

H. F. POPE.
 RADIAL DRAFT GEAR.
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1,000,292.

Patented Aug. 8, 1911.

2 SHEETS-SHEET 1.

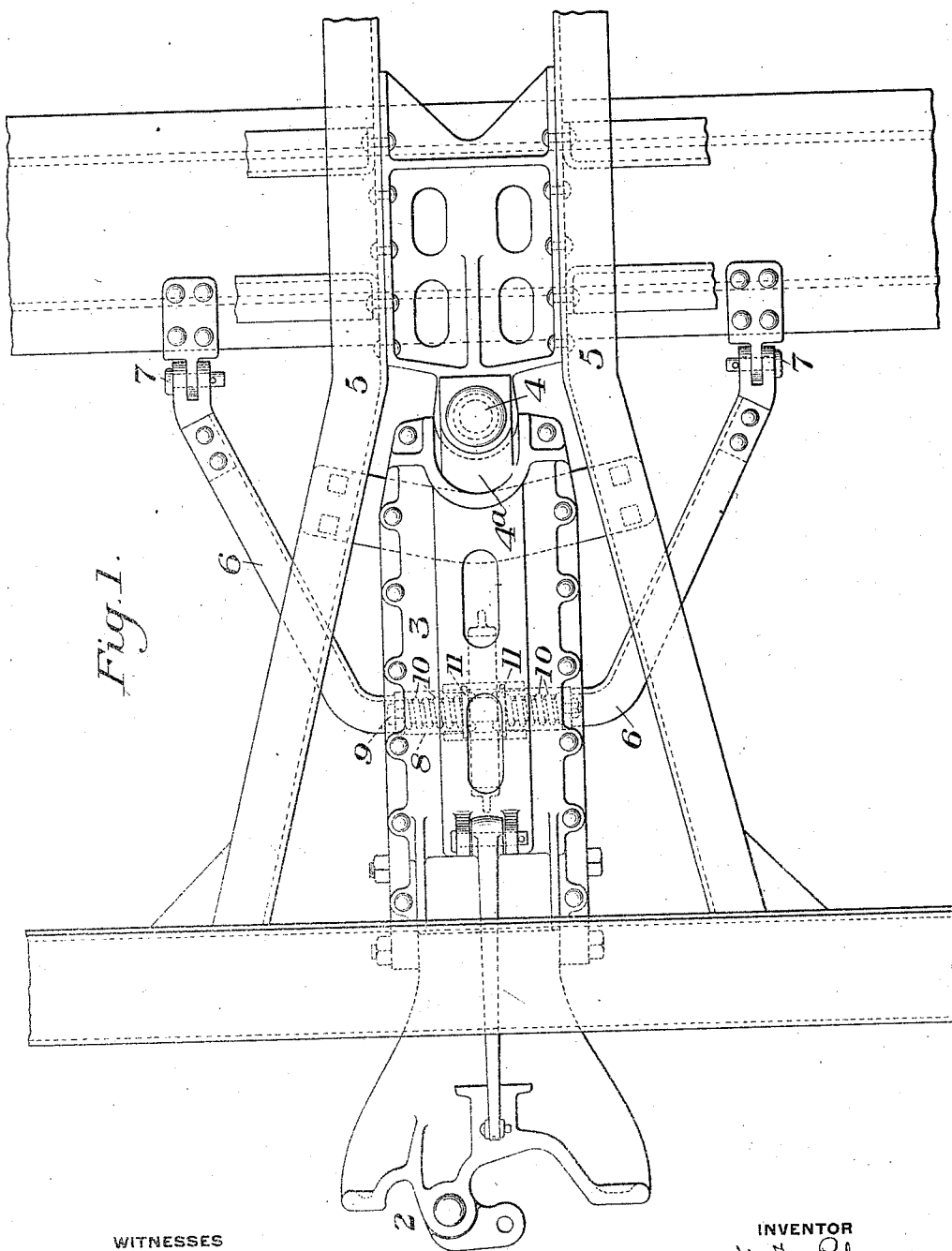


Fig. 1.

WITNESSES

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Fig. 3.

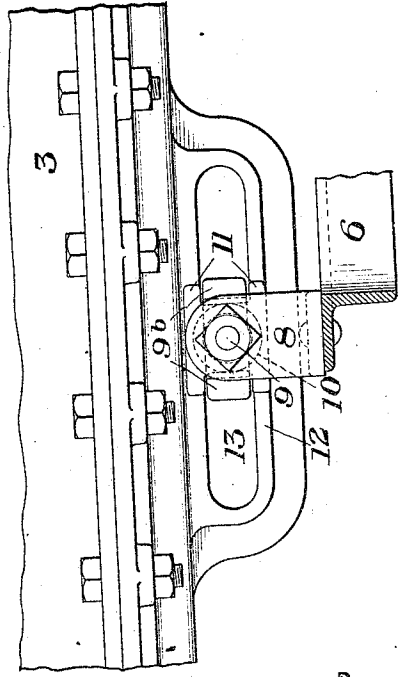


Fig. 5.

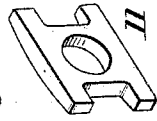


Fig. 2.

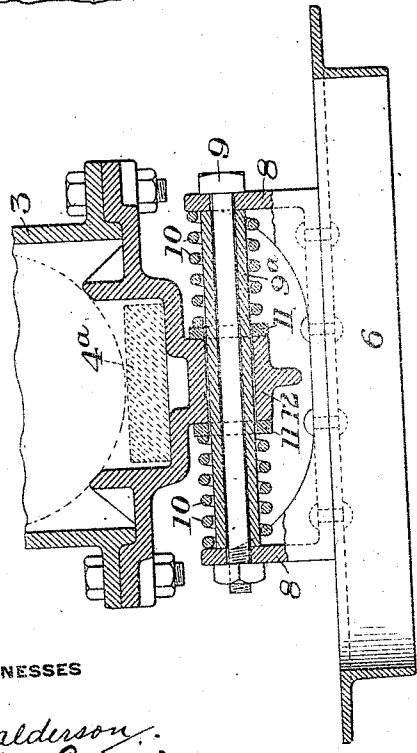
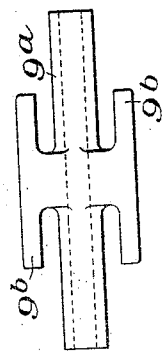


Fig. 4.



WITNESSES

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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

1,000,292.

Specification of Letters Patent.

Patented Aug. 8, 1911.

Application filed April 14, 1908. Serial No. 427,077.

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 Improvement in Radial-Draft Gears, 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 showing my draft gear applied to a railway car; Fig. 2 is a cross-sectional view through a portion of the part which contains the draft rigging, showing in detail my improvement; Fig. 3 is a side elevation of the parts shown in Fig. 2; and Figs. 4 and 5 are detail views.

My invention relates to a radial draft gear for railway cars, that is to a draft gear which is mounted on the car frame to swing in a horizontal plane and thus adapt itself to the motion of the car as it travels around the curves of the track, being guided by connection with the car truck.

Heretofore such devices, as shown in the patents of H. T. Krakau, have usually been provided with guiding springs extending diagonally from a middle point of the draft gear to the truck frame.

The purpose of my invention is to improve the construction by providing means for guiding the draft gear more efficiently. For this purpose, I provide a forwardly extending guiding frame, which is connected with the truck in such manner that it shall be rigid as regards lateral deflection, although it is preferably capable of vertical motion in order to accommodate itself to the relative vertical motion of the truck. This guiding frame is connected to the draft gear by a connection which permits longitudinal motion of the draft gear in buffing and draft and by interposed spring mechanism which permits lateral deflection of the coupler relatively to said connection.

In the drawing, 2 represents the coupler head, and 3 is the radial draft gear comprising telescopically connected parts, the part 3 carrying the coupler and the yoke or part 4^a being pivotally mounted on the car frame at a point 4 between the sills 5 of the car, the construction being such that as the car moves around curves the draft gear will swing radially on the vertical pivot 4. In the construction here shown the spring rigging against which the coupler operates in

buffing and draft is carried by the draft gear, but my invention is applicable not only to draft gears of this kind, but also to draft gears in which the spring rigging itself is carried by the car frame and the radial draft gear pivotally connected therewith as in the patent of Krakau, No. 900,024. I have therefore not shown the construction of the draft gear in detail, as it is not a limiting feature of my invention. The guiding connection of the draft gear to the truck to which my invention relates, comprises a bail or guide 6 preferably of general triangular or U form, which is pivotally connected on horizontal pivots 7 to the truck frame, and extends forwardly therefrom beneath the swinging draft gear 3. It is provided with a spring carrier 8, which supports a guiding pin or bolt 9 carrying springs 10 whose inner ends act against opposite sides of the draft gear through washers 11, seated against a projection or lug 12 depending from the draft gear as shown in vertical section in Fig. 2. These springs give to the draft gear lateral freedom when it is forced out of its normal position and the draft-gear supports the guides through the bolt 9 and its sleeve.

The pivotal or loose connection which is necessary between the draft gear and the spring carrier 8 may be formed in various ways. In the drawing, I have shown the depending lug 12 as having a longitudinal slot 13. On the bolt 9 is a sleeve 9^a having projections 9^b (Fig. 4) which fit slidably in the slot 13, and the washers 11 are interfitted with the projections 9^b and are seated against the sides of the lug. The lugs 9^b act as guides for the washers 11 and prevent them from turning when the springs 10 are compressed. The slot permits free longitudinal motion of the draft gear with the coupler in buffing and draft, and the connection is such as to permit pivotal motion between the draft gear and guide when the draft gear is deflected relatively to the guide. The construction shown, being very advantageous, is made the subject of specific claim, although my broader claims are not limited thereto.

As the car passes around curves the coupler is guided radially by the motion of the truck acting upon the draft gear through the guide 6 and the springs 10; the springs permit lateral deflection of the draft gear relatively to the guide, and the slotted connection

tion permits the draft gear to move longitudinally under all conditions.

The entire construction is simple and light, and the device operates with relatively small motion of the springs. The arrangement of the springs and other parts may be varied in many ways by those skilled in the art without departure from my invention as stated in the claims, since

10 What I claim is:—

1. A radially swinging draft gear, having a guiding connection with the truck, consisting of a guide projecting from the truck to a longitudinal slot in the draft gear, a piece fitting in the slot and connected with the guide and carrying springs; substantially as described.

2. A radially swinging draft gear, having a guiding connection with the truck, consisting of a guide projecting from the truck, a longitudinal slot in the draft gear, a bolt and sleeve passing through the slot, and connected with the guide and springs on the sleeve; substantially as described.

25 3. A radially swinging draft gear, having a guiding connection with the truck, consisting of a guide projecting from the truck and substantially rigid as respects lateral motion independent of the truck, and a spring con-

nection between said guide and the draft member, said guide having a sliding and pivotal connection with the draft member, and springs between the sliding connection and the guide; substantially as described. 30

4. A radially swinging draft gear, having a guiding connection with the truck, consisting of a guide projecting from the truck and substantially rigid as respects lateral motion independent of the truck, and a spring connection between said guide and the draft member, said guide having a pivotal connection with the draft member; substantially as described. 35 40

5. A bottom plate for the frame of a radial draft gear having a downwardly projecting lug with a transverse elongated hole therethrough for passage of a truck-guiding member. 45

6. As a new article of manufacture, a truck guiding element consisting of an open-ended sleeve having opposite T-shaped projections intermediate of its ends. 50

In testimony whereof, I have hereunto set my hand.

HENRY F. POPE.

Witnesses:

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H. M. CORWIN.