The invention relates to railway cars, preferably of the open top type which are used to transport such structural members as coal, sand, and shite, etc. Such loads exert a greater outward pressure against the retaining wall adjacent the floor of the car than adjacent the top thereof. Therefore, the lower portion of the retaining wall should be stronger than the upper portion to resist such pressure. When a car is loaded the maximum outward pressure is at a line about three-fourths of the way up from the floor, and, of course, when the car is only partially loaded the pressure is greatest below said line. This strength should be in addition to the strength of the wall as a girder to carry the weight of the lading to the bolster s of the car.

It has been proposed to roll metallic plates thicker at one edge than at the opposite edge thereof, but the rolling difficulties of producing such a plate make the cost practically prohibitive. It has also been proposed to secure relatively thin and relatively thick plates together by a lap riveted joint, but such a process makes a plate which is heavy (due to the surplus material used in the lap) and expensive (due to the vast number of rivets necessary to preserve the strength of the wall as a girder and as a retaining wall).

The interior, as well as the exterior of the walls of open top railway cars, are exposed to the elements and the constant wetting and drying thereof causes excessive corrosion and moisture creeps into the lap joints mentioned above and causes further corrosion between the plates; between the rivets and also along the edges of both plates. Furthermore, the greatest corrosion occurs in the lower portion of the walls because that part of the wall is more frequently in contact with moist lading and even when the car is not loaded a small part of the load remains and holds moisture. This is especially true of soft coal when moisture with the coal forms sulphuric acid.

Open top railway cars are sometimes provided with panels in the retaining walls which project outwardly from the interior of the car between the vertical and horizontal frame members so as to increase the cubic capacity of the car without increasing the width or height thereof. Such a construction is shown in Hart Patent No. 1,623,591 of April 5, 1927.

In the drawing:

1. Fig. 1 is a partial side elevation of a wall of a railway car incorporating my invention.

2. Fig. 2 is a section on line 2—2 of Fig. 1.

3. Fig. 3 is a section on line 3—3 of Fig. 1.

4. In the drawing the wall comprises the vertical stake 2; upper chord 4; lower chord 6 and the web plate 8. Each web plate is provided with a panel extending from adjacent chords 4 and 6 and extending from adjacent the adjacent stakes 2 to increase the cubic capacity of the car without increasing its width. The panel comprises a main part 14 with sloping portions 16, 18 and 20 to discharge the lading. The plates are provided with marginal parts 22 secured to the stakes 2 and marginal parts 24 and 26 secured to the chords 4 and 6 respectively. A separate member 12 is provided to increase the cubic capacity of the lower part of the car with the panel therein is positioned on the inside of the wall. The upper edge 13 of this member 12 is welded to the web plate and the panel therein and the lower marginal part of the member 12 is secured to the lower chord 6.

The accompanying drawing illustrates the preferred form of the invention, though 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.

I claim:

1. In a wall for a railway car comprising an upper chord, a lower chord, spaced apart vertical stakes connected to said chords and a web plate attached to said chords and stakes, said web plate provided with a panel extending from adjacent said chords and from adjacent said stakes in combination with a separate member on the inside of said wall conforming to the configuration of the lower part of the web plate and the panel therein, said member having its upper edge welded to the web plate and the panel therein said member having its lower marginal part secured to said web plate.

2. In a wall for a railway car comprising an upper chord, a lower chord, spaced apart vertical stakes connected to said chords and a web plate attached to said chords and stakes, said web plate provided with a panel extending from adjacent said chords and from adjacent said stakes in combination with a separate member on the inside of said wall conforming to the configuration of the lower part of the web plate and the panel therein, said member having its upper edge welded to the web plate and the panel therein said member having its lower marginal part secured to the lower chord.

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