Nov. 15, 1927. 1,649,501

W. E. WILLIAMS

SIDE PLATE CONSTRUCTION FOR RAILWAY BOX CARS

Filed Jan. 22, 1925

Fig. 2.

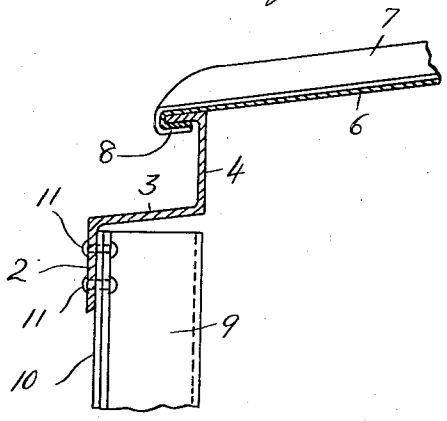


Fig. 3.

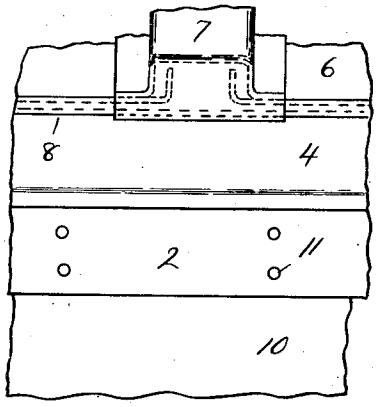


Fig. 1.

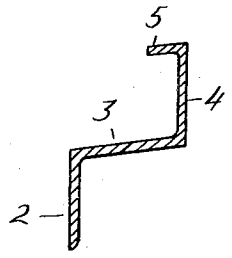
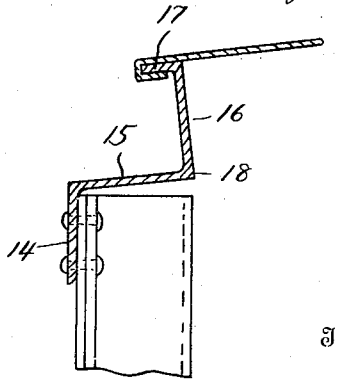


Fig. 4.



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UNITED STATES PATENT OFFICE.

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SIDE-PLATE CONSTRUCTION FOR RAILWAY BOX CARS.

Application filed January 22, 1925. Serial No. 3,994.

The invention relates to a peculiar side plate for a railway house car having means of attaching a car roof thereto and has for its objects the reduction in weight of the car; the reduction in the original as well as maintenance cost; a stronger and more rigid connection to resist the lateral weaving of the car; to increase the bearing area of the roof sheets upon the side plate; to increase the tunnel clearance by decreasing the width of the car at the eaves and to put the roof sheet rivets in direct shear, and furthermore, to make a watershed of that part of the side plate forming part of the roof of the car.

The object of the invention is to provide a side plate or cornice construction that will be simple in form, efficient in strength and at the same time will become a part of the water-shedding surface of the roof and will shed the water in the same manner as the roof itself is designed to do. Reference will be had to the accompanying drawings, in which—

Figure 1 is a section through my side plate;

Figure 2 is a section through the assembled parts of the side plate sheathing and roof connection;

Figure 3 is a front elevation of the construction shown in Figure 2;

Figure 4 is a modified construction where one vertical leg only of the Z bar is distorted from the standard form of Z bar.

I prefer to make my side plate of rolled section in the form of a peculiarly shaped Z bar arranged to have a vertical flange 2, a horizontal inclined web 3, a vertical flange 4 said flange being reflanged with a horizontally inclined outwardly turned over flange 5. The flange 5 has substantially the same incline as the web 3 and this inclination corresponds to substantially the pitch of the roof itself. Thus I roll in a unitary piece a complete Z bar adapted to have the roof sheet and sheathing applied without supplementary pieces being attached to the Z bar side plate.

The roof here shown is indicated as the main body portion 6, having a cover plate of the joints of the roof indicated by 7, and these sheets may be joined to the side plate by having their outer edges turned under the flange member 5, as indicated by 8.

The flanges 5 are turned outwardly and the carline roof sheets 6 and/or cover plates 7 may be conveniently and accessibly secured thereto; furthermore if one of the securing rivets or bolts should leak the moisture would not enter the interior of the car.

The framing of the car is indicated by posts 9, on the inside of the sheathing here shown as steel sheets, indicated by 10, and the post members and the steel sheathing are riveted to the vertical flange 2 by the rivets 11, the sheathing coming on the inside of the Z bar flange. The inclined web 3 of the Z bar having the same substantial pitch of the roof sheds the water as readily as the roof sheds it, whereas in the form of the old construction, which tends to retain water on the inwardly extending web, especially in certain positions of cars on the side tracks, wherein the car sits at a tilt or an incline, when there is formed a little retaining water pocket, which promotes rust or corrosion. This situation is corrected by making the web 3 of the Z bar in the inclined position as shown.

The arrangement of having the flange 17 parallel with the roof sheets normal pitch is a desirable feature of the manner preventing any indentations or little water pockets, due to the fastening of the roof sheet to the side plate when it is desirable to rivet the roof sheet directly to the side plate itself, for then the water will be shed in the same manner as the pitch of the roof provides for.

What I claim is:

1. In a construction of the class described, a section substantially in Z-bar form having an inclined web forming a part of the water-shedding surface of the car, the said inclination being substantially the same pitch as the roof pitch and having one leg extending downwardly and one leg extending upwardly and with an outwardly extending flange on the margin thereof.

2. In a box car construction, a side plate made of a Z-bar section having an inclined web with the downwardly extending vertical flange, and an upwardly extending flange turned over outwardly on its margin and the roof sheet secured thereto.

3. A railway car frame member comprising two obtuse angle webs, an integral flange at the upper part of one web, and an integral flange at the lower part of the last mentioned web.

4. A railway car frame member comprising two obtuse angle webs, an integral flange at the upper part of one web parallel to the other web, and an integral flange at the lower part of the last mentioned web parallel to the first mentioned web.

5. A railway car side plate comprising two obtuse angle webs, a flange at the outer end of one of said webs projecting from the same side thereof as the other of said webs, and a flange at the outer end of said other web projecting from the opposite side thereof from the first mentioned web.

6. A railway car side plate comprising two obtuse angle webs, a flange at the outer end of one of said webs projecting from the same side thereof as the other of said webs, said flange being parallel to said other web and a flange at the outer end of said other web projecting from the opposite side thereof from the first mentioned web.

7. In a railway car comprising a roof, a side wall, and a side plate, said side plate having two obtuse angled webs, an integral flange at the upper part of one web to which the roof is secured, and an integral flange at the lower part of the other web to which the side wall is secured.

8. In a railway car comprising a roof, a side wall, and a side plate, said side plate having two obtuse angled webs, an integral flange at the upper part of one web to which the roof is secured, and an integral flange at the lower part of the other web parallel to the first mentioned web to which the side wall is secured.

9. In a railway car comprising a roof, a side wall, and a side plate, said side plate having two obtuse angled webs, an outwardly extending integral flange at the upper part of one web to which the roof is secured, and an integral flange at the lower part of the other web to which the side wall is secured.

10. In a railway car comprising a roof, a side wall, and a side plate, said side plate having two obtuse angled webs, an outwardly extending integral flange at the upper part of one web to which the roof is secured, and an integral flange at the lower part of the other web parallel to the first mentioned web to which the side wall is secured.

11. In a railway car, the combination of a side plate comprising a substantially vertical web with an upper flange at its upper part projecting outwardly from said web, and a downwardly and outwardly inclined web with a substantially vertical lower flange at its lower part projecting outwardly from the first mentioned web, said first mentioned flange being narrower than said last mentioned web, a roof sheet overlying said upper flange, and a side wall positioned on the inside of the lower flange.

12. In a railway car, the combination of a side plate comprising a substantially vertical web with a downwardly and outwardly inclined upper flange at its upper part projecting outwardly from said web, and a downwardly and outwardly inclined web with a substantially vertical lower flange at its lower part projecting outwardly from the first mentioned web, said first mentioned flange being narrower than said last mentioned web, a roof sheet overlying said upper flange provided with a vertical extension which projects below and adjacent to the upper flange, and a side wall positioned on the inside of the lower flange whereby the car is narrower across the roof sheets than across the said lower flanges.

In testimony whereof I affix my signature.

WILLIAM ERASTUS WILLIAMS.