R. L. BURGOON.

DOOR FOR BOX CARS.

APPLICATION FILED JAN. 24, 1912.

1,077,798. Patented Nov. 4, 1913.

FIG. 1

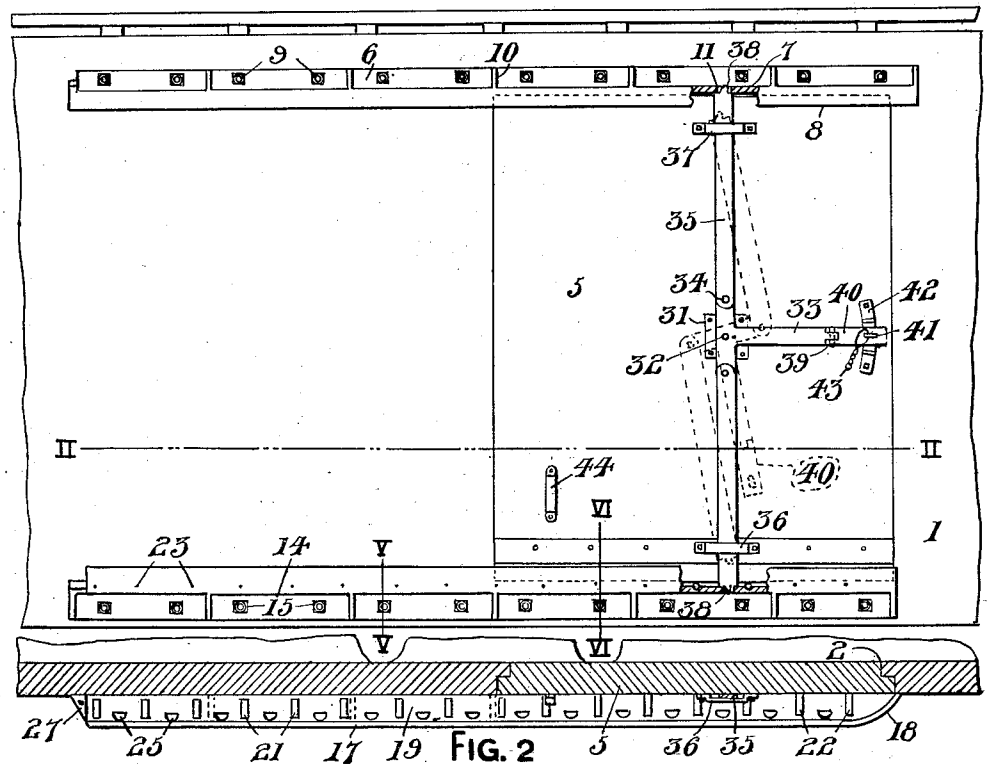


FIG. 2

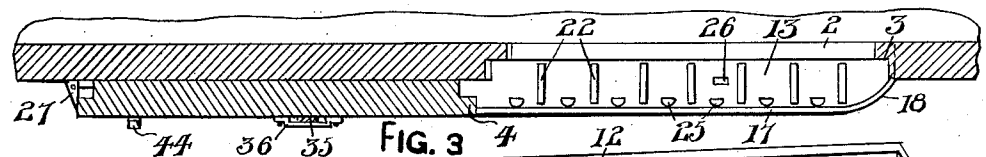


FIG. 3

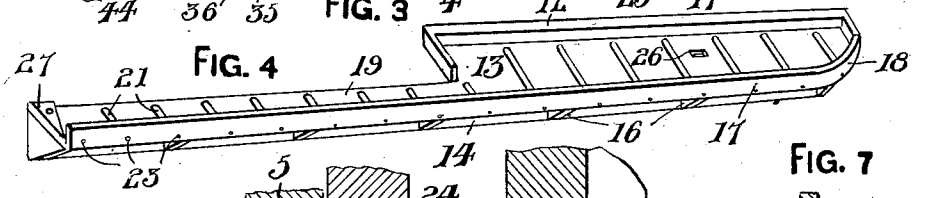


FIG. 4

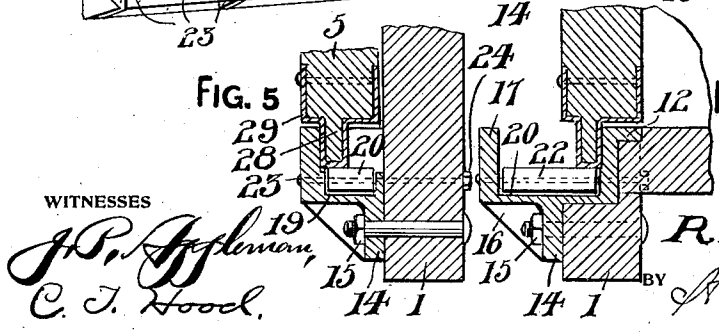


FIG. 5

FIG. 6

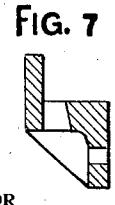


FIG. 7

WITNESSES

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DOOR FOR BOX-CARS.

1,077,798. Specification of Letters Patent. Patented Nov. 4, 1913.

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To all whom it may concern:

Be it known that I, ROBERT LEWIS BURGOON, a citizen of the United States of America, residing at Sharpsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Doors for Box-Cars, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to car doors, and more particularly to that type of car door that is slidably mounted upon the side of the car and seated in the doorway or frame of the car.

The primary object of my invention is to furnish a door of the above type with a novel lock that permits of the door being easily and quickly unlocked and shifted to an open position.

Another object of my invention is to provide a car with an anti-friction rail or track upon which a car door can be easily and quickly shifted, either to open the door or close the same.

A further object of this invention is to accomplish the above results by a mechanical construction that is applicable to various types of cars, strong and durable and highly efficient for the purposes for which it is intended.

With the above and other objects in view, the invention resides in the novel construction, combination and arrangemnt of parts to be hereinafter specifically described and then claimed.

Reference will now be had to the drawing wherein like numerals denote corresponding parts throughout the several views, in which:—

Figure 1 is a front elevation of a portion of a car, partly broken away and partly in section, illustrating by dotted lines the lock in an open position, Fig. 2 is a longitudinal sectional view taken on the line II—II of Fig. 1, Fig. 3 is a similar view showing the car door in an open position, Fig. 4 is a perspective view of a detached rail or track, Fig. 5 is a cross sectional view taken on the line V—V of Fig. 1, Fig. 6 is a similar view taken on the line VI—VI of Fig. 1, and Fig. 7 is a cross sectional view of the rail or track.

The reference numeral 1 denotes the side of a car having an opening or doorway 2. The vertical walls of this doorway have the outer edges thereof chamfered or recessed, as at 3 to receive the vertical side flanges 4 of a door 5, said door fitting in the doorway with the outer side of the door flush with the outer side of the car.

The side of the car, at the upper edge of the doorway 2, is provided with a longitudinal guide rail 6, said rail having a horizontal flange 7 and a depending flange 8. The rail 6 is bolted or otherwise secured to the side of the car, as at 9 and the length of said rail is approximately twice the width of the doorway 2, the horizontal flange 7 of the rail is braced by equally spaced ribs or webs 10, and said flange is provided with an opening 11 at a point approximately intermediate the side walls of the doorway 2.

The bottom of the doorway 2 is cut away to receive a sill 12 carried by a horizontal anti-friction rail 13. The rail 13 is the same length as the guide rail 6, and said rail has a back plate 14 secured by bolts 15 or other fastening means to the side of the car 1. The horizontal rail 13 is braced relatively to the back plate 14 by equally spaced ribs or webs 16, and the forward edge of said rail has a vertical flange 17 with one end thereof curved or bent toward the side of the car, as at 18, the purpose of which will presently appear.

The sill end of the horizontal rail 13 is provided with equally spaced transverse recesses 20 and the opposite end of said rail, which is of a less width than the sill end, is provided with equally spaced transverse recesses 19. Revolubly mounted in the recesses 19 and 20 and protruding above the surface of the rail 13, are rollers 21 and 22, said rollers being retained within said recesses by bolts 23 and nuts 24.

The horizontal rail 13, between the recesses 19 and 20, is provided with drain openings 25, said openings allowing water, dirt and other matter to drain from the horizontal rail 13. The rail 13 has the sill end thereof provided with an opening 26 and the opposite end of said rail has a stop block 27.

The lower edge of the door 5 has a depending longitudinal web 28 that is incased in a wearing housing 29 secured to the door 5, as at 30.

Located approximately central of the outer side of the door 5 is a plate 31 and pivotally mounted upon said plate by a pin 32 is a T-bar 33, said T-bar having the short ends thereof pivotally connected by

pins 34 to locking bars 35. The bars 35 are loosely mounted in straps 36 and 37, the latter being carried by the outer side of the door 5 and the former by the outer side of the housing 29. The ends of the locking bars 37 are reduced to provide pins 38 adapted to enter the openings 11 and 26 of the rails 6 and 13 respectively to lock the door 5 relatively to the side of the car.

Hinged to the T-bar 33, as at 39 is a hasp 40 adapted to fit over a staple 41 carried by a bar 42 secured to the door 5. A seal 43, lock or other fastening device can be placed in engagement with the staple 41 to retain the hasp 40 in a locked position.

The outer side of the door 5 is provided with a handle 44 adjacent to the lower edge thereof.

To open the door 5, the seal 43 is removed and the hasp 40 swung outwardly at right angles to the T-bar 33. Using the hasp 40 as a handle, the T-bar 33 is shifted to move the locking bar 35 whereby the pins 38 will be withdrawn from the openings 11 and 26. By gripping the handle 44, the door 5 can be shifted outwardly upon the rollers 22 and then shifted on to the rollers 21, the door being guided by the rails 6 and 13. The opening movement of the door is limited by the stop block 27.

When closing the door 5, the curved end 18 of the flange 17 guides one edge of the door into the doorway 2, and by pushing inwardly upon the handle 44, the door can be seated in the doorway 2. The T-bar 33 can then be manipulated to lock the door in a closed position.

It is thought that the operation and utility of the car door will be apparent without further description, and while in the drawing there is illustrated a preferred embodiment of the invention, it is to be understood that the structural elements are susceptible to such changes as fall within the scope of the appended claim.

What I claim is:—

A door sill for cars comprising a base plate of a length greater than the length of the door opening, one portion of said plate positioned at and adapted to extend into the door opening and of greater width than the remaining portion, a vertically disposed flange extending throughout the length of the plate along the outer edge thereof and terminating at the rear edge of said wider portion of said plate, a vertically disposed flange extending along the inner edge of said wider portion of said plate and terminating at one end of the inner edge of the narrow portion of said plate, said latter flange being angular in cross section and having its upper portion projecting rearwardly with respect to said wider portion of the plate, a depending apertured securing flange integral with the lower face of said plate and disposed at the longitudinal center of said wider portion, said plate having its upper face provided throughout with transversely extending recesses, rollers mounted in said recesses, means connected with the vertical flanges for maintaining the rollers in position, that end of said inner vertical flange terminating in the inner edge of the narrow part of said plate being spaced from said outer vertical flange to provide a passage when shifting the door from the wider portion on to another portion of the plate.

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

ROBERT LEWIS BURGOON.

Witnesses:
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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."