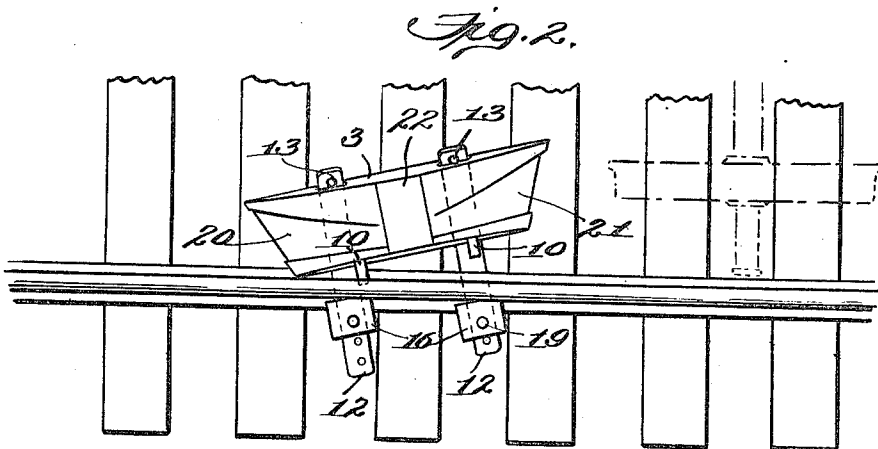
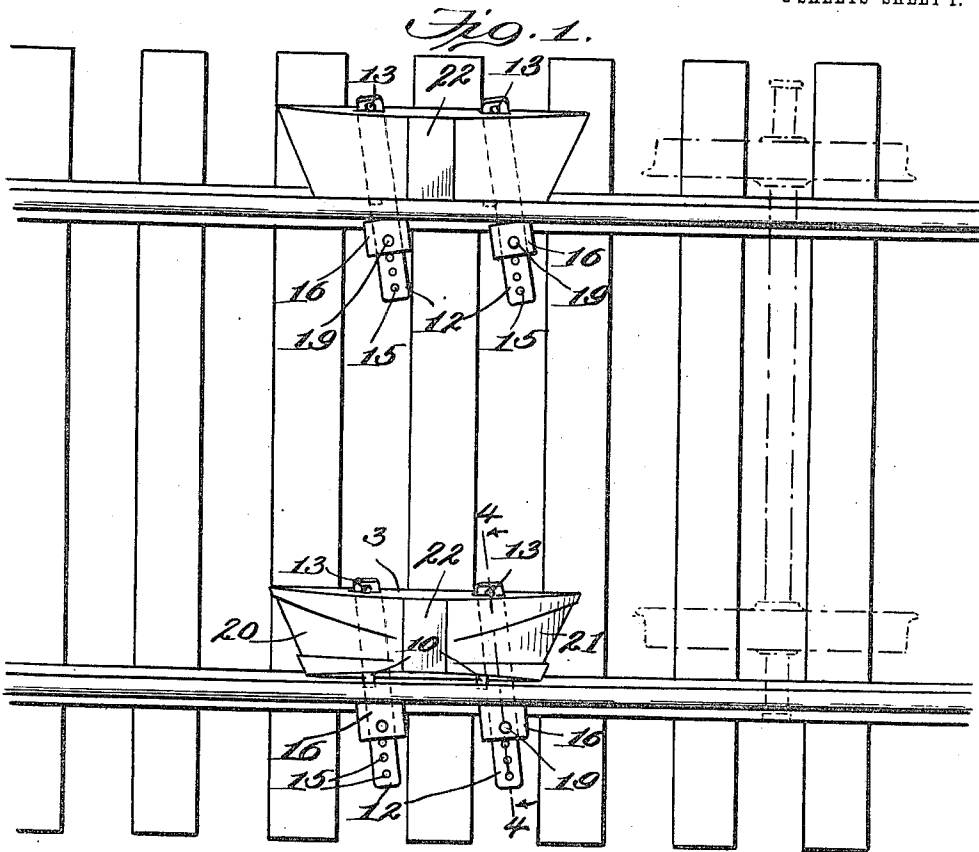


E. M. TAYLOR.
CAR REPLACER.
APPLICATION FILED FEB. 16, 1911.

1,015,098.

Patented Jan. 16, 1912.

2 SHEETS—SHEET 1.



Witnesses:

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By *[Signature]*
James L. Morris, Jr.
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1,015,098.

Patented Jan. 16, 1912.

2 SHEETS-SHEET 2.

Fig. 3.

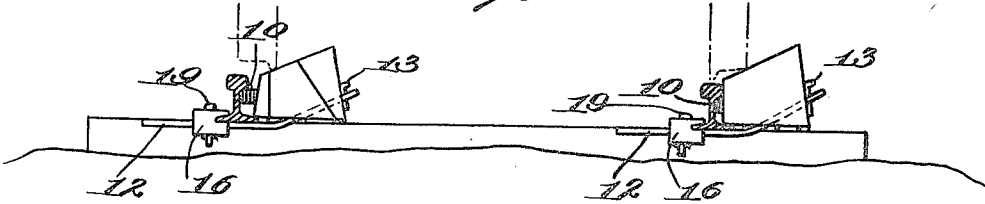


Fig. 4.

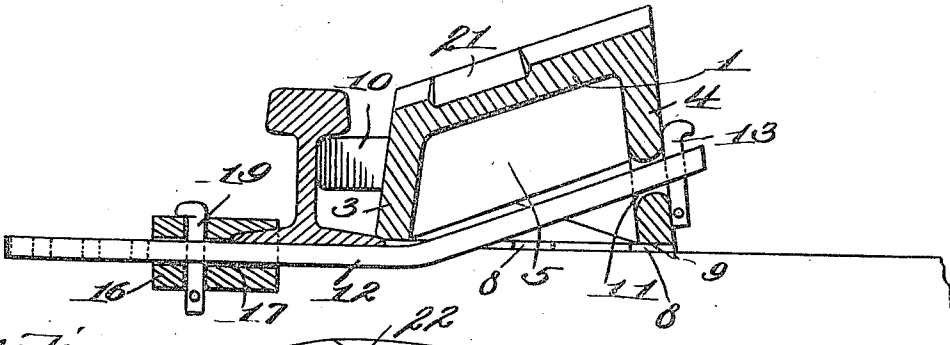


Fig. 5.

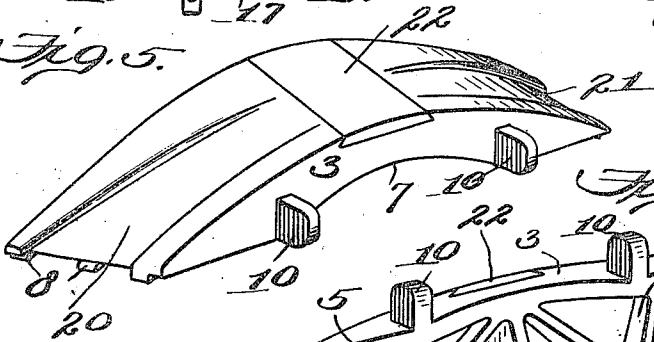


Fig. 6.

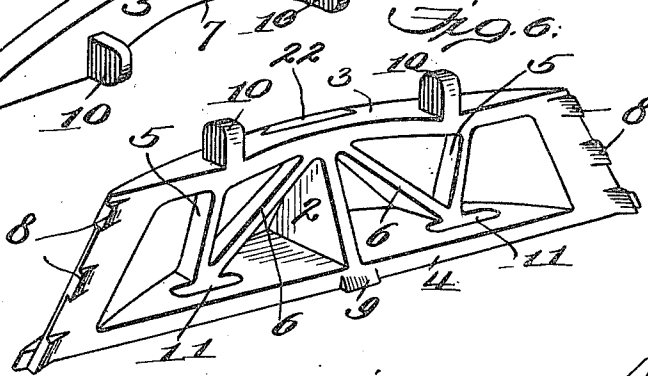
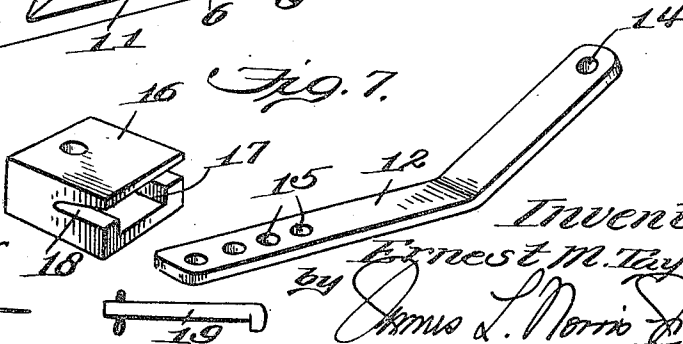


Fig. 7.



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UNITED STATES PATENT OFFICE.

ERNEST M. TAYLOR, OF PETERSBURG, VIRGINIA, ASSIGNOR OF ONE-THIRD TO
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CAR-REPLACER.

1,015,098.

Specification of Letters Patent.

Patented Jan. 16, 1912.

Application filed February 16, 1911. Serial No. 608,907.

To all whom it may concern:

Be it known that I, ERNEST M. TAYLOR, a citizen of the United States, residing at Petersburg, in the county of Dinwiddie and State of Virginia, have invented new and useful Improvements in Car-Replacers, of which the following is a specification.

My present invention relates to improvements in replacers for cars and other railway rolling stock, and it has for its object primarily to provide improved apparatus of this character whereby the operation of replacing derailed cars is facilitated and may be accomplished more easily and quickly than is possible with replacers as heretofore constructed or used, each replacer according to the present invention being provided with anchors which are capable not only of firmly locking the replacer in close and proper relation to the rail, but such anchors are also adjustable in such manner that either end of the replacer may be set at an angle and at a distance from the rail and locked in such position by the anchors, whereby wheels that have reached a position considerably distant from the rail can be drifted laterally and toward the rail and the car truck alined with the track by the angularly positioned replacer.

Further objects of the invention are to provide anchors of improved construction for locking the replacer to the rail, such anchors being adjustable to permit the replacer to be set at an angle to the rail as above described and to insure a close relation between the replacer and the rail, and the anchors are so constructed that they are capable of being directly disconnected from the replacer or, in case of damage to those portions of the anchors which engage the replacer, the latter and the anchors locked thereto can be bodily removed from the track simply by detaching or loosening adjustable locking slides on the anchors from the base flange of the rail. The present invention also involves the insertion of a manganese plate in the surface of the replacer and at the crown thereof whereby said plate will receive the wheel flange when the wheel has reached a point where it can be transferred laterally to the rail, a plate of such material affording a hard smooth surface which cannot be grooved or indented by the wheel flange and, hence, the wheel will slip or drift readily from the replacer

to the rail owing to the inclination of the plate.

To these and other ends, the invention consists in certain improvements, and combinations and arrangements of parts, all as will be hereinafter more fully described, the novel features being pointed out particularly in the claims at the end of the specification.

In the accompanying drawing:—Figure 1 is a plan view of the section of a railway track showing diagrammatically the manner in which a pair of replacers constructed in accordance with the present invention are applied and used; Fig. 2 illustrates diagrammatically the manner of using the replacers when the derailed wheels occupy a position at a considerable distance from the rails or a distance greater than the width of the replacer; Fig. 3 represents a transverse section of a railway track showing diagrammatically the manner in which the derailed wheels are returned to the rails; Fig. 4 represents an enlarged section through one of the replacers and the adjacent track to which it is locked, the section being taken on the line 4—4 of Fig. 1; Figs. 5 and 6 are perspective views of one of the replacers showing the top and bottom thereof; and Fig. 7 is a collective view showing the parts or elements of each anchor.

Similar parts are designated by the same reference characters in the several views.

Car replacers constructed in accordance with the present invention are, as usual, made in pairs and are adapted to be placed upon the track at directly opposite points and at those sides of the rails toward which the derailed wheels are displaced. According to the present invention the two replacers composing the pair are duplicates in construction with the exception of the formation of the faces or surfaces and the lugs which space them from the rails. A detailed description of one of the replacers will therefore suffice for both.

In the present instance each replacer is cast or otherwise formed as a shell 1 which may be substantially hollow interiorly to reduce weight and the shell is reinforced and strengthened by a central transverse web 2 which connects the longitudinal side walls 3 and 4 and also by a pair of intermediate webs 5 and the diagonal webs 6, the

upper side of the replacer being arched and the reinforcements just described enable the arched surface to sustain the weight of the wheels and the stresses imposed upon them in use. The side wall 3, which in practice is the one placed adjacent to the rail, is preferably formed with a clearance 7 which enables this wall to bridge or span the spikes or other devices which secure the rail to the tie, the replacer being preferably of such a length that one tie will rest beneath this clearance and the two ties at opposite sides thereof will rest beneath and support the ends of the replacer.

In order to assist the anchors to be hereinafter described in locking each replacer from movement when engaged by the car wheel, the ends of the replacer may be formed with a suitable number of spurs 8 adapted to grip and obtain a hold upon the ties which support the ends of the replacer and the lower edge of the side wall 4 may also be formed with a spur 9 to engage and obtain a grip upon the middle tie. The side wall 3 of each replacer is formed with a suitable number of lugs which serve to properly position the replacer with respect to the rail. In the present instance a pair of these lugs 10 is provided for each replacer and they are adapted to engage the under side of the ball or head of the rail to prevent tilting or tipping of the replacer, and these lugs also engage the vertical web of the rail. These lugs 10 upon the replacer which is to be located at the inner side of one of the rails are sufficiently long to maintain a space between the inner edge of the rail and the adjacent edge of the replacer whereby the wheel flange may enter this space when the wheel is returned to the rail. These lugs upon the replacer which is to be positioned at the outer side of the opposite rail are relatively shorter in order that this particular replacer may be set closer to the rail and thereby insure the passage of the corresponding wheel flange over the top of the rail.

The side wall 4 of each replacer is formed with a pair of holes 11 which serve as grips for the hands during the handling of the replacers and these holes also receive the anchors whereby each replacer is locked to the rail. In the present instance I employ a pair of anchors for each replacer, the anchors being duplicates and each comprising a bar 12 one end of which is bent upwardly at an angle to the remainder of the bar and extends through the hole 11, while the opposite end of the bar extends horizontally beneath the rail and bears flatwise against the under side of the base flange thereof, as shown clearly in Fig. 4. This bar is locked to the replacer by a pin 13 which is removably fitted into an aperture 14 formed in the upwardly bent end of the bar and the

other end of the bar is formed with a set of longitudinally spaced apertures 15. A locking slide 16 is adjustably fitted upon the horizontal portion of the bar and this slide is preferably in the form of a block having a rectangular opening 17 therethrough which corresponds in angular shape to the cross-section of the bar 12 and one end of the slide is formed with a slot 18 which when the slide is in locked position receives and coöperates with the base flange of the rail. This slot corresponds to the shape of the base flange on the rail, its lower wall being horizontal and its upper wall tapered, as shown. A headed pin 19 extends through the locking slide 16 and through an appropriate aperture 15 in the bar and when this slide is locked to the bar at one end and the opposite end of the bar is locked or keyed to the replacer, the latter is firmly locked in proper relation to the rail. It is to be understood that the replacer is first located properly upon the track and is moved toward the rail until the lugs 10 on the replacer engage beneath the ball of the rail and rest against the vertical web of the rail and while the replacer occupies this position, the anchors are applied and the slide 16 is tightened and locked. When the anchors are locked in this manner, lifting of that side of the replacer which is adjacent to the rail is prevented by the lugs 10 which abut against the under side of the ball or head of the rail and lifting of the opposite side of the replacer is prevented by the bar. The replacer is therefore capable of withstanding the tendencies to displace it when struck by the derailed car wheel. To avoid any play between the replacer and the rail, the replacer can be pushed along the rail in the direction in which the derailed car is to be moved, the anchors then assuming an inclined position with respect to the rail and serving to draw the replacer toward the rail.

The anchors provided by the present invention enable each replacer to be set in different adjusted positions with respect to the rail. In many cases, the derailed wheels stand at a distance from the rails which is greater than the width of the replacer. The replacers constructed in accordance with the present invention provide for the drifting of derailed wheels toward the rails in such cases, and the manner of accomplishing this is shown diagrammatically in Fig. 2, the adjustable slide on one of the anchors being set so as to hold one end of the replacer in engagement with the rail while the slide on the other anchor is extended so as to permit the opposite end of the replacer to stand at a considerable angle with respect to the rail, and this second anchor is then locked in such position to prevent spreading or relative separation between the replacer and

the rail. While the replacer is in this position, the derailed wheels, when the car is shifted, will be engaged by the angularly placed replacer or replacers and such wheels will be thereby drifted or shifted laterally and toward the rails. When the wheels have been brought sufficiently close to the rails, then the replacers may be locked to the rails in the manner before described, that is to say, in parallelism with the rails, and the derailed wheels subsequently mounted upon the rails in the usual way.

The upper sides of both replacers slope toward the rails. The replacer which is to be located at the outer side of the rail may have a plain surface, while the replacer which is to be located at the inner side of the opposite rail is preferably formed with a pair of guiding grooves 20 and 21, which lead upwardly from the two ends of the replacer, and the side walls of these grooves preferably converge to produce a drifting action upon the wheel flanges as the wheels mount the replacers. In practice, it has been found that the wheel flanges, owing to the weight of the cars, particularly when loaded, produce a groove or indentation in the replacer, which resists or has a tendency to prevent lateral drifting of the wheels in order to transfer them from the replacers to the rails, this being the case when the replacers are made of iron, as usual. To obviate this objection and to facilitate the lateral drifting of the wheels from the replacers to the rails, I insert a plate 22 of manganese alloy or equivalent hard metal into the crown of each replacer, so that as soon as the flanges of the wheels reach the crowns of the two oppositely positioned replacers, such flanges will encounter the hard metal plates and will then slip immediately over to the rails. This plate of manganese alloy or equivalent hard metal may be cast in the replacer, the body of which may be composed of cast steel, and to lock it in place, it is preferably dove-tailed as shown.

Replacers constructed in accordance with the present invention may be quickly and conveniently applied to the rails and they may also be quickly and easily removed from the track, spiking of the replacers to the ties being unnecessary. Moreover, should either end of either anchor become damaged by the derailed wheels to such an extent as to render it impossible to detach such replacer from the anchor, then the anchor could be unlocked and detached from the rail and vice versa.

I claim as my invention:—

1. The combination of a car replacer adapted to be applied to a railway rail, and means for locking the replacer in coöpera-

tive relation to the rail, comprising a pair of anchors, each having detachable holding means at one end engaging the replacer and having a slide at its opposite end lockable with the rail and having means for adjusting it at one of several positions longitudinally of said anchor whereby the replacer may be held from moving away from the rail while in close and parallel relation or in angular relation to the rail.

2. The combination of a car replacer adapted to be applied to a railway rail, and means for locking the replacer in coöperative relation to the rail, comprising a pair of anchors having detachable holding means engaging the replacer at different points in its length and provided with detachable locking slides which are lockable with the base flange of a rail, said slides being adjustable independently of each other and also adjustable relatively to the respective anchors whereby the replacer may be held from moving away from the rail while in close parallel relation to the rail or in angular relation thereto.

3. The combination of a car replacer adapted to be applied to a railway rail, and means for locking it in coöperative relation therewith, comprising a pair of anchors, each embodying a bar connected at one end to that side of the replacer which is distant from the rail and the opposite end of the bar being provided with a set of longitudinally spaced locking apertures, a slide adjustable longitudinally on the said apertured end of the bar and having a recess in one end to receive and interlock with an edge of the base flange of the rail, and a locking pin adapted to fit any one of said apertures in the bar and thereby lock said slide in an adjusted position longitudinally thereon.

4. In an apparatus of the character described, the combination of a replacer adapted to be placed in coöperative relation to a railway rail and having a hole in the wall thereof removed from the rail and also formed with a transverse reinforcing rib the lower edge of which forms a guide leading to said hole, and an anchor having an end adapted to coöperate with the lower edge of said rib as a guide and to enter said hole, means for detachably connecting such end of the bar to said replacer, and means for adjustably and detachably connecting the opposite end of the anchor to a rail.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

ERNEST M. TAYLOR.

Witnesses:

WM. H. FREY,
CHAS. P. ABERNATHY.