

No. 827,646.

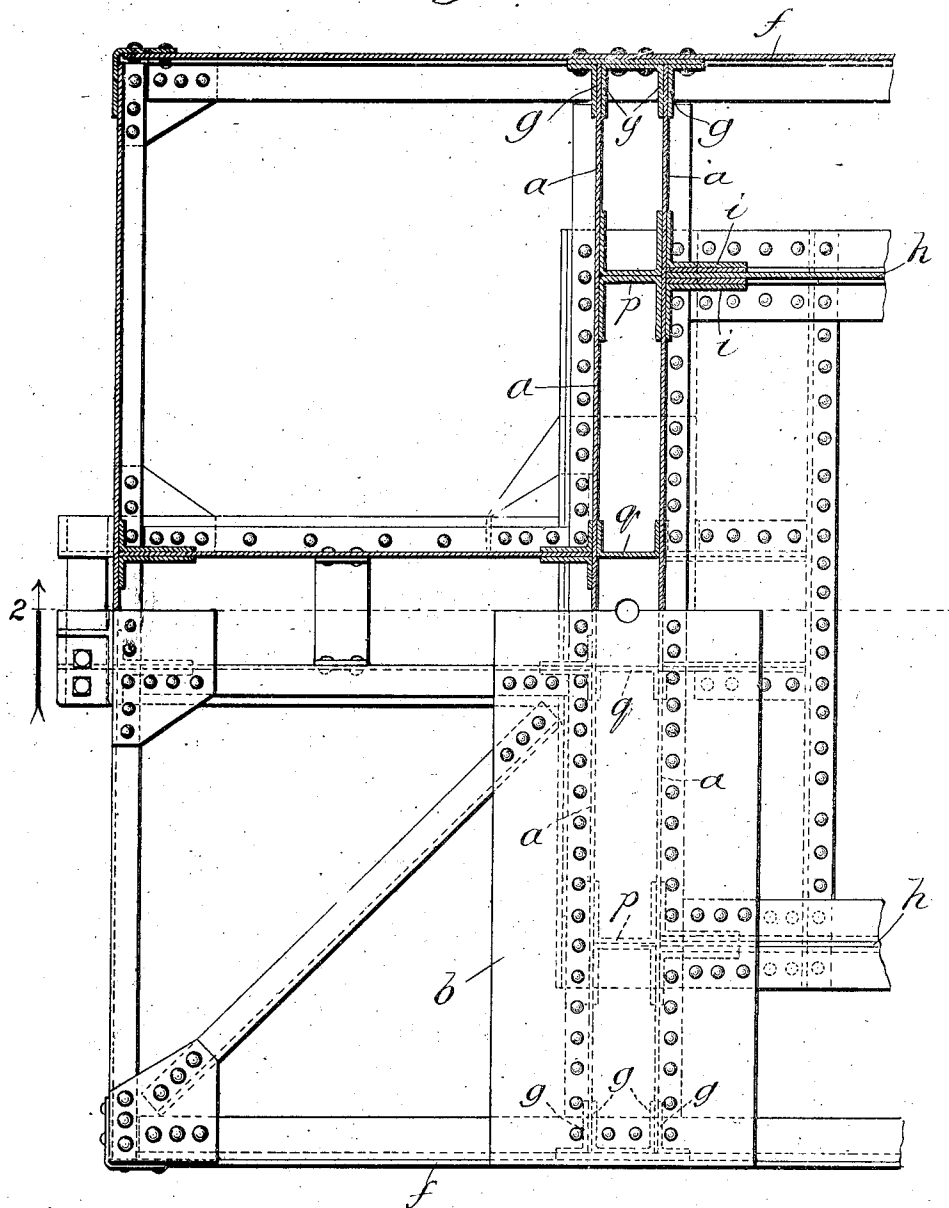
PATENTED JULY 31, 1906.

O. W. MEISSNER.
BOLSTER FOR RAILWAY CARS.

APPLICATION FILED JULY 15, 1903.

2 SHEETS—SHEET 1.

Fig. 1.



Witnesses:

Edw. C. Clayford.

John Enders, Jr.

Inventor:

Otto W. Meissner,

By Thomas F. Sheridan,

Att'y.

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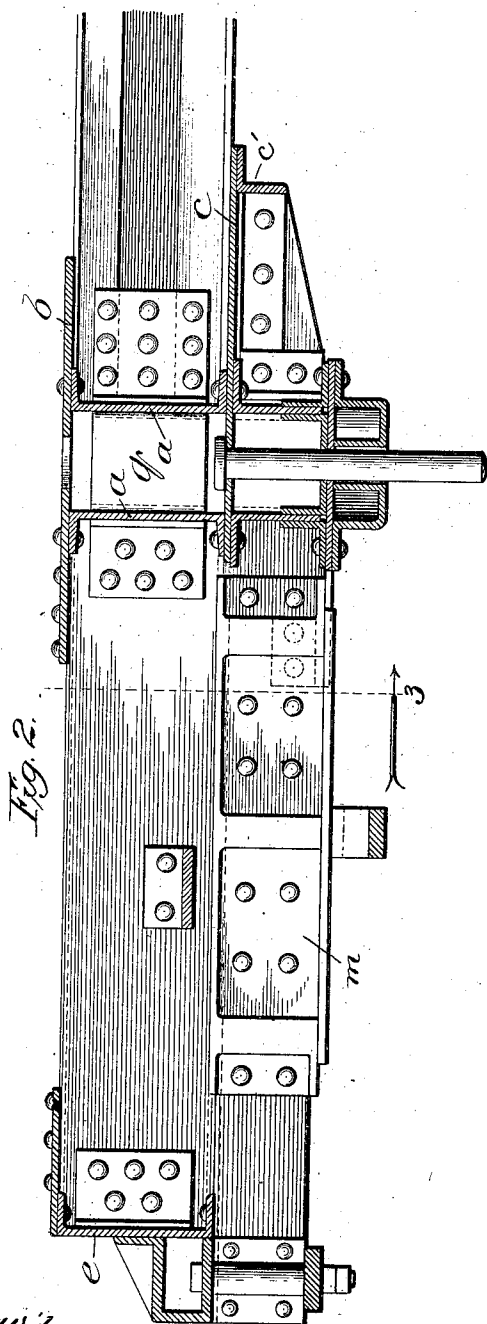


Fig. 2.

Witnesses:

Edw. Gaylord.
John Enders Jr.

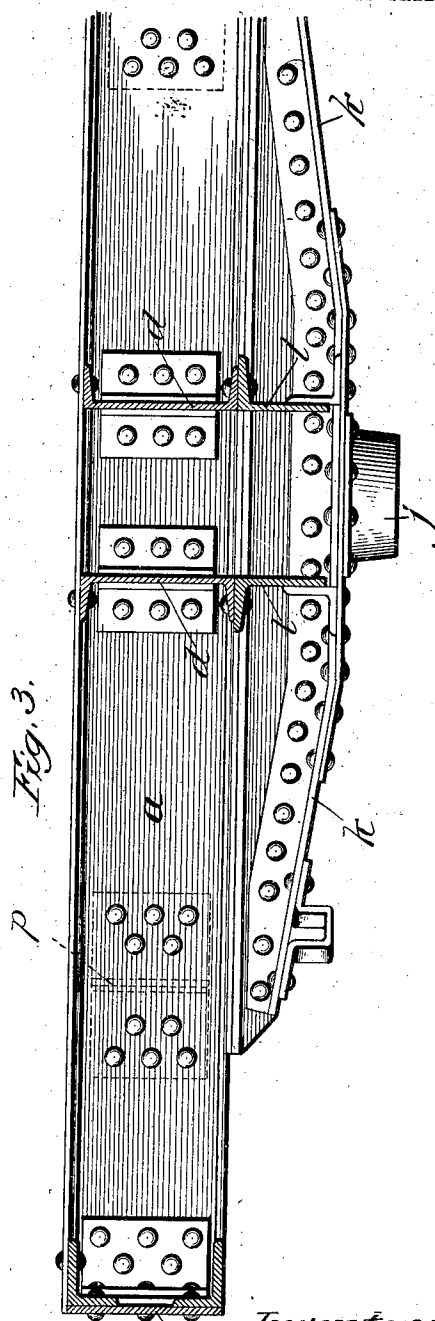


Fig. 3.

Inventor:

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UNITED STATES PATENT OFFICE.

OTTO W. MEISSNER, OF CHICAGO, ILLINOIS, ASSIGNOR TO RODGER BALLAST CAR COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

BOLSTER FOR RAILWAY-CARS.

No. 827,646.

Specification of Letters Patent.

Patented July 31, 1906.

Application filed July 15, 1903. Serial No. 165,693.

To all whom it may concern:

Be it known that I, OTTO W. MEISSNER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Bolsters for Railway-Cars, of which the following is a specification.

This invention relates to that class of bolsters used in connection with railway freight-cars, and particularly to what are known as "built-up" body-bolsters, a construction in which the bolster acts to form a part of the means for distributing the bolster strain and a part of the supporting-frame for distributing the shocks and strains throughout the car-frame, all of which will more fully hereinafter appear.

The principal object of the invention is to provide a simple, economical, and efficient built-up body-bolster which will form a part of the supporting car-frame.

Further objects of the invention will appear from an examination of the drawings and the following description and claims.

The invention consists principally in a supporting-framework for railway-cars in which there are combined a pair of metal beams transversely arranged near each end of the car and secured together at the upper and lower portions by means of metal plates, so as to form a body-bolster, a pair of metal beams extending forward from the center of each body-bolster to the adjacent end sill of the car, a pair of side sills extending longitudinally of the car and connected to the ends of the body-bolster, and a pair of longitudinal sills extending backward from the rear member of the body-bolster to the rear member of the body-bolster at the other end of the car.

The invention consists, further and finally, in the features, combinations, and details of construction hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a plan view, partly in section, of the supporting-framework of one end of a railway-car as it appears when constructed in accordance with these improvements; Fig. 2, a longitudinal sectional elevation taken on line 2 of Fig. 1 looking in the direction of the arrow,

and Fig. 3 a transverse view taken on line 3 of Fig. 2 looking in the direction of the arrow.

In illustrating and describing these improvements I have only illustrated and will herein describe that which I consider to be new, taken in connection with so much as is old as will properly disclose the invention to others and enable those skilled in the art to practice the same, leaving out of consideration other and well-known elements, which if set forth herein would only tend to confusion, prolixity, and ambiguity.

In the art to which this invention relates it is well known that it is very desirable to provide a supporting-frame for railway-cars—such as flat-bottom, gondola, platform, box, and stock cars—and make it of as few pieces of commercial iron as possible and which will resist the shocks and strains incident to ordinary use of the car. To this end this invention is principally designed.

In constructing a car in accordance with these improvements I provide a supporting-framework in which the body-bolster mechanism forms a part, such bolster mechanism being formed of a pair of metal members *a a*. These metal members are preferably made of channel-beams, having their web portions arranged in vertical planes and extending entirely across the car from side to side thereof and with their flanged portions extending forwardly and rearwardly, as shown particularly in Fig. 2. To complete the bolster mechanism, a metal plate *b* is provided and arranged on top of the supporting-framework of a width considerably wider than that of the main bolster members, to the upper flanges of which it is secured, and of a length equal to the width of the car, as shown particularly in Figs. 1 and 2. A similar plate *c* is provided and secured to the lower flanges of the bolster members and extends rearwardly therefrom, such bottom plate being provided at its rear edge with a flange *c'*, formed of angle-iron, extending transversely of the car and riveted to such plate, forming in connection with the bottom plate and bolster-beams a transverse beam whose horizontal axis is on substantially the horizontal plane of the stress and strains incident to use. This lower plate is made of a length

not quite equal to the width of the car, as shown particularly in Fig. 1.

A pair of center beams *d* is provided, formed also of channel-beams of substantially the same cross-section as the channel-beams that form the bolster and arranged with their webs facing each other, as shown particularly in Fig. 3. This pair of center beams is located in the car-frame where the center sills were usually arranged and extend forward from the front member of the body-bolster to the end sill *e* at the end of the car. A pair of side sills *f* is also provided, as shown in Figs. 1 and 3, and extend the entire length of the car from end sill to end sill thereof, and are also connected, as shown in Figs. 1 and 2, by means of angle-plates *g* to the ends of each of the bolster members.

To strengthen the supporting-framework of the car, dispense with the usual center sills and efficiently assist in distributing the shocks and strains incident to ordinary use, a pair of longitudinal sills *h* is provided, formed of I-beams of substantially the same height as the channel-beams *a* and arranged intermediate the side sills and the forwardly-projecting center beams from the inner member of the body-bolster at one end of the car to the opposite inner member at the other end of the car, to both of which they are secured by means of angle-plates *i*. (Shown in Fig. 1.) These intermediate sills are also secured (riveted) to the upper and lower plates *b* and *c*, and, with the body-bolster hereinabove described, act in an effective manner to resist the shocks and strains incident to ordinary use, all of which will be understood and appreciated by those skilled in the art.

In instances where it is necessary to elevate the platform of the car the center-bearing portion *j* must be arranged considerably below the lower face of the body-bolster, and in such instances a filler must be provided. For such filler I prefer to use a pair of compression members *k*, formed of angle-irons secured together and to the center bearing and extending upwardly and outwardly therefrom and connected to the plate *c*. These compression members are arranged directly under the channel-beams, which form the main members of the body-bolster. A pair of draft-timbers *l* is provided, secured to the forward part of the filler and extend forwardly therefrom to the end of the car and to which the ordinary check or draft plates *m* may be secured.

To prevent buckling of the channel-beams that form the main members of the body-bolster, metal inserts or fillers *p* are provided and arranged between the webs of the channel-beams, as shown particularly in Fig. 1, and opposite the intermediate sills. A second set of pair of U-shaped inserts *q* is also provided and arranged between the

webs of the same members, as shown in Fig. 1, and opposite the forwardly-projecting center beams to resist any tendency to buckling at such points.

I claim—

1. In a car of the class described, a supporting-framework in which there are combined a body-bolster comprising a pair of metal channel-beams transversely arranged extending across the car from side to side near each end thereof, a metal plate securing the upper part of such metal beams together, a metal plate securing the lower part of such beams together, a pair of centrally-located channel-beams extending forward from the front member of each body-bolster to the adjacent end sill, a pair of side sills extending from end to end of the car at each side and connecting the ends of the bolster members together, a pair of metal I-beams extending longitudinally of the car from the inner member of each body-bolster to the opposite one and connected to the plates which secure the upper and lower parts of the bolster members together and arranged intermediate the side sills and forwardly-projecting central beams, and metal inserts arranged between the bolster members opposite the points where the intermediate longitudinal sills and the central forwardly-projecting beams contact the same to assist in distributing the shocks and strains, substantially as described.

2. In a car of the class described, a supporting-framework in which there are combined a body-bolster comprising a pair of metal channel-beams transversely arranged extending across the car from side to side near each end thereof, a metal plate securing the upper part of such metal beams together, a metal plate securing the lower part of such beams together, a pair of centrally-located metal channel-beams extending forward from the front member of each bolster to the adjacent end sill, a pair of side sills extending from end to end of the car at each side and connecting the ends of the bolster members together, a pair of intermediate metal I-beams extending longitudinally of the car from the inner member of each body-bolster to the opposite one and connected to the plates which secure the upper and lower parts of the body-bolster channel-beams together and arranged intermediate the side sills and forwardly-projecting central beams, a center bearing, and a filler composed of metal compression members secured to the lower plate of the body-bolster and arranged between it and the center bearing, substantially as described.

3. In a car of the class described, a supporting-framework in which there are combined a pair of metal channel-beams transversely arranged extending across the car from side to side near each end, a metal plate

securing the upper part of such metal beams together, a metal plate securing the lower part of such beams together, a pair of centrally-located metal channel-beams extending forward from the front member of each bolster to the adjacent end sill of the car, a pair of metal side sills extending from end to end of the car and connecting the ends of the bolster channel-beams together, a pair of intermediate I-beams extending longitudinally of the car from the inner member of each body-bolster to the opposite one and connected to the plates which secure the upper and lower parts of the bolster channel-beams together and arranged intermediate the side sills and forwardly-projecting central beams, a metal center bearing, a filler composed of metal members secured to such center bearing and extending outwardly and upwardly therefrom and connected to the lower plate of the body-bolster, and side bearings on such filler portion, substantially as described.

4. In a car of the class described, a supporting-framework in which there are combined a body-bolster comprising a pair of metal channel-beams transversely arranged extending across the car from side to side near each end, a metal plate securing the upper part of such metal beams together, a metal plate securing the lower part of such beams together, a pair of metal channel-beams centrally located extending forward from the front member of each body-bolster to the adjacent end sill, a pair of side sills extending from end to end of the car and connecting the ends of the bolster channel-beams together, a pair of intermediate metal I-beams extending longitudinally of the car from the inner member of each body-bolster to the opposite one and connected to the plates which secure the upper and lower parts of the bolster-beams together and arranged intermediate the side sills and forwardly-projecting central beams, a metal center bearing, a filler composed of metal members secured to such center bearing and extending outwardly and upwardly therefrom and connected to the lower plate of the body-bolster, side bearings on such filler portion, draft members formed of metal beams extending forward from the filler portion and secured to the under surface of the central projecting beams, and stiffening-pieces extending backward from the filler portion and secured to the lower metal plate and to such filler portion to assist in distributing the shocks and strains incident to use, substantially as described.

5. In a car of the class described, a supporting-framework in which there are combined a pair of metal channel-beams extending transversely of the car near each end with their web portions opposite each other arranged in a vertical plane and their flanged portions extending outwardly in opposite di-

rections, a metal plate *b* secured to the upper flanges of the bolster-beams, wider than such bolster members and of a length equal to the entire width of the car, a second plate *c* secured to the lower flanges of the bolster-beams and extending rearwardly therefrom toward the transverse center of the car, a pair of center metal channel-beams extending forward from each front member of the body-bolster, to which they are secured and also to the upper plate, a pair of side sills extending from end to end of the car and securing the ends of the bolster-beams together, a pair of intermediate metal I-beam sills extending from the inner member of each body-bolster to the inner member of the other body-bolster to which they are secured and also secured to the upper and lower bolster-plates, substantially as described.

6. In a car of the class described, a supporting-framework in which there are combined a pair of metal beams transversely arranged near each end of the car, an upper plate secured to and securing such beams together at their upper faces, and a lower plate secured to and securing such beams together at their lower faces and extending backward from the rear member and provided with a flange along its rear portion extending transversely of the car all forming a body-bolster which with such rearwardly-extending flanged plate portion also forms a horizontal transverse beam whose horizontal axis is substantially in the horizontal plane of the shocks and strains incident to use, substantially as described.

7. In a car of the class described, a supporting-framework in which there are combined a pair of intermediate sills extending longitudinally of the car, a pair of metal beams transversely arranged at each end of such intermediate sills, an upper plate secured to and securing such transverse beams and intermediate sills together at their upper faces, a lower plate secured to and securing such transverse beams together at their lower faces and extending backward from the rear transverse beams along and secured to the under faces of the intermediate sills, and provided with a flange along the rear edge of such lower plate extending transversely of the car such transverse beams and upper and lower plates forming a body-bolster and in connection with such flanged rearwardly-extending portion of the bottom plate also forming a transverse beam whose horizontal axis is substantially in the horizontal plane of the shocks and strains incident to use, substantially as described.

8. In a car of the class described, a supporting-framework in which there are combined a pair of metal beams transversely arranged near each end of the car and secured together at their upper and lower faces by means of metal plates so as to form a car

body-bolster, the lower plate of which extends backward from the rear member of such body-bolster, a metal flange arranged transversely of the car and secured to the rear
5 edge of said bottom plate forming in conjunction with such plate and transverse metal bolster-beams a horizontal transverse beam whose horizontal axis is in substan-

tially the horizontal plane of greatest shocks and strains incident to use, substantially as described.

OTTO W. MEISSNER.

Witnesses:

HARRY IRWIN CROMER,
ANNIE C. COURTENAY.