April 16, 1935. G. A. SUCKFIELD 1,997,662

RAILWAY CAR TRUCK

Filed Jan. 10, 1933 2 Sheets-Sheet 1

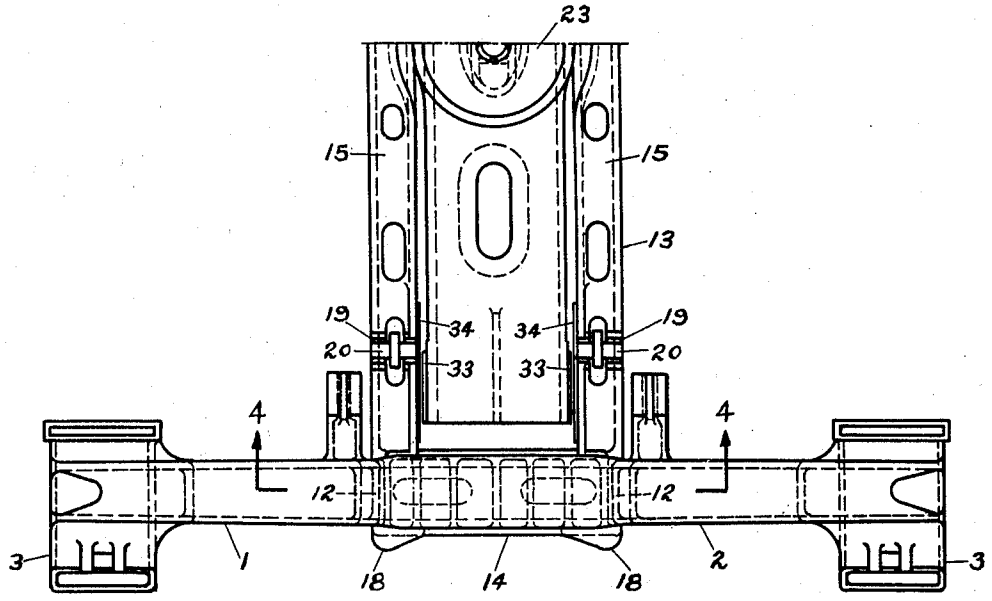


FIG. 1

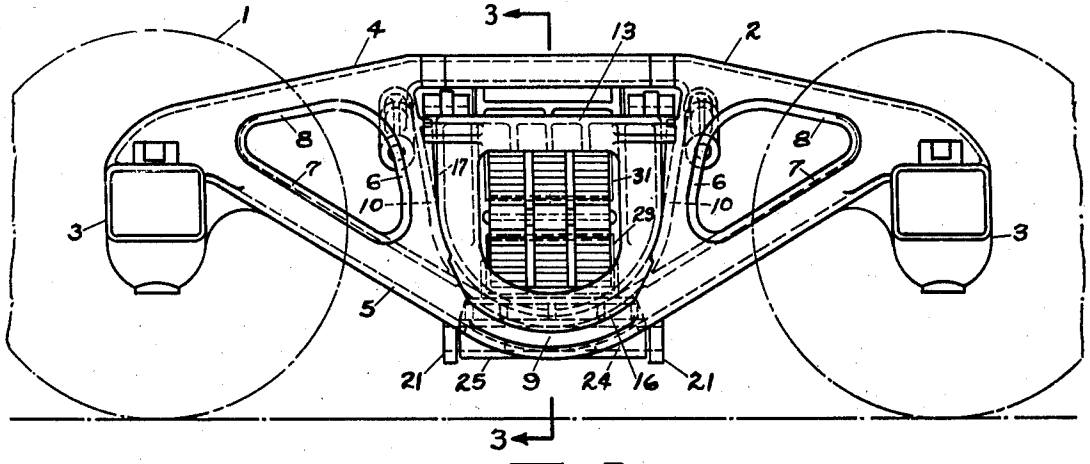


FIG. 2

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RAILWAY CAR TRUCK

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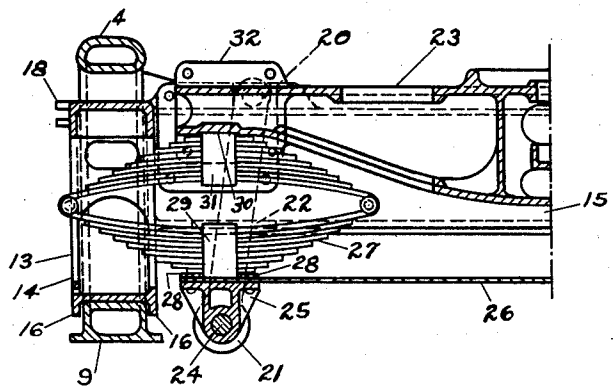


FIG. 3

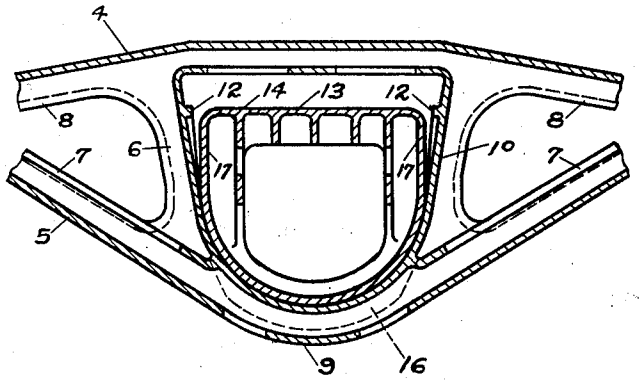


FIG. 4

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RAILWAY CAR TRUCK

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Application January 10, 1933, Serial No. 651,009

7 Claims. (Cl. 105—203)

My invention relates to railway car trucks with specific reference to the swing motion type in which the bolster is resiliently supported by swing hangers from a transom which bridges two oppositely disposed side frames, said bolster having lateral as well as vertical movement.

It is the object of my invention to compensate, within certain limits, by the novel feature of construction and arrangement of parts, for irregularities in the tracks, due to vertical or lateral variations of the rails.

Another object of my invention is to allow the transom to partially revolve within the side frame in such a manner that the side frame may rock, due to any vertical variances in the tracks, without transmitting any undue torsion to the transom.

A further object of my invention is to resiliently support the bolster within the transom in order that the bolster as well as the car which is supported thereon may have lateral and vertical movement.

Other objects will become apparent to those skilled in the art from the succeeding description and the accompanying drawings which form a part of the present description, in which

Fig. 1 shows in plan, half of the truck of the present invention, it being understood that the truck is symmetrical about its longitudinal center.

Fig. 2 is a side elevation of the truck shown in Fig. 1.

Fig. 3 is a sectional view taken along line 3—3 of Fig. 2.

Fig. 4 is a sectional view taken along line 4—4 of Fig. 1 and shows more clearly the cooperating elements of the transom and side frame.

Referring now in detail to the drawings where like reference characters designate like parts, the truck is generally designated as 1. The integrally cast side frame 2 consists of journal boxes 3, compression member 4, tension member 5 and column member 6. The compression member 4 and tension member 5 are preferably of channel form except for the portions at and adjacent to the vertical center of the side frame where they are preferably tubular in section to add strength and rigidity to the side frame member 2. The web portions of the tension member 5 and compression member 4 are secured at their extremities to the journal boxes 3 and the flanges 7 of the tension member merge with the flanges 8 of the compression member 4 adjacent the journal boxes. The tubular or lowermost portion 9 of the tension member 5 being arcuated for the purpose hereinafter set forth.

Channeled column members 6 function as ties between the compression member 4 and tension member 5 and form an opening in the center of the side frame to permit the introduction of the ends of the transom. The lower portions of the web 10 of the channeled column members 6 are arcuated continuations of the upper web of the tubular portion 9 of the tension member 5 thus forming a yoke or cradle so as to support a transom thereon and to permit the transom to rock within the side frame. The upper portion of the webs 10 of the members 6 diverge outwardly and merge with the lower web of the intermediate tubular portion of the compression member 4. Shoulders 12 on the web portions 10 of the column members 6 project inwardly of the opening formed between the members 6 and serve as abutments for the transom, limiting the radial movement thereof.

Cradled within the above described opening formed in the side frame 2 is a unitary transom 13 which ties together the two oppositely disposed side frames. The transom comprises end members 14 and spaced side members 15. The ends 14 have their lower portion arcuated to coincide with the arcuated contour formed by the tension member 5 and columns 6, while the side walls 17 of the ends 14 above the radial center are substantially parallel to the vertical center of the truck. Lugs 16 project downwardly of the transom ends 14 to guide and retain the transom within the side frame. Additional lugs 18 are provided on the transom ends adjacent the top thereof to embrace the shoulders 12 of the column 6 to aid in retaining the transom within the side frame. The side members 15, which are preferably of tubular form, are employed intermediate the ends 14 to form the unitary transom 13 and are suitably spaced to allow the free vertical and transverse movement of bolster 23 therebetween. Thus, while the transom is carried by and in sliding contact with the cradle formed within the side frame 2, the vertical side walls of the transom and the shoulders on the column members provide wedge shaped openings therebetween, which openings permit limited radial movement of the transom within the side frame.

It will be noted that in the event a truck embodying the features of my invention is traveling over a track that is not in vertical alignment, the side frames will rock, within certain limits provided by the wedge-shaped opening between the upper portion of the transom ends and the column members, thereby eliminating any undue torsion within the transom and allowing the

transom to retain its vertical position as well as permit the bolster to remain in the same horizontal plane.

Adjacent the ends of the side members 15—15 cradles 19 are placed for the reception of pins 20 which support the swinging bars 21 that project through openings 22 in the members 15. These bars 21 permitting lateral motion of the bolster 23 are connected together at their lower extremities by a bar 24 upon which is mounted a chair 25 to support the spring plank 26 and bolster 23. Elliptical springs 27 permitting vertical movement of the bolster 23 are mounted upon the spring plank directly above the bar 24 and chair 25 and secured thereon by plates 28 abutting the bands 29, which bands bind together the lower portion of the elliptical spring 27. A recess 30 formed on the under part of the bolster 23 engages the band 31, securing the top portion of the elliptical spring together thereby retaining the bolster upon the spring 27. To the vertical wing portions 32 at the ends of the bolster are secured wearing plates 33 in juxtaposition to similar wear plates 34 on the inner walls of the tubular members 15—15 of the transom 13 to receive the buffing between the bolster and transom.

Having thus described the invention what I claim as new and desire to secure by Letters Patent is:

1. In a railway car truck, in combination, a pair of oppositely disposed side frames and a connecting transom member, said side frames having their tension member arcuated at their lower portion, diverging column members tying the tension and compression members together and merging with the tension member to form an opening and a cradle, shoulders projecting inwardly from said column members; the ends of the transom member occupying said opening and resting in said cradle, lugs on the arcuated portion of the ends engaging the tension member and lugs adjacent the tops of said ends embracing said shoulders.

2. In a car truck, in combination, a transom member having integral end bearing portions comprising an arcuate base and flat side walls, a side frame supporting each end of the transom and having a central opening comprising an arcuate bearing for the transom and diverging side walls of greater vertical height than the transom ends, which height includes depending flanges on the transom embracing the side frame.

3. In a car truck, in combination, a rigid transom having a bifurcated body portion and hollow end portions of general U-shape, spaced flanges depending from the end portions, side frames having a generally U-shaped central window opening receiving the transom ends, the arms of the U diverging upwardly from between the said transom flanges in spaced relation to the transom end portions to provide an opening of greater vertical height than the transom ends.

4. In a car truck, spaced side frames having central openings comprising a bottom wall and upwardly extending side walls, the side walls being offset adjacent the upper edges thereof, a transom between the side frames, end bearings on the transom of less vertical height than the side frame openings and seating in the side frame openings, said bearings including depending flanges overyling the bottom wall of the side frame openings and laterally extending flanges overlying the side walls of the side frame opening and below the offset therein.

5. In a car truck, spaced side frames having central openings comprising arcuate bottom walls and upwardly diverging side walls, a transom between the side frames having end bearings seating in said openings, each end bearing comprising an arcuate bottom wall supported on the bottom wall of the opening and side walls extending upwardly in spaced relation to the side walls of the opening, abutments on the walls of the side frame opening limiting movement longitudinally of the truck between the side walls of the bearing and the side walls of the opening.

6. In a car truck, spaced side frames having a central opening including an arcuate bottom wall and upwardly diverging side walls, a transom connecting the side frames, end bearings on the transom seating in said openings and comprising an arcuate bottom portion having depending flanges embracing the bottom wall of the opening and side walls extending upwardly from the bottom portion with the upper portions of the bearing side walls spaced from the side frame opening side walls.

7. In a car truck, spaced side frames having central openings comprising an arcuate bottom wall and upwardly diverging straight side walls, a transom between the side frames with end bearings seating in said openings, said end bearings having arcuate bottom portions resting on the bottom walls of the side frames and side walls extending upwardly from said bottom portion, the upper portions of said bearing side walls being in normally spaced relation to the side walls of the frame opening.

GEORGE A. SUCKFIELD.