No. 720,246. PATENTED FEB. 10, 1903.

J. M. HANSEN.

BOLSTER FOR HOPPER CARS.

APPLICATION FILED JUNE 9, 1902.

NO MODEL. 2 SHEETS—SHEET 1.

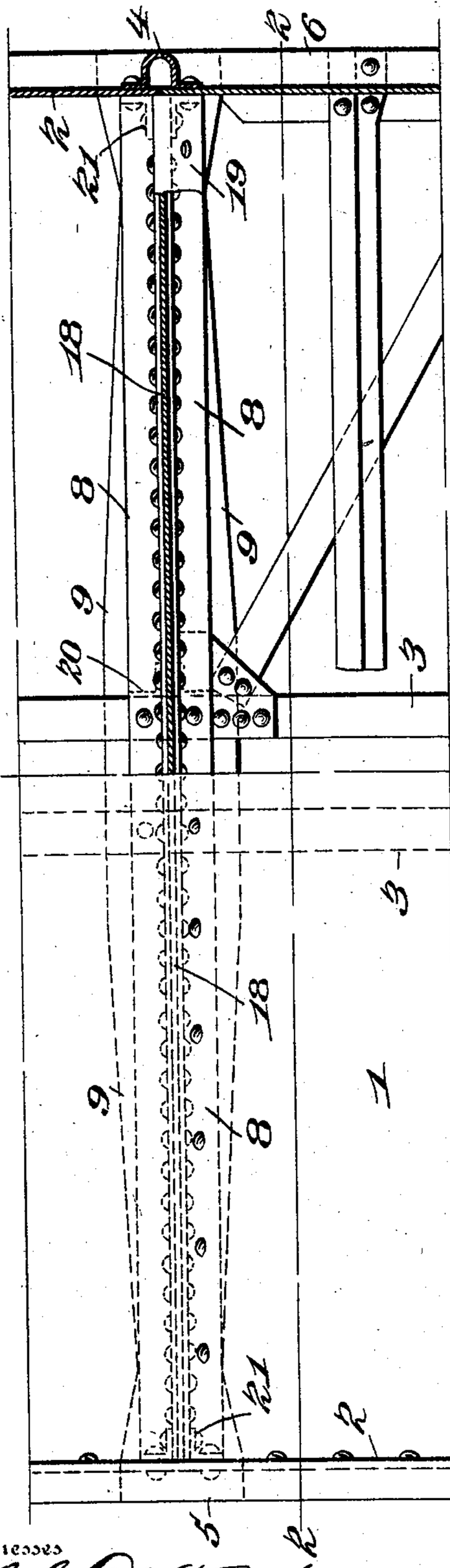


Fig. 1.

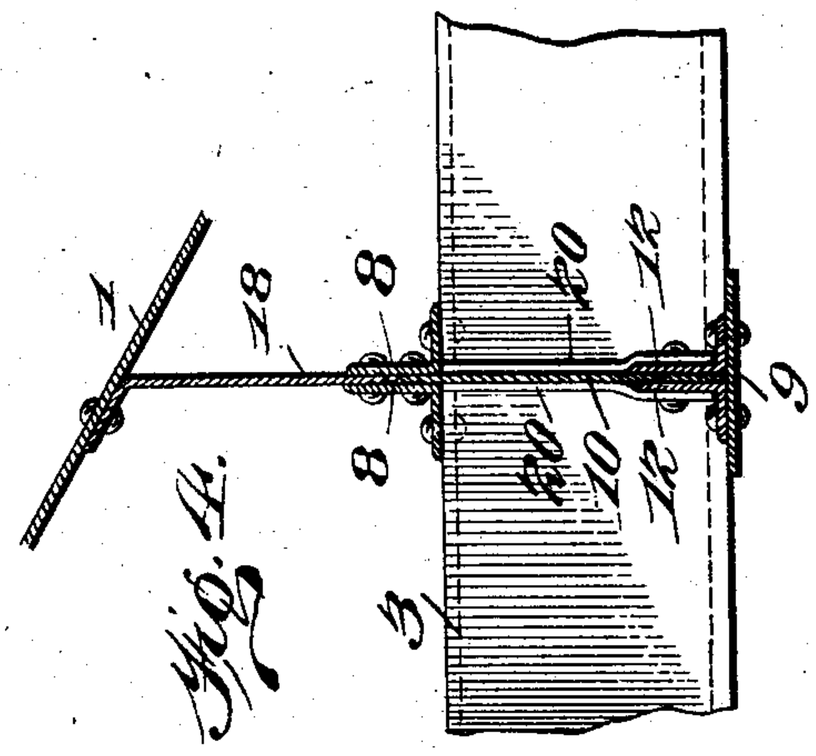


Fig. 4.

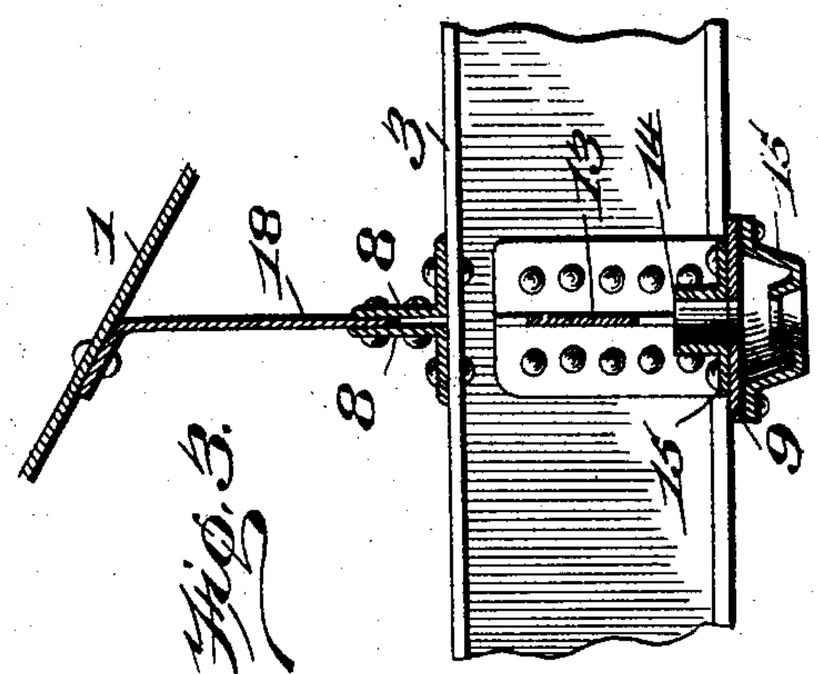


Fig. 3.

Witnesses
H. G. Dieterich
F. W. Winters

Inventor
John M. Hansen
By Kay & Totten
Attorneys

No. 720,246. PATENTED FEB. 10, 1903.

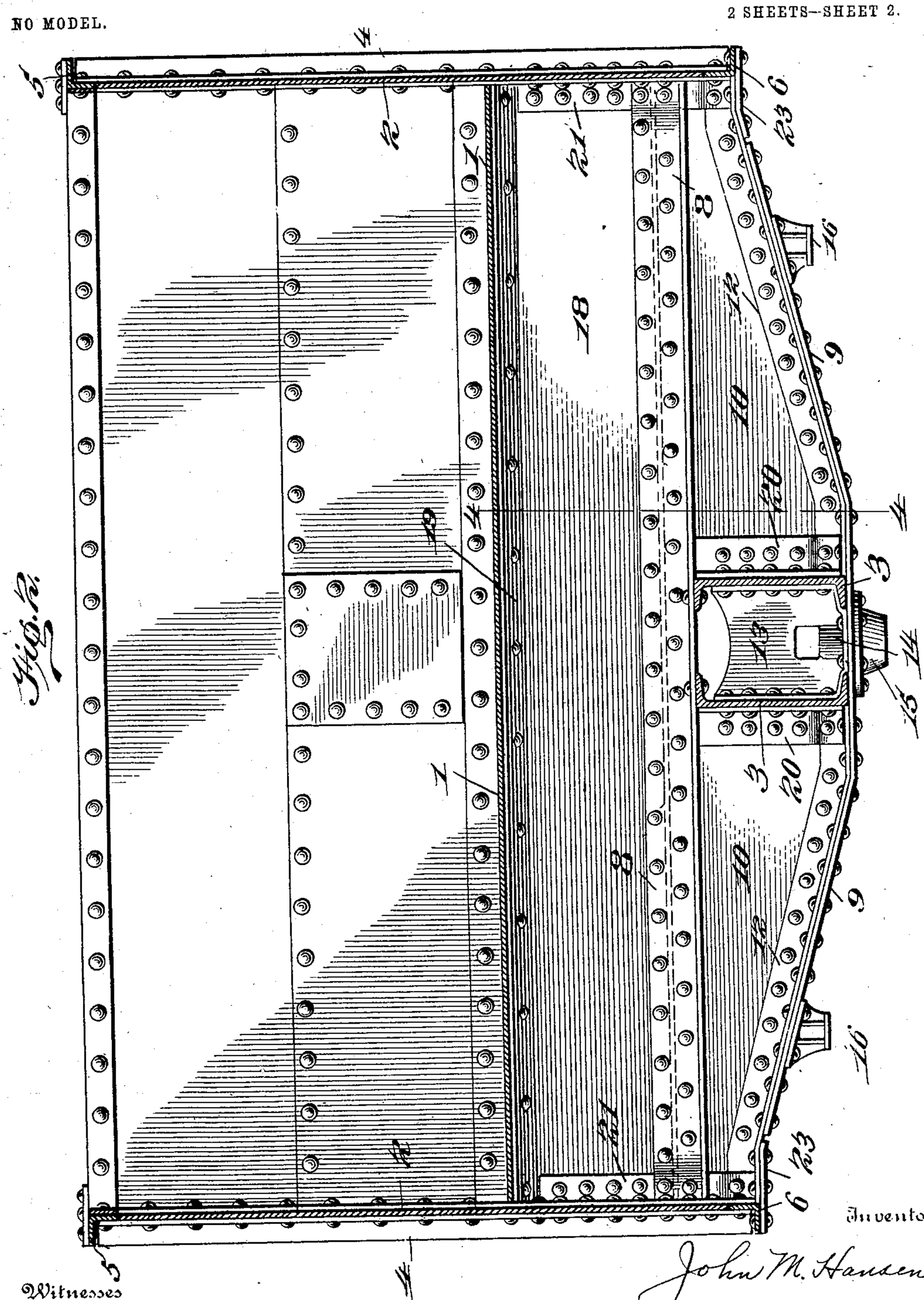
J. M. HANSEN.

BOLSTER FOR HOPPER CARS.

APPLICATION FILED JUNE 9, 1902.

NO MODEL. 2 SHEETS—SHEET 2.

Fig. 2.



Witnesses

H. G. Dieterich

F. W. Winters

Inventor

John M. Hansen

By Kay & Fillen

Attorneys

UNITED STATES PATENT OFFICE.

JOHN M. HANSEN, OF PITTSBURG, PENNSYLVANIA.

BOLSTER FOR HOPPER-CARS.

SPECIFICATION forming part of Letters Patent No. 720,246, dated February 10, 1903.

Application filed June 9, 1902. Serial No. 110,785. (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 a body-bolster construction adapted to hopper-cars having inclined floors.

The improvement consists in the details of construction hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a plan view, partly in section, of a portion of a car, showing the floor-plates partly removed. 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 body-bolster; and Fig. 4 is a section 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. The type of car illustrated has no side sills as such; but the side plates 2 are secured to each other by means of trough-shaped stakes 4 and are provided with the top angle-rails 5, bottom angle-rails 6, and vertical stiffeners, (not shown,) so as to form, in effect, plate-girders which assist in supporting the load.

The improved bolster comprises a tension member composed of two flanged bars 8, preferably angle-bars, extending transversely of the car from side to side and lying just above the center sills, a compression member comprising, preferably, a flat plate 9, extending underneath the center sills toward the sides of the car, and web-fillers 10, one on either side of the center sills and composed of flat plates suitably secured to the tension and compression members. These plates preferably are tapered from the center sills outwardly, as shown, and they are connected to the tension member by having their upper edges project between the vertical flanges of the bars 8, comprising the tension member, and riveted therebetween. They are secured to the compression member by having angle-bars 12 riveted to the lower edges thereof, one on either face thereof, to the horizontal flanges of which angle-bars the cover-plate 9 is riveted. The center sills are channel-shaped structures, such as the rolled channel-beams shown with their flanges preferably projecting inwardly, and the horizontal flanges of the bars 8 rest on and are riveted to the top flanges of the center sills. Between the center sills in line with the bolster members is the center brace 13, preferably of cast metal, provided with flanges whereby it is riveted to the center sills and provided with a central boss 14, having a vertical opening for receiving the center pin. The center bearing-plate 15 and side bearings 16 are riveted to the cover-plate 9.

Suitably secured to the bolster is a floor-support 18, which preferably is a flat plate, as shown, provided at its upper edge with the inclined flange 19, upon which the floor-plates 1 rest and to which they are secured. This plate 18 can conveniently be secured to the bolster by having its lower edge riveted between the vertical flanges of the bars 8.

The bolster is secured to the center sills by means of short sections of angle-bar 20, riveted to the inner ends of the web-plates 10 and to the center sills. They are connected to the sides of the car by means of sections of angle-bar 21, which are riveted to the ends of the plates 10 and 18 and have their laterally-projecting flanges riveted to the side plates of the car. Extension-plates 23 are riveted to the lower faces of the angle-bars 12 and project outwardly beyond the ends of the bolster to form brackets for supporting the sides of the car and to which brackets the outwardly-projecting flanges of the bottom angle-rails are riveted.

This construction of bolster requires the making of no special shapes, but is built up entirely of flat plates and rolled commercial steel, and the parts are so assembled that all of the rivets can be driven by machinery, thus greatly decreasing the cost of assembling the same.

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 on either side of the center sill, a flanged bar secured to the upper edges of said plates and lying above the center sill

and comprising the tension member, a compression member secured to the lower edges of said web-plates and extending continuously underneath the center sill, and a floor-support secured to said bolster and projecting vertically upward and secured to the floor.

2. In a metallic car, the combination with the center sill, of a body-bolster comprising two web-plates one on either side of the center sill, a flanged bar secured to the upper edges of said plates and lying over the center sill and comprising the tension member, a compression member secured to the lower edges of said web-plates and extending underneath the center sill, and a floor-support secured to said bolster and projecting upwardly and having a flange on its upper edge to which the floor-plates are secured.

3. In a metallic car, the combination with the center sill, of a body-bolster comprising two web-plates one on either side of the sill, a pair of flanged bars secured to the upper edges of said plates one on either side thereof and extending over the center sill and comprising the tension member, a compression member secured to the lower edges of said web-plates and extending underneath the center sill, and an upwardly-projecting plate having its lower edge riveted between the bars comprising the tension member and serving as a support for the floor.

4. 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, a compression member secured to the lower edges of said plates and extending underneath the center sill, a tension member comprising a flanged bar having its vertical flange secured to the upper edges of said web-plates and having its horizontal flange lying upon and secured to the center sill, and an upwardly-projecting plate having its lower edge secured to the bolster and serving as a floor-support.

5. 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, a flanged bar secured to the upper edge of said plates and extending over the center sill and comprising the tension member, a compression member secured to the lower edges of said web-plates and extending underneath the center sill, an upwardly-projecting plate having its lower edge secured to the bolster and serving as a floor-support, and vertically-arranged angle-bars secured to the ends of the web-plates and said extension-plate and serving as a means for securing the side plates of the car thereto.

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

JOHN M. HANSEN.

Witnesses:
WM. BIROMAN,
ROBERT C. TOTTEN.