No. 761,994. PATENTED JUNE 7, 1904.

G. H. POOR.

RAILWAY CAR TRUCK.

APPLICATION FILED FEB. 23, 1904.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 1.

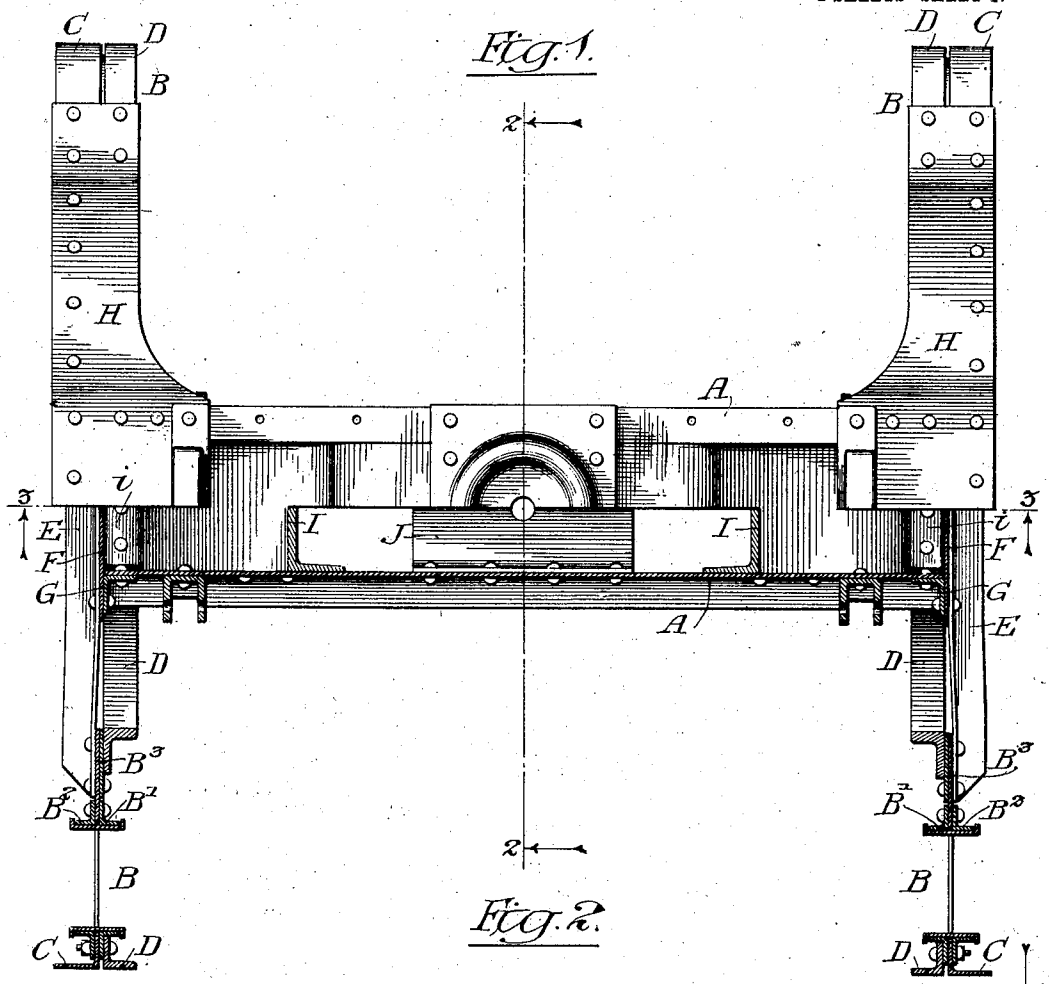
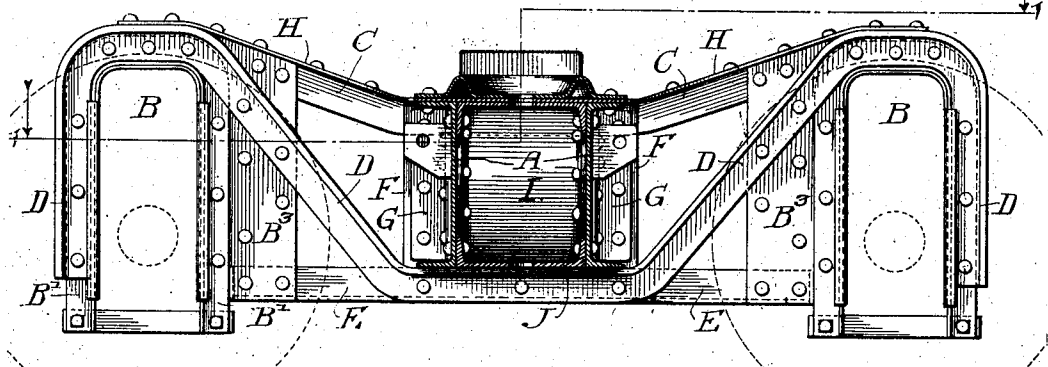


Fig. 2.



Witnesses:-

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Inventor:-

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NO MODEL. 2 SHEETS—SHEET 2.

Fig. 3.

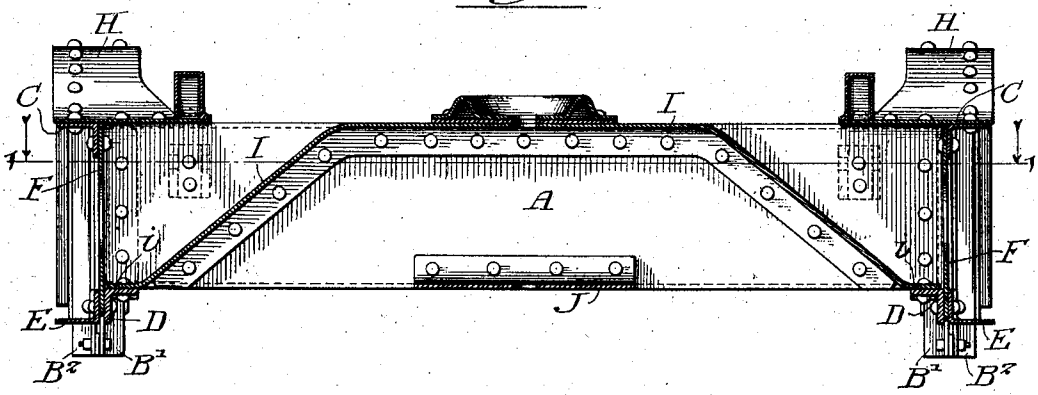


Fig. 4.

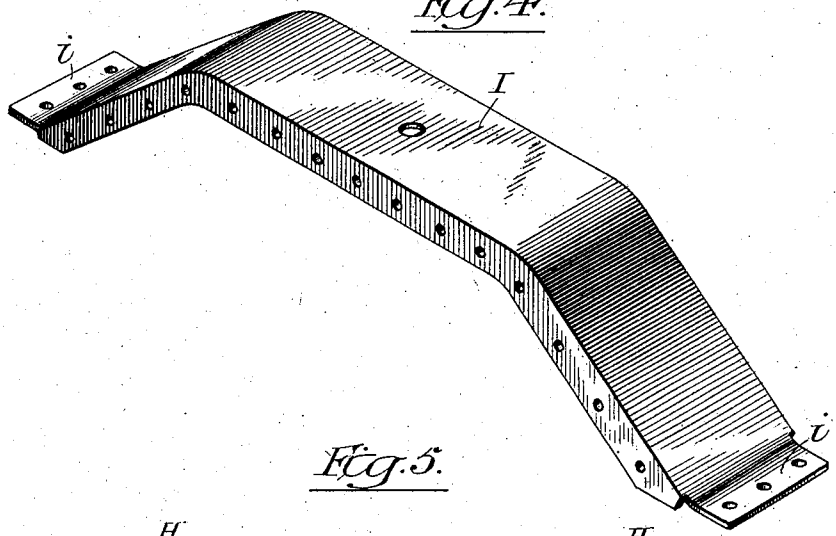
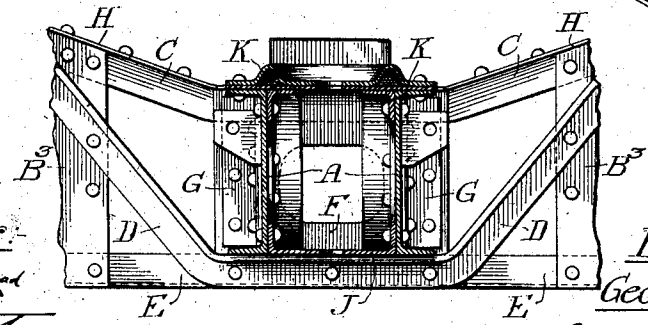


Fig. 5.



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UNITED STATES PATENT OFFICE.

GEORGE H. POOR, OF CHICAGO, ILLINOIS, ASSIGNOR TO SAMUEL WORTHINGTON McMUNN, OF CHICAGO, ILLINOIS.

RAILWAY-CAR TRUCK.

SPECIFICATION forming part of Letters Patent No. 761,994, dated June 7, 1904.

Application filed February 23, 1904. Serial No. 194,929. (No model.)

To all whom it may concern:

Be it known that I, GEORGE H. POOR, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Railway-Car Trucks; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to improvements in metal car-truck frames, and refers more specifically to improvements in the main transverse member or transom of such frames.

The invention consists in the matters hereinafter set forth, and more particularly pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a view, partially in top plan and partially in horizontal section, taken on line 1 1 of Fig. 2, of a truck-frame embodying my invention. Fig. 2 is a cross-section of the same, taken on line 2 2 of Fig. 1. Fig. 3 is a cross-section of the same, taken upon line 3 3 of Fig. 1. Fig. 4 is a perspective view of a channel-plate which is applied between the main transverse girders constituting the transom member of the truck-frame for the purpose of stiffening the same. Fig. 5 is a detail cross-section corresponding with the central part of Fig. 2, illustrating a modified construction in the parts.

The truck-frame shown in the accompanying drawings consists generally of two side frames and a main transverse connecting or transom member embracing two transverse channel-beams A A. Each of said side frames comprises pedestals B B at or near its ends, upper and lower truss members or chords C and D, the ends of which are connected with the upper portions of the pedestals and the central portions of which are attached to the ends of the channel-beams A A and a horizontal tie-bar E, which is attached to the central part of the lower truss member D and is attached at its outer ends to the pedestals. The features of construction illustrated in the pedestals themselves and the means of connecting the truss-chord with the pedestals form no part of the present invention; but, as shown in the accompanying drawings, each pedestal consists of two parallel angle-bars B' B^2 of inverted-U form, and the outer ends of both truss members C and D extend at their outer ends over the tops of said pedestals and are bent downwardly at the outer sides thereof, the ends of the lower truss member D being secured to the external faces of the pedestals, while the upper truss member C is secured to the inner faces of the pedestals. As shown in the drawings, moreover, a vertically-extending gusset-plate B^3 is inserted between the inner parts of the pedestal members B' B^2 and is riveted to the webs of the upper and lower truss members C and D and to the tie-bar E.

Now referring to features of construction in the main transverse or transom member of the truck-frame the channel beams or girders A A thereof are arranged parallel with each other and with their flanges directed outwardly. The ends of said channel-beams A A extend over and rest upon the lower truss members D. Said channel-beams are attached to the upper truss-chord C by means of a transverse end plate F, which is secured to the ends of said beams by means of vertical external angle-pieces G G, which are riveted to the webs of the beams and to the inner faces of said plates F, said plates F F being riveted at their upper margins to the upper truss-chord members C, which extend across the same. The lower edges of the end plates F extend somewhat below the lower edges of the channel-beams A A and are secured to the vertical flanges of the lower truss members D and also to the vertical flange of the tie-bars E E, which extend outside of said plates. The ends of the said channel-beams A A are additionally secured to the upper truss-chords C by means of gusset-plates H H, which are riveted to the top flanges of the said channel-beams and to the top flanges of said upper truss member.

Now referring to the novel features of construction constituting my invention, I, Figs. 1 to 4, is a channel-beam, which constitutes two flanged stiffening members and which is

located between and attached to the inner faces of the two flanged beams A A. Said channel-beam is arranged with its side flanges directed downwardly and riveted to the webs of the channel-beams. The middle part of said stiffening member is located adjacent to the upper margins of the channel-beams and extends longitudinally thereof. The end portions of said stiffening member are directed downwardly and reach to a point adjacent to the lower margins of the channel-beams at or near the ends of the same. The downwardly-directed end portions of said stiffening member are shown as arranged at an angle of forty-five degrees from the horizontal; but this particular formation of the stiffening member is not essential, and the downwardly-extending end portions may be arranged at any desired angle to the upper or central portion thereof. As a further improvement the ends of the web portion of said stiffening member I are bent horizontally outward, as indicated at *i*, and said end portions are extended into overlapping relation to the horizontal flange of the lower truss member D and riveted thereto, as clearly seen in Fig. 3. The stiffening member I being made of flanged form and secured to the inner faces of the girders or channel-beams A A, as described, serves to add greatly to the capacity of said channel-beams or the transom member of said truck-frame to withstand vertical stresses with little addition to the cost, weight, and complexity of the structure. Said stiffening member applied as described, moreover, not only serves to strengthen the said channel-beams against vertical stresses, but also greatly stiffens the transom member in a manner to withstand transverse stresses or lateral bending strains. As an additional means of stiffening the said transom member, I provide between the lower margins of the channel-beams A A, at the center part thereof, a relatively short section J of channel-iron, the side flanges of which are directed upwardly and riveted to the webs of the beams, said channel-bars J serving to prevent distortion or buckling of the channel-beams at the center thereof under the stress of heavy loads.

While the employment of a stiffening member consisting of a single channel-beam extending between and connecting the two transom-girders has the advantage of giving great lateral stiffness to the transom as a whole, yet inasmuch as the principal strains to be provided against are the vertical stresses due to the weight of the car and load coming upon the center of the transom the principal advantages arising from my invention may be attained by the use of two separate stiffening members secured to the inner faces of the transom-beams A A. A construction of this kind is shown in Fig. 5, in which two angle-irons K K are secured to the inner faces of the beams A A, it being understood that said angle-irons K K are shaped like the stiffening member I, or, in other words, that each of said angle-irons corresponds with one of the flanged side margins of the channel-beam I, (shown in Figs. 1 to 4,) which channel-beam I, as before stated, constitutes, in effect, two flanged stiffening members, each of which operates in connection with the transom channel-beam A, to which it is secured, to give both vertical and lateral stiffness to the same.

I claim as my invention—

1. A transom for car-trucks comprising two flanged transom-beams arranged vertically and parallel with each other, with their upper flanges extending outwardly; each of said beams being provided with a flanged stiffening member secured to its inner face and extending along its upper margin, with its horizontal web portion in the same horizontal plane with the said upper flanges of the transom-beams at the central part thereof; the ends of said stiffening member being downwardly directed and terminating adjacent to the lower edge of the beam near the ends thereof.

2. A truck-frame embracing two parallel, vertically-arranged transom-beams having their upper flanges directed outwardly, two side frames each of which embraces separate upper and lower chord members, and in which the lower chord member extends beneath the ends of the transom-beams, and stiffening members secured to the inner faces of said transom-beams, said stiffening members extending along the upper margins of the beams at the middle part thereof with their web members in the same horizontal plane with the upper flanges of the transom members, and being directed downwardly at their ends and attached at their extremities to the said lower chords of the side frames.

3. A transom member for trucks comprising two parallel transom-beams, stiffening members applied to the adjacent sides of the beams, extending along the upper edges thereof at the central part and having their ends extended downwardly to points adjacent to the lower edges of the beams and near the ends thereof, and a horizontally-arranged channel-beam interposed between the lower edges of the said transom-beams at the central part of the transom.

4. A transom for railway-car trucks comprising two vertically-arranged transom-beams having their upper flanges directed outwardly, and a channel-beam, the side flanges of which are secured to the inner faces of the transom-beams; the central part of said channel-beam extending along the upper margins of the transom-beams, with its web portion in the same horizontal plane with the said upper flanges of the transom-beams, and its end portions being directed downwardly.

5. A car-truck frame embracing two parallel, vertically-arranged transom-beams, the

upper flanges of which are directed outwardly, and two side frames, each of which embraces separate upper and lower chord members and in which the lower chord member extends beneath the ends of the transom-beams, and a channel-beam the flanges of which are secured to the transom-beams; the central part of said channel-beam extending along the upper margins of the transom-beams, with its web portion in the same horizontal plane with the upper flanges of the transom-beams and its end portions being directed downwardly, and the ends of its web being attached to the said lower chord members of the side frames.

In testimony that I claim the foregoing as my invention I affix my signature, in presence of two witnesses, this 19th day of February, A. D. 1904.

GEORGE H. POOR.

Witnesses:

C. CLARENCE POOLE,

GERTRUDE BRYCE.