

A. K. MANSFIELD.

CAR TRUCK.

(Application filed June 10, 1899.)

(No Model.)

2 Sheets—Sheet 1.

FIG. 1.

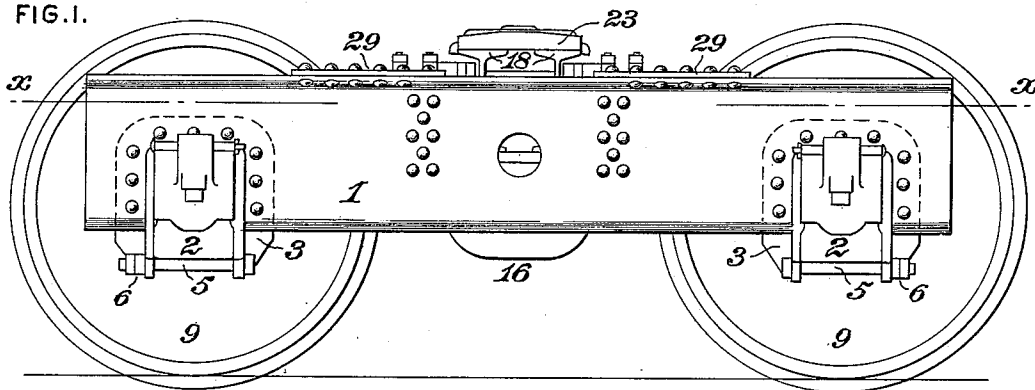
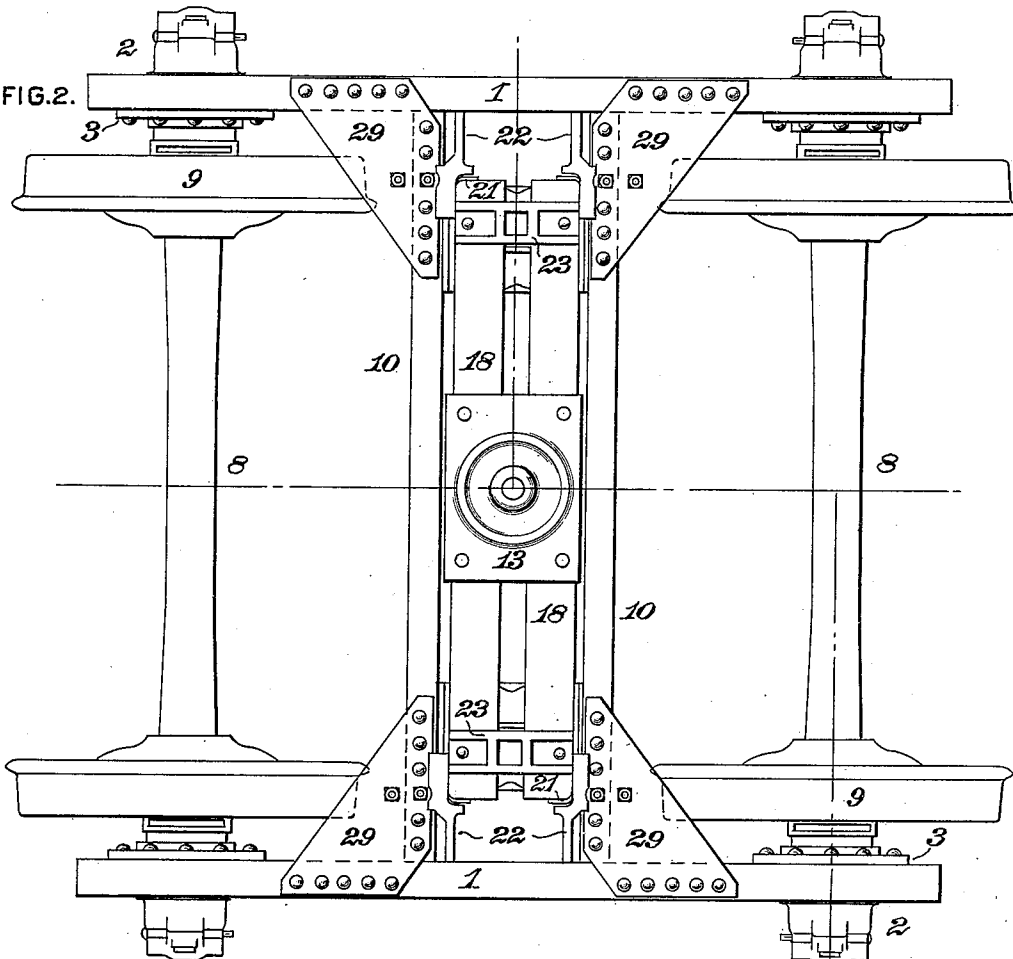


FIG. 2.



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2 Sheets—Sheet 2.

FIG. 3.

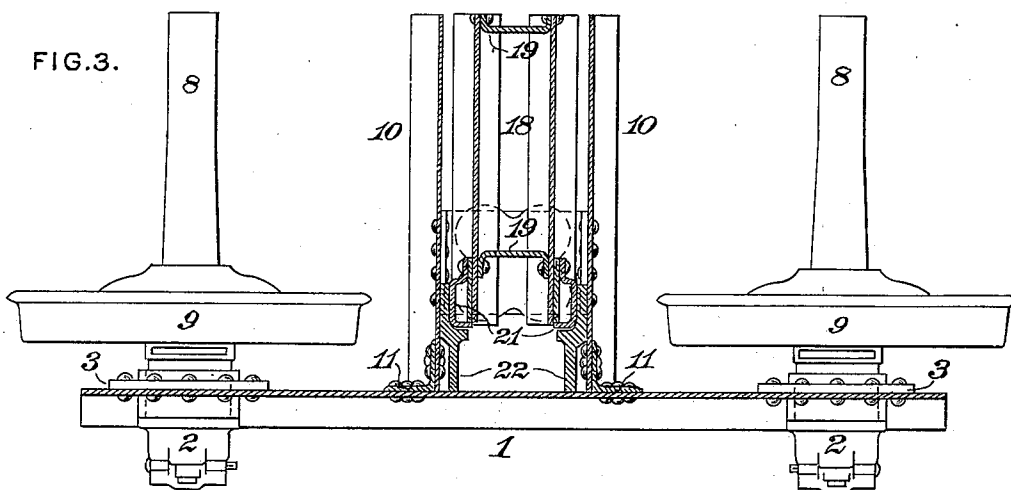


FIG. 4.

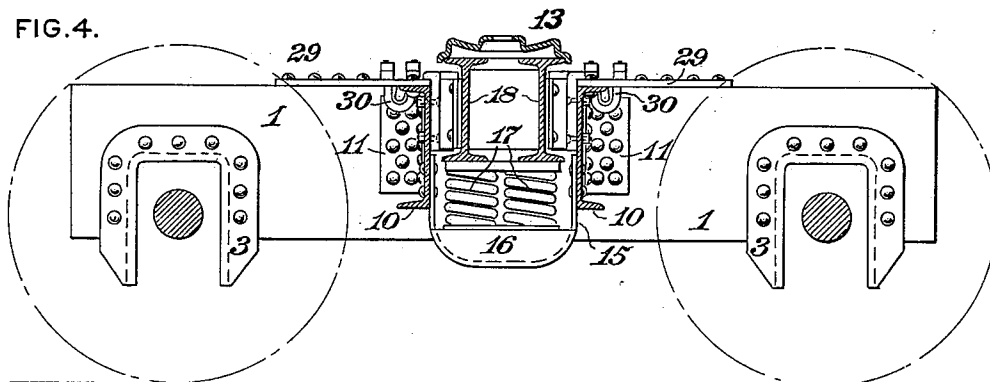
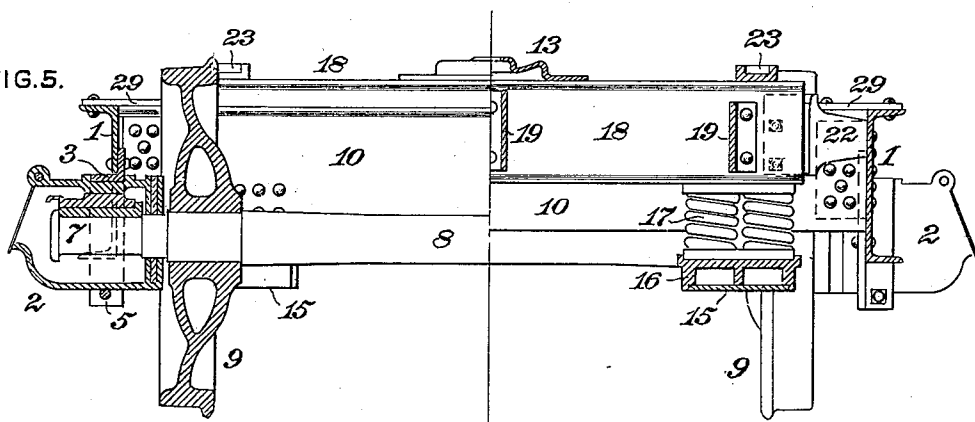


FIG. 5.



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UNITED STATES PATENT OFFICE.

ALBERT K. MANSFIELD, OF SALEM, OHIO, ASSIGNOR OF ONE-HALF TO
SAMUEL M. FELTON, OF CHICAGO, ILLINOIS.

CAR-TRUCK.

SPECIFICATION forming part of Letters Patent No. 650,511, dated May 29, 1900.

Application filed June 10, 1899. Serial No. 720,036. (No model.)

To all whom it may concern:

Be it known that I, ALBERT K. MANSFIELD, of Salem, in the county of Columbiana and State of Ohio, have invented a certain new and useful Improvement in Car-Trucks, of which improvement the following is a specification.

My present invention is an improvement upon that for which Letters Patent of the United States No. 545,409 were granted and issued to myself and Samuel M. Felton as my assignee under date of August 27, 1895.

The object of my invention is to provide a car-truck which shall embody the essential features of advantage of that set forth in said Letters Patent and shall present further advantages in the direction of simplification, increased strength, and relief of important members from destructive wear.

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; Fig. 3, a half horizontal section at the line *xx* of Fig. 1; Fig. 4, a vertical longitudinal central section; and Fig. 5, a vertical transverse section, the left-hand half being taken in the plane of one of the axles and the right-hand half in the central plane of the truck.

In the practice of my present invention the two side frame members 1 1 of the truck are formed of straight lengths of channel-bars, preferably of steel, each of which is recessed on its under side for about one-half its height near each of its ends to receive the axle-boxes 2 2 and stands in the frame with its flanges on the outside thereof. The axle-boxes are fitted in pedestals 3, each formed of an angle-bar of L section commercial shape bent into U form and riveted to one of the side frame members 1, around an axle-box recess thereof, so as to encircle the axle-box on its top and sides. One of the flanges of each pedestal abuts against the inner side of the frame member 1, to which it is connected, and the other passes through the axle-box recess, thereby presenting a plane unbroken bearing on three sides of the axle-box, which is

held in position with the capacity of ready removal and replacement by a bolt 5, passing through the lower portion of the pedestal and provided with a nut 6. The axle-boxes 2 are preferably of the Master Car-Builders' standard construction and carry in the usual manner the journal-bearings 7 of the axles 8, on which the wheels 9 are secured.

The side frame members 1 are connected by transoms 10, each of which is preferably a channel-bar of steel cut to proper length, with the ends of both its upper and its lower flange flush with those of its web and secured at its opposite ends by angle-plates 11 and rivets to the side frame members. The tops of the transoms 10 are set flush with those of the side members, and they are located at a sufficient distance apart to admit of the interposition of spring-supports. In order to resist the action of force tending to move the truck-frame out of square, the transoms are connected to the side members by flat gussets 29 of substantially triangular form, which fit on and are riveted to the top flanges of the transoms and side members. Each of the gussets 29 extends outwardly or in the direction of the adjacent axle from the transom to which it is connected and does not project over the space between the transoms, thereby permitting chafing-castings, presently to be described, to be fixed to the inner sides of the transoms.

The employment of channel-bars as side members presents in practice the advantageous feature of enabling the tops of the transoms to be brought level with them and the end connections of the transoms and side members to be stiffened by gussets, as above described, without cutting away the flange of either the bolster or the side member, as also of admitting of the application of a pedestal in a single piece, thereby simplifying the construction and providing a continuous surface for the reception of the axle-box.

The bolster 18 is, as in Letters Patent No. 545,409, aforesaid, carried upon springs 17, resting in spring seats or bearings 16, the bottoms of which are curved to fit in spring-supports 15, each of which is a continuous plate of metal bent into substantially U form, so as to avoid angles between its sides and bot-

tom, and located between the transoms 10 entirely clear of the side members and at such distance therefrom as will comport with the convenient insertion and removal of the
 5 springs. The spring-supports 15 are secured by rivets passing through their vertical sides to the webs of the transoms 10, and the springs 17, which in this instance are of the helical type, rest in recesses in the upper faces
 10 of the spring seats or bearings 16.

The bolster 18, which is supported at or near its ends on the springs 17 and fits freely between the sides of the spring-supports 15, is composed of two metal beams, preferably
 15 steel I-beams, as shown, which are set parallel and are connected at or near their ends and middle portions by interposed spacers 19 in the form of plates bent to present two end flanges, to which the bolster-beams are connected by rivets. A chafing-plate 21, which
 20 is bent into such form as to present an end and a side bearing-surface and a connecting-flange, is riveted to each end of each of the bolster-beams, and chafing-castings 22, having
 25 bearing-surfaces adapted, respectively, to abut against the end and the side bearing-surfaces of the adjacent chafing-plates, are riveted to the inner sides of the transoms 10. By this construction chafing-surfaces are provided in both horizontal directions, and if the
 30 chafing-plates become unduly worn they may be readily removed and new ones substituted, so as to relieve the bolsters and transoms from destructive wear, a feature which is of material importance in practice.
 35

A center plate 13 of any suitable and preferred construction is secured to the upper flanges of the bolster-beams and serves to receive a center plate on the car-body in the
 40 usual manner, and side bearing-plates 23 are riveted to the upper flanges of the bolster-beams at a suitable distance from the ends of the bolster.

The truck is in practice provided with a
 45 suitable brake apparatus of any preferred construction, which may be suspended on eyes or staples 30, connected to the gussets 29 or otherwise in the discretion of the constructor.

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

1. In a car-truck, the combination, substantially as set forth, of two channel-bar side frame members, having their flanges turned outwardly, transoms having upper
 55 and lower flanges and connected at their ends to said side members, with both their webs and their upper and lower flanges abutting directly against the webs of the side members, and with their tops on a level with the
 60 tops thereof, and flat gussets, each abutting against and riveted to the upper flanges of a side frame member and of one of the transoms, said gussets projecting only outwardly from the transoms and having a clear space
 65 between their inner sides.

2. In a car-truck, the combination, substantially as set forth, of two metal-beam side frame members, two transom-beams, connected at their ends thereto, two metallic bolster-beams supported between the transom-
 70 beams, chafing-plates secured to the ends of the bolster-beams and having end and side bearing-surfaces, and chafing-castings secured to the transoms and having end and
 75 side bearing-surfaces adapted to abut against the corresponding surfaces of the chafing-plates.

3. In a car-truck, the combination, substantially as set forth, of two channel-bar
 80 side frame members, having their flanges turned outwardly, transoms having upper and lower flanges and connected at their ends to said side members, with both their webs and their upper and lower flanges abutting
 85 directly against the side members and with their tops on a level with the tops thereof, chafing-plates secured to the ends of the bolster-beams, chafing-castings secured to the inner sides of the transoms, and flat gussets,
 90 each abutting against and riveted to the upper flanges of a side member and of a transom and projecting only outwardly from the transom.

ALBERT K. MANSFIELD.

Witnesses:

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