No. 852,968. PATENTED MAY 7, 1907.

A. LIPSCHUTZ.

SIDE FRAME FOR CAR TRUCKS.

APPLICATION FILED NOV. 5, 1906.

2 SHEETS—SHEET 1.

Fig. 1

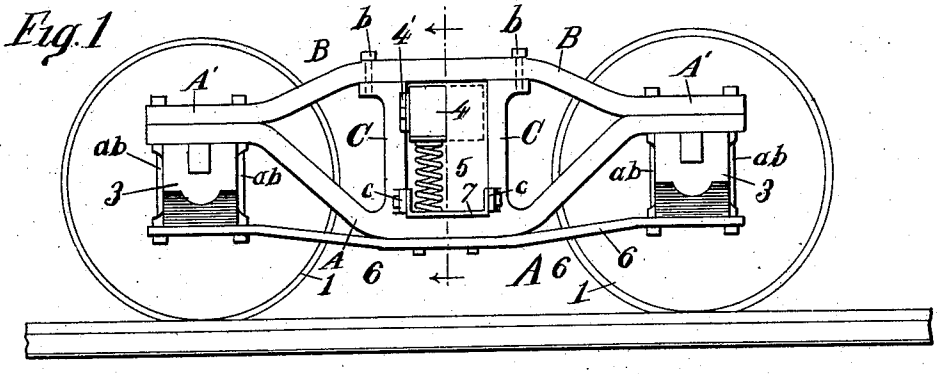


Fig. 2

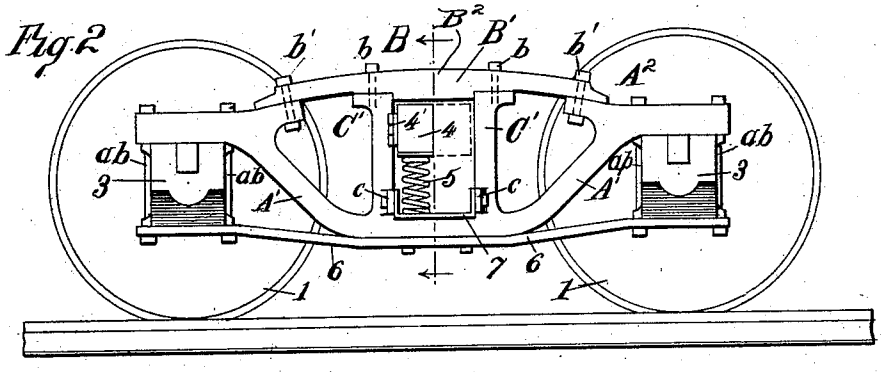
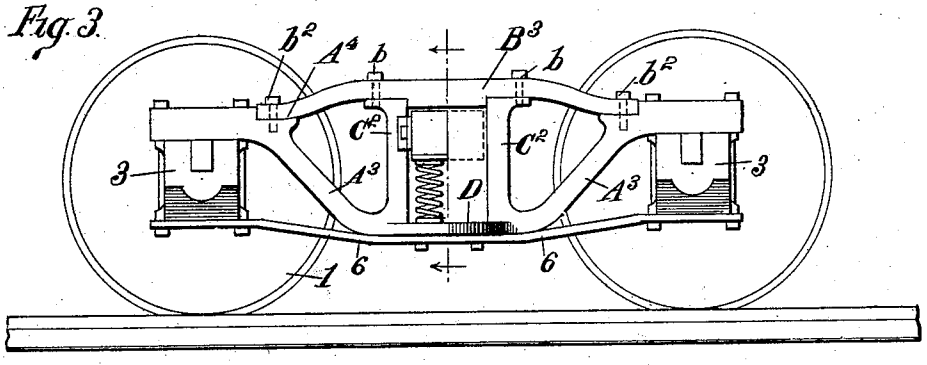


Fig. 3



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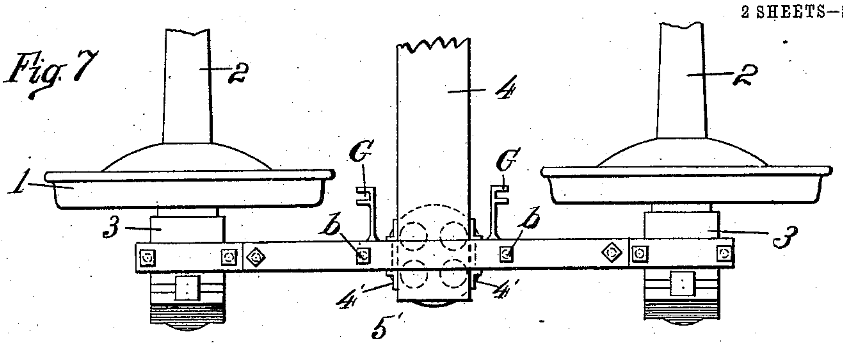
2 SHEETS—SHEET 2.

Fig. 7



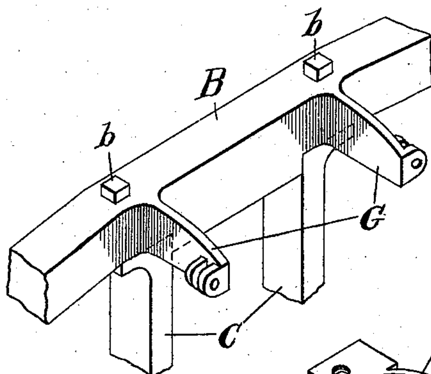


Fig. 8

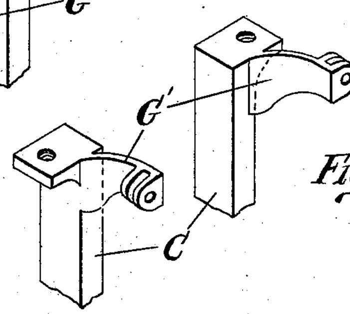


Fig. 9

Fig. 4

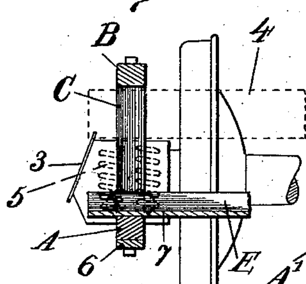


Fig. 5

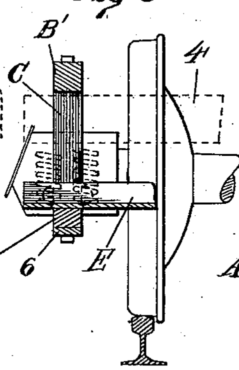
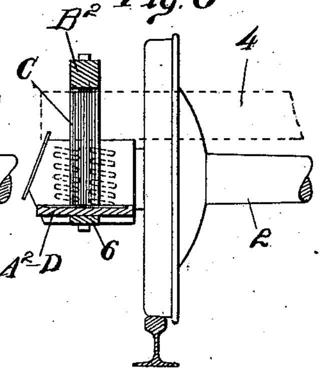


Fig. 6



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THE NORRIS PETERS CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

ARTHUR LIPSCHUTZ, OF CHICAGO, ILLINOIS.

SIDE FRAME FOR CAR-TRUCKS.

No. 852,968. Specification of Letters Patent. Patented May 7, 1907.

Application filed November 5, 1906. Serial No. 342,052.

To all whom it may concern:

Be it known that I, ARTHUR LIPSCHUTZ, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have invented a certain new, useful, and Improved Side Frame for Car-Trucks, 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 use the same.

My invention relates to car trucks and has special reference to improvements in trucks of that class wherein the journal boxes are rigidly secured in the truck side frames and wherein the bolster is supported by springs in or upon said side frame. In a truck of this class, the truck bolster is usually of about the same length as the car axles, and its ends extend through or beyond the side frames, the bolster springs being arranged substantially in the vertical planes of the side frames.

The object of my invention is to improve the construction of the side frames of car-trucks of the class mentioned, and the particular object of the invention is to provide an improved cast steel side frame for car-trucks; further, to provide an improved cast steel side frame that shall be composed of only two parts, both structurally simple, and which may be manufactured at less than the usual cost of car-truck frames.

Other objects of my invention will appear hereinafter.

My invention consists generally in a car-truck side frame characterized by a single piece lower or tension member having integral bolster columns, in combination with a single piece upper or compression member that is rigidly secured to the ends of said tension member and also to the tops of said columns.

The invention also consists in a car-truck side-frame of the foregoing description, which is provided with brake-hanger brackets, which are integral with one of said members.

My invention further consists in various details of construction and in combinations of parts, all as hereinafter described, and particularly pointed out in the claims.

My invention will be more readily understood by reference to the accompanying drawings, forming a part of this specification, and in which—

Figures 1, 2, and 3 are side elevations of three car-truck slightly different side-frames, all embodying my invention, one-half of the bolster and the bolster springs being omitted in each figure; Figs. 4, 5, and 6, are vertical sections on lines *a*—*a* of Fig. 1, *b*—*b* of Fig. 2, and *c*—*c* of Fig. 3, respectively, the bolsters and springs being omitted, for clearness; Fig. 7 is a top plan view of the side frame shown in Fig. 3; Fig. 8 is a perspective view of the inner side of one of my improved side frames, whereof the upper frame-member is provided with integral brake-hanger brackets; and Fig. 9 is a similar view showing brake-hanger brackets formed upon the lower member of the side frame.

As shown in the drawings, 1—1, represents the wheels of a car truck; 2—2, the axles; 3—3, the journal boxes; 4, the bolster; 4′, the bolster guides secured upon the bolster; 5—5, the bolster springs; and 6, a bottom tie bar. The parts of the car truck here mentioned may be of any suitable form or construction adapted for employment with a rigid side frame.

Each of the three side frames herein shown comprises two members, one a lower, or tension member, adapted to rest upon the tops of the journal boxes and the other, an upper, or compression member, which is fastened upon the tension member. In all cases the middle portions constituting the bolster columns are integral with the tension member. Yet these side frames which correspond in general description differ in details; hence it is necessary to consider and describe them separately.

The novel side frame shown in Figs. 1 and 4 has a tension member A, adapted to rest upon the tops of the boxes 3, 3, and having its central or middle portion depressed to about the level of the bottoms of said boxes. The member A is a metal casting and the bolster columns C—C are integral therewith. These preferably, though not necessarily, rise to a height slightly above the tops of the journal boxes. The top or compression member B of the side frame is of the same length as the tension member. It also is preferably a steel casting, but may be a wrought metal bar of suitable cross section.

The ends of the compression member are fitted to the ends of the tension member and these parts are secured together and to the boxes by bolts *ab*. The middle portion of the member B is arched and rests upon the tops of the columns C—C to which it is secured by bolts *b*—*b*. When thus joined the members A, C, and B form a strong and very rigid side frame. The bottom tie bar 6 is bolted or riveted to the member A and is secured to the boxes in the usual way. Upon the removal of the compression member the bolster and springs may with ease be placed in or removed from the frame. The spring seat may be formed by the spring plank 7, preferably a channel beam, as shown in Figs. 1 and 4, in which case the member is provided with securing ears or lugs *c;* or the central part of the member A may be extended laterally to form an integral spring seat D as shown in Figs. 3, 6, and 7.

The side frame shown in Figs. 2 and 5, comprising members A′—C′—B′, differs from that above described in that the compression member B′ is shorter than the tension member. The member A′ is provided with inwardly projecting portions A^2, substantially in the plane of its ends and to these projections I secure the member B′ by bolts *b*′. The central portion B^2 of the bar B′ is preferably thicker, providing shoulders which engage the tops of the columns and aid the bolts *b* in holding the columns in place. This feature may also be employed in the first frame if desired. As in the latter case the side frame of Fig. 2 may contain a spring plank 7 or have an integral spring seat, as best suited to the other members of a particular car truck.

Passing to the device shown in Figs. 3 and 6, it will be found to be identical with the frame next above described except that the tension member A^3 is provided with notches or recesses A^4, wherein the ends of the compression member are secured by bolts b^2; and the integral spring seat D is shown on the tension member. The middle portion of the compression member and the columns C^2 remain as before. I find the abutment of the compression member with columns and tension member to be most advantageous and prefer this form to others.

A further feature of my invention is disclosed in Fig. 8 wherein I have shown the brake-hanger brackets G which I cast directly upon the inner side of the compression member. While it is desirable to form these brackets upon the member which is of most simple configuration, I nevertheless sometimes elect to form the same on the inner sides of the columns C, as shown in Fig. 9, see G′.

Various modifications of my invention will readily suggest themselves to one skilled in the art; hence I do not confine or limit the invention to the specific side frames herein shown or to any one thereof.

Having thus described I claim as new and desire to secure by Letters Patent:

1. The two-membered side frame herein described, comprising a tension member having ends adapted to rest upon the tops of car truck journal boxes and provided with upwardly extending integral columns, in combination with a compression member having its ends removably secured upon the ends of said tension member and upon the tops of columns; substantially as described.

2. The herein described improvement in car trucks, comprising a two-part side-frame adapted to rest upon the tops of the journal boxes, the lower part of said frame being provided with bolster-guiding columns integrally joined thereto at their lower ends only and the upper part of said frame being detachably secured to the ends of said lower part and also to the upper ends of said columns; substantially as described.

3. A car truck side-frame comprising two parts, to-wit, an upper and a lower member, said lower member being provided with a spring-seat and also with a pair of upwardly extending bolster guiding columns integral therewith; said upper member being secured to the ends of said lower member and to the otherwise free upper ends of said columns; substantially as described.

4. A car truck side-frame composed of an upper and a lower member, said lower member being provided with two upwardly extending integral bolster-guiding columns, one of said members being provided with integral brake-hanger brackets, and the upper member being bolted to the ends of the lower member and also to the upper ends of said columns; substantially as described.

5. A car truck side frame comprising an upper and a lower member; said lower member being adapted to support the truck springs and having elevated ends to rest upon the journal boxes of the truck and being provided with a pair of upwardly extending columns, integrally joined to said member at their lower ends only; and said upper member being bolted to the ends of said lower member and to the upper ends of said columns and depending between said columns; substantially as described.

6. A car truck side frame comprising an upper and a lower member; said lower member having ends adapted to rest upon the journal boxes of a truck and being, provided with columns, integrally joined to said lower member at their lower ends only; said upper member being secured to the ends of said lower member and to the upper ends of said columns and provided with shoulders engaging said upper ends of said columns;, substantially as described.

7. A two-part side-frame for car trucks,

comprising a tension member provided with an integral spring seat and integral columns, and a compression member detachably secured upon and to the ends of said tension member and to the upper ends of said columns; substantially as described.

8. A car truck side-frame comprising an upper and a lower member, said lower member being provided with integral bolster columns and with inward projections adapted to receive the ends of the upper frame member, and said upper member being of less length than the lower member and secured on said projections and also to the upper ends of said columns; substantially as described.

9. The two-part side-frame comprising a tension member having a depressed middle portion and raised ends and provided with bolster columns integrally joined thereto at their lower ends only, said member having recesses and shoulders near its ends, in combination with a compression member secured to the upper ends of said columns and having its ends secured in abutment with the shoulders on the ends of the tension member; substantially as described.

10. A two-part cast steel side-frame for trucks, said frame comprising a main lower member having ends to rest on the tops of journal boxes, bolster columns integrally joined to said lower member at their lower ends only, an upper member secured to the ends of said lower member and to the upper ends of said columns, and brake-hanger brackets integral with said upper member; substantially as described.

In testimony whereof, I have hereunto set my hand, this 1st day of November 1906, in the presence of two subscribing witnesses.

ARTHUR LIPSCHUTZ.

Witnesses:
CHARLES GILBERT HAWLEY,
M. SIMON.