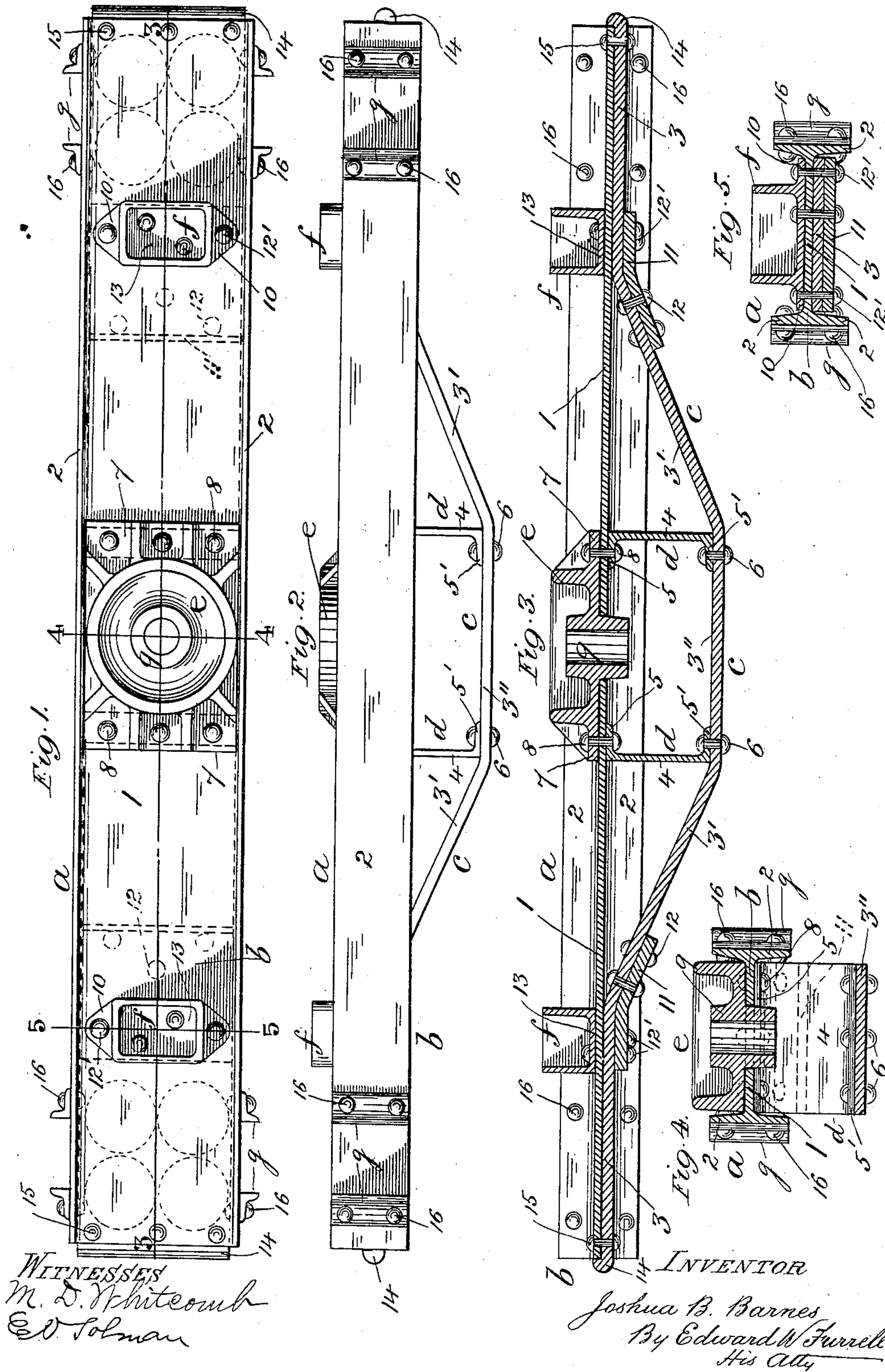


No. 832,030.

PATENTED OCT. 2, 1906.

J. B. BARNES.  
CAR BOLSTER.

APPLICATION FILED MAY 10, 1906.





# UNITED STATES PATENT OFFICE.

JOSHUA B. BARNES, OF SPRINGFIELD, ILLINOIS.

## CAR-BOLSTER.

No. 832,030.

Specification of Letters Patent.

Patented Oct. 2, 1906.

Application filed May 10, 1906. Serial No. 316,155.

*To all whom it may concern:*

Be it known that I, JOSHUA B. BARNES, a citizen of the United States, residing at Springfield, in the county of Sangamon and State of Illinois, have invented a new and useful Improvement in Car-Bolsters, of which the following is a specification.

My invention relates especially to a car-truck bolster having its parts composed principally of commercial-shaped rolled steel built up to form a simple, light, compact, strong, rigid, inexpensive, and durable bolster.

It consists in features of novelty, as herein-  
after described and claimed, reference being had to the accompanying drawings, forming part of this specification, whereon—

Figure 1 is a top plan view of my improved car-truck bolster; Fig. 2, a side elevation thereof; Fig. 3, a vertical longitudinal section through the bolster on line 3 3 in Fig. 1; and Figs. 4 and 5, vertical transverse sections thereof on lines 4 4 and 5 5, respectively, in Fig. 1.

Like letters and numerals of reference denote like parts in all the figures.

*a* represents my improved car-truck bolster, which comprises a body-beam or compression member *b*, preferably an I-beam, of commercial size rolled steel, having its web 1 arranged horizontally and its flanges 2 vertically, as shown. To the web 1 on its under side is fixed an inverted-arch plate or tension member *c*, which is composed, preferably, of rolled steel, the full width or thereabout of the web 1, its end portions 3, which are straight and bear against the bottom side of the corresponding end portions of the web 1, being adapted on their under side for the bolster-springs and thence directed downward toward each other by inclined portions 3' to its middle arch portion 3'', which is preferably straight at a suitable distance from and parallel to the web 1 thereat. Between and across the web 1 of the body-beam *b* and the middle portion 3'' of the inverted-arch plate *c* are interposed, preferably, two upright struts *d*, which are preferably channel-shaped (but may be any other suitable shape) in cross-section, of commercial size rolled steel, and arranged opposite to each other at a suitable distance apart, one on each side of and equidistant from the transverse center line of the body-beam *b*, with their webs 4 vertical and

their top and bottom flanges 5 and 5' horizontal and preferably directed inward or toward each other, respectively, the top flanges 5 bearing against the under side of the web 1 and the bottom flanges 5' against the top side of the plate *c*, to which they are fixed by rivets 6 passing therethrough, as shown. On the body-beam *b*, at its middle portion, is arranged the truck center plate *e*, having outer bottom flanges 7 and bearing therewith at its under side on the top side of the web 1, to which the center plate *e* is fixed by rivets 8 passing through the flanges 7, web 1, and top flanges 5 of the struts *d*, whereby the said parts are rigidly held together. The center plate *e* is formed with a central boss 9, which is perforated centrally for the king-bolt (not shown) in the usual well-known manner, the lower part of the boss 9 below the bottom bearing-face of the center plate *e* projecting through and closely fitting the surrounding edge of a hole therefor in the web 1 of the body-beam *b* for preventing sliding play of the center plate *e* on the web 1 and consequent shearing strain on the rivets 8.

*f* represents the side bearings, which are preferably composed of malleable cast-iron, having outer bottom flanges 10 and fixed to the body-beam *b* on the top side of the web 1, as hereinafter more particularly referred to.

The inverted-arch plate *c* is preferably provided at the angle formed by its straight and inclined portions 3 3', respectively, with a reinforcing piece or strip 11, (preferably the full width of the plate *c*,) which extends part way along the said portions and is fixed thereto, either by the rivets 12 12', as shown, or by welding, (or both,) the rivets 12 passing through the reinforcing-piece 11 and inclined portion 3' of the plate *c* and the rivets 12' through the reinforcing-piece 11, straight portion 3 of the plate *c*, web 1 of the body-beam *b*, and through the bottom 13 and outer flanges 10 of the side bearings *f*, which are thereby secured with the said parts rigidly together.

The plate *c* is turned upward or formed at each end for its full width with a shoulder 14, which bears thereat against the corresponding end of the web 1 of the body-beam *b*, the straight portion 3 of the plate *c* adjacent to each shoulder 14 being further secured to the web 1 by rivets 15, arranged as shown or in any other suitable manner.



*g* represents the column-guides, which are preferably angles composed of commercial size rolled steel and fixed to the outer faces of the upright flanges 2 of the body-beam *b* by 5 rivets 16.

It is to be here noted that I do not limit myself to the particular shape of the body-beam or compression member *b*, as above described, as the body-beam may be otherwise 10 suitably shaped in cross-section, such as channel having a horizontal web and upright flanges.

In this construction of bolster by using the ordinary rolled sections of plates and bars I 15 am enabled to produce a light and inexpensive structure built up in the strongest possible form for resisting strain, and by making the body-beam or compression member *b* in the form described the metal is distributed 20 therethrough to the best advantage for resisting compression. Moreover, the end straight portions 3 of the tension member *c* bearing against the under side of the web 1, between the flanges 2 of the body-beam *b*, 25 combined with the reinforcing-pieces 11, housings are thereby formed for the upper ends of the bolster-springs and space economized.

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

In a car-truck bolster, the combination of 30 a compression member having a horizontal web, an inverted-arch plate or tension member having straight end portions adapted to bear against the under side of the web and 35 united by inclined portions to a straight middle portion spaced apart from the web, a reinforcing-piece at the angles respectively formed by the said straight end, and inclined portions of the said plate, a suitable strut in- 40 terposed between the said web and plate at their middle portions, a center bearing fixed on the web and to the said strut, and having a depending projection adapted to engage in a corresponding opening in the web and side 45 bearings fixed on the web and to the said plate and reinforcing-pieces, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of 50 two subscribing witnesses.

JOSHUA B. BARNES.

Witnesses:

E. R. JEFFERY,  
ALONZO B. MARS.