

C. I. WALKER.

CAR DOOR.

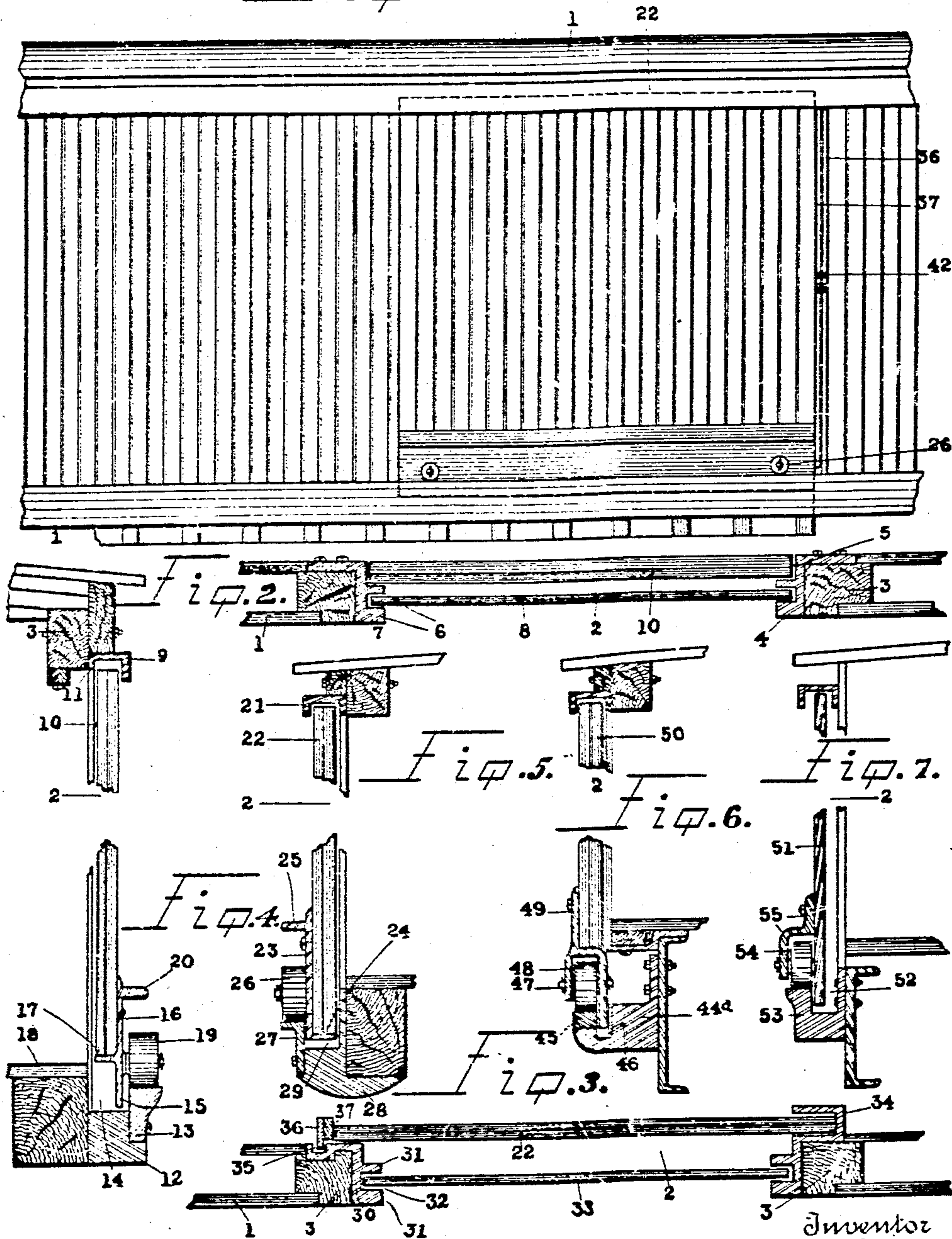
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967,273.

Patented Aug. 16, 1910.

2 SHEETS—SHEET 1.

Fig. 1.



Witnesses
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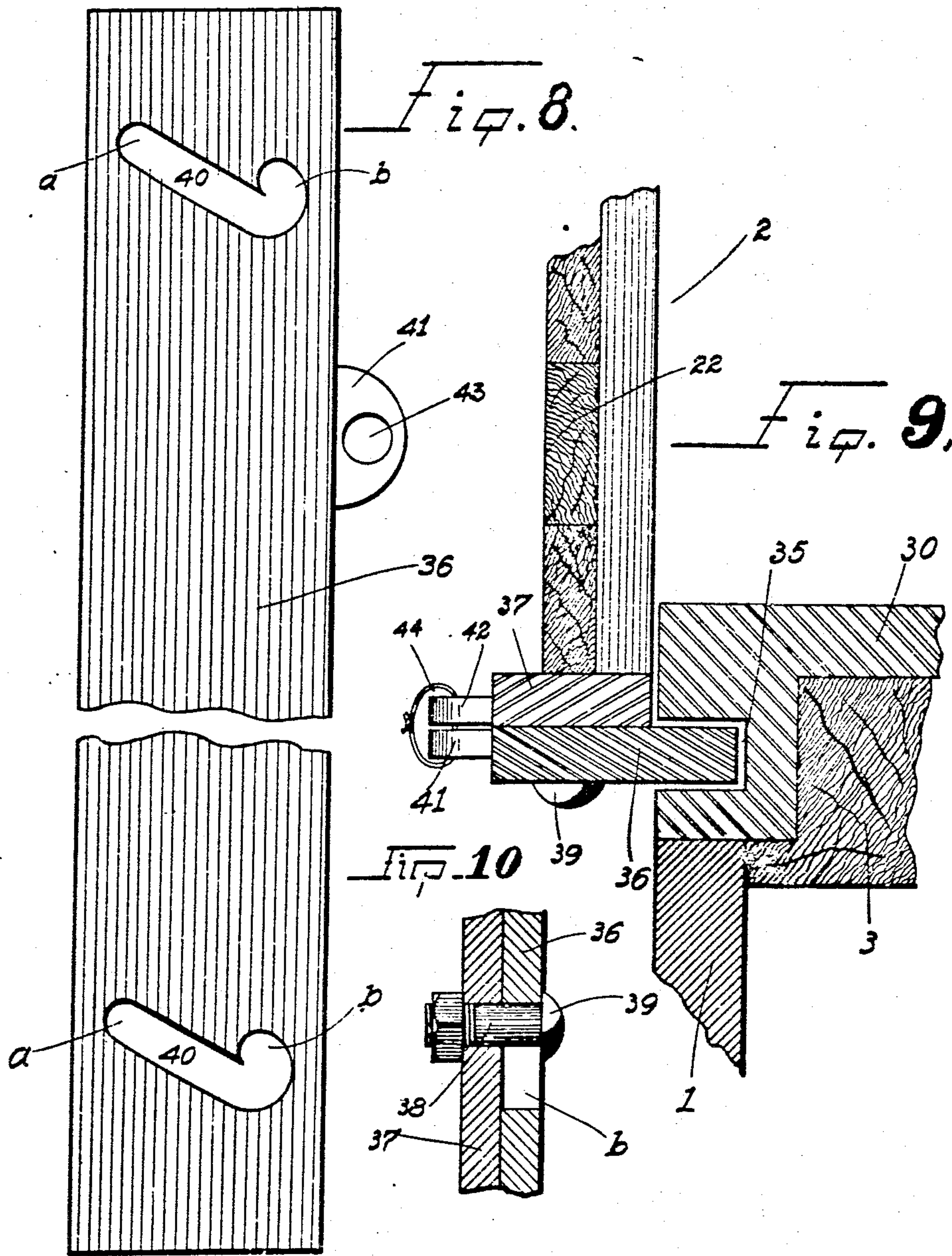
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2 SHEETS—SHEET 2



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UNITED STATES PATENT OFFICE.

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CAR-DOOR.

967,273.

Specification of Letters Patent.

Patented Aug. 16, 1910.

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To all whom it may concern:

Be it known that I, CHARLES I. WALKER, a citizen of the United States, residing at Sacramento, in the county of Sacramento and State of California, have invented certain new and useful Improvements in Car-Doors; and I do declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the characters of reference marked thereon, which form a part of this application.

This invention relates to improvements in railway rolling stock and particularly to the car doors, the object of the invention being to produce a car door of either of the types known as outside or flush doors which will be strongly reinforced in all respects, evenly balanced in position for operation, readily and easily closed and opened and which will be absolutely fire, water and weather proof in all respects.

A further object of the invention is to produce a simple and inexpensive door and yet one which is exceedingly effective for the purposes for which it is designed.

These objects I accomplish by such structure and relative arrangement of parts as will fully appear by a perusal of the following specification and claim.

In the drawings similar characters of reference indicate corresponding parts in the several views.

Figure 1 is a side elevation of a fragmentary portion of a car showing my improved door thereon. Fig. 2 is a horizontal cross section of a flush door and door posts. Fig. 3 is a similar view of an outside door. Fig. 4 is a vertical section of a fragmentary portion of a car showing my improved flush door structure. Fig. 5 is a similar view of my improved outside door structure. Fig. 6 is a similar view of an outside door structure but showing a modified form from that shown in Fig. 5. Fig. 7 is a similar view of the door as applied to steel cars. Fig. 8 is an enlarged side view of a weather strip and door lock. Fig. 9 is a fragmentary view showing the application of the weather strip and lock to the car door. Fig. 10 is a sectional view of a fragmentary portion of a door flange and weather strip.

Referring now more particularly to the characters of reference on the drawings 1

designates the car and 2 the door openings therefor, and 3 the door posts.

Inasmuch as I have herein applied my improved structure to an outside and a flush door I will therefore describe each separately and first the, flush door, (Figs. 2 and 4):—In this structure I provide around the door posts 3 a metal or other suitable casing 4 having a recess 5 to receive the door when it is flushed in the usual manner, and two spaced flanges 6 to form a groove 7 to receive a sliding grain door 8. Across the top of the door space is a channel iron guide run-way 9 in which the door 10 projects and moves in a free manner, the inner side of this runway being cut at the door hole as at 11 to permit the door to be flushed with the car when closed in the usual manner. At the bottom of the door space is a metal casting 12 to which is bolted a railway 13 forming an intermediate groove 14 forming a guide for the downwardly projecting flange 15 of a casting 16 on the bottom edge of the door 10. Such casting 16 also has an inwardly projecting flange 17 across the bottom edge of the door 10 and forming a shelf to rest on the floor 18 of the car when the door is flushed thus forming a supporting rest for such door. On the flange 16 are rollers 19 adapted to support the door upon the tracks 13. The flange 16 forms a bottom brace and support and strengthener for the door 10 and is itself provided with a projecting strengthening rib 20.

The above is the description of the flush door. I will now describe in detail the structure of the outside door, (Figs. 1, 3, 5, 8 and 9) viz:—I provide a top runway 21 similar to the runway 9 except that it is not cut out at the door hole as is the runway 9, the outside door 22 having a bottom strengthening casting 23 having a bottom flange 24 projecting across the bottom edge of the door and also said casting 23 has a projecting strengthening rib 25. The casting 23 carries rollers 26 moving on an upwardly projecting track 27 on a bottom casting 28 secured to the car, such track 27 forming with the car an intermediate guide slot 29 for the lower edge of the door. For this outside door 22 the door posts 3 have a surrounding metal casting 30 having projecting spaced flanges 31 forming slots 32 to receive a grain door 33. One of said castings 30 has a projecting angle iron flange 34 forming a closure and front stop for the

door when closed. The casting on the other post has an inwardly projecting recess 35 in which a weather strip and door locking flange 36 projects when the door is closed.

5 This weather strip and lock is secured to the door 22 and operated as follows, viz:— On the rear edge of the door 22 is a metal flange or strip 37 provided with bolts 38 having a head 39. The strip 36 is provided
10 with inclined slots 40 working over the bolts 38 and held thereon by the heads 39. Normally the bolts 38 rest in the upper ends "a" of the slots 40 when the door is open thus holding the strip 36 clear of the recess
15 35 and of the car, but when the door is closed and is to be locked the strips 36 are lifted on said bolts 38 until the same rest on said bolts in pockets "b" of said slots 40 which holds the strips 36 into the recess
20 35, and the same can be locked in said position by means of passing the usual seal 44 through aligned orifices 43 in projecting lugs 41 and 42 on the members 36 and 37 respectively which of course locks said mem-
25 ber 36 in position in the recess 35.

Figs. 6 and 7 show the structure for the doors modified as the same readily could be for different structures of cars the general structure however being the same, the roller
30 gear being modified to conform to the bottom structure of the car. Thus in Fig 6, a casting 44 carries a rail 45 forming an intermediate slot 46 in which a projected flange of a U-shaped roller bearing is guid-
35 ed, such roller bearing carrying the roller 48 and having a flange 49 secured to the bottom of the door.

In Fig. 7 a steel car is shown, the bottom edge of the steel door 51, being guided in

a slot 52 in a casting 53 the roller 54 riding 40 said track and bearing in a yoke 55 secured to the side of the door 51.

From the foregoing description it will be readily seen that I have produced such a door structure as substantially fulfils the
45 objects of the invention as herein set forth.

While this specification sets forth in detail the present and preferred construction of the device still in practice such deviations from such detail may be resorted to as do
50 not form a departure from the spirit of the invention.

Having thus described my invention what I claim as new and useful and desire to se-
55 cure by Letters Patent is:

A device as described comprising a car having door posts a casing disposed around each post having a door receiving recess, a slotted guide disposed above the door opening and along the side of the car and having
60 the inner wall of said slot opposite the door opening partly removed, a projecting beam disposed along the bottom of said door opening an upwardly projecting railway on said beam forming a recess between the same
65 and said car, a flush closing door, rollers on said door bearing on said railway, a flange on said door projecting into said runway, and an inwardly projecting flange on said door adapted to rest on the car floor when
70 the door is received into said recess.

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

CHARLES I. WALKER.

Witnesses:

HALLIE OSWALT,
J. R. HUGHES.