

No. 743,451.

PATENTED NOV. 10, 1903.

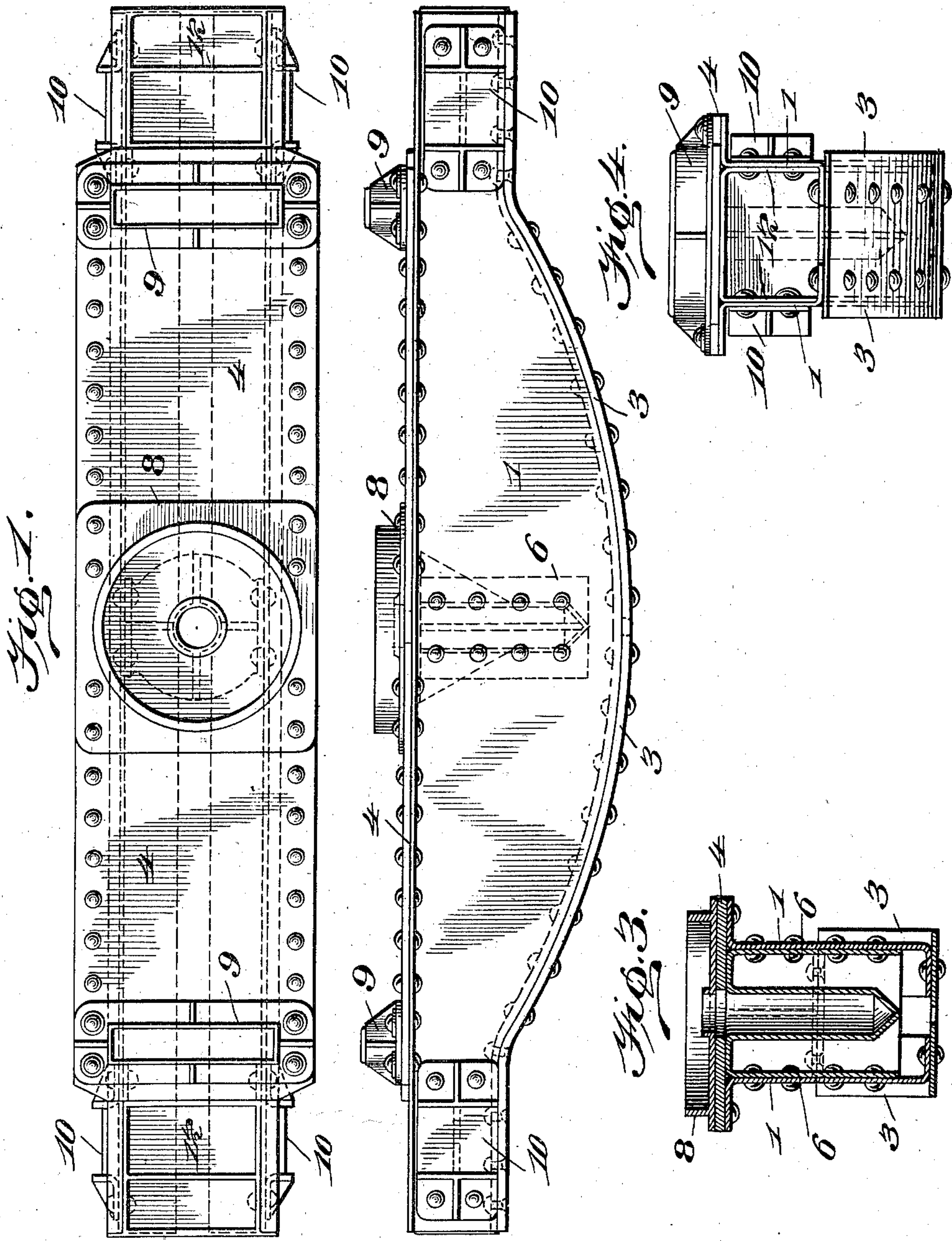
A. CHRISTIANSON.

BOLSTER.

APPLICATION FILED JUNE 9, 1902.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses

H. G. Dieterich
J. W. Winter

Inventor

Andrew Christianson

By

Kay & Totten

Attorneys

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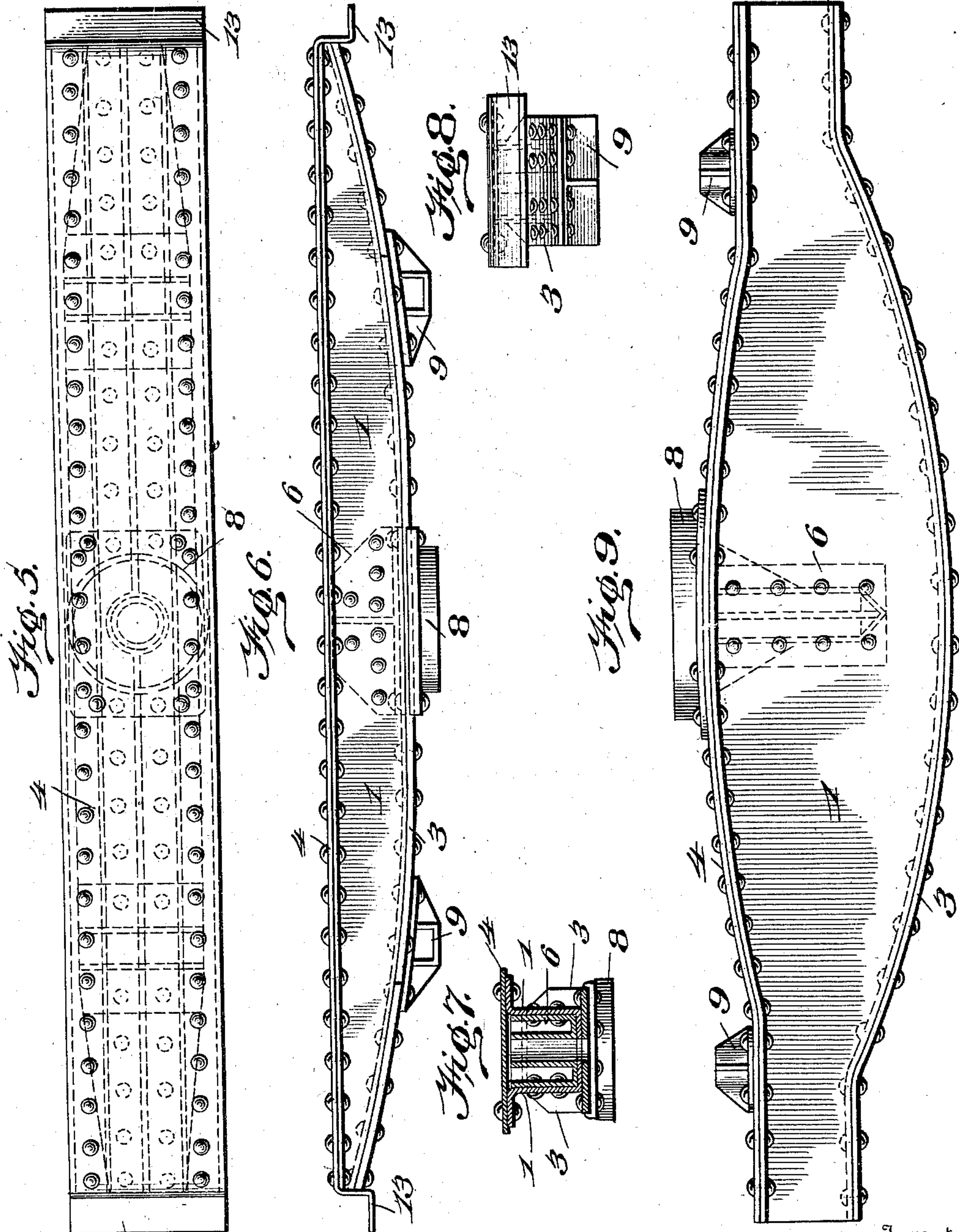
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UNITED STATES PATENT OFFICE.

ANDREW CHRISTIANSON, OF ALLEGHENY, PENNSYLVANIA, ASSIGNOR TO
STANDARD STEEL CAR COMPANY, OF PITTSBURG, PENNSYLVANIA, A
CORPORATION OF PENNSYLVANIA.

BOLSTER.

SPECIFICATION forming part of Letters Patent No. 743,451, dated November 10, 1903.

Application filed June 9, 1902. Serial No. 110,816. (No model.)

To all whom it may concern:

Be it known that I, ANDREW CHRISTIANSON, a resident of Allegheny, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Bolsters; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to bolsters for railway-cars; and its object is to provide a construction adapted either for a body or for a truck bolster in which the members are so shaped that they can be united by machine-riveting and so that the metal can be easily distributed to meet any required stresses.

In the accompanying drawings, Figure 1 is a plan view of a truck-bolster constructed according to my invention. Fig. 2 is a side view of the same. Fig. 3 is a central transverse section thereof. Fig. 4 is an end view of the same. Fig. 5 is a plan view of a body-bolster constructed according to my invention. Fig. 6 is a side view of the same. Fig. 7 is a central transverse section thereof. Fig. 8 is an end view of the same, and Fig. 9 is a side view showing a modification.

My improved bolster comprises two side members 1, Z-shaped in cross-section and preferably of varying depth, as shown, being greatest at the center and decreasing toward the ends. This varying depth may be secured either by having the top edges straight and the bottom edges curved, as shown in Figs. 2 and 5, or by having both edges curved, as shown in Fig. 9. It might also be secured by having the bottom edges straight and the top edges only curved. These side members are formed, preferably, by pressing metal plates to shape. They are placed parallel, with one flange of each member projecting toward each other and the other flanges of said members projecting away from each other or outwardly. Preferably the lower flanges will project toward each other and the upper flanges away from each other, as shown; but this arrangement is not essential. Riveted to the bottom flanges is the bottom cover-plate 3, and riveted to the top flanges is the top cover-plate 4. When assembling the parts, the cover-plate secured to the inwardly-projecting flanges of the side mem-

bers will be first riveted thereto, and this can be done by machinery. The other cover-plate is then riveted to the outwardly-projecting flanges of the side members, and this riveting also can be done by machinery, so that the expense of uniting the parts is reduced to a minimum.

A center brace 6 is placed between the side, top, and bottom members and suitably secured in place—as, for instance, by being riveted to the side members. This center brace will be of various shapes, depending upon the character of the bolster, two such shapes being shown in Figs. 2 and 5, respectively. In the case of the truck-bolster the center bearing-plate 8 and side bearings 9 are riveted to the top cover-plate, and column-guides 10 are riveted to the side members, near the ends thereof. In the case of the body-bolster the center bearing-plate and side bearings are riveted to the bottom cover-plate and the column-guides are omitted. If the truck-bolster is to be used on trucks having the columns close together, the outwardly-projecting flanges of the side members will be cut away at the ends thereof, as shown, and the cover-plate, which is riveted thereto, will extend only to the cut-away portions, so that the column-guides will project beyond the sides of the bolster without being made of very great thickness. End braces 12, preferably formed of cast metal, are placed between the side members and riveted thereto. In the case of the body-bolster the bottom cover-plate will preferably be made of varying width, as shown in Figs. 5 and 6, and the cover-plate will project beyond the edges of the bolster and will be bent to form brackets 13 to support the sides of the car.

With either form of my bolster no special shapes except the side members are required, and these are comparatively simple, so that they can be made cheaply. All of the other parts are standard commercial articles and flat plates, and the parts are so arranged that they can be assembled without the necessity of hand-riveting. The cover-plate 3 may be made of any width or thickness to suit special conditions. By making it narrow and comparatively thick the width of the bolster

at the bottom may be decreased to fit the somewhat-restricted space afforded by the spring-plank in certain trucks, and at the same time the extra thickness provides sufficient area of cross-section to resist safely the stresses induced. For any reasonable width of member 3 a suitable thickness of metal may be selected to adjust the position of the center of gravity and the neutral axis of the bolster to produce a proper distribution of the stress and the most economical utilization of the metal. This is a new feature of bolster construction, and for this function the bolster comprises a top member composed of the sides 1 and top cover-plate 4 and a bottom member composed of the flat plate 3.

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

1. A car-bolster comprising two Z-shaped side members of varying depth, top and bottom cover-plates secured to the flanges thereof, and a center brace placed between said side members and secured thereto.

2. A car-bolster comprising two Z-shaped side members of varying depth, top and bottom cover-plates secured to the flanges thereof, the outwardly-projecting flanges of the side members and the cover-plate secured

thereto being cut away at the ends of the bolster, and column-guides secured to the side members near the ends thereof.

3. A car-bolster comprising two Z-shaped side members of varying depth arranged with their webs placed vertically and their lower flanges projecting inwardly and their upper flanges projecting outwardly, top and bottom cover-plates secured to the flanges thereof, and a center bearing-plate and side bearings secured to one of said cover-plates.

4. A car-bolster comprising two Z-shaped side members of varying depth, top and bottom cover-plates secured to the flanges thereof, and a center brace and end braces placed between said side members and secured thereto.

5. A car-bolster comprising two Z-shaped side members of varying depth, a top cover-plate secured to the upper flanges thereof, and a bottom cover-plate of varying width secured to the lower flanges thereof.

In testimony whereof I, the said ANDREW CHRISTIANSON, have hereunto set my hand.

ANDREW CHRISTIANSON.

Witnesses:

WM. BIERMAN,
ROBERT C. TOTTEN.