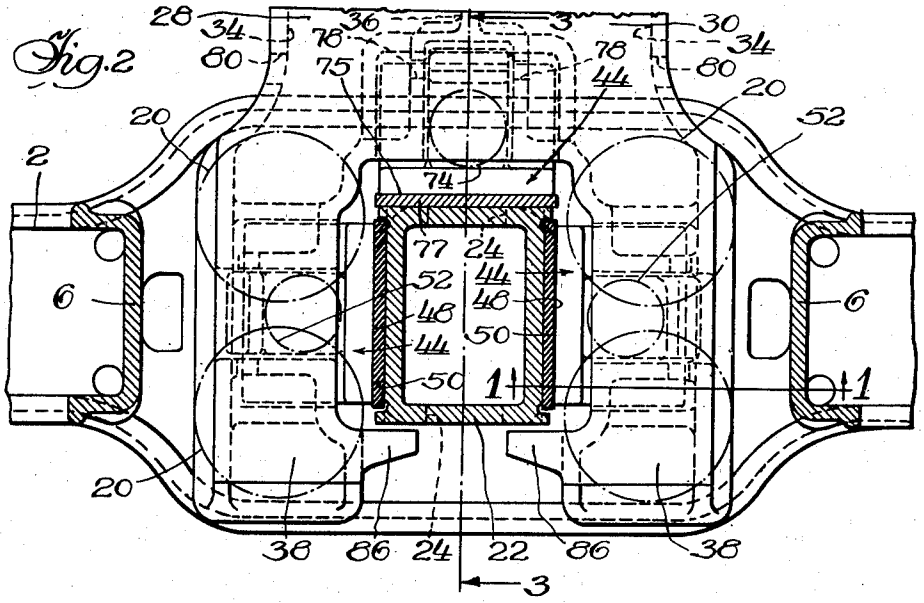
June 22, 1948. C. E. GRIGSBY 2,444,009

RIDE CONTROL TRUCK

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Fig. 2



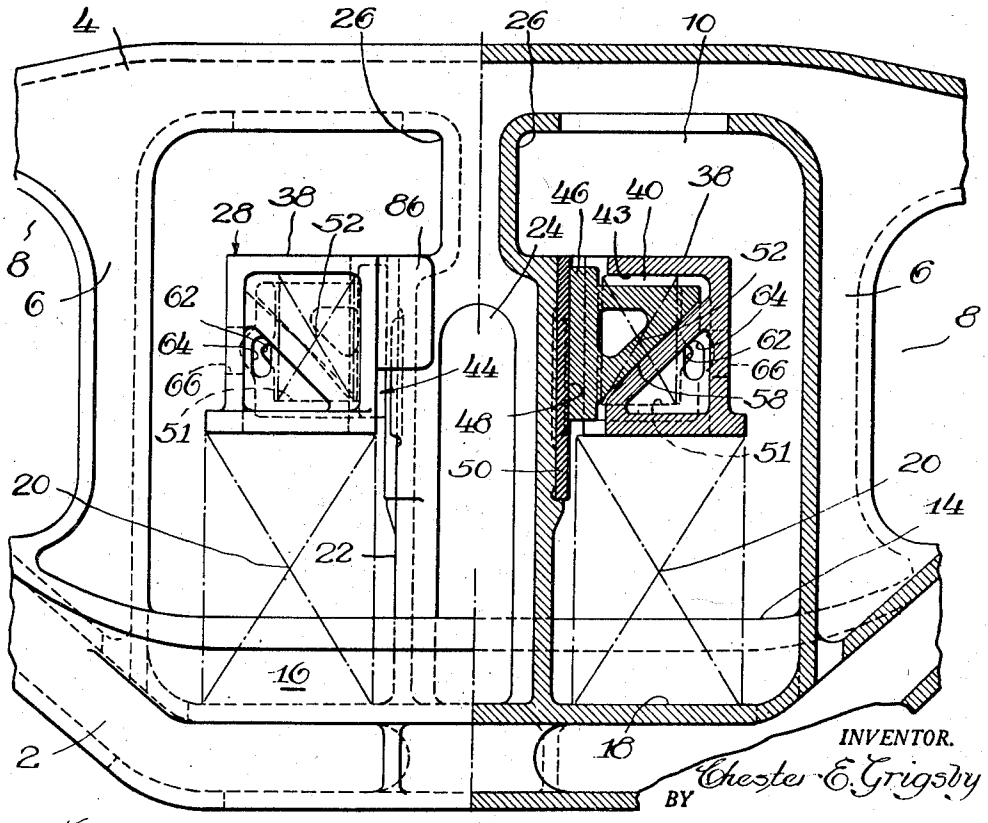


Fig. 1

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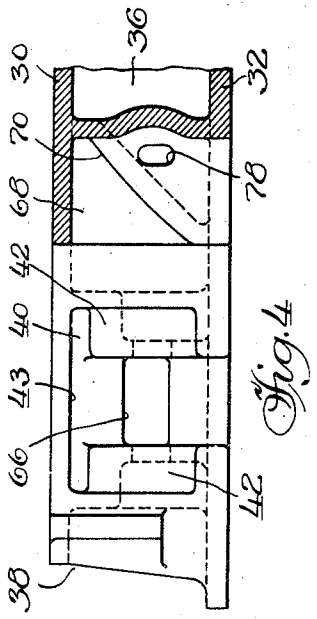


Fig. 4

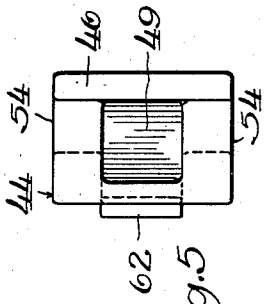


Fig. 5

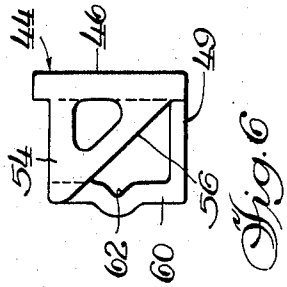


Fig. 6

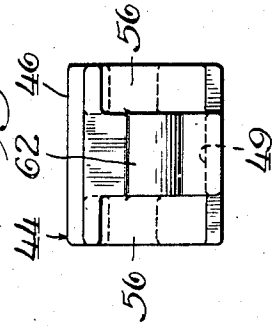


Fig. 7

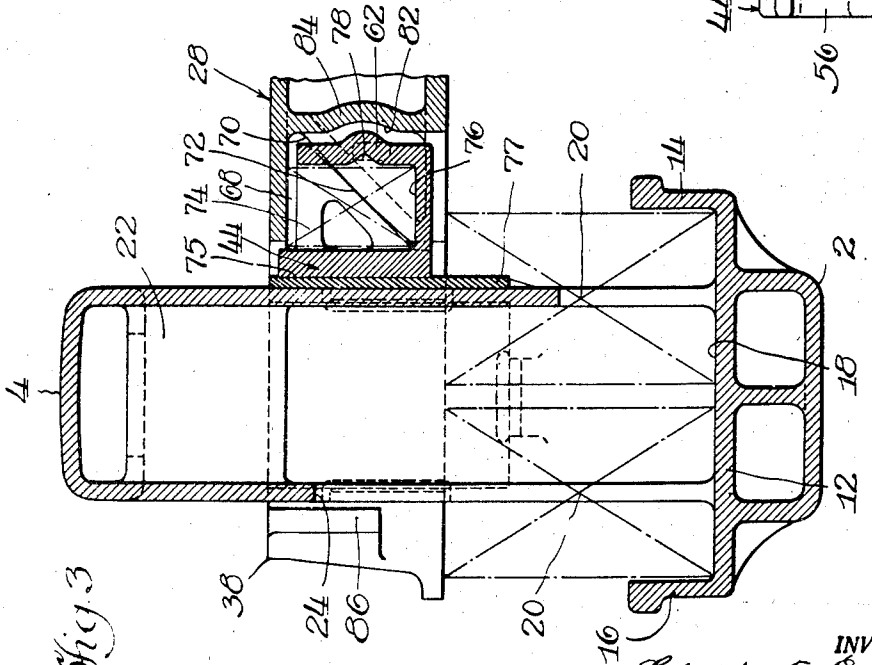


Fig. 3

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RIDE CONTROL TRUCK

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Fig. 9

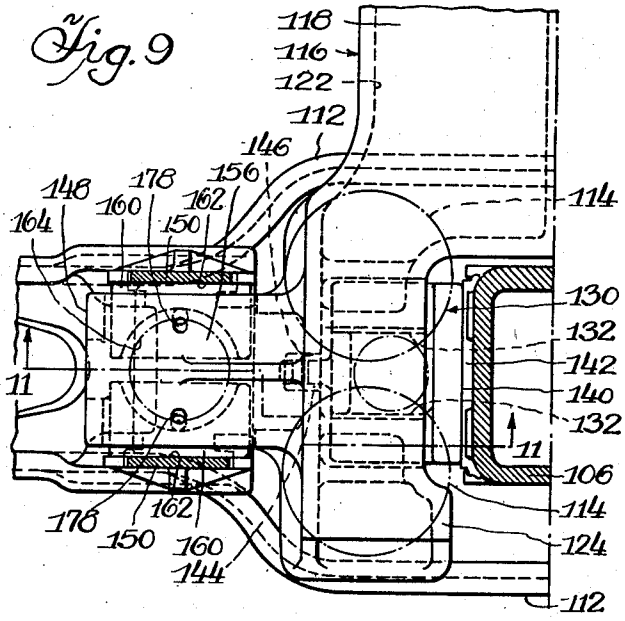
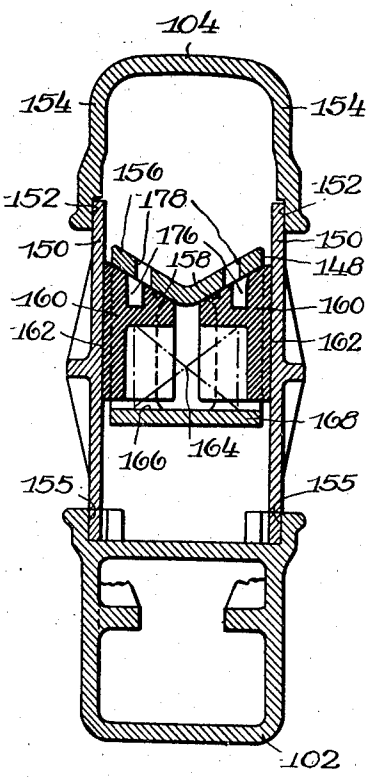


Fig. 10



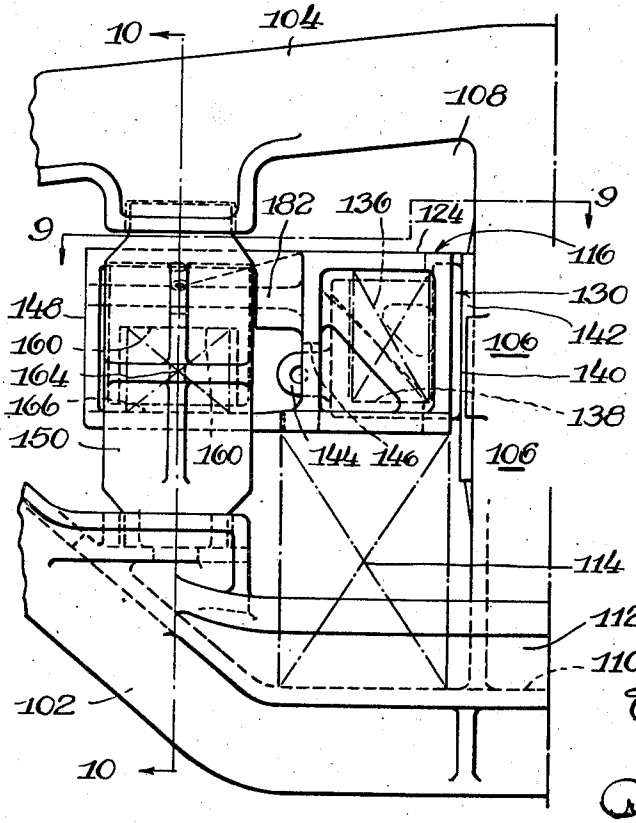


Fig. 8

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RIDE CONTROL TRUCK

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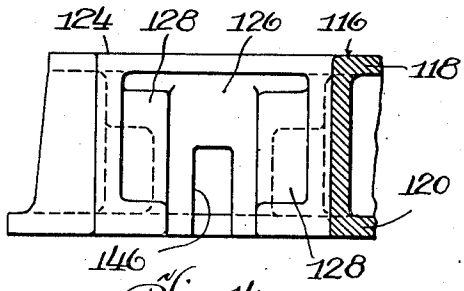


Fig. 14

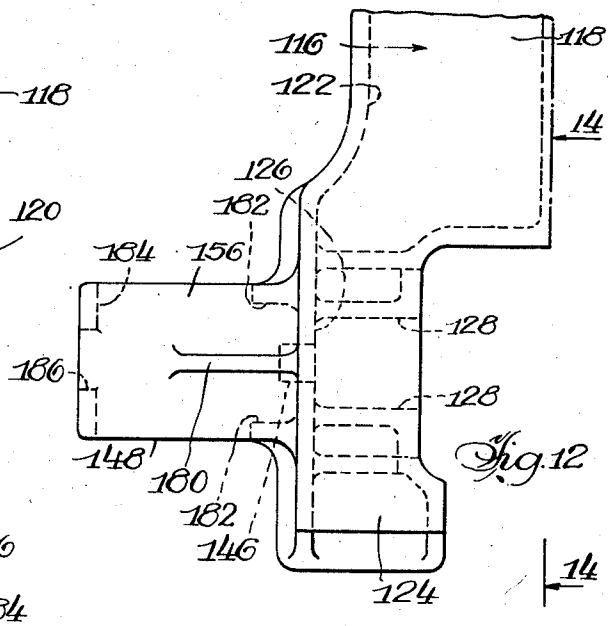


Fig. 12

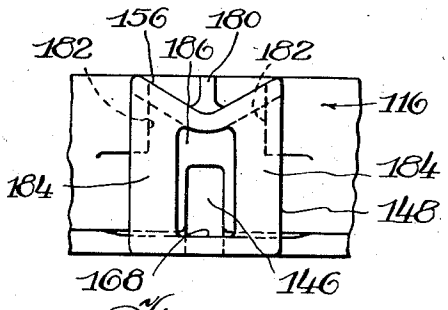


Fig. 13

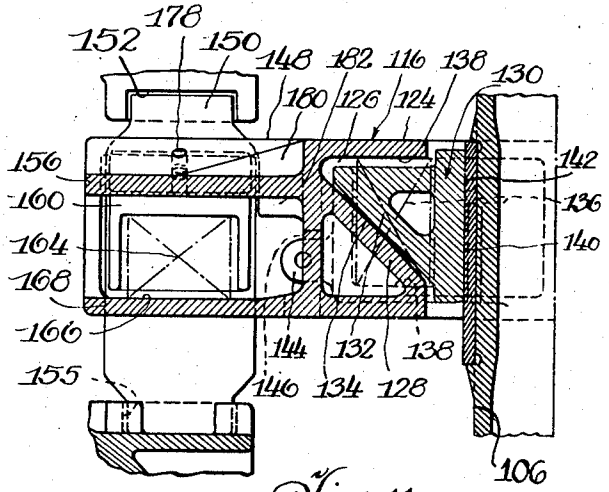


Fig. 11

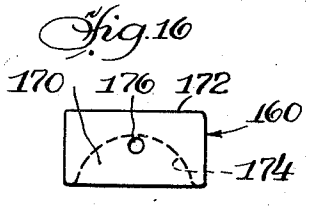


Fig. 16

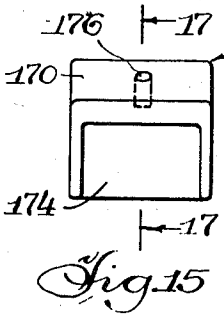


Fig. 15

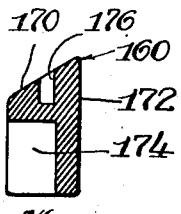


Fig. 17

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Patented June 22, 1948

2,444,009

UNITED STATES PATENT OFFICE

2,444,009

RIDE CONTROL TRUCK

Chester E. Grigsby, Washington, D. C., assignor to American Steel Foundries, Chicago, Ill., a corporation of New Jersey

Application May 15, 1944, Serial No. 535,622

42 Claims. (Cl. 105—197)

1

My invention relates to railway car trucks and more particularly to a snubbed truck wherein means is provided for dampening oscillations of the bolster supporting springs.

The general object of my invention is to design a truck such as above-described, wherein a truss type side frame is provided, having a vertical center post or column received between spaced legs of a bifurcated bolster end which is resiliently supported from the frame, said legs carrying friction means for engagement with the column.

In one modification of my novel snubbed truck, a friction device is mounted in the bolster for engagement with the inboard side of the center post, and in another modification, the bolster legs are provided with wing portions carrying friction means for engagement with friction surfaces mounted on the side frame adjacent the extremities thereof.

A different object of my invention is to design a novel quick wheel change truck wherein the bifurcated bolster end is provided on its spaced legs with gibs for abutment with the outboard edge of the center post to afford an interlock therewith, said center post being relieved at its upper extremity, whereby the bolster may be elevated in the side frame bolster opening and removed therefrom along with the associated friction means while the bolster supporting springs remain in normal assembled relationship with the side frame.

My invention comprehends a bolster of novel form having a bifurcated end portion with spaced legs comprising friction shoe pockets in the adjacent sides thereof for the reception of friction devices cooperating with the side frame center post in the manner above-described.

In the drawings,

Figure 1 is a fragmentary composite view of a railway car truck embodying my invention, the left half thereof being a side elevation and the right half thereof being a sectional view taken in the longitudinal vertical plane indicated by the line 1—1 of Figure 2.

Figure 2 is a top view of the structure illustrated in Figure 1 with the side frame shown in section through the columns thereof.

Figure 3 is a sectional view taken in the plane indicated by the line 3—3 of Figure 2.

Figure 4 is a sectional view of the bolster illustrated in Figures 1 to 3, taken in the longitudinal vertical plane bisecting said bolster.

Figures 5 to 7 inclusive illustrate in detail the friction shoe shown in Figures 1 to 3, Figure 5

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being a top plan view of the shoe, Figure 6 being a side elevation thereof and Figure 7 being a rear elevation taken from the left as seen in Figure 6.

Figures 8 through 17 illustrate a modification of my invention. Figure 8 is a fragmentary side elevation of the truck, only one end thereof being illustrated inasmuch as it is symmetrical about its transverse center line. Figure 9 is a sectional view taken in the planes indicated by the line 9—9 of Figure 8, Figure 10 is a sectional view taken in the transverse vertical plane indicated by the line 10—10 of Figure 8, and Figure 11 is a sectional view taken in the planes indicated by the line 11—11 of Figure 9.

Figures 12 to 14 inclusive illustrate the novel bolster shown in Figures 8 through 11, Figure 12 being a fragmentary top plan view illustrating one side only of the bolster, inasmuch as it is symmetrical about its longitudinal center line. Figure 13 is a fragmentary side elevation taken from the left as seen in Figure 12, and Figure 14 is a sectional view taken on the longitudinal vertical plane bisecting the bolster, as indicated by the line 14—14 of Figure 12.

Figures 15 to 17 inclusive illustrate in detail one of the identical friction shoes associated with the wing portions of the bolster shown in Figures 8 to 14, Figure 15 being an elevational view taken from the bolster engaging face of the shoe, Figure 16 being a top plan view thereof, and Figure 17 being a sectional view taken in the plane indicated by the line 17—17 of Figure 15.

Describing my invention in detail and referring first to the embodiment thereof illustrated in Figures 1 to 7 inclusive, the side frame comprises a tension member 2, a compression member 4 and spaced columns 6, 6 defining therewith window openings 8, 8 and an intermediate bolster opening 10.

The tension member 2 is of box-section beneath the bolster opening with the top chord 12 thereof widened and formed with upstanding inboard and outboard flanges 14 and 16 defining a spring seat 18 on which are mounted the bolster supporting coil springs diagrammatically indicated at 20, 20, said springs being arranged in two pairs, disposed at opposite sides of the transverse center line of the truck, as will be clearly apparent from a consideration of Figure 2.

A center post 22 of box-section, as best seen in Figure 2, extends between the tension and compression members and is cored away as at 24, 24 to lighten the structure, said post being offset or relieved at the upper extremity at opposite sides

thereof as at 26, 26 to accommodate a quick wheel change as hereinafter described.

The bolster generally designated 28 comprises a body portion of more or less conventional box-like form comprising the top and bottom walls 30 and 32 and the spaced side walls 34, 34, as well as the vertical longitudinal rib 36 disposed substantially parallel to said side walls. The bolster 28 comprises a bifurcated end portion of novel form comprising the spaced legs 38, 38 receiving therebetween the center post or column 22, each of said legs comprising a pocket 40 for the reception of a friction device, hereinafter described with particularity. Within the pocket 40, the leg 38 is formed with spaced diagonal walls 42, 42, as best seen in Figure 4 and the right half of Figure 1, and the top wall of said leg is formed with a spring seat 43 in vertical alignment with the space between the walls 42, 42.

A friction shoe generally designated 44 is received within each pocket 40, said shoe being a skeletal structure of cup-like form, comprising the front or main friction wall 46 in frictional engagement as at 48 with a wear plate or liner 50 secured in any convenient manner, as by welding, to the center post 22. The shoe 44 also comprises a bottom wall 49 affording a seat as at 51 (Figure 1) for a spring diagrammatically indicated at 52, the upper end of which bears against the spring seat 43 formed on the top wall of the bolster leg 38; and the shoe 44 also comprises the spaced wing portions or ledges 54, 54 at opposite sides thereof presenting diagonal wedge surfaces 56, 56 for engagement as at 58 (Figure 1, right) with the walls 42, 42 formed within the pocket 40. The rear wall 60 of the shoe 44 is offset to afford a loop at 62 for the reception of a tool, which may be inserted through an opening 64 in the bolster leg 36 to withdraw the shoe 44 from engagement with the center post or column 22 during assembly and disassembly of the bolster and side frame, as hereinafter described.

It may be noted that the side wall of the leg 38, which forms the rear wall of the pocket 40, is provided with an opening 66 for the accommodation of the offset portion 62 of the friction shoe when urged to its extreme inner position with respect to the pocket 40, during assembly and disassembly of the bolster.

The end portion of the bolster is also provided inboardly of the pockets 40, 40 with a pocket 68 of substantially identical construction with a diagonal wall or ledge 70 at each side thereof in complementary wedge engagement as at 72 with a friction shoe 44, substantially identical with those friction shoes heretofore described.

A spring diagrammatically indicated at 74 is seated at its upper extremity against the top wall of the bolster and is seated at its lower extremity as at 76 against the bottom wall of the friction shoe, said spring being operable to urge the associated shoe downwardly along the ledges 70, 70 into frictional engagement at 75 with the wear plate 77, mounted in any convenient manner, as by welding, on the inboard side of the center post 22. The wear plate 77, as well as the wear plates 50, 50 may, of course, be eliminated so that the shoes 44, 44 are directly engaged with the center post 22.

It may be noted that the side walls of the pocket 68 are cored away as at 78, 78 for the accommodation of a tool, which may be inserted through the openings 80, 80 in the side walls 34, 34 of the bolster for the purpose of urging the shoe against the resistance of the spring 74 to the inner extremity of the pocket, with the offset portion 62 of the shoe received within a complementary offset portion 82 in the rear wall 84 of the pocket 68. It will be understood that with the shoe maintained in this retracted position the bolster and side frame may be readily assembled and disassembled.

The legs 38, 38 of the bolster end portion are provided on their adjacent sides with opposed lugs or gibs 86, 86 for cooperation with the outboard side of the center post 22 to afford a tie or interlock between the bolster and the side frame, and it will be clearly understood from a consideration of the left half of Figure 1 that the depth of each gib 86 is substantially less than the depth of the offset portion 26 in the center post 22, whereby, when the shoes 44, 44 are in their retracted positions, as above described, the bolster may be elevated in the bolster opening and removed therefrom along with the friction shoes during a quick wheel change, while the springs 20, 20 remain in normal assembled relationship with the side frame.

Thus it will be understood that I have designed a novel snubbed truck, wherein the truss type side frame is provided with an upstanding column or center post received between the spaced legs of a bifurcated bolster end portion, which is resiliently mounted on the side frame tension member, friction shoes and associated actuating springs being housed in said legs for the development of friction against the center post during relative vertical movement between the bolster and the side frame.

In the embodiment above-described, additional friction is developed against the inboard side of the column or center post by means of a third friction shoe housed within an additional pocket formed in the bolster end portion at the juncture thereof with the main or body portion of the bolster.

Figures 8 through 17 illustrate a modification of my invention wherein the side frame comprises the tension and compression members 102 and 104 and the vertical column 106 extending therebetween to define a bolster opening 108. The tension member 102 is substantially identical with that described in the previous embodiment with the top chord 110 thereof widened and formed with the upstanding inboard and outboard flanges 112, 112, defining a spring seat upon which are mounted the bolster supporting springs diagrammatically indicated at 114, 114.

The bolster generally designated 116 is somewhat similar to that described for the previous embodiment, comprising a body portion with the top and bottom walls 118 and 120 merging at each side of the bolster with a side wall 122. The end portion of the bolster is of bifurcated form, with a leg 124 at each side thereof, the bolster legs receiving therebetween the column or center post 106. A pocket 126 is formed within each leg 124 with spaced diagonal walls or ledges 128, 128 at opposite sides thereof; and a friction shoe 130, generally similar to the form of the shoes described for the previous embodiment, is received within the pocket 126, said shoe having wing portions 132, 132 at opposite sides thereof in complementary wedge engagement as at 134 with the diagonal bolster walls 128, 128 formed within the pocket 126.

A spring diagrammatically indicated at 136 is seated at its upper end as at 138 against the top wall of the pocket 126, said spring being seated

at its lower end as at 138 against the bottom wall of the friction shoe 130. It will be understood that, as in the previously described embodiment, the spring 136 is operable to urge the friction shoe 130 along the bolster walls 128, 128 into frictional engagement as at 140 with a liner or wear plate 142 mounted in any convenient manner, as by welding, to the side of the column or center post 106. The shoe is provided with a perforated lug 144 on the rear wall thereof extending through the slot 146 formed in the side wall of the bolster leg 124, said side wall defining the rear extremity of the pocket 126. It will be understood that a tool may be inserted through the perforation in the leg 124, whereby the shoe 130 may be urged to its extreme inner position within the pocket 126 against the resistance of the compressed spring 136 during assembly and disassembly of the side frame and bolster.

Each leg 124 of the bolster is provided with a wing portion 148 housing a friction device for cooperation with inboard and outboard friction panels 150, 150 removably mounted on the side frame, the upper extremity of each panel being recessed as at 152 in the depending leg 154 (Fig. 10) of the compression member 104, and the lower extremity of each panel 150 is recessed as at 155 in the tension member 102.

The top wall 156 is of V-section in vertical cross section, as best seen in Figure 10, and presents the converging wedge surfaces 158, 158 in complementary wedge engagement with the spaced friction shoes 160, 160, each of which is in frictional engagement at 162 with the associated panel 150.

A spring diagrammatically indicated at 164 is seated at its lower extremity as at 166 against the bottom wall 168 of the wing portion 148, the upper extremity of said spring 164 bearing against the friction shoes 160, 160 for urging the latter into engagement with the wedge surfaces 158, 158 and with the panels 150, 150.

One of the friction shoes 160 is illustrated in detail in Figures 15 through 17, wherein it will be seen that said shoe is provided on its top with a diagonal wedge face 170 for complementary engagement at 158 with the top wall 156 of the wing portion 148, as above described. The front face of the shoe 160 is provided with a friction surface 172 for frictional engagement with the associated panel 150, and on its rear face the shoe is formed with an arcuate recess 174 for the accommodation of the beforementioned spring 164. The wedge surface 170 is interrupted by an opening 176 in the top of the shoe for the reception of a retainer pin or other suitable means, which may be inserted through a corresponding opening 178 (Figures 10 and 11) in the wall 156 for the purpose of retracting the shoes inwardly with respect to the wing portion 148 against the resistance of the spring 164 and maintaining the shoes 160, 160 and the wing portion 148 in an assembled relationship for assembly and disassembly as a unit.

It may be noted that the top wall 156 of the wing portion 148 is formed with a reinforcing gusset 180 merging with the side wall of the bolster leg 124, and likewise, the lower surface of the top wall 156 is formed at each side thereof with a depending web 182 merging with the side wall of the bolster leg for the purpose of reinforcing the connection between the wing portion 148 and the bolster leg. The end of the wing portion 148 remote from the bolster leg 124 is formed with an end wall 184 for the purpose of

reinforcing the structure, said wall 184 being slotted at 186 to permit inspection of the shoes 160, 160 and the spring 164.

It is to be understood that I do not wish to be limited by the exact embodiments of the device shown which are merely by way of illustration and not limitation as various and other forms of the device will, of course, be apparent to those skilled in the art without departing from the spirit of the invention or the scope of the claims.

I claim:

1. In a railway car truck, a side frame of truss type comprising tension and compression members and a substantially vertical column extending therebetween, a bifurcated bolster structure comprising spaced legs resiliently supported from said tension member and disposed at opposite sides of said column, wing portions on the remote sides of respective legs, and a friction device housed in each wing portion comprising spaced shoes in wedge engagement therewith, each of said shoes being frictionally engaged with a friction surface on said frame, resilient means compressed between said shoes and an abutment surface on said wing portion, and friction means housed in each leg in frictional engagement with said column, said friction means comprising a pocket in said leg, a wedge surface formed on said leg within said pocket, a friction shoe engaging said wedge surface and frictionally engaging said column, and resilient means under compression between said shoe and an abutment surface formed on said leg within said pocket.

2. In a railway car truck, a side frame comprising spaced columns partly defining spaced windows and an intermediate bolster opening, a substantially vertical center post on said frame in said opening, springs seated on said frame at opposite sides of said center post, a bolster with a bifurcated end supported on said springs and having spaced legs embracing said center post, and friction means associated with each leg and comprising a pocket therein, spaced wedge surfaces formed on said leg in said pocket, said surfaces sloping toward said center post, a friction shoe engaging said surfaces and said center post, and resilient means extending between said surfaces and compressed against abutment surfaces on said leg and said shoe.

3. In a railway car truck, a truss side frame comprising tension and compression members and a substantially vertical column extending therebetween at the transverse center line of said frame, a group of springs seated on said tension member, a bifurcated bolster end supported on said springs and comprising spaced legs at opposite sides of said column, and friction means comprising a pocket in each leg with a wedge surface therein sloping toward said column, a friction shoe in complementary wedge engagement with said surface and in frictional engagement with a surface on said column extending transversely of said frame, and a substantially vertical spring within said pocket compressed against said shoe and against an abutment surface on said leg.

4. In a railway car truck, a truss side frame comprising tension and compression members and a substantially vertical column extending therebetween, a spring group on said tension member, a bolster supported on said group and comprising a bifurcated end portion with spaced legs at opposite sides of said column, and friction means comprising a pocket in each leg with wedge means therein sloping toward said column, a friction element in complementary wedge en-

gagement with said wedge means and in frictional engagement with a surface on said column extending transversely of said frame, and a substantially vertical spring within said pocket compressed against said element and against an abutment surface within said pocket formed on the top wall thereof.

5. In a railway car truck, a side frame of truss type comprising tension and compression members and a substantially vertical column extending therebetween, a bifurcated bolster structure comprising spaced legs resiliently supported from said tension member and disposed at opposite sides of said column, wing portions on the remote sides of respective legs, and a friction device housed in each wing portion comprising spaced shoes in wedge engagement therewith, each of said shoes being frictionally engaged with a friction surface on said frame, resilient means compressed between said shoes and an abutment surface on said wing portion, and friction means housed in each leg in frictional engagement with said column.

6. In a railway car truck, a side frame comprising spaced columns partly defining spaced windows and an intermediate bolster opening, a substantially vertical center post on said frame in said opening, springs seated on said frame at opposite sides of said center post, a bolster with a bifurcated end supported on said springs and having spaced legs embracing said center post, and friction devices housed in the adjacent sides of said legs in frictional engagement with said center post, each of said devices comprising wedge means on the associated leg, a friction shoe engaging said wedge means and frictionally engaging said center post and a spring bearing against said leg and said shoe.

7. In a railway car truck, tension and compression members and three spaced columns extending therebetween, resilient means on said tension member, and a bolster having a bifurcated end supported on said resilient means and comprising spaced legs receiving therebetween the intermediate of said columns, and friction means associated with each leg comprising a pocket therein, spaced diagonal walls formed on said leg within said pocket, a friction shoe engaging said diagonal walls and said intermediate column, and a vertical spring extending between said diagonal walls and compressed against abutment surfaces on said leg and said shoe.

8. In a railway car truck, a side frame of truss type comprising tension and compression members and a sole substantially vertical column extending therebetween at the midpoints of said members, a bifurcated one-piece bolster structure comprising spaced legs resiliently supported from said tension member and disposed at opposite sides of said column, integral wing portions on the remote sides of respective legs, and a friction device housed in each wing portion comprising spaced shoes in wedge engagement therewith, each of said shoes being frictionally engaged with a friction surface on said frame, and a resilient member housed within both of said shoes and compressed between said shoes and an abutment surface on said wing portion.

9. In a railway car truck, a side frame having tension and compression members defining a bolster opening and a substantially vertical column extending between said members, a bifurcated bolster end resiliently supported by said tension member and comprising spaced legs receiving said column therebetween, and friction means housed

in each leg in frictional engagement with opposite sides of said column, said legs having gibs on their adjacent faces outboard said column for cooperation therewith to afford an interlock between said bolster and said frame, said column being offset at opposite sides thereof for a greater depth than that of said gibs, whereby said bolster may be elevated in said bolster opening and removed from the top thereof during a quick wheel change.

10. In a railway car truck, tension and compression members and three spaced columns extending therebetween, resilient means on said tension member, and a bolster having a bifurcated end supported on said resilient means and comprising spaced legs receiving therebetween the intermediate of said columns, and friction means housed in each leg comprising a friction element in wedge engagement therewith and in frictional engagement with said intermediate column, and substantially vertical resilient means under compression between abutment means on said leg and said element.

11. In a railway car truck, a side frame of truss type comprising a substantially vertical column, a bifurcated bolster end resiliently supported on said frame and comprising spaced legs at opposite sides of said column, and friction means comprising a pocket in each leg with spaced wedge surfaces therein sloping toward said column, a friction shoe engaging said spaced wedge surfaces and frictionally engaging said column, and a substantially vertical spring extending between said spaced wedge surfaces and bearing against said shoe and an abutment surface formed on said leg within said pocket.

12. In a railway car truck, a side frame comprising spaced columns partly defining spaced windows and an intermediate bolster opening, a substantially vertical center post on said frame in said opening, springs seated on said frame at opposite sides of said center post, a bolster with a bifurcated end supported on said springs and having spaced legs embracing said center post, and friction devices housed in the adjacent sides of said legs in frictional engagement with said center post.

13. In a railway car truck, a side frame of truss type comprising a substantially vertical column, a bifurcated bolster end resiliently supported on said frame and comprising spaced legs at opposite sides of said column, and a friction device housed in each leg comprising a friction shoe in wedge engagement therewith and in frictional engagement with said column, and resilient means compressed between said shoe and an abutment surface on said leg.

14. In a railway car truck, a side frame of truss type comprising tension and compression members and a substantially vertical column extending therebetween, a bifurcated bolster structure comprising spaced legs resiliently supported from said tension member and disposed at opposite sides of said column, cooperating friction means carried by said legs and the adjacent sides of said column, wing portions on the remote sides of respective legs, a friction device carried by each wing portion for cooperation with inboard and outboard friction surfaces on said frame, each of said devices comprising spaced friction shoes in wedge engagement with the associated wing portion, and resilient means operatively associated with said shoes.

15. In a railway car truck, tension and compression members and three spaced columns ex-

tending therebetween, resilient means on said tension member, and a bolster having a bifurcated end supported on said resilient means and comprising spaced legs receiving therebetween the intermediate of said columns, and friction means carried by said legs in frictional engagement with said intermediate column.

16. In a railway car truck, a side frame of truss type comprising a substantially vertical column, a bifurcated bolster end resiliently supported on said frame and comprising spaced legs at opposite sides of said column, and friction devices housed in said legs and cooperating with friction surfaces on said column extending transversely of said frame.

17. In a railway car truck, a side frame of truss type comprising a substantially vertical column, a bifurcated bolster end resiliently supported on said frame and comprising spaced legs at opposite sides of said column, and friction means carried by said legs for engagement with said column.

18. In a bolster for a railway car truck, a box-section member with a bifurcated end portion comprising spaced legs and friction shoe pockets in the adjacent sides of said legs, each of said pockets comprising a wedge surface therein and a spring seat vertically spaced with respect to said surface.

19. In a railway car truck, a side frame comprising a substantially vertical column, a bifurcated bolster end resiliently supported on said frame and comprising spaced legs at opposite sides of said column, friction means carried by said legs in frictional engagement with the sides of said column extending transversely of said frame, and friction means carried by the body of said bolster at the juncture of said legs therewith in engagement with the inboard side of said column.

20. In a bolster for a railway car truck, a box-section member with a bifurcated end portion comprising spaced legs and wedge surfaces formed on the adjacent sides of said legs sloping toward the longitudinal center line of the bolster.

21. In a railway car truck, a side frame of truss type comprising tension and compression members and a substantially vertical column extending therebetween, a bifurcated bolster structure comprising spaced legs resiliently supported from said tension member and disposed at opposite sides of said column, friction means carried by said legs in frictional engagement with opposite sides of said column, wing portions on the remote sides of respective legs, and friction means carried by each wing portion in engagement with a friction surface on said frame.

22. In a railway car truck, a side frame of truss type comprising tension and compression members and a substantially vertical column extending therebetween, a bifurcated bolster structure comprising spaced legs resiliently supported from said tension member and disposed at opposite sides of said column, friction means carried by said legs in frictional engagement with opposite sides of said column, wing portions on the remote sides of respective legs, and friction means carried by each wing portion for cooperation with inboard and outboard friction surfaces on said frame.

23. In a railway car truck, a side frame of truss type comprising tension and compression members and a substantially vertical column extending therebetween, a bifurcated bolster structure comprising spaced legs resiliently supported from

said tension member and disposed at opposite sides of said column, friction means carried by said legs in frictional engagement with opposite sides of said column, wing portions on the remote sides of respective legs, and a friction device housed in each wing portion comprising spaced shoes in wedge engagement with the associated wing portion and in frictional engagement with inboard and outboard friction surfaces on said frame, and resilient means operatively urging said shoes into said engagement.

24. In a railway car truck, a side frame of truss type comprising tension and compression members and a substantially vertical column extending therebetween, a bifurcated bolster structure comprising spaced legs resiliently supported from said tension member and disposed at opposite sides of said column, friction means carried by said legs in frictional engagement with opposite sides of said column, wing portions on the remote sides of respective legs, each comprising spaced horizontal walls, friction shoes in wedge engagement with one of said walls and in frictional engagement with friction surfaces on said frame, and resilient means compressed between said shoes and the other of said walls.

25. In a railway car truck, a side frame of truss type comprising tension and compression members and a substantially vertical column extending therebetween, a bifurcated bolster structure comprising spaced legs resiliently supported from said tension member and disposed at opposite sides of said column, friction means carried by said legs in frictional engagement with opposite sides of said column, wing portions on the remote sides of respective legs, each comprising top and bottom walls, friction shoes in wedge engagement with said top wall and in frictional engagement with friction surfaces on said frame, and resilient means compressed between said shoes and said bottom wall.

26. In a railway car truck, a side frame of truss type comprising tension and compression members and a single vertical column extending therebetween at the midpoints of said members, a bifurcated one-piece bolster end resiliently supported on said tension member and comprising spaced legs receiving said column therebetween, integral wing portions on the remote sides of respective legs, and a friction device housed in each wing portion comprising spaced shoes in wedge engagement therewith, each of said shoes being in frictional engagement with a friction surface on said frame, and a substantially vertical spring housed within both of said shoes and compressed between said shoes and an abutment surface on said wing portion.

27. In a railway car truck, a side frame comprising top and bottom members and a sole substantially vertical column extending therebetween at the midpoints thereof, a bifurcated bolster end resiliently supported on said bottom member and comprising spaced legs receiving said column therebetween, wing portions on the remote sides of respective legs, each of said wing portions comprising top and bottom walls, spaced friction shoes housed in each wing portion, resilient means associated with said shoes and operative to urge said shoes into wedge engagement with the top wall of the associated wing portion and into frictional engagement with friction surfaces on said frame, and lugs on the adjacent sides of said legs overlapping the outboard side of said column for interlocking said bolster end with said column.

28. In a railway car truck, a side frame com-

prising a substantially vertical column, a bifurcated bolster end supported on said frame and comprising spaced legs receiving said column therebetween, and friction means carried by at least one of said legs and the body of said bolster at the juncture of said legs therewith in frictional engagement with the adjacent sides of said column.

29. In a railway car truck, a side frame comprising a substantially vertical column, a bifurcated bolster end supported on said frame and comprising spaced legs receiving said column therebetween, and friction shoes housed in said legs and the body of said bolster at the juncture of said legs therewith in frictional engagement with the adjacent sides of said column, and resilient means compressed between each shoe and an abutment surface on said bolster.

30. In a railway car truck, a side frame comprising a substantially vertical column, a bifurcated bolster end supported on said frame and comprising spaced legs receiving said column therebetween, a pocket in each of said legs and the body of said bolster at the juncture of said legs therewith, each pocket having a wedge surface sloping toward said column, a friction shoe in each pocket in wedge engagement with said surface and in frictional engagement with the adjacent side of said column, and resilient means associated with said shoe and operatively urging the same into said engagement.

31. In a railway car truck, spaced side frames each comprising a substantially vertical column, a bolster extending between said frames and comprising bifurcated end portions supported on said frames, each of said end portions comprising spaced legs receiving the adjacent column therebetween, and friction means in the body of said bolster at the juncture of said legs therewith in frictional engagement with the inboard side of the associated column for resisting vertical and transverse movement of said bolster with respect to said frames.

32. In a railway car truck, spaced side frames each comprising a substantially vertical column, a bolster extending between said frames and comprising bifurcated end portions supported on said frames, each of said end portions comprising spaced legs receiving the adjacent column therebetween, and a friction shoe housed in the body of said bolster at the juncture of said legs therewith, said shoe having wedge engagement with said bolster body and frictional engagement with the inboard side of the associated column, and resilient means compressed between said shoe and said bolster.

33. In a railway car truck, a side frame of truss type comprising tension and compression members and a substantially vertical column extending therebetween, a bifurcated bolster structure comprising spaced legs resiliently supported from said tension member and disposed at opposite sides of said column, wing portions on the remote sides of respective legs, friction means carried by each wing portion for cooperation with a friction surface on said frame, and cooperating friction means carried by said legs and the adjacent sides of said column.

34. In a railway car truck, a side frame having top and bottom members, a central column therebetween, vertically aligned ledges on said top and bottom members at opposite sides of said column in part defining bolster openings with said column and members at opposite sides of said column, a bolster having laterally spaced ends received within the respective openings and supported from said frame, cooperating friction means carried by each of said ends and said column, inboard and outboard friction panels mounted on each set of ledges, a wing portion on each end extending between the adjacent set of friction panels, and a friction device housed in each wing portion comprising spaced shoes in wedge engagement therewith and in frictional engagement with respective adjacent panels.

35. In a railway car truck, a truss side frame with tension and compression members and a vertical central column defining openings at opposite sides thereof, a bolster end spring-supported on said frame with bifurcated portions in respective openings, vertically aligned ledges on said members at opposite sides of said column, inboard and outboard friction panels supported on respective sets of ledges, an integral wing on each bifurcated portion with friction means engaging respective panels of the adjacent set, each of said bifurcated portions resiliently supporting a friction element engaging said column.

36. In a railway car truck, a truss type side frame comprising a substantially vertical central column, a relatively movable member resiliently supported on said frame and comprising spaced legs at opposite sides of said column, and friction means carried by said respective legs in engagement with friction means carried in opposite sides of said column.

37. In a railway car truck, a truss type side frame comprising a substantially vertical central column in part defining windows at opposite sides thereof, a relatively movable integral member resiliently supported on said frame and comprising spaced legs at opposite sides of said column, and friction means carried by at least one of said legs in engagement with friction means carried by the adjacent side of said column, said column having a relatively narrow upper portion and said legs having adjacent outboard bolster guide lugs adapted to be received within the upper portions of said windows at said upper portion of said column.

38. In a bolster for a railway car truck, a box-section member with a bifurcated end portion comprising spaced legs and friction shoe pockets in the adjacent sides of said legs, each of said pockets comprising a wedge surface therein and a spring seat vertically spaced with respect to said surface, wing portions on the remote sides of respective legs, and friction shoe pockets in each of said wing portions.

39. In a bolster for a railway car truck, a box-section member with a bifurcated end portion comprising spaced legs and friction shoe pockets in the adjacent sides of said legs, wing portions on the remote sides of respective legs, and friction shoe pockets in each of said wing portions.

40. In a bolster for a railway car truck, a one-piece box-section member with an end portion comprising wings on opposite sides thereof and friction shoe pockets in each of said wings, each of said pockets comprising a V-shaped top wall having wedge surfaces and a bottom wall having a spring seat vertically aligned with respect to said surfaces.

41. In a bolster for a railway car truck, a box-section member with a bifurcated end portion comprising spaced legs and friction shoe pockets in the adjacent sides of said legs, a friction shoe in each pocket, and resilient means operatively associated with each shoe for urging the same outwardly of the associated pocket.

42. In a bolster for a railway car truck, a box-section one-piece member with an end portion comprising integral wings at opposite sides thereof, each of said wings comprising spaced walls, a friction shoe in wedge engagement with one of said walls, resilient means compressed between said shoe and the other of said walls, said shoe and said one wall having openings for the reception of means for retracting said shoe within the associated wing portion in the assembly and disassembly of said friction shoes and resilient means with said wing portions, an opening in said portion and friction shoe pockets in said portion at the sides of said opening.

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