

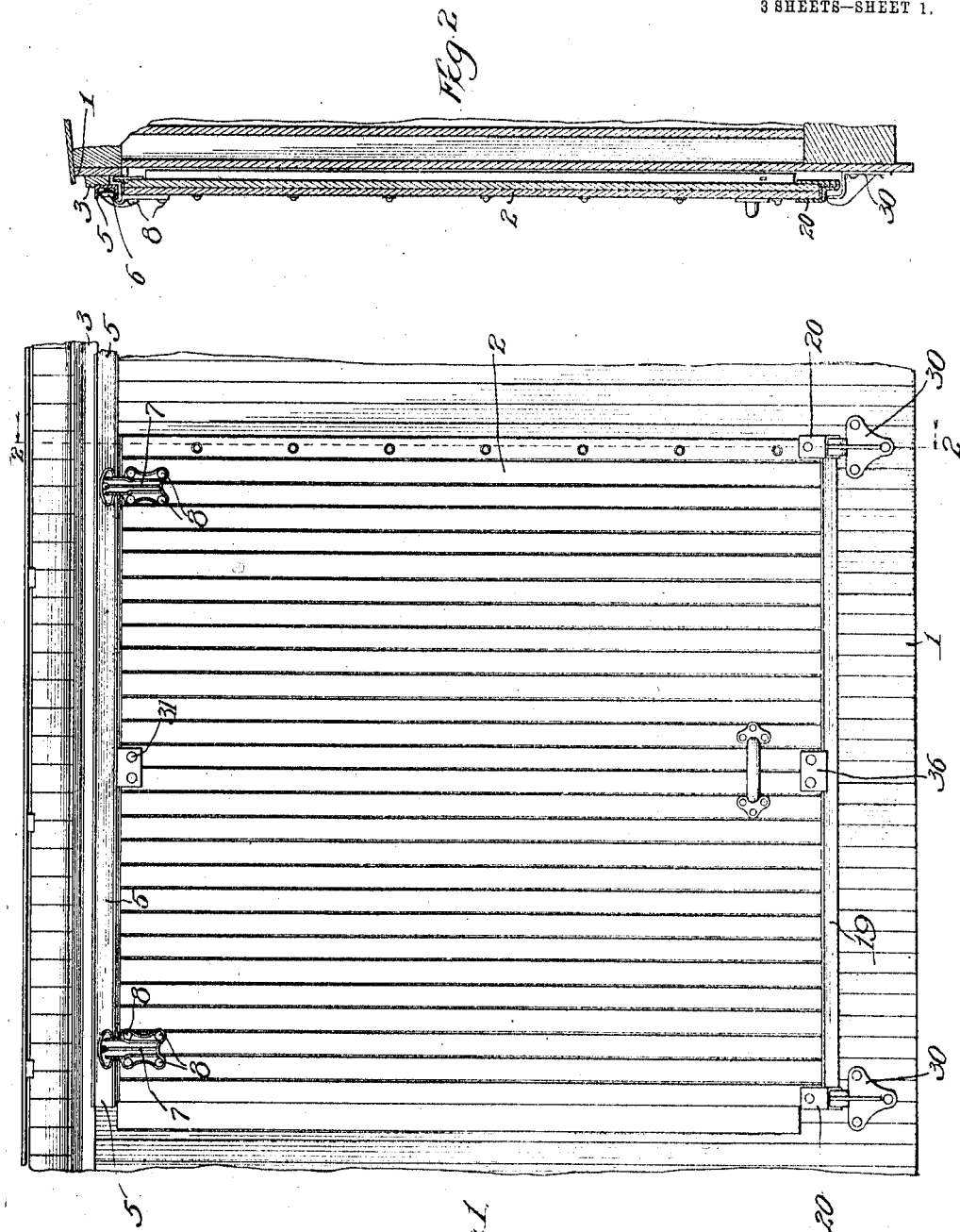
B. D. JONES.
CAR DOOR.

APPLICATION FILED JAN. 19, 1910.

969,878.

Patented Sept. 13, 1910.

3 SHEETS—SHEET 1.



Witnesses:
Geo. C. Davison
C. J. Schmitt.

Fig. 1

Inventor:
Belden D. Jones

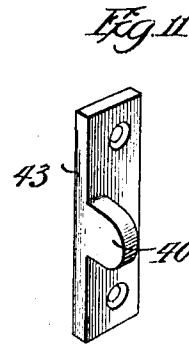
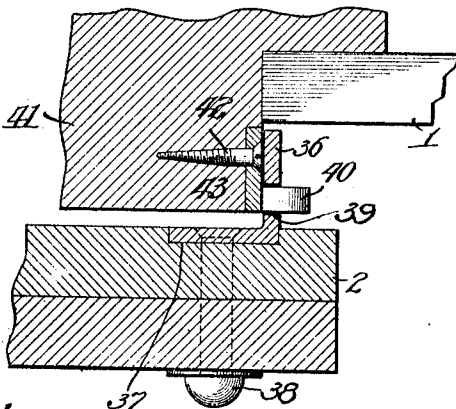
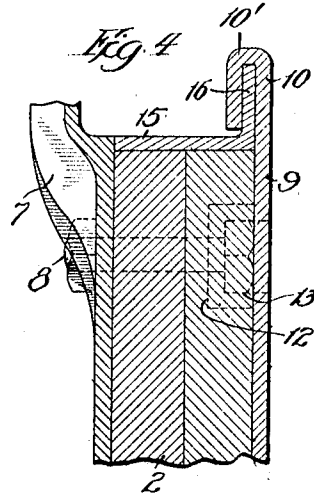
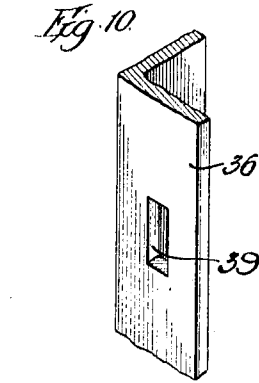
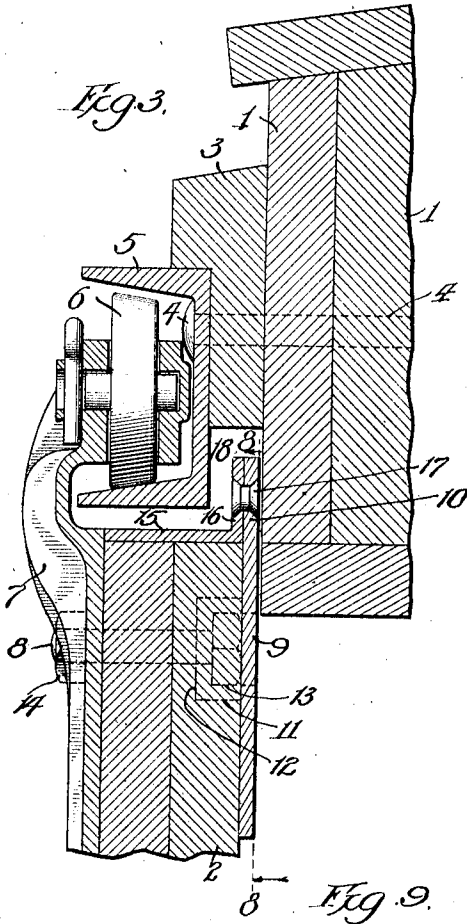
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3 SHEETS—SHEET 2.



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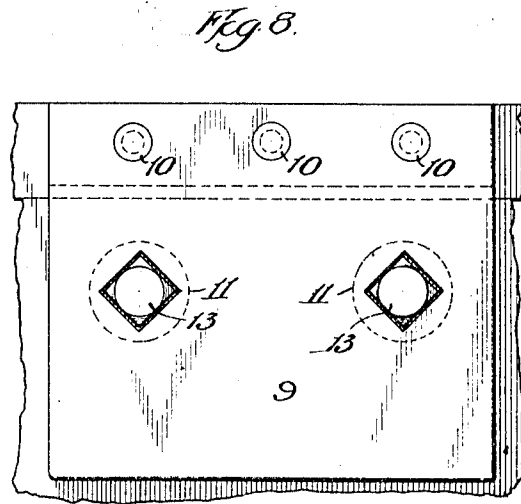
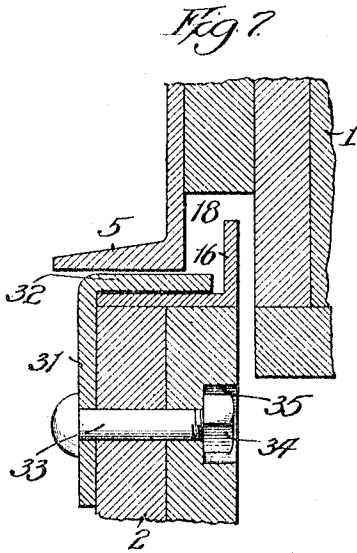
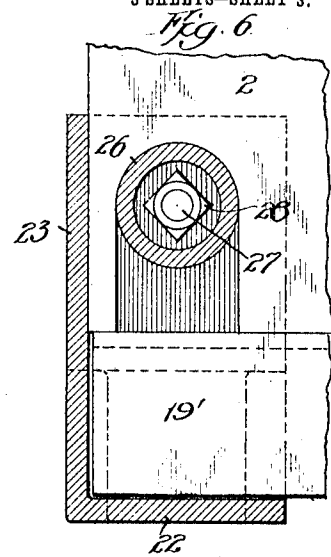
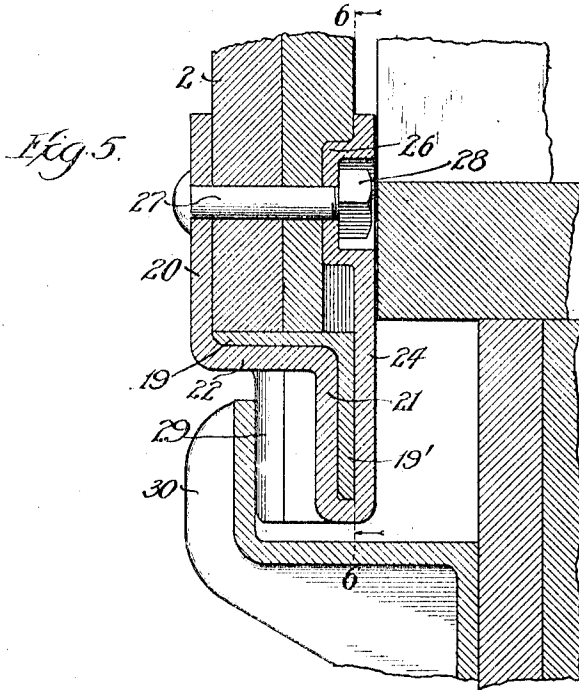
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B. D. JONES.
CAR DOOR.
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3 SHEETS—SHEET 3.



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UNITED STATES PATENT OFFICE.

BELDEN D. JONES, OF CHICAGO, ILLINOIS.

CAR-DOOR.

969,878.

Specification of Letters Patent. Patented Sept. 13, 1910.

Application filed January 19, 1910. Serial No. 533,966.

To all whom it may concern:

Be it known that I, BELDEN D. JONES, a citizen of the United States, residing in the city of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Car-Doors, of which the following is a specification.

This invention relates to improvements in car doors and has among its salient objects to provide a construction in which the stop or confining plates are so connected to the door body as to prevent binding during the opening and closing movement of the door in case the latter becomes warped; to provide a construction in which the angle irons are secured to the door structure at the ends of the latter, and at the central portion in such a manner that the warping out of the door does not affect the angle irons; to provide in a construction of the above character improved means for securing the angle irons to the door so as to prevent splitting of the latter; to provide a supplementary lock preventing displacement of the door in case the bottom brackets or guides are loosened or broken; to provide a construction which prevents the doors from being removed when in closed position, except from the inner side of the car; to provide a device which is characterized by simplicity and economy of construction; and in general to provide an improved construction of the character referred to.

The invention consists in the matters hereinafter described and more particularly pointed out in the appended claims.

In the drawings—Figure 1 is a fragmentary side elevation of a car body equipped with my invention; the door being shown in closed position; Fig. 2 is a vertical sectional view taken on line 2, 2 of Fig. 1 and looking in the direction of the arrows. Fig. 3 is a fragmentary vertical sectional view showing more particularly the manner of securing the upper angle iron to the door; Fig. 4 is a generally similar view showing a slightly modified construction; Fig. 5 is a fragmentary vertical sectional view showing more particularly the manner of securing the lower angle iron to the door; also showing one of the bottom brackets; Fig. 6 is a fragmentary sectional view taken approximately on lines 6—6 of Fig. 5; Fig. 7 is a vertical sectional view showing the manner of securing the intermediate portion of the upper angle iron to the door;

Fig. 8 is a sectional view taken approximately on lines 8—8 of Fig. 3 and looking in the direction of the arrows; Fig. 9 is a horizontal sectional view showing the supplementary confining or locking member; Fig. 10 is a fragmentary perspective view of the angle iron forming part of this supplementary locking device; Fig. 11 is a perspective view of the locking stud, which operates with said angle iron.

The invention relates more particularly to that class of freight car doors which are so supported as to reciprocate in a plane outside of the side walls of the car body.

Referring to the drawings, 1 designates as a whole the car body, and 2 the door which may be of any usual or suitable construction. Above the door opening, the car body is provided with the usual furring strip 3 to which is secured by means of a plurality of through bolts 4 the track member designated as a whole 5. In the present instance, this track member is of channel form and is adapted to receive the track wheels 6 suitably journaled in brackets 7 secured to the outer side of the door. These brackets are secured to the side of the door by means of through bolts 8, 8. Upon the inner face of the door opposite the brackets 7 are secured plates or castings 9 the upper ends of which extend above the upper edge of the door as shown at 10. Each of these plates is provided at its inner face with an offset lug 11 seated in a suitable socket 12 in the inner face of the door and is adapted to receive the heads 13 of the bolts 8. These bolts are locked in position by means of nuts 14 upon their threaded outer ends. The construction is such that both the castings 9 and brackets 7 are rigidly secured to the door. Upon the upper edge of the door is mounted an angle iron 15 having an upstanding flange 16 at its inner end, which is riveted to the extension 10 by counter-sunk rivets 17. It will be noted that this flange 16 extends into a longitudinally extending recess 18 formed between the rear side of the track member 5 and the car body. The upper flange of the angle iron 15 and the extension 10 are of such height and width relative to the recess 18 as to permit lateral and upward movement of these members within the recess. The angle iron, of course, prevents the wheels from slipping off the track in the usual manner. Inasmuch, however, as the angle iron is secured to the door only at the

ends of the latter, it will be seen that the bulging out or warping of the central part of the door will not materially affect the angle iron. Accordingly, the latter will not
 5 be forced outwardly into engagement with the track member during the opening and closing movement of the door. At the same time, the angle iron performs its usual functions.

10 The lower angle iron 19 upon the lower edge of the door is secured to the latter in a generally similar manner. At the lower edge of the door are secured a pair of approximately U-shaped castings 20, each having an offset portion 21 adapted to receive
 15 the lower flange 19' of the angle iron. The horizontal flange of the angle iron is secured between the lower edge of the door and the base 22 of each bracket. Each of these
 20 brackets 20 is closed at its outer end as shown at 23 in order to prevent the angle iron from slipping out. The inner face 24 of each bracket is provided with a plurality of offset lugs 26 seated in suitable recesses
 25 or sockets in the inner face of the door and adapted to receive the threaded end of the locking bolts 27. The diameter of the sockets 26 is larger than the nuts 28 in order that the latter may be turned within the
 30 sockets. The arrangement is such that the brackets or castings 20 cannot be removed, except from the inside of the car. The lower end of each bracket is provided with an integral web-shaped lug 29 which is adapted
 35 to pass behind guide brackets 30 secured to the lower ends of the car body in the usual manner.

Inasmuch as the lower angle iron 19 is secured only at its ends to the door, the
 40 warping of the latter will not affect the angle iron. If desired, the intermediate portion of each of the angle irons may be also secured to the door, but in such a manner that the former is not affected by the
 45 warping of the latter. To this end, upon the upper end of the door is bolted a casting or confining bracket 31, the horizontal flange 32 of which extends over the horizontal face
 50 of the angle iron and holds the latter snugly upon the door. The nuts 34 of the confining bolts 33 are preferably counter-sunk in suitable sockets 35 formed in the inner face
 55 of the door. At the lower end of the door is similarly secured a bracket 36, but in a reverse manner, *i. e.*, its horizontal flange being at its lower end, and extending over the angle iron 19. Inasmuch as these confining
 60 brackets are on the outer face of the door and are not directly connected to the angle irons, they do not affect the latter regardless of the warping of the door body.

As a feature of the invention, I provide means for preventing the displacement of the lower edge of the door in case the guide
 65 brackets 30 are for any reason loosened or

broken. To this end, near one edge of the door is secured a vertically extending angle iron 36', one face of which is counter-sunk in the door as shown at 37 and secured to the latter by means of through bolts 38.
 70 Near its lower end, this vertically extending angle iron is provided with an aperture 39 adapted to receive a lug 40 when the door is in closed position, as shown more clearly in Fig. 9. This lug is secured to the
 75 door post 41 by means of suitable screws 42 extending through a base plate 43 and counter sunk in the face of the post. The arrangement is such that when the door is closed the lug 40 will prevent the bottom of
 80 the door from swinging outwardly regardless of the confining bracket 30.

In Fig. 4 I have shown a slightly modified manner of securing the angle irons to the door. In this construction the extension
 85 10 of the casting 9 is provided with a hook-shaped portion 10' which fits over the vertical flange 16 of the upper angle iron in such a manner as to lock the latter to the door. It may be necessary in practice to
 90 slightly increase the width of the longitudinal recess 18 in case this modified construction is used.

The invention is not limited to the details of construction shown, except as set
 95 forth in the appended claims.

I claim as my invention:

1. The combination with a car body provided with a car door opening, of a door adapted to be moved across said opening, a
 100 track member secured to the car body, a supporting bracket connected to the door, a track wheel carried by the bracket and riding in said track member, an angle iron mounted upon the upper edge of the door
 105 and having its vertical member extending upwardly into a recess formed between the track member and car body, and means for securing said angle iron to the door only at points adjacent the ends whereby the central
 110 portion of the door is free to warp without affecting the normal position of said angle iron.

2. The combination with a car body having a door opening, of a closed door adapted to be moved across said opening, a track member secured to the car body, a support
 115 ing bracket connected to the door, a track wheel mounted in said bracket and riding in said member, an angle iron extending over the upper edge of said door and having its vertical member projecting upwardly at the rear edge of the door, means for securing the said vertical member to the door only at points adjacent the ends of the latter whereby the warping of the intermediate
 120 portions of the door does not affect the normal position of said angle iron.

3. The combination with a car body having a door opening, of a wooden door adapt-
 125 130

ed to be moved across said opening, a track member secured to the car body, supporting brackets connected to the door, track wheels carried by said brackets and riding in said track member, said track member forming in conjunction with the face of the car body a longitudinally extending recess, an angle iron mounted upon the upper edge of said door and having its vertical member extending into said recess, brackets secured to the inner face of said door and connected to the opposite ends of said vertical flange whereby the warping of the intermediate portions of said door does not affect the normal position of said angle iron.

4. The combination with a car body provided with a car door opening, of a substantially closed door adapted to be moved across said opening, a track member secured to the car body, supporting brackets carried by the door, track wheels mounted in said brackets and riding in said track member, an angle iron mounted upon the upper edge of the door and having its vertical member extending upwardly into a longitudinally extending recess, brackets carried by the door and connected to the angle iron only at points adjacent the ends of the latter whereby the central portion of the door

is free to warp without affecting the normal position of said angle iron.

5. The combination with a car body having a door opening, of a door adapted to be moved across said opening, a track member, wheel carried by the door and riding in said track member, brackets secured to the lower edge of the door at either end of the latter, an angle iron extending along the lower edge of said door, and having its ends seated in said brackets, locking lugs carried by said brackets and confining members secured to the car body, and adapted to receive said lugs when the door is in closed position.

6. The combination with a car body having a door opening, of a door adapted to be moved across said opening, brackets secured to either end of the door at the lower edge of the latter, a confining member extending across the lower edge of said door and having its ends seated in said brackets, whereby said confining member is rigidly connected to the door only at points adjacent its ends.

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Witnesses:

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