S. I. GATES.

Car-Replacer.

No. 161,605. Patented April 6, 1875.

FIG. I.

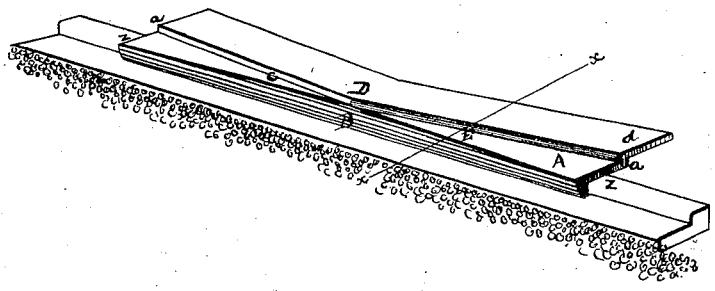
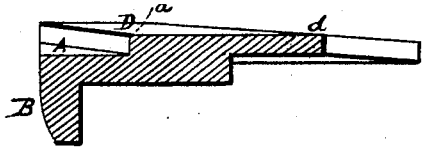


FIG. II.



WITNESSES.

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UNITED STATES PATENT OFFICE.

SAMUEL I. GATES, OF BOSTON, MASSACHUSETTS, ASSIGNOR OF ONE-HALF HIS RIGHT TO GEORGE H. STETSON, OF SAME PLACE.

IMPROVEMENT IN CAR-REPLACERS.

Specification forming part of Letters Patent No. **161,605**, dated April 6, 1875; application filed November 10, 1874.

To all whom it may concern:

Be it known that I, SAMUEL I. GATES, of Boston, in the county of Suffolk, State of Massachusetts, have invented a certain new and useful Improvement in Car-Replacers, of which the following is a description sufficiently full, clear, and exact to enable any person skilled in the art or science to which my invention appertains to make and use the same, reference being had to the accompanying drawing forming a part of this specification, in which—

Figure 1 is an edge or front view of my improved device, and Fig. 2 is a cross-section in line *x x* of Fig. 1.

Like letters of reference indicate corresponding parts in the different figures of the drawing.

My invention relates to that class of railway-car replacers which are detached or independent of the rail; and consists in a novel construction and arrangement of the details, as hereinafter more fully set forth and claimed, by which a simpler, cheaper, and more effective device of this character is produced than is now in ordinary use.

In car-replacers heretofore made the guiding-ribs have been struck up in such a way that the metal is the same height on each side of it. With this construction, in endeavoring to replace a car, should the wheel, by jolting or otherwise, miss the inside of the rib and strike the least distance outside, it cannot possibly get on the track, as the rib will deflect it from so doing.

My device provides opportunity for the wheel to get inside the groove, even if it does miss it in the first contact with the replacer.

In the drawing, A is the body or base, which is straight on its under side and edges, and is provided with the overhanging lip or flange B. The body is thickest at its center, *x*, gradually tapering each way from that point to the ends at *z z*. Attached to the upper side of the body A there is a guard or deflecting rail, D, which inclines each way from the center.

From the foregoing the nature and operation of my invention will be readily obvious to all conversant with such matters.

In using my improved device to throw a car from the track, it is placed just inside one of the rails, the lip B being inserted in the space between the rail and the pavement between the tracks. As the car advances, the frog being in the position described, the wheel will strike and pass up the incline *z* until it comes into contact with the inclined edge *a* of the rail D, which will cause it to be moved laterally as it advances, until it reaches the point *x*, where it will be run across and off from the track, in a manner which will be readily understood without a more explicit description.

In replacing a car upon the track, the operation is the same, except that the frog is placed upon the ouside, instead of the inside, of the rail. When the wheel strikes my replacer, if it should happen to pass without the rib *a*, it will ride up on the rail D, and as the horses cramp the car around, the wheel will drop over the rib *a*, and thence run onto the rail.

It will be obvious that the thickness of the frog at its center should be sufficient to bring the same on a level with the top of the rail at that point when in use; also, that one or more studs or spurs may be employed, instead of the flange B, to retain it in place, if preferred. The device may also be rolled from wrought-iron or steel, or cast in a single piece in any suitable metal.

I am aware that car-replacers have heretofore been made with a lip to rest upon the rail and deflecting-ribs to guide the wheels, and hence I do not claim, broadly, a replacer constructed with these; but,

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

In a car-replacer, the deflecting-rail D, so applied as to form a guiding projection, *a*, and a bearing-surface, *d*, as described.

SAMUEL I. GATES.

Witnesses:
H. E. METCALF,
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