

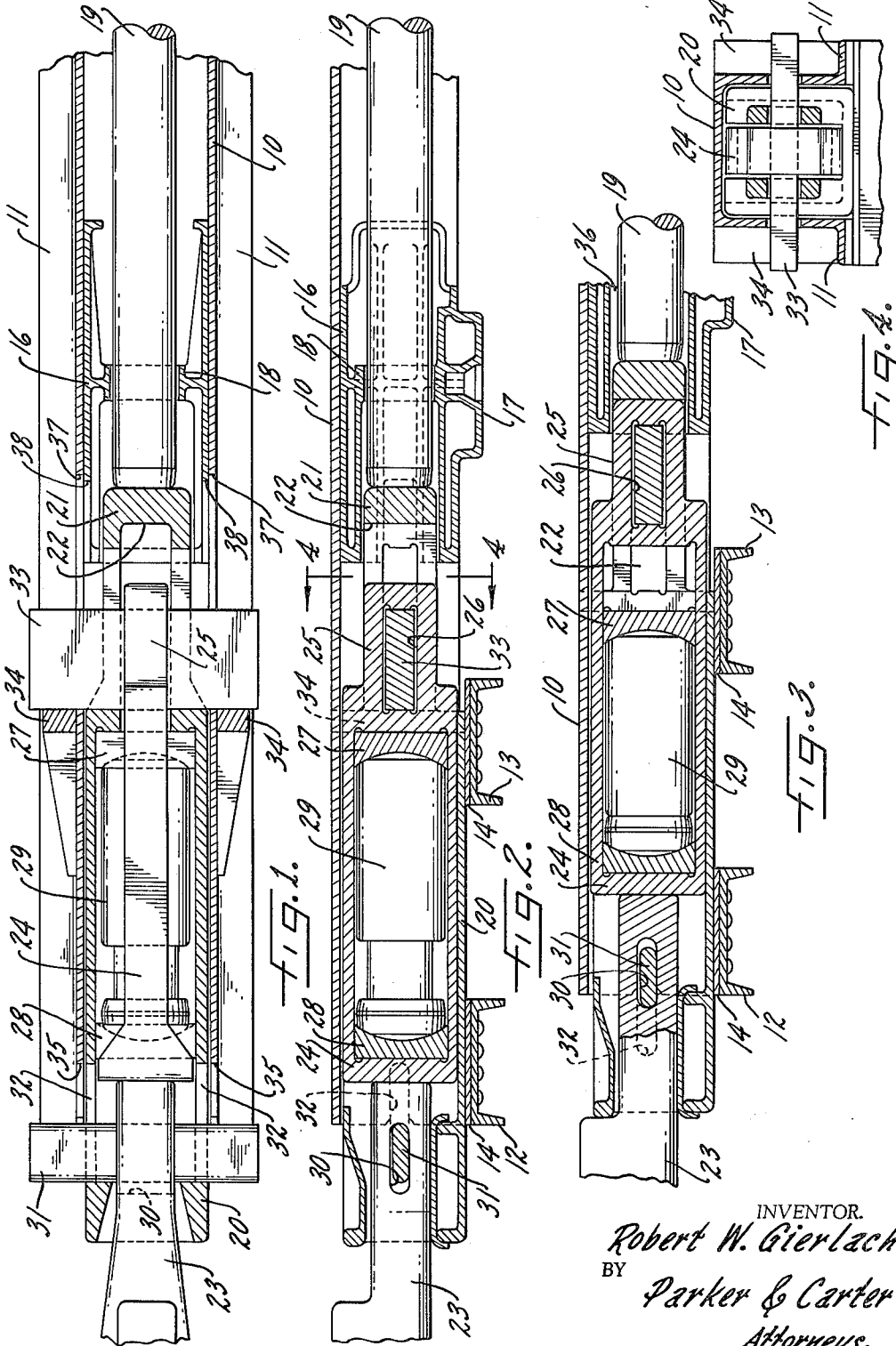
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DRAFT GEAR RIGGING FOR RAILROAD CARS

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DRAFT GEAR RIGGING FOR RAILROAD CARS
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This invention relates to draft gear rigging for railroad cars of the type disclosed in Guins Patent No. 2,965,246 wherein by the use of an intermediate compression member extending longitudinally of the car, two draft gears, each associated with a coupler yoke at opposite ends of the car, together cushion buffing shock, while each draft gear alone absorbs draft force at the draft end of the car.

In an arrangement such as this, it is highly important that the coupler yokes and the compression member between them be maintained in proper alignment. It is also highly important that the coupler yoke be constrained so far as possible to travel along a path parallel with its axis. This promotes smoothness of operation and materially decreases wear and tear.

One object of the invention therefore is to provide means for maintaining the compression member and the yoke in alignment.

Another object is to provide an arrangement whereby the cushion element of the draft gear may be properly aligned and supported.

Another object is to provide an arrangement wherein the yoke assembly includes both a horizontal and a vertical yoke which cooperate to guide and control and position the cushion of the draft gear.

Other objects will appear from time to time throughout the specification and drawings.

The invention is illustrated more or less diagrammatically in the accompanying drawings, wherein:

FIGURE 1 is a detail horizontal section with parts in elevation through the end of the center sill and associated parts of a railroad car showing a draft gear cushion extended at rest;

FIGURE 2 is a vertical section with parts in elevation of the elements disclosed in FIGURE 1;

FIGURE 3 is a vertical section similar to FIGURE 2 showing the draft gear in compression in buff;

FIGURE 4 is a section along the line 4-4 of FIGURE 2.

Like parts are indicated by like characters throughout the specification and claims.

The details of the car itself being conventional are not disclosed. It will be understood of course, that as in co-pending application Serial No. 208,540, filed July 19, 1962 for "Draft Gear Rigging for Railroad Cars," the conventional U-shaped center sill extends from end to end of the car, is associated with car bolster and compression tube or rod as indicated in said application.

The U-shaped center sill 10 comprises as usual two standard Z sections welded longitudinally together having outstanding lower flanges 11 and extends generally from end to end of the car. Adjacent the ends of the car are a pair of transverse channel members 12, 13 which carry wear plates 14. Inboard of the channel 13 is the car bolster assembly 16 which may be bolted or welded to the center sill and carries the center plate 17 for contact with a similar plate on a truck bolster not shown and includes a guide sleeve 18 to receive and guide the compression member or cushion tube 19 which extends longitudinally of the car being guided at each end by such sleeves 18.

The horizontal yoke 20 located within the center sill has at its inboard end the horizontal yoke shank 21 slotted at 22 and abuts at its inboard end the cushion

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tube 19 penetrating the bolster structure 16 and is supported upon and guided by the wear plates 14. A coupler shank 23 penetrates the open end of the horizontal yoke 20 and abuts upon the vertical yoke 24 which is contained within the horizontal yoke 20 and has a vertical yoke shank 25 slotted at 26. Inboard and outboard follower blocks 27 and 28 are enclosed within the vertical and horizontal yokes. The inboard follower block 27 abuts on the horizontal yoke 20, the outboard block 28 abuts on the vertical yoke 24. A cushion 29 is enclosed within the two yokes between the blocks 27 and 28.

The coupler shank 23 is slotted at 30 to receive the key 31 which is free to travel in the slot 30 and in the slot 32 in the horizontal yoke 20. In draft, tension on the coupler shank 23 moves the key 31 into contact with the outboard end of the slot 30 and draws the horizontal yoke 20 in the same direction, moving the horizontal yoke shank 21 toward the left in FIGURES 1 and 2, applying pressure through the blocks 27 and 28 upon the cushion 29 because the key 33 holds the vertical yoke against movement to the left in FIGURE 1 in the direction of draft. This can draw the horizontal yoke shank 21 away from the cushion tube 19 and in any event insures that the draft shank is cushioned by the cushion enclosed by the vertical and horizontal draft yokes. Under these circumstances, the coupler shank 23 will be drawn away from contact with the vertical yoke 24 and the horizontal yoke shank 21 will be drawn away from contact with the cushion tube.

In buff, as shown in FIGURE 3, the struck coupler shank is free to move inwardly to apply pressure to the vertical yoke 24, the key 31 being free to move inwardly in the slot 32 in the horizontal yoke 20 and also free to move inwardly in the key slots 35 in the center sill. This inward movement displaces the vertical yoke 24 inwardly to cause the vertical yoke shank 25 to move to the left and the key 33 to move to the left in the slot 22 into the position shown in FIGURE 3. At the same time the cushion 29 is compressed between the blocks 27 and 28 between the two yokes 20 and 24. As the two shanks 21 and 25 penetrate the clearance 36 in the bolster assembly 16, pressure is applied to the cushion tube 19 to transmit buffing pressure to the non-struck end.

The key 33 is free to travel in the slot 37 in the center sill 10 and 38 in the car bolster assembly 16 as pressure is applied to the tube 19 away from the draft stops 34.

While the operation in draft as above set out is the same at each end of the car, the action in buff as applied to the struck end of the car differs from the action at the non-struck end of the car as follows:

In buff, as the tube 19 is moved to the left, it applies pressure to the horizontal yoke shank 21 moving it and the horizontal yoke 20 further to the left, thus applying pressure to the cushion 29. The block 27 engaged by the horizontal yoke 20 applies pressure, as the yoke moves to the left upon the cushion 29 to exert a pressure on the block 28 which is held against further movement because the vertical yoke 24 has been stopped by the key 33 contacting the draft stop 34. Thus the cushion effect of the draft rigging at both ends of the car is effective in tandem in buff whereas the draft rigging at each end of the car cushions only the coupler at that end of the car.

I claim:

1. In a railroad car, a draft rigging including two generally concentric, interlocking side by side draft yokes free to move longitudinally with respect to each other, a draft cushion generally concentric with and enclosed by the yokes in pressure contact at one end with one of the yokes and at the other end with the other.

2. In a railroad car, a draft rigging including two generally concentric, interlocking side by side draft yokes

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free to move longitudinally with respect to each other, a draft cushion generally concentric with and enclosed by the yokes in pressure contact at one end with one of the yokes and at the other end with the other,

the cushion limiting relative movement of the yokes in one direction and positive means for limiting relative movement of the yokes in the opposite direction.

3. In a railroad car, a draft rigging including two generally concentric, interlocking side by side draft yokes free to move longitudinally with respect to each other, a draft cushion generally concentric with and enclosed by the yokes in pressure contact at one end with one of the yokes and at the other end with the other,

a coupler shank connected to one of the yokes and means for positively limiting horizontal movement of the other yoke in a direction toward the coupler shank.

4. In a railroad car, a draft rigging including two generally concentric, interlocking side by side draft yokes free to move longitudinally with respect to each other, a draft cushion generally concentric with and enclosed by the yokes in pressure contact at one end with one of the yokes and at the other end with the other,

a coupler shank connected to one of the yokes and means for positively limiting horizontal movement of the other yoke in a direction toward the coupler shank,

means for applying pressure to the yoke to which the coupler shank is attached tending to move such yoke in the direction of the coupler shank.

5. A railroad car, a center sill extending longitudinally thereof, a draft rigging adjacent the end of the car including horizontal and vertical draft yokes, one within the other and each yoke free to move longitudinally with respect to the other and with respect to the sill, opposed follower blocks enclosed in, supported and guided by the yokes, a draft cushion interposed between the blocks, one of the blocks abutting on one of the yokes, the other block abutting on the other.

6. A railroad car, a center sill extending longitudinally thereof, a draft rigging adjacent the end of the car including horizontal and vertical draft yokes, one within the other and each yoke free to move longitudinally with respect to the other and with respect to the sill, opposed follower blocks enclosed in, supported and guided by the yokes, a draft cushion interposed between the blocks, one of the blocks abutting on one of the yokes, the other block abutting on the other.

a shank integral with each yoke, the shanks extending inwardly of the car from the yokes, one of the shanks being slotted, a key extending therethrough and held against movement therein perpendicular to the yoke axis, the center sill being slotted to permit movement of the key and yoke longitudinally of the sill, draft stops in the path of the key to positively limit outboard movement of the yoke.

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7. A railroad car, a center sill extending longitudinally thereof, a draft rigging adjacent the end of the car including horizontal and vertical draft yokes, one within the other and each yoke free to move longitudinally with respect to the other and with respect to the sill, opposed follower blocks enclosed in, supported and guided by the yokes, a draft cushion interposed between the blocks, one of the blocks abutting on one of the yokes, the other block abutting on the other,

a shank integral with each yoke, the shanks extending inwardly of the car from the yokes, one of the shanks being slotted, a key extending therethrough and held against movement therein perpendicular to the yoke axis, the center sill being slotted to permit movement of the key and yoke longitudinally of the sill, draft stops in the path of the key to positively limit outboard movement of the yoke,

means for applying pressure to the yoke in which the coupler shank is socketed tending to move it toward the coupler shank.

8. A railroad car, a center sill extending longitudinally thereof, a draft rigging adjacent the end of the car including horizontal and vertical draft yokes, one within the other and each yoke free to move longitudinally with respect to the other and with respect to the sill, opposed follower blocks enclosed in, supported and guided by the yokes, a draft cushion interposed between the blocks, one of the blocks abutting on one of the yokes, the other block abutting on the other,

a coupler shank connected to one of the yokes, a key carried by the other and a draft stop in the path of said key in draft.

9. A railroad car, a center sill extending longitudinally thereof, a draft rigging adjacent the end of the car including horizontal and vertical draft yokes, one within the other and each yoke free to move longitudinally with respect to the other and with respect to the sill, opposed follower blocks enclosed in, supported and guided by the yokes, a draft cushion interposed between the blocks, one of the blocks abutting on one of the yokes, the other block abutting on the other,

a cushion tube extending longitudinally of the car abutting one end of one of said yokes, a coupler shank connected to the other end of said yoke, a key connected to the other yoke, a draft stop in the path of said key.

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