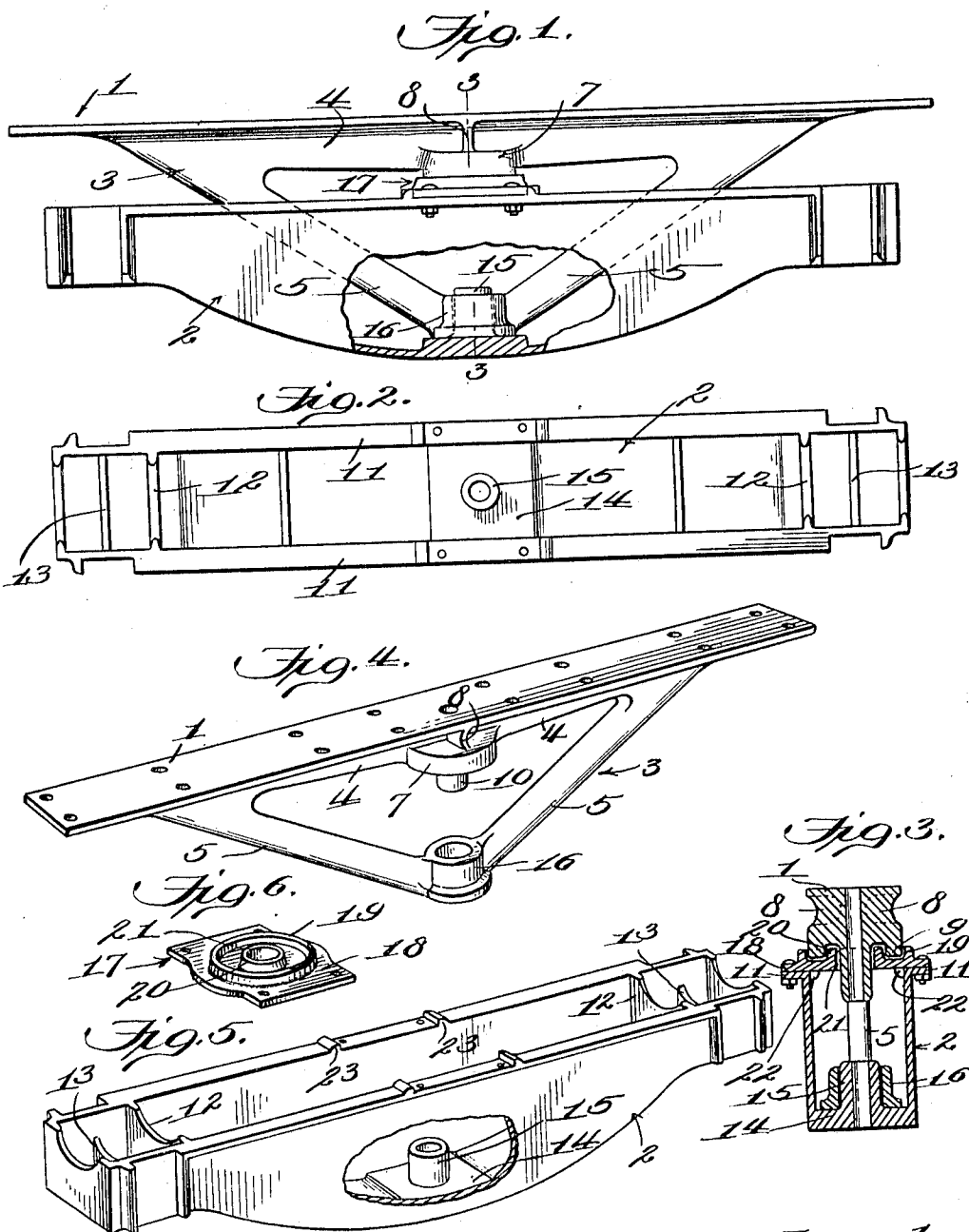


J. R. CARMER.  
BOLSTER CONSTRUCTION FOR RAILWAY CARS.  
APPLICATION FILED DEC. 3, 1910.

984,348.

Patented Feb. 14, 1911.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

JAMES R. CARMER, OF WILMINGTON, DELAWARE.

BOLSTER CONSTRUCTION FOR RAILWAY-CARS.

984,348.

Specification of Letters Patent.

Patented Feb. 14, 1911.

Application filed December 3, 1910. Serial No. 595,432.

*To all whom it may concern:*

Be it known that I, JAMES R. CARMER, a citizen of the United States, residing at Wilmington, in the county of Newcastle and State of Delaware, have invented new and useful Improvements in Bolster Construction for Railway-Cars, of which the following is a specification.

The present invention comprehends the improvement, in certain respects hereinafter enumerated, of the constructions shown and described in my two prior patents, numbered 970,302 and 970,303, dated September 13, 1910, a structural embodiment of said invention being illustrated in the accompanying drawings, wherein—

Figure 1 is a side elevation of the improved structure complete, a portion of the truck bolster being broken away; Fig. 2 is a plan view of said truck bolster; Fig. 3 is a vertical section taken on the line 3—3 of Fig. 1; Fig. 4 is a perspective view of the combined car bolster and truss; Fig. 5 is a perspective view of the truck bolster, the latter having one of its sides broken away in part; and Fig. 6 is a perspective view of the center plate carried by said truck bolster.

The improved bolster construction, as illustrated in said drawings, comprises, essentially, the car bolster 1, the truck bolster 2, and the interposed diagonal truss 3.

The car bolster 1 and the truss 3 are of integral formation, and are constituted by a single steel casting, the car bolster consisting merely of a flat oblong plate, on the under face of which there is formed a longitudinal strengthening rib 4 that connects the upper or divergent ends of the truss arms 5. Said arms extend to points adjacent the ends of the bolster plate, in order to prevent the latter from sagging, as in the patented constructions, and are enlarged or widened at their points of junction with the rib ends, to afford an increased supporting area, as will be understood.

Rib 4 is enlarged at its center to produce a centering member 7 which is connected with the bolster plate by the oppositely disposed webs 8. The annular outer flange 9 provided upon said centering member projects below the body thereof and also below the lower edge of the rib, the said body being formed with an integral pivot pin or lug 10 which, in turn, extends downwardly below flange 9 and is located concentrically

with respect to the latter and in spaced relation to the same.

The hollow truck bolster 2 has substantially the same shape as the corresponding bolsters shown in my earlier constructions, with the exception that its upper side edges are provided with supporting flanges 11 which project laterally outward therefrom, as shown in Figs. 2, 3 and 5. Said bolster is open-topped and is stiffened interiorly adjacent its ends by pairs of cross-plates 12 and 13 that are cut away at their upper edges to prevent their interference with the truss arms. Upon the central portion of the floor of this bolster there is formed a boss or heel plate 14 provided with an upstanding pivot pin or lug 15 located directly in alinement with the pin or lug 10 above referred to. The eye 16 at the junction of the lower ends of the truss arms rests upon heel 14 and fits loosely or pivotally upon pin 15.

Bolster 2 carries the centering member 17 complementary to member 7. Said member preferably comprises, as shown, a plate 18 having formed upon its upper face outer and inner concentric annular flanges 19 and 20, the space between said flanges being of sufficient size to receive therein the flange 9 of member 7. In like manner, the inner flange 20 of member 17 is received in the space between flange 9 and pin 10, the latter element projecting through the opening 21 formed in plate 18 and encircled or surrounded by flange 20. See Fig. 3. Plate 18 rests at its side edges upon the flanges 11 and is bolted thereto, as shown. To hold the plate in place against both lateral and longitudinal thrusts, it is provided upon its lower face with suitable depending lugs or projections 22 that are designed to contact against the inner faces of the adjacent side walls of bolster 2, while the flanges 11 are formed, in turn, with pairs of upstanding lugs or projections 23 which engage the adjacent end edges of said plate.

As in the patented structures, the employment of the angle truss has the effect of sustaining the car body centrally of the truck, and in consequence, of perfectly balancing the car, this being due to the symmetrical construction and arrangement of the truss arms. It is to be particularly observed, however, with reference to the present construction, that the car bolster and

the truss together form an integral element, being constituted by a single steel casting, as above stated. This construction has the important advantage over my earlier structures that it possesses an extreme degree of rigidity and strength, while at the same time its weight is reduced and the quantity of material proportionally decreased. It has, also, the further advantage that the pockets on the car bolster for the divergent ends of the truss arms, which constitute essential elements of my patented constructions, are omitted, thereby reducing the cost of manufacture of said bolster. Moreover, the elongation of the pin 10 on the upper centering member 7, and its extension through the opening 21 in the lower centering member 17, enable the king-bolt to be dispensed with.

I claim as my invention:

1. The combination, with an open-topped truck bolster having a pivot formed upon its floor; of a superposed car bolster operatively associated with the truck bolster; and an angle truss integrally connected with said car bolster and formed at its apex with an eye through which said pivot extends, said truss having the divergent ends of its arms joining said car bolster adjacent the ends of the latter, whereby the said car bolster ends are supported against sagging.

2. The combination, with an open-topped truck bolster having a pivot formed upon its floor; of a flat plate-like car bolster operatively associated with the truck bolster and having a longitudinal strengthening rib formed upon its under face; and an angle truss integrally connected with said car bolster and formed at its apex with an eye through which said pivot extends, the divergent ends of said truss arms being connected by said rib.

3. The combination of a truck bolster having an apertured centering member secured to its top; a superposed car bolster operatively associated with the truck bolster and provided with a centering member having an elongated depending pivot formed in-

tegral therewith and projecting through said aperture; and an angle truss connecting said bolsters, said truss being pivoted at the meeting ends of its arms to the floor of the truck bolster and having the divergent ends of its arms connected to the car bolster adjacent the ends of the latter.

4. The combination of a truck bolster having an apertured centering member secured to its top, and an upstanding pivot formed upon its floor; a superposed car bolster operatively associated with the truck bolster and provided with a centering member having an elongated depending pivot formed integral therewith and projecting through said aperture; and an angle truss integrally connected with said car bolster and formed at its apex with an eye through which said upstanding pivot extends.

5. The combination of a truck bolster having a centering member secured to its top, said member being provided with inner and outer upstanding concentric annular flanges arranged in spaced relation to each other, and with an aperture encircled by the inner flange; a superposed car bolster operatively associated with the truck bolster and provided with a centering member formed with a depending pivot pin and a depending annular flange encircling the same, said pin projecting below said depending flange and extending through said aperture, and said depending flange fitting in the space between said upstanding flanges; and an angle truss connecting said bolsters, said truss being pivoted at the meeting ends of its arms to the floor of the truck bolster and having the divergent ends of its arms connected to the car bolster adjacent the ends of the latter.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JAMES R. CARMER.

Witnesses:

ALTON C. PYLE,  
HARRY P. LAWRENCE.