

UNITED STATES PATENT OFFICE.

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RAILWAY-FROG.

SPECIFICATION forming part of Letters Patent No. 747,955, dated December 29, 1903.

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To all whom it may concern:

Be it known that I, EDWARD B. ENTWISLE, of Johnstown, in the county of Cambria and State of Pennsylvania, have invented a new and useful Improvement in Railway-Frogs, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, which form a part of this specification.

My invention has relation to certain new and useful improvements in frogs for railway-tracks, and more particularly to T-rail frogs.

As is well known, the parts of a frog which are subject to the greatest wear in service are the point and those portions of the wing-rails adjacent to and slightly in advance of the point which receive the blows of car-wheels as the latter pass from the point to the wing-rails. It is the object of the present invention to provide a frog in which these parts are formed by a solid piece or block of a material more durable in its nature than the material of the remaining portions of the structure and which can be readily removed and replaced at any time, if necessary.

To this end my invention consists in a frog having both its wing-rails adjacent to the point bent or kinked outwardly to carry their heads some distance outside of the gage-lines of the frog and recessed to form a seat for a solid block of hard steel or steel alloy, upon the surface of which are formed the flange-ways and also the point of the frog and also portions which replace the displaced and recessed portions of the wing-rails. This block is secured in place by bolts extending through it and through the wing-rails and forms a solid chock or filler, as well as a track member, capable of enduring the destructive conditions to which it is subjected in service.

My invention also consists in the novel construction and combination of parts, all as hereinafter described, and pointed out in the appended claim, reference being had to the accompanying drawings, in which—

Figure 1 is a plan view of a frog embodying my invention, and Fig. 2 a transverse section thereof on the line 2 2 of Fig. 1.

The letters A A' designate the point or tongue-rails, and B B' the wing-rails, of the

frog. The latter are bent outwardly from a point near the throat of the frog to a point somewhat beyond the frog-point, as shown at b, and the inner portions of their heads are cut away, as shown at c. The point end of the rail A is also cut off. There is thus formed between the wing-rails a seat for a solid block or piece D, having triangular raised portions d upon each side of a flange-way d', which fill the spaces formed by the outward bending and cutting away of the rails, also a raised portion d², which takes the place of the cut-away end of the rail A and forms the point of the frog. It will be noted that the portions d have their greatest width a short distance in advance of the point at the places where they are subject to the hardest blows and greatest wear, due to car-wheels passing onto and off from the point-rails.

While the block D may be made in any suitable manner from hard steel or steel alloy, I prefer to cast it of steel. It is rigidly secured in place by means of bolts E, which extend therethrough and through the wing-rails and which can be removed at any time to permit the block to be removed should it become unduly worn or defective. The seats for the bolts E may be cored in the block when it is cast.

F F' designate chocks which are placed between the wing-rails and the point-rails. These may be formed integrally with the block C; but, as shown, they consist of separate pieces of cast-iron.

It will be noted that not only does the block D constitute those portions of the frog which are subject to the severest wear, but it also forms a solid chock or filler to which the wing-rails may be securely fastened and makes the frog a very rigid structure composed of but few parts.

The wing-rails may be bent sufficiently to seat the said block without cutting the inner portions of their heads; but as this would require either the formation of short outward kinks or bends of the wing-rails at ends of the triangular portions d or else the reduction of said portions to an undue thinness I prefer the construction shown. I do not, however, wish to limit myself thereto, as various changes may be made in the details with-

out departing from the spirit and scope of my invention.

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

In a railway-frog, the combination with the wing-rails having the laterally-displaced portion, and the interfitted long and short point rails, the long-point rail having its point portion cut away, of the solid block or filler se-
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cured between the wing-rails and having portions which replace the displaced portions of the wing-rails and also the cut-away portion of said long-point rail.

In testimony whereof I have affixed my signature in presence of two witnesses.

EDWARD B. ENTWISLE.

Witnesses:

GEO. H. PARMELEE,

H. W. SMITH.