No. 890,690. PATENTED JUNE 16, 1908.

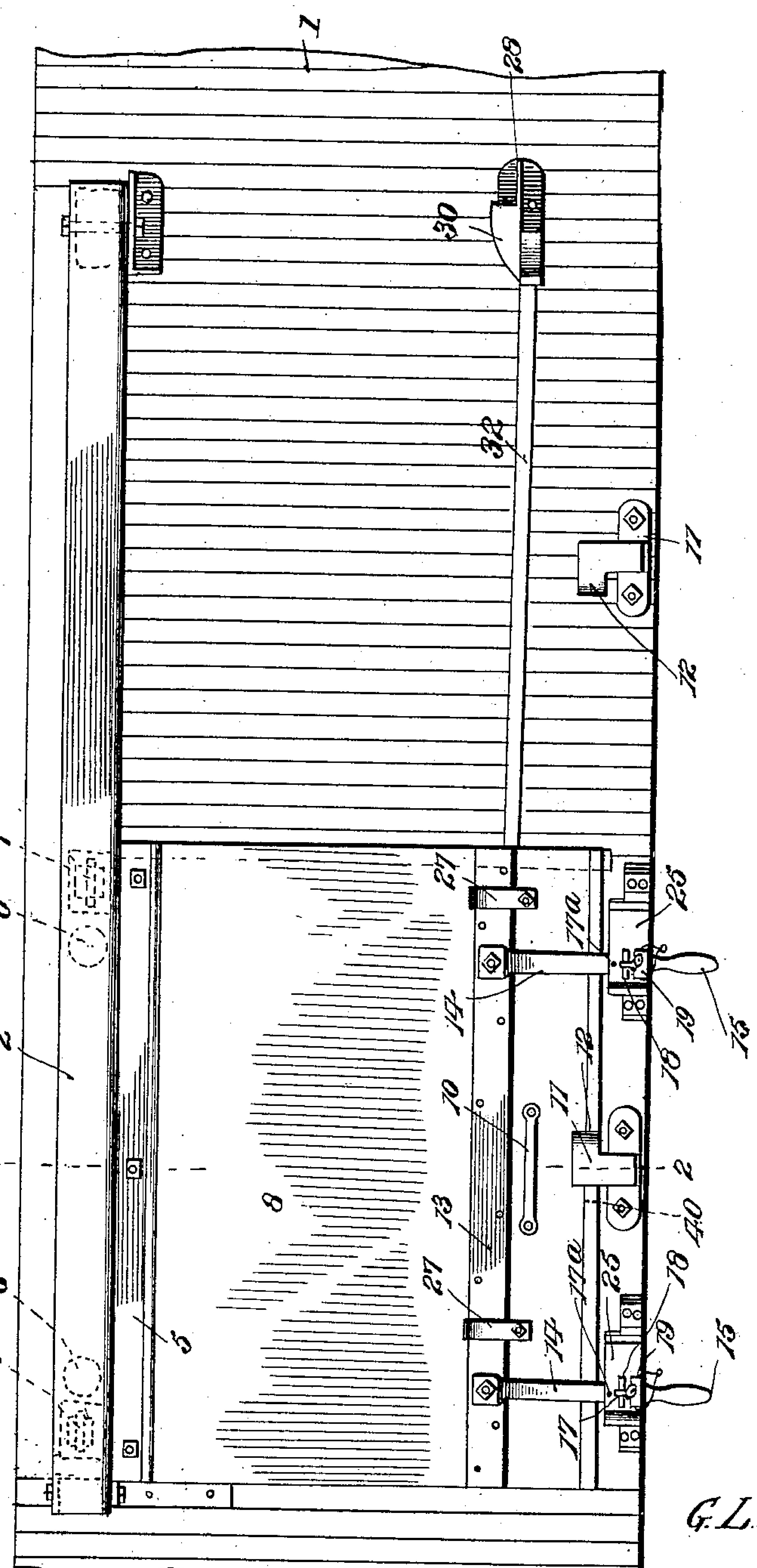
G. L. McCALLUM.

SLIDING DOOR FASTENER.

APPLICATION FILED JUNE 3, 1907.

2 SHEETS—SHEET 1.

Fig. 1.



Witnesses

[illegible]

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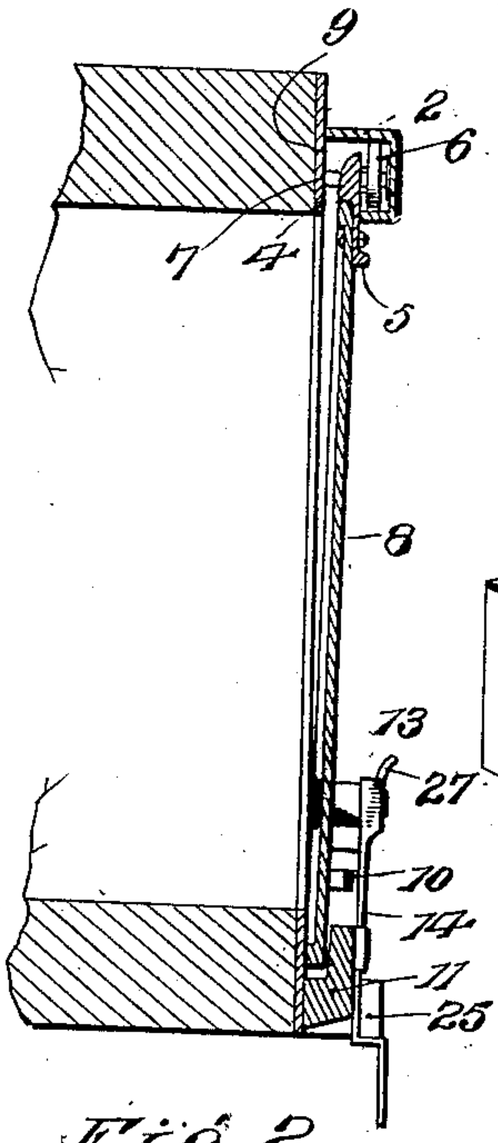

FIG. 2.

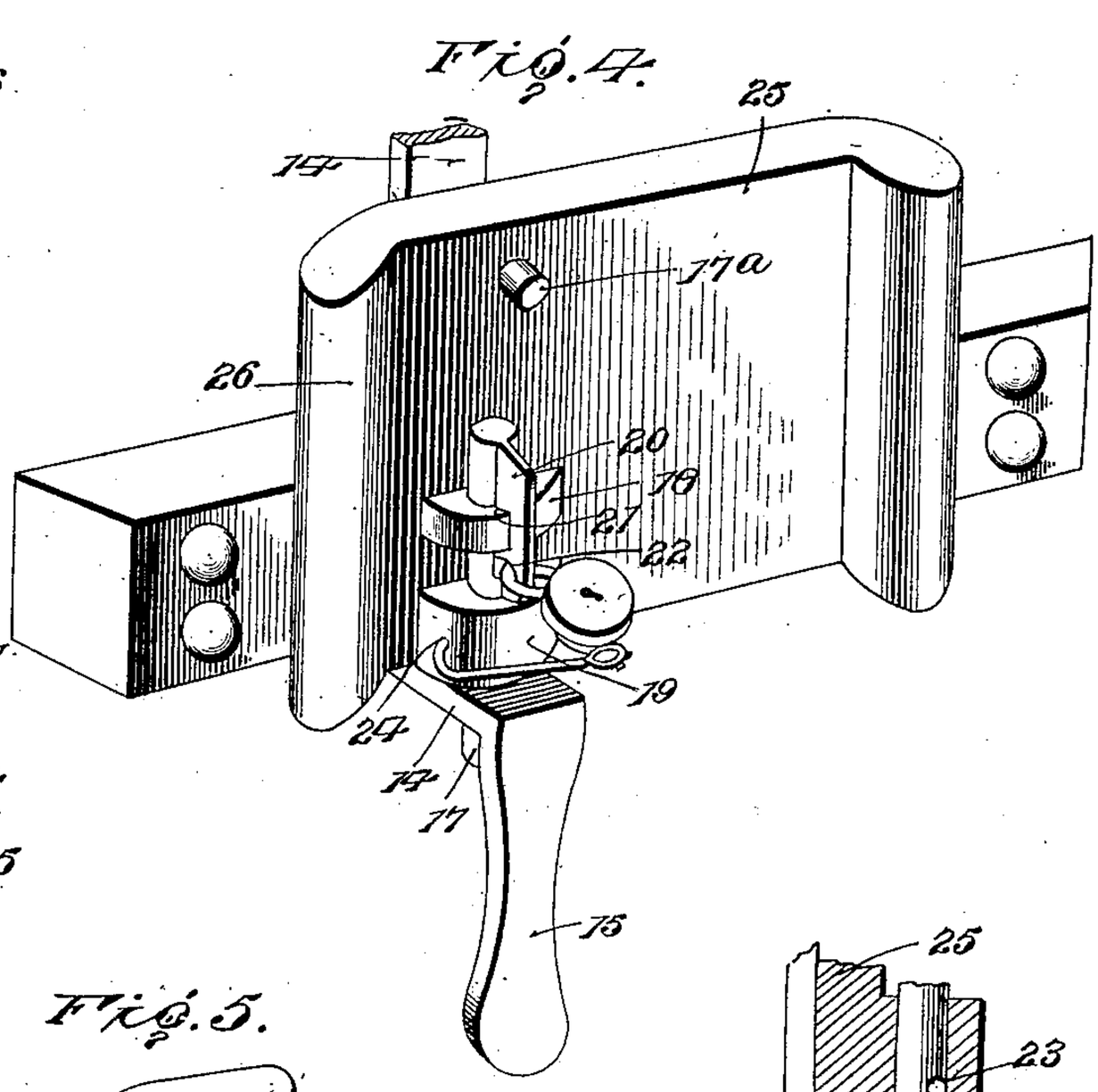

FIG. 4.

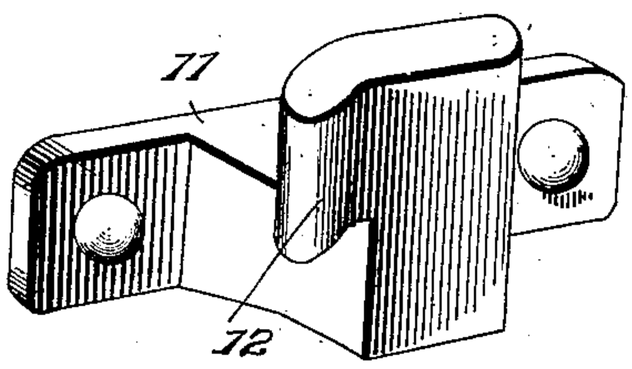

FIG. 5.

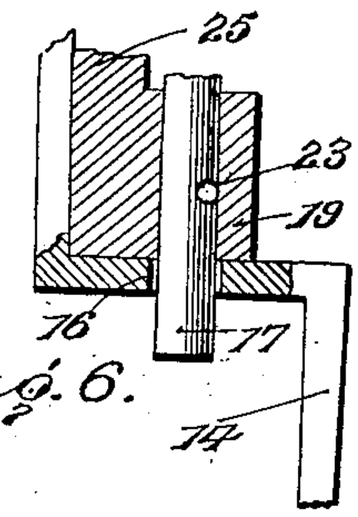

FIG. 6.

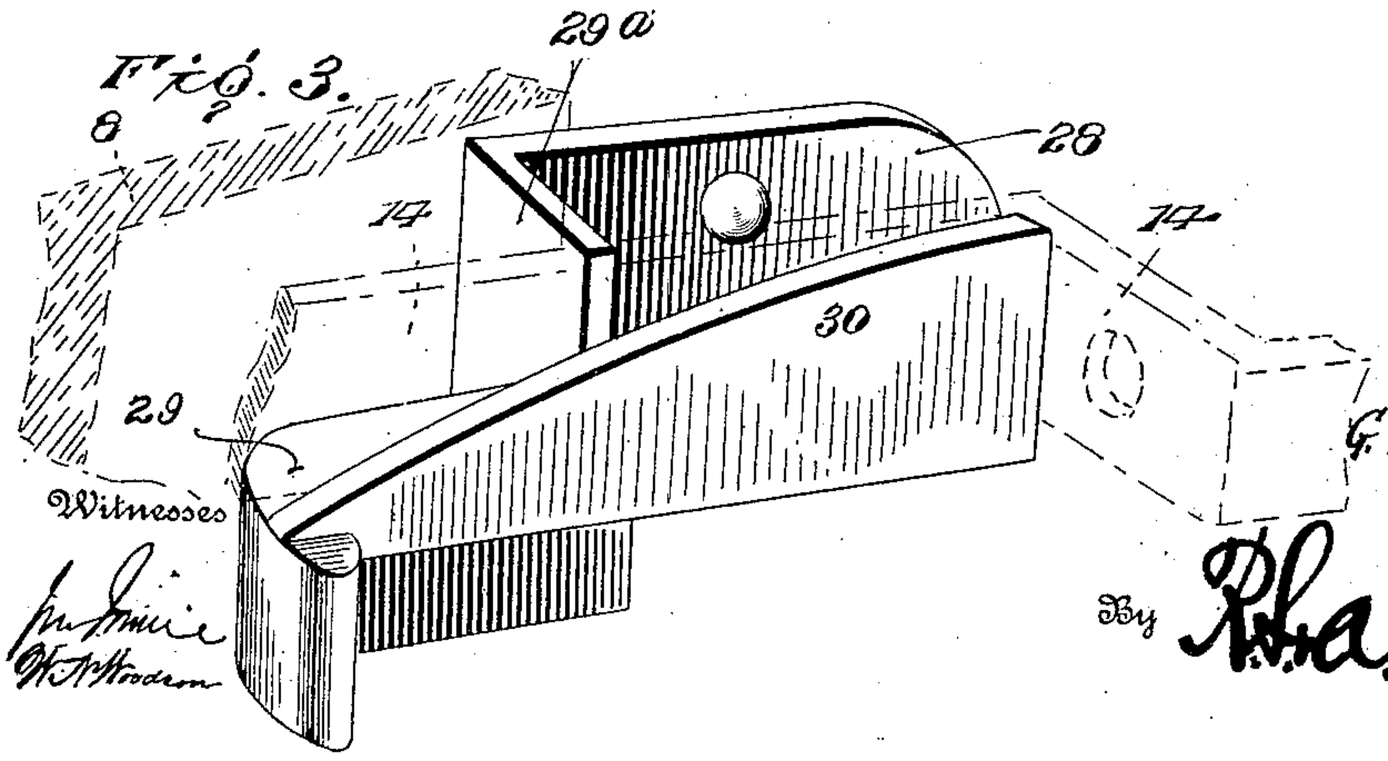

FIG. 3.

Witnesses

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UNITED STATES PATENT OFFICE.

GEORGE L. McCALLUM, OF NEWERF, PENNSYLVANIA.

SLIDING-DOOR FASTENER.

No. 890,690. Specification of Letters Patent. Patented June 16, 1908.

Application filed June 3, 1907. Serial No. 377,015.

To all whom it may concern:

Be it known that I, GEORGE L. McCALLUM, citizen of the United States, residing at Newerf, in the county of McKean and State of Pennsylvania, have invented certain new and useful Improvements in Sliding-Door Fasteners, of which the following is a specification.

The present invention relates to an improved fastening device for use in connection with sliding doors such as are commonly used upon freight cars and the like.

The object of the invention is to provide an improved fastener which can be readily applied to the door and embodies a novel construction whereby the door may be locked either in an open or a closed position and is securely held against any lateral swinging movement.

For a full understanding of the invention and the merits thereof and also to acquire a knowledge of the details of construction and the means for effecting the result, reference is to be had to the following description and accompanying drawings, in which:

Figure 1 is a side elevation of a portion of a car showing the invention applied, the car door being locked in a closed position. Fig. 2 is a sectional view on the line 2—2 of Fig. 1. Fig. 3 is an enlarged detail view of the bracket utilized for locking the door in an open position. Fig. 4 is a similar view of one of the brackets employed for locking the door in a closed position. Fig. 5 is a detail view of one of the guides. Fig. 6 is a sectional view through a portion of one of the brackets shown in Fig. 4.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

Referring to the drawing, the numeral 1 designates a car having a sliding door 8 of the conventional construction mounted thereon. Although this door 8 may be supported in any suitable manner, in the present instance it is shown as having a hanger plate 5 secured to the upper portion thereof, vertical rollers 6 and horizontal rollers 7 being journaled upon the hanger plate and engaging the track 2 which is secured to the car above the door opening, the vertical rollers serving to support the door while the horizontal rollers operate to guide the door in its sliding movements.

A longitudinal plate 13 is bolted or otherwise rigidly secured to the door 8 toward the lower edge thereof and pivotally connected to this plate toward opposite ends of the door are the swinging locking levers 14, the ends of the locking levers being formed with angular and offset handle portions 15. A pair of brackets 25 adapted to coöperate with the levers 14 to lock the door 8 in a closed position are secured to the car under the door opening and are formed with the guide plates 26 which overlap the lower edge of the door to prevent the same from swinging outwardly. It will also be observed that the opposite end portions of the guide plates 26 are flared outwardly so as to guide the door into engagement therewith, and one end of each of the guide plates 26 is adapted to act as a keeper to engage the angular portion of the locking lever 14.

As shown in Fig. 4 it will be observed that the offset portion 15 of the lever 14 is adapted to be swung under the guide plate 26 and is perforated at 16 to receive a locking pin 17 which is mounted upon the vertically spaced ears 18 and 19 projecting from the bracket. The upper ear 18 is slotted at 21 to loosely receive a longitudinal wing 20 projecting laterally from the pin 17 and this wing is formed with an aperture 22 designed to register with the space between the two ears 18 and 19 when the locking pin is moved downwardly into engagement with the opening 16 of the locking lever, and to receive a padlock or like member to hold the pin in such position. It will further be observed that the pin 17 is perforated at 23 and that this perforation registers with an opening 24 in the lower ear 19 when the pin is in operative position so that a seal of the conventional construction may be passed through the openings and the car door thereby sealed in a closed position so that it can not be opened by an unauthorized party. A lug 17^a projects from the upper portion of the bracket 25 immediately over the pin 17 so as to engage the upper end thereof and limit the movement thereof.

For the purpose of locking the car door in an open position and preventing lateral swaying thereof a bracket 28 is secured to the car at one side of the door opening. This bracket is formed with a horizontal ledge 29 terminating in a vertically disposed longitudinally beveled retaining plate 30. A stop shoulder 29^a projects over the ledge 29 and the end of this stop shoulder is spaced from

the retaining plate 30 to provide clearance between the members for the reception of one of the locking levers 14. When the levers 14 are not in engagement with the brackets 25 they are swung upwardly so as to rest against angular brackets 27 secured to the door, the said brackets retaining the levers in a substantially horizontal position, the angular and offset handle portion 15 of one of the levers projecting beyond the rear edge of the door. When the door is opened with the levers in this position the offset portion 15 of the last mentioned lever will engage and ride upon the beveled edge of the retaining plate 30 until the door abuts against the stop 29ª when the angular portion of the lever will slip over the end of the retaining plate and engage the same to lock the door in an open position. It will thus be apparent that through the medium of the swinging locking levers 14 and the brackets 25 and 28 coöperating therewith the door can be securely locked either in an open or a closed position and in all instances the lower portion of the door is held against swinging outwardly away from the side of the car.

Under some conditions it may be found desirable to provide guide brackets 11 for guiding the lower edge of the door as it is moved away from or towards the door opening, and in the present instance two of these guide brackets are shown and the said brackets are provided with beveled lugs 12 projecting toward each other. It will also be observed that a wear plate 32 is secured to the side of the car for the purpose of holding the door spaced from the car and preventing undue friction between the two members.

Having thus described the invention, what is claimed as new is:

1. The combination of a door way, a sliding door therefor, a pair of independent brackets applied to the door way, and a locking lever pivotally mounted upon the door and formed with an angular and offset handle portion adapted to have an interlocking connection with either of the brackets to lock the door either in an open or a closed position.

2. The combination of a door way, a sliding door therefor, a bracket applied to one side of the door way, a second bracket applied to one end of the door way and formed with a retaining plate, and a locking lever pivotally mounted upon the door and adapted to be swung into an interlocking connection with the first mentioned bracket to hold the door in a closed position or to automatically engage the retaining plate of the second mentioned bracket when the door is opened to retain the door in such position.

3. In a device of the character described, the combination of a door way, a sliding door therefor, a bracket applied to the door way, a second bracket also applied to the door way and formed with a beveled retaining plate, and a locking lever mounted upon the door and adapted to have an interlocking connection with the first mentioned bracket to hold the door in a closed position and to ride upon the beveled portion of the retaining plate of the second mentioned bracket and into engagement with the said plate to lock the door in an open position.

4. In a device of the character described, the combination of a door way, a sliding door therefor, a bracket applied to the door way, a locking lever mounted upon the door and formed with an angular portion adapted to have an interlocking connection with the bracket, and a locking pin mounted upon the bracket for holding the lever in engagement therewith.

5. In a device of the character described, the combination of a door way, a sliding door therefor, a bracket applied to the door way, a locking lever pivoted upon the door and adapted to have an interlocking connection with the bracket, a locking pin mounted upon the bracket for holding the lever in engagement therewith, a wing projecting from the locking pin, and means coöperating with the wing for preventing accidental displacement of the pin.

6. In a device of the character described, the combination of a doorway, a sliding door therefor, a keeper applied to the doorway under the door, the said keeper being formed with a pair of spaced ears, a vertically sliding pin mounted upon the ears, and a locking lever pivotally mounted upon the door and adapted to engage the keeper, the said locking lever being held in engagement with the keeper by means of the vertically sliding pin.

7. In a device of the character described, the combination of a doorway, a sliding door therefor, a keeper applied to the doorway and provided with upper and lower spaced ears, the upper ear being formed with a slot, a locking pin adapted to move up and down in the ears and formed with a wing adapted to extend through the slot, the said wing being formed with an opening adapted to receive a fastening device, and a locking lever pivotally mounted upon the door and provided with an angular portion adapted to engage the keeper and to be retained in engagement therewith by means of the beforementioned locking pin.

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE L. McCALLUM. [L. S.]

Witnesses:
SHERIDAN GORTON,
OCTAVIA RAYMER.