Dec. 5, 1933. V. WILLOUGHBY ET AL 1,937,616

RAILWAY CAR UNDERFRAME

Filed Nov. 7, 1931

Fig. 1.

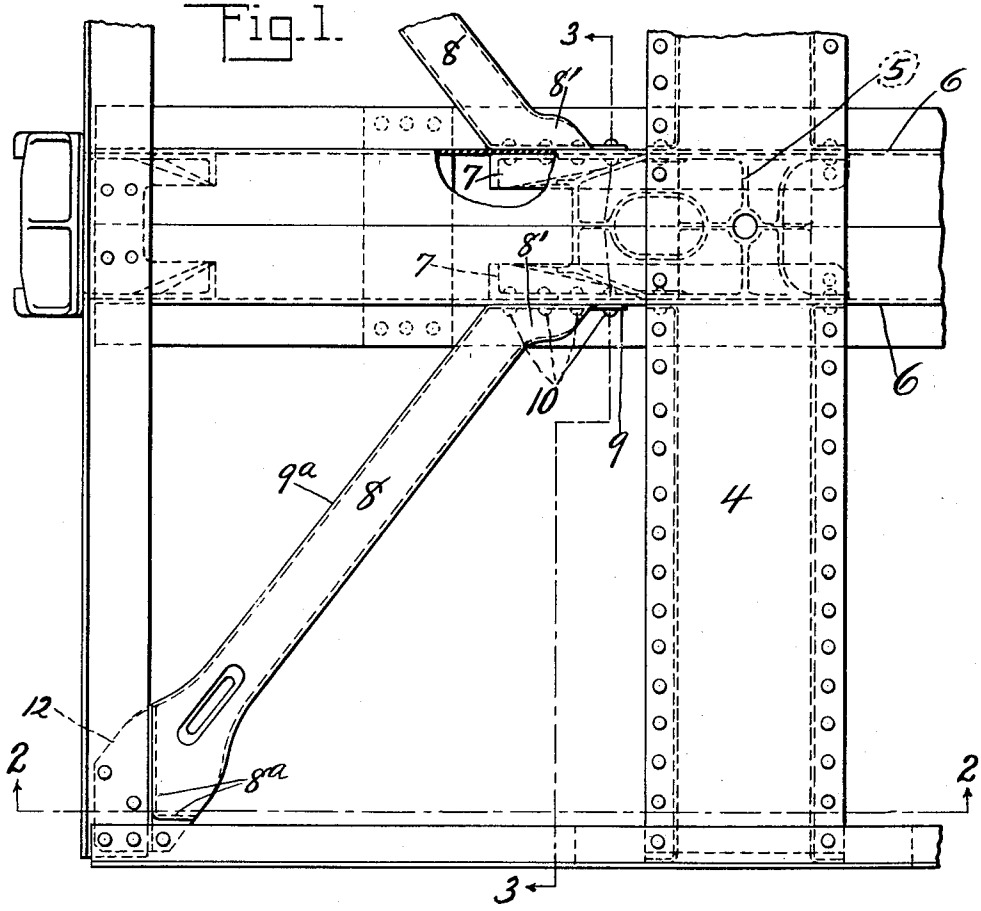


Fig. 2.

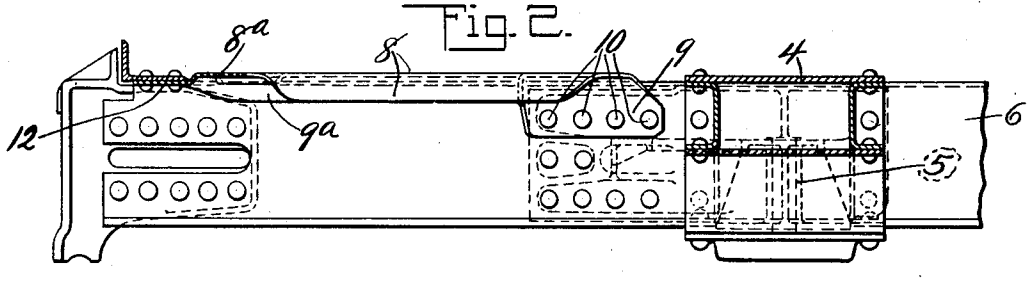
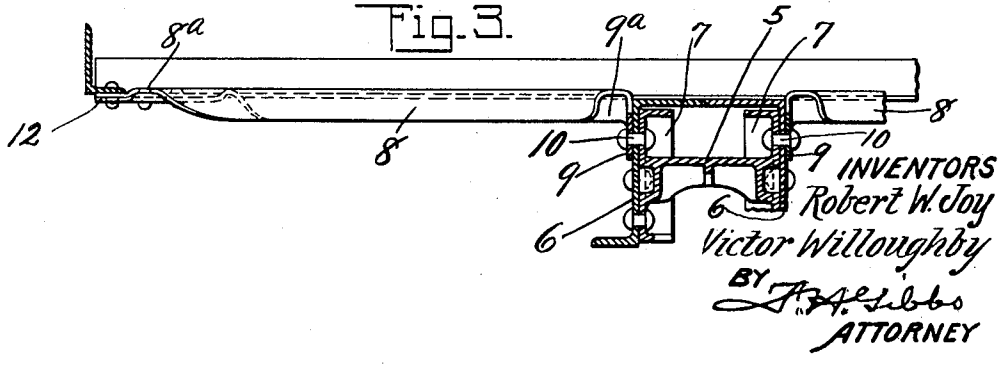


Fig. 3.



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RAILWAY CAR UNDERFRAME

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3 Claims. (Cl. 105—414)

This invention relates to useful improvements in car underframes and more particularly to a direct connection of the draft sills, end sills and side sills of the car underframe by means of a relatively channel-shaped diagonal brace which is flattened at one end for connection with an end and side sill and is somewhat widened and flanged at its opposite end for direct connection with draft sills.

Referring to the accompanying drawing, Fig. 1 is a partial plan view of an end portion of a car underframe broken away at one place for better illustration of details;

Fig. 2 is a longitudinal vertical sectional view taken on the line 2—2 of Fig. 1; and

Fig. 3 is a transverse sectional view taken on the line 3—3 of Fig. 1.

Referring to the parts, 4 indicates a bolster which may be of conventional form. 5 indicates the bolster center filler casting which is connected directly to draft sills or center sills 6 and is provided with longitudinal extensions 7 shown in full lines at the broken portion of Fig. 1 and in dotted lines attached to the opposite draft sill of the same figure. It has been common practice to provide diagonal braces connecting side and end sills with draft sills. However, in the present instance the diagonal braces indicated by reference character 8 are employed for the additional purpose of connecting the end sill, side sill, center sill or draft sill and the longitudinal extension 7 of the bolster center filler casting, in addition to which the present invention relates to means whereby the diagonal brace is better adapted to resist end thrust than if it were flattened at both ends as shown where it is connected with the side and end sill. To this end the diagonal brace 8 has the web and at least one of its flanges, 9*a* in the instance shown, deflected from the longitudinal plane of the brace to form a vertical flange 9 which parallels, contacts with and is riveted directly to the draft sills or center sills 6 as best shown in Fig. 3 by means of the rivets 10. It will be obvious from an inspection of Fig. 1 that the diagonal brace which is of general channel shape in cross section is widened at 8' adjacent the vertical flange 9, thereby affording an extended attaching portion where it joins the center or draft sill 6.

From the middle portion of the diagonal brace 8 towards the juncture of the side and end sill the diagonal brace is formed considerably wider than at the middle of its length and is pressed upwardly as best shown in Figs. 2 and 3, thereby forming stops 8*a* which, in addition to bracing the connection at the side and end sills, serve as positioning means to facilitate placing the diagonal brace in proper position with relation to said side and end sills beyond which the diagonal brace is flattened as shown best at 12 in Fig. 2.

What is claimed is:

1. In a car underframe, a draft sill, an end sill, a side sill, and a diagonal brace extending from the draft sill to the juncture of the side sill and end sill and directly connected to said sills, the end portion of the brace at the draft sill being widened and having a deflected portion providing a vertically arranged attaching flange engaging and secured to the draft sill.

2. As an article of manufacture, a brace member for car underframes comprising a one piece channel member having its flanges adjacent one end portion merged with the web to provide a relatively wide attaching portion, stop members formed at the attaching portion, the opposite end portion of said channel member having its web and at least one of its side flanges deflected in such a manner as to provide a relatively deep vertically arranged attaching flange.

3. In a car underframe, a bolster, side and end sills, a bolster center filler casting, a draft sill lapping the center filler casting, and means for stiffening the underframe comprising a downwardly facing channel member having its flanges adjacent one end portion deflected into the plane of the web to provide a relatively wide attaching portion extending across the juncture of the side and end sills and secured to both thereof, stop members formed integral with said channel member adjacent the attaching portion and so arranged as to contact with the side and end sills adjacent the juncture thereof, the opposite end portion of said channel member being deflected to provide a horizontally arranged widened portion and vertical attaching flange formed of said web and at least one of the channel flanges, said attaching flange engaging the draft sill, and fasteners connecting the draft sill, bolster center filler and attaching flange.

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