

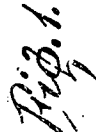
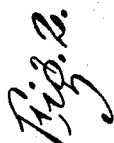
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G. G. GILPIN

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SIDE PLATE CONSTRUCTION FOR FREIGHT CARS

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INVENTOR:
Barth F. Gilpin
by Conner Conner & Gravelly
HIS ATTORNEYS.

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SIDE PLATE CONSTRUCTION FOR FREIGHT CARS

Garth G. Gilpin, Riverside, Ill., assignor, by
mesne assignments, to Standard Railway
Equipment Manufacturing Company, a corpo-
ration of Delaware

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3 Claims. (Cl. 105—404)

This invention relates to the side plate constructions of railway freight cars. It has for its principal object to devise a simple and relatively inexpensive composite metal side plate whose members are shaped and assembled to form a strong and rigid hollow box section and to provide adequate support for the roof. It consists in the side plate construction and in the parts and combinations and arrangements of parts hereinafter described and claimed.

In the accompanying drawing, which forms part of this specification and wherein like symbols refer to like parts wherever they occur,

Fig. 1 is a vertical transverse section through a railway freight car provided with a side plate construction embodying my invention;

Fig. 2 is an enlarged fragmentary vertical transverse section through said side plate construction; and

Fig. 3 is a view similar to Fig. 2 illustrating a modified side plate construction.

In the accompanying drawing, my invention is shown in connection with a railway freight car comprising side posts 1, side plates 2 and a metal roof 3 that spans the car from side plate to side plate with its eaves ends supported on and secured thereto.

The side plate shown in Figs. 1 and 2 comprises two members that are shaped and assembled together to form a hollow box section. The inner member 4 comprises a bent or pressed metal sheet or plate having a horizontally disposed portion that rests on the tops of the side posts and is provided along its inner edge with an upstanding flange 6 and along its outer edge with a depending flange 7 that bears flatwise against the outer faces of said posts.

The outer member 5 comprises a metal sheet or plate that has its lower marginal portion secured, preferably by rivets 8, flatwise to the outer face of the depending side marginal flange 7 of the inner member 4, said rivets also serving to secure said depending flange to the outer faces of the side posts. This outer metal sheet or plate 5 is bent upwardly and inwardly on a convex curve or inclination over the inner member 4 and rests on the upper edge of the upstanding inner flange 6 thereof. The outer member 5 is rigidly secured to the upstanding inner flange 6 of the inner member 4, preferably by means of a weld 9. The metal roof 3 rests upon the upper portion of the outer member, which is extended, as at 10, inwardly of the inner member 4 and has the roof secured thereto, preferably by means of rivets 11.

Among the advantages of the composite metal side plate construction hereinbefore described are its great strength, cheapness and lightweight arising from its hollow box section and its sheet metal parts, and its adaptability for application to the car as a complete preassembled unit. Another advantage is that the outer or exposed member of the side plate may be made of galvanized or other metal that is resistant to rusting and corrosion.

The modified construction shown in Fig. 3 is similar to that shown in Fig. 2 except for the use of a rolled structural Z-bar 4a as the inner member of the composite side plate, and except for the location of the securing rivets 11a for the roof sheets outwardly of the upstanding inner flange of said inner member. This arrangement requires the roof sheets to be secured to the outer member of the side plate before it is secured to the inner member thereof.

As shown in the drawing, the roof sheets of roof 3, together with the upstanding seams or ribs which reinforce and stiffen the roof, extend over and are supported on the hollow body portions of side plates 2 above side posts 1, while in the construction of Fig. 3, said sheets and seams or ribs are also secured to outer members 5 over side posts 1. Thus, the entire length of the roof, including the sheets and the reinforcing seams or ribs, delivers its load onto the hollow portions of side plates 5 and thus aids in resisting the shearing stresses along the lines of support and in resisting the continuous flexing or cross bending stresses incident to the change of angle between the roof and the side of the car under service conditions.

What I claim is:

1. A railway car construction comprising side posts, side plates of hollow box section secured to the upper ends of the side posts on each side of the car, each of said side plates comprising inner and outer members of sheet metal, said inner member comprising a substantially horizontal web that rests on and extends continuously across the tops of said side posts, a depending outer side marginal flange that overlaps the outer faces of said side posts and a plane vertical upstanding inner side marginal flange disposed entirely in substantially flush alignment with the inner faces of said side posts, said outer member comprising a flat depending outer side marginal portion that overlaps and is rigidly secured to said depending outer side marginal flange of said inner member and a portion that is transversely bent on a curve that spans from side flange to

side flange of said inner member and is rigidly secured to the top edge of the upstanding inner side marginal flange thereof, and merges into said flat outer side marginal portion of said outer member, and metal roof sheets spanning the car from side plate to side plate with their eaves end portions extending outwardly beyond the upstanding inner flanges of the inner members of the side plates and supported on top of and secured to the outer members only thereof.

2. A railway car construction comprising side posts, side plates of hollow box section secured to the upper ends of the side posts on each side of the car, each of said side plates comprising inner and outer members of sheet metal, said inner member comprising a substantially horizontal web that rests on and extends continuously across the tops of said side posts, a depending outer side marginal flange that overlaps the outer faces of said side posts and a plane vertically upstanding inner side marginal flange disposed entirely in substantially flush alignment with the inner faces of said side posts, said outer member comprising a flat depending outer side marginal portion that overlaps and is rigidly secured to said depending outer side marginal flange of said inner member and to said side posts, a flat inner side marginal portion that rests on and is rigidly secured to the top edge of said upstanding inner side marginal flange of said inner member and extends inwardly therebeyond and an intermediate portion that is transversely bent on a curve that spans from side flange to side flange of said inner member and merges into said flat inner and outer side marginal portions of said outer member, and metal roof sheets and connecting seams therefor spanning the car from side plate to side plate with their eaves end por-

tions extending outwardly beyond the upstanding inner flanges of the inner members of the side plates and supported on top of and secured to the outer members only thereof and curved in conformity therewith.

3. A railway car construction comprising side posts, side plates of hollow box section secured to the upper ends of the side posts on each side of the car, each of said side plates comprising inner and outer members of sheet metal, said inner member comprising a substantially horizontal web that rests on and extends continuously across the tops of said side posts, a depending outer side marginal flange that overlaps the outer faces of said side posts, and an upwardly extending inner side marginal flange having its lower edge substantially in alignment with the inner faces of said side posts, said outer member comprising a flat depending outer side marginal portion that overlaps and is rigidly secured to said depending outer side marginal flange of said inner member, and a portion that is transversely bent on a curve that spans from side flange to side flange of said inner member and is rigidly secured to the top edge of said upwardly extending inner side marginal flange, and merges into said flat outer side marginal portion of said outer member, and a metal roof including roof sheets and reinforcing means therefore spanning the car from side plate to side plate with the eaves end portions of said sheets and the ends of said reinforcing means extending outwardly beyond the top edge of said upwardly extending inner side marginal flanges of said inner members of said side plates and supported upon the outer members of said hollow box section side plates.

GARTH G. GILPIN.