April 10, 1934. J. PURCELL 1,954,537

COUPLER SUPPORT WEAR PLATE

Filed Oct. 11, 1929 2 Sheets-Sheet 1

Fig. 1.

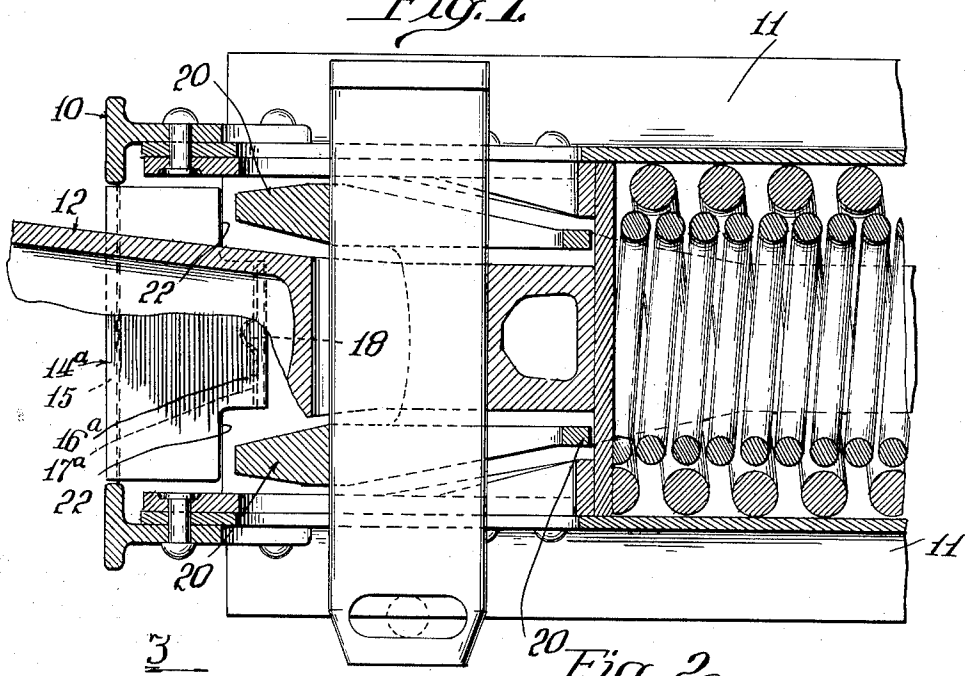


Fig. 2.

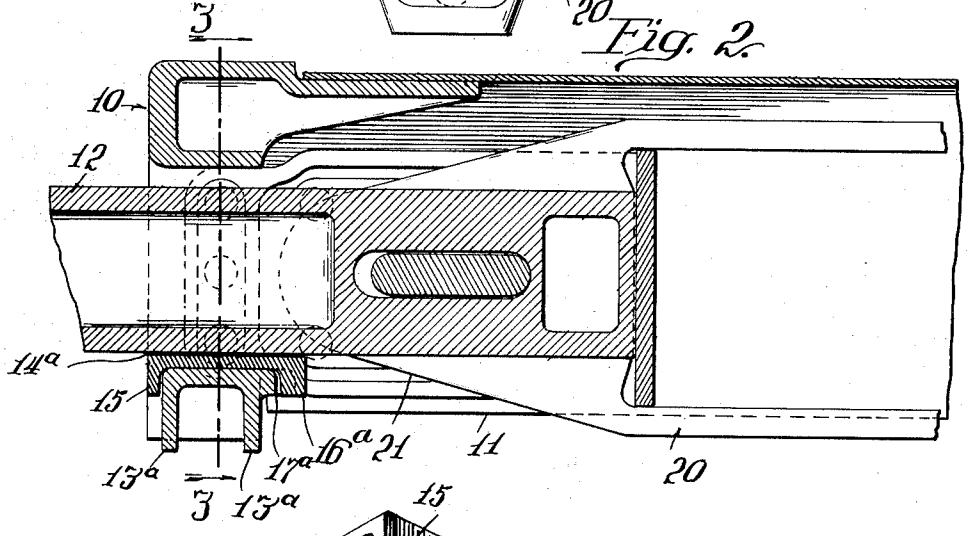
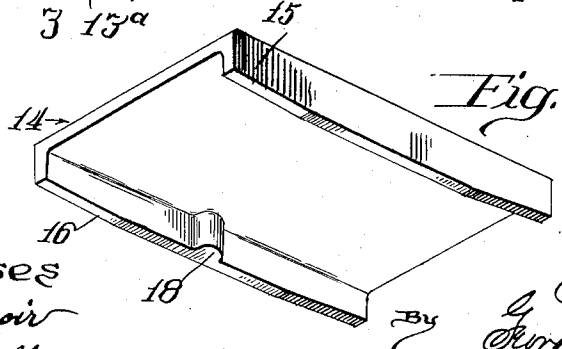


Fig. 6.



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Filed Oct. 11, 1929 2 Sheets-Sheet 2

Fig. 3.

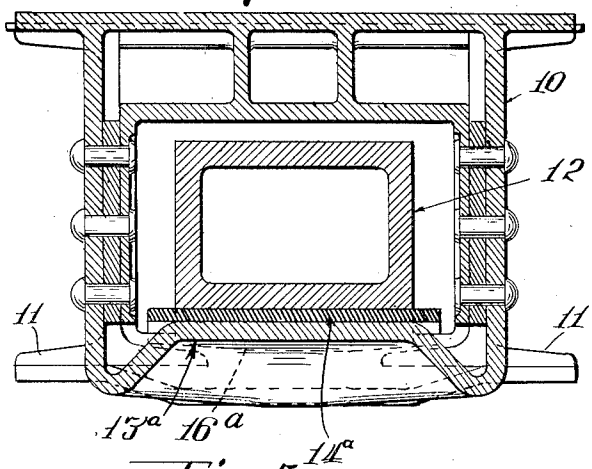


Fig. 5.

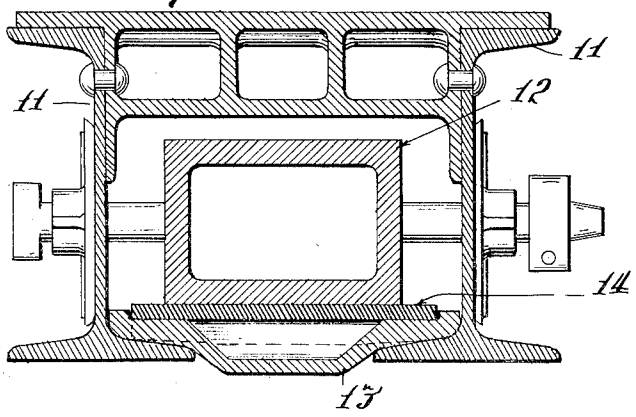
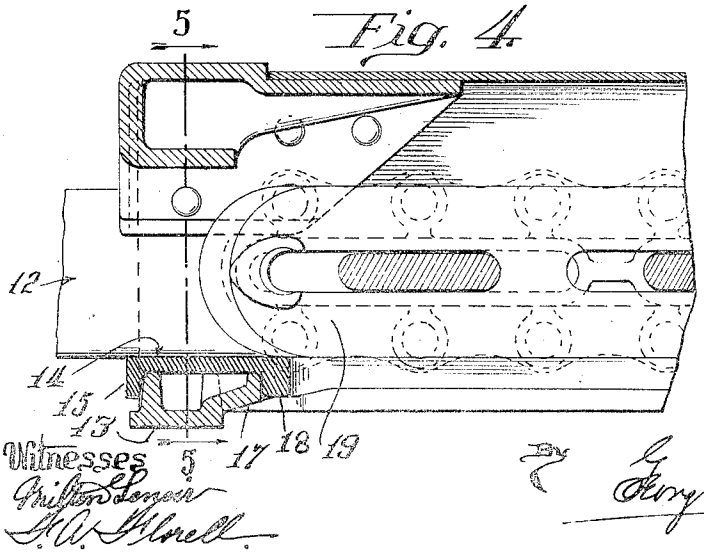


Fig. 4.



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1,954,537

COUPLER SUPPORT WEAR PLATE

John Purcell, Chicago, Ill.

Application October 11, 1929, Serial No. 398,860

1 Claim. (Cl. 213—60)

My invention relates to wear plates for the coupler shanks of railroad cars whereby greater wearing area is provided than is the case with constructions as heretofore employed.

Another object of the invention is to provide a wear plate which may be easily applied and removed and which may be universal or uniform to permit application to the various types of draft rigging at present in use; my improved wear plate being provided with means whereby the wear plate is retained in proper position in the striking plate or bumper casting at the end of the car underframe.

The objects and advantages of my invention will be readily comprehended from the following detailed description of the accompanying drawings, wherein—

Figure 1 is a horizontal longitudinal sectional view of portions of the draft rigging of a car, provided with my improved wear plate shown in plan.

Figure 2 is a vertical sectional view of the draft rigging shown in Figure 1, with portions omitted, and showing my improved wear plate in section.

Figure 3 is a vertical sectional view taken substantially on the line 3—3 of Figure 2, looking in the direction of the arrows.

Figure 4 is a longitudinal vertical section illustrating the application of my invention to a different type of draft rigging.

Figure 5 is a cross sectional view taken substantially on the line 5—5 of Figure 4 as viewed by the arrows.

Figure 6 is a perspective view of my improved wear plate; the plate being viewed from the bottom.

The invention is shown applied to well known types of draft rigging which may consist either of a single piece or multiple piece striking casting 10 which is secured to the ends of the center sills 11 of the car underframe; the striking casting being formed with a suitable opening therethrough for reception of the coupler shank 12 of the draft rigging.

Both the multiple and single piece striking casting are shown in different figures for the purpose of illustrating the adaptability of my invention to any of the standard types of striking casting and draft rigging at present employed on railroad cars.

As the draft rigging in itself and the particular construction of the main portions of the striking casting are not a part of my invention, a detailed description of these elements need not be entered into beyond the general statement heretofore given, except in so far as the relation and cooperation of my improved wear plate to said elements is concerned.

In view of the constant shifting movements, both longitudinally and laterally, of the coupler shank, it is apparent that the carrier iron 13 of the striking casting shown in Figures 4 and 5 and the carrier iron 13ª shown in Figures 1 and 2 would soon become worn if they were not provided with a wear plate on which the coupler shank normally rests.

It is also essential that the couplers be maintained at a standard height in order that proper couplings of cars may be made; the height being maintained by a proper wear plate which is seatable on the carrier iron 13 or 13ª of the striking casting. Without some suitable wear receiving supporting member for the coupler shank, it is apparent that all wear resulting from the constant shifting of the coupler-shank would be on the comparatively narrow portion constituting the carrier iron at the bottom of the striking casting, which in a very short space of time would necessitate the replacement of the entire striking casting.

In order to overcome this difficulty, wear plates have been employed; these wear plates being usually made of width substantially that of the lower arm or carrier iron of the striking casting so as to fit onto said carrier iron or in some special instances of width less than that of the carrier iron of the striking casting so as to fit into a cavity formed in the carrier iron portion of the striking casting. In all instances, however, the wear plates have been of such construction and size as not to afford or present a great coupler shank supporting area.

My invention involves the idea of providing a wear plate which affords a greater transverse wearing area than has heretofore been the case, and which at the same time will not permit lateral nor twisting movement thereof during operation of the car.

My improved wear plate, of suitable metal, as shown in Figure 6, consists of a rectangular metal plate 14 of proper thickness and of width or transverse dimensions materially greater than the transverse width of the carrier iron 13 of the striking casting as shown in Figure 4, so as to extend into the coupler shank receiving opening of the striking casting and beyond the normal inner edge of the carrier iron 13 of the striking casting, see Figure 4; with the length of the wear plate substantially that of the horizontal length of the opening in the striking casting; the length of the wear plate 14 being suffi-

ciently less than the length of the opening so as to be easily insertible into place.

The longitudinal edges of the wear plate are preferably provided with the depending longitudinal flanges 15 and 16, see Figure 6, which not only reenforce the wear plate but which also hold the plate against lateral or in-and-out movement in the striking casting opening.

That is to say, the depending flange 15 is adapted to lap the forward outer face of the carrier iron 13 of the striking casting as shown in Figure 4 and thus prevent inward shifting or movement of the wear plate with the retracting movement of the coupler-shank 12.

In order that the inner longitudinal side of the wear plate may have proper support and therefore also take the frictional bearing strains of the coupler-shank I provide the carrier iron 13 of the striking casting, intermediate of the ends with an extended portion 17; the transverse width of the carrier iron 13 and extension 17 being slightly less than the distance between the flanges 15 and 16 of the wear plate 14, so as to permit the rear flange 16 of the wear plate to lap the inner face of this extended portion 17 of the carrier iron 13 of the striking casting.

In view of the increased transverse area or dimensions of the wear plate, means are provided to prevent twisting movement of the wear plate. The specific means adapted for this purpose consists in providing the rear flange 16 of the wear plate 14 with a rounded projection or lug 18, see Figure 6, which seats in a rounded socket formed in the vertical edge of the extended portion 17 of the carrier iron 13 of the striking casting.

The lug 18 and the socket referred to are preferably arranged so as to be disposed substantially at the transverse center of the opening in the striking casting and therefore substantially at the longitudinal center of the coupler shank when the latter is in centered position.

The wear plate 14, shown in Figure 6, is especially intended for use with the type of draft rigging employing what is known as a horizontal yoke 19 which extends longitudinally alongside the other elements of the draft rigging and into the opening in the striking casting, so that the forward lower faces of the yoke come into bearing relation with the wear plate 14, as shown in Figure 4.

Where my improved wear plate is intended to be used with draft rigging having what is known as a vertical yoke, as shown at 20, in Figures 1 and 2, and whose ends are tapered as shown at 21 in Figure 2, sufficient clearance between the tapered ends of the yoke 20 and the wear plate 14^a must be provided for the in-and-out movement of the yoke without contact of these tapered ends with the wear plate. When the wear plate is to be used with this type of draft rigging, the two inner corners of the wear plate are then cut away as shown at 22 in Figure 1.

It will be understood that the intermediate portion of the wear plate is left intact as shown at 16^a so as to provide the large wearing area as shown in Figure 2 (namely having the width as shown in Figure 6) so as to provide a large bearing surface or contact for the coupler-shank 12 which enters the draft rigging between the horizontally spaced ends 21 of the vertically disposed yoke 20.

The intermedate portion at the rear side of the wear plate, as employed in Figures 1 and 2, is of substantially the same dimension as the width of the coupler-shank 12, thus providing a contact surface equal to the major transverse dimensions of the wear plate and therefore a surface greatly in excess to that of any of the types of wear plates at present in use.

Where my improved wear plate is to be used with railroad cars at present in use, the lower portion or carrier arm 13 or 13^a, of the striking casting, is provided with the rearward projection 17 or 17^a by welding or otherwise securing the projection thereto, in order that the wide wear plate may be properly supported; the added projection being provided with the socket for the lug 13 as previously described.

The wear plates shown and described are embodiments of the invention best adapted to present day striking castings and draft rigging whereby greater bearing surface for the coupler-shanks is provided and therefore longer life and usefulness obtained, but modifications may be made without, however, departing from the scope of the claim.

What I claim is:

In combination with a coupler-shank and the striking casting of a railroad car provided with a coupler-shank receiving opening and with a carrier iron; a rearwardly disposed projection provided on the rear side of the carrier iron intermediate of its ends, said projection provided with a vertically disposed groove, and a flat wear plate adapted to fit into the striking casting and be supported by the carrier iron, with the coupler-shank supporting portion thereof of width greater than the width of the carrier iron and its projection, the wear plate having depending flanges at its forward and rearward longitudinal edges, with the rear flange provided with a forwardly presented arcuate enlargement adapted to seat in said vertically disposed groove of said projection on the carrier iron.

JOHN PURCELL.