Sept. 10, 1929. A. KASSLER 1,727,715

RAILWAY TRUCK

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Fig. 1.

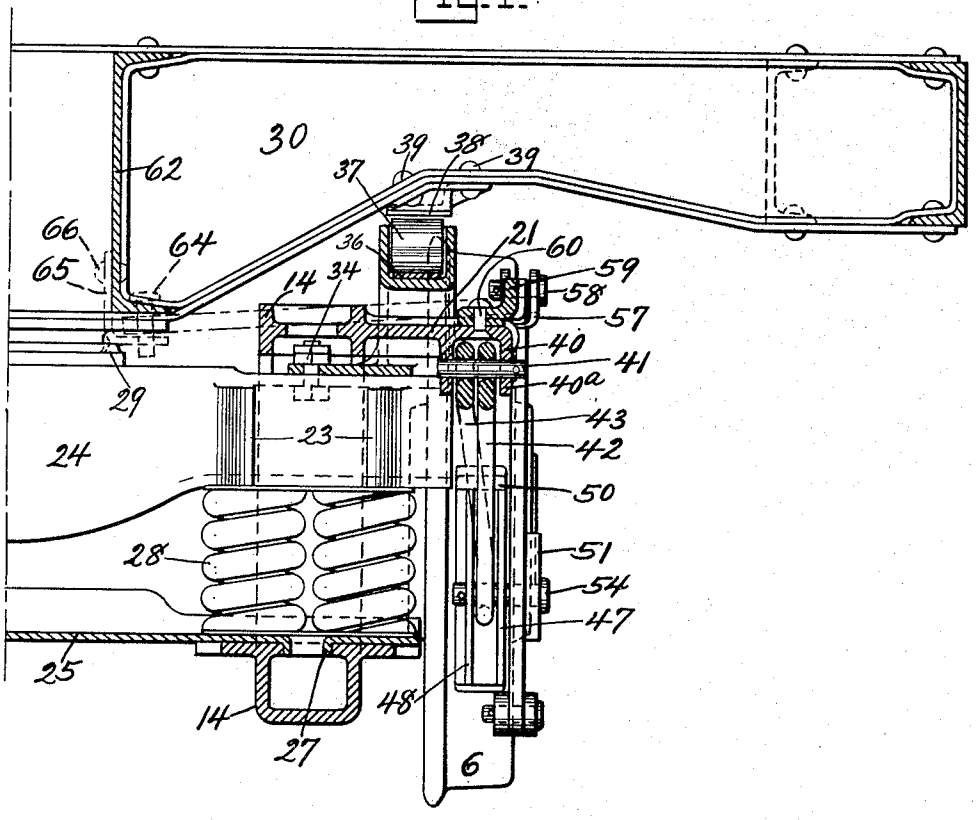

Fig. 4.

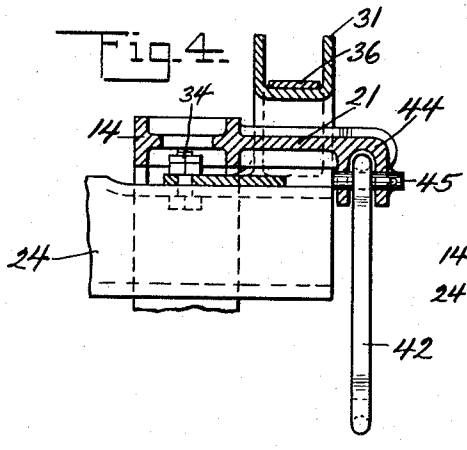

Fig. 5.

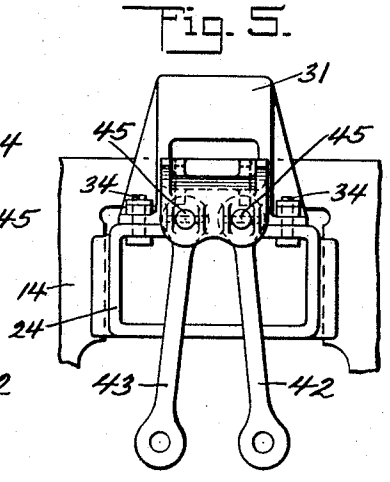

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Fig. 3.

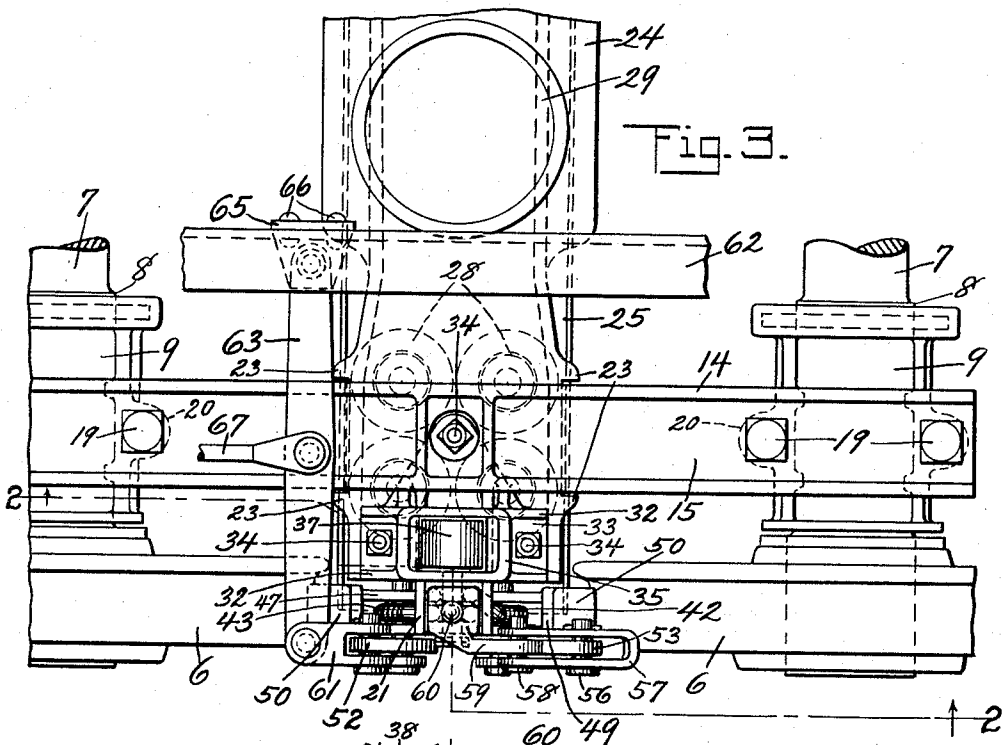
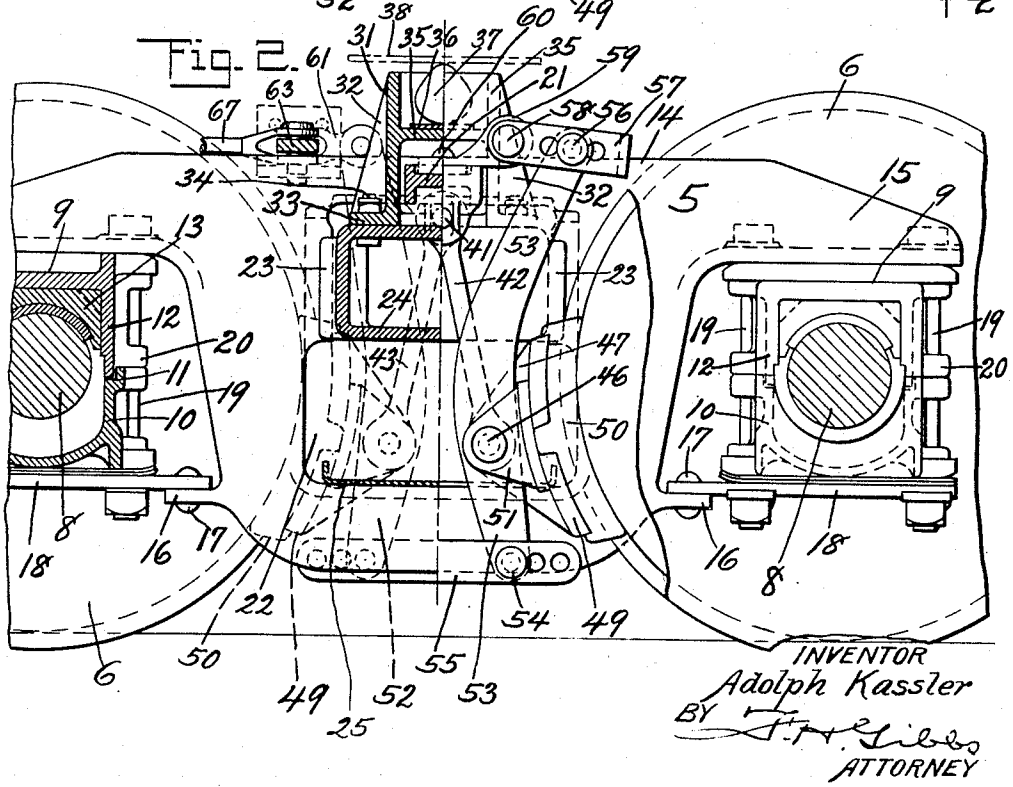


Fig. 2.



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UNITED STATES PATENT OFFICE.

ADOLPH KASSLER, OF NEW YORK, N. Y., ASSIGNOR TO AMERICAN CAR AND FOUNDRY COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW JERSEY.

RAILWAY TRUCK.

Application filed October 19, 1927. Serial No. 227,228.

Reference is had to the accompanying drawings which illustrate the preferred form of the invention; though it is to be understood that the invention is not limited to the exact details of construction shown and described, as it is obvious that various modifications thereof within the scope of the claims will occur to persons skilled in the art.

In said drawings:

Figure 1 is a cross-sectional view showing one of the side frames of the truck of the present invention with the truck and body bolsters and with a portion of the brake gear and one of the truck side bearings;

Fig. 2 is a view taken on the line 2—2 of Fig. 3, a portion of the near wheel on the right being broken away to disclose the side frame adjacent journal box and one of the far wheels;

Fig. 3 is a plan view of a portion of one side of the truck;

Fig. 4 is a detail cross-section of a modified form of brake hanger bracket, showing a brake hanger connected therewith; and

Fig. 5 is a side elevation of Fig. 4.

In order to facilitate an understanding of the purpose of the present invention, it should be known that in the transportation of loose material, such as ore, coal and the like by means of railway hopper cars, structural conditions obtaining at the loading or unloading terminals for these cars frequently require that the overall lengths between car couplings conform to indicated definite measurements; otherwise, and especially at some unloading terminals, loaded trains made up of cars of different lengths cannot be unloaded expeditiously because the various cars cannot be spotted or alined simultaneously with the successive storage bins of the terminal. The desire of the carrier is to provide hopper cars of greatest practicable capacity. The attainment of all possible capacity, however, is curtailed by the restricted overall length dimension as pointed out above, and by the standard restrictions as to width and height of car bodies. It is therefore obvious, in view of the foregoing restrictions, that a maximum of carrying space may be had in a hopper car only by increasing the transverse area of the body longitudinally between the trucks.

Coming now to the present invention, an object thereof is the provision of a construction in railway hopper cars which is characterized by relatively short wheel bases and overall lengths on the part of the individual car trucks so that a maximum space is provided between the trucks for the accommodation of a relatively long car hopper.

A further object of the invention is the provision of a construction in railway car trucks permitting the journal boxes to be located interiorly or between the wheels as in the forward trucks of locomotives, and the portion of the brake rigging carried by the trucks to be arranged exteriorly of the side frame.

In the drawings, 5 indicates generally the truck of the present invention which is provided with the usual flanged track wheels 6 arranged in pairs at the opposite end portions of the truck 5. The respective pairs of wheels are connected by axles 7 which are provided with the journals 8 located inwardly or between the wheels 6. The sectional journal boxes 9 surround the journals 8 and are rendered dust proof by having the upper portions of the side walls of their lower sections or cellars 10 adapted as by the provision of rabbets, one of which is shown and indicated by 11, to lap the lower side portions of the upper sections 12. The lower sections or cellars 10 are adapted for confining a quantity of lubricant material and the upper sections 12 are interiorly provided with the usual saddle bearings one of which is shown and indicated by 13 in Fig. 2, as resting on the axle journal 8. The side frames 14 are hollow metallic castings having channel shaped upper portions 15 and are of identical construction throughout. The said side frames are interposed in the spaces between the wheels 6, and the overhanging top portions 15 of the frames extend over and bear upon the top faces of the journal boxes 9 as shown in Fig. 2. Short longitudinally extending lugs 16 on the bottoms of the side frames 14 are riveted as at 17 or otherwise securely fastened to end portions of journal box tie bars

18 which extend under the bottoms of the journal boxes 9 and cooperate with tie bolts 19 which pass through the top portions 15 of the frame and through perforated lugs 20 on the box sections 10 and 12 to support the lower sections or cellars 10, and to tie sections 10 and 12, one to the other and to the top portions 15 of the frames. It is to be noted that the minimum clearance between adjacent wheels on each side of the truck approximates the radii of the wheels 6. This construction provides a short wheel base on the part of the truck as a whole. The brake hanger brackets 21 are cast integral with the side frames 14 and are disposed at the intermediate portions of the tops of said frames. The said brackets 21 extend horizontally and laterally outward and overlie and aline vertically with the clearance space between the wheels on the opposite sides of the truck 5. The intermediate portions of the side frames are provided with rectangular shaped bolster receiving openings 22, the upper end portions of which are contracted so that the vertical sides thereof lie between the bolster column guides 23. Thus the bolster is guided for vertical sliding movement and endwise displacement thereof is prevented. It is to be noted that the lengths of the transverse dimensions of the end portions of the bolster 24 between the guides 23 approximate the minimum clearance between adjacent wheels on opposite sides of the truck. The end portions of the spring plank 25 bear upon the sills or bottom walls of the openings 22 and are secured in position by bosses 27 which are entered in openings in the said bottom walls of the side frames. The bolster springs 28 are interposed between the spring plank 25 and the bolster 24, as shown. The conventional form of center plate connections 29 and center pin (not shown) are employed for connecting the truck bolster 24 with the body bolster 30. The end portions of truck bolster 24 are provided with truck roller side bearings in the form of upright angular shaped castings 31. The horizontally disposed base portions 33 of the said side bearings are bolted as at 34 or otherwise rigidly secured to the upper face of the bolster 24, and the upright portions 35 are reinforced by the webs 32 and extend above the side frames 14 and are disposed outwardly beyond the side frames. The said upright portions 35 are constructed in part to arch the brake hanger brackets 21 as shown at 35 and to provide in their upper portions roller bearing wear plates or seats 36 for the overbalanced rollers 37 which are arranged above the side frames and in operative relation to the roller bearing plates 38 riveted as at 39 or otherwise fixedly secured to the body bolster 30. The outer end portions of the brake hanger brackets 21 are provided with channel heads 40 having depending flanges 40^a which are in vertical alinement with the clearance space between wheels 6 on opposite sides of truck 5. In the form of the invention shown in Fig. 1, a transversely disposed pin 41 is carried by head 40 and provides a single turning point for the upper end portions of a pair of brake hangers 42 and 43 which have openings for the reception of the pin 41. In the modified form in the invention shown in Figs. 4 and 5, the head 44 is provided with oppositely disposed pins 45 which pass through the upper end portions of a pair of oppositely disposed brake hangers 42 and 43. The brake hangers 42 and 43 extend downwardly into the clearance space between the wheels on opposite sides of the truck and are turnably connected to pins 46 which are carried by a pair of spaced flanges 47 and 48 on the opposed faces of a pair of brake heads 49 which carry brake shoes 50. The brake heads 49 are further provided with flanges 51 disposed outwardly and in spaced relation to flanges 47. The pins 46 pass through the flanges 51 and through live brake levers 52 and dead brake levers 53. The lower end portions of the brake levers 52 and 53 are adjustably connected as at 54 to the opposite end portions of the brake lever bottom connections 55. The upper end portions of dead brake levers 53 are adjustably connected as at 56 to the dead lever guides 57 which are pivotally secured as at 58 to brackets 59 herein shown as being riveted as at 60 to the upper sides of brake hanger brackets 21 and outwardly beyond the truck roller side bearings. The upper end portions of the live levers 52 are pivotally connected to links 61 which connect the live levers to the outer ends of horizontally disposed truck levers disposed on opposite sides of the center sill 62. One of these levers is shown in Fig. 3 and indicated by 63, the inner end portion of the said lever 63 being pivotally connected as indicated by 64 in Fig. 1 to a bracket 65 riveted as at 66 or otherwise fixedly secured to the center sill 62. The truck levers 63 are connected in the conventional manner to the brake rods one of which is shown and indicated by 67. These rods are connected in the usual manner to an ordinary equalizer (not shown) which is operated by the well known fluid pressure actuated devices.

From the foregoing, it is to be noted that the present structure is such as to render the employment of brake beams unnecessary as a means for connecting the brake heads. The said heads are effectively supported and maintained in alinement with their respective wheels by the brake hangers and the cooperation of the brake levers therewith.

What is claimed is:

1. In a railway truck, supporting wheels, side frames, a truck bolster having a cross-sectional dimension approximating in length the minimum distance between adjacent side

wheels, and brake hanger brackets carried by the side frames and overhanging the ends of the bolsters.

2. In a railway truck, wheels, side frames provided with outwardly extending brake hanger brackets overlying the space between adjacent wheels on opposite sides of the truck, a truck bolster carried by the side frames and disposed below the brake hanger brackets, and brake mechanism disposed exteriorly of the side frames and carried by said bracket.

3. A cast metal truck frame provided with bolster openings and brake hanger brackets extending outwardly from said frame and being in vertical alinement with said openings.

4. A cast metal truck frame provided with bolster openings and having brake hanger brackets, a bolster in said openings, and side bearings secured to the bolster, said brackets and said bearings being in vertical alinement with said openings.

5. In a railway truck, oppositely disposed side frames interposed between the wheels and having horizontally disposed brake hanger brackets extending outwardly and at right angles to the frame and over the spaces between adjacent wheels, a truck bolster slidably supported on the frames and disposed below the brake hanger brackets, and truck side bearings secured to the bolster and extending above the brake hanger bracket.

6. In a railway truck, oppositely disposed side frames interposed between the wheels of the truck and mounted on wheel axles and having horizontally disposed brake hanger brackets extending outwardly and at right angles to the frame and over the spaces between adjacent wheels, a truck bolster slidably mounted on the frames and disposed below the brake hanger brackets, and truck side bearings secured to the bolster having portions above and in vertical alinement with the brake hanger brackets.

7. In a railway truck, oppositely disposed side frames interposed between the wheels of the truck and mounted on the wheel axles and having horizontally disposed brake hanger brackets extending outwardly and at right angles to the frame and over the spaces between adjacent wheels, a truck bolster slidably mounted on the frames and disposed below the brake hanger brackets, truck side bearings straddling the brake hanger brackets, and further having base portions secured to the bolster.

8. In a railway truck, the combination of a side frame intermediately provided with an opening, a truck bolster having an end portion slidably fitted in said opening and provided with guide flanges extending over opposite faces of the frame, a spring plank having an end portion secured within the opening of the side frame below the bolster, bolster springs also arranged within the said opening and interposed between the bolster and the spring plank, and a brake hanger bracket extending outwardly from the top of the side frame and over and beyond the bolster.

9. In a railway truck, the combination of a side frame intermediately provided with an opening, a truck bolster having an end portion slidably fitted in said opening, a brake hanger bracket integral with and extending outwardly from the top of the side frame and over and beyond the bolster, downwardly extending brake hangers pivotally connected at their upper ends to the bracket and brake levers pivotally connected to the lower end portions of the brake hangers.

10. In a railway car truck, the combination of a side frame intermediately provided with an opening, a truck bolster, a brake hanger bracket connected to the top portion of said frame and extending outwardly beyond the bolster, and a side bearing connected to the bolster and extending upwardly and over the brake hanger bracket.

In witness whereof I have hereunto set my hand.

ADOLPH KASSLER.