No. 775,207. PATENTED NOV. 15, 1904.

E. A. CURTIS.

CAR TRUCK.

APPLICATION FILED FEB. 3, 1904.

NO MODEL. 3 SHEETS—SHEET 1.

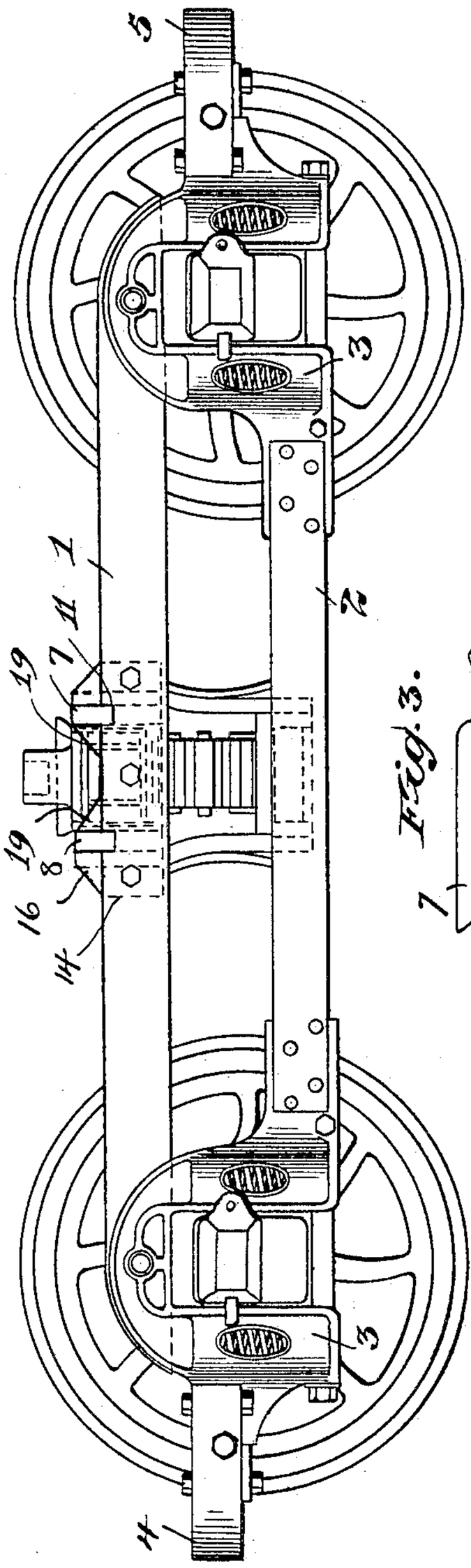

Fig. 1.

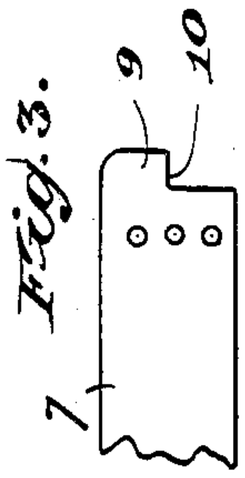

Fig. 3.

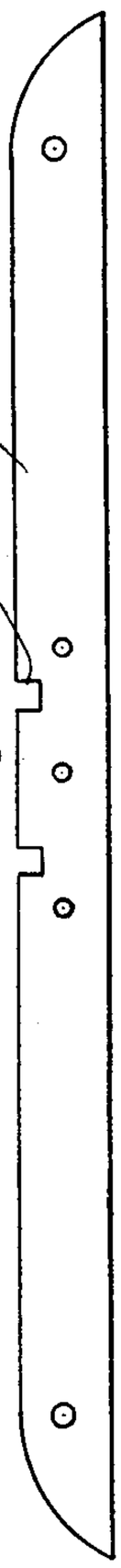

Fig. 4.

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A. N. Evans

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NO MODEL. 3 SHEETS—SHEET 2.

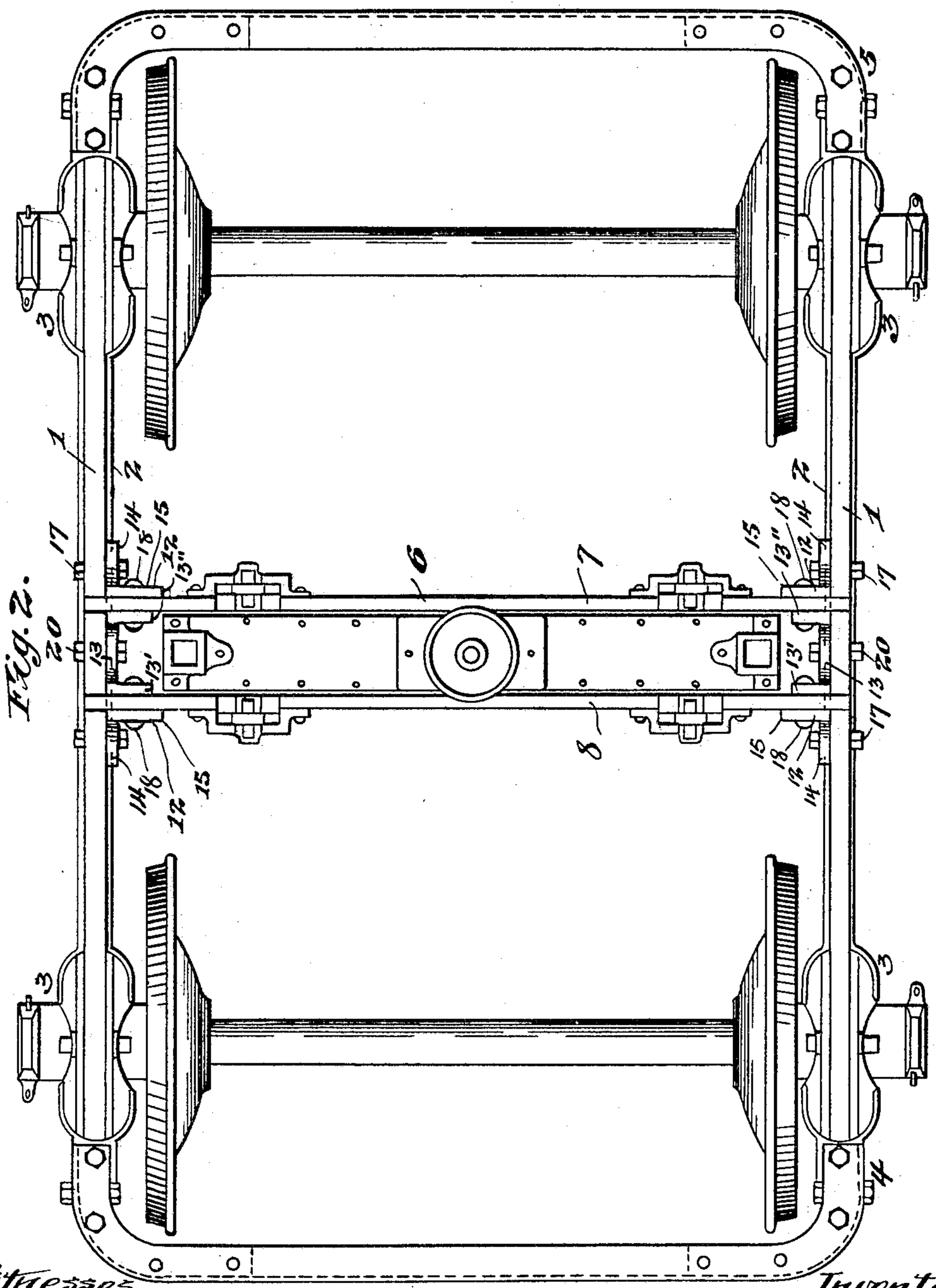

Fig. 2.

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CAR TRUCK.

APPLICATION FILED FEB. 3, 1904.

NO MODEL. 3 SHEETS—SHEET 3.

Fig. 5.

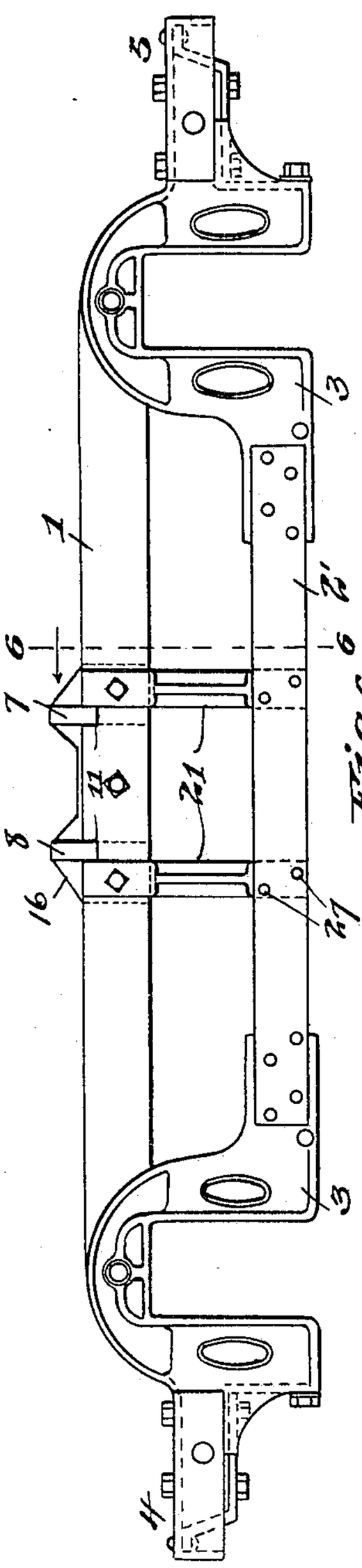
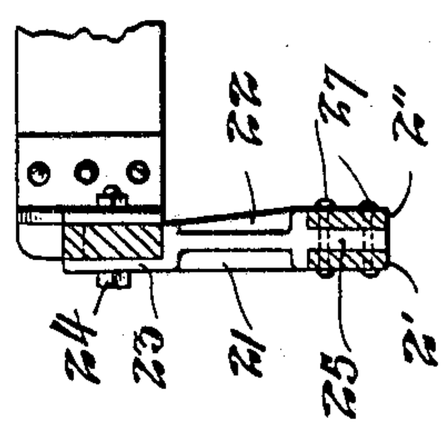


Fig. 6.



Witnesses,
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No. 775,207. Patented November 15, 1904.

UNITED STATES PATENT OFFICE.

EDMUND A. CURTIS, OF DECATUR, ILLINOIS, ASSIGNOR TO FELIX B. TAIT, OF DECATUR, ILLINOIS.

CAR-TRUCK.

SPECIFICATION forming part of Letters Patent No. 775,207, dated November 15, 1904.

Application filed February 3, 1904. Serial No. 191,817. (No model.)

To all whom it may concern:

Be it known that I, EDMUND A. CURTIS, a resident of Decatur, in the county of Macon and State of Illinois, have invented certain new and useful Improvements in Car-Trucks, of which the following is a specification.

This invention relates to improvements in car-trucks of that class most commonly employed in connection with street-cars.

The salient object of the present invention is to provide an improved construction in the joints or connections between the ends of the transom and the side members of the truck-frame, whereby increased strength and rigidity are secured, and at the same time to produce a construction which is simple and economical to manufacture.

The invention consists in the matters hereinafter described, and more particularly pointed out in the appended claims, and will be readily understood from the following description, reference being had to the accompanying drawings, in which—

Figure 1 is a view in side elevation of a truck-frame embodying the invention. Fig. 2 is a plan view of the truck. Figs. 3 and 4 are detail views of the interfitting members. Fig. 5 is a view in side elevation of one side of a truck-frame, showing a modification; and Fig. 6 is a sectional view taken on line 6 6 of Fig. 5 and looking in the direction of the arrows.

Referring to the drawings, 1 designates the wheel-pieces, 2 the equalizer-bars, and 3 the pedestals, which members together constitute the side frame of a truck, the two side frames being connected by means of the end frame-bars 4 and 5 and also by means of a transom-frame, (designated as a whole 6.)

The present invention resides in the peculiar construction of the connections between the ends of the transom-frames and the sides of the truck-frame or, more specifically, the wheel-pieces 1.

7 and 8 respectively designate the two main transom-frame members having the form of plate-bars, arranged with their planes parallel and constructed to fit between the wheel-pieces 1. Each transom-bar, as best seen in Figs. 1 and 3, is so disposed between the wheel-pieces that its upper edge rises above the corresponding edges of the wheel-pieces, and at each end it is provided with an extension 9, the under side of which forms a shoulder 10, adapted to overlie and rest upon the corresponding edge of the wheel-piece. In order to more accurately position and reliably hold the transom-bar in exact relation to the wheel-piece, the transom-bar is also provided in its upper edge with notches 11, adapted to receive the shoulders 10 of the transom-bars. In order to secure the parts together, angle members or braces 12, 12, and 13 are provided, constructed and arranged as follows: The braces 12 are severally constructed to fit within the exterior angles formed at the junction of the respective transom-bars with the wheel-pieces, the two arms 14 and 15 of each brace member being made of a width to reach from the upper edge of the transom-bar downwardly to approximately the lower edge of the wheel-piece, as best indicated in dotted lines in Fig. 1. The upper corners of the arms 14, which rest against the inner faces of the wheel-pieces, are chamfered off, as indicated at 16, so as to produce a more finished appearance, and the braces are securely bolted to the respective portions of the transom-bars and wheel-pieces, as indicated at 17 and 18. The members 13 are of three-sided construction and made to fit accurately between the ends of the transom-bars and against the inner faces of the wheel-pieces, each constituting, essentially, two angle-braces united integrally. The members 13 are likewise of a width approximately equal to the distance between the upper edge of the transom-bars and the lower edge of the wheel-pieces and are similarly chamfered off at their exposed angles, as shown at 19. The bolts 18, which serve to secure the arms 15 of the outer braces, extend through and secure the parallel arms 13′ and 13″ of the members 13, while other bolts 20 are inserted through the central portion of said member and the adjacent wheel-piece.

By means of the construction described the transom members are united with absolute rigidity to the wheel-pieces and the weight upon the transom is transmitted to the side frames of the truck directly instead of through the medium of bolts—that is to say, in the present construction portions of the transom-bars overlie and rest directly upon the wheel-pieces, whereas in prior constructions it has been common to arrange the transom-bars entirely between the wheel-pieces and secure these parts together by means of cast angle-pieces and bolts. In the present construction, in which the transom-bars rise above the upper edges of the wheel-pieces, the upper portions of the transom-bars are held absolutely against tilting movement by extending the braces up to the full height of the transom-bars. The fact that the wheel-pieces are slightly notched out at their upper edges to receive the transom-bars does not substantially weaken said wheel-pieces, because they are so securely reinforced at these points by means of the braces and because the edges of the transom accurately fit and occupy these notches. In order to still further strengthen the structure, however, and transmit the weight upon the wheel-pieces directly to the equalizer-bars 2, I have shown in Figs. 5 and 6 a modification in which struts 21 are provided, these struts being located approximately underneath the respective transom-bars. In the construction shown each strut consists of a casting, of which the main body 22 is constructed to fit in vertical alinement with and between the wheel-pieces and equalizer-bars. At their upper ends said struts are provided with plate-like extensions or ears 23, which fit against the outer sides of the wheel-pieces and are bolted to the latter, as indicated at 24. At their lower ends the said struts are provided with reduced tenon-like extensions 25, which fit between the duplicate bars 2′ and 2″ of the equalizer-bars and are bolted or riveted to the latter, as indicated at 27.

While I have herein shown and described a preferred embodiment of the invention, yet the details thereof may be somewhat modified without departing from the invention.

I claim as my invention—

1. In a truck-frame, the combination with the upper side frame members or wheel-pieces, of a pair of transom-bars fitting between said wheel-pieces and provided at their ends with extensions overlying the upper edges of the wheel-pieces, notches in the upper edges of said wheel-pieces within which the extensions of the transom-bars fit, and angle-braces uniting said transom-bars and wheel-pieces, substantially as described.

2. In a truck-frame, the combination with the upper side frame members or wheel-pieces, of a pair of transom-bars fitting between said wheel-pieces and provided at their ends with extensions overlying the upper edges of the wheel-pieces, notches in the upper edges of said wheel-pieces within which the extensions of the transom-bars fit, and angle-braces uniting said transom-bars and wheel-pieces, said angle-braces being made of a width approximately equal to the distance between the upper edges of the transom-bars and the lower edges of the wheel-pieces, and being rigidly bolted to the respective parts, substantially as described.

3. In a truck-frame, the combination with the upper side frame members or wheel-pieces, of transom-bars spaced apart and fitting between said wheel-pieces and each provided at each end with an extension overlying and resting directly upon the upper edge of the corresponding wheel-piece, an independently-formed angle-brace fitting in each exterior angle formed between the wheel-pieces and transom-bars and rising to the height of the upper edges of the transom-bars, and independently-formed three-sided angle-braces fitting between the ends of the transom-bars and against the respective wheel-pieces, substantially as described.

EDMUND A. CURTIS.

Witnesses:
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ALBERT H. GRAVES.