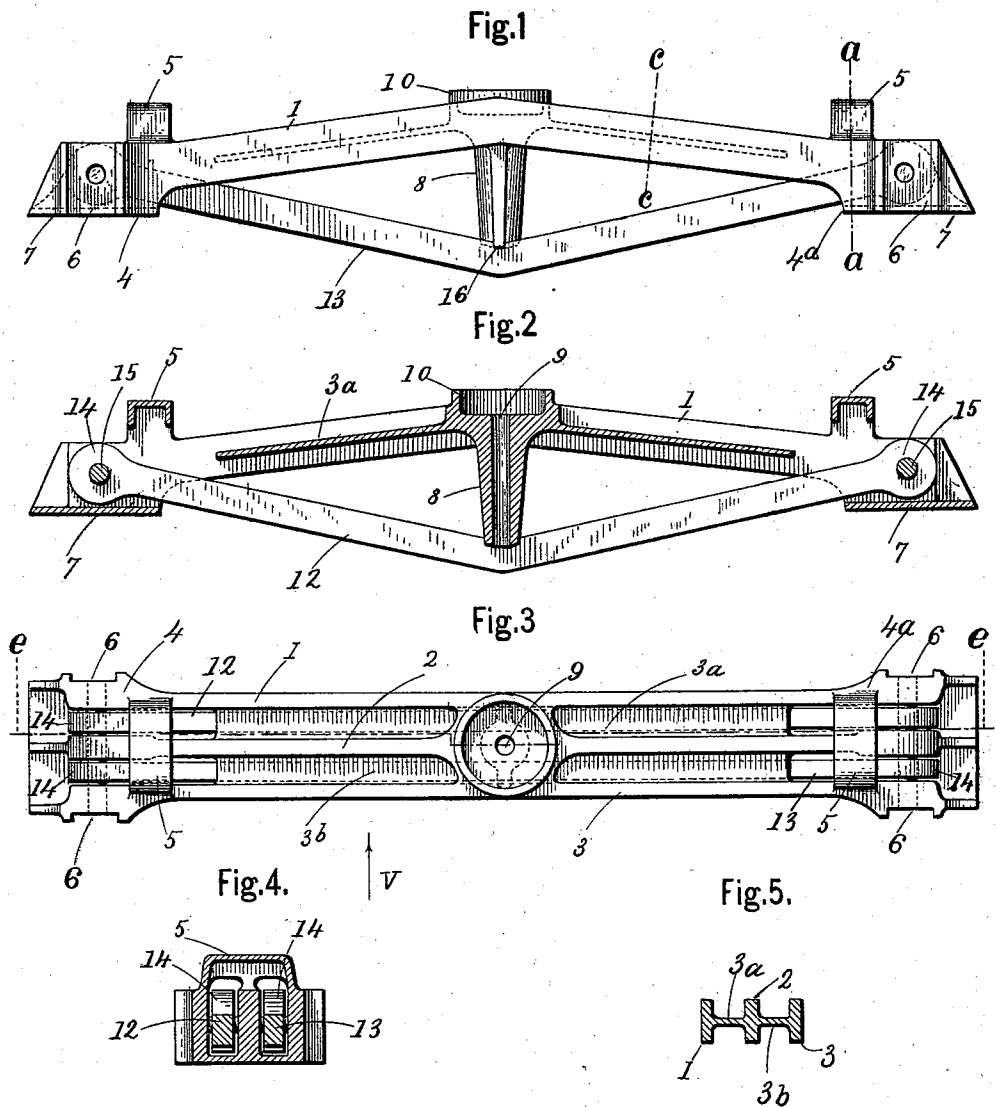


(No Model.)

H. R. STANFORD.
CAR BOLSTER.

No. 532,107.

Patented Jan. 8, 1895.



Witnesses:

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UNITED STATES PATENT OFFICE.

HOMER R. STANFORD, OF BUFFALO, NEW YORK.

CAR-BOLSTER.

SPECIFICATION forming part of Letters Patent No. 532,107, dated January 8, 1895.

Application filed May 15, 1894. Serial No. 511,293. (No model.)

To all whom it may concern:

Be it known that I, HOMER R. STANFORD, a citizen of the United States, residing in Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Car-Bolsters, of which the following is a specification.

My invention relates to bolsters for railway cars, and consists in certain improvements whereby strength, lightness, durability and cheapness of construction are obtained, all of which will be fully and clearly hereinafter described and claimed, reference being had to the accompanying drawings, showing the embodiment of my invention which I prefer to put in practice, and in which—

Figure 1, is a side elevation of the preferred form of my improved bolster. Fig. 2, represents a vertical section on the line *ee*, of Fig. 3; and Fig. 3, is a top plan view of such preferred form. Fig. 4, is a vertical cross-section on or about line *aa*, of Fig. 1. Fig. 5, represents a substantially vertical section through the line *cc*, of Fig. 1.

Before designating and describing the parts of the preferred structure, I desire to explain the general nature of my invention.

I have found that a strong, light, durable and cheap bolster may be made if formed in two parts, the upper member thereof which is liable to be lengthened by the weight of the car or car-truck, having its ends bent downwardly, and being reinforced by a lower tension or truss member which is liable to be shortened by the compression of the upper member, being bent upwardly at its ends, there being a connection between the upper and the lower members at the bends thereof; and I have taken advantage of this tendency of the parts to provide the upper or compression member with a support for the king-bolt (midway of the length of the member) connecting the truck and bolster, the said support being utilized as the connection which effects the contraction of the lower member upon the extension of the upper member. I have preferred to have the upper member of cast metal, because of its capacity for resistance to compression, but other metals may be used. I also prefer to make the lower or tension member of wrought metal, as better adapted to withstand expansion strain.

The illustrated form of my invention, which I desire to be understood as showing merely for the purpose of explaining the general nature of the invention, is as follows:

There are three longitudinal parts, 1, 2 and 3, connected together by a web, 3^a, 3^b. The end portions, 4, 4^a, are provided with side-rests, 5, preferably integral with the end portions, and with end-guides, 6, preferably integral with the end-ports, and with spring-plates, 7, preferably integral with the end portions. The upper member is also provided with a king-bolt support, 8, a desirable form of which is illustrated, preferably integral with the compression member, and preferably placed at its highest point, the support having a socket-rest, 10, preferably integral with the support, and the rest is provided with a stem, 9, such stem preferably made long enough to rest upon the tension member or members midway of their length, and having an opening therethrough for the king-bolt.

The lower truss or tension members, 12, 13, are preferably of wrought iron or steel, and have the ends bent upwardly, the bars having a bend midway of their length, and are provided also with flattened and enlarged ends, 14, having openings adapted to receive the holding pins, 15, which pass through the ends 4 and 4^a, of the bolster and through the truss or tension rod or rods, the pins, 15, being of the proper length to allow their ends to be even with the inner faces of the end-guides, 6, at each side of the bolster, so that the ordinary and vertical slideways on a car or car-truck can pass or fit in the end-guides, 6, without obstruction, and so that said slide-ways will hold the pins in their proper position in the bolster, and may, if desired, assure the engagements of the parts. It will thus be seen that the pins, 15, require no heads or nuts to keep them in place, and such form of pins, although preferred, is not, however, essential in all cases, my invention contemplating also, the employment of any of the well known means of assembling the parts.

As before stated, the king-bolt support is preferably formed integral with the compression member, midway of its length, and this support is preferably at the highest point of the upper member, this being, as I believe, the most advantageous form of my invention.

I do not, however, desire to be understood as limiting myself to the specific form of upper or compression member.

It will be noticed that the truss rods in the preferred structure are bent midway of their length, so as to substantially correspond with the bend of the upper portion, or compression member, and that the king-bolt support, provided with two flanges, 16, shown in the drawings, to keep the rods in place with reference to the king-bolt support, rests within the bend of the truss-bars, midway of the length of such bars, and I prefer this type of my invention, believing that I am, by its use, enabled to more perfectly control and distribute the strain upon the parts and maintain the rigidity of the structure where desired; but I do not wish to be understood as confining myself to the exact arrangement of parts illustrated, as other arrangements of parts may be advantageously employed.

When the weight of the car, or the truck thereof, is placed upon the upper member, the tendency of such member is to lengthen under the strain to which it is subjected, but the king-bolt support resting upon the tension or truss members, and because of this connection of the compression and tension members at their ends, tends to shorten the tension members, and the entire structure becomes longitudinally unyielding to the weight upon it.

A bolster of this construction is more durable than wood. There are no bolts or nuts that are liable to wear or to be working loose and getting off or out of order, which is an important advantage in car-bolsters.

The upper or compression member of the bolster is so formed that it can be cheaply and easily molded.

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

1. A car-bolster, consisting of three longi-

tudinal portions connected together by webs so as to leave two longitudinal openings between them at each end, the end portions having side rests at the top, end guides at each side, a spring plate on the under side of each end, and a center support having a socket rest and a vertical hole for the king-bolt, in combination with two longitudinal pin-connected truss-rods having their center portions resting up against the lower end of the center support between the two flanges, substantially as above described.

2. A car-bolster, consisting of three longitudinal portions connected together by webs so as to leave two longitudinal openings between them at each end, the end portions having side rests at the top, end guides at each side, a spring plate on the under side of each end, and a center support having a socket rest and a vertical hole for the king-bolt, the whole formed in one piece of cast metal, in combination with two longitudinal pin connected truss-rods having their center portions resting up against the lower end of the center support between the two flanges, substantially as above described.

3. A car-bolster, consisting of three longitudinal portions connected by a web, the end portions of which are each provided with side rests, and at each side with end guides and spring plates on their under sides, a center support having a socket rest and hole for the king-bolt, the whole formed in one integral piece of cast metal, in combination with two longitudinal pivoted truss-rods, on the center of which the socketed support rests, and pins for securing the truss-rods in place, substantially as described.

HOMER R. STANFORD.

Witnesses:

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