No. 850,902. PATENTED APR. 23, 1907.

T. R. BROWN.

CAR BOLSTER.

APPLICATION FILED DEC. 1, 1906.

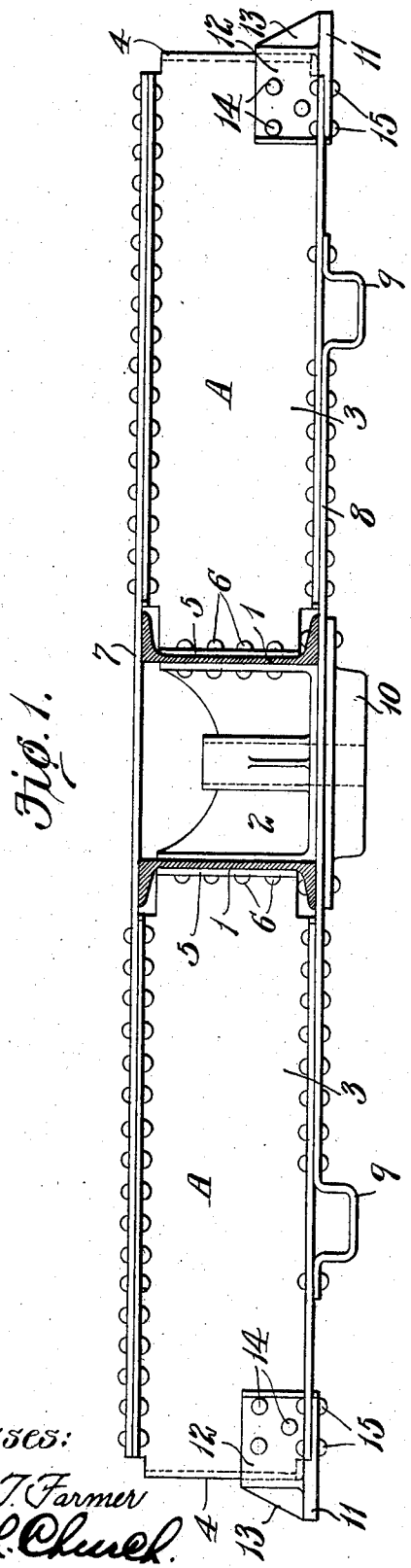


Fig. 1.

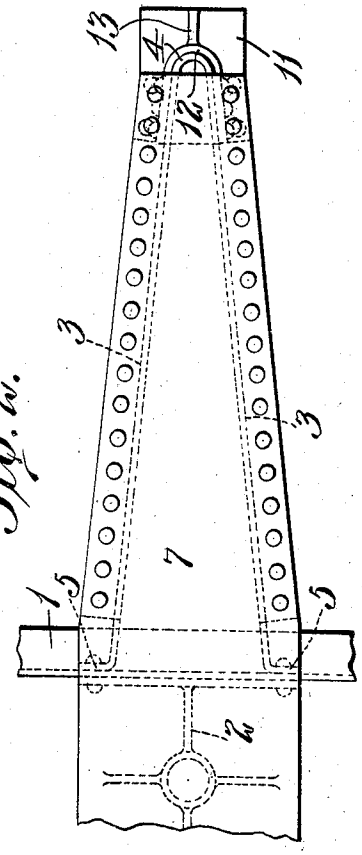


Fig. 2.

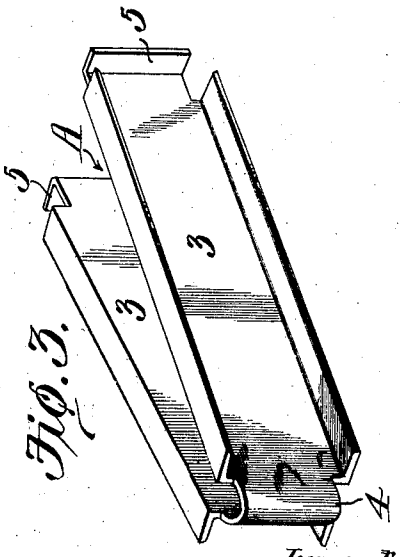


Fig. 3.

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UNITED STATES PATENT OFFICE.

THOMAS R. BROWN, OF NEW YORK, N. Y., ASSIGNOR TO AMERICAN CAR & FOUNDRY COMPANY, OF ST. LOUIS, MISSOURI, A CORPORATION OF NEW JERSEY.

CAR-BOLSTER.

No. 850,902. Specification of Letters Patent. Patented April 23, 1907.

Application filed December 1, 1906. Serial No. 345,856.

To all whom it may concern:

Be it known that I, THOMAS R. BROWN, a citizen of the United States, residing at New York, N. Y., have invented a certain new and useful Improvement in Car-Bolsters, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side elevation of a bolster embodying my invention. Fig. 2 is a top plan view of one-half of said bolster, and Fig. 3 is a detail perspective view of one of the members which forms part of the bolster.

This invention relates to car-bolsters, and has for its object to provide a novel form of bolster in which each of the members that project laterally from the center sills is formed by a vertically-disposed continuous member bent at approximately its center and doubled or folded back so as to produce two approximately parallel pieces that are joined together by an integral web.

Another object of my invention is to provide a bolster having a bottom plate or compression member which is bent to form projections that constitute side bearings.

The bolster herein shown is designed principally for use in tank-cars, and, referring to the drawings, 1 designates the center sills of a car, and 2 is a casting interposed between the center sills and provided with an opening to receive a king-bolt. Projecting laterally from each center sill is a member A, consisting of a continuous piece, preferably a commercially-rolled channel bent at approximately its center and doubled or folded back so as to produce two pieces 3, which are connected together at their outer ends by an integral web 4. At the inner end of each of the pieces 3 is a flange 5, through which the fastening devices 6 extend that secure the member A to the center sill. A continuous top plate or tension member 7 is connected to the upper flanges of the members A, and a continuous bottom plate or compression member 8 is connected to the lower flanges of said members. Preferably the compression-plate 8 is bent to form two projections 9, which constitute the side bearings of the bolsters, and a center bearing 10 is fastened to said plate and to the center sills, as shown in Fig. 1.

At the ends of the bolsters are castings, each of which consists of a bearing-face 11 and an approximately U-shaped flange 12, that embraces the web 4, which connects the pieces 3 and also portions of the webs of said pieces, a strengthening-rib 13 also being formed integral with the bearing-face and the upwardly-projecting flange 12 of said casting. The castings are secured to the bolster by means of fastening devices 14, extending through the flange 12 and through the webs of the pieces 3, and also by fastening devices 15, which extend through the bearing-face 11 and through the bottom flanges of the pieces 3, the bearing-face of the casting being arranged underneath the bottom flanges of said pieces. These castings not only afford an extended bearing-surface for a lifting-jack—such, for example, as is used for raising the car-body from the trucks—but they also greatly strengthen the ends of the bolster, and while I have herein shown castings which embrace the outer faces of the members A it will of course be understood that various forms of castings could be used without departing from the spirit of my invention.

When the members A are formed from channels or other commercially-rolled shapes, I prefer to cut off the upper and lower flanges at the center and at the end portions of the channel and then double it, preferably as shown in Fig. 3, so as to produce two pieces 3, which diverge from the connecting-web 4, the webs at the ends of the channel being then bent at approximately right angles to form the connecting-flanges 5. It is not absolutely necessary, however, to cut off the flanges to enable the channel to be bent, as the channel could be heated and then bent without disrupting the flanges, as herein shown. Furthermore, while I prefer to use commercially-rolled shapes for the members A it will of course be understood that pressed metal plates could be used or merely a continuous strip bent midway its ends and folded back.

When members A are connected to the center sills and the top and bottom plates are fastened to said members, a bolster will be

produced which gradually diminishes in width from the center sills toward its outer ends. If desired, however, the members A could be so formed that the pieces 3 were perfectly parallel, and therefore I do not wish it to be understood that my invention is limited to the exact construction herein shown.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A bolster in which one of the members consists of a vertically-disposed metal strip that is bent intermediate its ends and folded back; substantially as described.

2. A bolster in which one of the members consists of a vertically-disposed metal strip bent intermediate its ends and folded back, the ends of said strip being bent laterally to form connecting-flanges; substantially as described.

3. A bolster in which one of the members consists of a commercially-rolled shape that is bent intermediate its ends and doubled back to produce two vertically-disposed pieces that are connected by an integral web; substantially as described.

4. A bolster in which one of the members that projects laterally from the center sills consists of a commercially-rolled shape which is bent midway its ends and doubled back to produce two vertically-disposed pieces arranged side by side; substantially as described.

5. A bolster in which one of the members consists of a commercially-rolled shape that is bent intermediate its ends and doubled back to produce two vertically-disposed pieces that are connected by an integral web, and connecting-flanges at the free end of said pieces; substantially as described.

6. A bolster in which one of the members consists of a vertically-disposed flanged piece that is bent intermediate its ends and doubled back, the flange being disrupted at the point where the piece is bent; substantially as described.

7. A bolster in which one of the members consists of a vertically-disposed flanged piece that is bent intermediate its ends and doubled back, and connecting-flanges at the ends of said piece formed by bending the web thereof laterally, the flange of said piece being cut away at the points where its web is bent; substantially as described.

8. A bolster in which one of the members consists of a commercially-rolled channel that is bent intermediate its ends and folded back, said channel being so arranged that its web extends vertically; substantially as described.

9. A bolster in which one of the members consists of a commercially-rolled channel that is bent intermediate its ends and folded back, said channel being so arranged that its web stands vertically, the flanges of said channel being disrupted at the point where the channel is bent; substantially as described.

10. A bolster in which one of the members consists of a commercially-rolled channel that is bent interraediate its ends and folded back, said channel being vertically disposed, and connecting-flanges at the ends of said channel; substantially as described.

11. A bolster in which one of the members consists of a commercially-rolled shape that is bent midway its ends and folded back to produce two vertically-disposed pieces, and connecting-flanges at the ends of said pieces formed by bending the web of the channel laterally, the flanges of said channel being disrupted at the points where it is bent; substantially as described.

12. A bolster provided with a horizontally-disposed plate that is bent to form a plurality of side bearings; substantially as described.

13. A bolster provided with a transversely-extending compression-plate that is bent to form a plurality of projections which act as side bearings; substantially as described.

14. A bolster provided with a continuous horizontally-disposed plate, and side bearings formed by bending portions of said plate out of their normal planes; substantially as described.

15. A bolster comprising a continuous transversely-extending plate that is bent out of its normal plane, intermediate its ends, to form a plurality of bearings; substantially as described.

16. A tank-car bolster which is of less width at its outer ends than at its center, and castings secured to the outer ends of said bolster, said castings being provided with bearing-surfaces on its under side; substantially as described.

17. A tank-car bolster whose vertical members converge from its center toward its opposite ends and castings provided with horizontally-disposed bearing-surfaces and being located on the underneath sides of the opposite ends of the bolster; substantially as described.

18. A bolster comprising members which project laterally from the center sills and each of which consists of a continuous strip that is bent midway its ends and folded back, flanges at the ends of said strips to receive fastening devices which connect them to the center sills, and continuous top and bottom plates connected to said members; substantially as described.

19. A bolster comprising members which project laterally from a center sill and each of which consists of a channel that is bent midway its ends and folded back to produce two pieces that diverge from the point where they are joined, flanges at the inner ends of said pieces which are fastened to the center sills, continuous top and bottom plates, and

castings at the ends of the bolster and each consisting of a flange that embraces the bent portion of the channel, and a bearing-face which is secured to the lower flange of the channel; substantially as described.

20. A car-bolster comprising vertical web members converging toward the ends of the bolster, top and bottom cover-plates, and a casting at each end of the bolster; substantially as described.

21. A car-bolster comprising vertical web members which converge toward the ends of the bolster, said web members being provided with top and bottom flanges, and a casting at each end of the bolster; substantially as described.

In testimony whereof I hereunto affix my signature, in the presence of two witnesses, this 26th day of November, 1906.

THOMAS R. BROWN.

Witnesses:
ROBT. G. JEFFERY,
EDW. D. HILLMAN.