Aug. 2, 1927. 1,637,918

T. N. RUSSELL

CAR END

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Fig. 1.

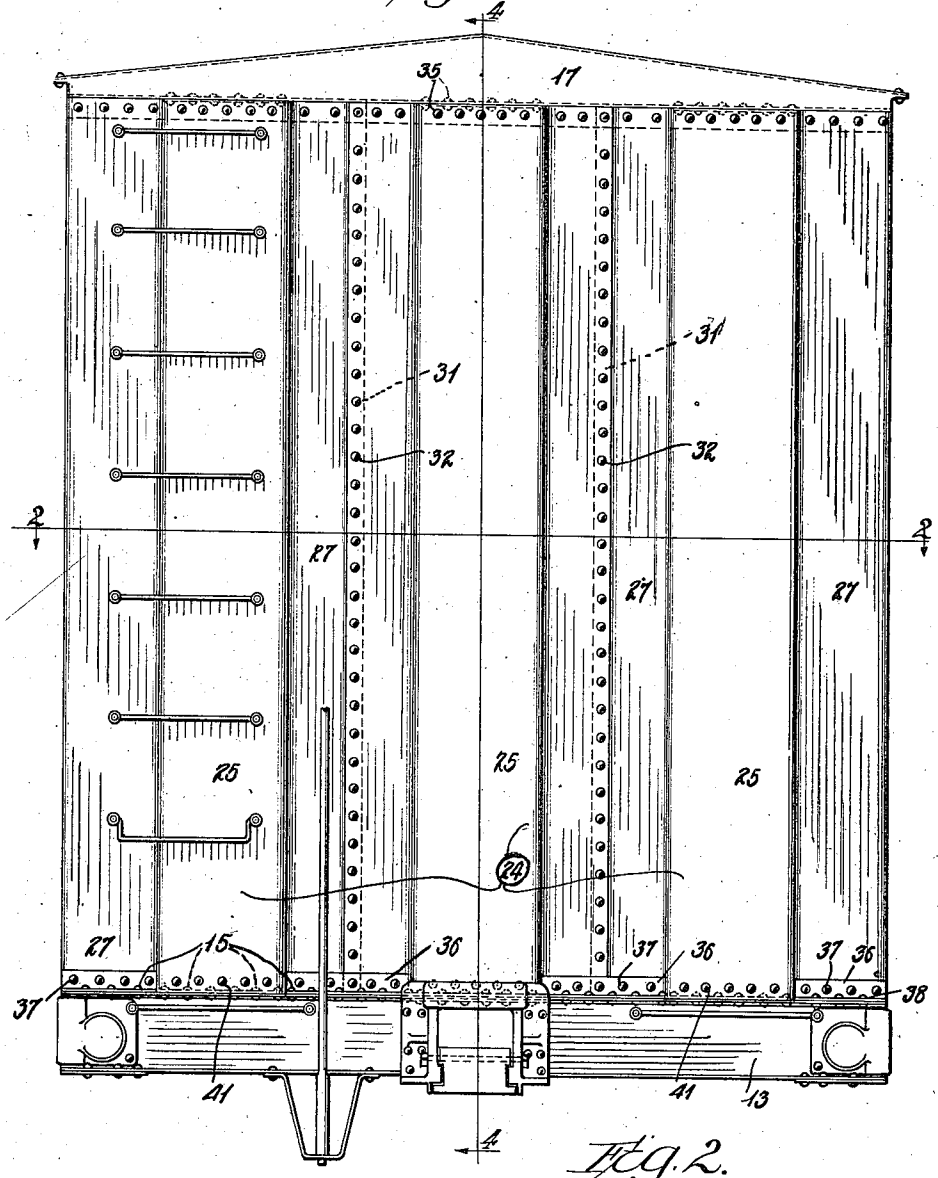

Fig. 2.

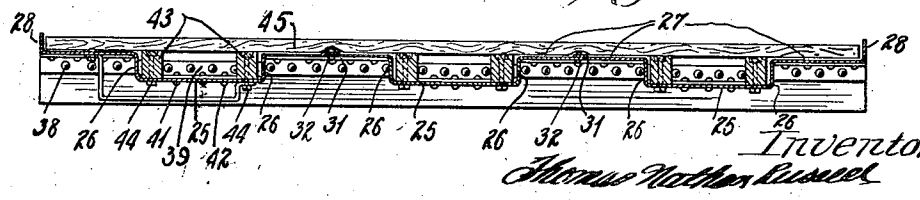

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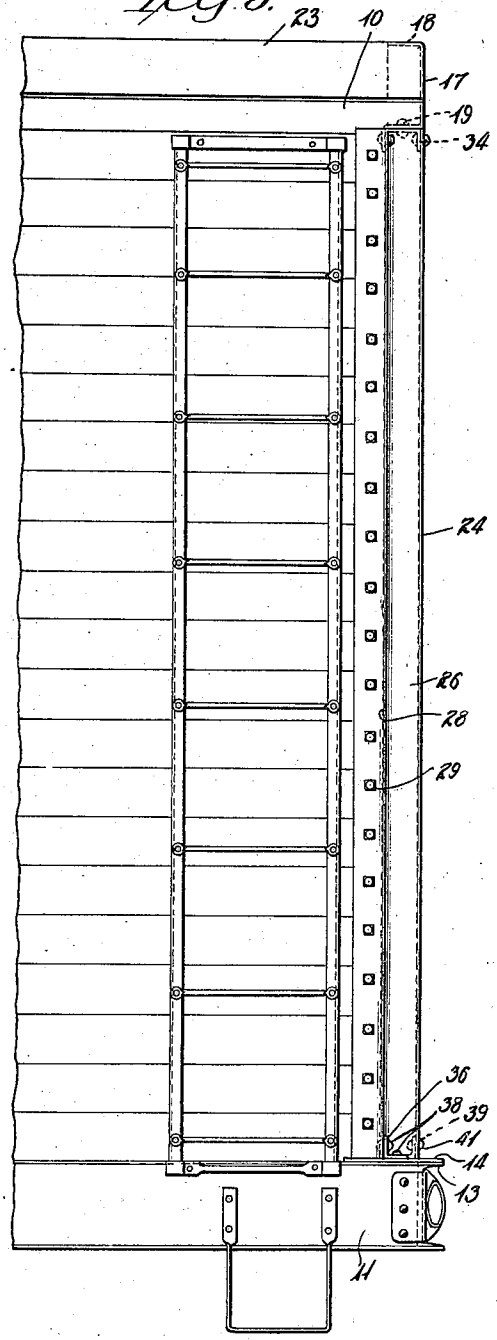
Fig. 3.



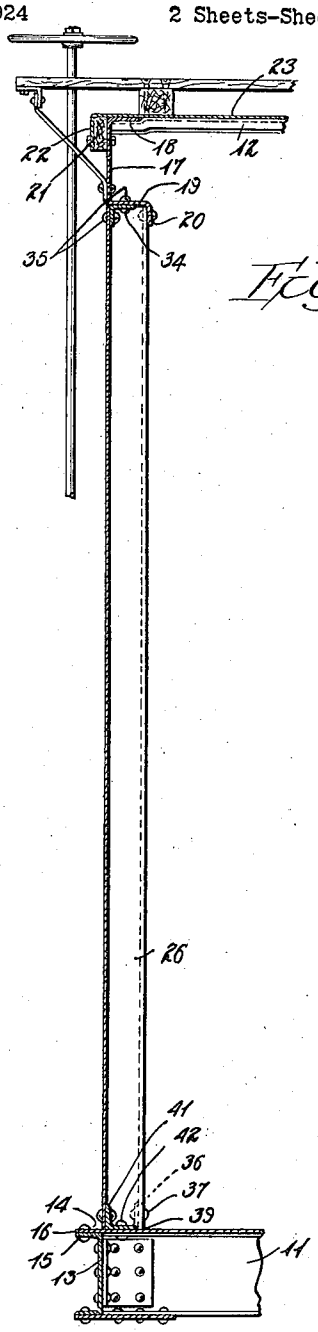


Fig. 4.

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Patented Aug. 2, 1927. 1,637,918

UNITED STATES PATENT OFFICE.

THOMAS NATHAN RUSSELL, OF CHICAGO, ILLINOIS, ASSIGNOR, BY MESNE ASSIGNMENTS, TO CHICAGO-CLEVELAND CAR ROOFING COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF DELAWARE.

CAR END.

Application filed January 9, 1924. Serial No. 685,259.

This invention relates in general to improvements in railway cars and more particularly to improvements in construction of the end walls thereof.

Objects of the invention are the provision of an end wall which will be of such strength and rigidity as to effectively brace the car at each end and to withstand blows to which the end is subjected by shifting of the contents of the car upon stopping and starting of the train; the provision of an end wall which consists of relatively few parts and is capable of simple manufacture, construction and assembly and which can be manufactured and assembled at a reasonable cost, and such other objects and advantages of the invention as may be found to obtain in the structure hereinafter set forth and claimed.

In the accompanying drawings, forming a part of this specification, and showing, for purposes of exemplification, a preferred form and manner in which the invention may be embodied and practiced, but without limiting the claimed invention specifically to such illustrative instance or instances:

Figure 1 is an end elevational view of an end wall of a railway car embodying the invention.

Fig. 2 is a horizontal cross section taken on the line 2—2 of Fig. 1, taken in the direction of the arrows.

Fig. 3 is a side elevational view of one end of a car embodying the invention.

Fig. 4 is a vertical sectional view taken substantially on the line 4—4 of Fig 1, taken in the direction of the arrows.

On the drawing there are shown side plates 10, side sills 11 and ridge pole 12 that form a part of the longitudinal frame members of the car. 13 indicates the end sill, 14 a metal plate secured by rivets 15 to the top flange 16 of the end sill. This plate 14 may be considered as a part of the floor. 17 is the end plate having a top flange 18 and bottom flange 19 both directed inwardly, and a flange 20 depends from the flange 19, as shown. The end plate, end sill and plate 14 extend clear across the car from side to side, as well as their flanges. 21 indicates an end fascia to which a depending flange 22 of roof sheet 23 is secured.

In accordance with the invention metallic girder panels 24 are secured in vertical position to the upper and lower members of the car, as shown. They are secured at their lower ends to the metallic plate 14 and at their top edges to the metallic end plate 17. These girder panels are open at each end and are formed substantially in the shape illustrated on the drawings, having a vertically extending flat web 25 and angularly disposed sides 26 terminating in oppositely extending flanges 27 extending transversely to the sides 26. These flanges 27 are of a width equal to at least one half the width of the web 25 and the flange of each panel at each side of the car is also of a width equal to one half the width of its web 25, and these flanges are flanged at 28 to fit at the corner of the car where they are rigidly secured as by bolts 29. The flanges of adjacent panels are lapped as at 31 and these lapped edges are rigidly secured together by a vertical row of rivets 32. It will be noted that the webs 25 and the lapped flanges of adjacent panels are of substantially the same width and are also substantially flat, as are the webs 25 that are connected to such flanges by their substantially flat sides 26.

In the present illustrative embodiment of the invention the end wall of the car is composed of three of such metallic girder panels 25 and the upper edges of these panels are secured to the upper members of the car, as shown, to the end plate so that the outer surface of the webs 25 is substantially flush with the outer surface of the end plate, and the upper edges of the flanges 27 are riveted to the depending flange 20 of said end plate and said webs 25 are secured to said end plate or upper members by angle pieces 34 riveted at 35 to the inside surface of the web 25 and to the lower surface of the flange 19. At their lower edges these girder panels are rigidly secured to the lower member of the car as shown by angle pieces 36 riveted at 37 to the outer surfaces of said flanges 27 and to said metallic plate 14 by rivets 38. The webs 25 of said panels are secured in much the same manner by angle pieces 39 riveted at 41 to the inner surface of said web 25 and riveted to said plate 14 by rivets 42. Such manner of securing said panels provides a very effective rigid brac-

ing construction for the end of the car and also effectively prevents entrance of water and dirt and cinders.

Wooden nailing or securing strips 43 are secured by bolts 44 in the space provided by the webs 25 and sides 26 of each panel, and the inside sheathing 45, consisting of matched boards extending from side to side of the car, is nailed to said strips 43, and the strips 43 are of sufficient thickness to bring the surfaces of said boards flush with the inside surface of said flanges 27.

The invention as herein above set forth is embodied in a particular form of construction but may be variously embodied within the scope of the claims hereinafter made.

I claim:

1. In combination with the end plate and the floor of the car of a plurality of metal end panels extending from the floor to the end plate, said panels having a web portion and transversely extending side portions, said side portions terminating in laterally extending flanges, the extremities of the flanges of adjacent panels bing lapped and rigidly secured together; the flanges of the panels at each side of the car being flanged and secured at the corners of the car; angle pieces rigidly securing the upper and lower edges of said panels to the end plate and floor respectively.

2. An end wall for railway cars comprising, in combination with upper and lower members thereof, vertically extending metal girder panels, said panels having each a longitudinally extending web and sides extending transversely thereto, said sides being flanged and adjacent flanges rigidly secured together; angle pieces rigidly securing said girder panels to the upper and lower members of the car; and a securing strip secured to said panels so that inside sheathing secured to said securing strip lies flush with the flanges of the adjacent panels.

3. An end wall for railway cars comprising, in combination: an end plate; an end sill; a plate secured to said end sill; metal girder plates forming the outside end wall of the car; each of said girder plates comprising a web, the upper portion of which is flush with the outside of the end plate, said web having side portions extending inwardly from the outside of said end plate, said portions having laterally extending flanges, the flanges of adjacent girder plates being riveted together by a vertical row of rivets, the flanges of the girder plates at each side of the car being secured to their respective corners of the car, the lower edges of said girder flanges being rigidly secured to the plate that is secured to the end sill, by angle pieces riveted on the outside of said flanges, the webs of the girders being rigidly secured to the same plate by angle pieces riveted to the inside of said webs, the upper edges of said girder plates being rigidly secured to said end plate by angle pieces riveted to said girder plates.

4. An end wall for railway cars comprising in combination with upper and lower members of the car, vertically disposed open ended metal girder end plates rigidly secured to said upper and lower members, each of said plates involving a web having transversely extending sides, said sides having lateral flanges spaced from the web inwardly of the car and lying in a plane parallel to the plane of the web, the lateral flanges of adjacent sheets being rigidly secured together at a point spaced from adjacent side flanges of contiguous sheets and forming a flat portion of substantially the same width as the webs of each plate.

5. An end wall for railway cars comprising, in combination with the upper and lower members of the car, a plurality vertically disposed girder plates, angle pieces rigidly securing them to said members, said girders having a web and oppositely disposed side flanges spaced from said web, the adjacent side flanges of the girder plates being rigidly secured together, the distance between the webs of adjacent girder plates being substantially the same as the width of each web, the angle pieces for securing the girder plates to the lower member being secured to the outside of the side flanges of contiguous plates and to the inside of the web of each plate.

6. An end wall for railway cars comprising, the combination with the upper and lower members of the car, of a plurality of vertical girder end panels, said girder panels having a web and sides, said sides being flanged, the side flanges of adjacent girder panels being rigidly secured together, the distance between the webs of adjacent panels being substantially the same as the width of said webs and the extreme opposite ends of each girder panel being open, said opposite ends being rigidly secured to the upper and lower members of the car in weather-tight joints.

In testimony whereof I have hereunto set my hand.

THOMAS NATHAN RUSSELL.