

D. RUSSELL.
Car Replacer.

No. 214,526.

Patented April 22, 1879.

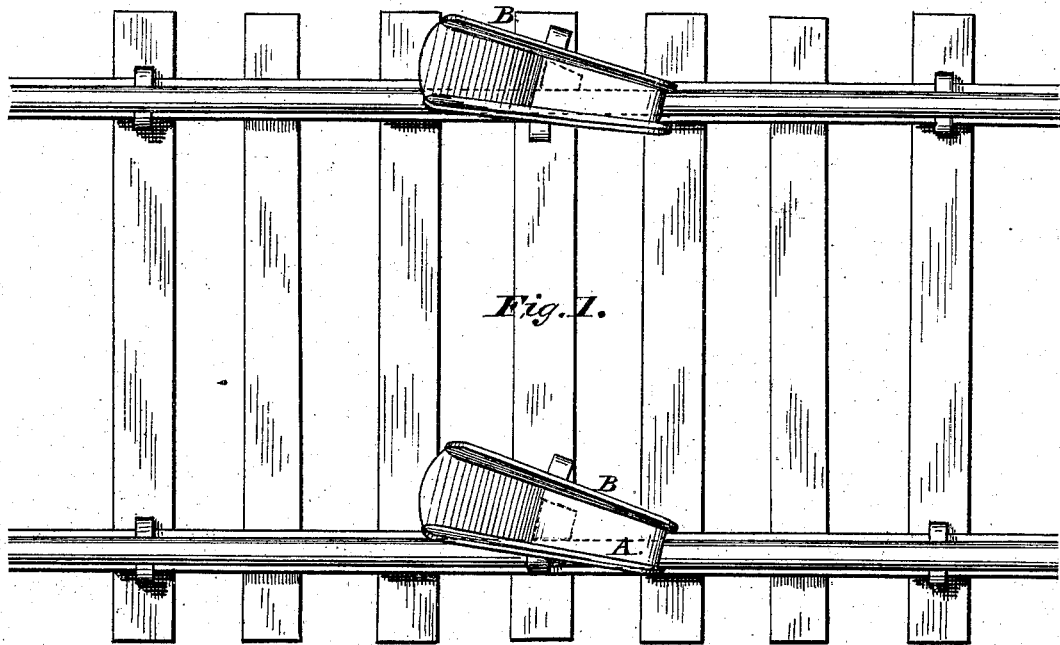


Fig. 1.

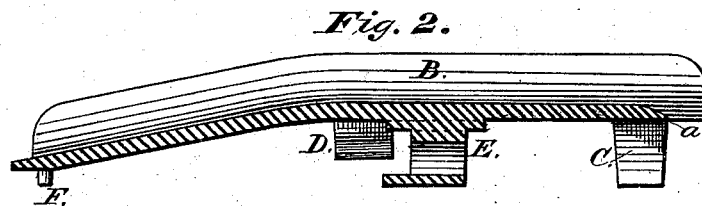


Fig. 2.

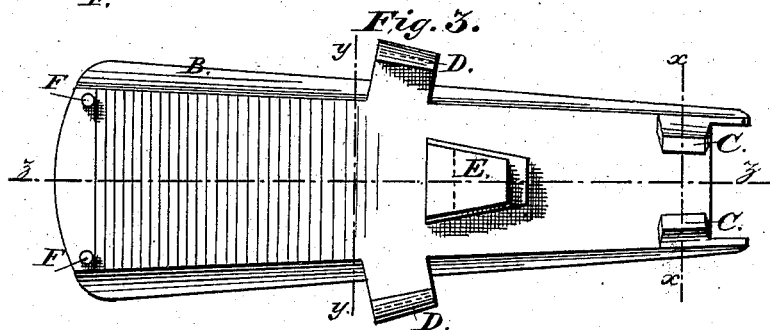


Fig. 3.

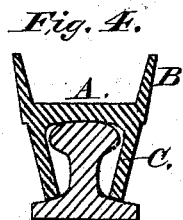


Fig. 4.

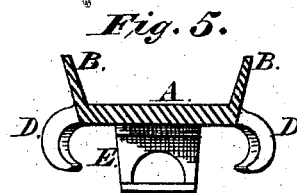


Fig. 5.

Witnesses:

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DAVID RUSSELL, OF LONDON, ENGLAND.

IMPROVEMENT IN CAR-REPLACERS.

Specification forming part of Letters Patent No. **214,526**, dated April 22, 1879; application filed November 30, 1878; patented in England, January 29, 1877.

To all whom it may concern:

Be it known that I, DAVID RUSSELL, of 96 Cornwall Road, Westbourne Park, London, in the county of Middlesex, England, have invented a new or Improved Car Replacer or Ramp for use on Railroads or Tramways, of which the following is a specification, accompanied with drawings of the invention, with letters marked thereon, forming part of this specification.

My invention has for its object the production of a car-replacer which can be readily secured to the track-rails, which is simple in construction, efficient in operation, and which can be employed to replace cars which are off the track on either side and in either direction relative to the line of the road, and which is free from the objection of having detachable parts, which are liable to be lost or misplaced, my replacers being in one piece.

To this end my invention consists of a pair of portable replacers or plates, which are precisely alike in all respects, being made of tapered channel-iron, part of which forms an inclined plane, said plates being provided with clamps and hooks, which form a part thereof, and also with a supporting-rest or bearing-block, said clamps, hooks, and bearing-blocks constituting the means whereby the plates are secured to the track-rails.

In order that my invention may be readily understood, I will proceed to describe its construction and mode of operation, reference being had to the accompanying drawings, in which like letters of reference indicate corresponding parts in all of the figures, and in which—

Figure 1 is a plan view of a track with the replacers in position. Fig. 2 is a vertical section on line *z z* of Fig. 3. Fig. 3 is a bottom view of one of my replacers or plates. Fig. 4 is a cross-section on line *x x* of Fig. 3. Fig. 5 is a cross-section on line *y y* of Fig. 3.

A represents the replacer or plate upon which the wheels travel, said plates being of channel-iron, tapering gradually from the front or narrow end toward the rear or wide end, the upper or wheel-bearing surface for about half its length (more or less) forming a horizontal plane, or nearly so, the remaining portion in-

clining gradually toward the wide end, forming an inclined plane.

Guide-flanges B project up from this plate, and are about three inches high, more or less, so as to be a little higher than the depth of the car-wheel flanges, and they are splayed or beveled from a vertical line about one and one-half inch at the wide end of the plate, decreasing gradually toward the front or narrow end to about three-fourths of an inch, or almost to a perpendicular. This bevel or incline of the flanges effectually prevents the car-wheels from mounting or running over the plate, as is often the case with straight-sided replacers.

The front end of the plate A is beveled, as shown at *a*, to prevent the wheels from suddenly falling from the end of the plate onto the track-rail.

I have shown the tread or wheel-bearing surface of the replacer formed of a horizontal portion, or nearly so, and an inclined portion; but, if desired, I may make it on a gentle curve from end to end. Upon the under side of the plate A, at the narrow end thereof, is a clamp, C, the downward-projecting arms of which converge toward each other gradually, leaving sufficient space at the front between their lower edges for the passage of the tread or head of the rail when applying the replacer to the track by turning the plate at a slight angle, so that one arm of the clamp will slide or pass under one side of the outer surface of the head of the track-rail, while the other arm will pass over the opposite outer edge of the tread, and as the plate is brought to a horizontal position over the rail it will rest upon the same, the lower ends of the arms of the clamp resting upon the flange or foot of the rail, as shown in Fig. 4 of the drawings. The sides of the clamp-arms flare out or widen as they extend backward, thereby permitting the required lateral space in the clamp for the track-rail to occupy as the replacer is used on one side or the other of the rail.

Back of clamp C, and about midway of the length of the plate, on the under side thereof, and at each side is a hook, D, which overlaps or clasps the head of the rail. Just in advance of these hooks, and projecting down from the under side of the plate, is a bearing-block, E,

having angular vertical sides, one of which, when in position upon a cross-tie or suitable support, bears against the edge of the rail-flange, while the base of the block forms a secure support and prevents the tilting of the plate, while the side bearing against the foot of the rail prevents lateral displacement of the plate when the cars are being drawn upon the same.

The angle of the sides of the block is such, and it is so located relative to the front clamp and the side hooks, that when the plates are placed upon the track-rails they cannot be detached by vertically lifting them, but they must be turned slightly from a horizontal position, so that the clamp C and hooks D can be slid from over the tread of the rail. It must be remembered that the clamp at its forward end is a little narrower than the width of the tread of the rail.

The under portion of the wide end of the replacer is beveled off, so as to present a horizontal surface to the cross tie or timber upon which it may rest, and is provided with spuds F, which will enter said support when loaded by a car, and prevent the creeping of the replacer.

The operation of the replacer is as follows: The plates are secured to the rails first by placing one of the hooks D over the track-rail and the clamp C upon the same, and raising the plate to such an angle relative to the horizontal plane of the rail that one arm of the clamp can pass under one side of the head of the rail and against the web thereof, which permits the other arm to pass over the top of the tread, and as the plate is lowered to a horizontal position upon the rail the hook D and the clamp C assume their position, the latter resting upon the foot of the rail upon the lower ends of its arms, and the under side of the plate resting upon the top of the tread

of the rail, and being also supported both vertically and laterally by the bearing-block E. The wide ends of the plates being placed in front of the car-wheels which are off the track, and the cars being drawn forward, the wheels will be gradually directed onto the plates by the flanges thereof to the narrow end, and finally will drop down onto the track-rails in their required position. These replacers or plates are made of malleable cast-iron, tough Bessemer steel, or other suitable metal that will bear a weight of about twenty-five tons to the square inch. They can be made to suit any track, any gage, or any form or section of rail, and, being precisely the same in construction, no possible mistake can be made in placing them in position.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. A car-replacer consisting of a wheel or tread surface formed of channel-iron having a securing-clamp, side hooks, and central supporting-block, all of said parts being formed in one solid piece, substantially as described.

2. In a car-replacer, the combination, with a channel-iron plate having beveled guide-flanges, of a front clamp, which fits over the track-rail and rests upon the foot of the same, side hooks for clamping the rail, and a supporting-block, all substantially as described.

3. In combination with the track-rails of a railway, the plate A, having flanges B, clamps C, hooks D, and supporting-block E, all substantially as described.

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