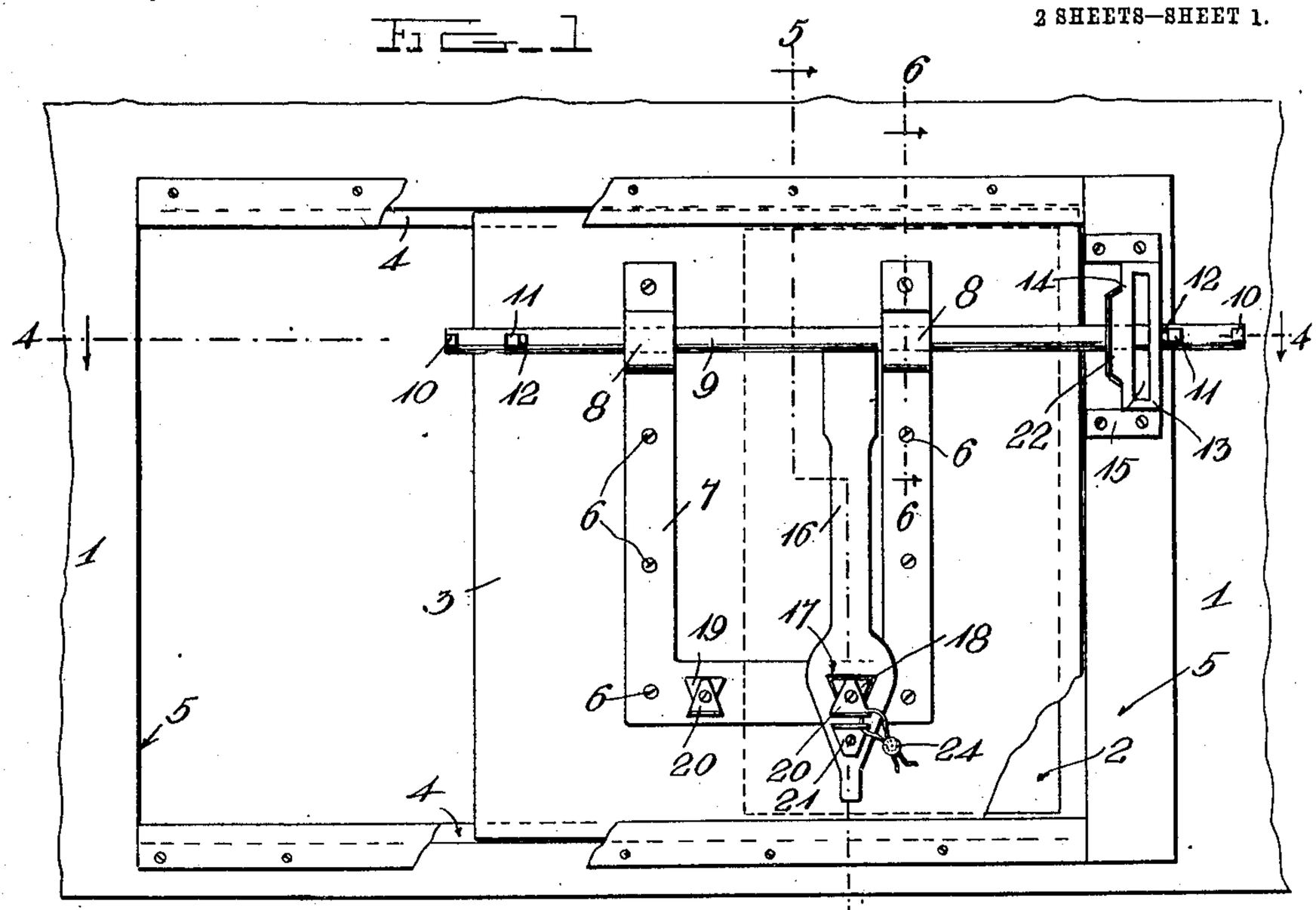
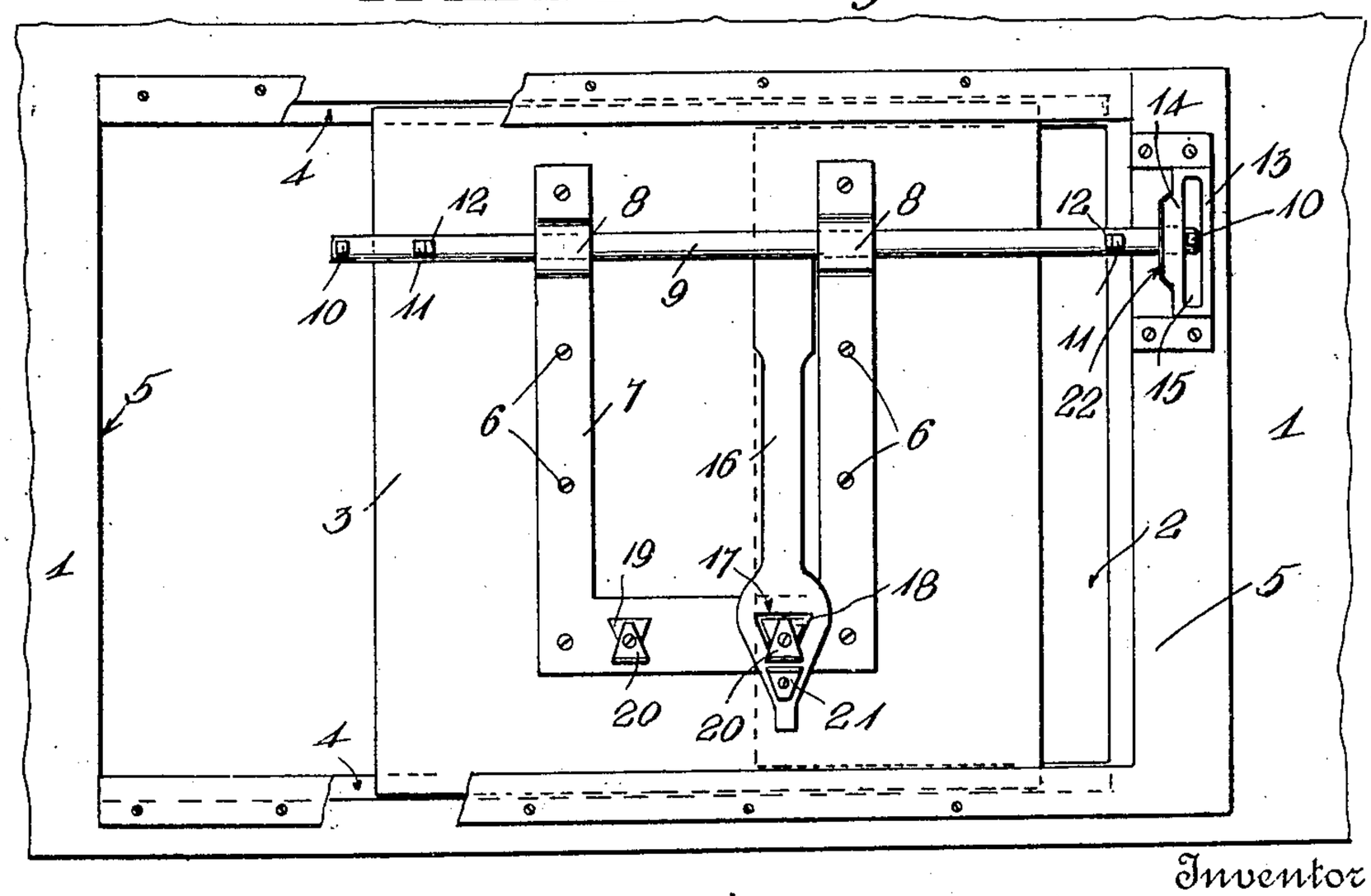


FIG. 2



Witnesses.

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2 SHEETS—SHEET 2.

FIG. 3

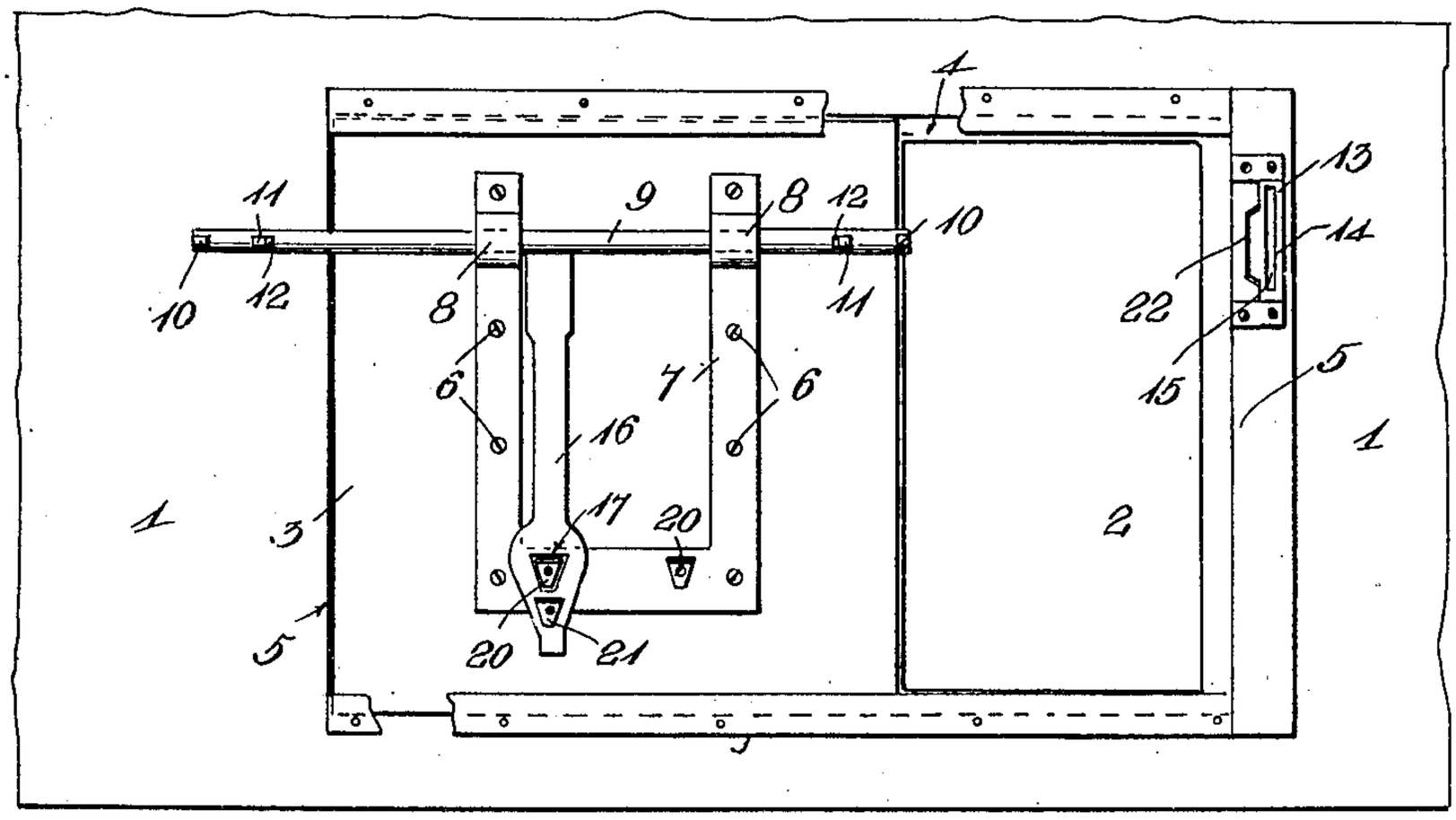

FIG. 4

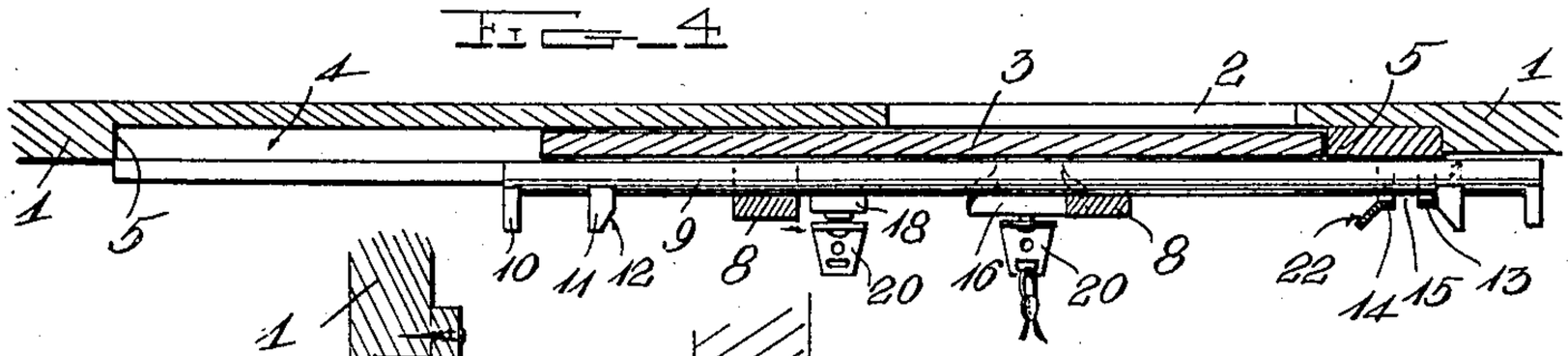

FIG. 5

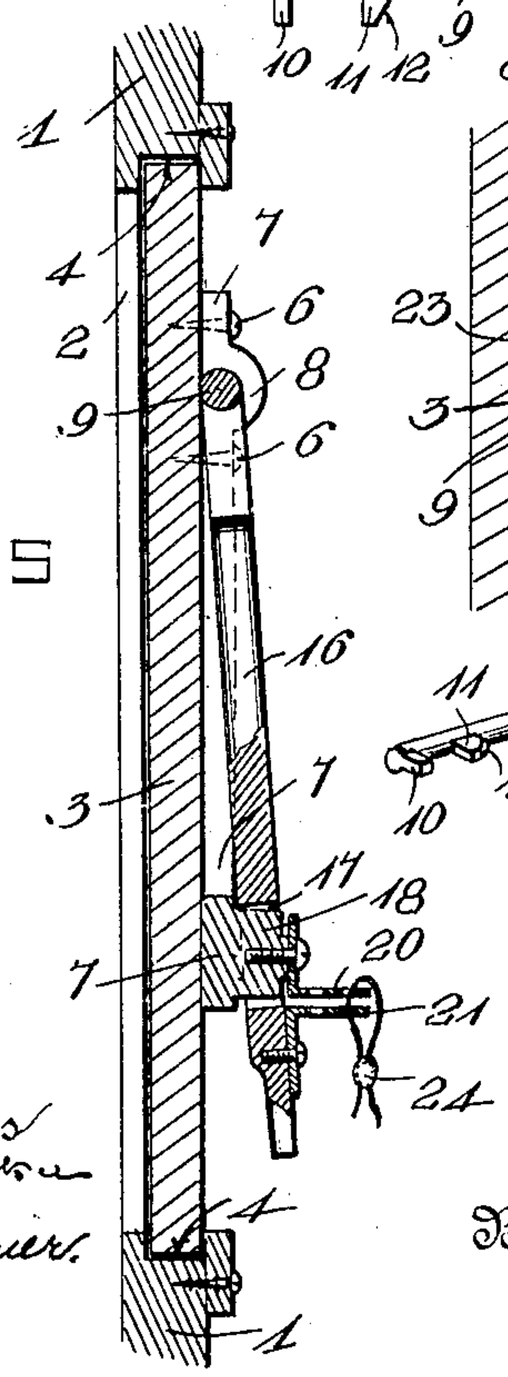

FIG. 6

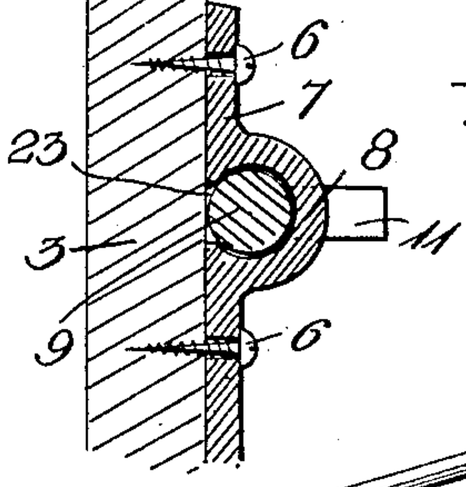

FIG. 7

Witnesses

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UNITED STATES PATENT OFFICE.

DANIEL W. ALDERMAN, OF COVINGTON, VIRGINIA, ASSIGNOR OF ONE-THIRD TO SIDNEY ARTHUR, OF COVINGTON, VIRGINIA.

SLIDING-DOOR FASTENER.

No. 912,930. Specification of Letters Patent. Patented Feb. 16, 1909.

Application filed June 29, 1908. Serial No. 440,945.

To all whom it may concern:

Be it known that I, DANIEL W. ALDERMAN, a citizen of the United States, residing at Covington, in the county of Alleghany and State of Virginia, have invented certain new and useful Improvements in Sliding-Door Fasteners; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to door fasteners and particularly to car door fasteners.

The object of the invention is the provision of a device of this character which may be cheaply manufactured, and which will be efficient in operation.

A further object of the invention is to provide means whereby the contents of the car may be ventilated by opening the door and using the fastener to hold the door in a ventilating position.

A still further object of the invention is the provision of means for locking the door in a ventilating position and allowing for any vertical or lateral shifting of the door by reason of the movement in its guide-ways.

With these and other objects in view, the invention consists of certain novel features of construction, combination and arrangement of parts, as will be more fully described and particularly pointed out in the appended claims.

In the accompanying drawings: Figure 1 is a front elevation showing the door locked in closed position, Fig. 2 is a similar view showing the door locked in a ventilated position, Fig. 3 is a similar view showing the door completely open to permit of the removal of goods from the car, Fig. 4 is a horizontal section on the line 4—4 of Fig. 1, Fig. 5 is a vertical section on the line 5—5 of Fig. 1, Fig. 6 is a detail section on the line 6—6 of Fig. 1, and Fig. 7 is a detail perspective view of the locking lever and bar removed from the door.

Referring more especially to the drawings, 1 represents the side of the car which is open at 2, to allow access thereto. This opening is covered or closed by the usual sliding door 3, which travels in the guide-ways 4, and is limited in its movement by stop pieces 5. Secured to the door as by bolts 6, is a substantially U-shaped frame 7, having a raised portion 8, in which is journaled the locking shaft 9, having at its outer end the two locking keys 10 and 11, the latter of which is provided with a cam face 12, to engage the extreme outer edge of the keeper 13, which is carried by the stop piece 5. This keeper has its central portion 14, raised considerably above the stop piece 5, as is shown in Fig. 4, and is slotted at 15, to receive the key 10 when the door is desired to be locked in a ventilating position. The cam 12 of the key 11 is provided for engaging the extreme outer face of the keeper 13 so as to draw the door into proper engagement with the stop piece 5.

Adjacent the center of the locking shaft 9 is an operating arm 16, which is provided at its lower end with a V-shaped aperture 17, adapted to straddle over either one of the pillars 18 and 19, which are also V-shaped to conform with the slot and have pivoted upon their upper surfaces the V-shaped gravity latches 20, which coöperates with the latch plate 21, carried upon the end of the arm 16. The arm 16 is positioned upon the locking shaft 9 at right angles to the locking keys 10 and 11, so that when the arm is in vertical position and in engagement with one of the pillars 18 and 19 the keys are standing out in a horizontal direction, and when the arm 16 is turned to the horizontal position the keys 10 and 11 are standing in a vertical position so that they may be disengaged from the keeper. In order that the keys may enter the keeper I preferably provide a cam projection 22, thereon which is engaged by the outer key 10 and tends to throw the keys to the vertical position, and the arm 16 to the horizontal, and at the same time force the door inwardly against the side of the car 1.

In placing the locking shaft in the arms of the U-shaped casting 7 I preferably notch the journal box as at 23, so that a passage way is formed for a clearance of the keys and the arm 16, and this effectually prevents any disengagement of the arm. The frame 7 and the shaft 9 may be removed together without fear of their disengagement or relative arrangement being disturbed. When the door is locked as shown in Figs. 1 and 5 a seal 24, may be passed through suitable apertures in the pivoted lock notch and the locking plate or a pad lock may be inserted between the apertures which are formed therein.

In operation, the door is thrown over against the stop piece 5 and the operating

arm 16 held at horizontal so as to be disengaged from the pillars 18 and 19, and is thrown over against the right hand arm of the frame 7, carrying with it the locking shaft and locking keys 10 and 11. The keys pass under the locking plate and the inner one 11 is engaged therewith when the arm 16 is thrown to its engagement with the pillar 19. As the upstanding portion of the catch 20 renders that part heavier than the portion opposite the pivot point it necessarily follows that this will drop into alinement with the latch plate 21. In the position of the lock shown in Fig. 3 the arm may be removed from the pillar 18, because the latch conforms in shape to the opening. In the form shown in Figs. 1 and 2, however, the broad end of the latch is bridged across the constricted end of the opening 17, thus effectually locking the arm in engagement with the pillar. When the door is in ventilating position, as shown in Fig. 2, and the key 10 in engagement with the slot 15 of the keeper it will be seen that the door cannot move to the right on account of the engagement of the key with the keeper and the engagement of the arm with the pillar 19, nor can it move to the left on account of the arm's engagement with the right hand arm of the frame 7, and the engagement of the key with the keeper.

From the foregoing description, taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention as defined in the appended claims.

Having thus described my invention what I claim and desire to secure by Letters Patent is:—

1. A door fastener comprising a slotted keeper, a reciprocating and rotating latching bar, means on the bar to engage the slot in said keeper to lock the door in partially opened position, means on said bar for locking the door in closed position, said last named means adapted to pull the door closed to engage with the keeper, means for operating the bar, and means to lock said operating means.

2. A door fastener comprising a keeper, a rotary and reciprocating locking bar and a pair of lugs on said bar to alternatively engage the keeper to lock the door in partially opened or closed position.

3. A door fastener comprising a slotted keeper, a rotary reciprocating latching device adapted to coöperate therewith, and means on the latching device adapted to coact with the keeper for pulling the door closed.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

DANIEL W. ALDERMAN.

Witnesses:
CODA MARSHALL,
C. R. KARNES.