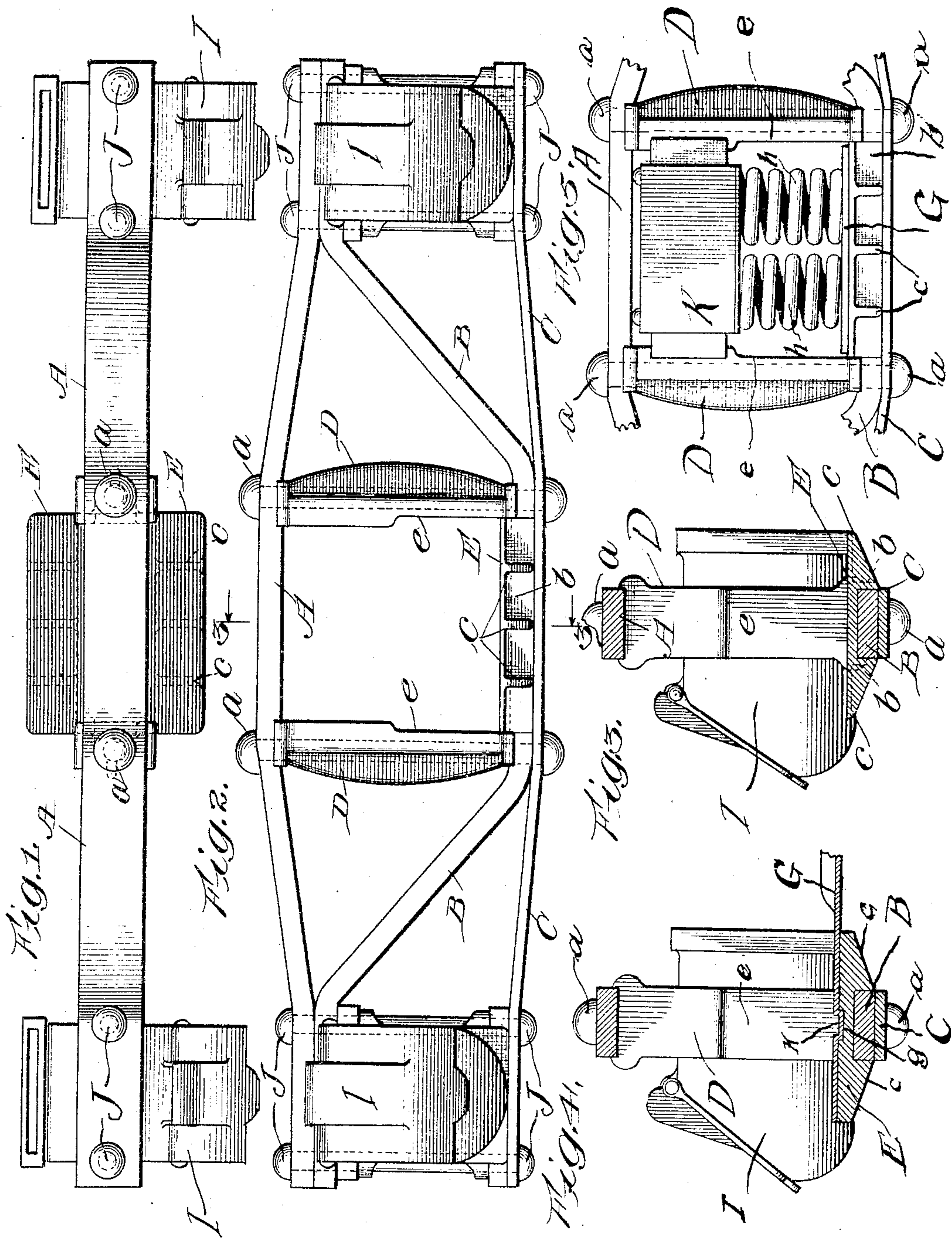


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W. P. BETTENDORF.  
SIDE FRAME FOR CAR TRUCKS.  
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# UNITED STATES PATENT OFFICE.

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## SIDE FRAME FOR CAR-TRUCKS.

SPECIFICATION forming part of Letters Patent No. 785,790, dated March 28, 1905.

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*To all whom it may concern:*

Be it known that I, WILLIAM P. BETTENDORF, a citizen of the United States, and a resident of Davenport, in the county of Scott and State of Iowa, have invented certain new and useful Improvements in Side Frames for Car-Trucks, of which the following is a full, clear, and exact description.

The object of my invention is to so construct the side frames of the common freight-car truck that by a simple modification of its parts the truck-bolster can be removed from between the guide-columns thereof without its being necessary to dismantle and knock down the entire side frame, and thus permit of the parts of the side frame being connected by rivets and dispense with the cost of numerous bolts, nuts, and cotters and the labor of assembling the same and avoid the danger arising from the lower projecting ends of the bolts both to the ties and to the car when a wheel or an axle breaks and the side frames slide on the ground. This I accomplish by the means hereinafter fully described and as particularly pointed out in the claims.

In the drawings, Figure 1 is a plan view of a side frame for a car-truck embodying my invention. Fig. 2 is a side view thereof. Fig. 3 is a transverse vertical section taken on dotted line 3 3, Fig. 2, looking in the direction indicated by the arrows. Fig. 4 is a view similar to Fig. 3, showing my invention used in connection with a spring-plank. Fig. 5 is a side view of the central portion of a side frame constructed as shown in Fig. 4 and including the bolster and bolster-springs.

The side frame illustrated in the drawings comprises an upper arch-bar A, a lower or inverted arch-bar B, and a tie-bar C, all constructed and arranged in the usual manner. The central portions of the upper and lower arch-bars are connected by the vertical guide-columns D D in the same manner as the well-known Master Car-Builders' freight-car truck, except that the bolts *a a*, extending longitudinally through said guide-column that fasten the upper and lower arch-bars thereto and the tie-bars in proper position, are headed at each end, so as to be immovable, whereas the guide-

column bolts used in connection with the said Master Car-Builders' trucks have one end threaded and are tightened by nuts engaging said threaded portions, so as to permit of their removal and the removal or further separation of the guide-columns when the truck-bolster is to be removed.

Secured to the central horizontal portion of the inverted arch-bar between the lower ends of the guide-columns is a removable spring-seat E, which comprises a platform that preferably projects a suitable distance on each side of the side frame to afford the necessary support for bolster-springs and has parallel downwardly-projecting longitudinal flanges *b b*, which when the spring-seat is in proper position lap down on each side of the lower arch-bar and prevent lateral displacement of said seat. If desired, brackets *c c c* may be interposed between the overhanging portions of the spring-seat and flanges *b b*, as shown, and while it is considered that the weight of the springs, the bolster, and the load carried thereby will be sufficient to keep the spring-seat in place without the employment of other means, which latter means might be employed for this purpose, if desired. The lower portion of the sides of the guide-columns that face each other and are engaged by the guide-blocks of the bolster are inset or cut away at *e e*, as shown, to an extent sufficient for the bolster and when the springs have been removed out from under the same to be lowered until between the lower farther-separated portions of the guide-column, in which position its guide-block will clear the guide-columns and the bolster can be moved endwise out of the side frame. I prefer to provide the upper surface of the platform of this spring-seat with a groove *g*, extending in the same direction as the length of the side frame and transverse to the spring-plank G, that rests thereon. This groove *g* is made in the spring-seat over the lower arch-bar, and the spring-plank is depressed transversely near its ends to provide a downwardly-projecting tenon *h*, that enters said groove *g*. The weight of the bolster K and springs *h*, supporting the same, rests upon and keeps the spring-plank



interlocked with the side frame; but, if desired, the grooves *g* in the spring-seats and the tenons *h* in the spring-planks may be omitted.

The ends of the upper and lower arch-bars lap against each other over the journal-boxes I, which latter may be of any of the standard make, and is secured between the lapping ends of said arch-bars and the ends of the tie-bar by vertically-disposed rivets J J, which extend through said bars and have their upper and lower ends headed. The advantage of having the ends, and particularly the lower ends, of these rivets headed is that should the truck or the car-wheels break down the lower headed ends of the rivets present no obstruction to the ties of the road-bed, but slip over the same, and therefore avoid the damage that always results both to the road-bed and the rolling-stock from the use of bolts having nuts and cotters on their lower projecting screw-threaded ends, as is now the case with the common diamond frame now in use.

What I claim as new is—

1. A side frame for car-trucks made of distinctive parts comprising an upper arch-bar; a lower arch-bar, guide-columns, the lower portions of the edges thereof facing each other being cut away and are farther apart than the upper portion of said edges, and rivets extending longitudinally through said guide-columns and headed at each end.

2. A side frame for car-trucks made of distinctive parts comprising an upper arch-bar; a lower arch-bar; independent guide-columns the lower portions of the edges thereof facing each other being cut away and are farther apart than the upper portions of said edges, and rivets extending longitudinally through said guide-columns and headed at each end.

3. A side frame for car-trucks made of distinctive parts comprising an upper arch-bar; a lower arch-bar; guide-columns the lower portions of the edges thereof facing each other being cut away and are farther apart than the upper portion of said edges, a spring-seat secured upon and straddling the lower arch-bar between the guide-columns, and rivets extending longitudinally through said guide-columns and headed at each end.

4. A side frame for car-trucks made of distinctive parts comprising an upper arch-bar; a lower arch-bar; independent guide-columns the lower portions of the edges thereof facing each other being cut away and are farther apart than the upper portion of said edges, a spring-seat secured upon and straddling the lower arch-bar between the guide-columns, and rivets extending longitudinally through said guide-columns and headed at each end.

5. A side frame for car-trucks made of distinctive parts comprising an upper arch-bar; a lower arch-bar; guide-columns the lower portions of the edges thereof facing each other being cut away and are farther apart than the upper portion of said edges, a spring-seat hav-

ing downwardly-projecting parallel flanges, and seated upon the lower arch-bar between the guide-columns and lapping against each side of said bar, and rivets extending longitudinally through said guide-columns and headed at each end.

6. A side frame for car-trucks made of distinctive parts comprising an upper arch-bar; a lower arch-bar; and guide-columns suitably secured between the same, and a spring-seat secured upon the lower arch-bar between said guide-columns and having a depression in its upper surface, and a spring-plank having projections on the under surface of its ends and adapted to interlock with said depression.

7. A side frame for car-trucks made of distinctive parts comprising an upper arch-bar; a lower arch-bar; guide-columns, the lower portions of the edges thereof facing each other being cut away and are farther apart than the upper portion of said edges; a spring-seat secured upon the lower arch-bar between the guide-columns and having a depression in its upper surface, and a spring-plank having a projection on the under surface of its ends and adapted to interlock with said depression.

8. A side frame for car-trucks made of distinctive parts comprising an upper arch-bar; a lower arch-bar; independent guide-columns the lower portions of the edges thereof facing each other being cut away and are farther apart than the upper portions of said edges; a spring-seat secured upon the lower arch-bar between the guide-columns and having a depression in its upper surface, and a spring-plank having a projection on the under surface of its ends and adapted to enter said depression.

9. A side frame for car-trucks made of distinctive parts comprising an upper arch-bar; a lower arch-bar; column-guides, having vertical longitudinal perforations and vertical rivets extending through the same and through said arch-bars and headed at each end.

10. A side frame for car-trucks made of distinctive parts comprising an upper arch-bar; a lower arch-bar; a tie-bar; column-guides having vertical longitudinal perforations, and vertical rivets extending through the perforations in said arch-bars and tie-bar and headed at each end.

11. A side frame for car-trucks made of distinctive parts comprising an upper arch-bar; a lower arch-bar; a tie-bar; journal-boxes between the ends of said arch-bars and tie-bar; column-guides having vertical longitudinal perforations, and vertical rivets extending through said perforations and on either side of said journal-boxes and having their ends pass through said bars and headed.

12. A side frame for car-trucks made of distinctive parts comprising an upper arch-bar; a lower arch-bar; guide-columns, the lower portions of the edges thereof facing each other being cut away and are farther apart than the



upper portion of said edges, and have vertical longitudinal perforations, and rivets which extend through said perforations and bars and have their ends headed.

5 13. A side frame for car-trucks made of distinctive parts comprising an upper arch-bar; a lower arch-bar; guide-columns the lower portions of the edges thereof facing each other being cut away and are farther apart than the  
10 upper portion of said edges; a spring-seat secured upon and straddling the lower arch-bar between the guide-columns, said guide-columns having vertical longitudinal perforations, and rivets which extend through said  
15 perforations and bars and have their ends headed.

14. A side frame for car-trucks made of distinctive parts comprising an upper arch-bar; a lower arch-bar; independent guide-columns  
20 the lower portions of the edges thereof facing each other being cut away and are farther apart than the upper portion of the said edges; a spring-seat secured upon and straddling the lower arch-bar between the guide-columns,  
25 said guide-columns having vertical longitudinal perforations, and rivets which extend through said perforations and bars and have their ends headed.

15. A side frame for car-trucks made of distinctive parts comprising an upper arch-bar; a lower arch-bar; guide-columns the lower portions of the edges thereof facing each other being cut away and are farther apart than the  
30 upper portion of said edges; a spring-seat having downwardly-projecting parallel flanges, and seated upon the lower arch-bar between the guide-columns and lapping against each side of said bar, said guide-columns having  
35 vertical longitudinal perforations, and rivets which extend through said perforations and bars and have their ends headed.

16. A side frame for car-trucks made of distinctive parts comprising an upper arch-bar; a lower arch-bar; and guide-columns suitably  
40 secured between the same, and a spring-seat secured upon the lower arch-bar between said guide-columns and having a depression in its upper surface; a spring-plank having projec-

tions on the under surface of its ends and adapted to interlock with said depression, 50  
said guide-columns having vertical longitudinal perforations, and rivets which extend through said perforations and bars and have their ends headed.

17. A side frame for car-trucks made of distinctive parts comprising an upper arch-bar; a lower arch-bar; guide-columns, the lower portions of the edges thereof facing each other being cut away and are farther apart than the  
55 upper portion of said edges; a spring-seat secured upon the lower arch-bar between the guide-columns and having a depression in its upper surface; a spring-plank having a projec- 60  
tion on the under surface of its ends and adapted to interlock with said depression, said  
65 guide-columns having vertical longitudinal perforations, and rivets which extend through said perforations and bars and have their ends headed.

18. A side frame for car-trucks made of distinctive parts comprising an upper arch-bar; a lower arch-bar; independent guide-columns the lower portions of the edges thereof facing each other being cut away and are farther apart than the upper portions of said edges; 70  
a spring-seat secured upon the lower arch-bar between the guide-columns and having a depression in its upper surface; a spring-plank having a depression on the under surface of its ends and adapted to enter said depression, 80  
said guide-columns having vertical longitudinal perforations, and rivets which extend through said perforations and bars and have their ends headed.

19. In a car-truck, a side frame comprising 85  
an upper arch-bar; a lower arch-bar; a tie-bar; column-guides; journal-boxes; and vertical rivets securing said parts together in proper relation and having their lower ends extend through the tie-bar and headed. 90

In testimony whereof I have hereunto set my hand this 18th day of June, 1904.

WILLIAM P. BETTENDORF.

Witnesses:

A. F. MACPHERSON,  
J. H. BENDIXEN.