M. D. STEWART.

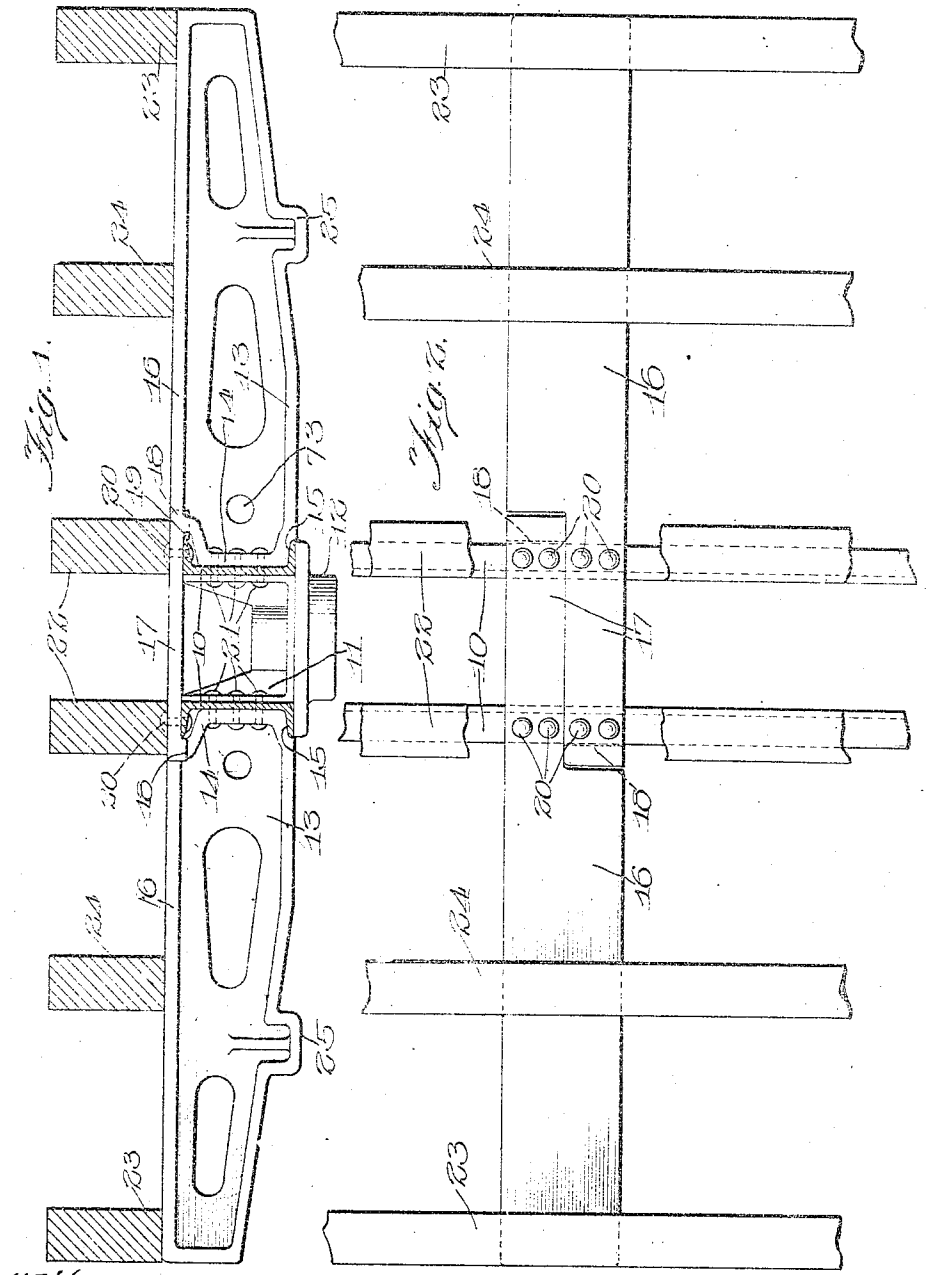
CAR BOLSTER.

APPLICATION FILED OCT. 27, 1909.

992,285.

Patented May 16, 1911.

2 SHEETS—SHEET 1.



Witnesses:

Inventor:
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2 SHEETS—SHEET 2.

Fig. 3.

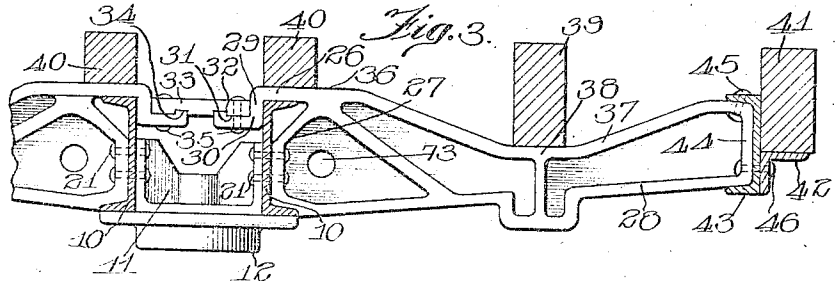


Fig. 4.

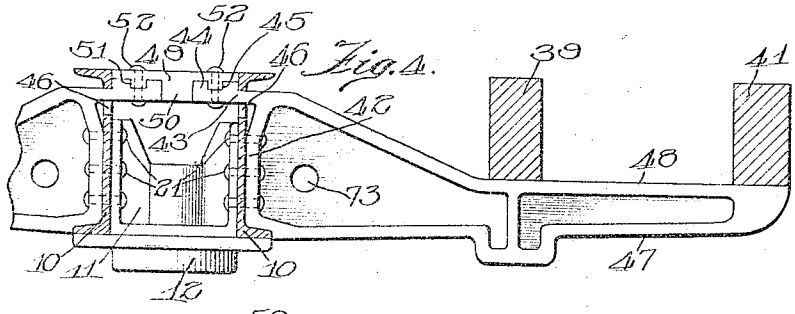


Fig. 5.

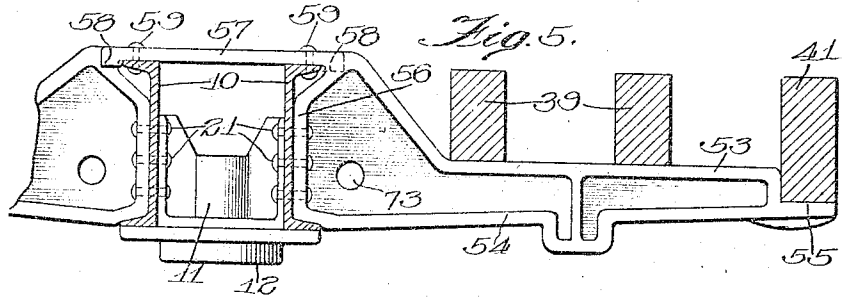


Fig. 6.

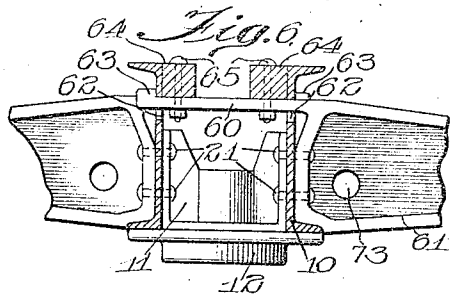
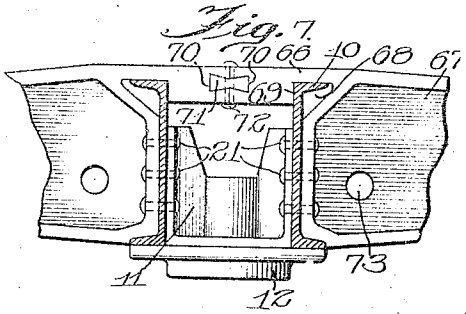


Fig. 7.



Witnesses:

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UNITED STATES PATENT OFFICE.

MALCOLM D. STEWART, OF HAMMOND, INDIANA.

CAR-BOLSTER.

992,285. Specification of Letters Patent. Patented May 16, 1911.

Application filed October 27, 1909. Serial No. 524,803.

To all whom it may concern:

Be it known that I, MALCOLM D. STEWART, a citizen of the United States, residing at Hammond, in the county of Lake and State of Indiana, have invented certain new and useful Improvements in Car-Bolsters, of which the following is a specification.

This invention relates to improvements in car bolsters, and the primary object of the same is to provide an improved metallic bolster of sectional construction and improved means for supporting and securing the sections in position.

A further object is to provide an improved device of this character which will be simple, durable and cheap in construction and effective and efficient in operation.

To the attainment of these ends and the accomplishment of other new and useful objects, as will appear, the invention consists in the features of novelty in the construction, combination and arrangement of the several parts hereinafter more fully described and claimed and shown in the accompanying drawings illustrating the embodiment of the invention, and in which—

Figure 1 is an elevation of an improved bolster of this character constructed in accordance with the principles of this invention, and showing the draft sills in section. Fig. 2 is a plan view of Fig. 1 with parts broken away. Fig. 3 is a view similar to Fig. 1 of a modified form of the invention. Figs. 4 and 5 are views similar to Fig. 1, of other modified forms of the invention. Figs. 6 and 7 are detail views of still other modifications of the invention.

Referring more particularly to the drawings, and in the exemplification of the invention shown in Figs. 1 and 2, the sill is preferably formed of members 10 secured together by a connecting member 11. The members 10 are preferably constructed of metal of channel formation arranged parallel with each other, with the channel portion opening toward the outside. A center plate or casting 12 is supported by the lower edge of the sill and is provided with an aperture therethrough which registers with an aperture in the connecting member 11 and through which the king pin passes. The bolster comprises two sections 13, one end 14 of which is adapted to abut the respective faces of the sill and to extend into the channel, so as to rest against the bottom thereof. A portion of the end of the bolster section is cut away or recessed as at 15 adjacent the lower edge of the bolster to receive one of the flanges on the respective faces of the sill. The upper edge 16 of the sections extends beyond the end 14 to form a projecting portion 17, and this projecting portion 17 is of a length to extend across and rest upon the top of the sill. The extremity of the projecting portion 17 projects downwardly, as at 18, to form a lip or shoulder which is adapted to engage over the edge of the flange of the face of the sill opposite to the face against which the end 14 of the respective bolster sections abut. The end 14 of each of the sections is recessed or cut away, as at 19, to form an open space adapted to receive the upper flange of the faces of the sill. The projecting portions 17 of the bolster sections are offset with respect to each other, as shown more clearly in Fig. 2, so that when the bolster sections 13 are assembled, the portions 17 will be located within the plane between the sides of the upper edge of the bolster. The sections may be secured in position in any desired or suitable manner, preferably by means of fastening devices 20, such as bolts, rivets, or the like, which pass through the projecting portions 17 and the adjacent flanges of the sill. Additional fastening devices 21, such as bolts, rivets, or the like, are also provided which pass through the ends 14 of the bolster sections, the sill members 10 and the edges of the connecting member 11. With this form of bolster, it will be apparent that the entire upper edge 16 of the bolster formed by the sections 13 will be located substantially in the same plane to form a flat supporting surface, and the center floor sills 22 rest upon the bolster preferably adjacent the draft sills 10. The outer sills 23 rest upon the extremities of the bolster while the intermediate floor sills 24 may be supported in any desired position between the center and outer sills. These floor sills may be secured against displacement in the ordinary and well known manner. Each of the bolster sections 13 is provided with the usual depending projecting portion 25 adapted to coöperate with the truck to limit the oscillating movement of the bolster.

In the form of the invention shown in Fig. 3, the projecting portion 26 which extends beyond the inner edge 27 of the bolster section 28 is deflected downwardly as at 29, to form an overhanging portion adapted

to engage over the upper edge of the respective member of the sill, and to extend into the space between the sill members 10. The end 30 of the portion 29 is deflected laterally and the upper face of this portion 30 is recessed, as at 31, to form a shoulder 32. A cap plate 33 is provided with recesses 34 in its lower face adapted to receive the extremities of the portions 30, and this cap plate is of a size to substantially fill the space between the overhanging portions 29 of the bolster sections, and when in position, the plate may be secured against displacement in any desired or suitable manner, preferably by means of fastening devices 35, such as bolts, rivets or the like. The portions 30 are preferably so located that the upper face of the cap plate will stand below the portion 36 of the upper edge 37 of the bolster sections. In this form of the invention the upper edge 37 of the bolster sections are disposed as shown to form a supporting face 38 intermediate the ends of the bolster section, and upon which surface 38 the intermediate sills 39 rest. The center sills 40 rest upon the portions 36 of the upper edge of the bolster sections, and the outer sills 41 may be supported by the outer ends of the bolster sections in any desired or suitable manner, preferably by means of brackets 42, each of which is secured to a channel iron 43, and this channel iron is adapted to engage over the outer or free end 44 of the bolster section. This channel iron and bracket 42 may be secured against displacement with respect to each other and to the extremities of the bolster sections in any desired or suitable manner, preferably by means of fastening devices 45, 46, in the form of bolts, rivets, or the like.

In the form of the invention shown in Fig. 4, the upper edges of the bolster sections 47 are depressed to form extended flat supporting surfaces 48 at the free ends of the sections upon which the side floor sills 41 and intermediate floor sills 39 rest. The upper edge of the bolster sections are extended beyond the inner end 42 to form a projecting portion 43, the extremity 44 of which is enlarged, and the upper face of the enlarged portion is provided with a recess 45. In this form of the invention the sill members 10 are each provided with an aperture or opening 46 of a size slightly larger than the enlarged extremity 44 of the projecting portion 43, so that the lug piece formed by the projection may be easily inserted or passed through the opening 46 to allow tipping of the bolster section when adjusting, if necessary. The enlarged extremities 44 of the projection or lug piece 43 stands below the upper edges of the sill members 10, and terminate short of each other. A cap plate 49 is provided with a depending central portion 50, adapted to stand between the extremities of the lugs or projecting portions 44. This cap plate is provided with depending portions 51 adapted to enter the recesses 45 in the lugs or projecting portions 43, and the plate is of a size to substantially fill the space between the sill members above the lugs or projecting portions 44 and between the extremities thereof, with the top standing substantially flush with the upper edges of the sill members. The cap plate may be secured in position in any desired or suitable manner, preferably by means of lugs or fastening devices 52, such as bolts, rivets, or the like.

In the form of the invention shown in Fig. 5, two intermediate sills 39 are provided which rest upon the depressed supporting faces 53 of the bolster sections 54, and the outer extremity of the bolster section is reduced to form a supporting shoulder 55 for the outer floor sill 41. The upper edge of the bolster section 54 extends beyond the end 56 thereof, as at 57, in a manner similar to that shown in Fig. 1, so as to rest upon and engage over the top edges of the sill members 10, with the depending extremity 58 engaging over the upper edge of the draft sill opposite to that against which the respective bolster sections rest. In this form of the invention, the fastening devices 59 are provided, which extend through the depending portions 57 and the flanges of the sill members.

In the form of the invention shown in Fig. 6, the extended portions 60 of the bolster sections 61 project through apertures 62 in the sill members 10 in a manner similar to that shown in Fig. 4, but in this form of the invention the projecting portions 60 are preferably offset with respect to each other, in a manner similar to that shown in Fig. 2, and the extended portions 60 are adapted to pass through the apertures 62 in both the sill members 10. The free extremity of each of the portions 60 is provided with a shoulder 63 adapted to engage over the edge of the aperture in the sill member opposite to that against which the respective bolster sections abut, and the shouldered portions 63 extend upwardly. In this form of the invention the upper edges of the sill members 10 constitute the center floor sills, and nailing strips 64 are provided which rest upon the projecting portions 60 adjacent the sill members 10 with their upper edges substantially flush with the upper edges of the sill members. These nailing strips may be secured against displacement in any desired or suitable manner, preferably by means of fastening devices 65, such as screws, bolts, rivets, or the like, which pass through the strips and the projecting portions 60. In the form of the invention shown in Fig. 7, the projecting portions 66 of the bolster

sections 67 extend over the top edges of the respective sill members 10 and are recessed to form an opening 68 to receive the flange of the sill member and to form a shoulder 69 which rests against the inner face of the respective sill member. These projecting portions 66 are substantially of a width equal to the width of the supporting faces of the bolster sections and abut against each other between the draft sills 10. The abutting faces of these portions 66 are provided with dove-tailed grooves 70 adapted to receive a locking key or member 71 of a configuration to conform to the grooves 70. This locking member may be inserted in the grooves transversely of the bolster sections when the latter are assembled, and any suitable means, such as a fastening device 72 in the form of a bolt or rivet may be provided which passes through adjacent portions of the projecting extremities 66 of the bolster sections and the locking member 71 to prevent accidental displacement of the latter.

In all the forms of the invention the bolster sections may be braced by the usual reinforcing ribs and the sections may be provided with an opening 73 for the air pipe, as usual.

In order that the invention might be fully understood, the details of the foregoing embodiments thereof have been thus specifically described, but what is claimed as new is—

1. In a device of the character described, the combination of a sill, a bolster comprising sections arranged on opposite sides of the sill and opposed to each other, and means integral with each of the bolster sections and coöperating with the sill for supporting the respective sections and maintaining the sections supported.

2. In a device of the character described, the combination of a sill, a bolster comprising sections arranged on opposite sides of the sill and opposed to each other, and means integral with each of the bolster sections and extending beyond one end of each of the sections and engaging the sill to support the respective sections.

3. In a device of the character described, the combination of a sill, a bolster comprising sections arranged on opposite sides of the sill and opposed to each other, each of said sections being provided with an integral shouldered extension projecting beyond one end thereof and adapted to engage over a portion of the sill for supporting the respective sections.

4. In a device of the character described, the combination of a sill provided with oppositely disposed laterally projecting flanges along one edge, a bolster comprising sections arranged on opposite sides of the sill and opposed to each other, each of said sections being provided with an integral shouldered extension projecting therefrom and adapted to engage over a portion of the sill for supporting the respective sections, said sections being also provided with a recess adapted to receive the respective flanges on the sill.

5. In a device of the character described, the combination of a sill comprising spaced members, and a bolster comprising sections arranged on opposite sides of the sill and opposed to each other, one end of each of the sections abutting one of the sill members, said bolster sections being each provided with an integral shouldered portion extending beyond the end abutting the sill, said extending portions engaging over one of the members of the sill beyond the respective bolster sections.

6. In a device of the character described, the combination of a sill comprising spaced members, and a bolster comprising sections arranged on opposite sides of the sill and opposed to each other, one end of each of the sections abutting one of the sill members, said bolster sections being each provided with an integral shouldered portion projecting beyond the end abutting the sill, said extending portions engaging over one of the members of the sill beyond the respective bolster sections, said projecting portions being both located within the plane between the sides of the bolster.

7. In a device of the character described, the combination of a sill comprising spaced members, a bolster comprising sections arranged on opposite sides of the sill and opposed to each other, one end of each of the sections abutting one of the sill members, said bolster sections being each provided with an integral shouldered portion projecting beyond the end abutting the sill, said extending portions engaging over one of the members of the sill beyond the respective bolster sections, and securing means coöperating with the free extremities of the said projecting portions.

8. In a device of the character described, the combination of a sill comprising spaced members, and a bolster comprising sections arranged on opposite sides of the sill and opposed to each other, one end of each of the bolster sections abutting one of the sill members, said bolster sections being each provided with an integral portion projecting beyond the end abutting the sill member and engaging the opposite sill member.

9. In a device of the character described, the combination of a sill comprising spaced members, and a bolster comprising sections arranged on opposite sides of the sill and opposed to each other, one end of each of the bolster sections abutting one of the sill members, said bolster sections being each provided with an integral portion projecting beyond the end abutting the sill member and

being provided with a shouldered portion engaging over a portion of the opposite sill member.

10. In a device of the character described, the combination of a sill comprising spaced members, and a bolster comprising sections arranged on opposite sides of the sill and opposed to each other, one end of each of the bolster sections abutting one of the sill members, said bolster sections being each provided with an integral portion projecting beyond the edge abutting the sill member and engaging the opposite sill member, said projecting portions being offset with respect to each other and arranged within the plane between the sides of the bolster.

11. In a device of the character described, the combination of a sill comprising spaced channel members opening outwardly with the flanges arranged at the top and bottom, bolster sections arranged on opposite sides of the sill and opposed to each other, one end of each of the sections abutting and being seated in one of the channel members, each of the bolster sections being provided with an integral projecting portion extending beyond the end abutting the sill member and engaging one of the sill members beyond said end and each of the bolsters being recessed to receive one of the flanges of the respective sill members.

12. In a device of the character described, the combination of a sill comprising spaced channel members opening outwardly with the flanges arranged at the top and bottom, bolster sections arranged on opposite sides of the sill and opposed to each other, one end of each of the sections abutting and being seated in one of the channel members, each of the bolster sections being provided with an integral projecting portion extending beyond the end abutting the sill member, said projecting portions being provided with a shouldered portion engaging the sill member opposite to the sill member against which its respective bolster section abuts.

13. In a structure of the character described, the combination with a sill, of a bolster section provided at its inner end in a plane below its upper edge with means of abutment against said sill to hold said inner end from moving inwardly, said bolster section also having a projection on its inner end shouldered on the sill against outward movement at a point removed upwardly from said point of abutment.

14. In a structure of the character described, the combination with a sill, of a bolster section provided at its inner end in a plane below its upper edge with means of abutment against said sill to hold said inner end from moving inwardly, said bolster section also having a projection on its inner end reaching beyond said point of abutment and shouldered on the sill against outward movement at a point removed in the vertical plane of the bolster section both laterally and upwardly from said point of abutment.

15. In a structure of the character described, the combination with a sill, of two bolster sections abutted against opposite sides of the sill, the point of abutment between the sill and each bolster section being removed below the upper edge of such section for holding the section from moving inwardly at that point, each of said sections also having a projection on its inner end reaching beyond said point of abutment of its section and shouldered on the sill against outward movement at a point removed in the vertical plane of such section both laterally and upwardly from said point of abutment thereof.

16. In a structure of the character described, the combination with a sill, of two bolster sections opposing each other and abutting against opposite sides of the sill, the point of abutment between the sill and each bolster section being removed below the upper edge of that section for holding such section from moving inwardly at that point, each of said sections also having a projection on its inner end reaching beyond said point of abutment of its section and shouldered on the sill against outward movement at a point removed in the vertical plane of the bolster section both laterally and upwardly from said point of abutment thereof, said bolster sections being disposed in the same vertical plane and said projection on one section being extended to a plane cutting the extension on the other transversely.

17. In a structure of the character described, the combination with a sill, of two bolster sections disposed in the same vertical plane at opposite sides of the sill and provided at points removed below their upper edges with means for abutment against the sill for holding each section from moving inwardly at that point, each of said sections also having a projection at the upper edge of its inner end reaching transversely of said sill and provided with means of engagement therewith, the projection on one of said sections being extended to a plane cutting the other projection transversely.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this fifteenth day of October A. D. 1909.

MALCOLM D. STEWART.

Witnesses:

N. S. SCHROEDER,

FRED C. HOEPPNER.