Oct. 4, 1949. W. VAN DER SLUYS 2,483,858

TRUCK HANGER SUSPENSION

Filed Dec. 11, 1944 3 Sheets-Sheet 1

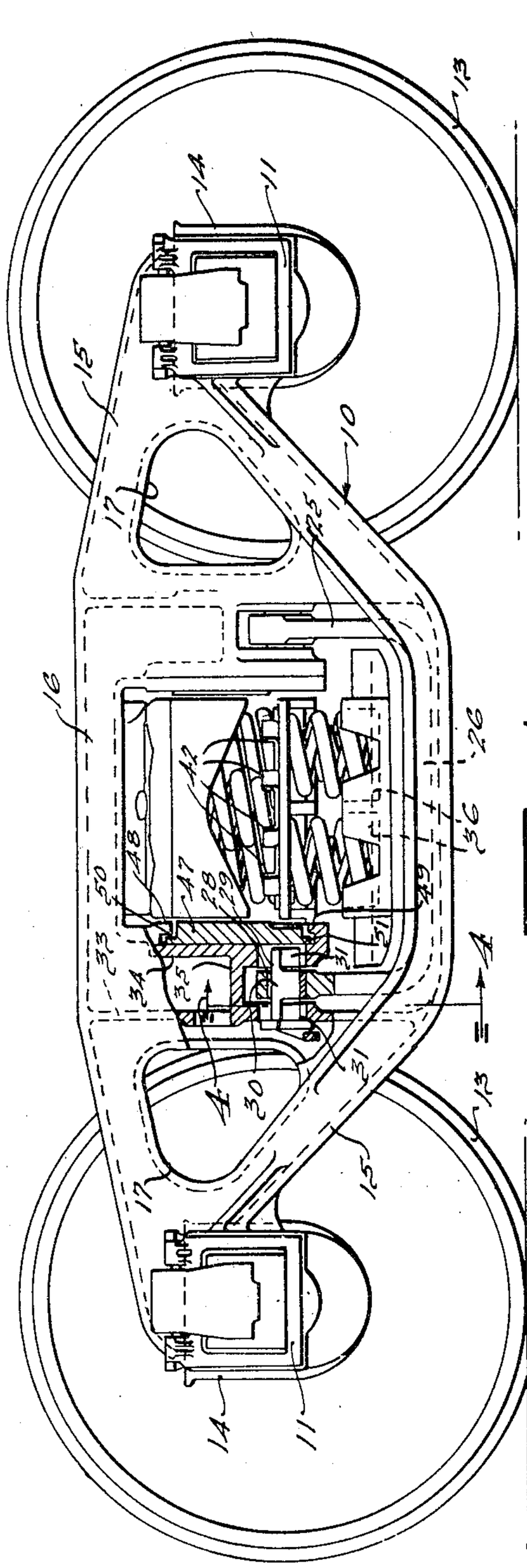

Fig. 1.

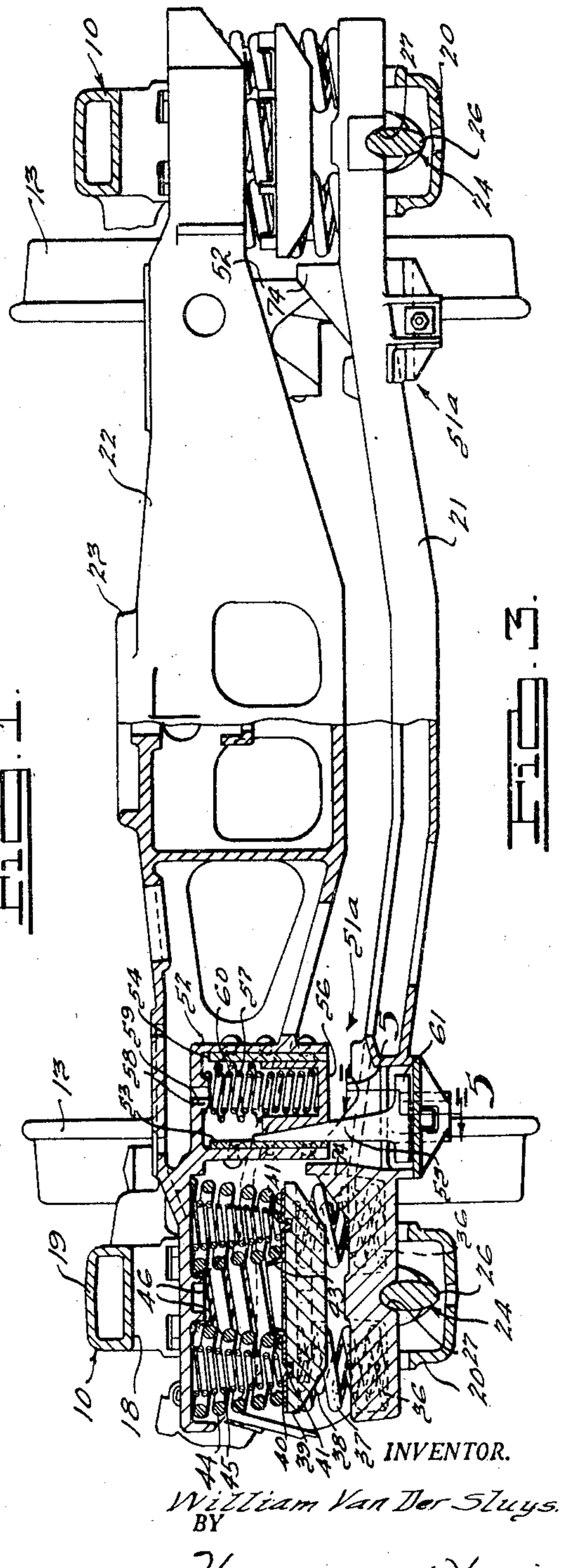

Fig. 2.

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Filed Dec. 11, 1944 3 Sheets-Sheet 2

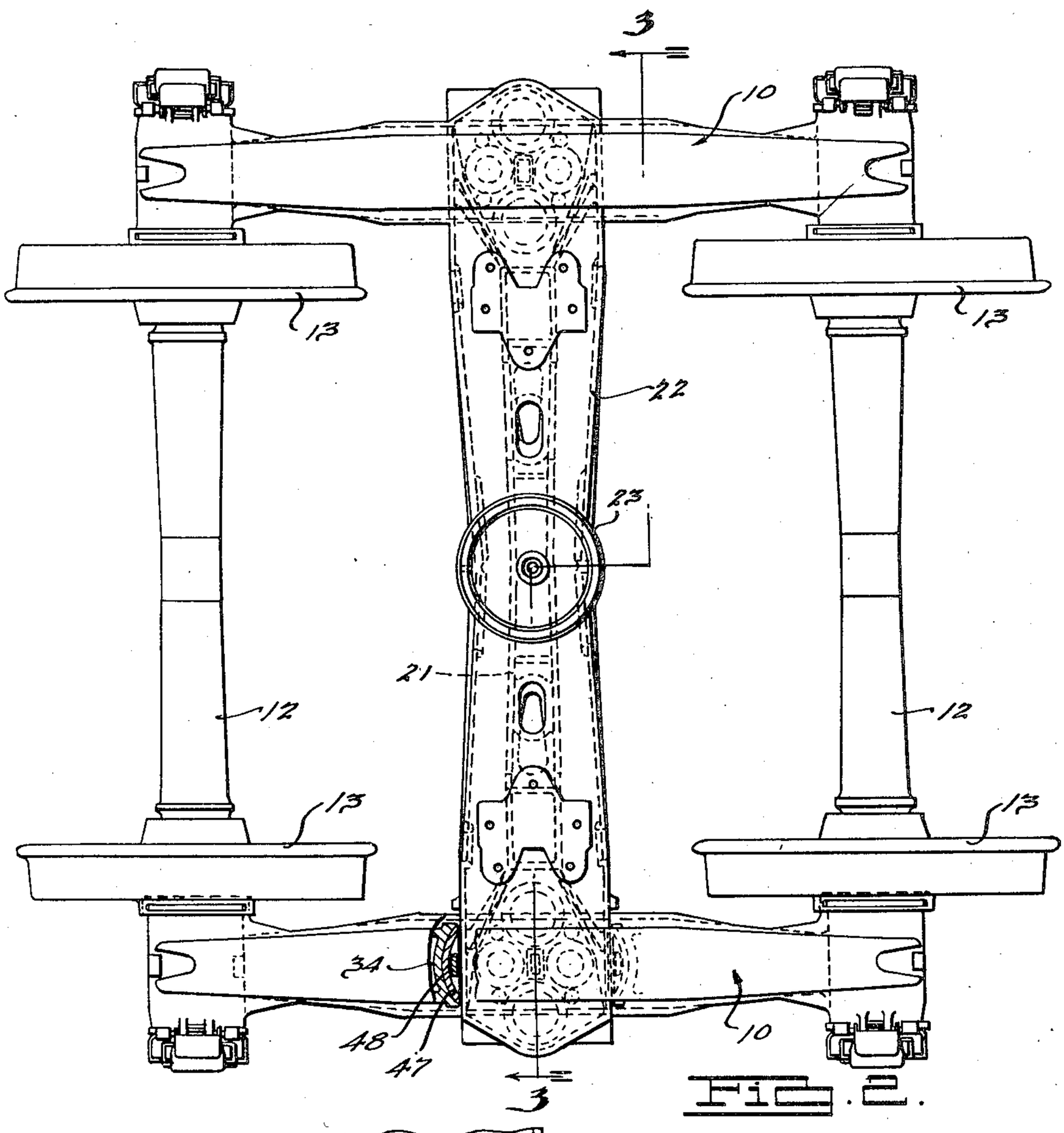

Fig. 2.

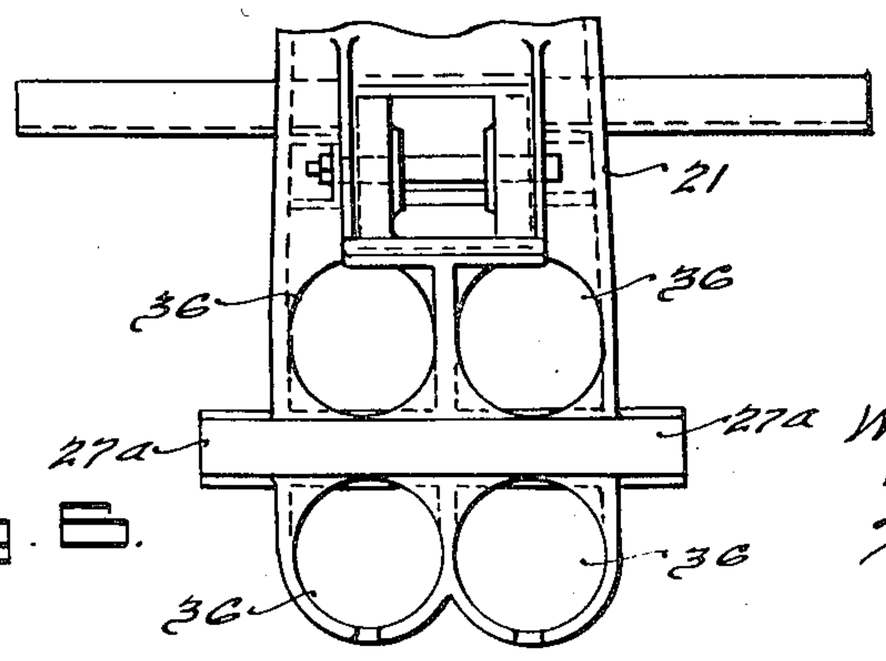

Fig. 6.

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Filed Dec. 11, 1944 3 Sheets-Sheet 3

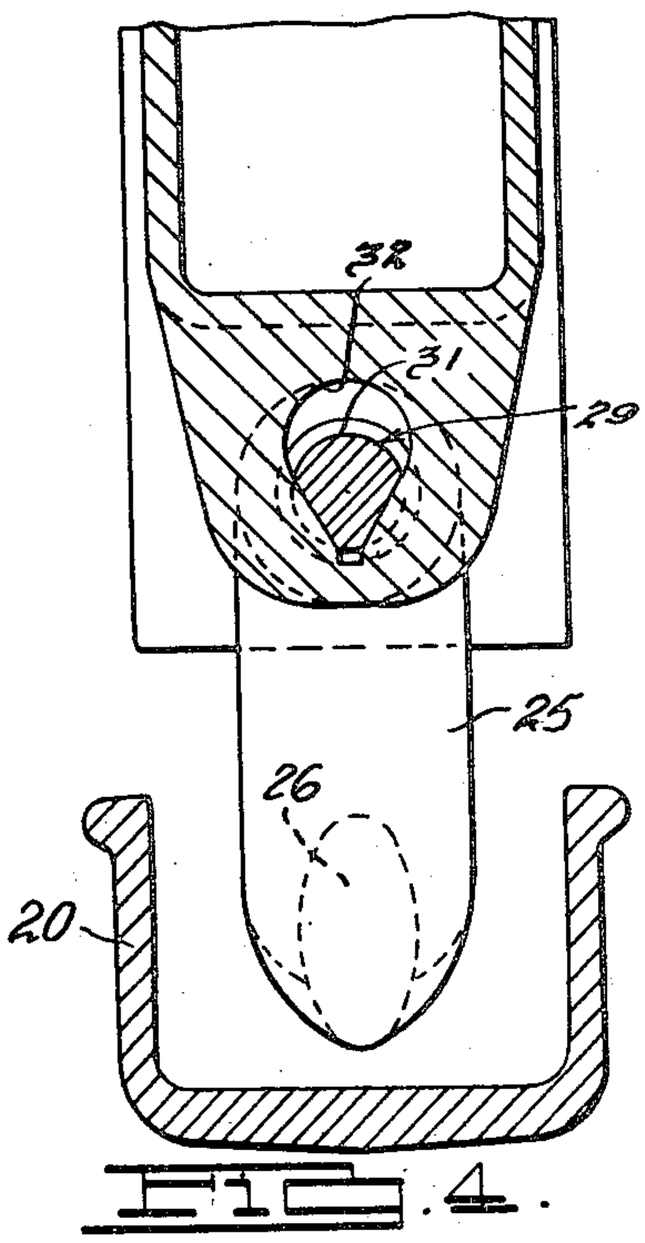

FIG. 4.

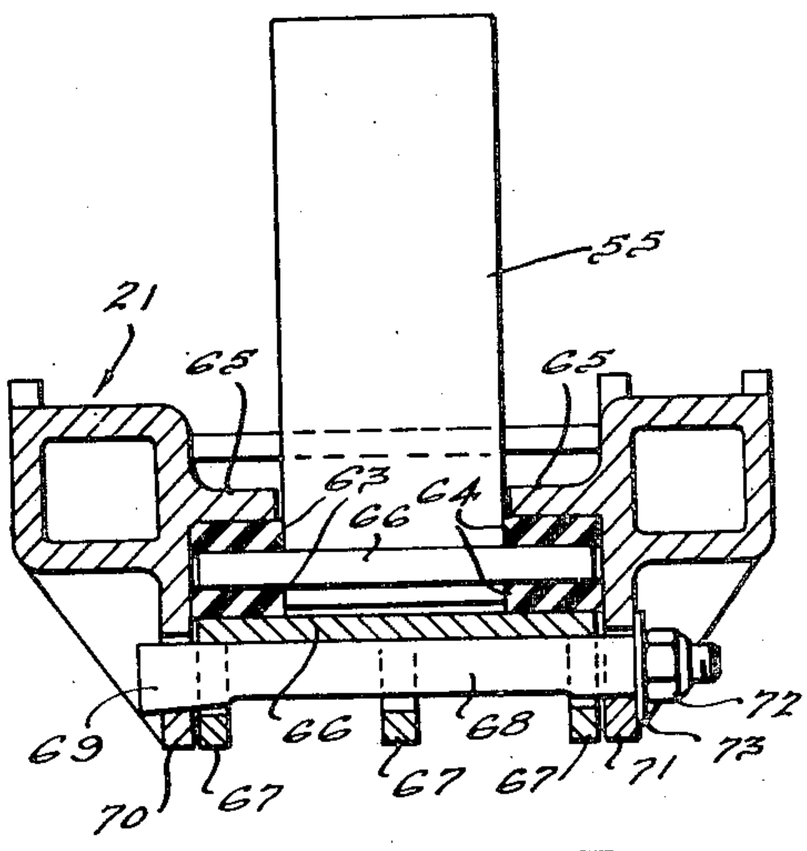

FIG. 5.

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UNITED STATES PATENT OFFICE

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TRUCK HANGER SUSPENSION

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Application December 11, 1944, Serial No. 567,573

17 Claims. (Cl. 105—191)

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This invention relates to the provision of means in a railway car truck controlling unsquaring of the truck. More specifically it relates to controlling unsquaring of a railway truck through the mounting of a spring plank.

In a railway car truck there is always the problem of controlling unsquaring of the truck, i. e., the tendency of one side frame to run ahead of the other side frame. In conventional freight truck constructions this has not been properly controlled either by connection of the truck side frames with the axle journal boxes or by association of the truck bolster or spring plank with the side frames. I propose to employ a construction in which the side frames carry a spring plank directly by means of swing hangers in such a manner that the hangers and plank elastically resist unsquaring but are permitted to twist sufficiently to provide a limited relative longitudinal movement of side frames and self-restoring action.

An object of the present invention is to provide an improved railway car truck having means for controlling unsquaring of the truck. This may involve the employment of swing hangers and a swing plank for this purpose.

Another object is to provide, in a device of the character described, in connection with a novel mounting means for bolster and spring plank, a torsion means for returning the side frames to square relation, should a force applied to one side frame cause it to move relatively longitudinally to the opposite side frame.

A further object is to provide improvements in a railway car truck having swing hangers and a spring plank. The spring plank may be supported by swing hangers directly carried on side frames of the railway car truck.

Another object is to make improvements in a swing hanger and its mounting. The mounting may provide for carrying the swing hanger directly in a side frame of a railway car truck.

Still another object is the provision of an improved freight car truck and more specifically, a truck having means for controlling unsquaring of the truck.

A still further object is to provide a railway truck in which the base of a swing hanger is positioned within flanges at the lower part of the side member and movable between the flanges, whereby, without increase in depth of the side frame, the springs for supporting the bolster can be sufficiently long to provide a yielding support giving to the bolster the desired movement to cushion vertical shocks imposed thereon. Also,

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the swing hangers may be mounted at about axle level in the side member, and the legs of the swing hanger need not be decreased in length.

Other objects will appear from the disclosure.

In the drawings:

Fig. 1 is a side view, partially in section, of the novel railway truck of the present invention;

Fig. 2 is a plan view of the novel railway truck;

Fig. 3 is a sectional view taken on the line 3—3 of Fig. 2;

Fig. 4 is a sectional view taken on the line 4—4 of Fig. 1;

Fig. 5 is a sectional view taken on the line 5—5 of Fig. 3; and

Fig. 6 is a plan view of one end of the plank used with the railway truck of the present invention.

The novel railway car truck of the present invention includes equalizer members or side frames 10 having bearings 11 journalling the ends of a pair of axles 12 supported on wheels 13. Each side frame 10 has at its ends housing portions 14 containing the bearings 11. Adjacent the housing portions 14 are portions 15 having top and bottom, which diverge in a direction from the housing portions 14 so that they are generally triangular in shape. Between the triangular portions 15 is an intermediate portion 16 of rectangular shape. The side frame 10 is of a truss-type construction, the triangular portions having triangular openings 17, and the intermediate rectangular portion 16, a rectangular opening 18. The upper side of the side frame 10 is of rectangular box-like construction as indicated by the reference character 19 in Fig. 3, the same being true of the lower sides of the triangular portions 15. The lower side of the intermediate portion 16 is of channel shape as indicated at 20 in Fig. 3. The upper side of the side frame may be termed a compression member, and the lower side a tension member.

Extending transversely of the truck through the openings 18 in the side frames 10 is a plank 21. A bolster 22 is mounted on the plank 21 by resilient means to be described presently. The bolster extends transversely through the openings 18 in the side frames 10 and has a center bearing 23 at an intermediate region. The plank 21 is supported upon U-shaped swing hangers 24, which have legs 25 and a base 26. The bases 26 of the hangers 24 fit in grooves 27 formed in the lower side of the plank 21. Extensions 27a at the sides of the plank 21 as indicated in Fig. 6 also have the groove 27 so that the groove is of considerable length. The engagement of the

bases 26 with the grooves 27 is such as to provide relative angular movement between the swing hangers 24 and the plank 21 about the bases 26 as axes and to prevent shifting or angular displacement of the bases of the hangers relative to the plank and transverse of the side frames 10. The ends of the legs 25 of the swing hangers 24 have openings provided with bearing sleeves 28, through which extend mounting members 29, having intermediate circular bearing regions 30 mounted in the bearing sleeves 28 and terminal non-circular regions 31 fitting in correspondingly shaped openings 32 in the side frames 10. Fig. 4 shows the shape of the regions 31 and the openings 32. For each mounting member 29 one opening 32 is formed in a vertical transverse wall 33, extending from the top of the side frame 10 to the bottom thereof and marking one end of the central rectangular portion 16 of the side frame. The other opening 32 for each mounting member 29 is formed in a vertical transverse portion 34, which as seen in Fig. 2 is arcuate in transverse section. A portion 35 bridges the space between the portion 34 and the wall 33. The wall 33 and the portions 34 and 35 constitute a column extending between the top tension member 19 and the bottom compression member 20 of the side frame 10. The non-circular ends 31 on the mounting members 29 and the non-circular openings 32 receiving the ends prevent rotative or lateral movement of the mounting members. The swing hangers 24 can swing about the central bearing portions 30 as axes. When this happens, there is angular movement of the swing hangers 24 about the bases 26 as axes with respect to the plank 21. Thus the plank may move transversely with respect to the side frames 10. It will be noted that the swing hanger base lies in the U of the lower tension member 20 of the side frame. This enables the pivot axes of the hangers, i. e., the pivot pins 30 mounted in the side frame to be relatively low, i. e., slightly lower than the axes of the wheels 13, with the advantage of stability in the truck. By locating swing-hanger bases between the flanges of the tension members of the side frames, the springs for supporting the bolster can be sufficiently long to provide a yielding support giving to the bolster the desired movement to cushion vertical shocks imposed thereon. Moreover, in event of failure of the swing hanger the plank need descend only a short distance to the tension member 20 to rest safe thereon, and the base of the swing hanger may be retained within the tension member.

However, angular movement of the plank 21 about vertical axes through the side frames 10 with respect to the side frames is resisted, because similar movement of the swing hangers 24 with respect to the plank 21 is prevented through engagement of the bases 26 of the swing hangers with the grooves 27 in the plank 21, and similar movement of the swing hangers with respect to the side frames is prevented by the mounting members 29. Angular movement of the plank 21 about vertical axes through the side frames is resiliently resisted, for the legs 25 of the hangers 24 may shift angularly with respect to one another about the base portion 26 as an axis by causing twisting of the base portion itself within the elastic limit. A small angular movement of the plank 21 results and this permits a limited amount of movement of one side frame 10 in the direction of its length with respect to the other side of the truck. This is known as "unsquaring." It occurs when the car truck is traveling on a curve, or when one side of the truck is subjected to a longitudinal impact. When the truck returns to straight track, the side frames 10 must return to their original relative position, and this takes place, because the twisting of the bases 26 of the hangers 24 occurs entirely within the elastic limit.

As previously stated, the bolster 23 is resiliently mounted on the plank 21. The means for accomplishing this will now be described. Each end of the plank 21 has formed therein four shallow recesses or seats 36. Mounted in the seats 36 are four sets of springs, each set being composed of an outer cylindrical spring 37 and an inner cylindrical spring 38. An intermediate member 39 rests on the upper ends of the springs 37 and 38 and has four seats on its lower side receiving the said upper ends. A sheet metal plate 40 rests on the upper side of the intermediate member 39 and has pressed-out portions 41 fitting in recesses in the member 39 for locating the plate 40 with respect to the member 39 and flanges 42 and struck-out portions 43 forming spring seats. These seats receive four sets of springs, each set comprising an outer conical spring 44 and an inner conical spring 45. As seen in Figs. 2 and 3, two sets of conical springs have their large ends up, and two sets of conical springs have their large ends down. This arrangement enables the four sets of conical springs to occupy a minimum of space. The upper ends of the conical springs are received in seats 46 formed on the under side of the end of the bolster 22. From the foregoing description it will be apparent that the ends of the bolster 22 are mounted on the ends of the swing plank 21 by means of conical springs and cylindrical springs, the conical springs being in series with the cylindrical springs. The conical springs have a varying rate of deflection that increases with the amount of closing of the springs and approaches infinity as the closing of the springs approaches completeness. The reason for the change in the rate of the deflection is that the deflection and closing of the spring moves progressively from the large end toward the small end because the resistance to deflection is smaller the greater the coil diameter for a given thickness of the spring bar. The active coils become fewer and of smaller diameter. The cylindrical springs have a constant rate of deflection throughout their deflection. The conical springs and cylindrical springs are so proportioned that deflection with light loading begins with all coils of the conical springs and the cylindrical springs operating, and as the load increases, the coils of the conical springs close, beginning at the large ends and progressing toward the small ends thereof until a condition of a complete closing of the conical springs is reached, at which point deflection of the cylindrical springs only remains effective. This series arrangement of conical and cylindrical springs is ideally suited to freight cars, in which the loading may vary considerably from empty to full. If relatively stiff cylindrical springs were used, they would provide a good mounting for heavy loads, but a poor one for light loads. If relatively soft springs were used so that a good mounting might be had for light loads, then in order to accommodate a heavy load the deflection would be so great as to exceed permissible variation in height of the car body and couplers. Thus a conical spring would apparently provide sufficient resilience at light loads without too great a deflection to accommodate heavy loads, since the greater deflection rate with in-

creasing deflection limits total deflection. However, as the deflection of a conical spring approaches completeness, the rate of deflection approaches infinity and so a conical spring tends to become too stiff and to have inadequate travel beyond full load. A cylindrical spring arranged in series with the conical spring and proportioned so as to permit continued deflection at a constant rate beyond the upper limit of deflection of the conical spring is thus used.

As previously stated, the transverse vertical portions **34** are arcuate in transverse section. Engaging the concave side of each portion **34** is a shoe **47**, curved on one side and flat on the other side. The curved side engages the portion **34**, and the flat side, the bolster **22**. The shoe **47** is retained in place at the portion **34** by flanged projections **48** and **49** that engage shoulders **50** and **51** formed at the flat side of the shoe **47**. It will be seen that the bolster slides on the flat sides of the shoes **47** as the plank moves transversely through swinging of the hangers **24**. When the plank **21** and the bolster **22** pivot with respect to the side frames **10** upon limited unsquaring of the side frames permitted by the elastic twisting of the bases **26** of the hangers **24**, the arcuate sides of the shoes **47** slide upon the portions **34** of the side frames. This also takes place as the side frames adjust themselves from unsquared condition to squared condition. Since the shifting of the side frames **10** between squared and unsquared condition takes place as a result of the elasticity of the U-shaped hangers **24**, there may be shimmy set up in the parts, and this is prevented by the sliding contact of the arcuate sides of the shoes **47** with the portions **34** of the side frames **10**. The shoes **47** and portions **34** act in effect like shock absorbers or dampers and also provide adequate area of contact between the bolster and the side frame.

Figs. 3 and 5 shows a special type of snubber or shock absorber **51**[a] for the springs **37**, **38**, **44**, and **45**. There is one at each side of the truck inside of each side frame **10**. Integrally formed with each end of the bolster **22** is a housing **52**, to opposite inner sides of which are attached wear strips **53**, **54** of hard material, capable of replacement when wear takes place. The strip **53** is engaged by a long narrow wedge-like shoe **55**. The strip **54** is engaged by a short hollow wedge-like shoe **56**. Faces of the shoes **55** and **56**, inclined to the vertical direction, in which the strips **53** and **54** extend, engage one another. The inside of the shoe **56** receives one end of a long inner coil spring **57**, the other end of which receives a projection **58** depending from the inside of the housing **52**. The projection has an opening **59**. An outer coil spring **60** surrounds the spring **57** and engages the upper end of the hollow shoe **56** and the inside of the housing **52**. The shoe **55** has a wide base **61** extending transversely and longitudinally of the truck beyond the body of the shoe as indicated in Figs. 3 and 5. As shown in Fig. 5 the base is mounted in rubber members **63** and **64**. The rubber members are held against the under side of flanges **65** formed on the plank **21** by means of a block **66**. The block **66** has three depending flanges **67** through which extends a bolt **68** holding up the block **66**. The bolt **68** has a wedge-like head **69** fitting in a correspondingly shaped opening in a flange **70** formed on the plank **21**. The opposite end of the bolt passes through a flange **71** on the plank **21**, and nut **72** on that end of the bolt **68** retains the bolt in place. A washer **73** is between the nut **72** and the flange **71**. The inclined faces of the shoes **55** and **56** cause an increase in friction of the shock absorber as the deflection increases from any position of loading. This is in accordance with the increase in the rate of deflection provided by the coil springs **44** and **45**. As the deflection increases, the hollow shoe **56** moves upwardly against the springs **57** and **60**, thus increasing the pressure and the friction as required.

As seen in Fig. 3, there is formed on the left end of the spring plank **21**, an integral upstanding flange **74** slightly spaced from the housing **52** depending from the bolster **22**. The arrangement is such that the bolster may move to the left, as seen in Fig. 3, transversely of the side frames, relative to the plank to the extent permitted by the space between the housing **52** and the flange **74**. Thereafter conjoint movement of the bolster and spring plank to the left takes place. A relative movement and conjoint movement of the plank and bolster to the right takes place by virtue of the flange **74** on the right end of the plank and the housing **52** at the right end of the bolster.

The term "side member" as used in the claims is intended to cover either an equalizer member or a side frame.

I claim:

1. A railway truck comprising a pair of spaced parallel side members, a pair of U-shaped swing hangers, a first set of mounting members spaced in alignment longitudinal of one side member and supporting the ends of the legs of one swing hanger upon an axis longitudinal of the said one side member for providing angular movement of the said one swing hanger about the said axis and preventing shifting or angular displacement of the mounting members transverse of the said one side member, a second set of mounting members associated with the other swing hanger and the other side member in similar fashion, and a plank resting on the bases of the U-shaped hangers and associated therewith so as to provide angular movement of the plank with respect to the bases of the hangers about the bases of the hangers as axes and to prevent shifting or angular displacement of the bases of the hangers relative to the plank and transverse of the side members, the plank, the hangers, and the mounting members providing transverse swinging of the plank with respect to the side members and substantial resistance to unsquaring of the side members and constituting the only means for this purpose, relative angular movement between the legs of the hangers resulting from elastic twisting of the bases of the hangers being sufficient to provide limited unsquaring of the side members.

2. A railway truck comprising a pair of spaced parallel side members, a pair of swing hangers, means mounting one swing hanger upon one side member for providing movement with respect thereto about an axis longitudinal thereof and preventing shifting of the portions of the said one swing hanger associated with the mounting means transverse of the said one side member, means mounting the other swing hanger in similar fashion upon the other side member, and a plank supported upon the swing hangers on mountings providing angular movement of the bases of the swing hangers with respect to the plank about axes longitudinal of the side members and displaced from the axes of the swing hangers upon the side members and preventing shifting or angular displacement of the axes of the plank and the swing hangers relative to the

plank and transverse of the side members, the relative movement between the swing hangers and the side members and between the plank and the swing hangers about the axes providing transverse swinging of the plank with respect to the side members, the prevention of transverse shifting of the portions of the swing hangers associated with the mounting means and the prevention of transverse shifting or angular displacement of the axes of the swing hangers on the plank relative to the plank providing substantial resistance to unsquaring of the side members and constituting the only cause for this, relative angular movement between the legs of the hangers resulting from elastic twisting of the bases of the hangers being sufficient to provide limited unsquaring of the side members.

3. A railway truck comprising a pair of spaced axles, a pair of spaced parallel side members connecting the axles, a pair of U-shaped swing hangers having relatively short legs, a first set of mounting members spaced in alignment longitudinal of one side member at the approximate level of the axles and supporting the ends of the legs of one swing hanger upon an axis longitudinal of the said one side member for providing angular movement of the said one swing hanger about the said axis and preventing shifting or angular displacement of the mounting members transverse of the said one side member, a second set of mounting members associated with the other swing hanger and the other side member in similar fashion, and a plank resting on the bases of the U-shaped hangers and associated therewith so as to provide angular movement of the plank with respect to the bases of the hangers about the bases of the hangers as axes and to prevent shifting or angular displacement of the bases of the hangers relative to the plank and transverse of the side members, the plank, the hangers, and the mounting members providing transverse swinging of the plank with respect to the side members and substantial resistance to unsquaring of the side members and constituting the only means for this purpose, relative angular movement between the legs of the hangers resulting from elastic twisting of the bases of the hangers being sufficient to provide limited unsquaring of the side members.

4. A railway truck comprising a pair of spaced side members, a pair of swing hangers, means mounting the swing hangers on the side members, a plank extending between the swing hangers, means mounting the plank on the swing hangers so as to provide angular movement of the plank with respect to the portions of the swing hangers upon which the plank is mounted, the swing hangers, both mounting means, and the plank resisting unsquaring of the truck and constituting the only means for this purpose, elastic deformation of the swing hangers providing limited unsquaring of the truck, and a bolster mounted on the plank so as to be free of any association with the side members tending to prevent unsquaring of the truck.

5. A railway truck comprising a pair of spaced side members, swing hangers, means mounting the swing hangers on the side members so as to prevent movement of the mounted portions of the swing hangers in a direction transverse of the side members, a plank, means mounting the plank on the swing hangers, and a bolster mounted on the plank in the side members and being free of any association with the side members tending to prevent unsquaring of the truck, the swing hangers, both mounting means, and the plank preventing substantial unsquaring of the truck and constituting the only means for this purpose, elastic deformation of the swing hangers providing limited unsquaring of the truck.

6. A railway truck comprising a pair of spaced axles, a pair of spaced side members connecting the axles and being free of transverse ties tending to prevent tilting of the side members, swing hangers, means mounting the swing hangers on the side members at approximately the level of the axles in such a way as to prevent movement of the mounted portions of the swing hangers in a direction transverse of the side members, a plank, means mounting the plank on the swing hangers, and a bolster mounted on the plank in the side members and being free of any association with the side members tending to prevent unsquaring of the truck, the swing hangers, both mounting means, and the plank preventing substantial unsquaring of the truck and constituting the only means for this purpose, elastic deformation of the swing hangers providing limited unsquaring of the truck.

7. A railway truck comprising a pair of spaced side members, swing hangers, means mounting the swing hangers on the side members so as to prevent movement of the mounted portions of the swing hangers in a direction transverse of the side members, body-supporting means, means mounting the body-supporting means on the swing hangers, the swing hangers, both mounting means, and the body-supporting means preventing substantial unsquaring of the truck and constituting the only means for this purpose, the body-supporting means being free of any association with the side members tending to prevent unsquaring except by way of the swing hangers and both mounting means.

8. In a car truck of the type having a pair of spaced side frames, each with a window opening defined by longitudinally spaced columns joined by a top compression member and a bottom tension member, the combination of, a bolster extending transversely of said truck, the end portions of said bolster being received in the said window openings, a spring plank positioned beneath said bolster, springs interposed between the adjacent ends of said spring plank and bolster, said tension members beneath said window openings being substantially U-shaped in section with the space between the side flanges thereof opening upwardly, and means swingingly mounted on each side frame and interposed between the flanges of the adjacent tension member for supporting said spring plank.

9. A railway truck comprising a pair of spaced side members each having an intermediate portion of upwardly opening, U-shaped cross-sectional configuration, swing hangers each having legs and a base, means mounting said swing hangers on the side members so as to prevent movement of the mounted portions of the swing hangers in a direction transverse of the side members, the swing hanger bases being positioned within the space between the side flanges of the U-shaped intermediate portions of the side members and being movable therebetween, a plank, means mounting the plank on the swing hangers, and a bolster mounted on the plank and being free of any association with the side members tending to prevent unsquaring of the truck, the swing hangers, both mounting means, and the plank preventing substantial unsquaring of the

truck and constituting the only means for this purpose, elastic deformation of the swing hangers providing limited unsquaring of the truck.

10. A railway truck comprising a pair of spaced axles, a pair of spaced side members supported on said axles and being free of transverse ties tending to prevent tilting of the side members about the supporting axles, each side frame having a central lower portion formed as an upwardly opening U-shaped member adapted to receive a portion of a swing hanger, swing hangers having legs and bases, the base of each swing hanger being positioned in the U-shaped opening of the associated side member and movable with respect thereto, means mounting the swing hangers on the side members at approximately the level of the axles in such a way as to prevent movement of the mounted portions of the swing hangers in a direction transverse of the side members, a plank, means mounting the plank on the swing hangers, and a bolster mounted on the plank and being free of any association with the side members tending to prevent unsquaring of the truck, the swing hangers, both mounting means, and the plank tending to prevent unsquaring of the truck and constituting the only means for this purpose, elastic deformation of the swing hangers providing limited unsquaring of the truck.

11. In a railway truck, a pair of spaced side members, swing hangers mounted in the side members, a plank resting on the swing hangers and extending through openings in the side members, a bolster positioned over the plank, springs positioned at the regions where the plank crosses the side members and supporting the bolster on the plank, depending projections on the bolster inward of and adjacent the springs, and upstanding projections on the plank inward of and adjacent the springs, the upstanding projections and the depending projections being normally spaced horizontally apart and arranged to contact one another after a limited amount of relative movement between plank and bolster transverse of the side members and thereafter to produce conjoint movement of plank and bolster.

12. A railway truck comprising a pair of spaced side members, swing hangers, means mounting the swing hangers on the side members so as to prevent movement of the mounted portions of the swing hangers in a direction transverse of the side members, a plank, means mounting the plank on the swing hangers, a bolster mounted on the plank in the side members and being free of any association with the side members tending to prevent unsquaring of the truck, the swing hangers, both mounting means, and the plank preventing substantial unsquaring of the truck and constituting the only means for this purpose, elastic deformation of the swing hangers providing limited unsquaring of the truck, a depending projection on the bolster, and an upstanding projection on the plank, the projections being arranged to contact after a limited amount of relative movement between plank and bolster transverse of the side members and thereafter to produce conjoint movement of plank and bolster.

13. In a railway truck comprising a pair of spaced, substantially parallel, side members, a pair of swing hangers, each swing hanger including a pair of spaced legs joined together by a base portion, means pivotally mounting the legs of a swing hanger on each side member with the pivot axes extending longitudinally of the side member so as to permit movement of the hanger

base portions transversely of side members yet preventing displacement of the hanger leg pivot portions transversely of the side members, and a load supporting member extending between and mounted on the swing hanger base portions for pivotal movement relative to the hanger base portions, the swing hangers, the mounting means therefor, the load supporting member and the means mounting it on the swing hanger base portions preventing substantial unsquaring of the side members and constituting the only means for this purpose, relative movement between the legs of the swing hangers resulting from elastic deformation of the swing hanger legs and base portions being sufficient to provide for limited unsquaring of the side members.

14. In a railway truck comprising a pair of spaced side members, a pair of swing hangers, means mounting a swing hanger on each of the side members for transverse pivotal movement relative thereto, a load supporting member extending between and mounted on the swing hangers, the mountings between the load supporting member and the swing hangers providing for pivotal movement of the load supporting member with respect to the portions of the swing hangers on which it is mounted but preventing relative transverse movement therebetween, the swing hangers, the mounting means between the swing hangers and the side members and the mounting means between the swing hangers and the load supporting member, and the load supporting member resisting unsquaring of the side members and constituting the only means for this purpose, elastic deformation of the swing hangers providing for limited unsquaring of the side members.

15. In a railway truck comprising a pair of spaced axles, a pair of spaced, substantially parallel, side members connecting the axles, a pair of substantially U-shaped swing hangers, each swing hanger comprising a base portion connected to spaced legs, means mounting the swing hanger legs on the side members on pivot axes extending longitudinally of the side members at the approximate level of the axles to positively prevent displacement of the swing hanger leg pivot portions transversely of the side members, and a plank extending between and mounted on the swing hanger base portions by mountings providing pivotal movement of the plank with respect to the swing hanger base portions, the swing hangers and the plank preventing substantial unsquaring of the side members and constituting the only means for this purpose, relative angular movement between the legs of the swing hangers resulting from elastic twisting of the hangers being sufficient to provide for limited unsquaring of the side members.

16. In a railway truck comprising a pair of spaced side members supported on a pair of spaced transversely extending axles, each side member including a longitudinally extending, centrally disposed, upwardly opening, channel-shaped portion located at the lower region of the side member, a pair of swing hangers, each hanger comprising a base portion and a pair of spaced legs, means at the approximate level of the axles for pivotally mounting the legs of a swing hanger on each side member for transverse swinging movement relative thereto, a portion of each swing hanger base being positioned within the opening between the sides of the channel-shaped portion of the associated side member, and a load supporting member connected between

and mounted on the swing hanger bases, the arrangement of the connected swing hanger bases within the channel-shaped portions of the side members preventing loss of the swing hangers in the event of failure of the swing hanger mounting means and also permitting a lowering of the pivot mountings for the swing hangers to positions substantially aligned with a longitudinally extending plane connecting the axles without a corresponding reduction in length of the swing hanger legs.

17. In a railway truck comprising a pair of spaced side members, a pair of swing hangers, means mounting a swing hanger on each side member for transverse pivotal movement relative thereto, a load supporting member extending between the swing hangers and mounted thereon for pivotal movement relative thereto about axes extending transversely of the load supporting member, the swing hangers, the mounting means therefor, the load supporting member and the mounting means between the swing hangers and the load supporting member cooperating to

resist unsquaring of the side members and constituting the only means on the truck adapted to accomplish this function, elastic deformation of the swing hangers permitting limited unsquaring of the side members.

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