

H. M. HAZEL & A. S. COLTHARP.

CAR DOOR.

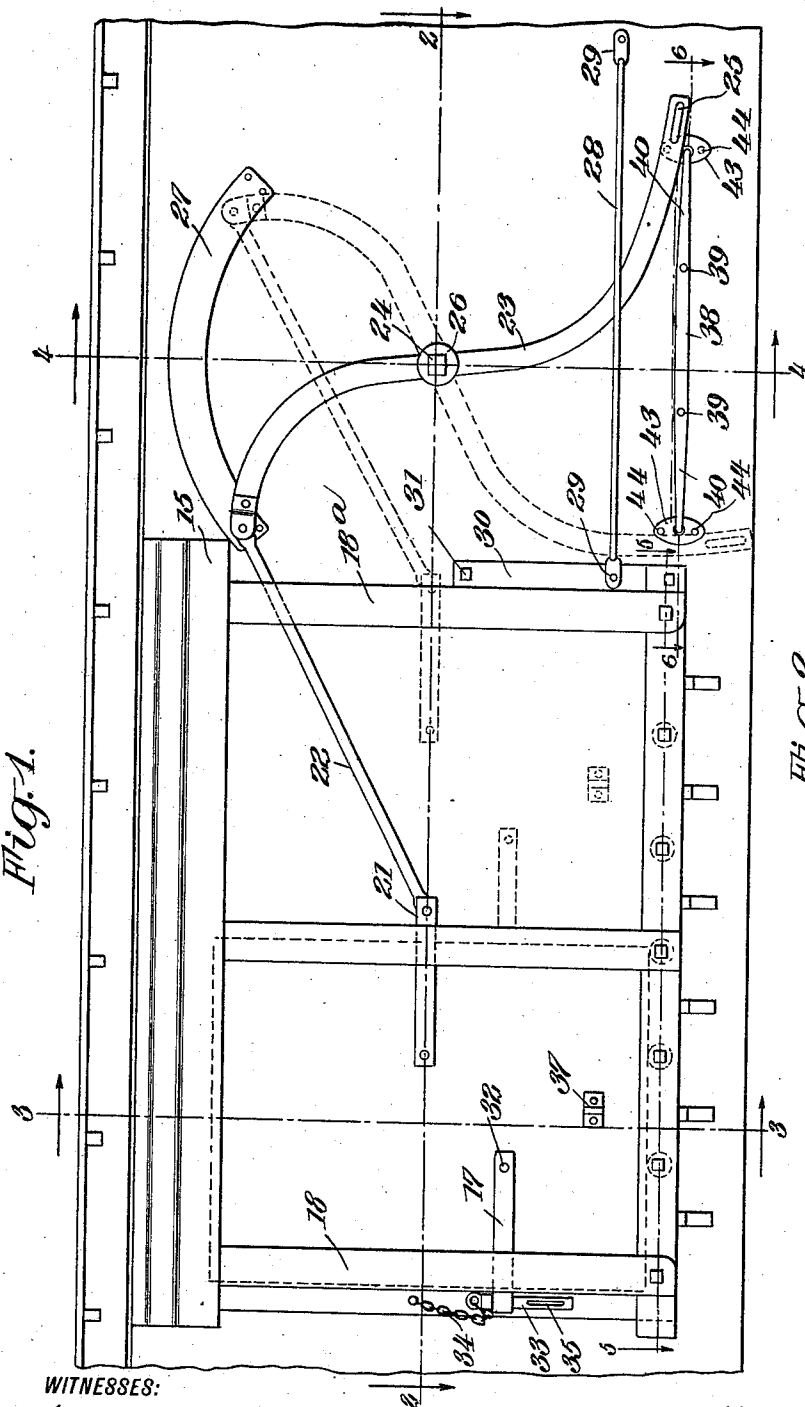
APPLICATION FILED JULY 14, 1910.

1,013,770.

Patented Jan. 2, 1912.

2 SHEETS—SHEET 1.

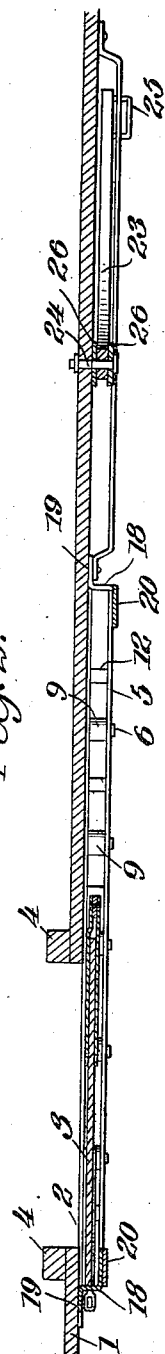
Fig. 1.



WITNESSES:

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Fig. 2.



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Fig. 3.

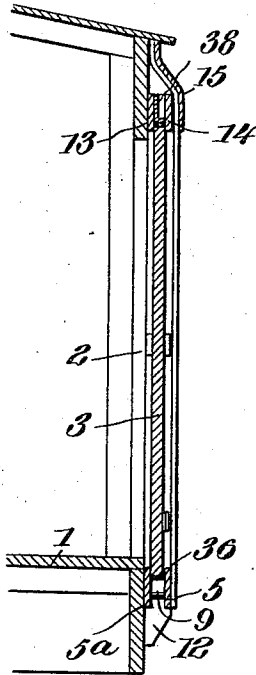


Fig. 4.

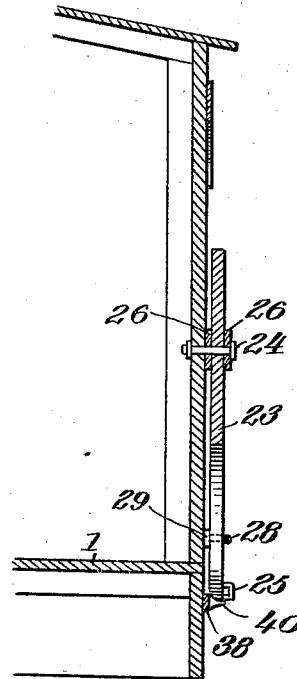


Fig. 5.

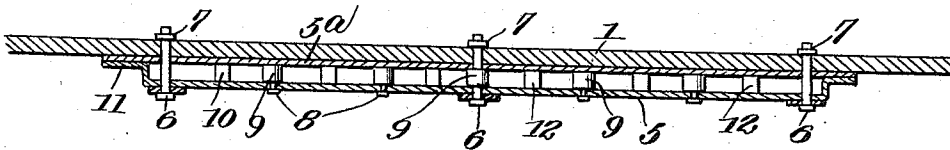
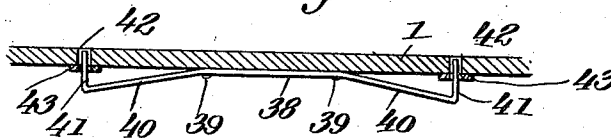


Fig. 6.



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UNITED STATES PATENT OFFICE.

HENRY M. HAZEL AND ALBERT STRONG COLTHARP, OF TALLULAH, LOUISIANA.

CAR-DOOR.

1,013,770.

Specification of Letters Patent.

Patented Jan. 2; 1912.

Application filed July 14, 1910. Serial No. 571,909.

To all whom it may concern:

Be it known that we, HENRY M. HAZEL and ALBERT S. COLTHARP, citizens of the United States, and residents of Tallulah, in the parish of Madison and State of Louisiana, have invented certain new and useful Improvements in Car-Doors, of which the following is a specification.

Our invention is an improvement in car doors, and consists in certain novel constructions and combinations of parts hereinafter described and claimed.

The object of the invention is to provide a door especially adapted for freight cars, which will move easily in opening or closing, and which may be opened and closed by a single lever, and which will be strong, and incapable of accidental dislodgment, and will not leak, sag, rise or move laterally.

Referring to the drawings forming a part hereof—Figure 1 is a side view of a portion of a car provided with the improvement, and Figs. 2, 3, 4, 5 and 6 are sections on the lines 2—2, 3—3, 4—4, 5—5, and 6—6, respectively of Fig. 1.

In the embodiment of the invention shown in the drawings, the car body 1 is provided with the usual door opening 2, having at each side thereof within the car a vertical beam 4, and the door 3 is arranged to slide over and away from over the door opening, on a track composed of a pair of rails 5 and 5^a, the rail 5^a being secured to the car body, while the rail 5 is spaced outwardly from the car body and its ends are offset inwardly at 11 and secured to the ends of the rail 5^a. Bolts 6 are passed through the rails and the side of the car body, and are engaged by nuts 7 to secure the rails in place. Rollers 9 are journaled on the bolts 6, and on screw bolts 8 passing through the rails and engaging the car body, between the bolts 6. Spacing blocks 12 are arranged between the rails and between the bolts to prevent undue friction on the rollers 9. The door 3 rolls on the rollers 9, the lower edge of the door being received between the rails, as indicated in Fig. 1, and the upper edge of the door is received between a pair of rails 13 and 14 arranged in the same manner as the rails 5 and 5^a, and a hood 15 is secured to the side of the car, near the overhang of the roof 16, and extends outwardly and down alongside the outer face of the door. The hood (Fig. 1) extends the full length of the track, so that the door

is always beneath the same, and there is no possibility of leakage between the upper edge of the door and the car body. A fastening 17 is provided for holding the door closed, and a vertical shield or guard plate 18 and 18^a is provided at each end of the movement of the door for engagement by the edge thereof. Each shield or guard plate is substantially Z-shaped in cross section, having a lateral flange 19 and 20, at each side edge, the flanges extending in opposite directions. The flange 19 of each plate is secured to the car, and the other flange 20 is spaced apart from the side of the car a sufficient distance to permit the side edge of the door to pass thereunder. The plate 18^a is Z-shaped for only half its length, in order to permit the passage of the link 22, and the flange 19 is secured in place by bolts 31.

A pair of straps 21 is secured to the rear edge of the door at approximately the center thereof, one strap on each side of the door, and one end of a link 22 is pivoted between the straps. A lever 23 is pivoted at its center to the car body by a bolt 24 and the ends of the lever on each side of the bolt are curved in opposite directions as shown. The upper end of the link 22 is pivoted to the upper end of the lever, and the lower end of the lever is provided with a handle 25. Washers 26 are arranged on the bolt 24 one on each side of the lever, and a curved wear plate or shield 27 is secured to the car body the said plate being curved on an arc whose center is the bolt 24 and the plate prevents the engagement of the lever end and link with the car body. It will be evident that when the lever is swung on the bolt 24, the car door will be moved over and away from over the door opening, the door sliding smoothly on the rollers. A guard rod 28 is arranged over the lower end of the lever, and the ends of the rod are offset inwardly at 29, and secured to the car body, and the said ends form stops for limiting the swinging movement of the lever. The bottom portion of the plate 18^a acts as a stop for engagement by the rear edge of the door when it is fully open. The fastening device 17 for the door comprises a bar secured to the door by a bolt 32, and the free end thereof passes through an opening in the guard plate 18, when the door is closed, and is provided with a vertical opening for engagement by a pin 33, which is preferably

held to the car body by a chain 34. The pin is provided with a transverse opening 35 through which may be passed a seal to seal the car. The bottom edge of the door is preferably reinforced by a steel strip 36, which engages the rollers. The spacing blocks 12 act also as braces for the rails, the said blocks depending below the rails as shown in Fig. 1. The door is also provided with a hand hold 37 for use in emergencies.

It will be evident that the improved door and its operating mechanism can be attached to cars already in use with but slight changes and with no changes in the construction of the body.

The door may be made of various sizes to fit the cars upon which it is used, and of any suitable material.

There is no possibility of sticking or jamming of the door, and the parts cannot get out of order from ordinary usage.

There will be no necessity to nail the doors to the car nor to secure them with boards, and there is no possibility of sidwiping of other trains from the outward swinging of the door. Such swinging is absolutely prevented by the rail 5, which extends above the rollers, and acts as a guard and guide for the door. The plates 18 and 18^a limit the movement of the door, and protect the edges thereof, and seal the space between the edge of the door and the car. An angle plate 30 is arranged above the door between the rails 13 and 14, the said plate engaging the upper face of the door to prevent upward disengagement thereof. The bar also acts as a spacer, preventing the upper edge

of the door from striking the bolts. A means is provided for holding the lever 23 in adjusted position, the said means comprising a spring bar 38 (Fig. 6) secured to the car body intermediate its ends by rivets 39, and the ends of the bar outside of the rivets are bent outwardly from the car body at 40, and at their extremities are bent inwardly at right angles at 41, and pass through openings 42 in the car body. The openings are encircled by escutcheons 43, secured to the body by rivets or bolts 44. The portions 40 of the bar are pressed inwardly by the lower end of the lever when it is swung from side to side, and the angular portions 41 prevent the return movement of the lever, until they are pressed inward, which may be easily done manually.

We claim:

A car door, a lever pivoted intermediate its ends adjacent to the door, a link connecting one end of the lever to the door at one side and intermediate the ends thereof, a guard rod limiting the movement of the lever, and a latch for holding the lever in adjusted position, said latch comprising a resilient bar supported intermediate its ends adjacent to the other end of the lever, each end of the bar being bent laterally inward to form a shoulder for engagement by the lever to hold the same in adjusted position.

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