No. 731,387. PATENTED JUNE 16, 1903.

T. N. RENFROE.

CAR REPLACER.

APPLICATION FILED APR. 22, 1903.

NO MODEL.

Fig. 1.

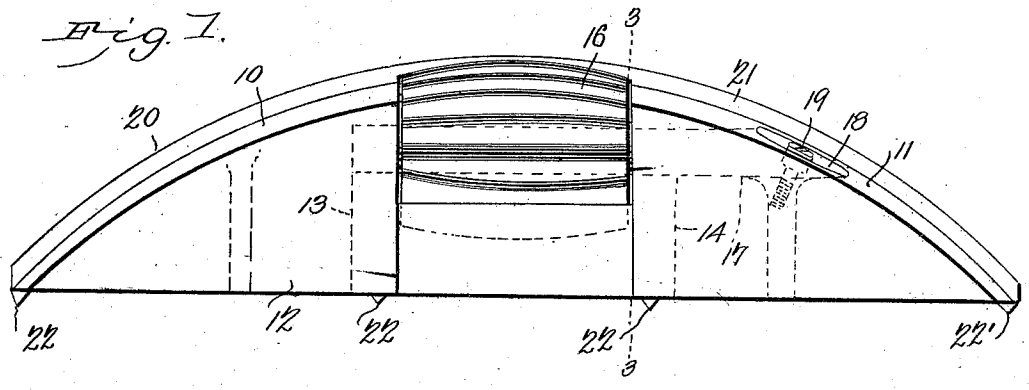


Fig. 2.

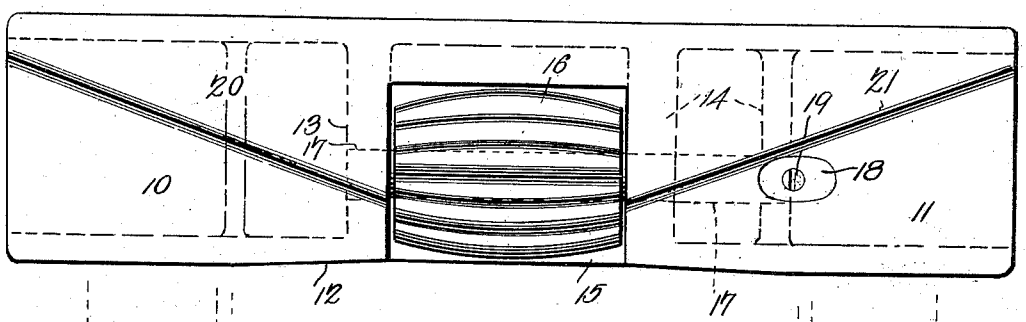


Fig. 3.

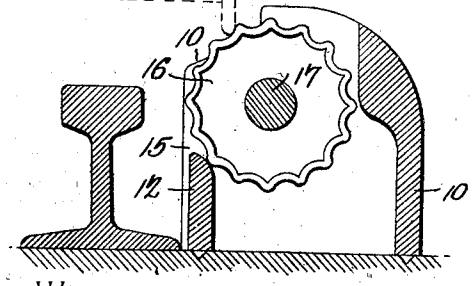
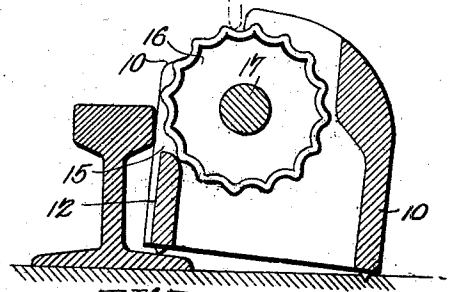


Fig. 4.



Witnesses
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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 731,387. Patented June 16, 1903.

UNITED STATES PATENT OFFICE.

THOMAS NATHANIEL RENFROE, OF WOODLAWN, ALABAMA, ASSIGNOR OF TWO-THIRDS TO J. W. JETER, E. J. McCROSSIN, B. J. SAUNDERS, AND JOHN SWEET & SON, OF BIRMINGHAM, ALABAMA.

CAR-REPLACER.

SPECIFICATION forming part of Letters Patent No. 731,387, dated June 16, 1903.

Application filed April 22, 1903. Serial No. 153,844. (No model.)

To all whom it may concern:

Be it known that I, THOMAS NATHANIEL RENFROE, a citizen of the United States, residing at Woodlawn, in the county of Jefferson and State of Alabama, have invented a new and useful Car-Replacer, of which the following is a specification.

This invention relates to devices employed for replacing railway-cars upon the rails, and has for its object to improve and simplify devices of this character and to increase their efficiency; and the invention consists in certain novel features of the construction, as hereinafter shown and described, and specified in the claims.

In the drawings illustrative of the invention, in which corresponding parts are denoted by like designating characters, Figure 1 is a side elevation. Fig. 2 is a plan view; and Fig. 3 is a transverse section on the line 3 3 of Fig. 1, showing the position of the replacer relative to the displaced wheel between the rails; and Fig. 4 is a similar view showing the position of the replacer relative to the displaced wheel outside the rails.

This device is to be employed for replacing cars which are not so badly wrecked as to dismember or destroy the trucks, and one of the devices will preferably be employed under the opposite wheels of the axle. Devices of this character are generally employed where the displaced wheels are still upon the ties or after they have been hauled back to positions upon the ties, and one will be placed in position to receive the wheel which rests just outside one rail and another in position to receive its fellow wheel upon the same axle which rests just inside the other rail, as indicated in Figs. 3 and 4, wherein the car-wheels are indicated in dotted lines. By this means both wheels will be moved together, as will be obvious.

The improved device consists of a base member, preferably of cast iron or steel and formed with a doubly-inclined upper surface 10 11 and one vertical side 12. The base will be formed hollow and supported by spaced transverse ribs (indicated by dotted lines at 13 14) and with an aperture 15 through the adjacent parts of the doubly-inclined top and vertical side, the aperture extending between the brace-ribs 13 14, as shown. Within the compartment formed by the transverse ribs is journaled a roller 16, the axle 17 of the roller being seated in the ribs 13 14, as shown. One end of the axle is extended through the inclined portion 11, as shown at 18, and provided with a clamp-screw 19, passing through the shaft and tapped into the base, as indicated. The roller 16 rotates upon the axle, while the axle is held from turning by the clamp-screw. If preferred, the clamp-screw may be employed as a stop against the end of the axle to prevent end movement instead of passing through the shaft; but the results would be the same. The surfaces 10 11 are preferably segments of circles, and the roller 16 will preferably be convex to conform thereto, as shown, and will also preferably be provided with spaced longitudinal grooves, as shown. Inclined guide-ribs 20 21 will be formed upon the surfaces 10 11, leading from the ends near the outer side and terminating at the aperture 15 between the vertical side 12 and the center line of the axle 17, as shown. Projecting spurs 22 are arranged upon the under side of the base member to engage the ties and prevent slipping.

In operating the device the cars are supposed to be derailed, with the wheels at one side resting upon the ties outside the rails and the opposite wheels between the rails. One of the replacers is then set with the flat side 12 next the outer side of one rail, with the wedge-shaped end of the part 10 or 11, as the case may be, upon the tie nearest the derailed wheel, and another of the replacers similarly placed next the inner side of the other rail, with the wedge-shaped end upon the same tie nearest the derailed wheel upon the axle. Then when the hauling power is applied, generally by a locomotive, the wheels run up the inclined faces 10 or 11 and are guided by the ribs 20 or 21 upon the roller 16, and as the ribs terminate at one side of the axial line of the roller the roller will be rotated by the weight of the car and throw the wheels over upon the rails. During this action the spurs

22 engage the ties and prevent lateral movement of the replacer.

In order to insure the transfer of the displaced wheel which for the time being is outside the rail, the base 10 of the replacer employed upon that side will be set with its lower side resting upon the tie-flange of the rail, as shown in Fig. 4, which will bring the side 12 close against the outer surface of the tread of the rail to bridge the gap which would otherwise be left between the replacer and the rail, as in Fig. 3. This gap will not effect the operation when used between the rails, as the flange of the wheel will enter this gap, while the tread of the wheel will extend over and drop upon the rail; but on the other end of the axle the tread of the wheel extends in the opposite direction. Hence provision must be made for carrying the wheel-flange over the rail-tread, and this is efficiently accomplished by arranging the replacer, as shown in Fig. 4, as above noted.

The roller 16 and its axle may be formed integral, if preferred, and the bearings may be filled with Babbitt-metal or brass bushings.

The base member may be of any size and will preferably be of cast iron or steel and the roller 16 and axle 17 of hardened steel, but may be of other metal, if preferred.

The roller may be fluted, smooth, or of any other form, and the parts may be modified in minor particulars without departing from the principle of the invention or sacrificing any of its advantages.

Having thus described my invention, what I claim is—

1. A car-replacer consisting of a base having an inclined top and vertical side, a roller mounted for rotation within said base, and extending through said inclined top, and a laterally-inclined guide-rib terminating at one side of the center of said roller, substantially as described.

2. A car-replacer consisting of a base with an inclined top and vertical side and adapted to be located adjacent to the side of the rail, and with an aperture at the terminus of the incline of said top, a roller mounted rotatively within said aperture and projecting therefrom, and a laterally-inclined guide-rib upon said inclined top and terminating at said aperture at one side of the roller substantially as described.

3. A car-replacer consisting of a base having an inclined top and vertical side, and provided with an aperture in said side and top at the terminus of the incline, a roller mounted for rotation in said base and extending through said aperture and a laterally-inclined guide-rib upon said inclined top, and terminating at said aperture between the axial line of the roller and said vertical side, substantially as described.

4. A car-replacer consisting of a base having an inclined top and vertical side, and with an aperture in said side and top at the terminus of the incline, a roller mounted for rotation in said base and extending through said aperture, and a laterally-inclined guide-rib upon said inclined top and integral therewith, and terminating at said aperture between the axial line of the roller and said vertical side, substantially as described.

5. A car-replacer consisting of a base having an inclined top and vertical side, a roller mounted for rotation within said base and extending through said inclined top, and formed with convex sides and having spaced grooves parallel to the axis, and a laterally-inclined guide-rib terminating opposite the end of said roller between its axis and said vertical side, substantially as described.

6. A car-replacer consisting of a base having a reversely-inclined top and vertical side, a roller rotatively disposed centrally of said base and extending therefrom next to said vertical side, and reversely-disposed laterally-inclined guide-ribs terminating opposite the ends of said roller and between its axis and said vertical side, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

THOMAS NATHANIEL RENFROE.

Witnesses:
E. J. McCROSSIN,
W. C. CAIN.