H. F. POPE.

RADIAL DRAFT GEAR.

APPLICATION FILED MAR. 30, 1908.

947,756. Patented Jan. 25, 1910.

3 SHEETS—SHEET 1.

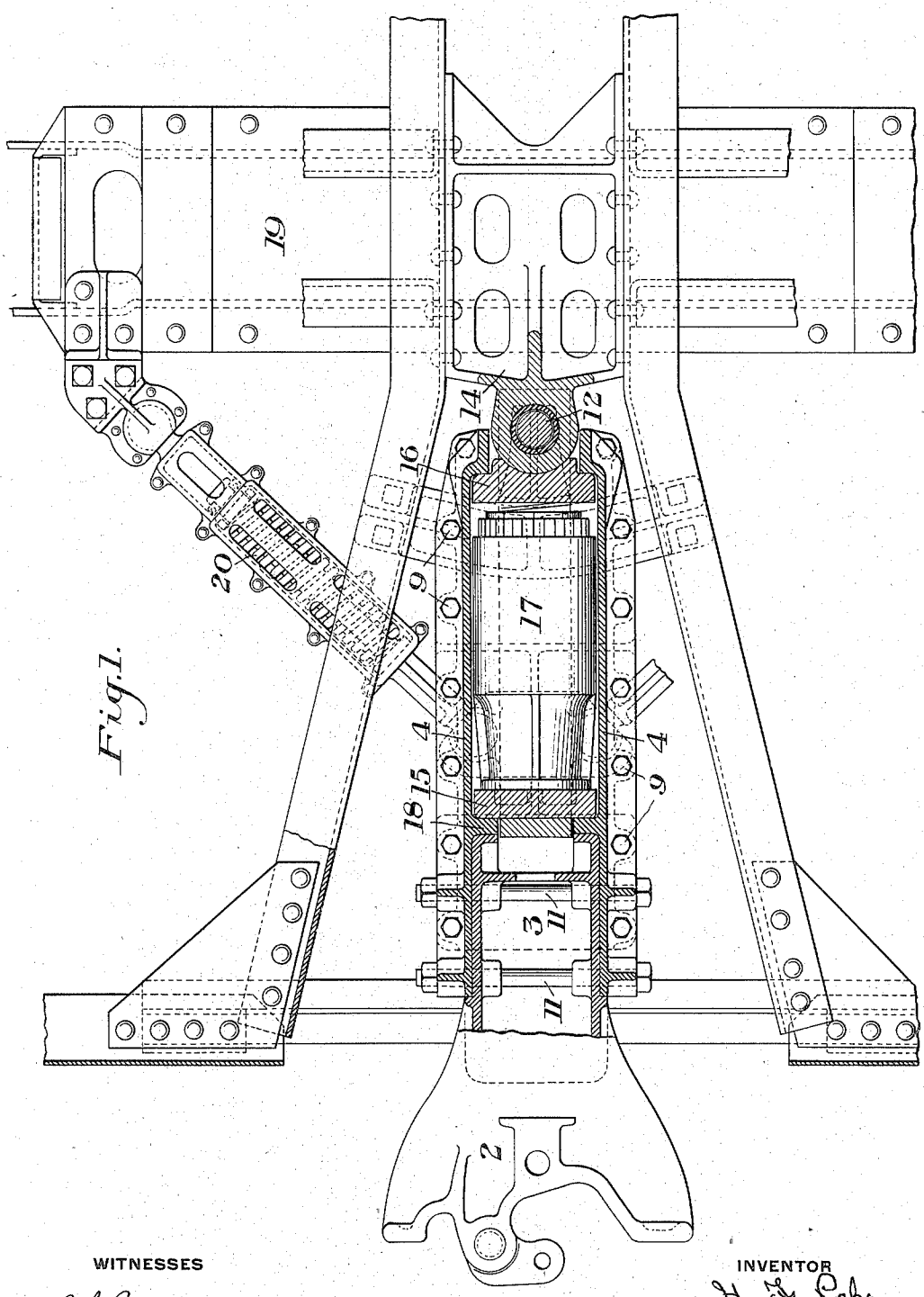

Fig. 1.

WITNESSES

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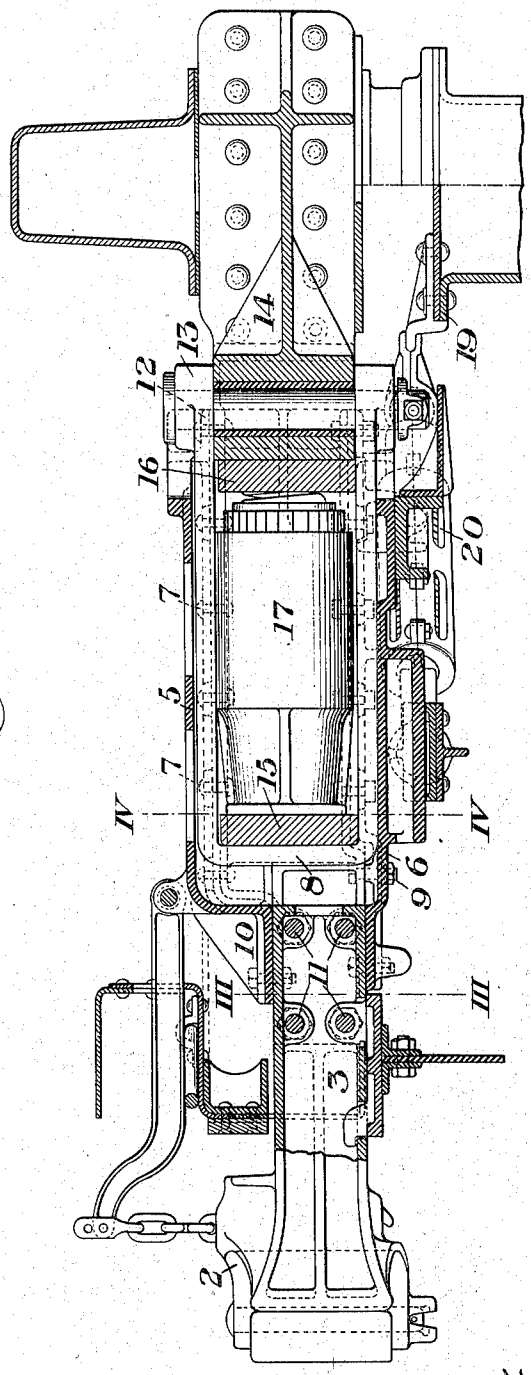
3 SHEETS—SHEET 2.

Fig. 2.



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3 SHEETS—SHEET 3.

Fig. 4.

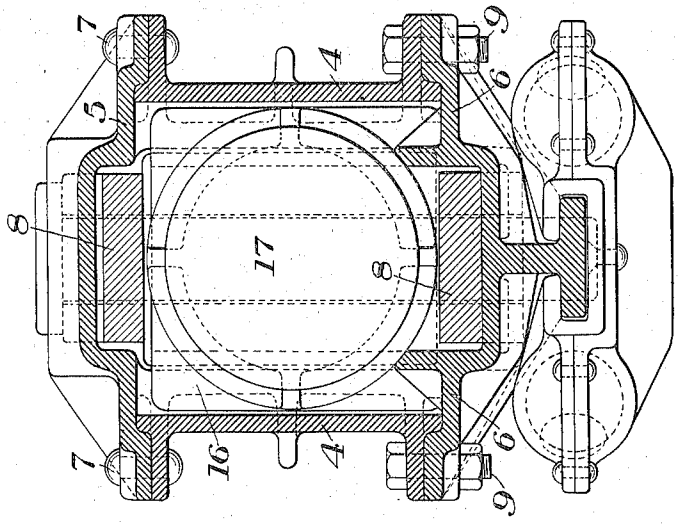
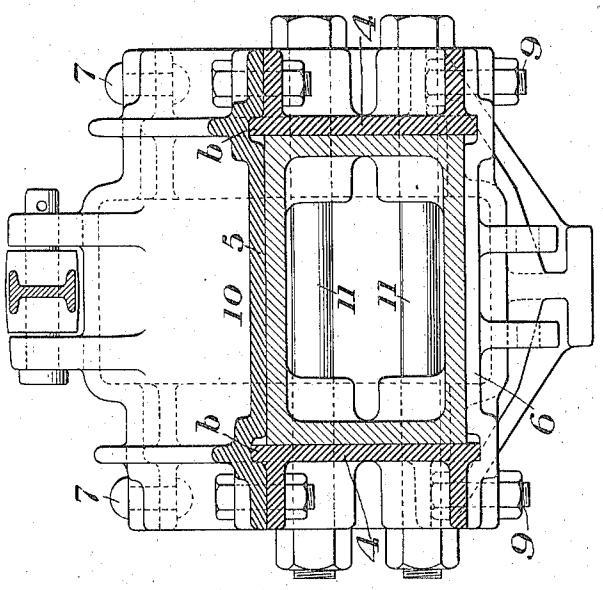


Fig. 3.



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UNITED STATES PATENT OFFICE.

HENRY F. POPE, OF CLEVELAND, OHIO, ASSIGNOR TO THE NATIONAL MALLEABLE CASTINGS COMPANY, OF CLEVELAND, OHIO, A CORPORATION OF OHIO.

RADIAL DRAFT-GEAR.

947,756. Specification of Letters Patent. Patented Jan. 25, 1910.

Application filed March 30, 1908. Serial No. 424,001.

To all whom it may concern:

Be it known that I, HENRY F. POPE, of Cleveland, Cuyahoga county, Ohio, have invented a new and useful Radial Draft-Gear, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a plan view partly in section showing my improved swinging coupler frame for carrying a coupler; Fig. 2 is a vertical longitudinal section; Figs. 3 and 4 are vertical cross sections on the lines III—III and IV—IV, respectively, of Fig. 2.

My device comprises two main elements, namely, a coupler frame which carries the coupler firmly, and is adapted to move back and forth longitudinally under the stresses of buffing and draft, and a draft rigging whose yoke is pivotally connected to the car frame and which extends within the coupler frame so that the latter will move back and forth telescopically thereon. The draft rigging being pivotally connected by its yoke to the car frame serves as the pivotal connection of the draft gear, on which the whole structure moves radially as the car passes around qurves. In devices of this kind it is of the greatest importance that the connection with the coupler be secure and permanent and that the coupler be properly fitted to the draft rigging, for the parts are subject to severe strains of use and to repair them is costly and entails a loss of use of the cars. My invention meets these conditions satisfactorily and affords a useful and efficient device.

In the drawings, 2 is the car coupler having a rearwardly projecting shank 3. The coupler frame by which the coupler is held and carried, consists of four plates or pieces, constituting respectively the top, bottom and sides. As shown in Fig. 4, the middle portion of the frame is box-like, substantially rectangular in cross section, and has opposite side plates 4, a top plate 5, and a bottom plate 6. The side plates 4 are flanged, and are preferably lipped at *b*, and the top plate 5 is shaped to fit over the flanges of the side plates and has near its margins shoulders to engage with the lips and is permanently secured to the flanges by rivets 7.

The interior of the top plate is recessed, as shown in Fig. 4, so as to accommodate the yoke 8 of the draft rigging. The bottom plate 6 fits against the bottom flanges of the side plates 4, and is held thereto preferably by bolts 9, so that the bottom plate can be readily detached in order to remove the draft rigging. This bottom plate is also recessed to receive the lower arm of the yoke 8. At the forward part of the frame where it fits around the coupler shank 3, the top plate deflects inwardly, as shown at 10 in Fig. 2, and in cross section in Fig. 3, and the side plates are of less vertical height in order to fit the reduced space between the top and bottom plates. These plates fit against the shank of the coupler, which is interposed between them, and in addition to the bolts by which the top and bottom plates are secured to the side plates, as shown in Fig. 3, there are also horizontal through bolts 11, which extend through the side plates and through the coupler shank and fix this shaft to the coupler frame. The top plate also has attached to or made integral with it a lug on which the coupler unlocking lever is pivoted (Fig. 2) and the bottom plate has also a similar lug, shown in Fig. 2, to which the unlocking lever of a bottom-opening coupler can be pivoted. The draft rigging comprises a yoke 8, which is pivoted to a bracket on the car frame at 12, the yoke being reinforced at 13 to give additional wearing surface around the pivot pin. The yoke is thus pivotally attached to the bracket 14 and extends forwardly within the coupler frame or box above described. It contains followers 15, 16, and interposed spring and frictional draft rigging 17, the forward followers 15 engaging stops 18 on the inner surfaces of the side plates, and the rear follower 16 also engaging the curved lug which constitutes the forward end of the bracket 14. The box or coupler frame is thus telescopically mounted on the draft rigging and slides back and forth thereon under the stresses of buffing and draft, and the whole structure moves radially on the pivot by which the yoke is attached to the car frame. The coupler frame or box is connected with the car truck 19, by spring guiding connections 20.

Within the scope of my invention as defined in the claims, the parts may be modified, since

What I claim is:

1. A radial draft gear, comprising a coupler having a shank and a coupler frame

made of four pieces fixed together and fixed to the coupler shank, and a draft rigging pivotally connected to the car frame, said draft rigging fitting within the coupler frame and the latter moving telescopically thereon, substantially as described.

2. A radial draft gear comprising a coupler having a shank and a coupler frame made of four pieces fixed together and fixed to the coupler shank, and a draft rigging pivotally connected to the car frame, said draft rigging fitting within the coupler frame and the latter moving telescopically thereon, said box or frame being reduced at its forward end where it fits around the coupler shank, substantially as described.

3. A radial draft gear comprising a coupler having a shank and a coupler frame made of four pieces fixed together and fixed to the coupler shank, and a draft rigging pivotally connected to the car frame, said draft rigging fitting within the coupler frame and the latter moving telescopically thereon, said frame being reduced at its forward end where it fits around the coupler shank, and being secured to the coupler shank by through-bolts, substantially as described.

4. A horizontal member of a coupler-frame for radial draft gears having near its margins shoulders for engaging side members of such frame, and having bolt-holes.

5. A bottom member for a coupler-frame for radial draft gears having a downwardly projecting member for affording sliding engagement with a truck-connection.

In testimony whereof, I have hereunto set my hand.

HENRY F. POPE.

Witnesses:
JOHN MILLER,
H. M. CORWIN.