

E. P. KINNE.
TRANSOM DRAFT GEAR.
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926,812.

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2 SHEETS—SHEET 1.

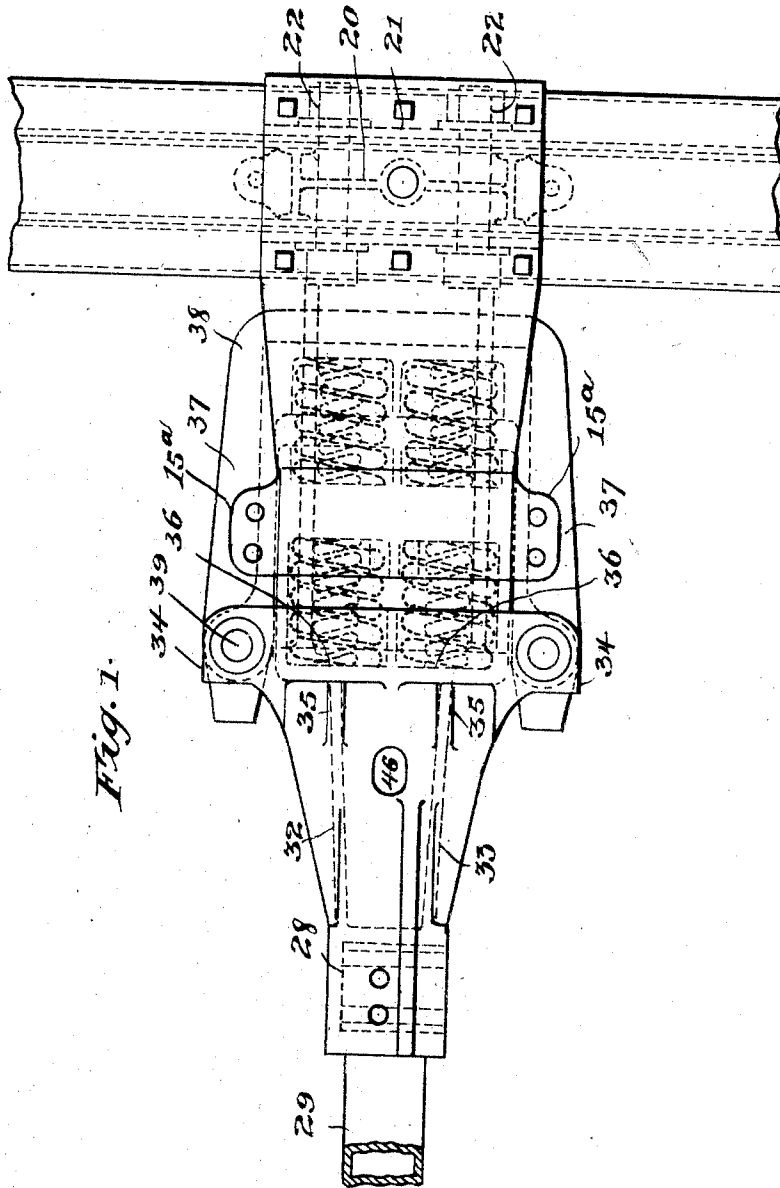


Fig. 1.

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Fig. 2.

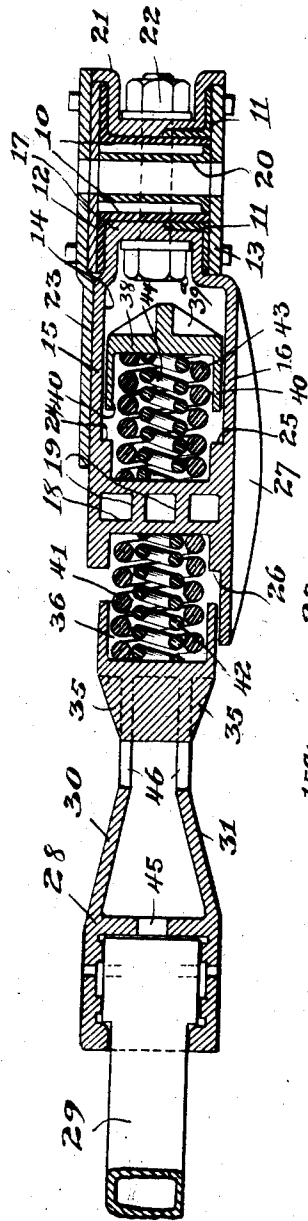
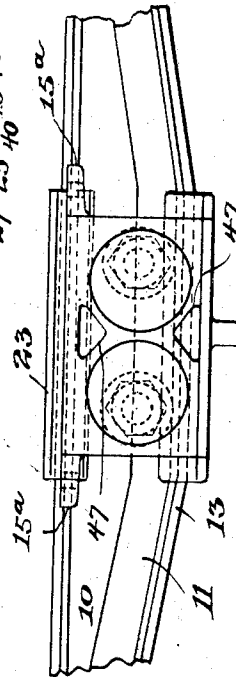


Fig. 3.



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UNITED STATES PATENT OFFICE.

EDMUND P. KINNE, OF ALLIANCE, OHIO, ASSIGNOR, BY MESNE ASSIGNMENTS, TO AMERICAN STEEL FOUNDRIES, OF NEW YORK, N. Y., A CORPORATION OF NEW JERSEY.

TRANSOM DRAFT-GEAR.

No. 926,812.

Specification of Letters Patent.

Patented July 6, 1909.

Application filed April 15, 1907. Serial No. 368,395.

To all whom it may concern:

Be it known that I, EDMUND P. KINNE, a citizen of the United States, residing at Alliance, in the county of Stark and State of Ohio, have invented certain new and useful Improvements in Transom Draft-Gear, of which the following is a specification.

My invention relates to the draft mechanism of railway cars, its object and purpose being to provide a draft means which may be bolted or otherwise secured to the side or outer face of the body bolster, and which may be readily removed or detached when occasion demands it. A construction of this character allows the shocks due to buffing and pulling to be comparatively evenly distributed throughout the car underframe and is not imposed solely or largely upon the center sills. A draft frame is bolted to the front or outer face of the bolster, the bolts passing through the bolster itself and also through a back or tail piece lying against the back face of the bolster opposite the end of the draft frame. In this manner a rigid and secure connection is made with the body bolster of the car. Near its forward end this draft frame has an abutment or stop against the opposite faces of which abut the ends of coil draft springs. A draft beam is provided, to the front end of which the coupler is secured and to its rear end is fastened a yoke, the draft springs being interposed between the end of the draft beam, the yoke, and the abutment or stop of the draft frame. A draft mechanism of this type may be readily attached to any of the usual styles of bolsters without change, and in case of damage it can be removed and replaced with facility.

On the accompanying drawing which forms a part of this specification I have illustrated the preferred embodiment of my invention.

Figure 1 is a plan view of the draft gear showing the same attached to a body bolster; Fig. 2 is a longitudinal central section of the structure shown in Fig. 1; and Fig. 3 is an end view of the draft frame illustrating the same fastened to the front face of the bolster.

The body bolster of the car may be of any standard or convenient shape or style, and in the present instance I have illustrated one, each side of which is composed of two overlapping angle bars 10 and 11. A top and bottom plate 12 and 13, respectively, cover

the upper and lower faces of the body bolster and act as tension and compression members.

My improved draft rigging includes a draft frame, designated as a whole 14, comprising a horizontal top plate member 15 with ears 15^a adapted to be fastened to the car sills and a similar bottom plate 16, the inner ends of which are joined and connected by wall 17, the external surface of which is shaped to conform to the contour of the side of the body bolster at that part where the draft frame is bolted thereto. At its front end this draft frame has a vertical, hollow, abutment wall 18 connecting the top and bottom plates 15 and 16, a pair or more of webs 19 connecting and strengthening the two outside portions of the wall. As is customary, the bolster is equipped with the king-pin bearing 20 which acts also to space the sides of the bolster apart, and on the rear side of the bolster opposite the end of the draft frame I provide a back or tail piece 21 shaped to conform to the back side of the bolster and overlapping the edges of plates 12 and 13. A pair of bolts 22 afford convenient means for securely fastening together the draft frame, bolster, and tail piece so that a rigid and strong connection is secured. It will be noticed that the tail piece assists in strengthening the connection with the bolster and also acts to distribute the strain more uniformly upon the bolster. In the top plate 23 which is riveted or bolted to the top of the bolster, and to the top of the draft frame I provide an additional means for securing an effective connection between the bolster and the draft rigging. It should be noticed that back of the abutment wall 18 the upper and lower horizontal plates 15 and 16 are equipped with shoulders 24 and 25, and that the plate 16 extends some little distance forwardly beyond the end of plate 15, its upper surface having a shoulder 26 immediately below the end of plate 15. In order to strengthen the lower part of this draft frame, which is cast in one piece, there is supplied along the lower surface of plate 16 one or more strengthening ribs 27. The remainder of the draft rigging includes a hollow draft beam 28 to the front end of which is fastened in any convenient or desirable manner the shank of a coupler 29. This draft beam is preferably cast in one piece and includes the top and bottom walls 30 and 31 and the diverging vertical walls 32

and 33. At its inner end this draft beam is considerably wider and on each side has a pair of laterally extended apertured ears 34.

It will be apparent from an inspection of 5 Fig. 2 that the draft beam is considerably reduced in the vertical section between the coupler end and the inner end, and that the latter end is strengthened and firmly held in position by a pair of braces 35 on the top and 10 bottom. At its inner end this draft beam has a pair of spring seats or pockets 36, and to the ears 34 on opposite sides of the draft mechanism are fastened the legs 37 of a yoke 15 38 by means of pins or bolts 39 passing through the apertures of ears 34 and also through holes in the yoke legs. The cross piece 38 of the yoke passes between the abutment wall 18 and the inner end wall 17 of the draft frame, as is clearly shown in Figs. 1 and 20 2. To strengthen the cross part of the yoke it has on its outer face a number of ribs 39^a integral therewith. The inner face or surface of the cross member of the yoke has a pair of spring seats, the walls 40 of which are 25 adapted to cooperate with the stops 24 and 25 to limit the outward travel of the yoke, while the walls of the spring pockets 36 co-act with the end of the top plate or wall 15 and the shoulder 26 to limit and restrict the inward 30 travel of the draft beam. Interposed between the draft beam and the abutment wall 18, and also between the yoke and the abutment or stop wall are four pairs of inner and outer compression draft springs 41, 42, 43 35 and 44. In order to reduce the weight of the structure to some extent without a sacrifice of strength the casting may have the openings 45, 46 and 47, but of course their presence or absence in no way affects the value 40 of my invention.

When the coupler shank is pulled forwardly the draft beam 28 and the attached yoke travel in the same direction compressing the rear or back springs 43 and 44 and through

them transmitting the pull to the draft frame 45 14 and the body bolster of the car. It will be obvious that the buffing strains are transmitted through the draft beam 28 and the front springs 41 and 42 to the abutment wall 18 and through the draft frame 14 to the 50 body bolster.

As has been explained above, the outward movement of the yoke and the inward travel of the draft beam are limited by the stops 24, 25 and 26 and the end of the horizontal top 55 wall 15 of the draft frame. In case the draft rigging becomes damaged or injured and it is advisable to detach or remove the same this can be quickly and readily accomplished by taking off the nuts or bolts 22 and cutting 60 the rivets or unfastening the bolts which secure the draft frame to the top or cover plate 23 and to the car sills.

To those skilled in this art it will be apparent that numerous minor mechanical changes 65 may be made in the structure shown and described without departure from the substance of my invention or sacrifice of its benefits.

I claim:

70 In a railway car, the combination of a bolster, a single-piece draft frame having horizontal top and bottom walls, an inner end wall joining said top and bottom walls, and shaped to conform to the front face of 75 said bolster and an outer abutment wall also joining said top and bottom walls, means to fasten said inner end wall to the front face of said bolster, a draft beam, a spring interposed between said draft beam and abutment, a yoke fastened to said draft beam, 80 and a spring between said yoke and the opposite side of said abutment, substantially as described.

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Witnesses:

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