

(No Model.)

R. E. ALEXANDER.
CAR REPLACER.

No. 572,669.

Patented Dec. 8, 1896.

Fig. 1.

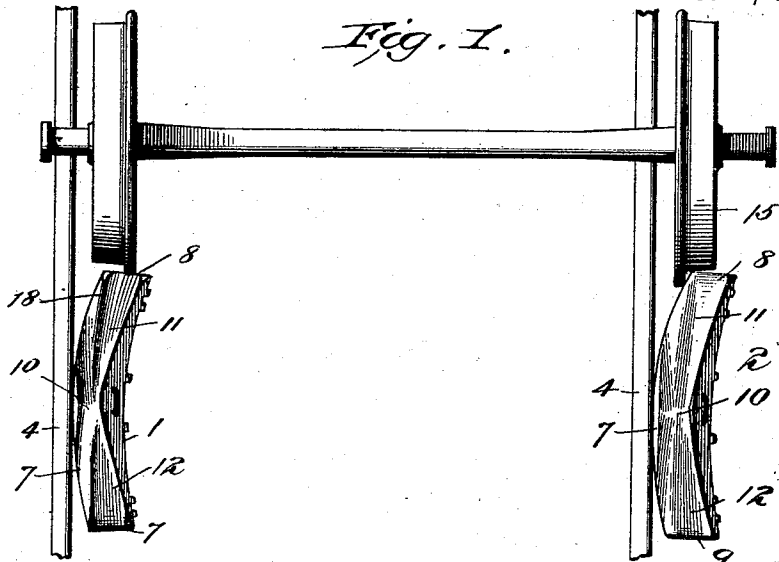


Fig. 2.

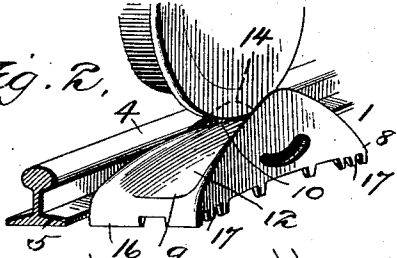


Fig. 3.

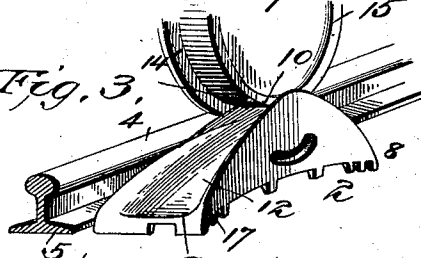


Fig. 4.

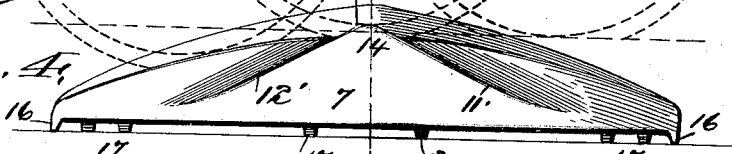


Fig. 5.

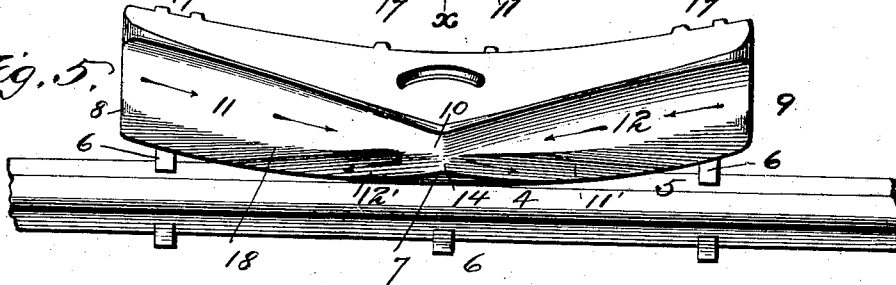
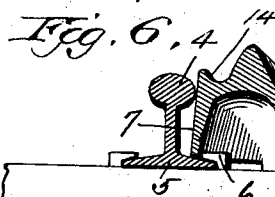


Fig. 6.



Witnesses
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CAR-REPLACER.

SPECIFICATION forming part of Letters Patent No. 572,669, dated December 8, 1896.

Application filed February 17, 1896. Serial No. 579,553. (No model.)

To all whom it may concern:

Be it known that I, ROBERT E. ALEXANDER, a citizen of the United States, residing at Forest City, in the county of Susquehanna and State of Pennsylvania, have invented certain new and useful Improvements in Car-Replacers; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

The object of my invention is to devise a car-replacer which will be less liable to turn over or jump out of place when struck by the car-wheels and which will lower the wheels gradually upon the rail without allowing them to slide down in a lateral direction and land with a sudden jar. Such sudden descent often injures the wheels or the axles or damages the car. This action of the wheels is particularly undesirable when the top of the rail lies flush with the ground or ballast, for then the distance from the top of the replacer to the top of the rail would be so great as to increase the jar and aggravate the consequences. To obviate these difficulties, I provide a replacer having the general contour of the segment of a circle with two peculiarly-formed grooves which extend longitudinally inward from base to summit, intersecting each other at the latter point, and continuing pass over and down to the top of the rail, so that when the wheel reaches the summit it will not slide or drop off laterally, but will be confined and made to pass over the summit and be continued on down until safely deposited upon the rail without any jar whatever. The replacer is also given a novel outline and is provided with a peculiar kind of gripping-teeth on the bottom edges and shaped to insure a better hold on the ties, all of which will be more fully described hereinafter and pointed out in the claims.

In the accompanying drawings, Figure 1 denotes a top view of my device as applied to an ordinary railroad having the common T-rails, a pair of wheels being on the point of striking the replacers; Figs. 2 and 3, perspective views showing the replacers in position

and the location of the wheels thereon when they have reached the highest point; Fig. 4, a side elevation of one member of the replacers, in which dotted lines denote the rail and wheels. Arrows indicate the direction and course pursued in traversing the replacer. Fig. 5 is a top view of one member of the replacer; Fig. 6, a transverse section through X X of Fig. 3.

The numerals 1 and 2 represent a pair of my replacers oppositely disposed alongside rails 3. Both these members are alike in general outline, each being hollow and curved in the shape of a bow. The central portion or apex rises above the rail and is adapted to lie close to the latter with its side 7 sloping to the lower edge, so as to extend under the tread 4 and overlap the base 5 and take in the head 6 of a spike and prevent the member from slipping away. This curving of the replacer is to project its extremities outward from the rail to prevent the replacer from overturning laterally when struck by the heavy weight of the wheel. The upper surface slopes upward from the opposite extremities 8 and 9 of the replacer to a point midway thereof, which point will, for convenience, be termed the "apex" 10. From this apex the lateral sides slope downwardly and outward like a cone. In the upper surface of each member and sloping upward to the apex are two wide longitudinal concaved grooves 11 and 12, which converge toward and intersect at the apex. The depth and width of the grooves are such as will not allow the flange of the car-wheel to pinch or bind therein when turned across or out of coincidence with the groove. Each of these grooves is continued to form downward extensions 11' and 12', which guide the wheel over the apex and on down to the rail, as shown by arrows, instead of allowing it to slide off laterally. Thus each member is provided with two longitudinal grooves crossing at the summit and terminating a short distance beyond. The only difference between the two replacers is that in the right-hand member 2 the grooves are shallower and at the apex there is no upward-projecting lip, such as 14, on the other member, but a plane horizontal surface 14' is made instead. This difference is provided so that the lateral draft

upon the wheels caused by the more accen-
tuated form of the grooves of the left-hand
member will allow the right-hand wheel 15'
of the truck to slip a little laterally. The
5 extremities of each member are squared and
provided with sharp-edged integral calks 16,
made long in order to sink into the ties with
the grain when pressed upon by the derailed
wheel. Additional calks 17 are distributed
10 along the edge in order to still further insure
the member against slipping.

The operation of my device can be described
briefly by stating that when the two replac-
ing members are set on the ties so that their
15 rounded sides will fit snugly against the two
rails, as seen in Fig. 2, and the car is moved
toward the observer the left-hand wheel,
striking the end of the member 1, will, after
forcing the calks down into the top of the tie
20 on which it is placed, enter the grooves with
the treads of the wheels climbing the ridges
18 and the flange rolling and sliding upon
either the right or left wall of the groove, as
the case may be. When the apexes are
25 reached, both wheels roll past the apex and
on down in the extensions 11' and 12' and are
deposited on the top of the rails without the

slightest jar or injury to the rolling-stock or
track.

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

1. In a car-replacer, a bow-shaped replac-
ing member having an elevated central por-
tion 10, and provided with grooves extend-
ing longitudinally upward and crossing each
other at the top of said elevated portion, and
thence extending downward, and a lip 14, lo-
cated opposite the intersection of the grooves
as and for the purpose specified.

2. In a car-replacer, a member having a
curved side adapted to lie next the rail, a
wheel-guiding surface sloping from base to
apex thereof and provided with a longitudi-
nal concavity or groove, in combination with
a lip, such as 14, located opposite the apex,
whereby the wheel is prevented from slip-
ping off laterally, substantially as described.

In witness whereof I affix my signature in
presence of two witnesses.

ROBERT E. ALEXANDER.

Witnesses:

M. F. BARRETT,
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