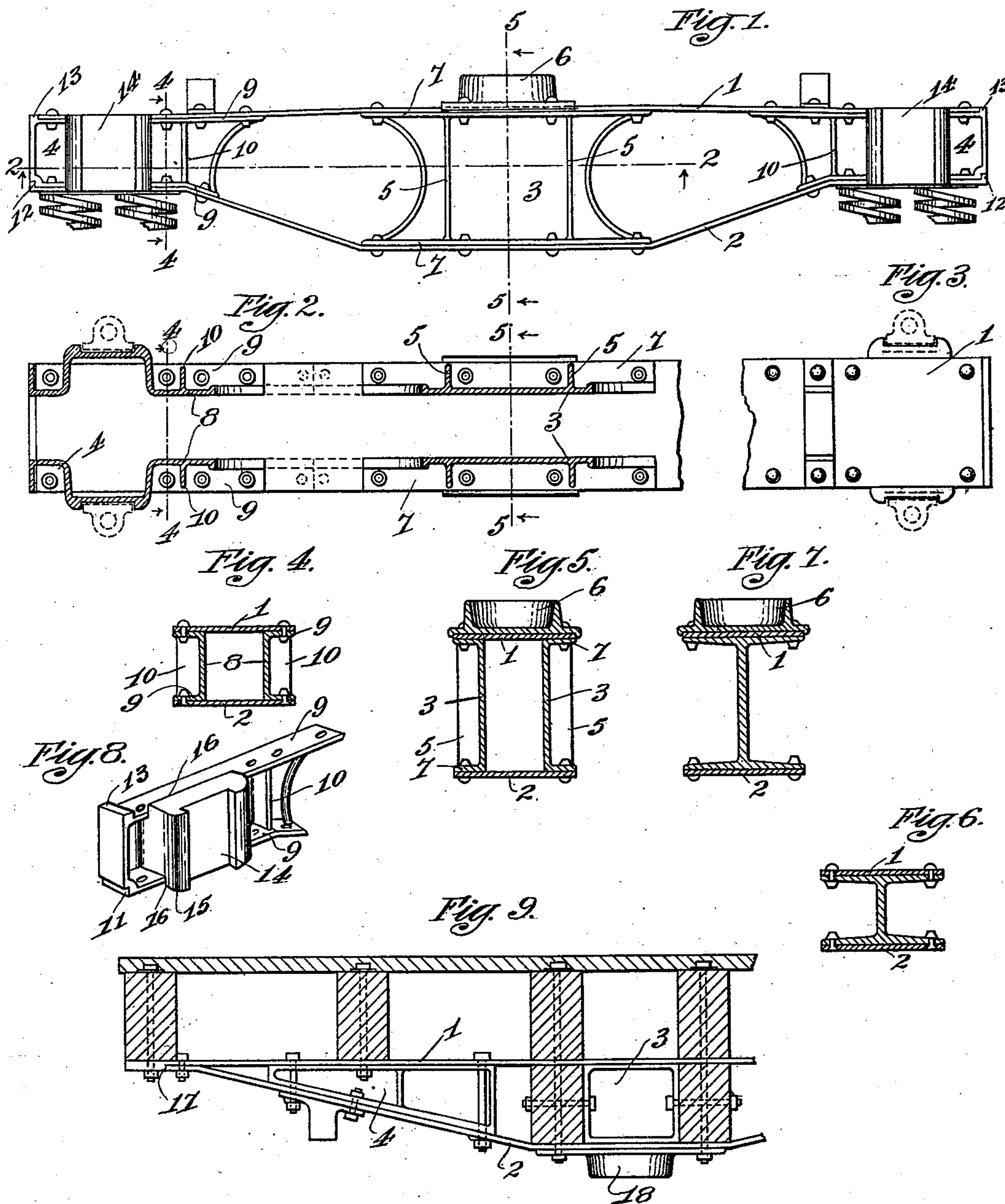


(No Model.)

H. C. WILLIAMSON.
RAILROAD CAR BOLSTER.

No. 550,011.

Patented Nov. 19, 1895.



Witnesses:

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UNITED STATES PATENT OFFICE.

HENRY C. WILLIAMSON, OF MICHIGAN CITY, INDIANA.

RAILROAD-CAR BOLSTER.

SPECIFICATION forming part of Letters Patent No. 550,011, dated November 19, 1895.

Application filed June 6, 1895. Serial No. 551,926. (No model.)

To all whom it may concern:

Be it known that I, HENRY C. WILLIAMSON, a citizen of the United States, residing at Michigan City, in the county of La Porte and State of Indiana, have invented certain new and useful Improvements in Railroad-Car Bolsters; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to a novel construction in a railroad-car bolster that can be employed easily as a truck-bolster or the body car-bolster, the object being to provide a light and strong bolster and combine therewith the maximum of strength.

The invention consists of the features of construction and combinations of parts hereinafter fully described and specifically claimed.

In the accompanying drawings, illustrating my invention, Figure 1 is a side elevation of a car-truck bolster constructed in accordance with my invention. Fig. 2 is a horizontal section on the line 2 of Fig. 1. Fig. 3 is a top plan view of one end portion of the bolster. Fig. 4 is a vertical transverse section taken on the line 4 4 of Fig. 1. Fig. 5 is a vertical transverse section taken on the lines 5 5 of Figs. 1 and 2. Figs. 6 and 7 are vertical transverse sections illustrating a modified construction embodying my invention as if taken on the lines 4 4 and 5 5, respectively, of Figs. 1 and 2. Fig. 8 is a detail perspective view of one of the end struts shown in Figs. 1 to 4. Fig. 9 is a vertical longitudinal section of a portion of a body-bolster constructed in accordance with my invention.

Referring now to said drawings, 1 indicates the compression member of the bolster and 2 the tension member thereof, they being the principal members of the structure and determining the strength thereof. These members are preferably made of flat iron or steel, bent as shown in the drawings, and secured together and strengthened by the center and end struts, although it will be understood that in accordance with the principle involved by my invention the shape of the members 1 and 2 can be changed or modified to conform

to the different construction of cars or to make them suitable for the different services the bolster may demand.

Referring now particularly to Figs. 1 to 6, both inclusive, 3 indicates the center struts and 4 the end struts. The center or middle struts 3 are of channel shape and reinforced conveniently at their center portion by upright ribs 5, said ribs being situated just below the center plate 6, upon which the load rests. These struts 3 are provided along their upper and lower edges with flanges 7, through which suitable rivets pass, so that the struts can be securely fastened to the upper and lower members 1 and 2 of the bolster. One of these struts is placed at each side of the bolster, and it will thus be seen that the members 1 and 2 thereof are reinforced at the point where the greatest strength is required.

Of course the length of the struts will depend greatly upon the desired strength of the bolster; but it is always made as short as possible to reduce the weight of the rolling-stock.

The end struts 4 are made somewhat upon the same order as the middle struts 3—that is to say, they have the upright webs 8 and upper and lower flanges 9 and also the upright ribs 10. These end struts 4 are secured between the ends of the upper and lower members 1 and 2 of the bolster by bolts or rivets passing through the said members and the flanges 9 and serve to hold the members 1 and 2 rigidly together at their ends. To add to the rigidity of the structure, the lower corners of the end struts are provided with notches 11, which receive the upwardly-bent ends or lugs 12 on the ends of the lower member 2 of the bolster. These lugs, therefore, serve in aiding the end struts to hold the ends of the members 2 rigidly in the desired position. To further strengthen the ends of the bolster, the upper corners of the end struts are provided with upwardly-projecting lugs 13, against which the ends of the upper member 1 of the bolster abut, and it will be seen that the construction further aids the rivets in holding the parts securely together.

It will be understood, of course, that should it be found necessary the end and middle struts or portions thereof can be continued until they meet each other, as shown in dotted line in Fig. 2, and can be connected with each

other, if found necessary. The end struts 4 also serve as what are known as the "guide-blocks" of the car-bolster—that is to say, the guide-blocks that receive the guide-posts of the car-truck. For this purpose the webs of the end struts are bent outwardly at the point whereat it is desired that they shall form guide-blocks that extend outwardly beyond the sides of the upper and lower members 1 and 2 of the bolster, as shown in Fig. 2. The outer faces of these outwardly-bent portions of the web are provided with the guides 14, and said outwardly-bent portion of the webs, which I term the "guide-blocks," extend above and below the flanges 9 of the strut, so as to form stops or projections 16 to abut against the sides of the top and bottom members of the bolster and thus avoid the liability of lateral movement of the end struts with relation to the bolster.

Although in the foregoing I have described the struts as made of channel shape and employed in pairs, yet, as shown in Figs. 7 and 8, I can use struts of I-beam shape, and in this instance the struts will be used singly.

As shown in Fig. 9, I can employ the invention in the construction of a car-body bolster, in which case the upper member 1 is straight throughout its entire length, and the sills are secured to the same in the usual manner. The lower member 2 will have its ends secured directly to the upper member and abutting against a projection or lug 17 thereof, while the middle strut 3 and end struts 4 will be situated in the described manner. The inverted center plate 18 will be secured to the lower face of the lower member 2 of the bolster.

It will be seen from the foregoing construction that I provide a strong and durable bolster by employing such materials and construction that combine greatest resistance with the least comparative weight and so dispose and arrange the structure that each member distributes the strain in a manner to impart solidity and strength to the structure at the desired points. By thus reducing the weight to a

minimum and combining therewith the greatest comparative strength I provide a bolster possessing the desired features. I also provide a construction that is comparatively inexpensive, for all the bolts or rivets are situated near the outside edges of the structure, where they are easily accessible, so that the riveting can be done by machinery, and, furthermore, when rivets are employed they can be held and drawn up with greater convenience.

I claim as my invention—

1. In a car bolster, the combination with the upper and lower members 1 and 2, of middle struts situated between said bolsters about midway between the ends thereof and provided at their upper and lower edges with flanges that are secured to said upper and lower members, and end struts situated between the end portions of said upper and lower members and provided with flanges at their upper and lower edges that are secured to said upper and lower members 1 and 2, substantially as described.

2. In a car bolster, the combination with the upper and lower members 1 and 2, of end struts situated between and secured to said members 1 and 2, lugs or projections 12 on the ends of said lower member 2, and notches 11 in said end struts to receive said projection or lug 12, substantially as described.

3. In a car bolster, the combination with the upper and lower members 1 and 2, of end struts situated between and secured to the end portions of said members 1 and 2 and provided with outwardly projecting guide blocks 15 provided with guides 14, said guide blocks extending above and below the upper and lower edges of said struts to form projections 16 to abut against the side edges of the upper and lower members 1 and 2, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

HENRY C. WILLIAMSON.

Witnesses:

RUDOLPH W. LOTZ,
E. J. BOILEAU.