

(No Model.)

2 Sheets—Sheet 1.

C. T. SCHOEN.
BOLSTER FOR RAILWAY CARS.

No. 574,116.

Patented Dec. 29, 1896.

Fig 1

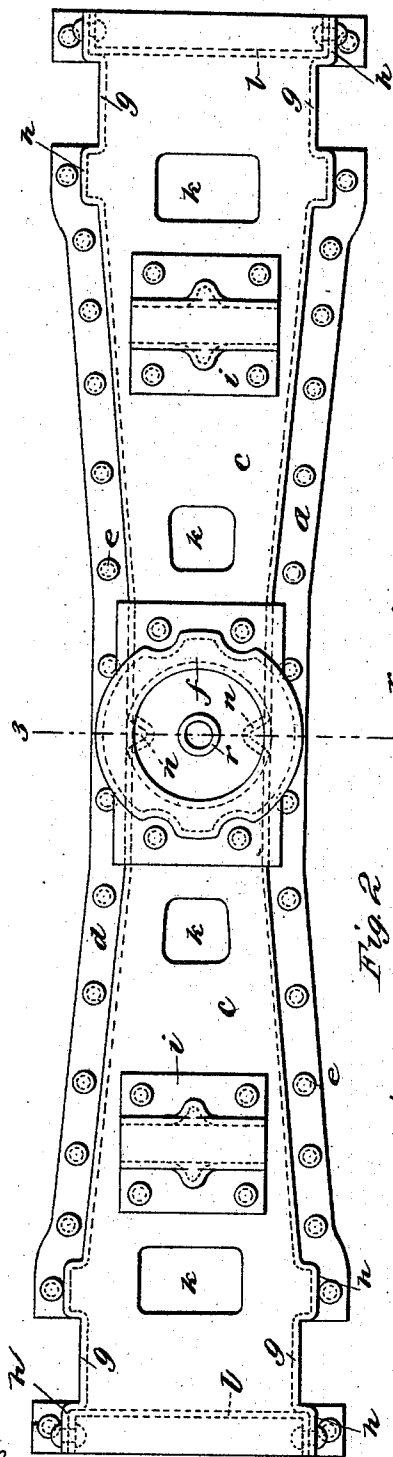


Fig 2

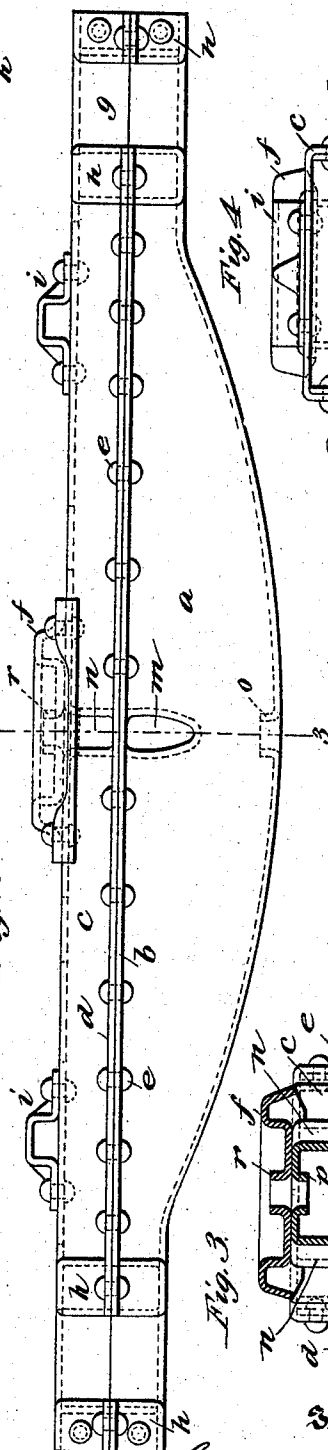


Fig 4

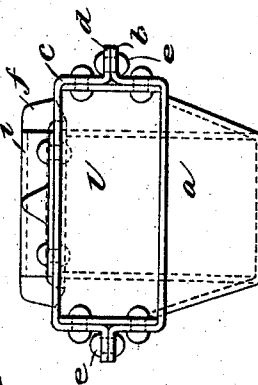
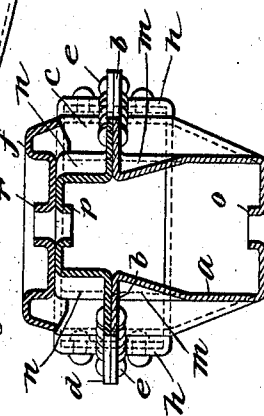


Fig 3



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(No Model.)

2 Sheets—Sheet 2.

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Fig. 5

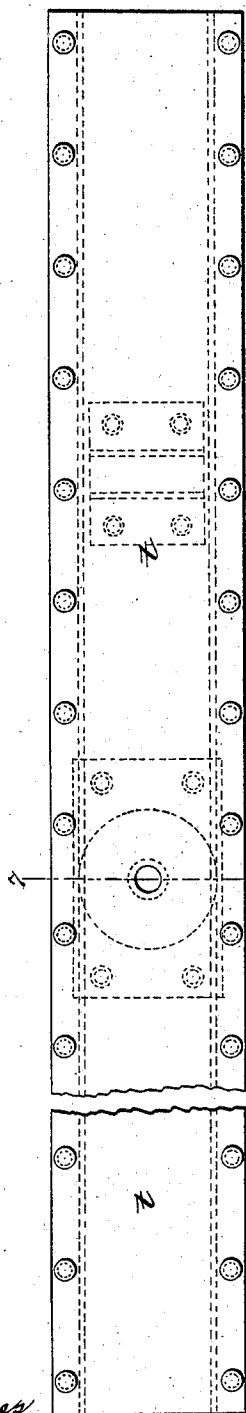


Fig. 6

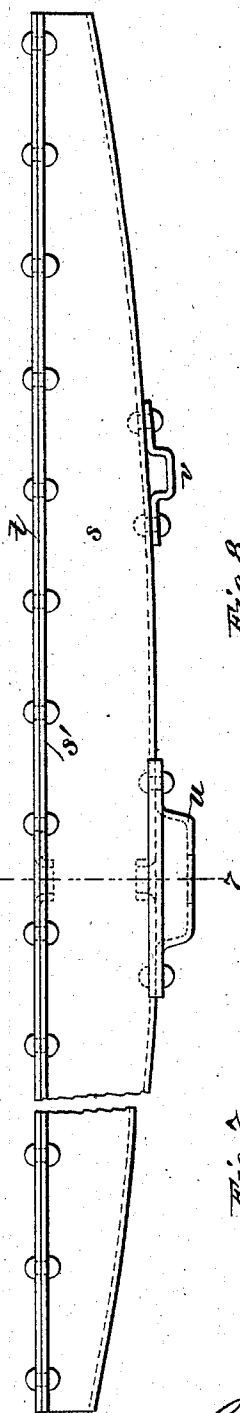


Fig. 7

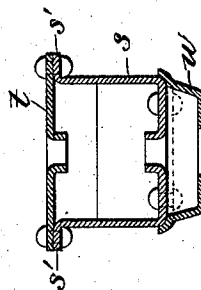
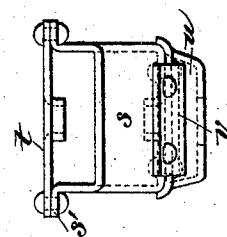


Fig. 8



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UNITED STATES PATENT OFFICE.

CHARLES T. SCHOEN, OF PHILADELPHIA, PENNSYLVANIA.

BOLSTER FOR RAILWAY-CARS.

SPECIFICATION forming part of Letters Patent No. 574,116, dated December 29, 1896.

Application filed October 2, 1896. Serial No. 607,843. (No model.)

To all whom it may concern:

Be it known that I, CHARLES T. SCHOEN, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a certain new and useful Improvement in Bolsters for Railway-Cars, of which the following is a full, clear, and exact description.

This invention relates to bolsters for the trucks and bodies of railway-cars, and more especially to that class of metallic bolsters which are built up of plates of steel which are pressed to shape and then riveted together.

The objects of the invention are to economize in the cost of construction of such built-up metallic bolsters and to facilitate the riveting of their parts and to reduce the number of parts entering into their composition or construction.

The invention consists in a bolster the outline of which is somewhat of the form of a box-girder, the adjacent edges of the constituent body members of which are provided with outwardly-projecting flanges or portions which are riveted together.

The invention also comprises certain details of construction whereby this form of bolster is adapted for interchange with bolsters already in use, so that cars containing other forms of bolsters may be repaired with my bolster.

In the accompanying drawings, illustrating my invention, in the several figures of which like parts are similarly designated, Figure 1 is a top plan view of a truck-bolster constructed in accordance with my invention. Fig. 2 is a side elevation thereof. Fig. 3 is a vertical cross-section taken in the plane of line 3 3, and Fig. 4 is an end elevation. Fig. 5 is a top plan view of a body-bolster constructed in accordance with my invention; and Fig. 6 is a side elevation thereof, these two figures (5 and 6) having the left-hand end broken out in order to get the view within the sight. Fig. 7 is a vertical cross-section taken in the plane of line 7 7, and Fig. 8 is an end elevation.

Referring now to the truck-bolster, Figs. 1, 2, 3, and 4, the body is composed of a trough-like member *a*, having at its upper edges the

lateral flanges *b*, extending longitudinally thereof and projecting outwardly therefrom. The member *a* is made deepest at its center and tapers thence in curved or straight lines toward opposite ends, which opposite ends are made flat, so as to coöperate with the springs of the truck. The top portion *c* of the body has its upper and lower edges parallel, and such top member is also made in the form of an inverted trough and has its lower edges flanged outwardly, as at *d*, so as to register with the flanges *b* of the member *a*. These two members are united by rivets *e*, applied to their flanges *b* and *d*, and constitute the box-girder-like construction referred to.

As shown in Fig. 1, the bolster is narrowest at its center, where the center bearing-plate *f* is applied, and its sides diverge thence toward opposite ends, so that the said ends will give a width substantially equal to the standard width of bolster required by the Master Car-Builders' Association, although for new work this requirement may be dispensed with.

In order to adapt the bolster to the column-guide bars in common use, the ends of the bolsters are provided with indentations *g*, leaving the adjacent shoulders *h* on opposite sides to take the place of bolster-guide column-plates. The flanges *b* and *d* are cut away opposite these indentations.

Side bearings *i* are riveted to the top member, and the center plate *f* is also riveted to said top member, and said top member is provided with hand-holes *k*, by means of which ready access may be had to the interior of the hollow box-girder-like bolster for applying and removing the rivets by which the center plate and side bearings are attached.

In order to close and also to reinforce the ends of the bolster, vertical tie-plates *l* are riveted in the ends of the bolster.

In order to reinforce the members of the bolster at the center, so as to compensate for increased strain and pressure at that point, I provide the members of the bolster with indentations *m* and *n*, respectively.

In order to reinforce the king-bolt holes, I turn up the displaced metal so as to form flanges *o* and *p* about said holes, and the center bearing-plate may have its king-bolt hole

provided with a flange r for a like purpose, and also to form a cavity within the center bearing-plate for the reception of a lubricant.

By making the bolster of less width at the center than at the ends I effect an economy in the width of the sheets of metal required to obtain a given depth at the center, and, moreover, such increased central depth results in obtaining the necessary strength to carry the vertical load. The decreased depth at the ends permits of the use of the bolster in the present type of diamond truck-frame.

By making the column-guides integral with the bolster is avoided the necessity of employing extra or applied pieces, and at the same time the construction is stronger.

The flanging of the king-bolt holes gives increase of bearings for such bolt and at the same time reduces the liability of injury from contact with the bolt. The flange around the bolt-hole in the center bearing gives a longer bearing for the king-bolt than is obtainable by simply punching out a hole in the bottom of the plate.

The tie-plates l serve not only as such and for boxing in the ends of the bolster, but they also make a finish and assist in supporting those portions of the bolster where the springs are placed and to which the load is transmitted from the center.

In the adaptation of my invention to body-bolsters the body s may be made as a trough, as shown in the section Fig. 7, with the lower member curved or tapered from the greatest depth at the center outwardly toward each end, and its upper edges are provided with the longitudinal outwardly-projecting flanges s' . The upper member is a simple flat plate t , which is riveted to the flanges s' , so as to close the top of the member s . The center bearing-plate u and the side bearings v may be of approved construction and riveted to the bottom member s .

The construction shown in Figs. 5 to 8 of the body-bolster may be applied, with the necessary changes, to a truck-bolster, the essential thing being that the bolster shall be in the form of a box-girder, with its members having adjacent lateral projections or flanges which are riveted together.

I have shown the vertical sides of the bolsters as substantially straight or in vertical parallel lines, but it is obvious that the sides of the bolsters may present in cross-section a tapering or other outline.

Some of the advantages of this construction of truck and body bolsters are that the riveting is all outside work and can be done very much cheaper than in those constructions where some or all of the riveting has to be done

from the inside or otherwise. Again, the number of parts in the matter of braces or tie-plates is very much reduced, and while the weight of this bolster is about the same, or, in fact, less, for a given strength as compared with other pressed-steel built-up bolsters, all of the metal practically is in those parts of the bolster which help to carry the load, whereas in other cases very much of the weight is in the braces which go to make up the structure, but do not materially assist in carrying the load.

It is sufficiently indicated already that the preferred construction of bolster utilizes pressed-steel shapes, that is to say, plates of steel pressed to shape in dies or by other machinery or processes, although I do not wish to be understood as limiting my invention to this material and to this mode of production, excepting to the extent hereinafter particularly claimed.

What I claim is—

1. A box-girder-like bolster, having its body composed of a lower portion deepest at its center and tapering thence toward its ends, and a top portion, these two portions having longitudinal outward projections which are united by rivets, substantially as described.

2. A box-girder-like bolster, having its body composed of a lower member deepest at its center and tapering thence toward its ends and having its upper longitudinal edges flanged or projected outwardly, and a top member also having its lower edges provided with outward lateral projections or flanges, the flanges of the two members being riveted together, substantially as described.

3. A bolster having its ends indented at their sides, and provided with parallel adjacent shoulders, forming integral guides for the bolster-columns, substantially as described.

4. A bolster formed substantially as a box-girder, and comprising two members riveted together, and having lateral indentations at their center, substantially as described.

5. A pressed-steel bolster, composed of a trough-like bottom member deepest at its center and tapering thence toward its ends, and having longitudinal outwardly-projecting flanges along the sides of its upper edges, and a top member having complementary lateral projections riveted to such flanges, substantially as described.

In testimony whereof I have hereunto set my hand this 29th day of September, A. D. 1896.

CHARLES T. SCHOEN.

Witnesses:

A. G. FRAMBES,
WM. V. MASSEY.