Oct. 13, 1931. J. C. ABEL 1,827,450

RUNNING BOARD FOR CARS

Filed Feb. 14, 1930 3 Sheets-Sheet 1

Fig. 1.

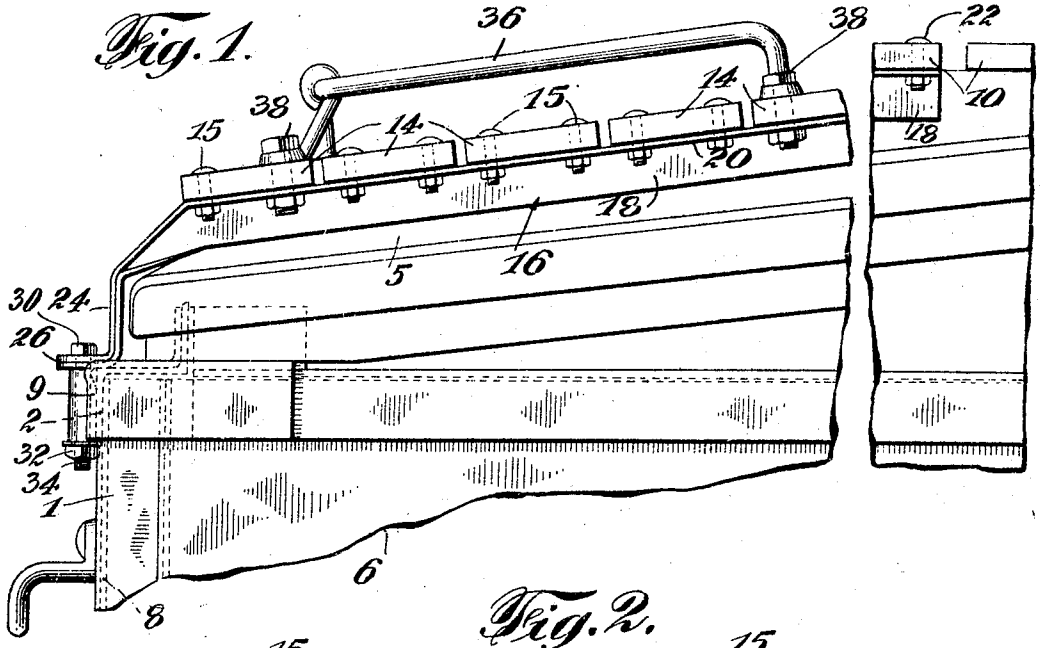
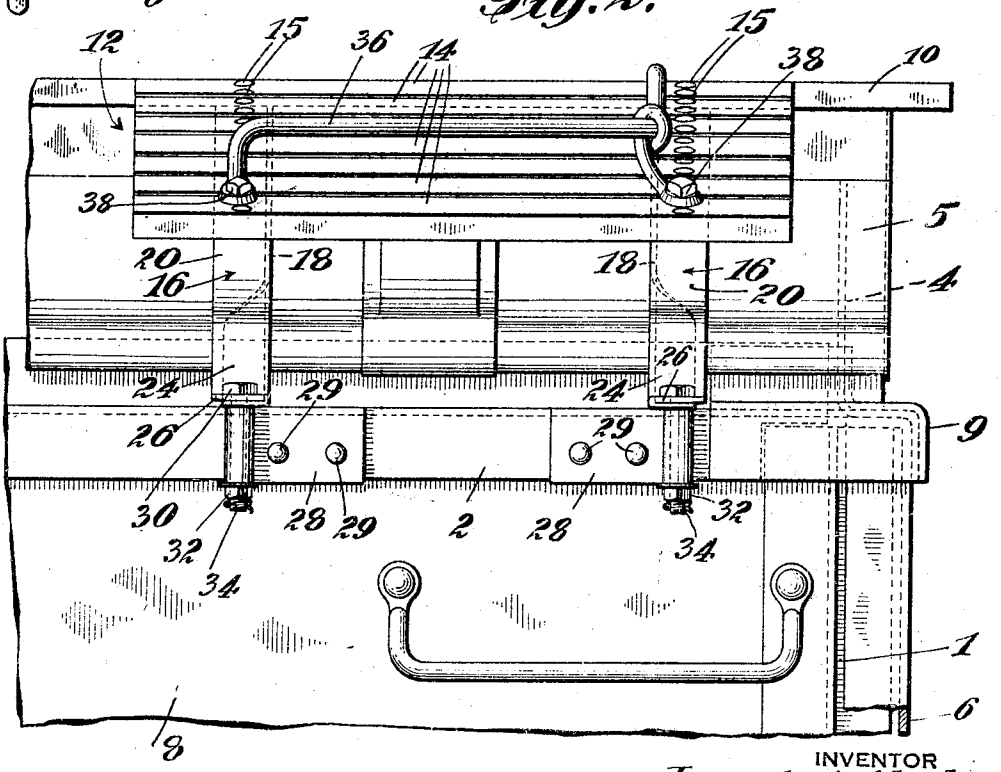


Fig. 2.



INVENTOR
Joseph C. Abel
BY J. W. Gibbs
his ATTORNEY

Oct. 13, 1931. J. C. ABEL 1,827,450

RUNNING BOARD FOR CARS

Filed Feb. 14, 1930 3 Sheets-Sheet 2

Fig. 3.

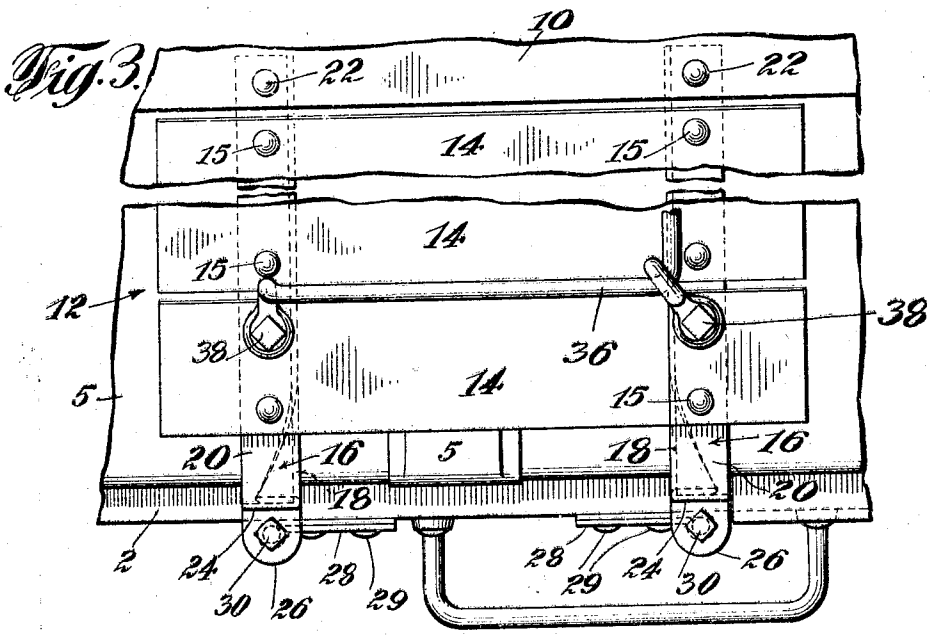


Fig. 4.

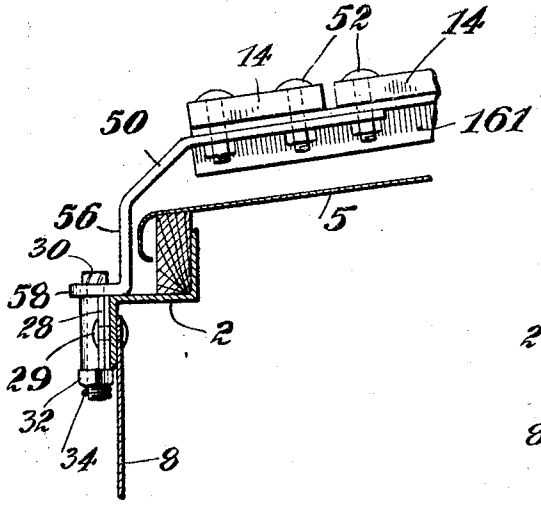
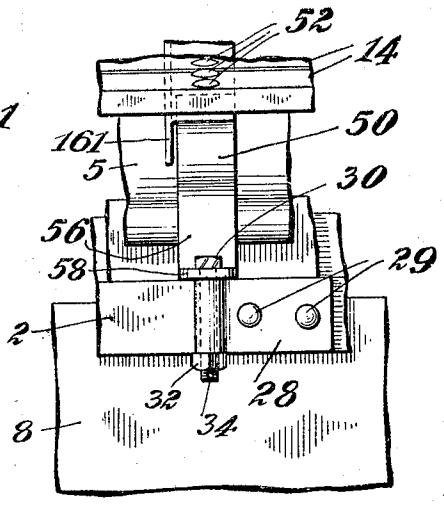


Fig. 5.



INVENTOR
Joseph C. Abel
BY F. H. Gibbs
his ATTORNEY

Oct. 13, 1931. J. C. ABEL 1,827,450

RUNNING BOARD FOR CARS

Filed Feb. 14, 1930 3 Sheets-Sheet 3

Fig. 6.

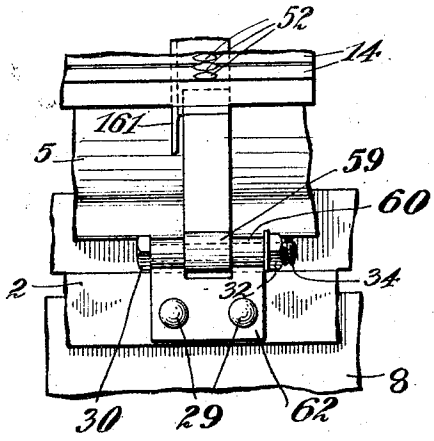


Fig. 7.

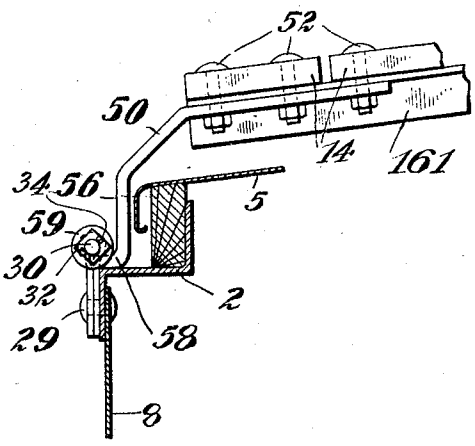


Fig. 8.

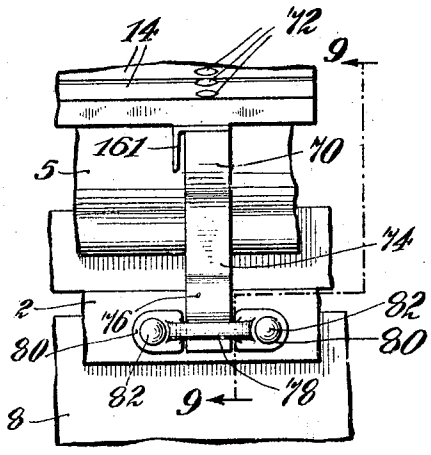
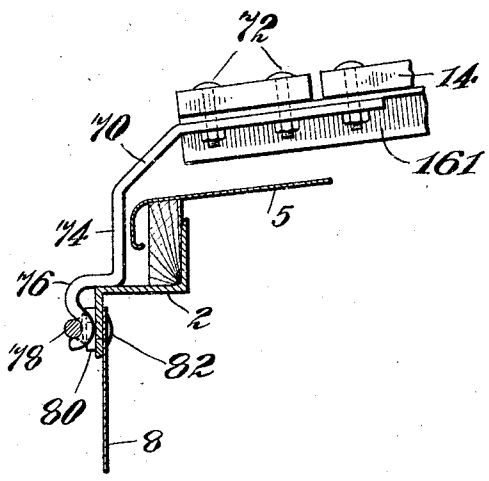


Fig. 9.



INVENTOR
Joseph C. Abel
BY J. H. Libbs
his ATTORNEY

Patented Oct. 13, 1931 1,827,450

UNITED STATES PATENT OFFICE

JOSEPH C. ABEL, OF WESTWOOD, NEW JERSEY, ASSIGNOR TO AMERICAN CAR AND FOUNDRY COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW JERSEY

RUNNING BOARD FOR CARS

Application filed February 14, 1930. Serial No. 428,383.

This invention relates to running boards for railway cars, particularly box cars, and it is an object of this invention to provide an improved connection between the car body frame members and the rails carrying the lateral running boards and it is also an object of this invention to provide an improved connection which will permit of the rails carrying the lateral running boards being attached to or detached from the body frame members without necessitating entry into the car and which will provide a support for the ends of the latitudinal running board rails which will provide adequate support for the running board if the connection to the body frame members becomes loosened.

In the drawings:

Figure 1 is a broken partial end elevation of a box car equipped with a running board attached thereto in accordance with this invention;

Figure 2 is a side elevation of the structure shown in Figure 1;

Figure 3 is a broken top plan view of the construction shown in Figures 1 and 2;

Figure 4 is a fragmentary vertical transverse section of a box car showing a modified construction of this invention;

Figure 5 is a fragmentary side elevation showing the construction of Figure 4;

Figure 6 is a fragmentary side elevation showing a further modification of this invention;

Figure 7 is a fragmentary vertical transverse section showing the modification of Figure 6;

Figure 8 is a fragmentary side elevation showing a further modification of this invention; and

Figure 9 is a fragmentary vertical transverse section taken on line 9—9 of Figure 8.

In the drawings, referring more particularly to Figures 1 to 3 inclusive, the invention is shown applied to a box car of common construction and as the structure of the car forms no part of this invention, only sufficient of the car is shown to illustrate the application of this invention thereto. The car shown comprises a body frame having a plurality of vertical members of which only a corner post 1 is shown and supported from the vertical members are the side plates 2 and end plates 4. The side plates and end plates support a car roof of usual construction of which only the roof sheets 5 are shown. Attached to the body frame are the end sheets 6 and side sheets 8 and connecting the side plates 2 and end plates 4 at the corners of the cars are the usual corner caps 9. Extending lengthwise of the car above the roof thereof is the usual longitudinal running board 10 of which only a portion is shown and adjacent each end of the car a latitudinal running board 12 extends from the longitudinal running board 10 towards one side of the car, the latitudinal running boards at the opposite ends of the car being oppositely directed. As the construction of the longitudinal running board forms no part of this invention the details of the support thereof are not shown.

The latitudinal running board as shown in Figures 1, 2, and 3 consists of a plurality of boards 14 attached by bolts 15 to angles 16 having vertical flanges 18 and horizontal outwardly projecting flanges 20. At their inner ends the angles 16 extend beneath the adjacent outer board of the longitudinal running board 10 and are secured thereto by bolts 22. At their outer ends the flanges 18 are bent upwardly to lie flat against the flanges 20 and both flanges are bent to provide a vertical portion 24 which extends to the side plate 2 and an outwardly projecting foot 26 which rests upon the side plate 2 and projects outwardly beyond the side plate. While the side and end plates have been shown of Z shape with horizontal webs and vertically projecting flanges, it will be understood that side and end plates of other shapes may be used so long as there is provided a horizontal portion for the foot 26 to rest upon and a vertical portion extending downwardly from the outer edge of the horizontal portion. It will also be understood that although both of the angles 16 are shown extending to the side of the car and resting upon the side plate 2 it is within the scope of this invention to bend the angle 16 adjacent the end of the car so that it will rest

upon the horizontal portion of the end plate instead of on the horizontal portion of the side plate.

To attach the angles 16 to the side plates 2 there are provided brackets 28 attached to the side plates 2 by rivets 29 and formed by folding strips of metal and leaving cylindrical loops at the folds to receive bolts 30 which engage in openings formed in the feet 26 of the angle 16. The bolts are secured in place by nuts 32 and loss of the nuts is prevented either by means of lock nuts or by cotter pins 34 passing through the opening ends of the bolts. To the latitudinally running board 12 the usual grab iron 36 is attached by bolts 38 which also aid in securing some of the boards 14 to the angles 16. In this construction it will be noted that the outer ends of the angles which carry the latitudinal running boards bear directly upon the horizontal webs of the side plates independently of their connections to the side plates and that even if the retaining bolts become lost the angles are still provided with an adequate support by the side plates. It will also be noted that when repairs to a running board necessitates its removal from the car this may be done without entering the car.

In the modification shown in Figures 4 and 5 the angles 161 which carry the boards 14 terminate short of the side plate 2 and are prolonged by bars 50 which are attached to the horizontal flanges of the angles 161 by bolts 52. The bars 50 extend outwardly and downwardly and are formed with vertical portions 56 which extend to the side plate 2 and are bent to provide feet 58 which rest upon the horizontal web of the side plate and project beyond the outer edge thereof. As in the construction shown in Figures 1 to 3 the projecting portions of the feet 58 are provided with openings to receive bolts 30 mounted in brackets 28 attached to the side plate by rivets 29.

In the modification shown in Figures 6 and 7 the angles 161 terminate short of the side plate and are provided with extensions 50 having vertical portions 56 and feet 58 which rest upon the side plate 2 as in construction shown in Figures 4 and 5. In this construction, however, the projecting portions of the feet 58 are bent to form loops 59 which receive bolts 30 extending horizontally through loops 60 formed in brackets 62 attached to the side plate 2 by rivets 29. In the modifications shown in Figures 4, 5, 6, and 7 as in the structure shown in Figures 1 to 3, the latitudinal running board is supported by the side plate which support is maintained even though the bolts securing the running board to the side plate become loose and, as in the first construction, repairs may be made to the running board without entering into the car.

In the modification shown in Figures 8 and 9 the angles 161 stop short of the side plate 2 and are provided with an extension 70 connected thereto by bolts 72 which also serve to secure the boards 14 to the angles 161 as in the previous constructions. The extensions 70 are formed with vertical portions 74 which extend to the horizontal web of the side plate 2 where they are bent to form feet 76 which bear upon the web of the side plate. In this construction the projecting portions of the feet 76 are bent to substantially S-shape and have the lower portions thereof engaged behind the cross pieces 78 of yokes 80 attached to the side plate 2 by the rivets 82. In this construction the extensions 70 are engaged with the yokes 80 before the extensions are attached to the angles 161 while in the construction shown in Figures 4 to 7 the extensions 50 may be attached to the angles 161 before the latitudinal running board is applied to the car. The angles 161 of the construction shown in Figures 8 and 9 will have most of the boards 14 attached thereto before being attached to the extensions 70 and when the extensions 70 are attached the remaining boards 14 will be attached to the angles 161. In this construction as in the other constructions shown the running board is provided with a support upon the side plate 2 which support will be retained even though the connection to the flange of the side plate be broken and in case of repairs to the running board the running board may be detached from the car without entering into the car.

While the preferred form of the invention has been shown and described it is to be understood that the invention is not limited to the exact details of construction shown and described as it is obvious that various modifications thereof within the scope of the claims will occur to persons skilled in the art.

What is claimed is:

1. In a car having a body frame member and a running board, a rail supporting said running board and resting on said frame member, a portion of said rail extending beyond the bearing on said frame member and means attaching said rail to said frame member.

2. In a car having a body frame member and a running board, a rail supporting said running board and bearing on said frame member, a bracket attached to said frame member and a connection between said rail and bracket.

3. In a car having a body frame member and a running board, a rail supporting said running board, and means connecting said frame member and rail, said rail bearing on said frame member independently of its connection therewith and having a portion thereof extending beyond the frame member.

4. In a car having a body frame member and a running board, a rail supporting said

running board and bearing on said frame member, a bracket attached to said frame member and a connection between said bracket and rail applicable from without the car.

5. In a car having a side plate and a running board, a rail supporting said running board and bearing on said side plate and means attaching said rail to said side plate.

6. In a car having a side plate and a running board, a rail supporting said running board and bearing on said side plate, a bracket attached to said side plate and a connection between said rail and bracket.

7. In a car having a side plate and a running board, a rail supporting said running board and means connecting said side plate and rail, said rail bearing on said side plate independently of its connection to said side plate.

8. In a car having a side plate and a running board, a rail supporting said running board and bearing on said side plate and a connection between said rail and side plate applicable from without the car.

9. In a car having a side plate and a running board, a rail supporting said running board and bearing on said side plate, said rail extending beyond its point of bearing on said side plate, and a connection between said side plate and the extended portion of said rail.

10. In a car having a side plate and a running board, rails carrying said running board and bearing on said side plate, brackets fixedly attached to said side plate and a detachable connection between said rails and brackets.

11. In a car having a side plate with horizontal and vertical faces, a running board, rails carrying said running board and bearing on the horizontal face of said side plate and means connecting said rails to the vertical face of said side plate.

12. In a car having a side plate with angularly disposed faces, a running board, rails carrying said running board and bearing on one of said faces and means connecting said rails to the other of said faces.

13. In a car having a side plate with angularly disposed faces, a running board, rails carrying said running board and bearing on one of said faces, brackets attached to the other of said faces and means connecting said rails and brackets.

14. In a car having a side plate with horizontal and vertical faces, a running board, rails carrying said running board and bearing on said horizontal face, brackets attached to said vertical face and a connection between said brackets and rails.

15. In a car having a body frame member and a running board, a rail supporting said running board and bearing on said frame member, said rail extending beyond its point of bearing on said frame member and a connection between said frame member and the extended portion of said rail.

In witness whereof I have hereunto set my hand.

JOSEPH C. ABEL.