

J. F. COURSON.

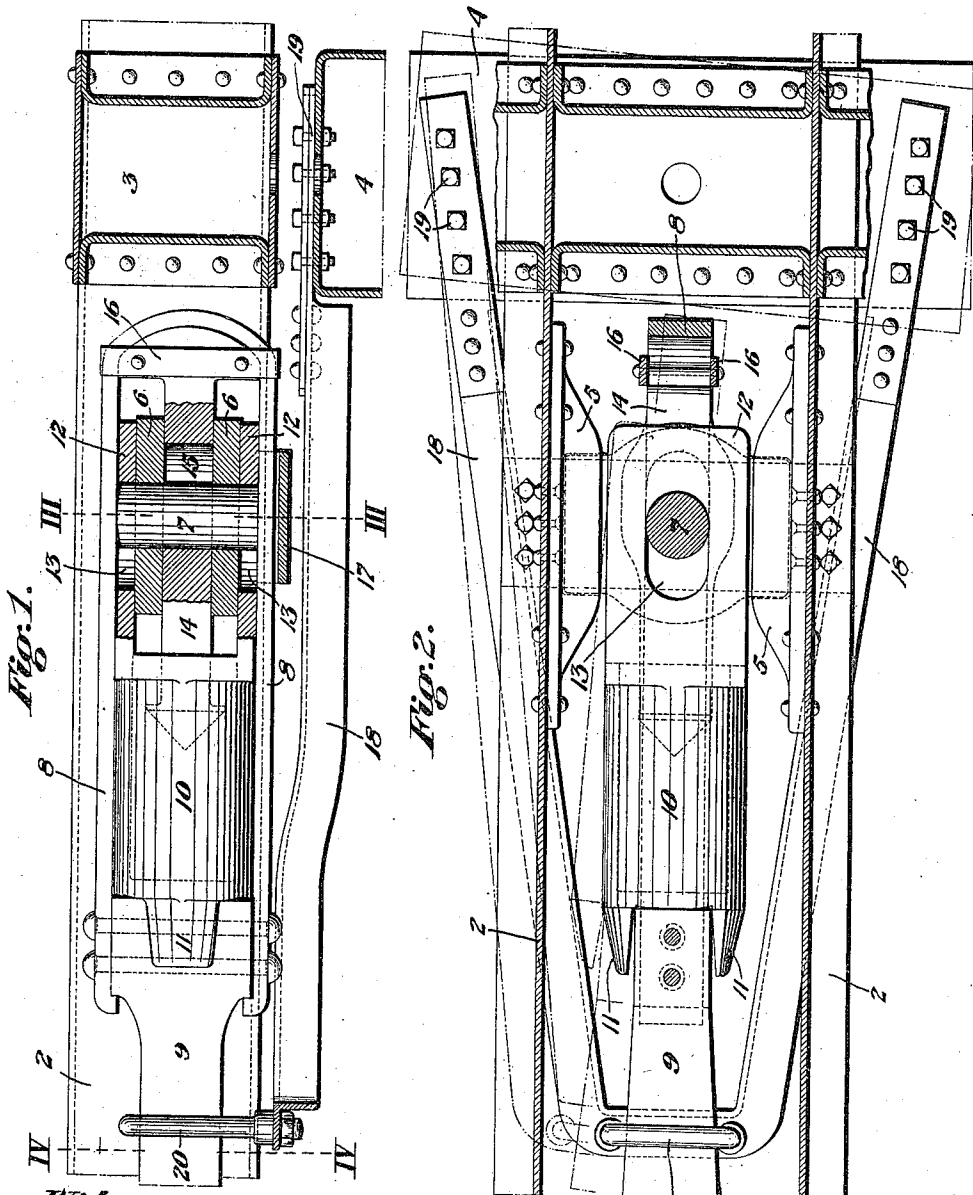
DRAFT GEAR.

APPLICATION FILED JULY 12, 1909.

987,432.

Patented Mar. 21, 1911.

2 SHEETS—SHEET 1.



Witnesses:

Chas. S. Pepley.
Henry Sims.

Inventor:

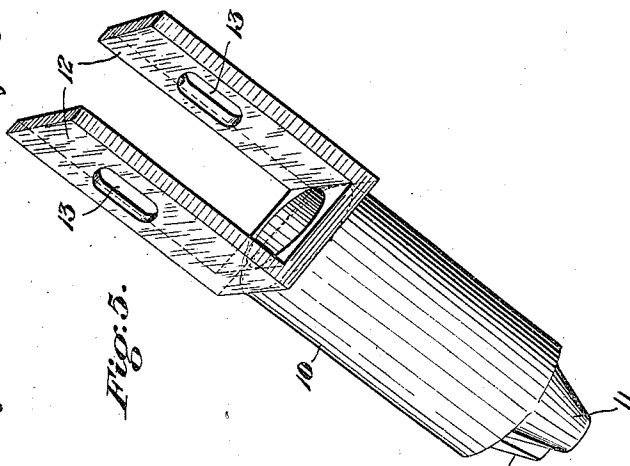
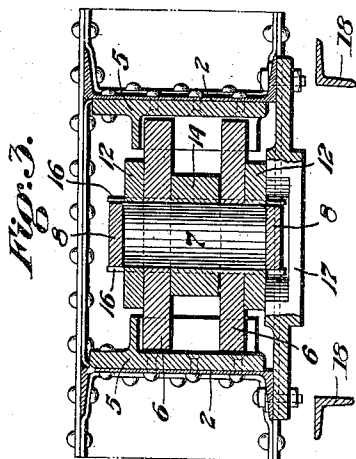
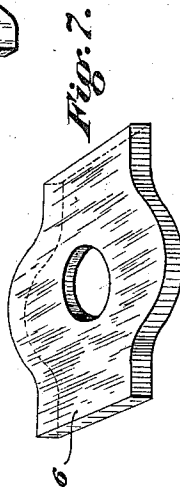
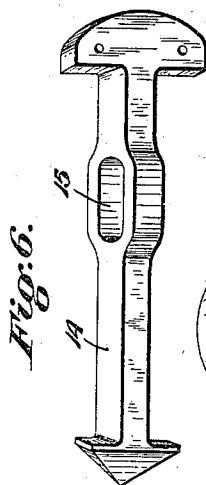
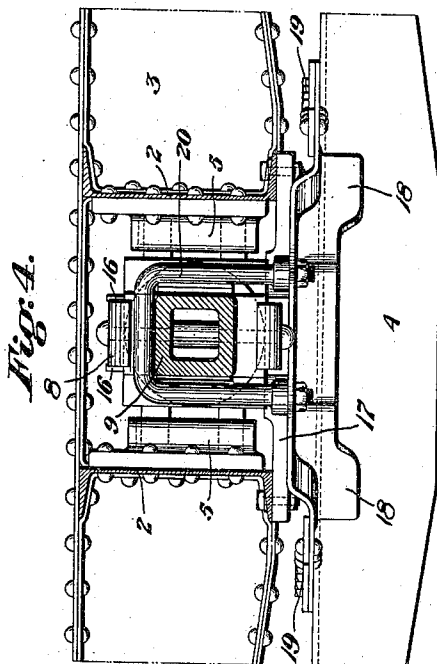
John F. Courson
by C. M. Clark
his attorney

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2 SHEETS-SHEET 2.



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UNITED STATES PATENT OFFICE.

JOHN F. COURSON, OF PITCAIRN, PENNSYLVANIA.

DRAFT-GEAR.

987,432.

Specification of Letters Patent.

Patented Mar. 21, 1911.

Application filed July 12, 1909. Serial No. 507,098.

To all whom it may concern:

Be it known that I, JOHN F. COURSON, a citizen of the United States, residing at Pitcairn, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Draft-Gear, of which the following is a specification, reference being had therein to the accompanying drawing.

My invention relates to the class of draft gearing or rigging for railway cars, etc., and has for its object to provide a draft gearing of simple construction, designed to swing laterally to maintain the coupler in the center of the track in position to couple at all times whether on curved or straight line, preventing side stress on the couplers and cars and saving wear on the wheel flanges and rails due to couplers having little or no side movement. To accomplish such purpose, I provide a construction having a single draft stop or anchor bolt for both buffing and pulling, a casing having extensions on its ends for keeping the gear always in line with the coupler with alining plates at the rear end of the pressure bar and extending over the sides of the yoke, means for swinging the draft gear from the truck bolster on its anchor bolt, and other features of construction as shall be more fully hereinafter described.

Referring to the drawings: Figure 1 is a view in side elevation, partly in section, of the apparatus in its normal position. Fig. 2 is a plan view of Fig. 1, showing the framing in section. Fig. 3 is a cross section on the line III, III, of Fig. 1, the middle portion of bar 17 being shown in elevation. Fig. 4 is a similar view on the line IV, IV, of Fig. 1. Fig. 5 is a perspective detail view of the draft casing cylinder. Fig. 6 is a similar view of the push or pressure bar. Fig. 7 is a similar view of one of the stationary draft stops or anchor plates.

The drawings show the invention as applied to the framing of a steel car having the usual center sills 2, 2, and body bolster 3 and truck bolster 4 radially movable with relation to the body bolster and superimposed car framing, in the usual way.

Mounted on the inner sides of the center sills 2 are the draft lugs or brackets 5, 5, providing substantial bearings or mountings for the anchor plates 6, 6, engaging against the front and back flanges thereof, as clearly shown. Said anchor plates are thus

located rigidly relative to the center sills, and are provided with centrally arranged openings through which extends the single anchor bolt or pin 7, adapted to transmit both buffing and pulling strains to the framing through the anchor plates.

8 is a yoke, centrally arranged longitudinally of the center sill space above and below the pin 7 as shown, and connected at its forward end with the draw bar 9. Extending backwardly from the draw bar is the cylindrical draft casing or piece 10 having forwardly extending centering lugs 11, 11, preferably somewhat tapered outwardly at their inner sides, and freely embracing the rear end of draw bar 9, as shown. The central body portion of said piece 10 is cylindrical and its interior is preferably adapted to receive any suitable friction draft gear or spring mechanism, or both, as preferred, for the purpose of providing means for transmitting the strains in either direction with the necessary resistance and elasticity or resiliency.

The draft casing or piece 10 is provided at its rear portion with backwardly extending arms or plates 12, 12, having elongated holes 13 embracing the draft or anchor pin 7 at its ends, and lying immediately next to the upper and lower longitudinal members of the yoke 8, as clearly shown in Fig. 1.

14 is a pressure bar mounted centrally of the draft casing 10, extending thereinto at its rear end in engagement with the spring or friction mechanism, embracing by an elongated opening 15 at its middle portion the pin 7, and extending backwardly into engagement with the rear end of the yoke, being preferably rounded as shown, to insure a good bearing.

16, 16, represent guide plates extending across the sides of the rear end of pressure bar 14 and the sides of the yoke, whereby the bar and yoke are maintained centrally in alinement with each other in varying positions.

17 is a carrier iron extending across from one center sill to the other and providing a support for the assembled draft mechanism.

As thus arranged, the entire assembled structure is adapted to move laterally upon the bolt 7 as a pivot to conform to the desired direction for coupling.

For the purpose of automatically swinging the mechanism to one side or the other,

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depending upon the curvature of the track, I provide a forwardly extending coupler guide 18 which may conveniently consist of angle or other structural shape bent into
 5 convenient bracket form and bolted to the truck bolster 4 at each side of its center, as indicated at 19, and extended outwardly to a point beyond the end of yoke 8, where it is provided with a U-shaped bracket 20 extending upwardly and embracing the sides
 10 and top of the draw bar 9, as clearly shown. By this construction, as the truck bolster 4 changes its position with relation to the body bolster due to the curvature of the track, it will swing the draw bar 9 a proportionate extent to the right or the left and maintain it always approximately at right angles to the truck bolster, swinging on bolt 7.

20 The operation of buffing and pulling will be readily understood from the foregoing description. In buffing, draw bar 9 imparts backward movement to the draft piece 10, the forward clearance openings 13 of
 25 arms 12 allowing them to pass backwardly with relation to pin 7 with connected yoke 8, while pressure bar 14 bearing against pin 7 remains stationary, opposing resistance against the contained spring or friction
 30 mechanism.

In pulling, forward travel of draw bar 9 and yoke 8 will impart corresponding forward travel to pressure bar 14, permitted by slotted opening 15 with relation to pin 7,
 35 and draft piece 10 being retained by pin 7 bearing against rear end of slotted openings 13, opposes resistance by piece 10 to the advancing pressure bar through the contained spring or friction mechanism, the
 40 rear end of the draw bar 9 passing forwardly from engagement between the lugs or ears 11.

The construction as a whole is comparatively simple, composed of few parts, and is easily assembled or taken out. It is operable with the swinging frame as shown, or with other means for adapting it for coupling with an adjacent car, and is designed to accomplish the objects in view in a satisfactory and efficient manner.

The invention may be adapted to different types or constructions of car framing, or may be variously modified or changed in construction or different details by the
 55 skilled mechanic, but all such changes are to be considered as within the scope of the following claims.

What I claim is:—

1. In draft rigging for cars, the combination with the framing having an anchor bolt and laterally movable draft gearing in longitudinal slotted engagement with the bolt and having a longitudinally movable draw bar; of a truck bolster having a rigidly connected framing extending forwardly below

the draw bar and provided with an upwardly extending yoke embracing the sides and top of the draw bar.

2. In draft rigging for cars, the combination with the truck bolster, center sills, and anchor plates carried thereby; of an anchor bolt carried by said plates, draft gearing having slotted extensions engaging the ends of said bolt, a slotted pressure bar engaging the middle portion of said bolt and extending into the draft gearing, a yoke engaging the end of the pressure bar and embracing the bolt and draft gearing, a draw bar connected with the yoke and engaging the end of the draft gearing, and means rigidly connected with the truck bolster extending forwardly below the draft gearing and engaging the draw bar for swinging it and the gearing laterally on said bolt as a center dependent on the relative position of the center sills and the truck bolster.

3. In draft rigging for cars, the combination with the truck bolster and center sill structure, of anchor plates carried by the center sills, a bolt engaging the anchor plates, a draft casing and pressure bar having slotted connections with the bolt, a draw bar connected therewith, and means connected with the truck bolster for swinging the draft casing and draw bar laterally.

4. The combination with the center sills, of draft lugs secured thereon, anchor plates engaging the lugs, a bolt engaging the anchor plates, a draft casing having slotted extensions engaging the bolt, a slotted pressure bar engaging the bolt, an embracing yoke, and a draw bar, substantially as set forth.

5. The combination with the center sills, of draft lugs secured thereon, anchor plates engaging the lugs, a bolt engaging the anchor plates, a draft casing having slotted extensions engaging the bolt and provided with draw-bar-engaging lugs, a slotted pressure bar engaging the bolt, an embracing yoke engaging the end of the pressure bar, and a draw bar connected with the yoke and engaged by said lugs, substantially as set forth.

6. The combination with the center sills, of draft lugs secured thereon, anchor plates engaging the lugs, a bolt engaging the anchor plates, a draft casing having slotted extensions engaging the bolt, a slotted pressure bar engaging the bolt extending into the draft casing and having a rear bearing terminal, a yoke, a draw bar connected with the yoke, and means maintaining the draw bar in alinement with the draft casing, substantially as set forth.

7. The combination with the center sills, of draft lugs secured thereon, anchor plates engaging the lugs, a bolt engaging the anchor plates, a draft casing having slotted extensions engaging the bolt, a slotted pressure bar engaging the bolt, a yoke engaging the end of the pressure bar, and a draw bar connected with the yoke and engaged by said lugs, substantially as set forth.

sure bar engaging the bolt extending into the draft casing and having a rear bearing terminal, a yoke, guides for said bearing terminal, a draw bar connected with the
5 yoke, and means maintaining the draw bar in alinement with the draft casing, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN F. COURSON.

Witnesses:

C. M. CLARKE,
CHAS. S. LEPLEY.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
