

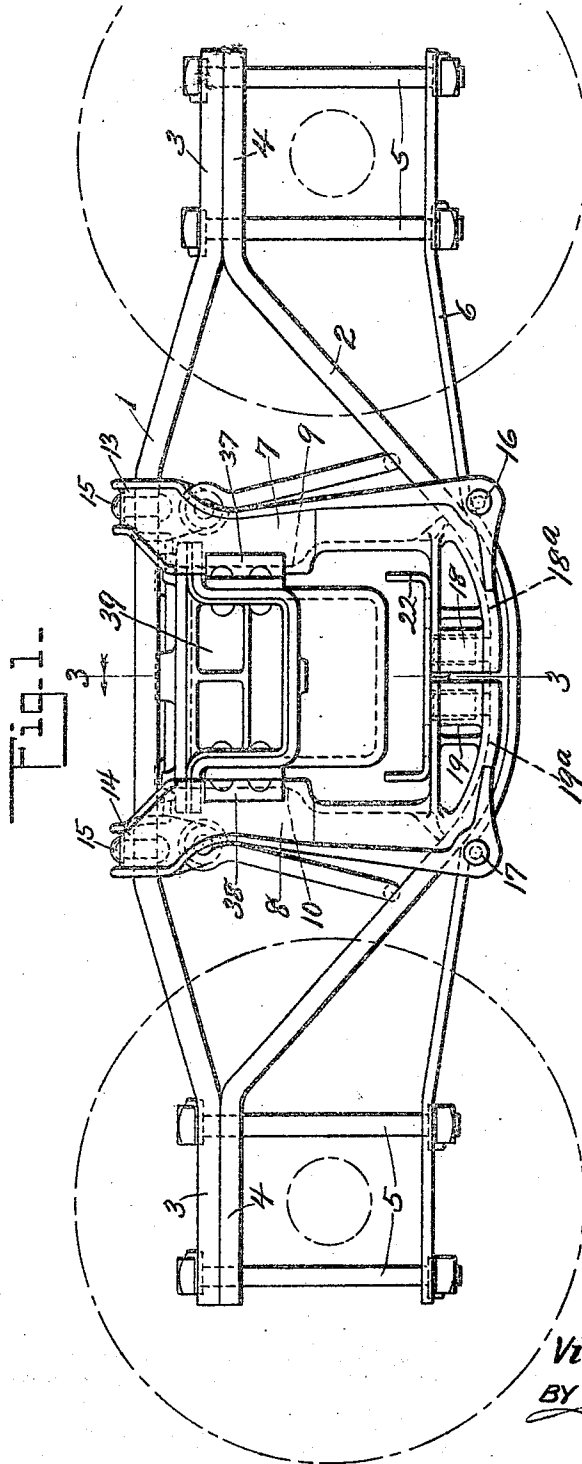
April 6, 1926.

1,579,268

V. WILLOUGHBY
CAR TRUCK SIDE FRAME

Filed Dec. 15, 1923

3 Sheets-Sheet 1



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3 Sheets-Sheet 2

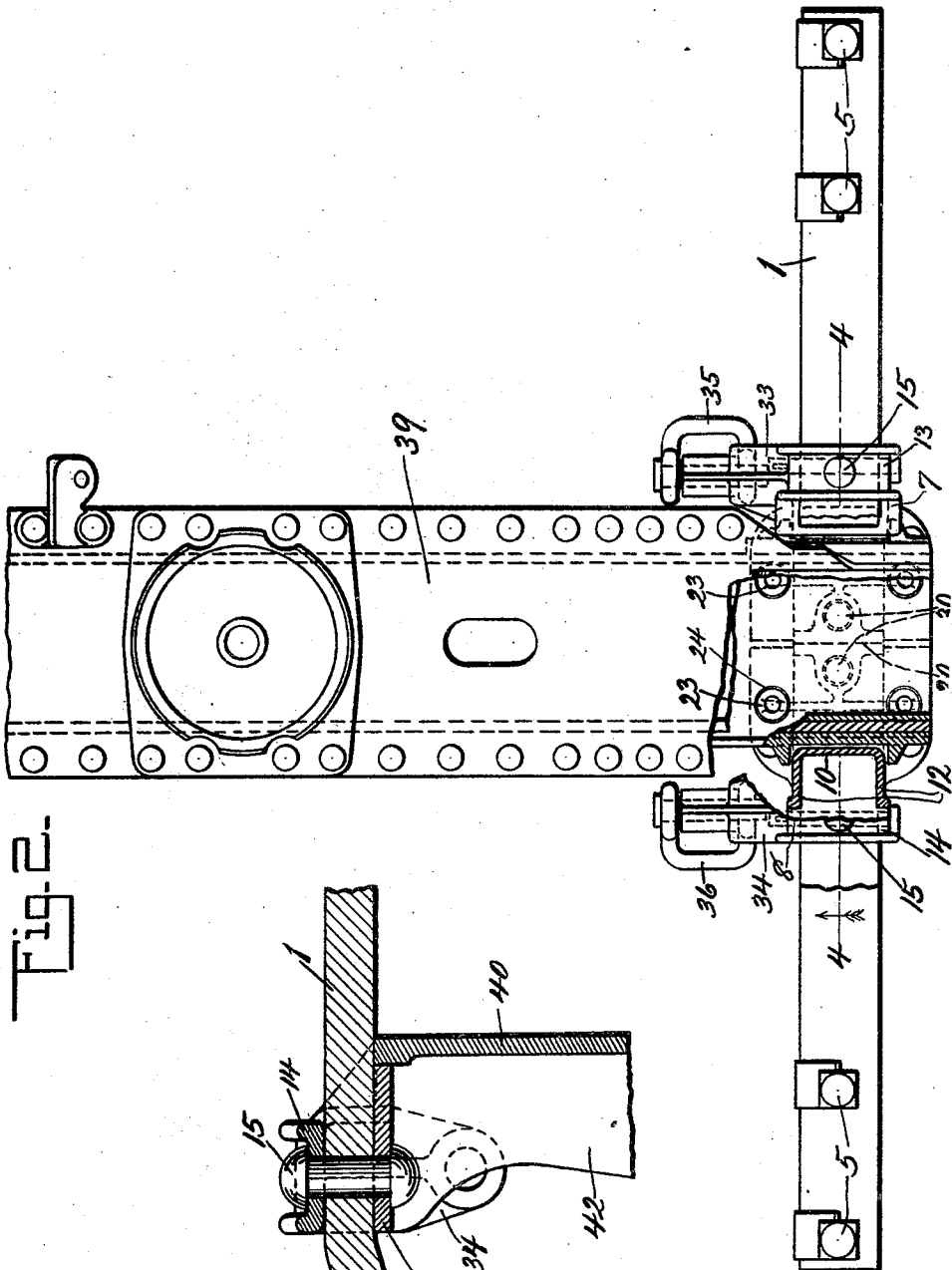


Fig. 2-

Fig. 5.

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Fig. 3.

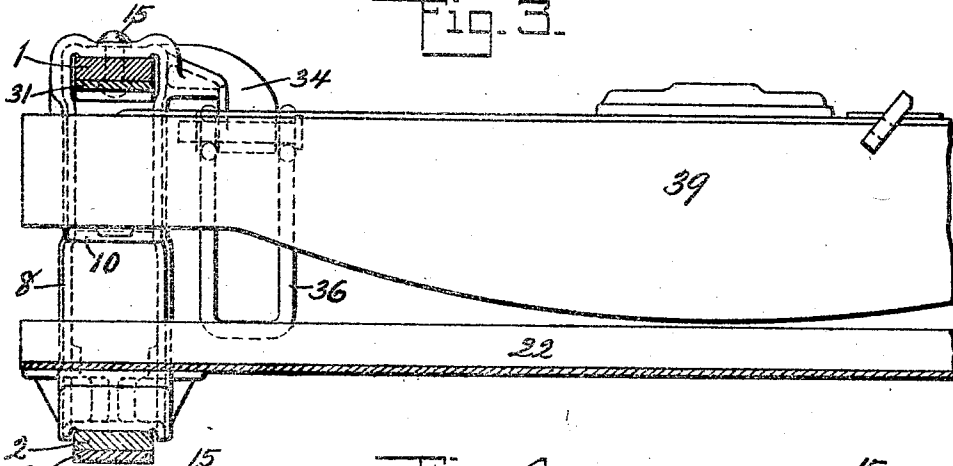
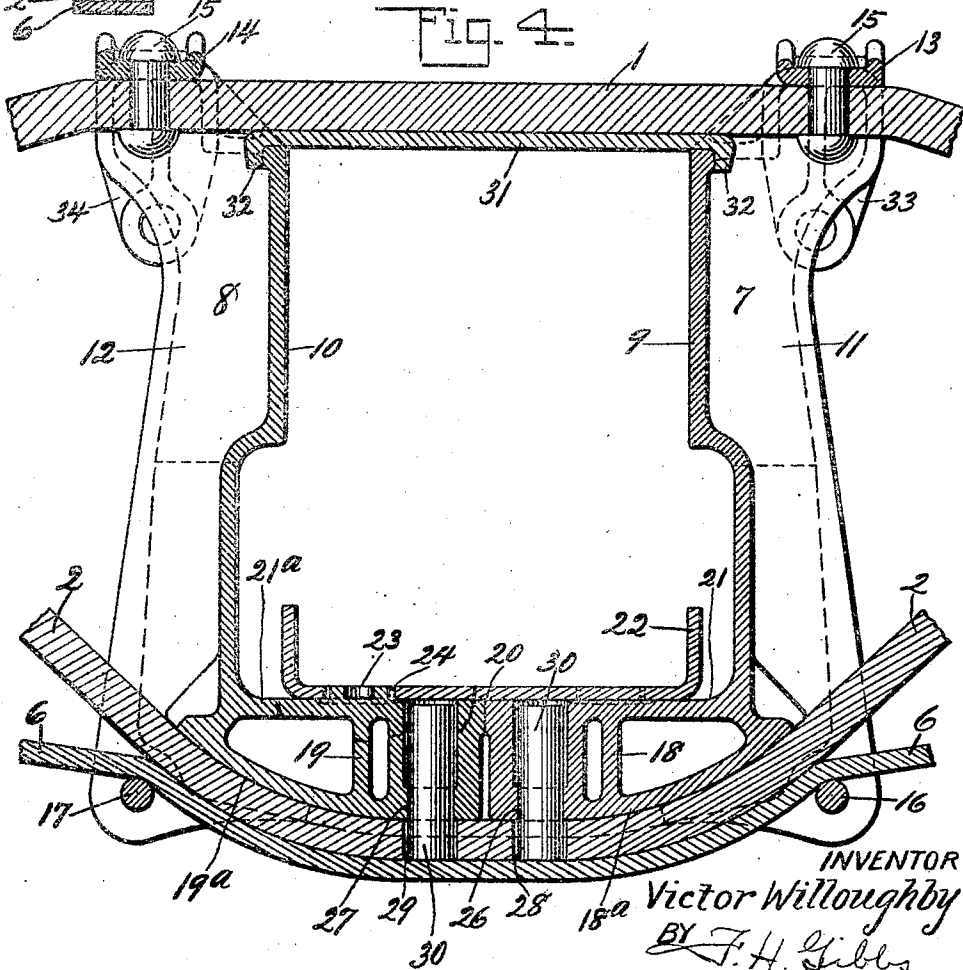


Fig. 4.



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UNITED STATES PATENT OFFICE.

VICTOR WILLOUGHBY, OF RIDGEWOOD, NEW JERSEY, ASSIGNOR TO AMERICAN CAR AND FOUNDRY COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW JERSEY.

CAR-TRUCK SIDE FRAME.

Application filed December 15, 1923. Serial No. 680,932.

To all whom it may concern:

Be it known that I, VICTOR WILLOUGHBY, residing at Ridgewood, Bergen County, New Jersey, and being a citizen of the United States, have invented certain new and useful Improvements in a Car-Truck Side Frame, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and to use the same, reference being had to the accompanying drawings, which illustrate 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.

In said drawings:

Fig. 1 is a view in side elevation of a car truck side frame constructed in accordance with this invention, the truck bolster being shown in position and the wheels and axles indicated by broken lines;

Fig. 2 is a top plan view, partly broken away, of the side frame and bolster;

Fig. 3 is a transverse section taken on the line 3—3 of Fig. 1, the bolster being shown in outline;

Fig. 4 is a vertical section taken on the line 4—4 of Fig. 2, partly broken away, and the bolster omitted; and

Fig. 5 is a fragmentary section showing a modified means of bracing the upper ends of the webs of the bolster column members.

It is an object of this invention to provide an improved car truck side frame of the arch bar type and, more particularly, to provide an improved side frame of the type described wherein the bolster column members are formed with projecting portions which seat upon the tension member of the side frame and cooperate to form a seat for the spring plank. It is also an object of this invention to provide an improved car truck side frame which may be readily assembled and disassembled and in which the bolster column members are securely held in position by means which may be readily withdrawn in combination with a minimum number of rivets.

With these and other objects in view this invention comprises a car truck side frame having a compression member 1 and a ten-

sion member 2 which are spaced at their centers and have contacting end portions 3 and 4 which rest upon the journal boxes (not shown) and are secured thereto by the journal box bolts 5. The journal box bolts also serve to secure the tie bar 6 which engages with the tension member 2 for a portion of its length. As shown in Fig. 1 the compression member 1 is of the usual type having its central portion flat and raised slightly above the end portions 3, while the tension member 2 has its depressed central portion curved.

Mounted in the opening between the compression member 1 and the tension member 2 are spaced cast bolster column members 7 and 8 of channel-shape with their webs 9 and 10 facing each other and their flanges 11 and 12 extending outwardly, the flanges being longer than the webs and extending above the compression member 1 and below the tension member 2 and tie bar 6. The upper ends of the flanges are joined by connecting pieces 13 and 14 integral with the flanges and provided with openings in which are inserted the rivets 15 which secure the upper ends of the bolster column members to the compression member 1, while through openings in the lower ends of the flanges are passed bolts 16 and 17 which engage beneath the tie bar 6, the tie bar, between the bolts 16 and 17, being curved to conform to the curvature of the tension member 2 and being held in engagement therewith by the bolts 16 and 17.

Formed integral with the bolster column members 7 and 8 are the portions 18 and 19 which project inwardly from lower ends of the column members, the portions 18 and 19 being provided with downwardly opening channels or grooves having curved bottom surfaces 18^a and 19^a which conform to the curvature of the tension member 2 and are adapted to engage therewith when the inner surfaces of the projecting portions are in engagement as at 20. The projecting portions 18 and 19 are also provided with flat upper surfaces 21 and 21^a which cooperate to form a seat for the spring plank 22 and have upwardly projecting bosses 23 which engage in openings 24 in the spring plank. The engagement of the bosses in the openings in the spring plank serves to retain the spring plank in position while also

5 serving to aid in retaining the bolster column members in position. Openings 26 and 27 are formed in the projecting portions 18 and 19 which aline with openings 28 and 29, respectively, in the tension member 2 when the bolster column members are in position and dowel pins 30 engaging in the openings in the portions 18 and 19 and the tension member 2, aid in positioning the 10 bolster column members, the dowel pins being held in the openings by the tie bar 6 and the spring plank 22 which closes the openings at the bottom and top.

15 The webs 9 and 10 of the bolster column members 7 and 8 are connected by a plate 31 provided with flanges 32 which engage over the upper ends of the webs and aids in positioning the bolster column members. To the inner flanges 11 and 12 are secured the 20 brackets 33 and 34 in which are mounted the usual brake hangers 35 and 36. The upper portions of the webs 9 and 10 are shaped to provide flat surfaces for engagement with the usual bolster guide members 25 37 and 38 which are secured to the usual bolster 39 and guide it in its movement in the bolster opening between the column members 7 and 8. The usual springs which rest upon the spring plank 22 and support 30 the bolster 39 are omitted from the drawings.

In the modified construction shown in Fig. 5 the web 40 of the bolster column member is long enough to engage with the 35 compression member 1 when the bolster column members are in position and the upper end of the web is braced by means of a plate 41 which lies between the flanges 42 and is secured to the compression member 1 by the rivet 15. Otherwise the construction 40 of this modification is as shown in Fig. 4.

In assembling the side frame shown in Figs. 1 to 4, the compression member 1 is 45 slipped through the openings between the upper ends of the webs 9 and 10 of the bolster column members 7 and 8, respectively, and the cross pieces 13 and 14 which join the upper ends of the flanges 11 and 12, respectively. The bolster column members 7 and 8 are moved along the compression 50 member 1 until the rivet openings in the compression member 1 and the cross pieces 13 and 14 are in line, the column members 7 and 8 are then swung outwardly and the plate 31 placed against the compression 55 member 1 and secured in position by swinging the bolster column members back to the position shown in Fig. 4 with the upper ends of the webs 9 and 10 engaging the flanges 32 of the plate 31 and the inner surfaces of the portions 18 and 19 in engagement 60 at 20. The tension member 2 and the tie bar 6 are then brought into position against the bolster column members and held by the bolts 16 and 17 and the dowel pins 30. The rivets 15 are then inserted 65

and the journal boxes placed between the ends of the members and held in position by the journal box bolts 5.

The structure shown in Fig. 5 is assembled in the same manner as the structure shown in Fig. 4 except that the plate 31 of Fig. 4 is omitted and the plates 41 70 added as the rivets 15 are inserted.

What is claimed is:

1. In a car truck, a side frame comprising 75 a compression member, a tension member and bolster column members extending between said tension and compression members, said column members having spring plank supporting portions, a tie bar beneath 80 said tension member and fasteners positioned in alined openings in the tension member and spring plank supporting portions of said column members and held in place by 85 the tie bar and a spring plank.

2. In a car truck, a side frame comprising 90 a compression member, a tension member, bolster column members extending between said tension and compression members, said column members having portions cooperating 95 to form a spring plank seat, a tie bar and dowel pins connecting said tension member and inwardly projecting portions held in position by said tie bar.

3. In a car truck, a side frame comprising 100 a compression member, a tension member, bolster column members extending between said tension and compression members, a tie bar extending beneath said tension member, said column members having portions 105 cooperating to form a spring plank seat and depending portions disposed upon opposite sides of said tie bar, and means carried by the depending portions of said column members and engaging beneath said tie bar to 110 hold the tie bar in engagement with the tension member.

4. In a car truck, a side frame comprising 115 a compression member, a curved tension member, bolster column members extending between said tension and compression members, said column members having inwardly projecting portions cooperating to form a spring plank seat, said inwardly projecting 120 portions having curved surfaces adapted to engage said tension member.

5. In a car truck, a side frame comprising 125 compression and tension members and bolster column members secured to said compression member and having cooperating inwardly projecting engaging portions adapted 130 to receive means engaging with said tension member.

6. In a car truck, a side frame comprising 135 compression and tension members and bolster column members spacing said compression and tension members and having inwardly projecting portions seating on said tension member and cooperating to form a spring plank seat, and fasteners passing 140

through alined vertical openings formed in the tension member and inwardly projecting portions of the bolster column members and retained in place by a spring plank resting upon the said inwardly extending portions.

5 7. In a car truck, a side frame comprising compression and tension members, flanged bolster column members having inwardly projecting portions cooperating to form a spring plank seat, said inwardly projecting portions having curved surfaces seating on said tension member, a tie bar and means connecting the flanges of said column members engaging beneath said tie bar.

10 8. In a car truck, a side frame comprising compression and tension members, bolster column members, said column members having engaging inwardly projecting portions forming a spring plank seat and having bosses and a spring plank adapted to engage said seats and having openings to receive said bosses.

15 9. In a car truck, a side frame comprising compression and tension members and bolster column members having openings to receive said compression member and inwardly projecting portions having curved seats engaging said tension member.

20 10. In a car truck, a side frame comprising compression and tension members and bolster column members having openings to receive said compression member, flanges embracing said tension member and inwardly projecting portions engaging the upper face of said tension member and cooperating to form a spring plank seat and having fastener elements for holding a spring plank in place upon the inwardly projecting portions.

25 11. In a car truck, a side frame comprising compression and tension members and bolster column members having portions projecting inwardly and cooperating to form a spring plank seat, said inwardly projecting portions contacting with each other to limit movement of the bolster column members towards each other.

45 12. In a car truck, a side frame comprising spaced compression and tension members, bolster column members having portions projecting inwardly and seating on said tension member and dowel pins engaging said inwardly projecting portions to said tension member.

50 13. In a car truck, a side frame comprising a compression member, a tension member and separately formed bolster column members between said tension and compression members, said bolster column members having inwardly projecting portions cooperating to form a seat for one end of a spring plank, and having their ends contacting with each other to retain the lower ends of the bolster column members in proper spaced relation.

55 14. In a car truck, a side frame comprising a compression member, a tension member and separately formed bolster column members having openings to receive said compression member and engaging inwardly projecting portions on said column members having channels to receive said tension member.

60 15. In a car truck, a side frame comprising a compression member, a tension member, separately formed bolster column members between said tension and compression members, said bolster column members having inwardly projecting portions cooperating to form a seat for one end of a spring plank, projecting bosses on said spring plank seat and a spring plank having openings to engage said bosses and secure said projecting portions together.

65 In witness whereof I have hereunto set my hand.

VICTOR WILLOUGHBY.