Feb. 3, 1942. O. E. WILSON 2,271,907

CAR COUPLING

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Fig. 1.

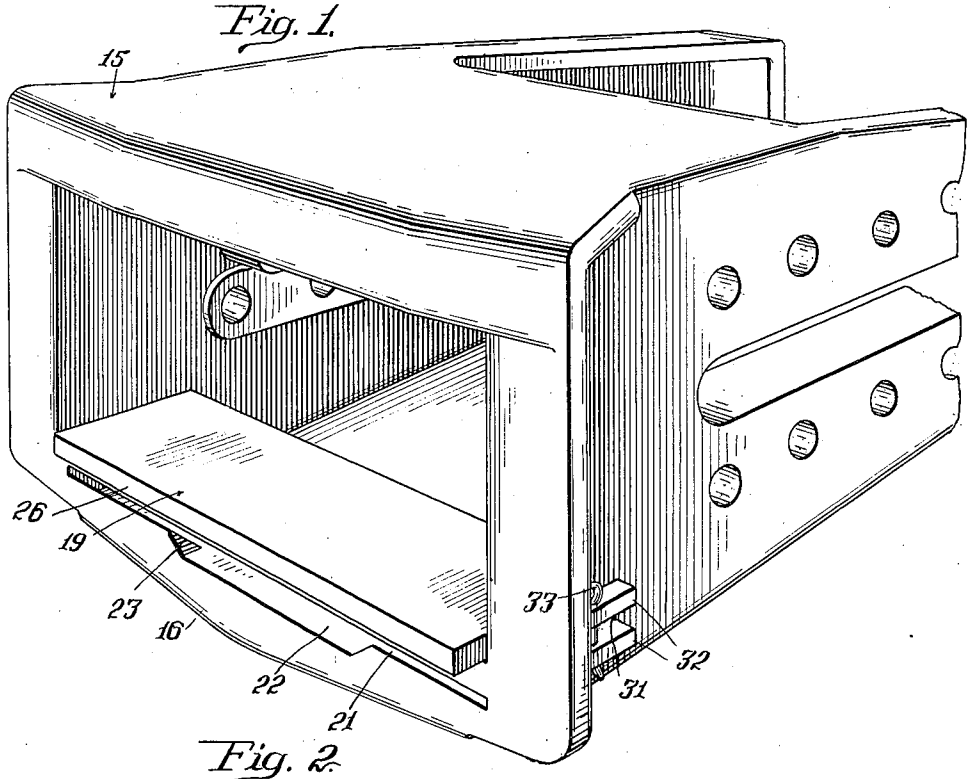
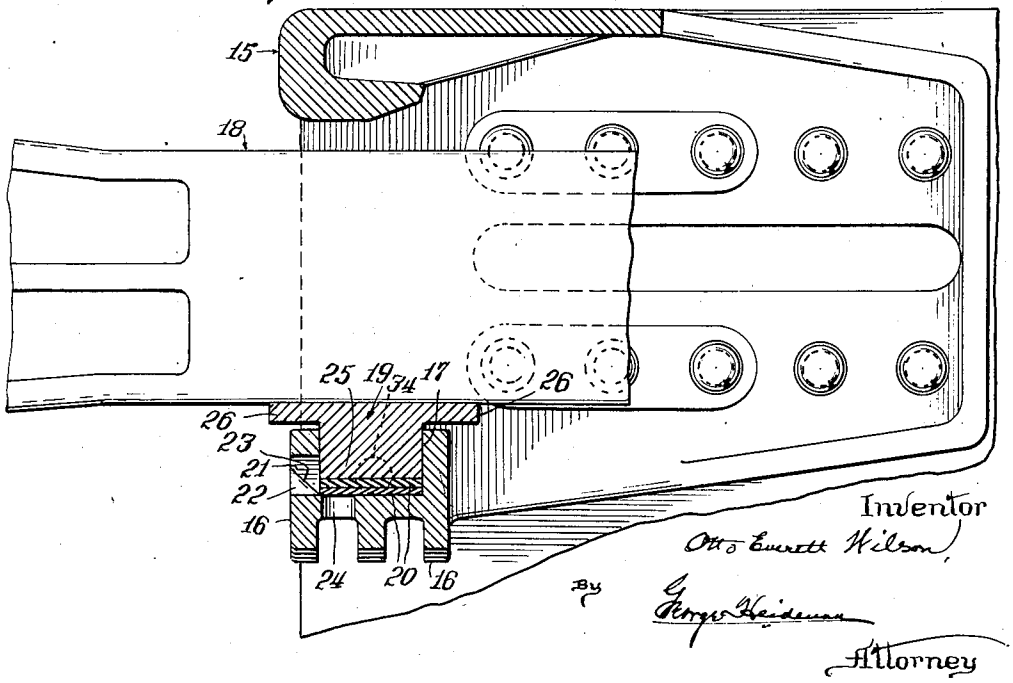


Fig. 2.



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Fig. 3.

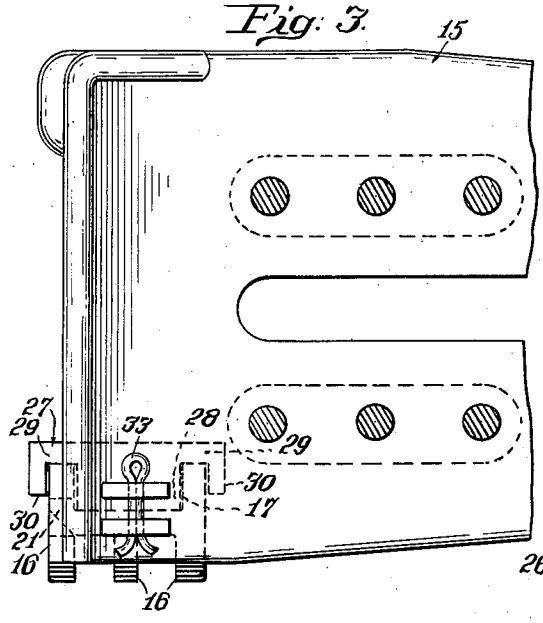


Fig. 4.

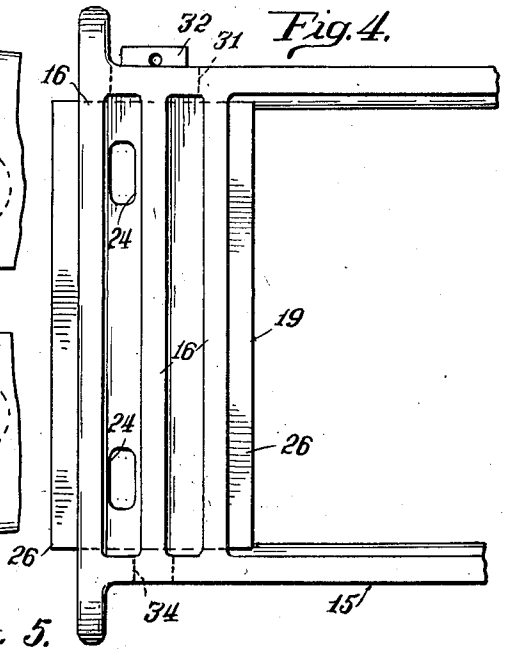


Fig. 5.

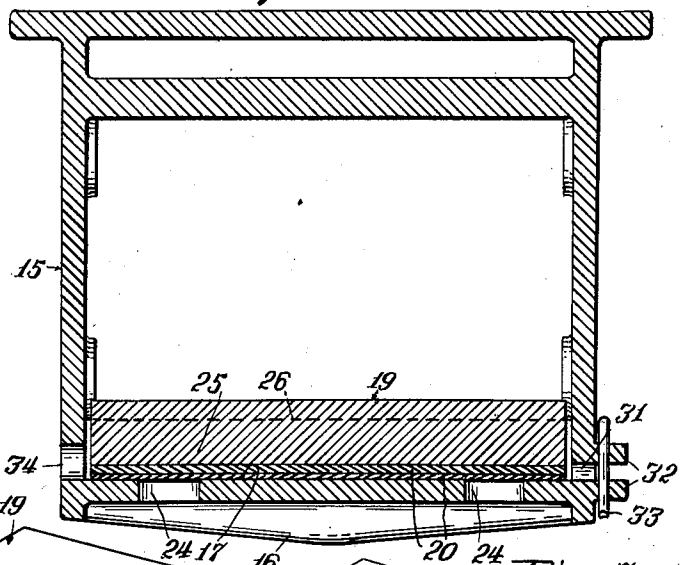


Fig. 6.

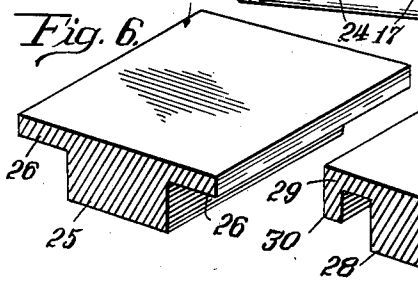
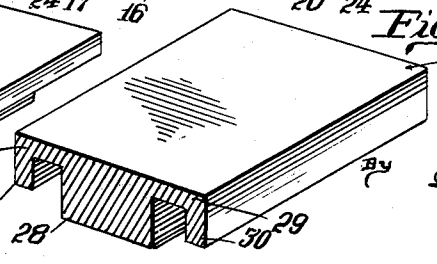


Fig. 7.



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Patented Feb. 3, 1942 2,271,907

UNITED STATES PATENT OFFICE

2,271,907

CAR COUPLING

Otto Everett Wilson, Peru, Ind., assignor to Harold S. Russell, Chicago, Ill.

Application January 17, 1940, Serial No. 314,256

1 Claim. (Cl. 213—60)

My invention relates to coupling mechanism for railroad cars and more particularly to the striking casting and coupler shank carrying and supporting mechanism associated with the striking casting and involving removably mounted means whereby the coupler will be held in the proper horizontal plane or at the standard height as required by the A. A. R. rules.

The invention also has for its object the provision of a striking casting and carrier iron formed to permit the insertion or removal of coupler-shank supporting elements without the necessity of dissociating the draft rigging or removing the coupler shank from the striking casting as, however, has heretofore been necessary.

Another object of the invention is to provide a combined striking casting and carrier iron of general construction in keeping with present day standard draft rigging construction and retaining the advantages of such constructions, wherein the coupler-shank supporting wear plate is removably supported by the carrier iron portion of the casting and is held in place by interengaging relation with the carrier iron portion of the casting.

The invention also has for its object the provision of a carrier iron having a socket or pocket extending lengthwise therein and of depth greater than that of the wear plate for the purpose of receiving wear plate and coupler-shank elevating element or elements; and the outer walls of the casting provided with passages or openings through which said elements or shims may be readily inserted in the pocket beneath the wear plate by simply raising the coupler-shank out of bearing relation with the wear plate; said passages or openings being so formed that accidental removal of the elements or shims is impossible, while on the other hand enabling said elements or shims to be easily removed and replaced to either lower or raise the wear plate if occasion requires.

The above enumerated objects and advantages, as well as other advantages inherent in the invention, will all be readily comprehended from the following detailed description of the accompanying drawings wherein:

Figure 1 is a perspective view of my improved striking casting and carrier iron, with the coupler removed and showing one form of wear plate in place.

Figure 2 is a longitudinal sectional elevation of the structure shown in Figure 1, with a portion of the coupler-butt or shank in place and portions thereof broken away.

Figure 3 is a side elevation of my improved casting and illustrating a modified form of wear plate.

Figure 4 is an inverted plan view of the forward end of the casting and carrier iron, with a wear plate in position.

Figure 5 is a cross section of the forward or outer end of the structure (with coupler removed) and showing a wear plate in longitudinal section.

Figure 6 is a detail perspective view of a portion of the wear plate shown in Figures 1 and 2.

Figure 7 is a similar view of a portion of a modified wear plate shown in Figure 3.

In the particular exemplification of the invention as disclosed, a striking casting is shown at 15, having apertured side walls for receiving bolts or rivets whereby the casting is rigidly secured to the draft sills (not shown) of a railroad car; the lower front end of the casting being provided with an integral carrier iron 16 formed of substantial vertical and transverse dimensions and provided with a socket or pocket 17 which extends from end to end of the carrier iron, namely to the side walls of the casting and is open at the top.

The striking casting and carrier iron portion thereof are formed to provide the usual large opening through which the coupler-shank 18 extends; said opening, in keeping with standard requirement, being materially larger than the vertical and transverse dimensions of the coupler-shank in order to permit the necessary movements of the coupler.

The pocket 17 is intended to receive the main or body portion of a wear plate 19 and one or more flat metallic plates or shims 20 on which the body of the wear plate rests.

In order to enable the plates or shims 20 to be readily inserted in the pocket 17, I show the front wall of the carrier iron portion 16 of the casting provided with a slot 21 extending from end to end of the carrier iron, and hence substantially coextensive with the length of the pocket 17, and of vertical dimensions slightly greater than the thickness of the shims 20 in order that the shims may be edgewisely inserted through slot 21 and into the pocket; the slot 21, intermediate of its ends, being preferably cut out or enlarged at 22 and formed with a downwardly and inwardly sloping wall as shown at 23 in Figure 2. The cut-out 22 and its sloping wall 23 extend to the bottom of the pocket 17, see Figure 2, and permits the insertion of a proper tool whereby the shim or shims 20 may be raised and withdrawn from the pocket 17 or an additional shim inserted beneath the previously inserted shims, should occasion require.

According to A. A. R. specifications, a predetermined distance between the longitudinal axis of the coupler and the top of the rail must be substantially maintained; a distance which cannot be as readily obtained in the initial construction and assembly and which ordinarily cannot be

maintained during operation because of the severe shocks and strains to which railroad freight cars and the coupler mechanisms are subjected.

With my improved structure, the required distance mentioned may be obtained and maintained by inserting one or more shims 20 in the pocket 17 thereby elevating the coupler shank 18, through the medium of the wear plate 19, to the required elevation.

The insertion or removal of the shims 20 may be readily accomplished without removal of the coupler shank by simply jacking up the coupler shank sufficiently to relieve the wear plate 19 of the weight.

In order to further facilitate the removal or replacement of the shims 20 I also show the bottom of the pocket 17 provided with one or more holes or opening 24, see Figures 2, 4 and 5.

These holes 24 are sufficiently large or preferably made oblong to permit fingers to be inserted and to lift the shims upwardly into edgewise alignment with the slot 21 so as to be forced outwardly therethrough. The opening or openings 24 also act as drain openings for the pocket and prevent the accumulation of moisture, cinders and the like.

It will be understood that the slot 21 is normally above the bottom of the pocket and above the top of the shim 20—or above the top of the uppermost shim if more than one is employed—so that accidental movement of the shim through the slot 21 is impossible.

The wear plate 19 is provided with the main body portion 25 of comparative thickness and of transverse dimensions to fit freely into the top of the pocket 17, and the top longitudinal sides of the body portion are extended to form the laterally disposed wings 26 which overlap the top edges of the carrier iron portion 16 and provide a wide bearing surface for the coupler shank; a bearing surface of greater width than can be afforded by the carrier iron, as clearly shown in Figure 2; while the main body portion 25 extends sufficiently beneath the top walls of the pocket to prevent possibility of accidental displacement of the wear plate.

In order to meet the requirements of certain railroad officials, I show a modified form of wear plate 27 in Figure 7, provided with the main body portion 28, similar to that of the wear plate shown in Figure 6, having the upper longitudinal edges formed into the laterally extending wings 29 and the outer longitudinal edges of these wings provided with the downwardly extending flanges 30. The flanges 30 are spaced from the main body portion 28 sufficiently to receive the front and rear walls of the carrier iron 16 therebetween; the flanges 30 assisting in maintaining the proper position of the wear plate and in preventing accidental shifting of the wear plate.

As previously stated, the longitudinal slot 21 in the front wall of the carrier iron is arranged in a plane above the bottom of the pocket and, therefore, is apt to be slightly overlapped by the front flange 30 in structures where wear plate 27 is specified.

In order to meet this condition I provide an optional method of shim insertion, namely by providing the side wall of the casting 15 at its juncture with the carrier iron 16 with a slot 31, see Figures 4 and 5, arranged in the plane of the bottom of the pocket 17 and of width slightly greater than the width of the shims 20 to enable the latter to be easily inserted endwisely therethrough after the coupler shank 18 has been jacked up.

The side wall of the casting, immediately above and below the slot 31, is provided with the parallelly disposed lugs 32 which are apertured to receive a suitable holding element or cotter-pin as shown at 33 in Figure 3 where the structure is shown provided with the type of wear plate shown in Figure 7.

Where this method of shim insertion is employed, I also prefer to provide the opposite wall of the casting, coincident with the bottom of the pocket 17, with a small hole 34, see Figures 4 and 5, through which a small tool may be inserted for pushing the shims toward and through the slot 31 when the coupler-shank has been jacked up sufficiently to relieve the wear plate and shims of its weight.

It will be understood that the casting and its carrier iron portion will be constructed to meet the specifications of the particular car builder, namely either with the longitudinal slot 21 in the front wall of the carrier iron and with the openings 24 in the bottom of the pocket, or with the slot 31 in the side wall, especially if the wear plate shown in Figure 7 is to be employed; although the structure may be formed to permit either method of shim insertion to be employed and permit the substitution of either type of wear plate.

With constructions at present in use, in the event the coupler extends in a plane beneath the standard height, it is necessary to remove the entire coupler and shank in order that a plate of sufficient thickness may be riveted or welded on top of the carrier iron—an operation requiring considerable time and labor which must be performed in the shops of the railroad and hence loss of the particular car in service; whereas with my invention removal of the coupler mechanism is unnecessary and the proper elevation of the coupler may be quickly accomplished by simply jacking up the coupler sufficiently to relieve the wear plate of the weight and then inserting one or more shims into the pocket, beneath the wear plate, either by insertion through the elongated slot 21 in the front wall of the casting or through the slot 31 in the side wall—an operation which may be easily performed anywhere and without material loss of time or requirement for any special equipment beyond the use of a jack.

The specific embodiments disclosed as exemplifications of my invention have been described in terms employed for purposes of description and not as terms of limitation as structural modifications may be possible without, however, departing from the spirit of my invention as defined in the appended claim.

What I claim is:

In a car coupling, a single piece striking casting provided with a coupler shank receiving opening and with an integral carrier iron portion socketed on its upper side to provide a pocket coextensive with the coupler-shank opening, the front wall of the pocket beneath the top thereof having a shim inserting slot substantially coextensive with the length of said pocket and sloping toward the bottom of the pocket, said slot intermediate of its ends being enlarged downwardly to the bottom of the pocket.

OTTO EVERETT WILSON.