

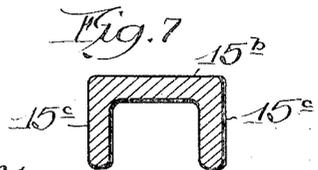
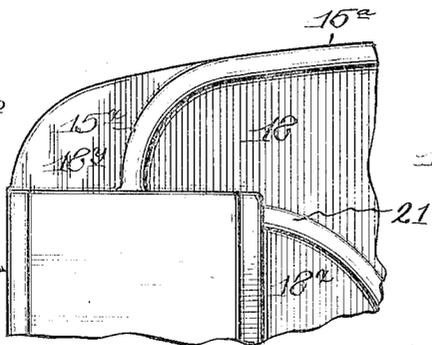
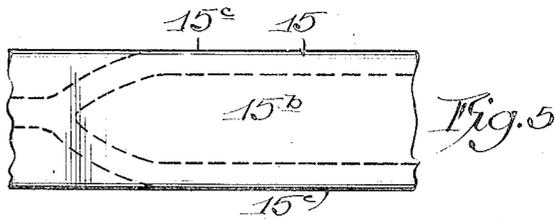
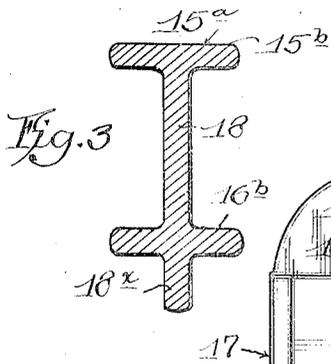
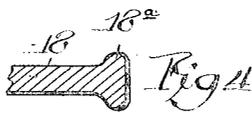
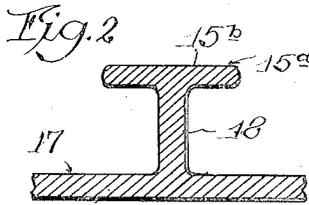
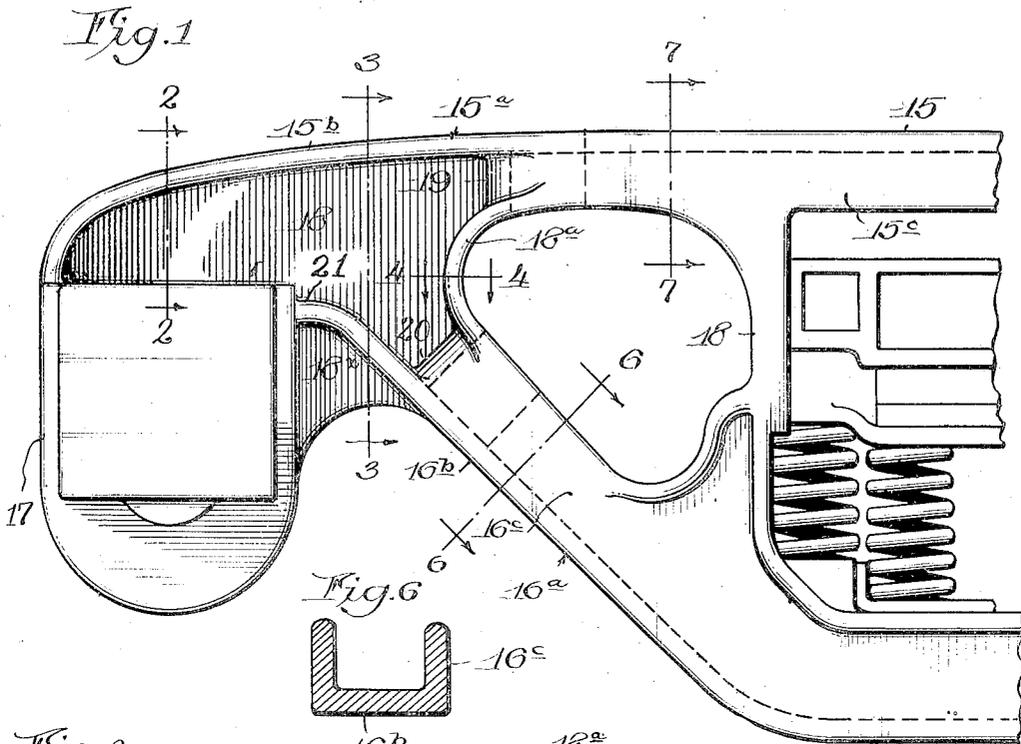
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SIDE FRAME FOR CAR TRUCKS

Filed Nov. 27, 1925



Witness:
 Chas. L. Koursh

Fig. 8

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UNITED STATES PATENT OFFICE.

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SIDE FRAME FOR CAR TRUCKS.

Application filed November 27, 1925. Serial No. 71,520.

This invention relates to certain novel improvements in side-frames for car trucks and consists of the matters hereinafter described and more particularly pointed out in the appended claims.

The invention relates especially to truck side-frames of the kind which are cast or made integral with the journal box. One object of the invention is to improve the construction of such side-frames in such manner that it may be made with less metal than is now required without in any way impairing or reducing the strength of the structure. Another object of the invention is to simplify the core work required in the foundry when casting a truck of the kind.

These and other objects and advantages of the invention will appear more clearly as I proceed with my specification.

In the drawings:—

Figure 1 is a view representing in side elevation one-half of a side-frame for a truck made in accordance with my invention.

Figures 2, 3, and 4 illustrate partial sections through the side-frame shown in Figure 1 in planes indicated by the lines 2—2, 3—3, and 4—4, respectively.

Figure 5 is a top plan view of the inclined part of the bottom or tension member of the side-frame.

Figures 6 and 7 illustrate other partial sections through the side-frame of Figure 1 in planes respectively indicated by the lines 6—6 and 7—7 thereof.

Figure 8 represents in side elevation a part of a side-frame showing a somewhat modified form of the invention.

Referring now to that embodiment of the invention illustrated in the drawings:—15 indicates the top compression bar of the side-frame; 16 is the bottom tension member of said frame; and 17 indicates the journal box. 18 indicates one of the pair of upright columns which are spaced apart in the central portion of the side-frame and between which a transverse bolster, spring plank, and springs of well-known form are supported in any usual manner.

The top compression bar 15 and the bottom tension member 16 are made of channel bar construction as usual, as shown respectively in Figures 7 and 6. As now generally constructed, this channel construction is continued through the downwardly in-

clined end parts 15^a of the upper compression bar and through the upwardly inclined end parts 16^a of the bottom tension member to the journal box 17. The walls of said journal box are made integral with said channel construction, including the horizontal webs 15^b and 16^b of the said top and bottom members, as well as the flanges 15^c and 16^c thereof.

In the improved side-frame, the flanges 15^c, 15^c of the top member as well as the flanges 16^c, 16^c of the bottom or tension member are converged towards each other to meet and join respectively, at points spaced somewhat from the journal box, in a flat, vertical web 18, which is made integral with the journal box (see Figure 5). The said side flanges 15^c and 16^c disappear in said web 18, which is reinforced and stiffened at its inner edge by a bead 18^a, which connects the two parts of the side-frame where the flanges 15^c and 16^c come together, as indicated respectively at 19 and 20.

The horizontal web 16^b of the bottom member 16 joins the side wall of the journal box shortly below the top, inner corner of said box at 21 and the vertical web 18 is continued below this point as indicated at 18^x to provide the necessary cross-sectional area required to withstand strains at this point. The horizontal web 15^b of the top compression member is carried over to the outer wall of the journal box which it joins at its top as clearly indicated in Figure 1.

By the foregoing construction, it will be obvious that, while the required channel section of the top and bottom members of the side-frame is maintained towards the central part of the side-frame, where the greatest transverse stresses occur, a simple I-beam structure is presented on any and all sections in the immediate neighborhood of the journal box where such transverse stresses are greatly reduced. A familiar calculation will indicate that the I-beam thus offered, presents ample cross-sectional area of metal to withstand the transverse strains required to be met adjacent the journal box. Considerable metal is thus saved at this point and this without in any way impairing the required strength of the structure.

In addition it will be evident that the core work in the foundry is simplified adjacent

the journal box, since there are no channels in that neighborhood to be provided for.

In Figure 8, I have shown a slightly modified form of the invention. In that view like parts are indicated by the same numerals heretofore employed. In this case the horizontal web 15^b of the top compression member, instead of being continued out to the outer wall of the journal box, as in the construction above described, is turned down short of that wall to join the top wall of the journal box at a point intermediate its inner and outer walls, as indicated at 15^x. In this case the flat, vertical web 18 is continued beyond the said horizontal web 15^x to the outer wall of the journal box, as indicated at 18^y.

It will be understood that, while in describing my invention I have indicated more or less exact limits at which the channel form of the main intermediate part of the side-frame terminates and at which the I-beam section in the neighborhood of the journal box begins, the invention is not in any way limited thereby except as may be pointed out in the appended claims.

I claim as my invention:—

1. In an integral side-frame-journal-box

structure for car trucks, a side-frame having a top compression member and a bottom tension member, said frame members being of channel form in the main part of the frame intermediate the journal boxes, and being of I-section at and in the neighborhood of the journal box.

2. In an integral side-frame-journal-box structure for car trucks, a side-frame having a top compression member and a bottom tension member, said two members in the main part of the frame intermediate the journal boxes being of channel form including horizontal webs and vertical flanges, the horizontal web of the top member joining the top of the journal box and the horizontal web of the bottom member joining the inner wall of the journal box, and the vertical flanges of said members converging towards each other to join at points spaced inwardly from the journal box in a vertical web which extends from the top wall and side wall of said boxes.

In testimony that I claim the foregoing as my invention, I affix my signature this 21st day of November, A. D. 1925.

JOHN W. DALMAN.