

E. P. KINNE.
TRANSOM DRAFT RIGGING.
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Patented Dec. 27, 1910.

2 SHEETS—SHEET 1.

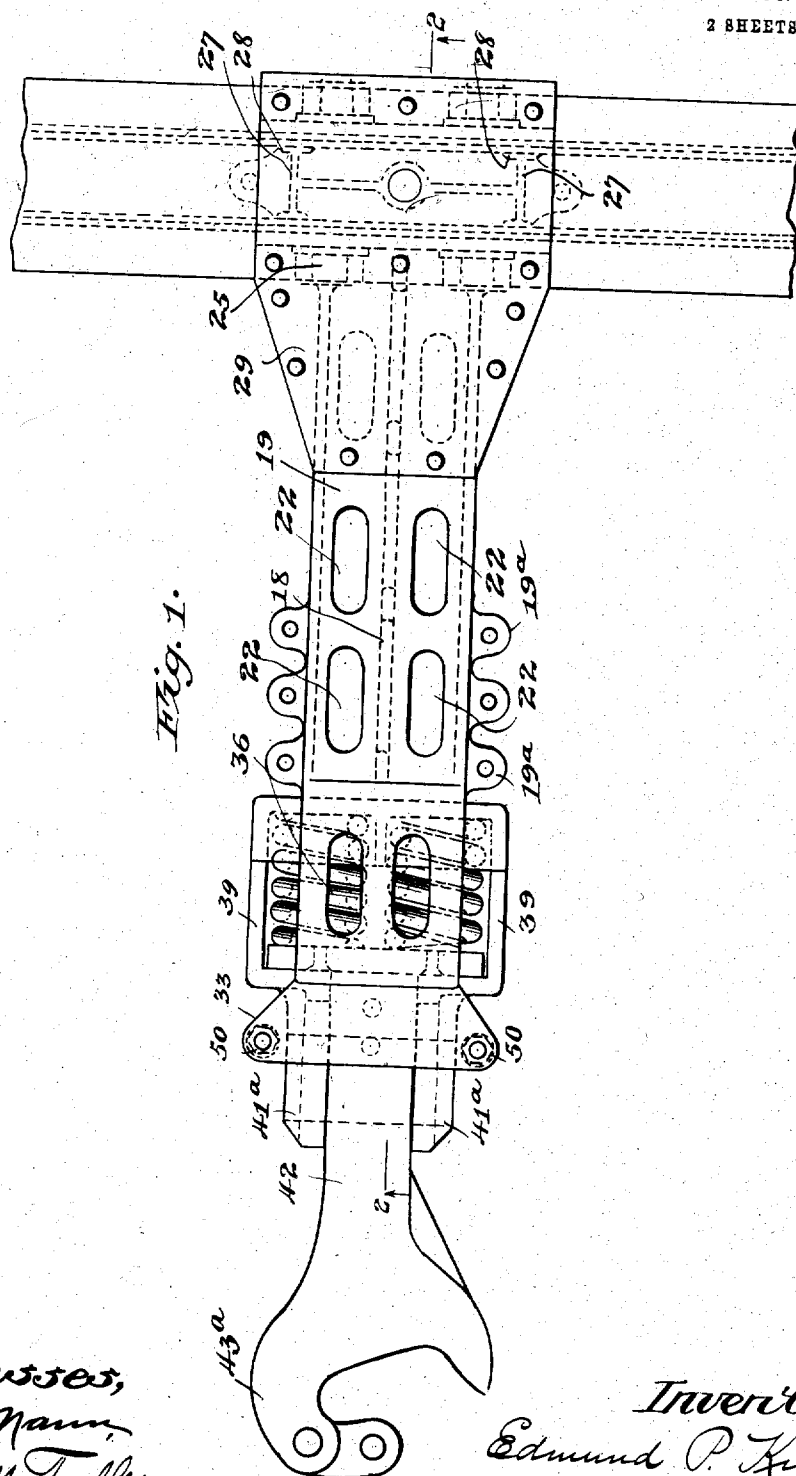


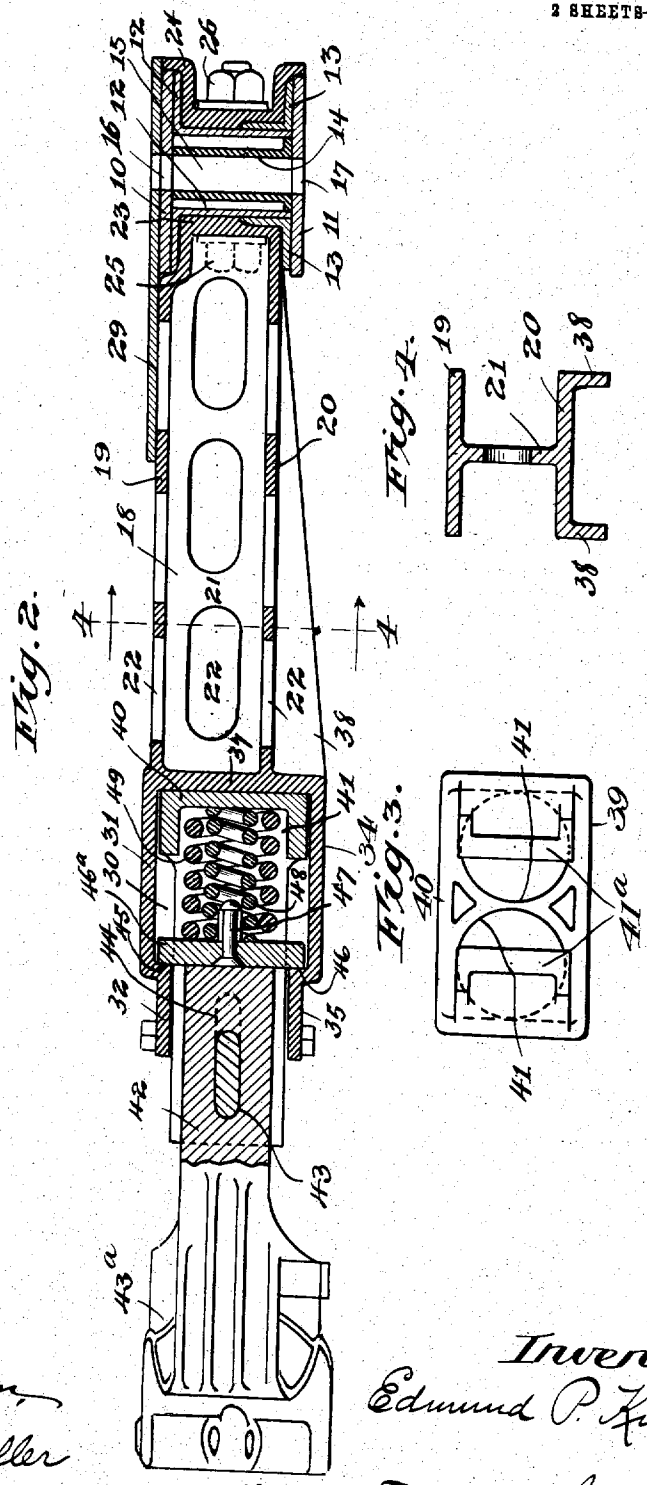
Fig. 1.

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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-RIGGING.

980,160.

Specification of Letters Patent. Patented Dec. 27, 1910.

Application filed November 17, 1906. Serial No. 343,881.

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-Rigging, of which the following is a full, clear, and exact specification.

My invention concerns improvements in that type of draft mechanism of railway cars which transmits the pulling and buffing strains comparatively evenly to all of the longitudinal beams or sills of the car under-frame instead of subjecting the center sills only to such strains. To effect this result, the draft beam or frame is rigidly fastened to the body bolster, whereby the strains put upon the draft beam are transmitted to the body bolster and through the latter are distributed to all the longitudinal beams or sills, and the form of my draft mechanism is such that it may be attached to many standard types of bolsters without necessitating any change in their construction.

In the preferred form of my device, the draft beam or frame is secured to the outer side or face of the bolster and by means of bolts or other securing means is connected to a back plate or tail piece on the rear or inner side of the bolster, whereby a firm and secure connection with the bolster is obtained.

Another object of my invention is to provide a simple and effective means for employing the draft springs to automatically center the coupler.

On the accompanying drawings, which form a part of this specification, I have illustrated a desirable embodiment of my invention and in all of the views of said drawings like reference characters refer to the same parts throughout.

Figure 1 is a plan view of my improved draft rigging and shows a portion only of the body bolster; Fig. 2 is a vertical section on line 2—2 of Fig. 1; Fig. 3 is an end view of the yoke constituting a part of the draft mechanism; and Fig. 4 is a vertical section on line 4—4 of Fig. 2, as viewed in the direction indicated by the arrows.

My improved transom draft rigging is intended to be fastened to any of the standard forms of body bolsters and on the accom-

panying drawings I have illustrated an ordinary form of bolster comprising the top and bottom plates 10 and 11, respectively, each side of the bolster being built up of two overlapping angle bars 12 and 13. Between the sides of the bolster is the usual king-pin bearing member 14, the aperture 15 of which is in alinement and registers with the holes 16 and 17 in plates 10 and 11, respectively.

Although I have described more or less in detail the construction of the bolster or transom, the details of its construction are immaterial, since my invention lies in the draft rigging described below and its manner of attachment to the bolster.

The draft mechanism includes a draft beam or frame 18 which is of substantially I-form in cross-section, as shown in Fig. 4, comprising the upper horizontal plate portion 19, the similar lower horizontal plate 20 and the centrally disposed vertical connecting web 21. Plate 19 at its sides has apertured ears 19* adapted for attachment to the car sills to sustain the outer end of the draft frame and plates 19 and 20, as well as the web 21, have a number of apertures 22 for the purpose of reduction of weight of the structure. The inner or right-hand end of the draft frame or beam 18 as viewed in Figs. 1 and 2, is provided with a plate or end portion 23 shaped to conform substantially to the side of the bolster at its center. On the opposite or inner face of the bolster is placed a back plate or tail piece casting 24 similar in shape to the part 23 and designed to conform to the outline of the side of the bolster.

In order to secure and rigidly fasten the rear end of draft member 18 to the bolster, I employ a pair of bolts 25 which pass through apertures in the bolster, in the end of the draft frame, and in the back plate or tail piece 24. Nuts 26 screwed on the protruding ends of bolts 25 bind all the parts together. It should be noticed that tail piece 24 overlaps the edges of the bolster top and bottom plates 10 and 11 to relieve the web of the bolster from a part of the strain.

In order to prevent the sides of the bolster from crushing and to space them apart the proper amount, the king-pin bearing 14 may be supplied with the transverse webs

27 which, at their opposite ends, have enlargements or seats 28 lying against the inner faces of the sides of the bolster. As an additional means to hold the parts together and prevent them from being wrenched out of place I employ a comparatively wide top or cover plate 29 which overlies the central portion of the bolster and the rear end of the draft frame or beam, being riveted to both.

At its front end, that is the end adjacent to the coupler, the draft member 18 is supplied with a spring pocket 30 having a horizontal top 31 which at its front end is slightly depressed at 32 and also widened to form the lateral ears 33. The top or cover 31 is substantially in the same horizontal plane as the top of draft member 18 but the bottom plate 34 of the spring pocket is somewhat lower than the plate 20 of the draft frame and at its forward end is offset upwardly at 35 and extends outwardly laterally to provide ears beneath the projections 33. If desired, the top and bottom 31 and 34 may be apertured, as at 36, to secure a minimum of weight, without a sacrifice of strength. To brace the lower portion of this spring pocket, the bottom part of its vertical rear wall 37 is connected to the under side of plate 20 along its marginal edges by a pair of downwardly projecting tapering flanges 38 integral with the draft member and with the spring pocket.

Housed within spring pocket 30 and adapted to reciprocate longitudinally therein is a yoke 39, the inner face of whose rear wall 40 is equipped with a pair of spring seats or housings 41, located on opposite sides of the longitudinal center of the yoke. At its front end yoke 39 has a pair of spaced forwardly projecting arms 41^a adapted to straddle the shank 42 of a coupler 43^a. Extended transversely through an aperture in shank 42 is a bar 43 whose ends project into longitudinal slots 44 in the arms 41^a, these slots being longer than the width of bar 43, whereby the coupler is permitted to have a lengthwise movement relative to the yoke. Within spring pocket 30, and normally abutting against the rear end of shank 42 and against the top and bottom vertical shoulders 45 and 46 of the spring pocket, I provide a plate follower 46^a which has projecting inwardly from its face two spring centering pins or supports 47.

I supply the device with two pairs of inner and outer coil springs 48 and 49, respectively, which at one end are seated against the rear wall 40 of the yoke, and at their other end press against the inner face of the follower 46^a, being positioned on opposite sides of the center of the draft mechanism whereby an automatic centering of the coupler is secured. The ears 33 of parts 32 and 35 are bolted together outside of the

yoke, and, to prevent the ears from being drawn together too near and pinch the yoke casting, I provide the pieces of pipe or the like 50, to space the ears apart the correct distance.

To those skilled in the art, the operation of my improved mechanism will be obvious from the illustration and the above description and it will be readily understood that when the coupler 43^a is drawn forwardly or outwardly in pulling the car, the coupler shank 42 transmits its pull through bar 43 to the arms 41^a of the yoke, the rear wall 40 of which compresses springs 48 and 49, the front ends of the springs being held from movement by the follower plate 46^a, which rests against the shoulders 45 and 46. When the coupler is forced inwardly, as in the act of coupling or backing the car, yoke 39 remains stationary, the ends of bar 43 traveling in slots 44. The inward movement of shank 42 forces follower 46^a inwardly away from its co-acting shoulders and compresses the draft springs 48 and 49 so that the thrust upon the coupler is transmitted through the springs and the rear wall of the yoke directly to the draft frame. In both operations of pulling and buffing, the strains are transmitted to the bolster, and the latter, in turn, distributes them to all of the longitudinal beams of the car underframe so that none of them are subjected to excessive or abnormal strains.

The draft springs being interposed between the follower and yoke as described and located on opposite sides of the center of the draft mechanism act to center the coupler after having been shifted to one side either in the act of pulling or buffing. In the former case the springs press upon the yoke to right the coupler or bring it to the central position, while in the latter case they exert their pressure upon the follower to accomplish the same result.

Although I have specifically described the details of my improved draft rigging, it is to be understood that my invention is not limited to the precise structure illustrated and described except to the extent indicated in the following claims.

I claim:

1. A draft rigging including a draft member provided at one end with a pocket closed at its rear end, open at its front end and provided with shoulders in front of its closed back, a yoke extending through the open end of the pocket with its closed end limited in its rearward movement by the closed back of the pocket, a follower in the pocket and co-operating with the shoulders thereof, and a spring interposed between and bearing against the follower and the closed end of the yoke, substantially as described.

2. A draft frame having integral therewith at one end a spring pocket extending

below the bottom of the draft member, and at least one vertical longitudinal flange connecting the projecting lower portion of the pocket with the under side of the draft member, substantially as described.

As evidence that I claim the foregoing as my invention I have signed the same this

14th day of November, 1906, in the presence of two witnesses.

EDMUND P. KINNE.

Witnesses:

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