No. 719,464. PATENTED FEB. 3, 1903.

J. M. HANSEN.

BOLSTER FOR HOPPER CARS.

APPLICATION FILED JUNE 9, 1902.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 1.

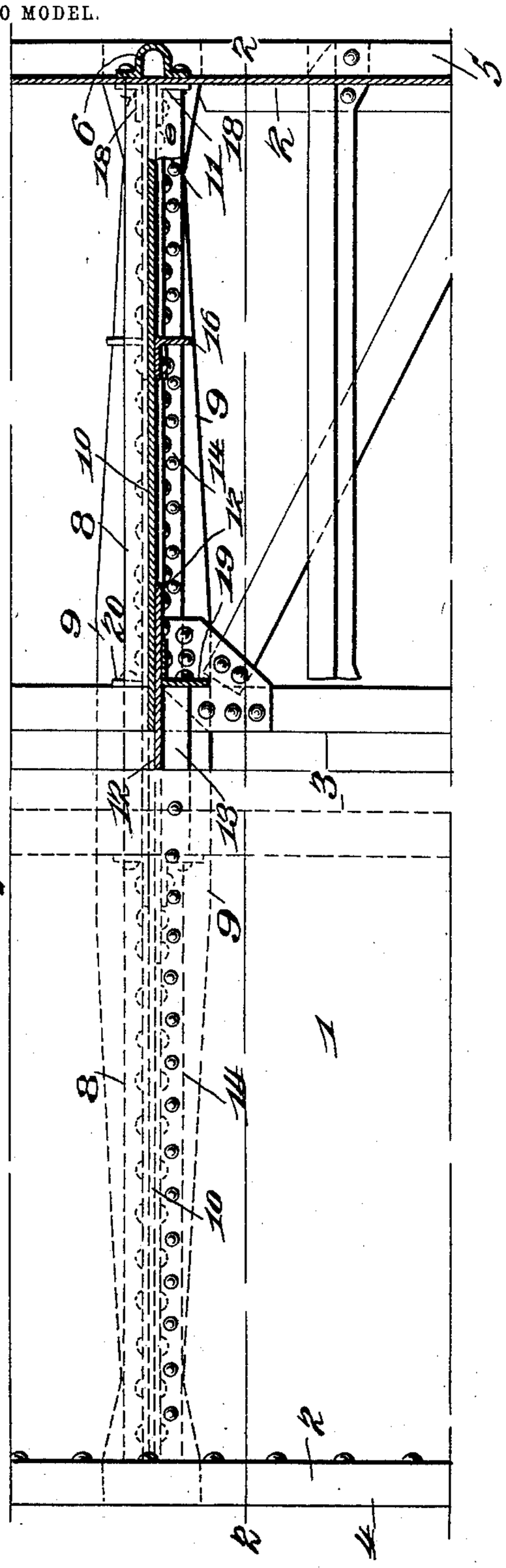


Fig. 4.

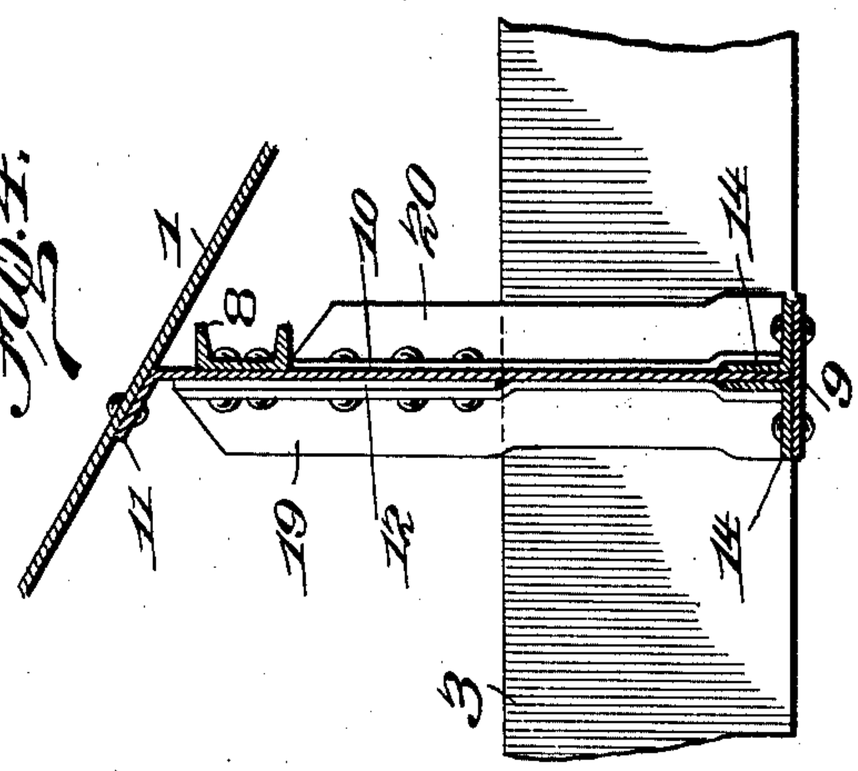
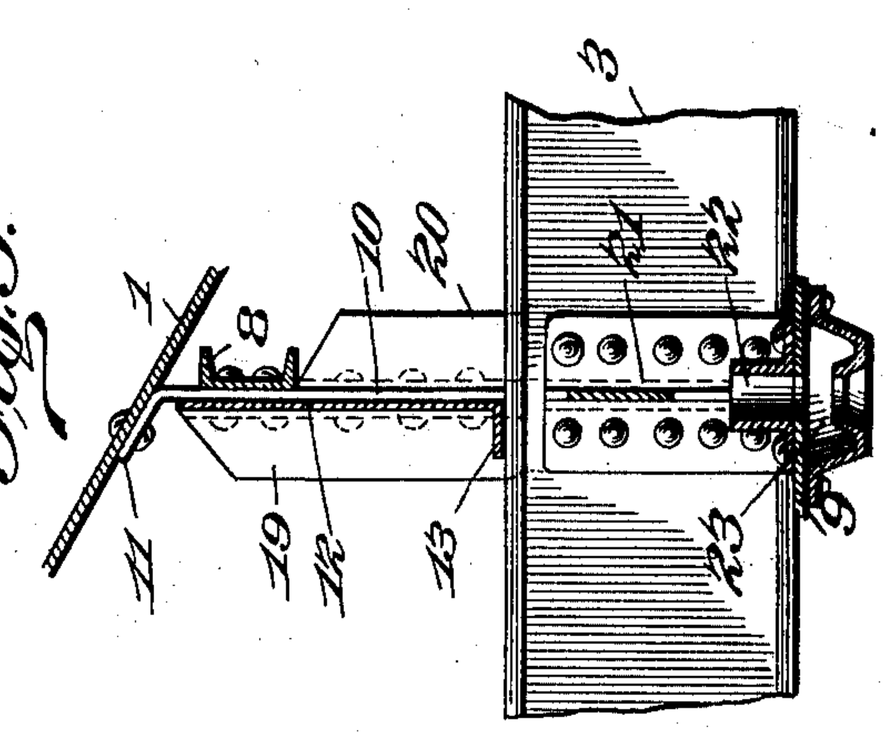


Fig. 2.



Witnesses

H. G. Dieterich

F. H. Winters

Inventor

John M. Hansen

By Kay & Totten

Attorneys

No. 719,464. PATENTED FEB. 3, 1903.

J. M. HANSEN.

BOLSTER FOR HOPPER CARS.

APPLICATION FILED JUNE 9, 1902.

NO MODEL. 2 SHEETS—SHEET 2.

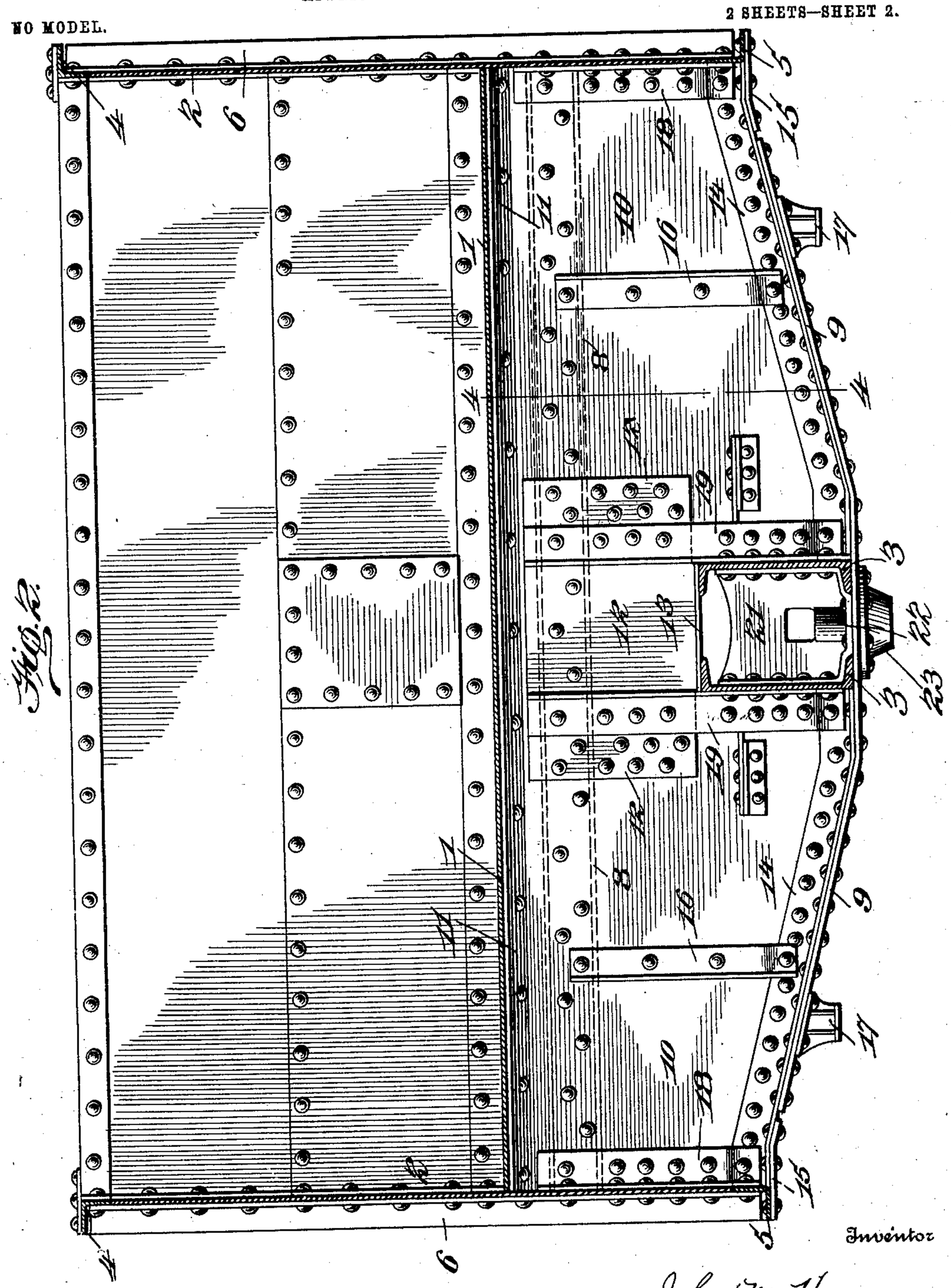


Fig. 2.

Witnesses
H. G. Dieterich
F. H. Winters

Inventor
John M. Hansen
By Kay & Totten
Attorneys

UNITED STATES PATENT OFFICE.

JOHN M. HANSEN, OF PITTSBURG, PENNSYLVANIA.

BOLSTER FOR HOPPER-CARS.

SPECIFICATION forming part of Letters Patent No. 719,464, dated February 3, 1903.

Application filed June 9, 1902. Serial No. 110,784. (No model.)

To all whom it may concern:

Be it known that I, JOHN M. HANSEN, a resident of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Bolsters for Hopper-Cars; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to metallic railway-cars, and more especially to the underframe thereof. Its object is to provide a bolster adapted especially for hopper-bottom cars having center sills only; and the improvement consists in details of construction hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a plan view, partly in section, of a portion of the car, the floor-plates being partially removed to expose the bolster. Fig. 2 is a transverse section of the car on the line 2 2, Fig. 1. Fig. 3 is a central transverse section of the bolster; and Fig. 4 is a section through the bolster on the line 4 4, Fig. 2.

My invention is shown applied to a hopper-bottom car having inclined floor-plates 1, side plates 2, and center sills 3. There are no side sills, as such; but the sides of the car are, in effect, plate-girders, which assist in carrying the load. The side plates 2 are provided with the top angle-rails 4, bottom angle-rails 5, vertical stakes 6, and vertical stiffening-angles, (not shown,) the whole forming a plate-girder. The center sills 3 are preferably channel-shaped structures, such as the rolled channel-beams shown, and placed, preferably, with their flanges projecting inwardly.

The bolster comprises a top or tension member 8, a bottom or compression member 9, and web-plates 10. The latter are two in number, one located on either side of the center sills and extending outwardly to the sides of the car and preferably tapered toward their outer ends, as shown, although this is not necessary. They extend a considerable distance above the center sills, as shown, and at their upper ends are provided with the inclined flanges 11, upon which the floor-plates rest and to which they are secured. The tension member 8 is a flanged shape, preferably a rolled channel, as shown, and is riveted to one face of the web-plates 10 some distance below the upper edge thereof and a considerable distance above the top of the center sills. The web-plates are connected to each other by means of a connecting-plate 12, riveted thereto on the face opposite the channel-bar 8 and preferably provided on its lower edge with the flange 13, which rests upon the center sills. The compression member 9 preferably is a flat plate and extends continuously underneath the center sills out toward but not entirely to the end of the bolster. It is secured to the bolster by being riveted to the horizontal flanges of angle-bars 14, whose vertical flanges are riveted to the lower edges of the web-plates 10. Beyond the ends of the compression member 9 are extension-plates 15, which form, in effect, a continuation of the compression member and project out beyond the ends of the bolster and serve as brackets for supporting the sides of the car. The web-plates 10 are stiffened by means of vertical angle-bars riveted thereto, two such vertical bars 18 being riveted to the ends of the web-plates, one on either face thereof, and have their free flanges projecting laterally and serving as a convenient means for connecting the side plates of the car thereto. Also riveted to the web-plates above or near to the side bearings 17 are the vertical stiffening-angles 16, and at the inner ends of the web-plates are riveted the vertical angle-bars 19 and 20, the former projecting upwardly for the full height of the web-plates and the latter projecting up only to the lower edge of the channel-bar 8. The laterally-projecting flanges of these angle-bars are riveted to the center sills. Between the center sills, in line with the web-plates 10, is the center brace 21, preferably formed of cast metal and having flanges whereby it is riveted to the center sills. It is provided with a central boss 22, which has a vertical opening for receiving the center pin. The center bearing-plate 23 is riveted to the compression member or cover-plate 9.

The construction of bolster described requires no special shapes, but is composed entirely of plates and rolled commercial steel, so that it is cheap of construction and serves not only as a body-bolster, but also as a support for the inclined floor of the car.

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

1. In a metallic car, the combination with a center sill, of a body-bolster comprising two web-plates one located on either side of the center sill and extending above the same, a flanged bar secured to one face of said web-plates above the center sill and forming the tension member, a tie-plate secured to the other face of the web-plate and extending over the center sill, and a compression member secured to the lower edges of said web-plates and extending continuously underneath the center sill.

2. In a metallic car, the combination with a center sill, of a body-bolster comprising two web-plates one on either side of the center sill and extending above the same, a flanged bar secured to one face of said web-plates above the center sill and forming the tension member, a tie-plate secured to the other face of the web-plates and provided at its lower edge with a flange which rests on the center sill, and a compression member secured to the lower edges of said web-plates and extending underneath the center sill.

3. In a metallic car, the combination with a center sill, of a body-bolster comprising two web-plates one located on either side of the center sill and extending above the same, a channel-bar secured to said web-plates above the center sill and forming the tension member, a compression member secured to the lower edges of said web-plates and extending underneath the center sill, and vertical stiffening-bars secured to the web-plates.

4. In a metallic car, the combination with a center sill, a body-bolster comprising two web-plates one located on either side of the center sill and extending above the same, a flanged bar secured to one face of said web-plates above the center sill and forming the tension member, vertical stiffening-bars riveted to said web-plates, those on the side of the tension-bar extending only to said bar and those on the other side extending to the top of the web-plates, and a compression member secured to the lower edges of said web-plates and extending underneath the center sill.

5. In a metallic car, the combination with the center sill and floor-plates, of a body-bolster comprising two web-plates one on either side of the center sill and extending above the same and having their upper edges provided with flanges for supporting the floor-plates, a flanged bar secured to one face of said web-plates above the center sill and forming the tension member, a tie-plate secured to the other face of the web-plates and extending above the center sill, and a compression member secured to the lower edges of said web-plates and extending underneath the center sill.

In testimony whereof I, the said JOHN M. HANSEN, have hereunto set my hand.

JOHN M. HANSEN.

Witnesses:
WM. BIERMAN,
ROBERT C. TOTTEN.