Feb. 25, 1936. G. T. JOHNSON 2,031,777

CAR TRUCK

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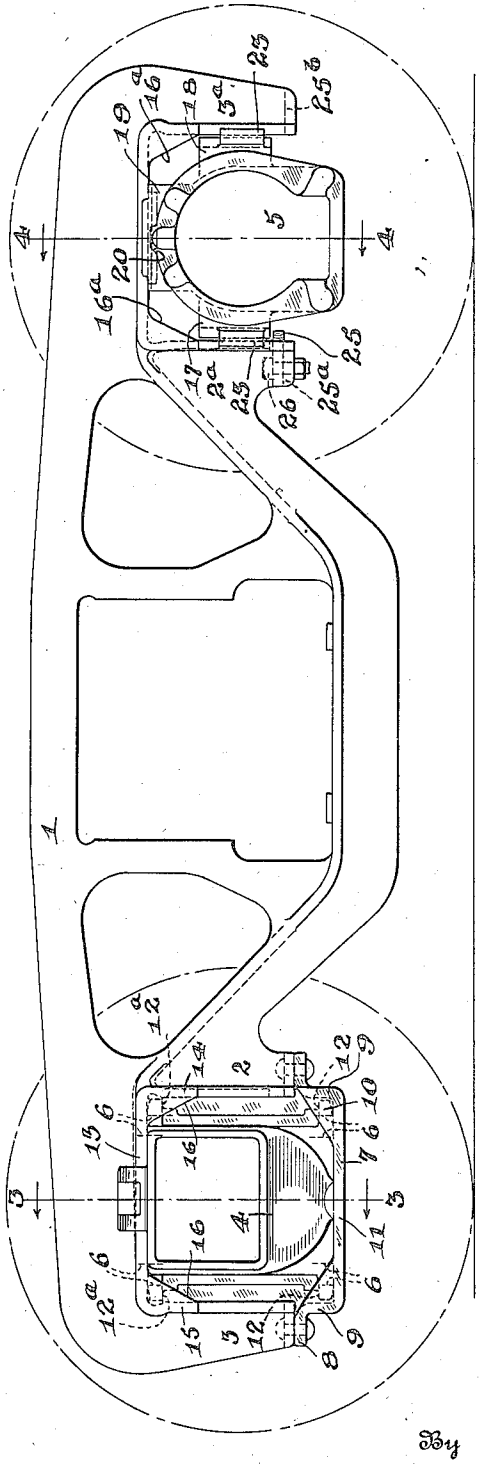


Fig. 1.

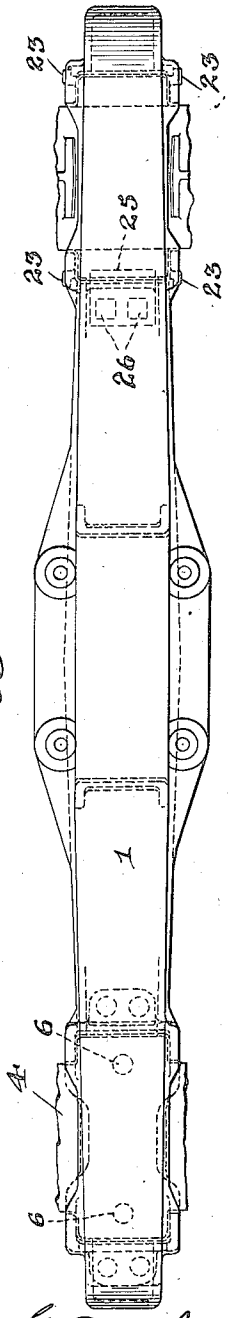


Fig. 2.

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Fig. 4.

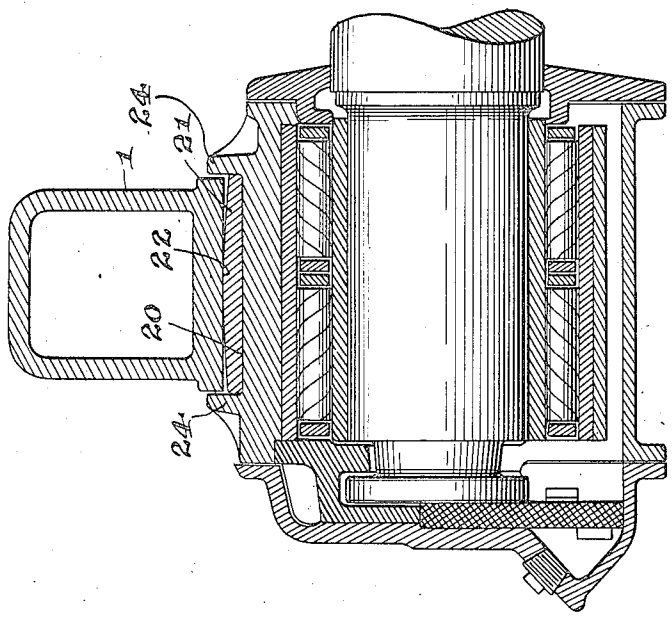
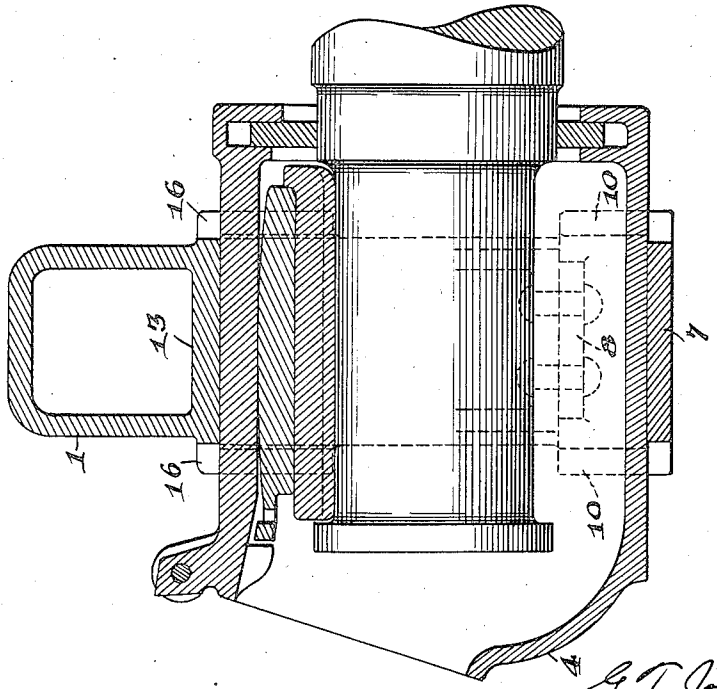


Fig. 5.



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Fig. 5.

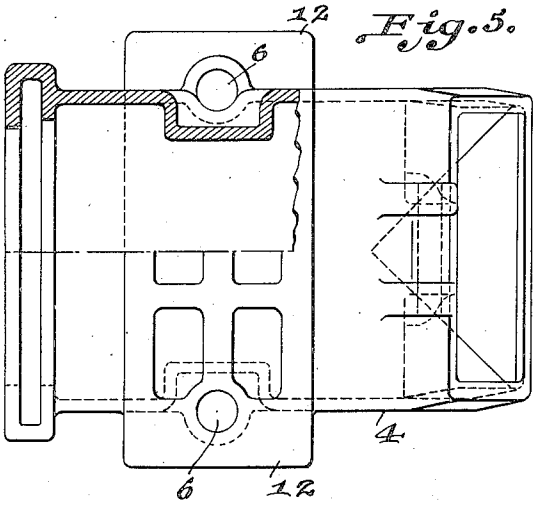


Fig. 6.

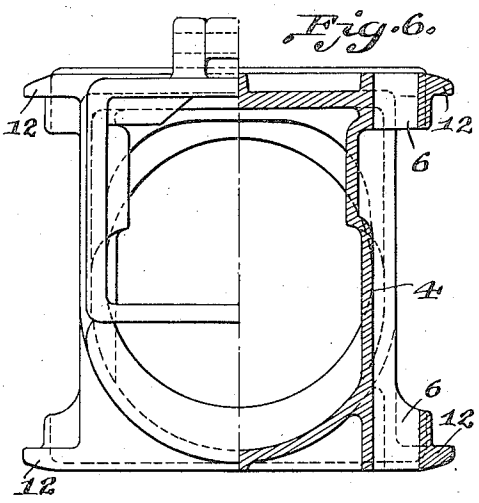


Fig. 7.

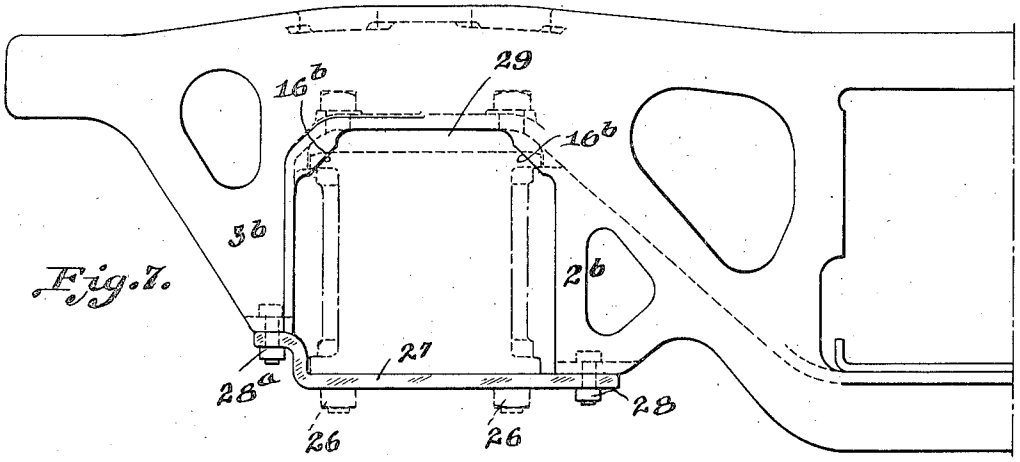
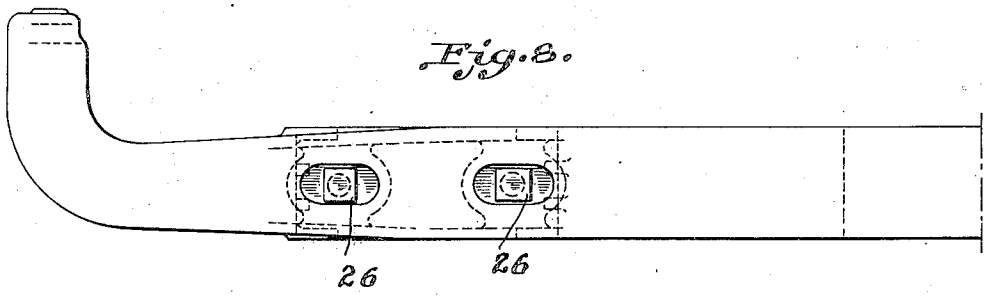


Fig. 8.



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2,031,777

UNITED STATES PATENT OFFICE

2,031,777

CAR TRUCK

George T. Johnson, Columbus, Ohio, assignor to The Buckeye Steel Castings Company, Columbus, Ohio

Application April 20, 1931, Serial No. 531,563

7 Claims. (Cl. 105—221)

This invention relates to pedestal type side frames designed especially to interchangeably accommodate standard separable A. R. A. journal boxes or roller bearing journal boxes.

Another object of the invention is to combine with a novel pedestal type side frame, special means for retaining journal boxes in the jaws of the frame.

With the foregoing objects outlined and with other objects in view which will appear as the description proceeds, the invention consists in the novel features hereinafter described in detail, illustrated in the accompanying drawings, and more particularly pointed out in the appended claims.

In the drawings,

Fig. 1 is a side elevation of the improved pedestal type side frame showing at the left end a flat or A. R. A. bearing type of journal box, and at the right end a roller bearing type of journal box.

Fig. 2 is a plan view of the same partly broken away.

Fig. 3 is a vertical sectional view of a detail on the line 3—3 of Fig. 1.

Fig. 4 is a similar view on the line 4—4 of Fig. 1.

Fig. 5 is a top plan view partly in horizontal section of a flat or A. R. A. bearing type of journal box.

Fig. 6 is a front elevation of the same partly in vertical section.

Fig. 7 is a side elevation of a portion of a somewhat modified side frame having the pedestal jaws spaced a greater distance than in Fig. 1, in order to accommodate certain types of roller bearing journal boxes which require a larger opening than is required by the A. R. A. standard flat wedge type of journal box.

Fig. 8 is a top plan view of the portion of the side frame shown in Fig. 7.

Referring first to Figs. 1 to 6 inclusive of the drawings, it will be noted that 1 is a pedestal type side frame having jaws 2 and 3 at the left end, and jaws 2a and 3a at the right end; the jaws at each end being of identical construction. The jaws 2 and 3 partially house a flat type journal box 4, while the jaws 2a and 3a partially house a roller bearing journal box 5. The flat or A. R. A. type of journal box is shown in transverse vertical section in Fig 3, while the roller bearing type of journal box is shown in transverse vertical section in Fig 4.

Referring to the A. R. A. flat bearing type journal box 4 at the left of Fig 1, it may be mentioned that it is usually bolted to the Andrews type of frame by bolts which extend through the holes 6. In accordance with the present invention, the journal box 4 is held in place by a member 7 which is fastened to the jaws 2 and 3. This member may be in the form of a retaining plate having flanges 8 that are riveted or bolted to the jaws, and the plate is so shaped as to form opposite side walls 9 which restrict the movement of the journal box longitudinally of the frame. Other stop flanges 10 connect the side walls 9 to the bottom 11 of the member 7 and provide pockets that receive the bottom lugs 12 of the box 4 to prevent shifting of the box transversely of the truck.

The portion of the frame over the journal box 4 has a web 13 which seats on the top of the journal box, and the vertical walls 14 and 15 of the jaws are spaced so as to be in close proximity to the outer ends of the upper lugs 12a of the box. Corner flanges 16 connect the web 13 to the walls 14 and 15 and provide pockets to receive the lugs 12a to restrict movement of the upper part of the journal box transversely with respect to the frame.

In such construction, it will be appreciated that when the fastening means which secure the retaining plate 7 to the frame are removed, the plate may be detached, and then the frame may be detached from the journal box by lifting the frame to the proper height to allow the lugs 12a to clear the corner or stop flanges 16.

With reference to the right side of Figs. 1 and 2, it will be noted that the roller bearing journal box 5 has integral lugs or extensions 17 and 18 that project lengthwise of the side frame and bear against the jaws 2a and 3a. The top of the box also has an integral upward extension 19 that is provided so as to locate the frame at the correct height with respect to the rail. The extension has a pocket 20 to accommodate a wearing block 21 which has a segmental cylindrical top surface 22 that allows the frame to rock on the journal box. Such rocking movement, however, is limited by jaws 23 which are cast on the extensions 17 and 18 and cooperate with the opposite faces of the jaws 2a and 3a.

Top lugs 24 on the journal box cooperate with the frame to also limit the rocking movement of the frame.

The journal box 5 is retained in position by a plate 25 that is bolted to one of the jaws of the frame. This retaining plate may be used on either jaw or on both, and it projects under the extension 17 or 18, depending on which side the

plate is used, and it keeps the frame from becoming disengaged from the journal box.

It will be noted that on the left of Fig. 1, the plate **7** is arranged on the under side of the pedestal jaws, while at the right end, the plate **25** rests on one of the shelves **25***a* at the lower end of the jaw.

Certain roller bearing journal boxes require a larger opening than is required by the A. R. A. standard flat wedge type of journal box, and Figs. 7 and 8 show a pedestal frame designed for roller bearing journal boxes of this type, but capable, of course, of cooperating with the A. R. A. standard flat wedge type of journal box.

In this embodiment, when roller bearing journal boxes are used, they may be retained by means similar to that shown at the right end of Fig. 1. However, the flat bearing type of journal box, as shown in Fig. 7, will require a filler **29** at the top of the box, which will reduce the effectiveness of the corner flanges **16***b*. Therefore, in the present invention, it is proposed to use the standard journal box bolts **26** which pass through the holes **6**, (Figs. 5 and 6), and to secure their lower ends to a tie bar **27** which may be fastened to either one of the jaws **2***b* or **3***b* by pairs of bolts **28**, **28***a*. The tie bar is shown connected to both jaws, but if either one of its ends was eliminated, it could be secured to one of the jaws only. Owing to the bolting of the journal box to the plate **27** by means of the bolts **26**, it is unnecessary to employ stop flanges **10**, such as are shown on the member **7** in Fig. 1.

The construction shown in Figs. 7 and 8 is similar to the construction used on the regular Andrews type of frames, except the tie bar **27** is fastened to one or both jaws of the pedestal frame instead of to a tie bar bracket, not shown, cast on the side frame.

The advantages of the constructions shown on the above mentioned drawings are apparent when it is considered that some railroads prefer to equip their trucks with plain friction bearings at present, but have the parts so constructed that at some future time, roller bearings may be substituted. Also, railroads with a large supply on hand of the type of journal boxes shown in Figs. 5 and 6, fitted to arch bar side frames, can change to cast steel side frames of the pedestal type, using old friction bearing journal boxes, and at a later date, substitute roller bearings and their housings without changing the side frame proper, modifications in the retaining means only being necessary.

From the foregoing it is believed that the construction, operation and advantages of the invention may be readily understood, and it is manifest that changes may be made in the details disclosed without departing from the spirit of the invention, as expressed in the claims.

What is claimed and desired to be secured by Letters Patent is:

1. In combination, a pedestal type side frame for car trucks having depending jaws and a transverse web at the upper ends of the same, stop flanges connecting the jaws and web and cooperating with the same to form pockets, a journal box having upper lugs extending into said pockets, and a retaining plate secured to the lower end of one of said jaws and bearing against the bottom of the journal box, said retaining plate having stop flanges and substantially vertical walls forming pockets.

2. In combination, a pedestal type side frame for car trucks, having depending jaws and a transverse web at the upper ends of the same, stop flanges connecting the jaws and web and cooperating with the same to form pockets, a journal box having upper lugs extending into said pockets, and a retaining plate secured to the jaws and bearing against the bottom of the journal box, said retaining plate having stop flanges and substantially vertical walls forming pockets.

3. In combination, a pedestal type side frame for car trucks, having depending jaws and a transverse web at the upper ends of the same, stop flanges connecting the jaws and web and cooperating with the same to form pockets, a journal box having upper lugs extending into said pockets, and a retaining plate secured to the jaws and bearing against the bottom of the journal box, the retaining plate having vertical flanges cooperating with the plate to form pockets and the journal box having lower lugs extending into said pockets.

4. In combination, a pedestal type side frame for car trucks, having depending jaws and a transverse web at the upper ends of the same, stop flanges connecting the jaws and web and cooperating with the same to form pockets, a journal box having upper lugs extending into said pockets, and a retaining plate secured to the lower end of one of said jaws and bearing against the bottom of the journal box, said plate having opposite side walls to prevent shifting of the lower end of the journal box lengthwise of the frame.

5. A pedestal type side frame for railway car trucks having depending jaws shaped and spaced to engage journal boxes of either the friction or anti-friction types of bearings, said jaws being provided at their lower ends with apertured shelves to facilitate the securing of a removable journal box retainer to either one of the jaws, the shelf permitting a retainer of one type to be positioned on top of the shelf, and a retainer of another type to be positioned at the bottom of the shelf.

6. A pedestal type side frame for railway car trucks having depending jaws shaped and spaced to engage journal boxes of either the friction or anti-friction type of bearings, said jaws provided at the lower ends with means to facilitate the securing of a removable journal box retainer, said retainer being of one kind and positioned below the bottom of the journal box when one type of bearing is used, and of another kind and positioned above the bottom of the journal box when the other type of bearing is used.

7. A retaining plate for securing a journal box to a side frame, comprising a lower web and substantially vertical walls at the ends thereof, and stop flanges connecting said web and walls and cooperating with the same to form pockets.

GEORGE T. JOHNSON.