Dec. 6, 1932. E. H. SCHMIDT 1,890,303

DRAFT ATTACHMENT FOR RAILWAY VEHICLES

Filed July 27, 1927 3 Sheets-Sheet 1

Fig. 1.

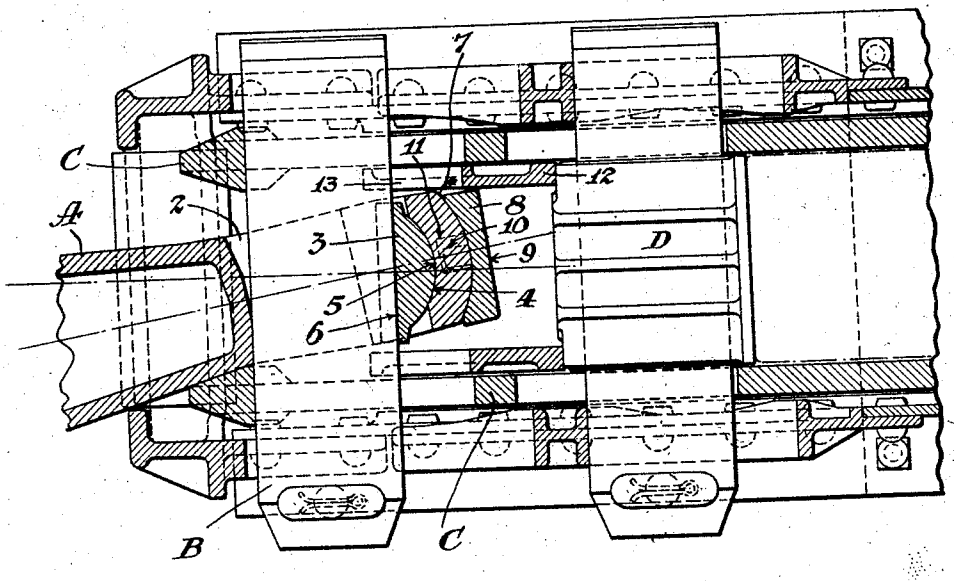
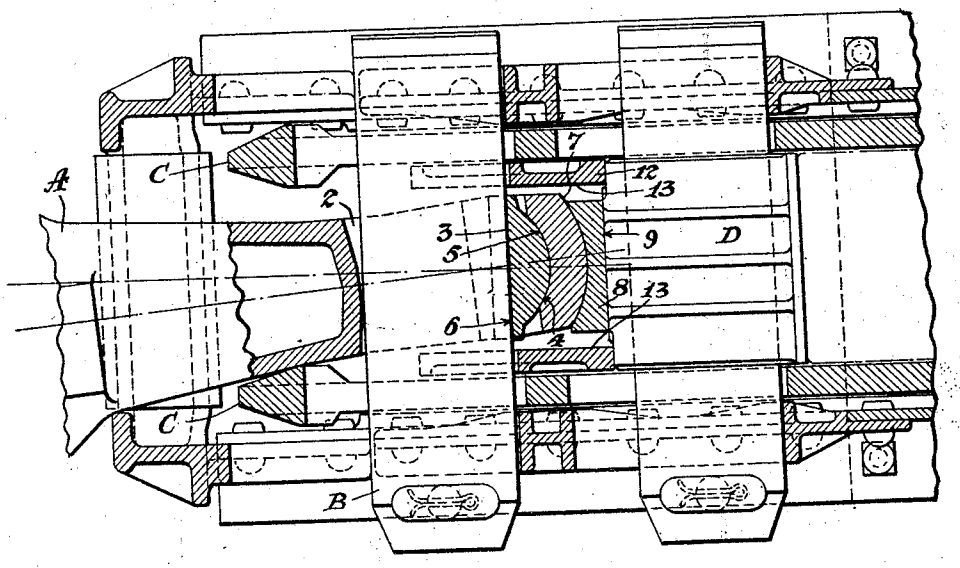


Fig. 2.



Inventor

ERNEST H. SCHMIDT

By his Attorney

Clarence Kerr

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DRAFT ATTACHMENT FOR RAILWAY VEHICLES

Filed July 27, 1927 3 Sheets-Sheet 2

Fig. 5.

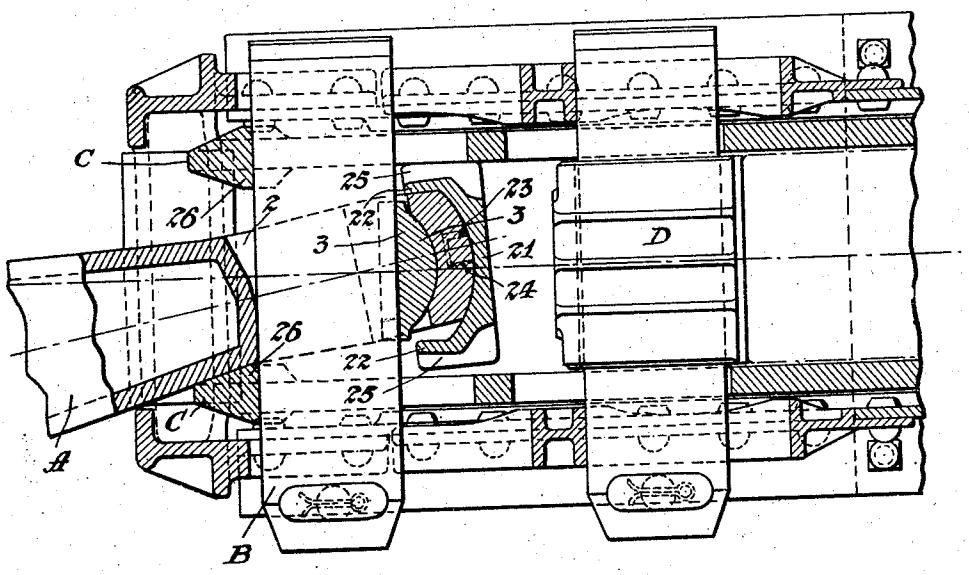
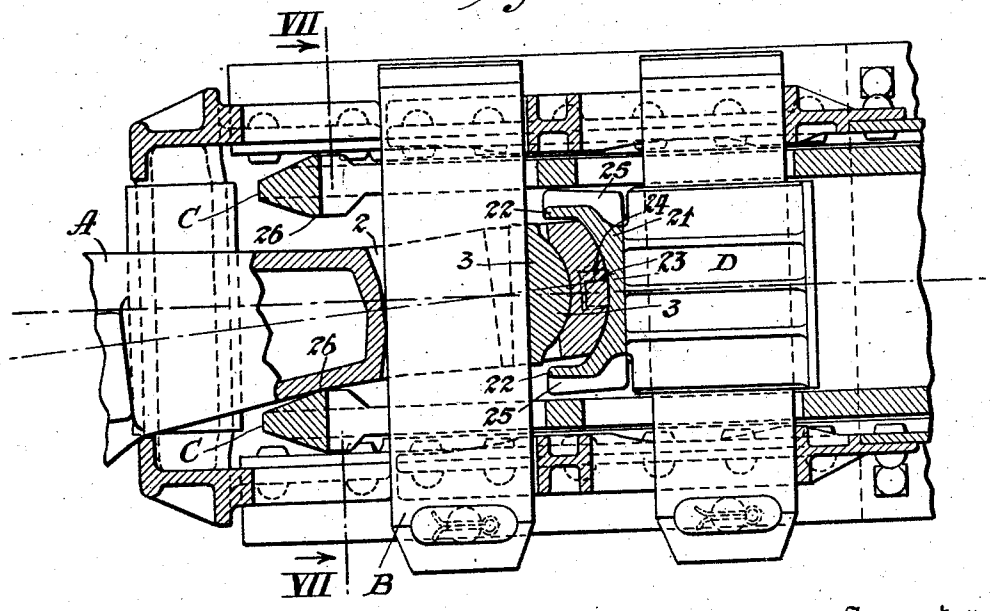


Fig. 6.



Inventor
ERNEST H. SCHMIDT

By his Attorney
Clarence Kerr

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Filed July 27, 1927 3 Sheets-Sheet 3

Fig. 3.

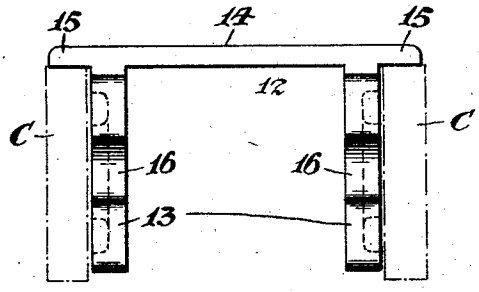


Fig. 4.

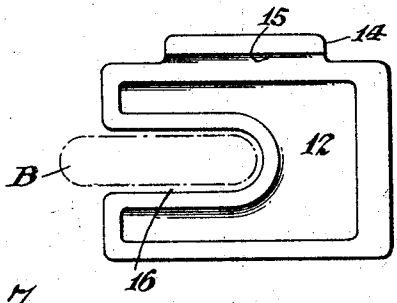


Fig. 7.

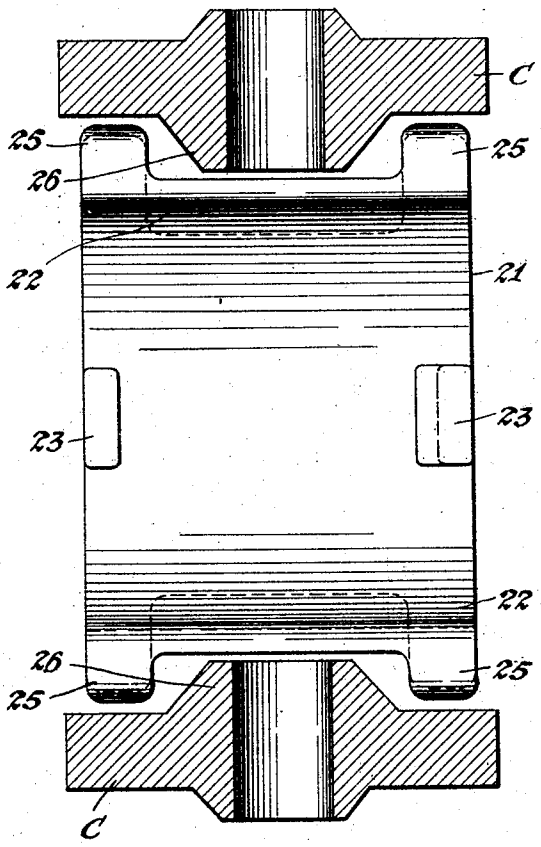
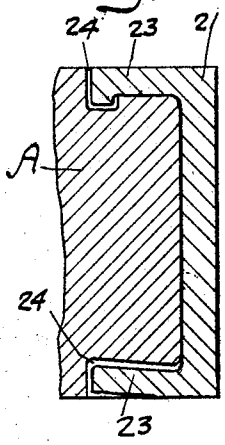


Fig. 8.



Inventor

ERNEST H. SCHMIDT

By his Attorney

Clarence Kerr

Patented Dec. 6, 1932 1,890,303

UNITED STATES PATENT OFFICE

ERNEST H. SCHMIDT, OF CLEVELAND HEIGHTS, OHIO, ASSIGNOR TO NATIONAL MALLEABLE AND STEEL CASTINGS COMPANY, OF CLEVELAND, OHIO, A CORPORATION OF OHIO

DRAFT ATTACHMENT FOR RAILWAY VEHICLES

Application filed July 27, 1927. Serial No. 208,701.

My invention relates to improvements in draft attachments of the character shown in the application of Ernest H. Schmidt and Hubert L. Spence, filed January 19, 1927, Serial No. 161,992, which matured into Patent 1,859,535, May 24, 1932, in which a draft equalizer and a buffing equalizer are used. The present invention provides a guiding mechanism for the rear end of a coupler equipped with a buffing equalizer which permits the usual types of followers to be used. My invention also comprises the various features which I shall hereinafter describe and claim.

In the accompanying drawings, Fig. 1 is a horizontal section of the rear end of a coupler shank to which my improvements have been applied, showing the coupler pulled forward under draft; Fig. 2 is a section similar to Fig. 1, but with the coupler shank in buffing position; Fig. 3 is a front elevation of the guiding member and Fig. 4 is a side elevation thereof; Fig. 5 is a horizontal section of a modified form of my invention showing the parts under draft, in which the guiding member is made a part of the buffing equalizer; Fig. 6 is a section similar to Fig. 5 but with the parts under buff; and Fig. 7 is an enlarged section on lines VII—VII of Fig. 6, only the yoke arms and equalizer being shown. Fig. 8 is a detailed view in vertical section, through the shank of the coupler and equalizer member, showing a manner of connecting the same.

Referring more particularly to the drawings, I have shown my invention applicable to the shank of a car coupler of the construction shown in the application of Ernest H. Schmidt and Hubert L. Spence, referred to above. The shank A of the car coupler has a horizontal slot 2 extending transversely therethrough, in which is seated a draft equalizer member 3, the rear face 4 of which is engaged by the surface 5 which forms the rear face of the slot 2 in the car coupler. The forward face 6 of the draft equalizer 3 forms a bearing on the rear side of the draft key B through which draft stresses are transmitted to the horizontal links or yoke arms C. The rear end of the coupler shank has an arc-shaped rear surface 7 preferably struck about the same vertical center as the surface 5, which bears against an equalizing buffing block 8, the forward face of which is curved in approximately the same arc as the surface 7 at the rear end of the shank. The buffing block 8 is intended to bear upon its rear face 9 against the forward face of the front element or follower D of a draft gear which is usually at right angles to the line of draft. The buffing block 8 may be supported upon the coupler shank by the lugs 10, which seat respectively in arc-shaped recesses 11 in the top and bottom of the shank and may be held therein by bending the bottom lug 10 in the manner described in my co-pending application Serial No. 173,024, filed March 5, 1927. The lugs 10 and recesses 11 thus support the buffing block upon the coupler shank but permit radial movement of the block relative to the shank.

The means for guiding the coupler shank, particularly during return from draft movements, preferably comprises a guiding element 12, which I have shown as consisting of a unitary casting having guide walls 13 connected by a bridge or top piece 14, and lateral extensions 15 by which the element is supported upon the yoke arms C. The forward faces of the walls 13 have recesses 16 which partly surround the draft key B. It will be seen that the element 12 is thus held from lateral movement by the yoke arms, from forward movement by the draft key B, and from rearward movement by the follower D.

When under draft, as is shown in Fig. 1, the coupler is pulled forward to its maximum forward angled position, with its rear end just touching one of the guiding walls 13, but with the radial draft equalizer member 3 still free. When under buff, as is shown in Fig. 2, in which the coupler is angled laterally so that all the side clearance between the forward ends of the yoke arms has been taken up, it will be seen that there is ample clearance between the guiding walls 13.

This arrangement is of particular advantage in applying my invention to existing

equipment, since a special design of front follower is not required. For instance, as is shown in Fig. 2, the front element or follower of the draft gear is one of the usual forms of Farlow front followers with the customary dowel cut off.

In Figs. 5 and 6 I have shown a modified form of my invention in which the buffing equalizer 21 and the guiding element 22 have been combined in an integral casting, which is pivotally attached to the rear end of the coupler shank by means of the lugs 23, which seat in the recesses 24 in the coupler shank. These lugs or projections 23 may be formed on the buffing equalizer, and be positioned in the recesses 24 in any desired, convenient manner, for instance, as disclosed in my copending application, Serial No. 173,024, above referred to. The buffing block 21 has on its outer side walls guiding flanges 25, which are spaced vertically so that they will pass above and below the enlargements 26 in which the forward ends of the yoke arms terminate. This is for the purpose of permitting the insertion of the entire coupler and guide assembly from the front. The use of the flanges 25 is desirable to keep the buffing block in substantial alignment with the front element of the draft gear as well as to serve as a limit to the lateral movement of the coupler shank at all times.

It will be seen, however, that, as is shown in Fig. 5, the radial movement of the coupler is not limited by the clearance between the yoke arms and the guiding flanges on the buffing block, but that normally there is clearance between the rear end of the coupler and buffing block which permits the rear end of the coupler when under draft to move radially an appreciable distance before it engages the guiding walls 22 of the buffing block. Also, in this instance, while the coupler has angled laterally to such an extent that it engages the forward end 26 of one of the yoke arms, the draft equalizer member 3 has not yet reached the end of its radial movement.

The terms and expressions which I have employed are used as terms of description and not of limitation, and I have no intention, in the use of such terms and expressions, of excluding any mechanical equivalents of the features shown and described, or portions thereof, but recognize that various structural modifications are possible within the scope of the invention claimed.

What I claim is:

1. In a coupler attachment, the combination of a coupler shank and a yoke having horizontally aligned slots; a connecting key seating in said slots; a draft gear in said yoke; a follower for said draft gear; a buffing block between the shank and follower operative only in buffing adapted to bring the rear end of the shank into central bearing with the draft gear, said buffing block being connected to said shank for movement therewith in draft; and means disposed between the sides of the shank and the yoke for guiding the coupler shank laterally.

2. In a coupler attachment, the combination of a coupler shank and a yoke having horizontally aligned slots; a connecting key seating in said slots; a draft gear in said yoke; a follower for said draft gear; a buffing block removably supported by said shank operative only in buffing adapted to bring the rear end of the shank into central bearing with the draft gear; and means supported by the yoke arms for limiting the lateral shifting of the shank and guiding the shank during return from draft movements.

3. In a coupler attachment, the combination of a coupler shank and a yoke having horizontally aligned slots; a connecting key seating in said slots; a draft gear in said yoke; a follower for said gear; a buffing block interposed between shank and follower having a rotative engagement with said shank, said buffing block being connected to said shank for movement therewith in draft; and guiding means disposed between the sides of the shank and the yoke for guiding the coupler shank laterally.

4. In a coupler attachment, the combination of a coupler shank and a yoke having horizontally aligned slots; a connecting key seating in said slots; a draft gear in said yoke; a follower for said gear; an equalizing member movable with said shank active only in buffing; and means between said coupler shank and yoke permitting rotative movement therebetween but limiting the lateral extent thereof.

5. In a coupler attachment, the combination of a coupler shank and a yoke having horizontally aligned slots; a connecting key seating in said slots; a draft gear in said yoke; a follower for said gear; a buffing block interposed between shank and follower having a rotative engagement with said shank; and a guiding element for limiting the lateral movement of the shank of the coupler supported by the yoke.

6. In a coupler attachment, the combination of a coupler shank and a yoke having horizontally aligned slots; a connecting key seating in said slots; a draft gear in said yoke; a follower for said gear; a buffing block carried by the shank interposed between shank and follower having a rotative engagement with said shank; and a guiding element for the shank of the coupler arranged between the yoke arms and the side of the coupler shank and limited as to longitudinal displacement by the connecting key.

7. In a coupler attachment, the combination of a coupler shank and a yoke having horizontally aligned slots; a connecting key

seating in said slots; a draft gear in said yoke; a follower for said gear; a buffing block interposed between shank and follower having a rotative engagement with said shank; and a guiding element of inverted U-shape in cross-section arranged between the yoke arms and adapted to guide the coupler shank in return from draft.

ERNEST H. SCHMIDT.