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DRAFT RIGGING

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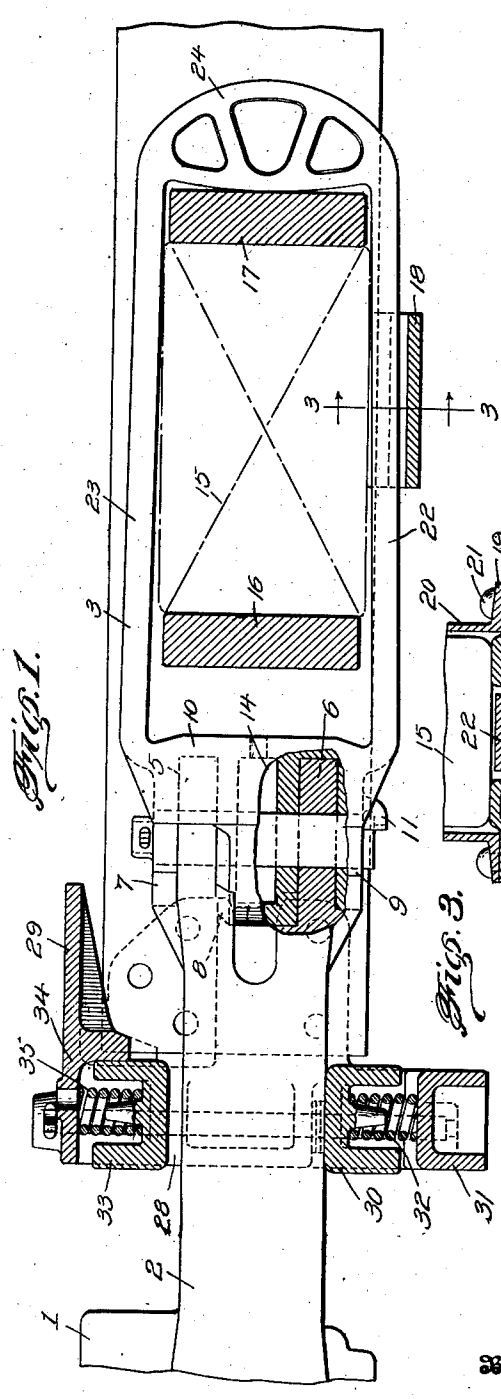


Fig. 1.

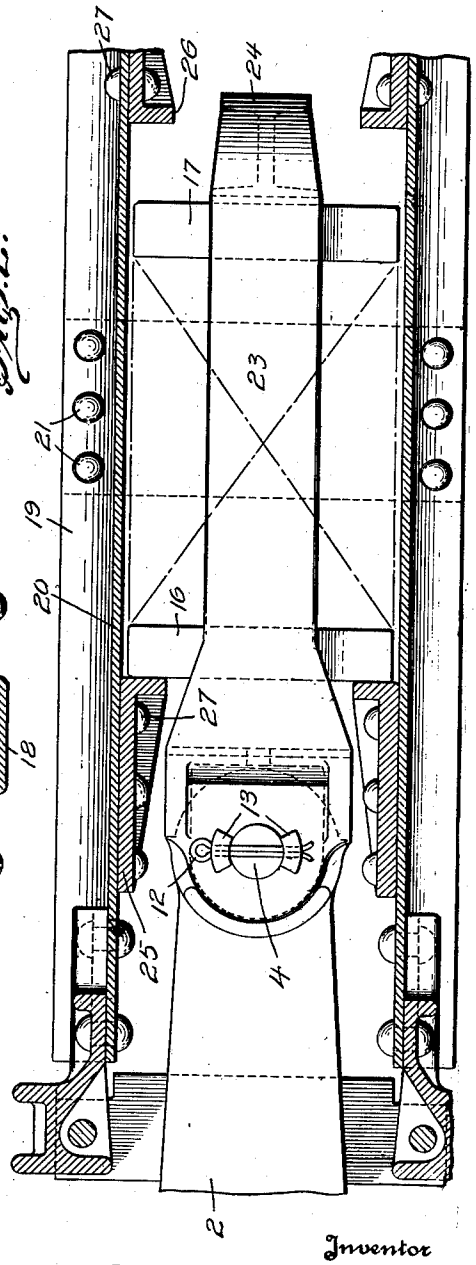


Fig. 2.

Fig. 3.

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DRAFT RIGGING

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8 Claims. (Cl. 213—67)

This invention relates to railway draft rigging and, more particularly, to a connected coupler and yoke and means for supporting said parts between the draft sills of an associated railway vehicle.

The principal object of my invention, generally considered, is to provide for the vertical angling of a coupler and connected yoke with respect to a railway vehicle with which used, the arrangement also preferably permitting horizontal angling between said coupler and yoke.

Another object of my invention is to provide a yoke with arms spaced a greater distance at front than at back, and to provide a preferably convex surface for bearing against the associated cushioning device or rear follower to provide for vertical angling of the yoke and associated coupler, said coupler being preferably hinged or pivoted to the front end of the yoke for horizontal angling therebetween, the joint between the parts being preferably flexible for horizontal angling only, whereby the arrangement provides for universal angling of the coupler with respect to the associated railway vehicle, the coupler for that purpose being preferably resiliently supported on a vertically movable carrier block and below a striking block also resiliently mounted for vertical movement.

A further object of my invention is to provide for resiliently supporting the stem of a coupler which is hinged or pivotally connected to an associated vertical yoke for horizontal angling therebetween, and to so form the arms of said yoke with respect to the associated cushioning mechanism that said yoke may angle vertically above and below said mechanism.

Other objects and advantages of the invention relating to the particular arrangement and construction of the various parts will become apparent as the description proceeds.

Referring to the drawing illustrating my invention, the scope whereof is defined by the appended claims:—

Figure 1 is a vertical longitudinal section taken between the draft sills of a railway vehicle and showing a yoke and connected coupler in side elevation, partly in section, and embodying my invention.

Figure 2 is a horizontal sectional view through the draft sills shown in Fig. 1, the coupler and yoke being illustrated in plan.

Figure 3 is a fragmentary vertical transverse sectional view on the line 3—3 of Fig. 1, looking in the direction of the arrows.

Referring to the drawing in detail, like parts being designated by like reference characters, there is shown a coupler 1 having a shank, stem or drawbar portion 2, pivotally connected for horizontal angling with respect to an associated hooded vertical yoke 3, as by means of a pivot pin 4. The coupler stem 2 preferably corresponds with that shown in the Barrows Patent No. 1,786,419, dated December 30, 1930, and the yoke and connection between the coupler and yoke may correspond therewith. In the illustrated embodiment, however, I show the coupler stem as in the patent referred to, and formed with rearwardly extending horizontal flanges or webs 5 and 6 intercalated with forwardly extending flanges or webs 7, 8 and 9 on a transverse preferably integral bridge or diaphragm portion 10 of the yoke 3, all of said intercalated flanges or webs being intersected by the pivot pin 4, which pin may be supported on a forwardly extending flange or ledge 11 underlying the lower end thereof, said pin being prevented from undesired upward movement or withdrawal by a cotter or other retaining means 12 extending betwen lugs 13 on the top of the yoke and normally overlying the upper end of said pin 4. The intermediate flange or web 8 on the yoke, being relatively thick so as to fit snugly between the flanges 5 and 6 on the coupler, is desirably cored hollow, as indicated at 14.

The yoke normally embraces a cushioning device or mechanism, indicated diagrammatically by dot-and-dash lines at 15, said device, if desired, involving a front follower 16 and a rear follower 17. The cushioning mechanism may be supported on a carry iron 18 connected to the lower flanges 19 of the sills 20 by rivets or other connecting means 21, said carry iron being preferably of such configuration, as shown most clearly in Figure 3, that the draft gear or cushioning mechanism rests thereon, and, in turn, supports the upper arm 23 of the yoke with the lower yoke arm 22 normally spaced from said carry iron. The yoke arms 22 and 23 are desirably connected at their rear ends by a vertically extending connecting portion 24, the front face of which is preferably formed so as to rock on the rear face of the follower 17 or draft gear 15. Although said front face is shown convex for rocking on the follower 17, it will be understood that, if desired, it may be formed in any suitable manner so that the upper and lower portions of said face are spaced from the adjacent portions of the follower or draft gear to permit vertical angling of the yoke arms 22 and 23, said arms, for that purpose, desirably flaring or diverging forwardly, as shown most clearly in Figure 1, so that said arms are normally spaced from the front follower 16 and/or front of the draft gear 15. The followers, as is usual, and/or the draft gear, are adapted to engage front draft stops 25 and rear stops 26 connected to the sills by rivets or the like 27, said gear being illustrated as compressed forwardly against the front stops with the coupler

and yoke shown in pull position, or acted on by draft forces.

The provision for vertical angling of the yoke with respect to the associated draft gear and sills of the car is desirable because of the lack of flexibility for vertical movement of the coupler in the hinge joint between the coupler and yoke. In order to allow the desired vertical movement of the coupler and associated yoke, the coupler stem 2 extends through the usual coupler opening 28 between the sills 20, said sills, in the present embodiment, being connected by a combined striking casting and sill tie member 29, which casting has a coupler carrier block 30 resiliently supported above the sill tie portion 31 thereof, as by means of helical springs 32. Likewise, the striking casting 33 of the casting is desirably resiliently mounted beneath the upper wall 34 thereof and yieldingly held in normal position by means of helical springs 35. Because of the construction illustrated, the coupler is permitted to move upward or downward, as well as angle horizontally about the pivot pin 4, and universal movement to a limited extent thereby provided for said coupler stem. Although the arrangement is shown when the coupler is subjected to draft forces, it will be understood that corresponding angling of the coupler is also permitted when in normal position, or under the action of buffing forces, such forces being transmitted through the flanges 5, 6, 7, 8 and 9, the edges of which are preferably concentric with the pin 4 about which pivotal motion occurs, or some of them, and the correspondingly curved engaging portions on the associated member.

From the foregoing disclosure, it will be seen that I have provided means for obviating the lack of vertical flexibility in the hinge joint between a coupler and yoke, allowing said coupler to angle vertically as well as horizontally.

Although a preferred embodiment of my invention has been illustrated, it will be understood that modifications may be made within the spirit and scope of the appended claims.

I claim:—

1. In railway draft rigging, a coupler, a yoke having spaced arms diverging forwardly from their rear ends to adjacent the forward ends thereof, means for operatively connecting said coupler and yoke, a cushioning device positioned between the arms of said yoke, the forward end of said cushioning device being normally in vertically spaced relation to said arms with the rear portion of the upper arm resting on said device, means for yieldingly supporting said coupler, and means for supporting said cushioning device.

2. In railway draft rigging, a coupler, a yoke having vertically spaced upper and lower arms extending and diverging forwardly from a rearward portion connecting said arms to adjacent the front ends thereof, means for operatively connecting said coupler and yoke, a cushioning device positioned between the arms of said yoke and supportingly engaging the upper arm, the forward portions of said arms being normally spaced from the adjacent portion of the cushioning device for relative vertical movement therebetween, means yieldingly supporting said coupler and means supporting said cushioning device and having a portion normally spaced below the yoke, the rear portion of said yoke being adapted to rock on the rear surface of the cushioning device during vertical movement of the coupler.

3. A hooded vertical yoke provided with a rear connecting portion, the front face of which has upper and lower portions normally inclined rearwardly from the vertical, respectively toward the upper and lower edges, and arms diverging forwardly therefrom to the hooded portion thereof.

4. In railway draft rigging, a coupler, a yoke having spaced upper and lower arms, means operatively connecting said coupler and yoke, a cushioning device positioned between the arms of said yoke, means resiliently supporting said coupler, and means supporting said cushioning device with the upper arm of the yoke normally supported thereon at one end and spaced therefrom at the other, said last-named means being normally spaced below said yoke, whereby the latter may angle vertically with respect to said cushioning device.

5. In railway draft rigging, a coupler, a yoke having spaced upper and lower arms, a cushioning device positioned between the arms of said yoke, means for operatively connecting said coupler to the yoke to provide for horizontal swinging of said coupler with respect to the yoke, yielding means for supporting said coupler, and means for supporting said cushioning device with the upper arm of the yoke supported thereon at one place and otherwise normally spaced therefrom, said means being normally spaced below said yoke, whereby the latter may angle vertically with respect to said cushioning device, whereby universal movement of the coupler is permitted.

6. In railway draft rigging, a coupler, a yoke having vertically spaced upper and lower arms, a cushioning device positioned between the arms of said yoke and normally supporting said yoke by engaging the rear end portion of its upper arm, while being normally spaced therefrom at other portions, means for operatively connecting said coupler and yoke, means for yieldingly supporting said coupler, and means for supporting said cushioning device, said yoke being provided at its rear end with a portion connecting said arms and engaging the rear end of said cushioning device, and said arms being spaced vertically, at their front ends, a distance greater than the depth of the cushioning device to provide clearance for the yoke to angle vertically with respect thereto.

7. In railway draft rigging, a coupler, a yoke having spaced arms, means for operatively connecting said yoke and coupler, a cushioning device positioned between the arms of said yoke, means for yieldingly supporting said coupler, said yoke having clearance with respect to said cushioning device for relative vertical angling and being provided at its inner end with a portion extending behind and engaging the rear end of said cushioning device, upper and lower portions of the opposed faces of the said inner end of the yoke and the rear end of said cushioning device being normally spaced longitudinally of the draft rigging to provide for rocking therebetween, and means for supporting said cushioning device and yoke.

8. In a draft rigging, the combination of draft sills, a coupler member between said sills, a yoke associated with said member, and a draft gear embraced by said yoke and serving to support said yoke and coupler member on said sills, said yoke having a close fit with said draft gear adjacent the rear end thereof and said yoke and draft gear being formed adjacent the forward end of said yoke to provide clearance to allow vertical angling of said yoke and coupler member without displacement of said draft gear.

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