

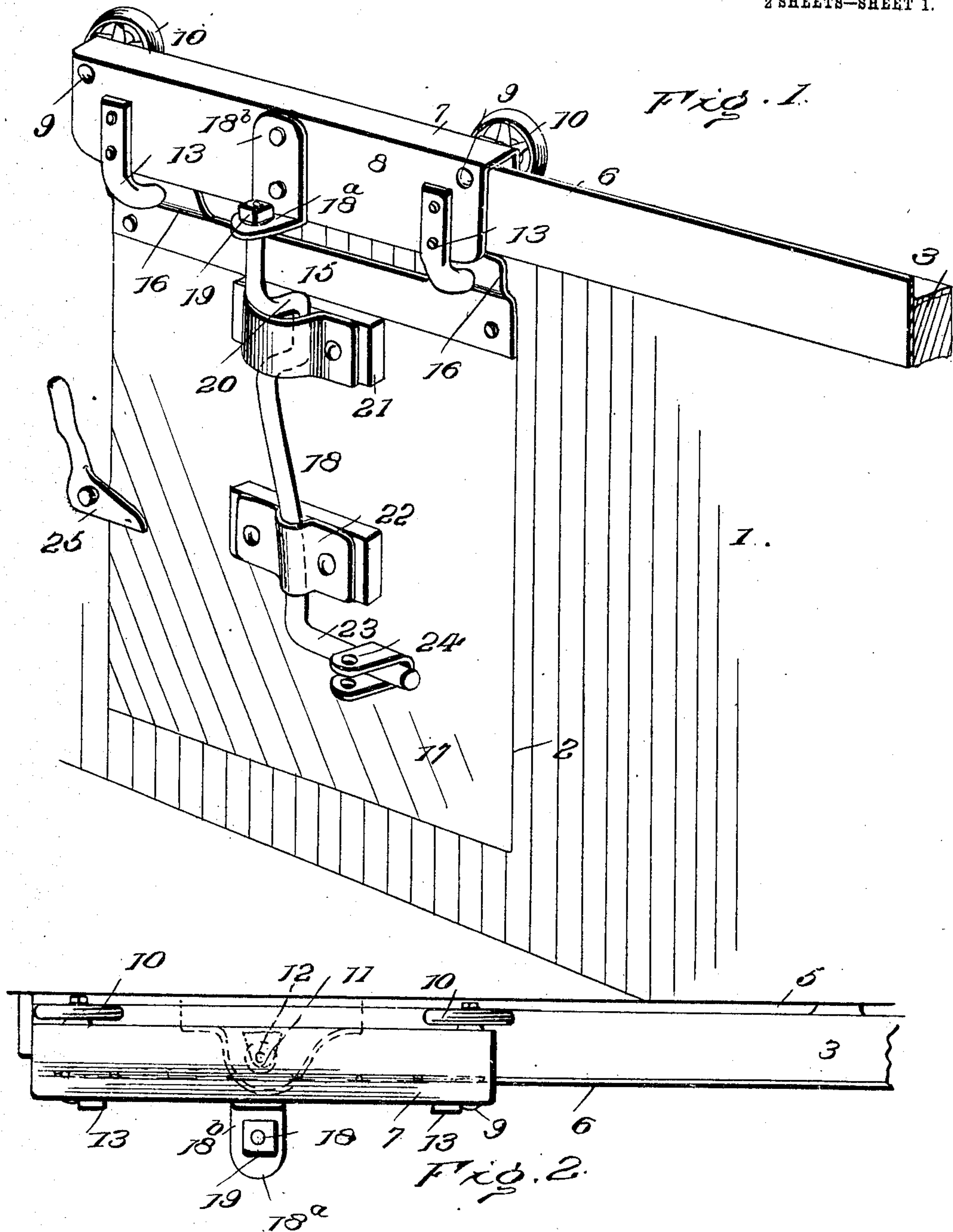
No. 871,711.

PATENTED NOV. 19, 1907.

G. W. LEAVITT.  
CAR DOOR.

APPLICATION FILED NOV. 6, 1906.

2 SHEETS—SHEET 1.



Witnesses

*J. M. Mice*  
*W. S. Woodson*

Inventor

G. W. Leavitt

By

*R. A. Mearns*

Attorney

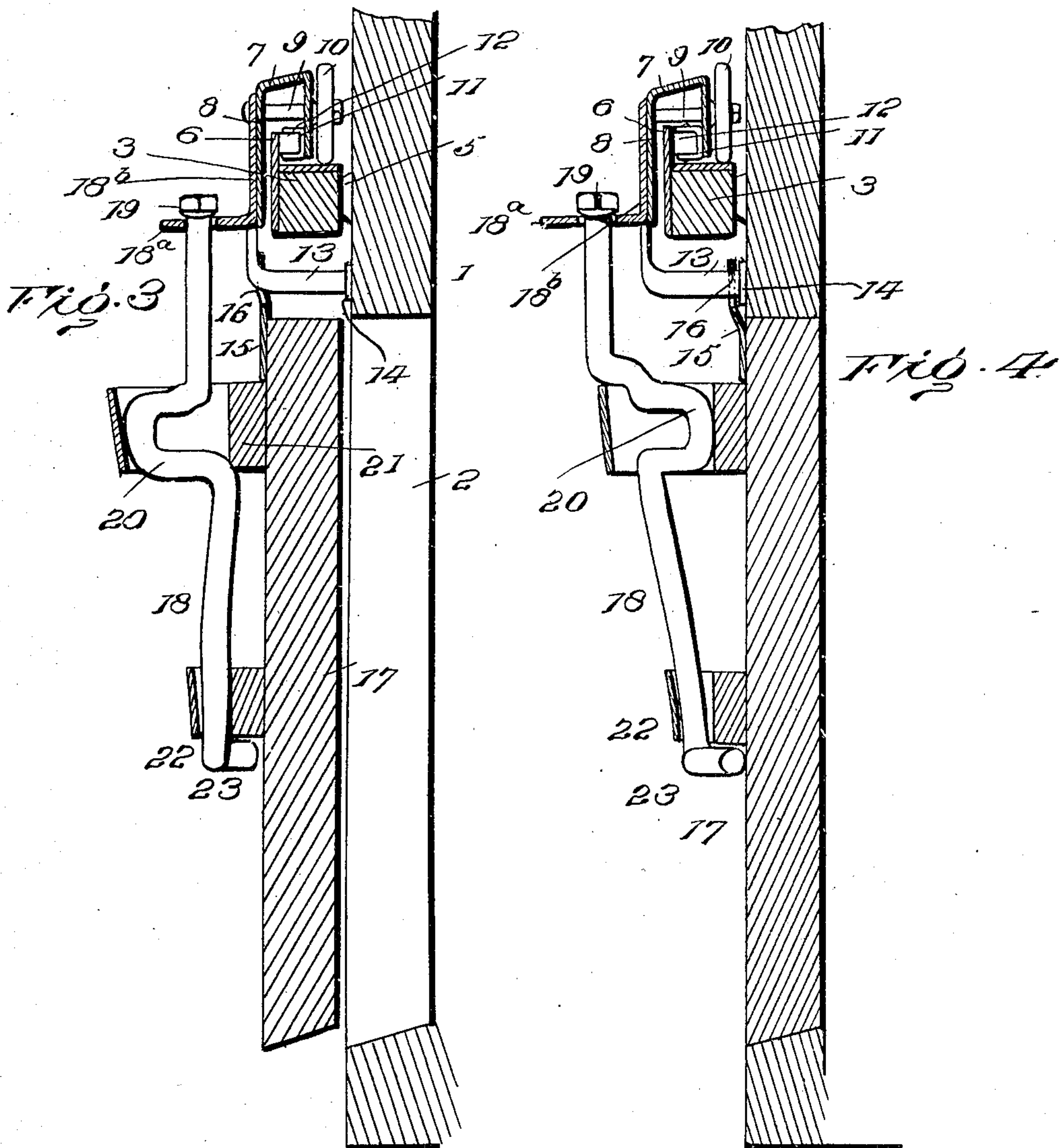
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Witnesses

*Johnnie*  
*W. H. Woodson*

Inventor

G. W. Leavitt

By

*R. A. M. Lacy*

Attorneys



# UNITED STATES PATENT OFFICE.

GEORGE W. LEAVITT, OF PITTSBURG, KANSAS.

## CAR-DOOR.

No. 871,711.

Specification of Letters Patent.

Patented Nov. 19, 1907.

Application filed November 5, 1906. Serial No. 342,118.

*To all whom it may concern:*

Be it known that I, GEORGE W. LEAVITT, a citizen of the United States, residing at Pittsburg, in the county of Crawford and State of Kansas, have invented certain new and useful Improvements in Car-Doors, of which the following is a specification.

This invention contemplates certain new and useful improvements in doors for freight cars or the like, and the object of the invention is to provide an improved construction of car door which may be swung snugly within the doorway and not merely extend over the door opening, and which may be shifted readily in a lateral direction out of the doorway, and moved longitudinally to uncover the same.

With these and other objects in view as will more fully appear as the description proceeds, the invention consists in certain constructions, combinations and arrangements of the parts hereinafter described and particularly pointed out in the appended claims.

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

Figure 1 is a perspective view of a car door embodying the improvements of my invention; Fig. 2 is a plan view thereof; Fig. 3 is a vertical sectional view with the door swung to its outer position preparatory to sliding longitudinally; Fig. 4 is a similar view with the door closed.

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 drawings, the numeral 1 designates the body of a car and 2 the doorway. A track 3 extends longitudinally over the door-way, preferably on the outer side of the car and said track is preferably provided with a wooden foundation which is formed next to the side wall of the car body with one or more drain openings 5 to provide clearances for water, cinders or the like that may find their way on to the track. The track 3 is provided with a longitudinally extending vertical guide plate 6 at its outer side, as shown. An inverted L-shaped hanger 7, preferably of steel or any other suitably strong metal is provided with a downwardly extending flange 8, and two or more axles 9

extend transversely of the hanger and are securely held therein between its main member and the flange 8 and carry vertically disposed traveling wheels 10 at their outer ends, said wheels being mounted upon the track when the parts are in operative position. A bracket 11 is secured within the hanger 7 and carries an outwardly facing guide or retaining roller 12 which is adapted to bear against the inner side of the guide plate 6, as the wheels 10 travel along the track.

13 designates preferably curved hanger arms which are riveted or otherwise securely fixed to the outer side of the main outer member of the hanger 7 and which project downwardly and inwardly from the hanger underneath the track. These arms are provided at their rear or lower ends with flanges 14.

15 designates a preferably metallic plate, which is provided at its ends with two upwardly projecting apertured ears 16 accommodating the respective hanger arms 13 and freely slidable thereon. The car door 17 is secured in any desired manner at its upper edge to the supporting plate 15 so that the entire door is free to be swung or shifted laterally into and out of the door-way when the hanger 7 is positioned above the same. To effect this lateral shifting movement of the door 17, I provide a shifting device 18 which, in the present instance, is in the form of a rod suspended by a head 19 at its upper end in the apertured ledge 18<sup>a</sup> of a bracket 18<sup>b</sup>, which latter is riveted or otherwise secured to the hanger 7, preferably at the middle thereof. The shifting rod depends freely from its upper end and is provided intermediate of its ends with a cam 20, which, in the present instance, is formed by crimping or buckling a portion of the rod itself. This cam is adapted to bear against and co-act with the bearing strip 21 secured to the outer side of the car door, as shown, and near its lower end, the said shifting rod 19 is journaled in the bearing plate 22 also suitably secured to the car door and extends beyond said bearing plate 22 with a laterally projecting extremity 23 adapted to swing in a substantially horizontal plane, as the shifting rod is turned about its longitudinal axis in its bearings within the plate 22 and the ledge 18<sup>a</sup> of the bracket 18<sup>b</sup>. A forked keeper 24 is secured to the outer side of the car door 17 in the path of movement described by the bent lower end 23 of the shift-



ing rod and is designed to receive said end between its members which are preferably apertured so that a locking pin or the like may be slipped through said members and  
5 hold the arm locked between the same.

25 designates a latch mounted on the car body in the proper position to be turned around over the outer side of the door when the latter has been swung laterally so as to  
10 fit snugly within the door-way.

When the door is closed, it fits, as above noted, snugly within the door-way with its outer face preferably flush with the outer side of the car body. In the practical operation to open the door, the shifting rod 18 is turned by means of the handle constituted by the bent end 23 in a direction to carry the cam 20 outwardly against the strip 21. This obviously will carry the entire door  
15 outwardly. The supporting ears 16 slide outwardly and to some extent upwardly on the curved hanger arms 13 until at the extreme limit of the cam, the door will have been carried entirely out of the door-way and  
20 it will then be free to travel longitudinally away from the door-way to expose the latter, as it is suspended from the traveling hanger 7. The reverse movement to close the door is obvious.

From the foregoing description in connection with the accompanying drawings, it will be seen that I have provided a very efficient and durable construction of car door which will effectively close the door-way of  
35 the car and carry the door inwardly when shifted, so that the hanger and the track will form an effective water shed for the door, while it is only necessary to turn the shifting rod 19 in order to carry the door outwardly  
40 from the door-way, so that it may be rolled to one side of the door-way and expose the same.

It is to be understood that the cam 20 of the shifting rod acts against the door to  
45 bring it inwardly on the arms 13 when the said rod is turned in one direction, and the door is then swung inwardly by hand into the door opening and held in the door-way by means of the latch 25. It is also to be  
50 understood that the track way may be made entirely of either wood or metal, or of a com-

bination of the two, and that the position of the shifting rod with respect to the door and its hanger, and also the position of the hanger with respect to the trackway when  
55 the door is opened and closed may be varied without departing from the invention.

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

1. The combination with a car body provided with a door-way and an elevated track above the door-way, of a hanger mounted to travel on said track and provided with downwardly and inwardly extending arms 13, a door suspended from said arms and movable  
60 laterally thereon, a shifting rod journaled on the door and suspended at its upper end from the hanger, said shifting rod being provided with a cam and the door being formed with a bearing plate within which said cam  
65 works, and a latch adapted to hold the door within the doorway.

2. The combination with a car body provided with a door-way and an elevated track above the door way, of a hanger mounted to  
75 travel on said track and provided with downwardly and inwardly extending arms, a plate 15 provided at its ends with apertures by which it is mounted to slide laterally on said arms, a door secured at its upper edge to  
80 said plate and suspended therefrom, a bracket 18<sup>b</sup> secured to the hanger between the arms thereof and provided with an outwardly extending ledge, a shifting rod provided at its upper end with a head by which  
85 it is suspended from said ledge, said rod being mounted to turn and journaled at its lower end on the outer side of the door, said rod being formed intermediate of its ends with a cam, a bearing plate secured to the  
90 outer side of the door and within which said cam works as the rod is turned, and a latch secured to the car body and adapted to engage the outer side of the door to hold the same within the door-way.  
95

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

GEORGE W. LEAVITT. [L. s.]

Witnesses:

E. A. GRIMM,  
GEO. W. BARRETT.