June 12, 1945. D. M. LIGHT 2,378,228

CAR TRUCK

Filed Oct. 11, 1941 2 Sheets-Sheet 1

Fig. 1.

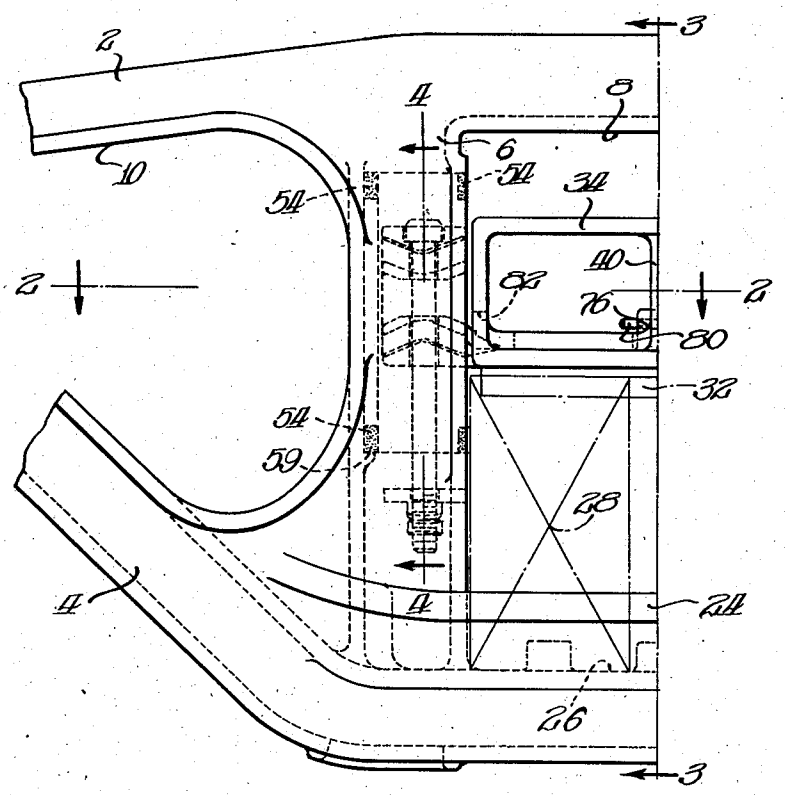
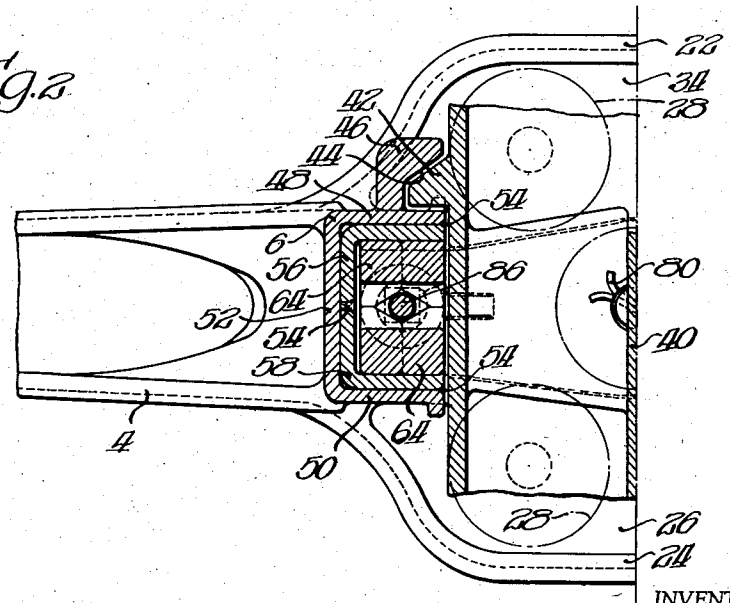


Fig. 2



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June 12, 1945. D. M. LIGHT 2,378,228

CAR TRUCK

Filed Oct. 11, 1941 2 Sheets-Sheet 2

Fig. 3.

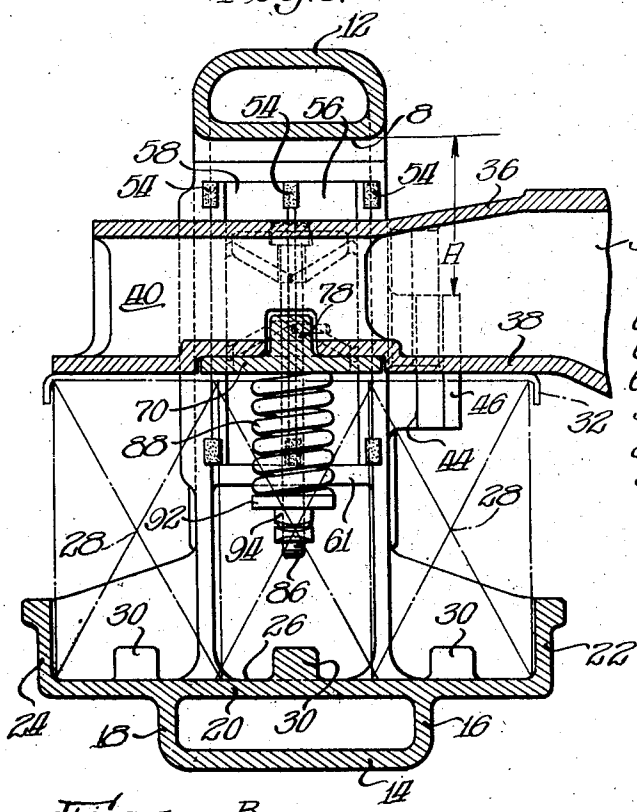


Fig. 4.

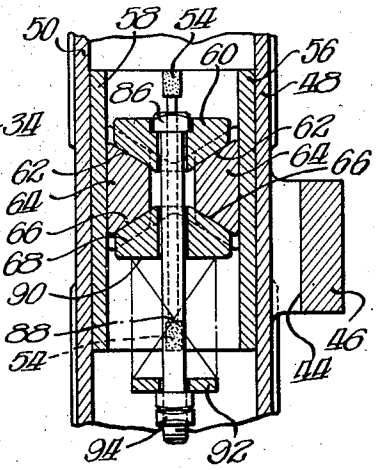


Fig. 5.

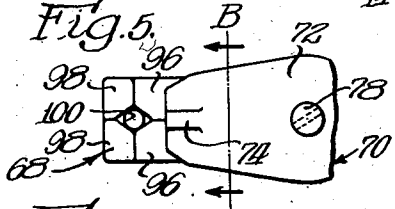


Fig. 5A.

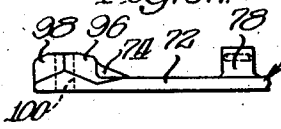


Fig. 5B.

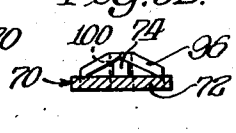


Fig. 6.

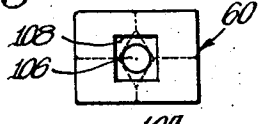


Fig. 6A.



Fig. 6B.

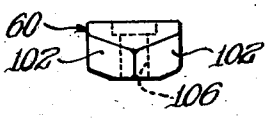


Fig. 7.

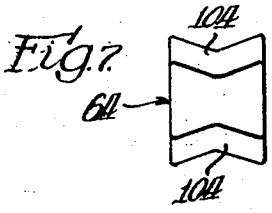


Fig. 7A.

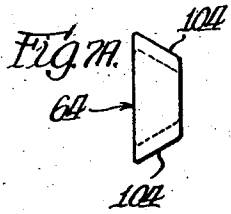
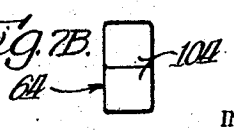


Fig. 7B.



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Patented June 12, 1945 2,378,228

UNITED STATES PATENT OFFICE

2,378,228

CAR TRUCK

David M. Light, Chicago, Ill., assignor to American Steel Foundries, Chicago, Ill., a corporation of New Jersey

Application October 11, 1941, Serial No. 414,551

32 Claims. (Cl. 105—197)

My invention relates to railway car trucks and particularly to a type of such truck commonly designated quick wheel change comprising spaced side frames with an intervening bolster so connected between said side frames as to facilitate its temporary removal for wheel change purposes.

The general object of my invention is to devise a novel form of such car truck utilizing bolster snubbing means housed in the columns of the side frames, said snubbing means being actuated by means of a member associated with the bolster sometimes designated an interlocking member.

A specific object of my invention is to devise such a novel car truck as that above-mentioned wherein each side frame column may be of general U-section with the open sides thereof toward each other and each of said columns having parallel inboard and outboard walls upon which may be mounted friction panels or wear plates for engagement with friction shoes actuated by the before-mentioned member associated with the bolster.

My novel arrangement contemplates a snubbing structure in each column and with each snubbing structure may be associated resilient means independent of the bolster supporting springs, said resilient means being effective to urge friction shoes into engagement with friction panels on the columns.

My invention further comprehends such an arrangement as that described wherein the friction means in each column may comprise a plurality of wedge-shaped friction shoes and a plurality of wedge followers in frictional engagement with each other, said shoes being resiliently urged into engagement with the before-mentioned column panels.

In the drawings,

Figure 1 is a fragmentary side elevation of a car truck embodying my invention, only one end of the truck being shown inasmuch as the structure is similar at opposite ends thereof.

Figure 2 is a sectional view of the car truck, the section being taken substantially in the horizontal plane indicated by the line 2—2 of Figure 1.

Figure 3 is a further sectional view through the structure of Figures 1 and 2, the section being taken substantially in the transverse vertical plane bisecting the truck and as indicated by the line 3—3 of Figure 1.

Figure 4 is a transverse sectional view through one of the columns and the friction devices associated therewith, the section being taken approximately in the vertical plane indicated by the line 4—4 of Figure 1.

Figures 5, 5A, and 5B show the detail of my novel form of follower plate or interlocking member, Figure 5 being a fragmentary top plan view thereof, Figure 5A an edge elevation taken from the bottom as seen in Figure 5 and Figure 5B a transverse sectional view taken substantially in the plane indicated by the line B—B of Figure 5.

Figures 6, 6A, and 6B show the detail of my novel form of friction device top follower, Figure 6 being a top plan view thereof, Figure 6A a side elevation taken from the bottom as seen in Figure 6 and Figure 6B an end view taken from the right as seen in Figure 6.

Figures 7, 7A, and 7B illustrate my novel form of friction device side wedge, Figure 7 being a plan view taken from the inner face thereof, Figure 7A a side elevation, and Figure 7B an end view.

My novel structure comprises a truss type side frame having a compression member 2, a tension member 4, and spaced integral columns 6, 6 defining with said members a central bolster opening 8 and a window opening 10 at each side thereof. Above the bolster opening 8 the compression member may have a general box-section as best seen at 12 in Figure 3 and below said bolster opening the tension member 4 may be of box-section with the bottom chord 14, inboard and outboard walls 16 and 18, and a top chord 20 widened and formed with inboard and outboard upstanding flanges 22 and 24 defining a spring seat 26 upon which may be positioned a plurality of bolster supporting springs diagrammatically indicated at 28, 28, said springs being positioned with respect to said seat as by means of upstanding lugs 30, 30. The upper ends of the springs 28, 28 may be confined by a spring plate 32 upon which may be seated in usual manner the end of the bolster generally designated 34. The bolster 34 may have an end portion of general box-section comprising the top wall 36 and the bottom wall 38 reinforced by the vertical intermediate wall 40 and the bolster end may have at each side thereof a vertical guide lug 42 in engagement with a complementary channel 44 formed on the bracket 46 which may be an integral part of the adjacent column and positioned on the inboard face thereof intermediate the length of the column as best seen in the view of Figure 3. The bracket 46 may be of limited depth and the upper end thereof may be spaced from the bottom web of the compression member there-

over a distance A as indicated in Figure 3, said distance being of such depth as to permit the withdrawal of the bolster from the bolster opening by elevation thereof for disengagement of the bolster guide lug from the before-mentioned channel of the bracket 46.

Each column 6 may have a substantial U-section throughout its length with the inboard wall 48, the outboard wall 50 and the transverse web 52 as best illustrated in the view of Figure 2. On the inner faces of each column may be secured by any convenient means as by welding as at 54, 54 inboard and outboard angle wear plates 56 and 58, and the lower ends of said wear plates may conveniently abut as at 59 the horizontal ledge 61 formed on the before-mentioned transverse web 52 of the column.

Housed within each column may be a friction device comprising a top follower 60 presenting on its bottom face at opposite sides thereof spaced wedge-shaped friction surfaces for engagement as at 62, 62 with complementary surfaces formed on inboard and outboard friction shoes 64, 64. Each friction shoe 64 is symmetrical in form and the V-shaped friction surface at the bottom edge thereof may have engagement as at 66 with the complementary face formed on the bottom follower 68, said bottom follower 68 being an integral part of the follower plate or interlocking member generally designated 70 and shown in detail in Figures 5, 5A, and 5B. The interlocking member 70 comprises a relatively wide central plate portion 72 merging at each end with a follower end portion generally designated 68, the juncture of said end portion and said plate portion being reinforced by a vertical rib 74. The combination interlocking member and follower plate 70 may be recessed in the bottom wall 38 of the bolster as best seen in the sectional view of Figure 3 and the member 70 may be secured to the bolster as at 76 (Figure 1) by the upstanding lug 78 centrally formed on the member 70, said lug 78 projecting through the bottom wall 38 of the bolster centrally thereof, and the intermediate wall 40 of said bolster being cored away to accommodate said lug. A cotter key or other forms of securing means may extend through the lug 78 as indicated at 80 (Figure 1) thus preventing accidental dismantling of said bolster from said follower plate. Each side wall of the bolster may also be cored away as at 82 (Figure 1) to accommodate the rib 74 reinforcing the juncture of the end and plate portions of the interlocking member.

The top and bottom followers 60 and 68 of the friction device may be cored out centrally thereof to accommodate a retaining bolt 86 which may project below the follower portion 68 for support of the coil spring 88, the top end of said spring being afforded a seat as at 90 against the follower member 68, and the bottom end thereof abutting the spring seat 92 which may be retained in position by means of the double nut 94 threaded on the end of the bolt 86. In the view of Figure 4, the coil spring 88 is diagrammatically indicated to simplify the showing thereof.

As already mentioned, the detail of the combination follower plate and interlocking member 70 is shown in Figures 5, 5A, and 5B. It may be noted that each follower end member 68 is formed with V-shaped tapering friction surfaces 96, 96 adjacent the plate portion 72 and at the opposite side thereof similar V-shaped tapering friction surfaces 98, 98, said surfaces 96 and 98 engaging similar and complementary friction surfaces on the lower edges of the friction shoes 64, 64 as already referred to. Each end follower portion 68 is formed with a vertical bolt opening 100 for the purpose already described.

The detail of the top follower 60 is shown in Figures 6, 6A, and 6B. It will be noted that the follower 60 is bisectional in form having at each end thereof a wedge-shaped friction surface 102 for engagement with a complementary V-shaped surface 104 on the adjacent friction shoe 64. Each follower 60 may be perforated centrally thereof to define the bolt hole 106 and a rectangular recess 108 may be formed in the top wall thereof for convenient accommodation of the retaining bolt 86.

The detail of each friction shoe 64 is shown in Figures 7, 7A, and 7B. The V-shaped tapering friction surfaces 104, 104 at opposite ends thereof are clearly apparent from the views of these figures.

It will be readily apparent that the bolster 34 may be disengaged from the side frame by disconnecting therefrom the follower plate and interlocking member 70 by removal of the cotter means at 80 after which the bolster 34 may be elevated until the guide lug 42 at the side thereof is disengaged from the vertical slot 44 in the side frame bracket 46 after which the bolster may be withdrawn from the bolster opening of the side frame. This operation may be carried out, of course, without disturbing the friction devices in the columns or the spring group upon which the bolster may normally be seated.

When the bolster is in normal operative position, vertical movements thereof will be snubbed or restricted by the friction developed through the friction means in their respective columns, said friction means being operated by the follower plate 70 forming a part thereof. It will be understood that the amount of friction developed may be modified by the degree of taper afforded on the complementary friction surfaces on the shoes and followers as well as by the connection of the resilient means at 88 which form a part of said friction devices.

It is to be understood that I do not wish to be limited by the exact embodiment of the device shown which is 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 having tension and compression members and integral columns defining therewith a central bolster opening, each of said columns having a U-section with transverse webs at the remote sides thereof, inboard and outboard walls, wear plates on said walls, springs on said tension member in said opening, a bolster seated on said springs, a member secured to said bolster and having end portions housed within respective columns for association with friction devices therein, each of said end portions comprising a bottom follower, a top follower spaced therefrom, friction shoes between said followers, resilient means urging said friction shoes into engagement with said followers and into engagement with said wear plates, and means extending through said followers and securing said resilient means against one of said followers, bolster guide brackets on the inboard faces of each of said columns, and bolster guide lugs on the opposite walls of said bolster in engagement with said brackets, said brackets hav-

ing a vertical clearance from the bottom web of the compresion member thereover at least equal to the vertical depth of said guide lugs to permit dismantling of said bolster at the top of said opening.

2. In a railway car truck, a side frame having tension and compression members and integral columns defining therewith a central bolster opening, each of said columns having a U-section with transverse webs at the remote sides thereof, inboard and outboard walls, wear plates on said walls, springs on said tension member in said opening, a bolster seated on said springs, a member secured to said bolster and having end portions housed within respective columns for association with friction devices therein, each of said end portions comprising a bottom follower, a top follower spaced therefrom, friction shoes between said followers, resilient means urging said friction shoes into engagement with said followers and into engagement with said wear plates, bolster guide brackets on the inboard faces of each of said columns, and bolster guide lugs on the opposite walls of said bolster in engagement with said brackets, said brackets having a vertical clearance from the bottom web of the compression member thereover at least equal to the vertical depth of said guide lugs to permit dismantling of said bolster at the top of said opening.

3. In a railway car truck, a side frame having tension and compression members and integral columns defining therewith a central bolster opening, each of said columns having a U-section with transverse webs at the remote sides thereof, inboard and outboard walls, wear plates on said walls, springs on said tension member in said opening, a bolster seated on said springs, a member secured to said bolster and having end portions housed within respective columns for association with friction devices therein, each of said end portions comprising a bottom follower, a top follower spaced therefrom, friction shoes between said followers, resilient means urging said friction shoes into engagement with said followers and into engagement with said wear plates, and means extending through said followers and securing said resilient means against one of said followers.

4. In a railway car truck, a side frame having tension and compression members and spaced columns defining a bolster opening, springs on said tension member in said opening, a bolster on said springs, a member recessed in the bottom of said bolster with end portions housed in respective columns, each of said end portions comprising a follower associated with a friction device housed in the adjacent column, each of said friction devices comprising a spaced follower, spaced friction shoes each having diagonal face engagement with both of said followers, said shoes having frictional engagement respectively with spaced walls of the adjacent column, resilient means urging said shoes and followers into engagement with each other and said shoes into engagement with said column walls, and means extending through said followers and securing said resilient means in abutment with one of said followers.

5. In a railway car truck, a side frame having spaced columns defining in part a central bolster opening, each column comprising spaced legs a tension member beneath said opening, springs on said tension member in said opening, a bolster end extending into said opening and seated on said springs, an interlocking member recessed in the bottom wall of said bolster with end portions extending into said columns respectively, each of said end portions comprising a bottom follower of a friction device housed in the adjacent column, each of said friction devices having a spaced follower, friction shoes each having frictional engagement with both followers and one of said legs, spring means associated with each of said devices for urging said shoes into engagement with said followers and said legs, and securing means extending through said followers and retaining said spring means against one of said followers.

6. In a railway car truck, a side frame having spaced columns defining in part a central bolster opening, each column comprising inboard and outboard legs, a tension member beneath said opening, springs on said tension member in said opening, a bolster end extending into said opening and seated on said springs, an interlocking member recessed in the bottom wall of said bolster with end portions housed in said columns respectively, each of said end portions comprising a bottom follower of a friction device in the adjacent column, each of said friction devices comprising a spaced follower, a plurality of friction shoes having frictional engagement with both followers and respective legs, and spring means associated with each of said devices for urging said shoes into said engagement, and securing means for said spring means.

7. In a railway car truck, a side frame having tension and compression members and spaced columns defining a bolster opening, springs on said tension member in said opening, a bolster on said springs, a member recessed in the bottom of said bolster with end portions housed in respective columns, each of said end portions comprising a follower associated with a friction device housed in the adjacent column, each of said friction devices comprising a spaced follower, spaced friction shoes each having diagonal face engagement with both of said followers, and resilient means urging said shoes and followers into engagement wiht each other and urging said shoes into engagement with spaced walls of the adjacent column.

8. In a railway car truck, a side frame having tension and compression members and integral columns defining therewith a central bolster opening, each of said columns having a U-section with transverse webs at the remote sides thereof, inboard and outboard walls, wear plates on said walls, springs on said tension member in said opening, a bolster seated on said springs, a member secured to said bolster and having end portions housed within respective columns for association with friction devices therein, each of said end portions comprising a bottom follower, a top follower spaced therefrom, friction shoes between said followers, and resilient means urging said friction shoes into engagement with said followers and into engagement with said wear plates.

9. In a railway car truck, a side frame having tension and compression members and spaced columns defining a bolster opening, each of said columns having inboard and outboard walls, friction surfaces on said walls, a bolster extending into said opening, a member fixed to said bolster with end portions housed in said columns respectively, each of said end portions forming a follower associated with a friction device in the adjacent column, each of said friction devices comprising a spaced follower and friction shoes between said

followers engaging said surfaces, and means urging said shoes and said followers into engagement with each other, said last-mentioned means comprising a coil spring and means securing said coil spring against one of said followers.

10. In a railway car truck, a truss side frame having tension and compression members and spaced columns defining a bolster opening, each of said columns having a U-section with transverse webs at the remote sides of respective columns, bolster supporting springs on said tension member in said opening, a bolster supported on said springs, an interlocking member recessed in the bottom wall of said bolster and having end portions defining bottom followers of friction devices housed in the respective columns, each of said friction devices comprising a top follower, friction shoes in engagement with said followers and in frictional engagement with the adjacent column walls, and resilient means for urging said shoes and followers into engagement with each other.

11. In a railway car truck, a side frame having spaced columns defining in part a central bolster opening, each column having spaced legs, a tension member beneath said opening, springs on said tension member in said opening, a bolster end extending into said opening and seated on said springs, an interlocking member recessed in the bottom wall of said bolster with end portions housed in said columns respectively, each of said end portions comprising a bottom follower of a friction device in the adjacent column, each of said friction devices comprising a spaced follower, a plurality of friction shoes engaged with respective legs and having V-shaped tapering frictional engagement with both followers, and spring means associated with each of said devices for urging said shoes into engagement with said followers and said legs.

12. In a railway car truck, a side frame having spaced columns defining in part a central bolster opening, a tension member beneath said opening, springs on said tension member in said opening, a bolster end extending into said opening and seated on said springs, an interlocking member recessed in the bottom wall of said bolster with end portions housed in said columns respectively, each of said end portions comprising a bottom follower of a friction device in the adjacent column, and each of said friction devices comprising a spaced follower and friction shoes engaging said followers and spaced walls of the associated column, and resilient means urging said shoes and followers into engagement with each other.

13. In a railway car truck, a side frame having spaced columns defining in part a central bolster opening, each column comprising spaced legs, a tension member beneath said opening, springs on said tension member in said opening, a bolster end extending into said opening and seated on said springs, an interlocking member recessed in the bottom wall of said bolster with end portions housed in said columns respectively, each of said end portions comprising a bottom follower of a friction device in the adjacent column, and each of said friction devices comprising a spaced follower and friction shoes engaging said followers and respective legs.

14. In a railway car truck, a side frame having tension and compression members and spaced columns defining a bolster opening, each of said columns having inboard and outboard walls, friction surfaces on said walls, a bolster extending into said opening, a member fixed to said bolster with end portions housed in said columns respectively, each of said end portions forming a follower associated with a friction device in the adjacent column, each of said friction devices comprising a spaced follower and friction shoes between said followers engaging said surfaces, and means urging said shoes and said followers into engagement with each other.

15. In a railway car truck, a side frame having tension and compression members and spaced columns defining a bolster opening, each of said columns having inboard and outboard walls, friction surfaces on said walls, a bolster extending into said opening, a member fixed to said bolster with end portions housed in said columns respectively, each of said end portions forming a follower associated with a friction device in the adjacent column, each of said friction devices comprising a spaced follower and friction shoes between said followers engaging said surfaces.

16. In a railway car truck, a side frame having tension and compression members and spaced columns defining a bolster opening, springs on said tension member in said opening, a bolster on said springs, a member recessed in the bottom of said bolster with end portions housed in respective columns, each of said end portions comprising a follower associated with a friction device housed in the adjacent column, each of said friction devices comprising a spaced follower, and friction shoes in engagement with respective walls of the adjacent column, each of said shoes having diagonal face engagement with both of said followers.

17. In a railway car truck, a side frame having spaced columns and an intervening bolster opening, a bolster resiliently supported within said opening, inboard and outboard friction surfaces within each column, and friction means associated with each column and comprising a wedge unit consisting of a wedge element vertically movable with the bolster and disposed between the spaced friction surfaces within said column, a wedge unit consisting of wedge elements in frictional engagement with respective surfaces and in complementary wedge engagement with the first-mentioned element, resilient means under compression and spaced from one of said units and seated against the other thereof, a rigid member extending through said other unit and through said resilient means and carrying abutment means therefor, and a connection between said rigid member and the wedge unit remote from said resilient means.

18. In a railway car truck, a side frame having spaced columns and an intervening bolster opening, a bolster resiliently supported within said opening, and a friction device associated with each of said columns and comprising inboard and outboard friction surfaces therein, wedge means comprising a wedge element associated with the bolster and vertically movable therewith, said element being disposed intermediate said surfaces, additional wedge means comprising wedge elements in frictional engagement with respective surfaces and in wedge engagement with said first-mentioned element, resilient means compressed against one of said wedge means and spaced from the other wedge means, and means for transmitting reaction of said resilient means to said other wedge means.

19. In a railway car truck, a side frame having spaced columns and an intervening bolster opening, a bolster resiliently supported within said opening, and a friction device associated with each of said columns and comprising inboard and

outboard friction surfaces therein, a wedge element associated with the bolster and vertically movable therewith, said element being disposed intermediate said surfaces, spaced friction means in frictional engagement with respective surfaces and in wedge engagement with said element, and resilient means including a compressed spring operatively connected at its opposite ends respectively to said element and said friction means for urging the latter into said engagement.

20. In a railway car truck, a side frame comprising spaced columns and an intervening bolster opening, inboard and outboard friction surfaces on each column, friction elements engaged therewith, a bolster in said opening and resiliently supported from said frame, a member fixed to said bolster, and means carried by said member for actuating said elements during relative movement between said bolster and said frame, said means comprising wedge means in complementary wedge engagement with said elements and resilient means operatively associated with said elements for urging the same into engagement with said wedge means and said surfaces.

21. In a railway car truck, a side frame comprising spaced columns and an intervening bolster opening, inboard and outboard friction surfaces on each column, friction elements engaged therewith, a bolster in said opening and resiliently supported from said frame, a member fixed to said bolster, means carried by said member for actuating said elements during relative movement between said bolster and said frame, said means comprising friction faces on said member engaging the elements associated with each column, said faces tapering toward respective of the friction surfaces on said column, resilient means compressed against said member, and means operatively connected to said resilient means and to said elements for transmitting reaction of said resilient means thereto, whereby said elements are urged into engagement with the associated faces and surfaces.

22. In a railway car truck, a side frame comprising spaced columns and an intervening bolster opening, inboard and outboard friction surfaces on each column, friction elements engaged therewith, a bolster in said opening and resiliently supported from said frame, a member fixed to said bolster, means carried by said member for actuating said elements during relative movement between said bolster and said frame, said means comprising wedge surfaces on said member, a spring compressed against a portion of said member remote from said elements, and means operatively connected to said spring and to said elements for transmitting reaction of said spring thereto, whereby said elements are urged into engagement with the associated wedge and column surfaces.

23. In a railway car truck, a side frame comprising spaced columns and an intervening bolster opening, each column comprising spaced walls, a spring group on said frame in said opening, a bolster supported on said group and a friction device in each column comprising friction shoes engaging respective walls, spaced wedge means engaged with said shoes, one of said wedge means being interlocked with the bolster, and resilient means urging said shoes and said wedge means into engagement.

24. In a railway car truck, a side frame comprising spaced columns and an intervening bolster opening, a bolster in said opening resiliently supported from said frame, each column comprising spaced walls, friction shoes engaging said walls, wedge means engaging said shoes, resilient means engaged with said wedge means and operative to urge said shoes into engagement with said walls, and an interlocking connection between said wedge means and said bolster.

25. In a railway car truck, a side frame comprising spaced columns and an intervening bolster opening, a bolster in said opening resiliently supported from said frame, each column comprising spaced walls, friction shoes engaging said walls, wedge means engaging said shoes, resilient means engaged with said wedge means and operative to urge said shoes into engagement with said walls, and an interlocking connection between said wedge means and said bolster, said connection being the sole means affording actuation of said shoes by said bolster.

26. In a railway car truck, a side frame comprising spaced columns and an intervening bolster opening, a bolster in said opening resiliently supported from said frame, each column comprising spaced walls, friction shoes engaging said walls, wedge means engaging said shoes, resilient means engaged with said wedge means and operative to urge said shoes into engagement with said walls, and an interlocking connection between said wedge means and said bolster, said resilient means being spaced from said frame.

27. In a railway car truck, a side frame comprising spaced columns and an intervening bolster opening, each column having inboard and outboard walls, a bolster in said bolster opening and resiliently supported from said frame, and a friction device in each column comprising friction shoes engaging the spaced walls thereof, spaced wedge means engaging said shoes, and resilient means urging said wedge means into engagement with said shoes, whereby said shoes are urged into engagement with said walls, and an operative connection between each device and said bolster.

28. In a railway car truck, a side frame comprising spaced columns and an intervening bolster opening, each column comprising spaced walls, a bolster in said bolster opening and resiliently supported from said frame, and a friction device in each column comprising friction shoes engaging the spaced walls thereof, spaced wedge means engaging said shoes, resilient means engaging one of said wedge means, and means extending through said resilient means and connected to the other of said wedge means, one of said wedge means being rigidly associated with and vertically movable with said bolster.

29. In an interlocking member for a railway car truck, an elongated member having intermediate its ends interlocking means for an associated bolster, said member having at each end thereof a pair of oppositely disposed V-shaped wedge surfaces sloping toward opposite sides thereof.

30. In a railway car truck, a side frame having spaced columns and an intervening bolster opening, a bolster resiliently supported in said opening, and friction means comprising spaced friction surfaces on said frame, wedge surfaces vertically movable with said bolster, friction shoes each engaging one of said wedge and one of said friction surfaces, an abutment surface vertically movable with said bolster, resilient means compressed against said abutment surface, and a bolt and nut assembly operatively connected to said resilient means and said shoes for transmitting

reaction of said resilient means to said shoes.

31. In a railway car truck, a side frame having spaced columns and an intervening bolster opening, a bolster resiliently supported in said opening, and friction means comprising spaced friction surfaces on said frame, wedge surfaces vertically movable with said bolster, friction shoes each engaging one of said wedge and one of said friction surfaces, an abutment surface vertically movable with said bolster, resilient means compressed at its upper end against said abutment surface, and a bolt and nut assembly operatively connected to said resilient means and said shoes for transmitting reaction of said resilient means to said shoes, said resilient means being sleeved over said bolt and nut assembly intermediate the ends thereof.

32. In a railway car truck, a side frame having spaced columns and an intervening bolster opening, a bolster resiliently supported in said opening, and friction means comprising oppositely spaced substantially parallel friction surfaces on said frame, spaced wedge surfaces in fixed relationship with respect to said bolster and vertically movable therewith, a pair of friction shoes engaging respective friction surfaces and respective wedge surfaces, an abutment surface in fixed relationship with respect to said bolster and vertically movable therewith, resilient means compressed against said surface, and a bolt and nut assembly operatively connected to said resilient means and both of said shoes for transmitting reaction of said resilient means to said shoes.

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