No. 721,715. PATENTED MAR. 3, 1903.

G. B. MALTBY.

CAR TRUCK.

APPLICATION FILED NOV. 5, 1902.

NO MODEL. 2 SHEETS—SHEET 1.

FIG. 1.

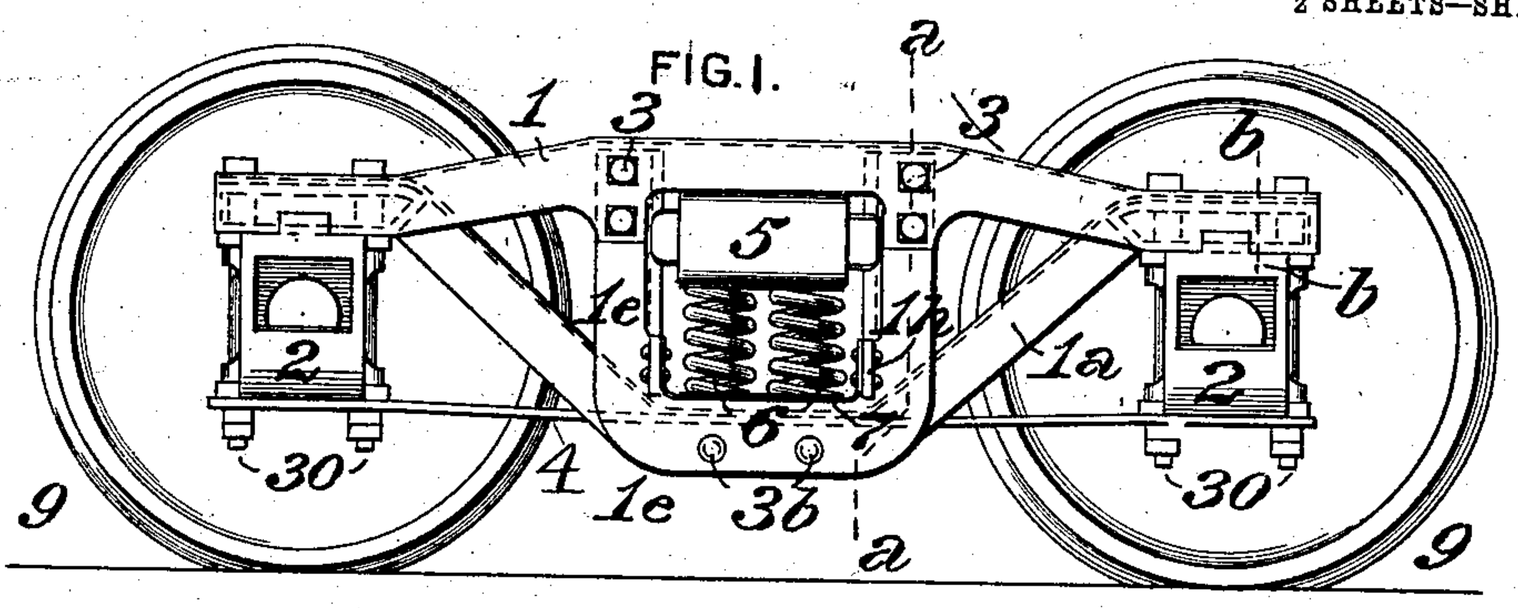


FIG. 2.

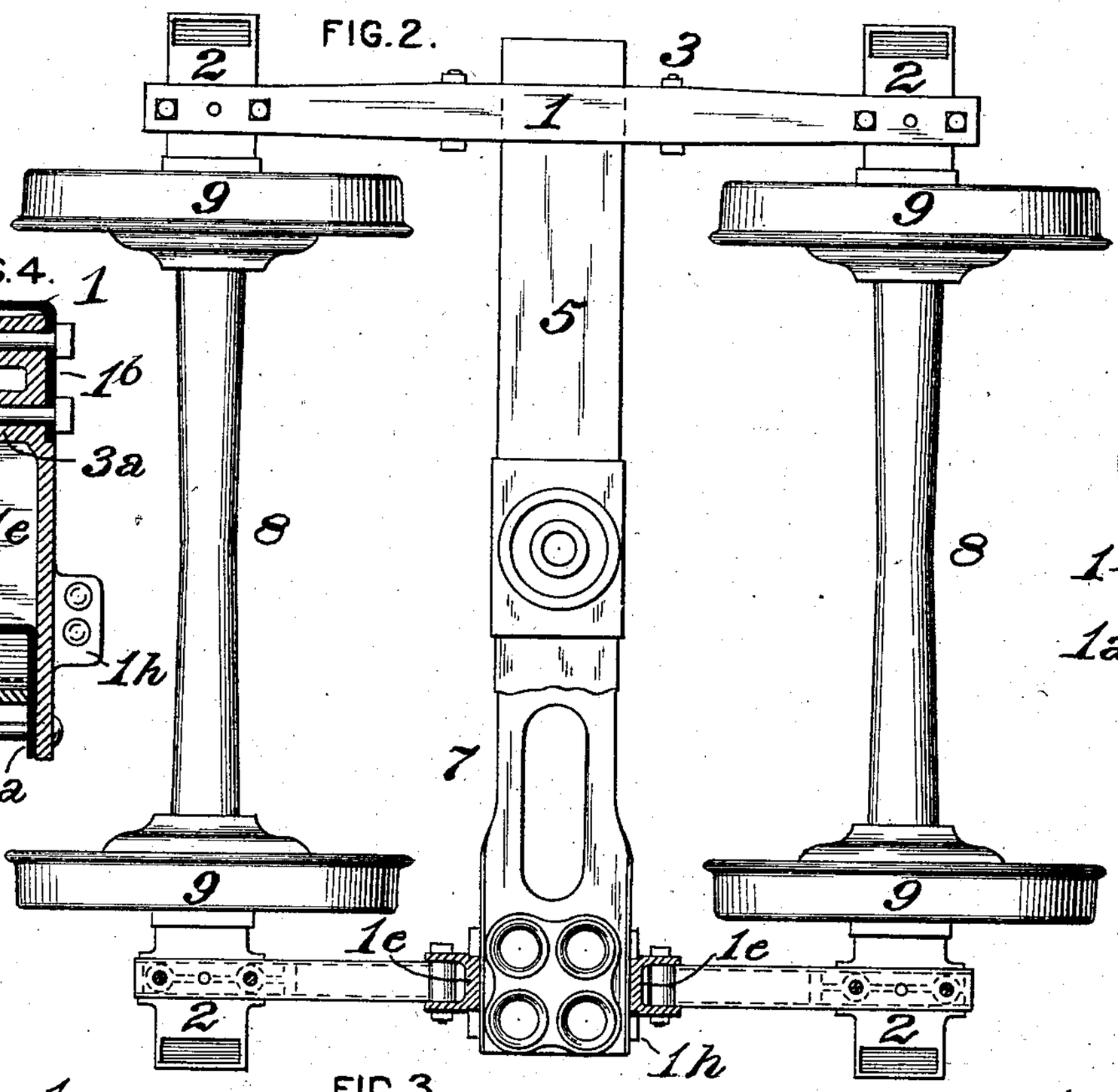


FIG. 4.

FIG. 5.

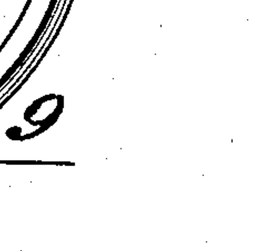
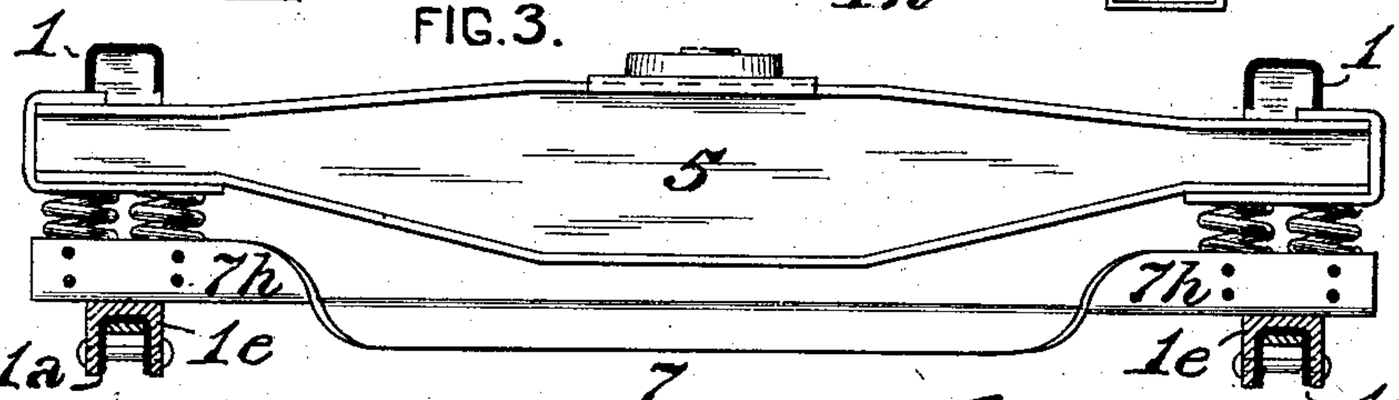


FIG. 3.



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No. 721,715. PATENTED MAR. 3, 1903.

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CAR TRUCK.

APPLICATION FILED NOV. 5, 1902.

NO MODEL. 2 SHEETS—SHEET 2.

FIG. 6.

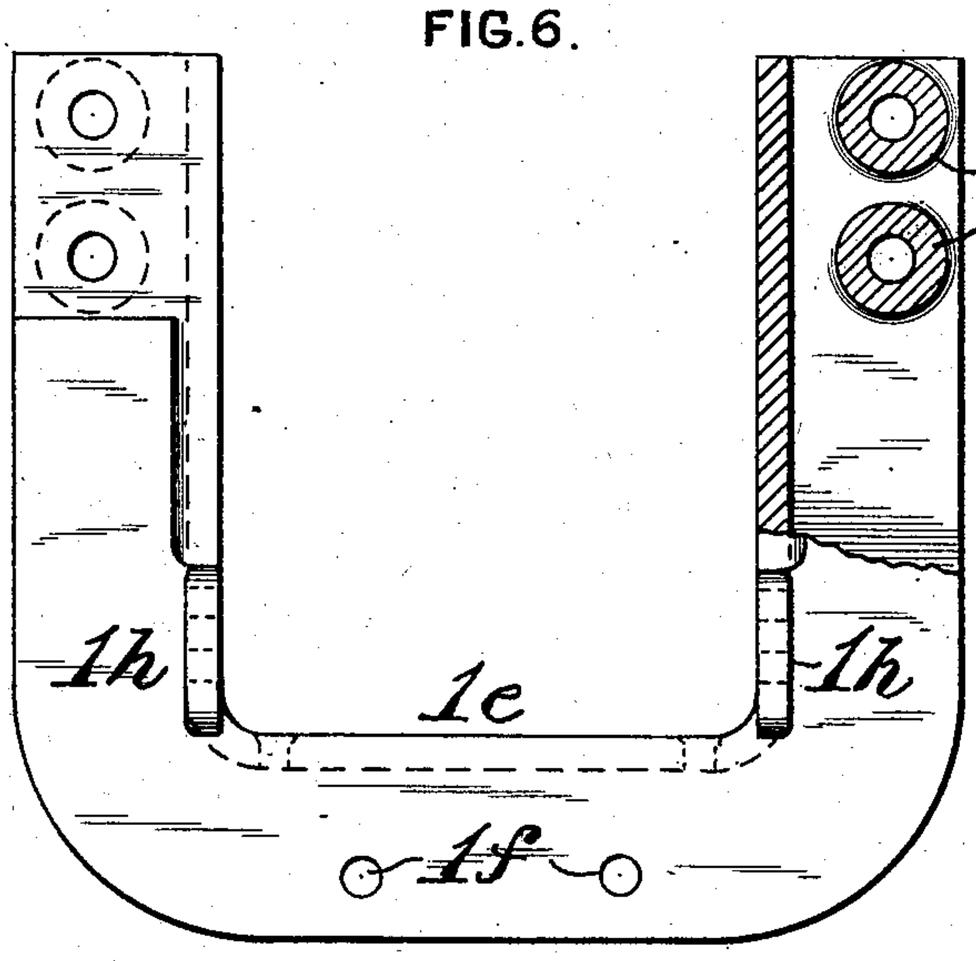


FIG. 8.

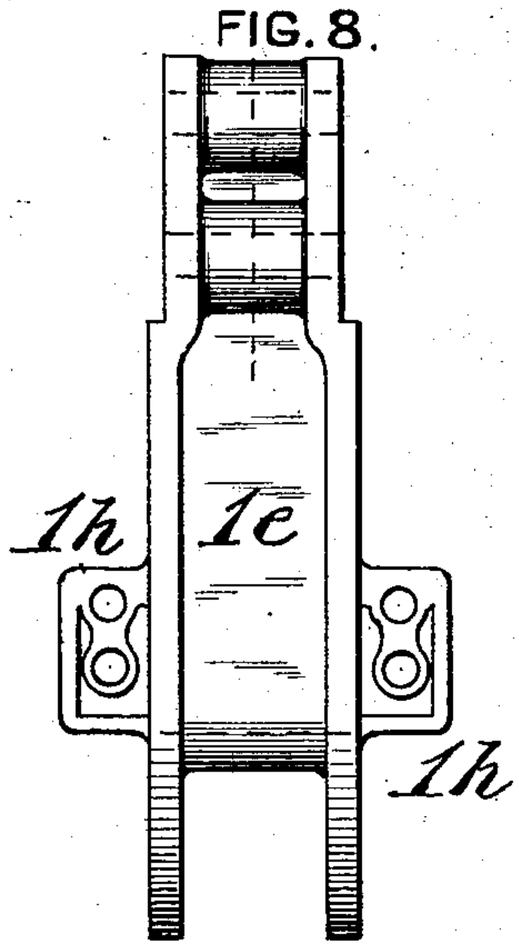


FIG. 7

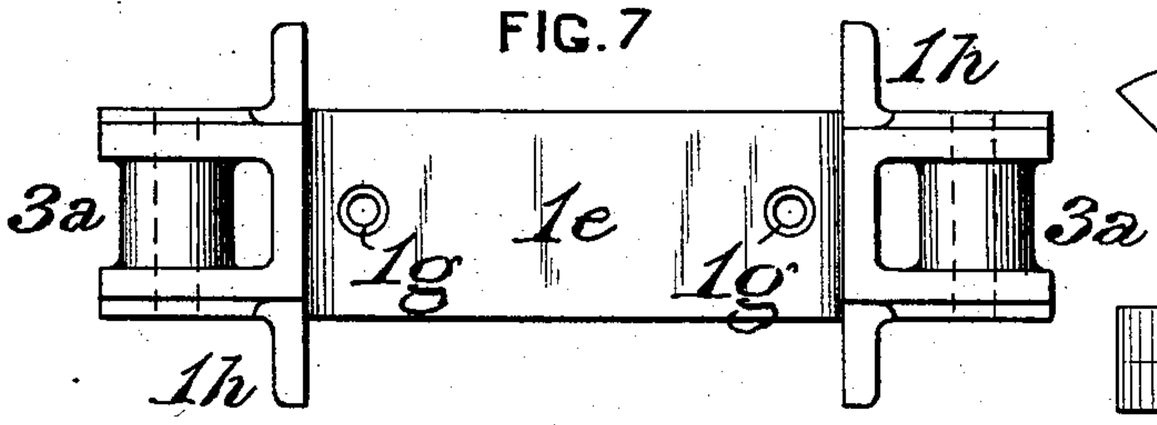


FIG. 11

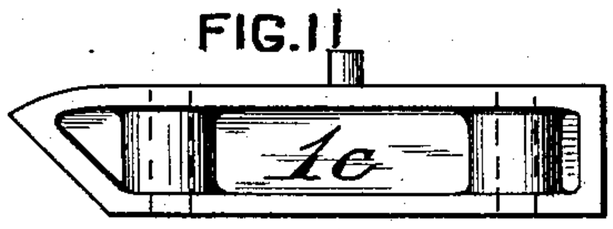


FIG. 12.

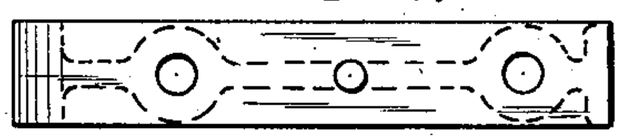


FIG. 9.

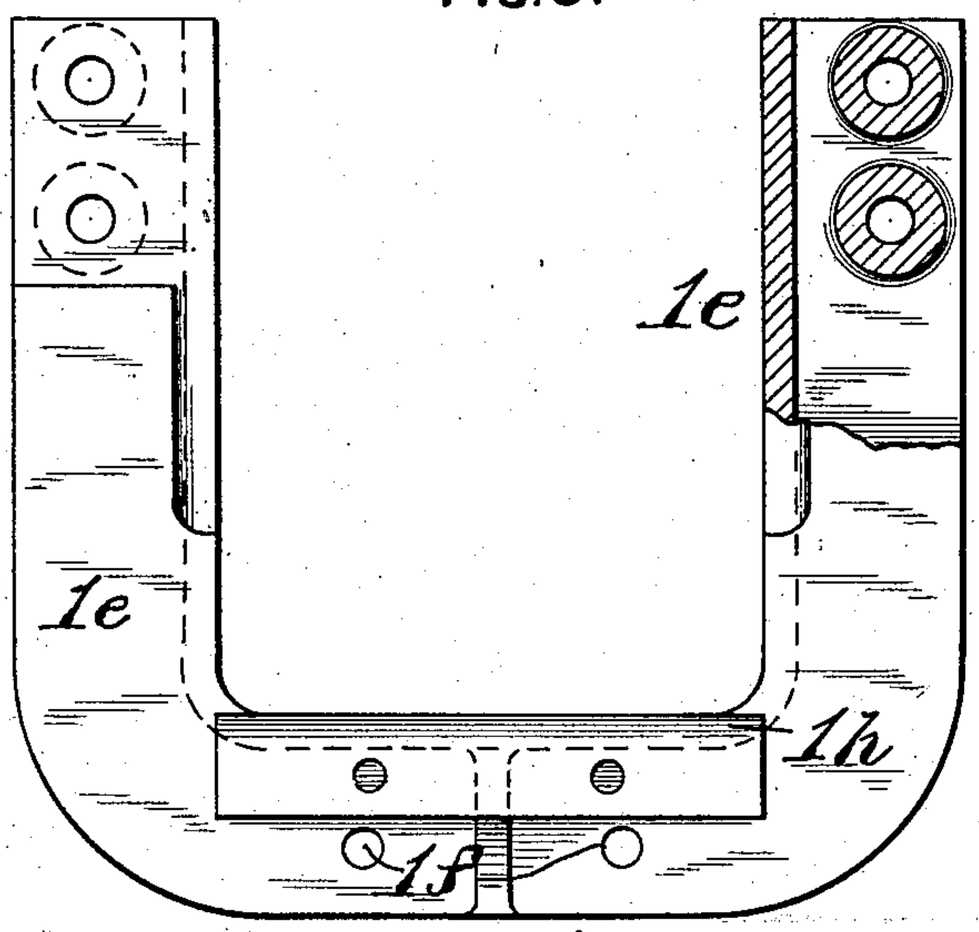
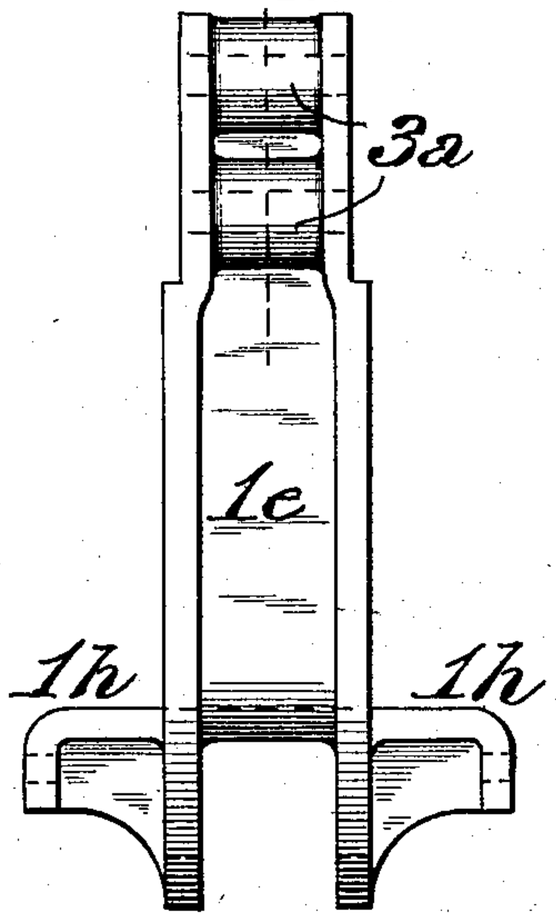


FIG. 10. 1c



1e

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UNITED STATES PATENT OFFICE.

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CAR-TRUCK.

SPECIFICATION forming part of Letters Patent No. 721,715, dated March 3, 1903.

Application filed November 5, 1902. Serial No. 130,140. (No model.)

To all whom it may concern:

Be it known that I, GEORGE B. MALTBY, of Saginaw, in the county of Saginaw and State of Michigan, have invented a certain new and useful Improvement in Car-Trucks, of which improvement the following is a specification.

My present invention relates to car-trucks of the general class or type of that set forth in Letters Patent of the United States No. 684,817, granted and issued to Broderick Haskell, under date of October 22, 1901; and its object is to provide improved means for connecting the compression and tension members of the side frames of the truck and for guiding the bolster without the use of separate bolster-guides and column-bolts.

The improvement claimed is hereinafter fully set forth.

In the accompanying drawings, Figure 1 is a side view in elevation of a car or tender truck, illustrating an embodiment of my invention; Fig. 2, a plan or top view of the same, the lower portion indicating the arch-bar and part of the bolster as removed, and showing the bolster-guide in horizontal section; Fig. 3, a side view in elevation of the bolster and spring-plank, with the side frames of the truck in transverse section; Figs. 4 and 5, transverse sections, on an enlarged scale, through one of the side frames on the lines *a a* and *b b*, respectively, of Fig. 1; Fig. 6, a front view, on an enlarged scale and partly in section, of the bolster-guide; Fig. 7, a plan or top view of the same; Fig. 8, a side view of the same; Fig. 9, a front view, partly in section, of a bolster-guide, illustrating a modification in the detail of the spring-plank-connecting flanges; Fig. 10, a side view of the same; Fig. 11, a side view of a filling-block; and Fig. 12, a plan or top view of the same.

In the practice of my invention I provide a truck-frame, each side of which comprises an upper compression member or arch-bar 1 and a lower tension member or inverted-arch bar 1^a, each of which bars is formed of sheet or plate metal bent or pressed into U or channel section. The relation and inclination of the horizontal and inclined portions of the bars 1 and 1^a are substantially the same as in trucks of the Master Car-Builders' type, and the flanges or vertical members of each bar are turned downwardly. One of said bars, in this instance the arch-bar 1, is made wider at its ends than the other, so that the horizontal end portions of the latter fit within the corresponding portions of the former, as shown in Figs. 1 and 5.

A block 1^e, of U shape as a whole, and whose members are also of U or channel section—that is to say, formed of a body of metal provided with continuous lateral flanges—which block is preferably made of cast malleable iron or steel and performs the combined functions of a bolster-guide and a connecting-piece for the compression and tension members, is fitted at the upper ends of its vertical members in each side frame between downwardly-depending extensions 1^b, which are formed integral with the arch-bar 1 at each end of the central horizontal portion thereof and is firmly secured to said extensions by connecting bolts or rivets 3, passing through sockets 3^a in the casting 1^e. The inner faces of the vertical members of the U-shaped castings 1^e stand at a proper distance apart to admit between them the bolster 5, which is supported by springs 6 upon a spring-plank 7 in the ordinary manner, and said inner faces are flat in order to properly guide the bolster in its vertical movements. The horizontal members of the U-shaped castings 1^e fit over and are supported on the inverted arch-bars or tension members 1^a, and in order to prevent vibration are secured thereto by rivets 3^b, passing through holes 1^f in the lower side flanges of the castings 1^e. They may also be secured to the tension members by vertical rivets passing through holes 1^g in the lower bodies of the castings 1^e and through the pedestal tie-bars 4.

As shown in Figs. 1, 2, 4, 6, 7, and 8, the vertical members of the bolster guide-castings 1^e are provided with lateral vertical flanges 1^h, to which the spring-plank is connected by bolts or rivets passing through adjoining upturned flanges 7^h at and near the ends of the spring-plank. If preferred, the flanges 1^h may, as shown in Figs. 9 and 10, project horizontally from and in line with the bodies of the horizontal members of the castings 1^e, so that the body of the spring-plank may rest at its ends on and be secured to said flanges

in the manner indicated in Letters Patent No. 684,817 aforesaid.

As before mentioned, the horizontal end portions of the arch-bars and inverted arch-bars overlap or are fitted one within another, and filling-blocks 1^c, which are preferably malleable-iron castings, are inserted in the spaces within said horizontal end portions and interposed between the tension member or inverted arch-bar and the journal-boxes, thus bringing the strain of the load directly on the filling-blocks at points where the greatest weight is applied, and where, consequently, the greatest amount of strength is required. The arch-bars and inverted arch-bars are connected, adjacent to their ends, one to the other and to the journal-boxes 2 by journal-box bolts 30, which pass through sockets in the arch-bars, inverted arch-bars, filling-blocks, journal-boxes, and pedestal tie-bars 4 and are fitted with nuts which bear on the lower sides of the pedestal tie-bars. The journal-boxes are, as usual, provided with proper journal-bearings for the axles 8, on which the wheels 9 of the truck are secured.

In addition to their functions of acting as bolster-guides and integral connecting members for the arch-bars and inverted arch-bars the U-shaped castings 1^c afford facilities for the attachment of transoms of any of the various known forms by which the opposite side frames of the truck may be connected in the ordinary manner.

It will be seen that under the construction above described a firm connection of the compression and tension members is provided, the bolster is effectively guided, and the long and heavy column-bolts, which are required with the independent columns or bolster-guides ordinarily employed, are dispensed with.

I claim as my invention and desire to secure by Letters Patent—

1. In a car-truck, the combination of an arch-bar of U or channel section, an inverted arch-bar of similar section, a U-shaped block having internal vertical faces which form guiding-surfaces for a bolster, and continuous lateral flanges which fit between the flanges of the arch-bar and outside of the flanges of the inverted arch-bar, and having the horizontal portion of its body resting on the inverted arch-bar, and transverse connections securing said block to the arch-bar.

2. In a car-truck, the combination of an arch-bar of U or channel section, an inverted arch-bar of similar section, a U-shaped block having internal vertical faces which form guiding-surfaces for a bolster, and continuous lateral flanges which fit between the flanges of the arch-bar and outside of the flanges of the inverted arch-bar, and having the horizontal portion of its body resting on the inverted arch-bar, transverse connections securing said block to the arch-bar, and connections independently securing said block to the inverted arch-bar.

3. In a car-truck, the combination of an arch-bar of U or channel section, having extensions depending downwardly from its middle portion, an inverted arch-bar of similar section, a U-shaped block having internal vertical faces which form guiding-surfaces for a bolster, and continuous lateral flanges which fit between the downward extensions of the arch-bar and outside of the flanges of the inverted arch-bar, and having the horizontal portion of its body resting on the inverted arch-bar, and transverse connections securing said block to the downward extensions of the arch-bar.

4. In a car-truck, a side frame comprising a bent or pressed metal arch-bar, of U or channel section, a bent or pressed metal inverted arch-bar of similar section, end connections for said bars, a U-shaped block having continuous lateral flanges interposed between the flanges of the arch-bar at its middle portion and fitting against the outside of the flanges of the inverted arch-bar, the horizontal portion of the body of the block resting on the middle portion of the inverted arch-bar, and transverse connections securing the flanges of said block to the arch-bar.

5. In a car-truck, a block having a U-shaped body provided with continuous lateral flanges, the vertical members of the body having internal faces which form guides for a truck-bolster and the horizontal member being adapted to rest upon a tension member of a truck, and the lateral flanges being perforated for the reception of transverse connections to a compression member of a truck.

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Witnesses:
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JAMES COX.