Jan. 1, 1929. 1,697,513

H. C. PRIEBE

TRUCK FOR RAILWAY VEHICLES

Filed Sept. 30, 1927

Fig. 1.

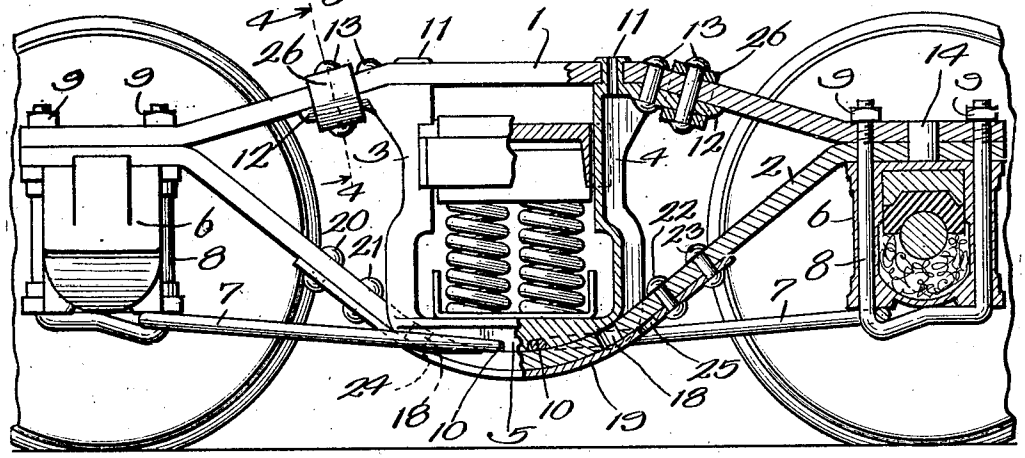


Fig. 2.

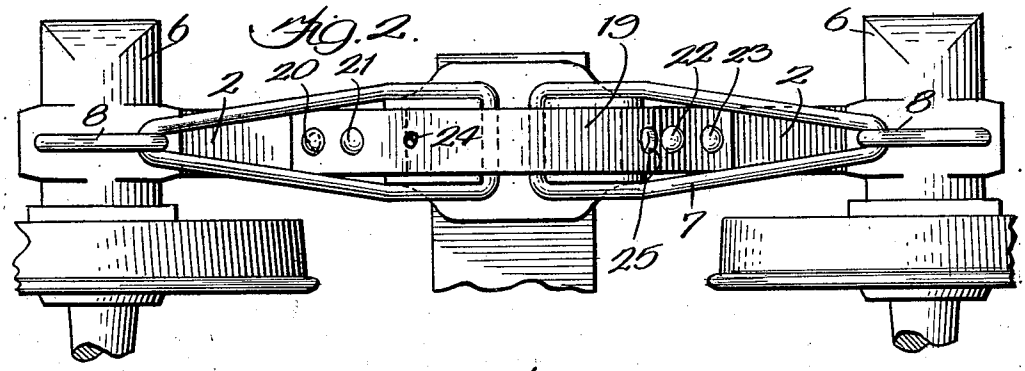


Fig. 3.

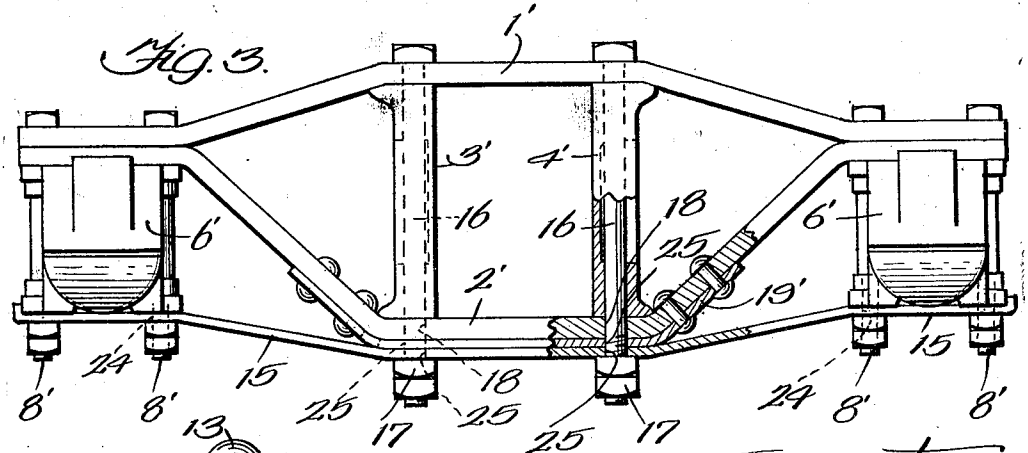
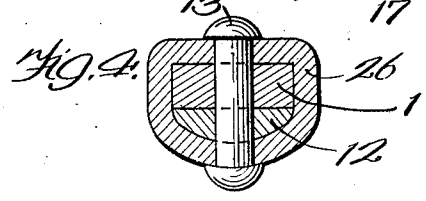


Fig. 4.



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UNITED STATES PATENT OFFICE.

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TRUCK FOR RAILWAY VEHICLES.

Application filed September 30, 1927. Serial No. 223,048.

My invention relates to trucks for railway vehicles and has for one object the reinforcement of the lower arch bars of the side frames of the trucks, and another object the reinforcement of the riveting of arch bars and bolster columns.

By means of my invention, I am enabled to employ parts of truck side frames of a certain type when the use of such frames is discontinued and the frames are taken apart for salvage. In one embodiment of the invention, both the lower arch bar and reinforcing strap are constructed from the lower arch bar and underlying strap of such dismantled truck frame, the strap serving, in the newly constructed frame, to reinforce the lower bar which would otherwise have been unadaptable to new use because of perforations therein. In another embodiment of the invention, frames of the type whose underlying straps are employed for the purpose stated may, themselves, be strengthened by such bars taken from similar frames that are dismantled.

I will explain my invention more fully by reference to the accompanying drawing in which Fig. 1 is a side view with parts shown in elevation and parts shown in section of a truck whose frame is constructed in accordance with the preferred embodiment of the invention; Fig. 2 is a bottom view of the structure shown in Fig. 1; Fig. 3 is a side view of another embodiment of the invention; and Fig. 4 is a sectional view on line 4—4 of Fig. 1.

The truck illustrated in Figs. 1 and 2 includes an upper arch bar or compression member 1, a lower arch bar or tension member 2, bolster columns 3 and 4, a yoke 5 joining the lower ends of the bolster columns, journal boxes 6 at the ends of the side frame, and tie links 7 which assemble the lower ends of the journal boxes with the yoke 5. The arch bars 1 and 2 are desirably of rolled steel converging toward the ends of the side frame and whose ends are brought together above the journal boxes. These journal boxes are assembled with the arch bars by means of the U bolts 8 whose side portions pass upwardly through the journal boxes and whose base portions are clamped against the bottoms of the journal boxes by means of the nuts 9 screwed upon the ends of the U bolts. The inner upright sides of said U bolts pass through the tie links 7 and engage the outer ends of these links. The inner ends of these links are received within recesses 10 that are formed in the bottom side of the yoke 5 near the middle of the yoke. The tie links thus serve to prevent the bottoms of the journal boxes from spreading apart.

The upper ends of the bolster columns 3 and 4 are reduced to form pins 11 and seats at the base ends of these pins. These pins enter openings formed in the upper arch bar 1, this arch bar engaging the aforesaid seats. The pins have their upper or outer ends expanded into heads that lap the arch bar 1, as illustrated in Fig. 1. The bolster columns have wing portions 12 extending therefrom toward the ends of the side frame, rivets 13 passing through these wing portions and the arch bar 1 further to assure the assembly of this arch bar with the bolster columns.

A pin 14 is driven into one arc bar end at each end of the side frame, preferably the lower arch bar end, the other arch bar ends having holes in which said pins are received in the process of assembling the ends of the arch bars.

The truck illustrated in Fig. 3 is inclusive of the upper arch bar 1′ and the lower arch bar 2′, these arch bars converging toward the tops of the journal boxes 6′ and being secured thereto by bolts 8′ which pass through the ends of the arch bars and through the underlying strap 15 constituting a tension member. In the structure of Fig. 3 the bolster columns 3′, 4′, are separately formed, the tie bolts 16 passing through the columns 3′, 4′, and also through both arch bars and the tensioning strap, nuts 17 serving to tighten said bolts 16.

In forming the structure of Figs. 1 and 2, the arch bar 2 is formed from the arch bar 2′ of a dismantled frame of the type illustrated in Fig. 3. Perforations 18 are left in the arch bar 2 in the structure of Figs. 1 and 2, these having been the perforations through which the bolts 16 of the dismantled frame passed. These perforations are, obviously, distributed along the bar 2 and are on opposite sides of and equidistant from the center of this bar. To overcome the weakness that would be due to these perforations in the structure of Figs. 1 and 2, I employ a reinforcing strap 19 which underlies the bar 2 and extends toward both ends thereof beyond said perforations, said strap being secured to the bar 2 by rivets 20, 21, 22 and 23, at the ends of the strap. The strap 19 may be conveniently formed from one half of the strap

15 of the structure of Fig. 3 in which event the rivet 20 passes through the same bolt hole in the strap which receives the outer bolt 8′ in the structure of Fig. 3. The perforation 24 previously received one of the bolts 8′. The perforation 25 in strap 19 previously received one of the bolts 16. The presence of the perforations 24 and 25 in the strap 19 does not unduly impair the effectiveness of this strap. In the structure of Fig. 3 the lower arch bar 2′ is supplied with a reinforcing strap 19′ which may be formed from one half of the strap 15 of a discarded side frame of the general type illustrated in Fig. 3, whereby side frames of this general type are further strengthened with the aid of the underlying straps 15 of discarded frames.

In the preferred embodiment of the invention, sleeves 26 surround the wings 12 of the bolster columns and the adjacent arch bar, the arch bar 1 in the embodiment of the invention shown in Fig. 1. The outermost rivets 13 are passed through said sleeves and the portions of said column wings and arch bar surrounded by said sleeves. These sleeves serve to relieve the tension on all rivets 13 lengthwise thereof, said sleeves being tightly driven into place. This is of value since the heads of said rivets would otherwise frequently snap off in cold weather. The value of the rivets in resisting shearing effect upon the pins 11 is fully retained.

Changes may be made without departing from the invention.

Having thus described my invention, I claim:

1. A truck for railway vehicles including journal boxes; upper and lower arch bars assembled with the journal boxes and which converge toward the tops of said boxes, the lower arch bar having perforations therein along the same and on each side of its center; and a reinforcing strap secured to the mid portion of the lower arch bar at places between said perforations and the ends of this arch bar, said strap being on the bottom side of this bar.

2. A truck for railway vehicles including journal boxes; upper and lower arch bars assembled with the journal boxes and which converge toward the tops of said boxes, the lower arch bar having perforations therein along the same and on each side of its center; and a reinforcing strap riveted to the mid portion of the lower arch bar at places between said perforations and the ends of this arch bar, said strap being on the bottom side of this bar.

3. A truck for railway vehicles including journal boxes; upper and lower arch bars assembled with the journal boxes and which converge toward the tops of said boxes; and a reinforcing strap secured to the mid portion of the lower arch bar, said strap being on the bottom side of this bar.

4. A truck for railway vehicles including journal boxes; upper and lower arch bars assembled with the journal boxes and which converge toward the tops of said boxes; and a reinforcing strap riveted to the mid portion of the lower arch bar, said strap being on the bottom side of this bar.

5. A truck side frame having lower and upper arch bars; a bolster column between said arch bars and formed with wings extending along one of said arch bars; sleeves driven tightly over said wings and the arch bar adjacent said wings; and rivets passed through said sleeves and the parts surrounded by said sleeves.

6. A truck side frame having lower and upper arch bars; a bolster column between said arch bars and formed with wings extending along one of said arch bars; sleeves driven tightly over said wings and the arch bar adjacent said wings; and rivets passed through said wings and the arch bar adjacent said wings.

In witness whereof, I hereunto subscribe my name.

HERMAN C. PRIEBE.