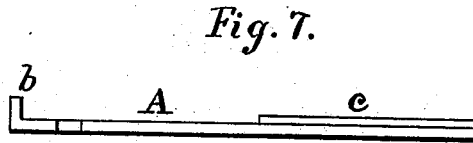
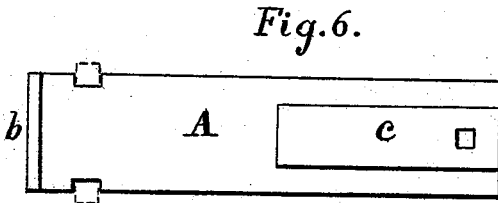
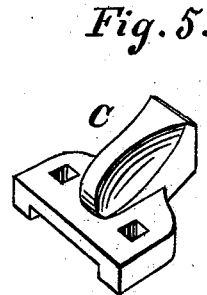
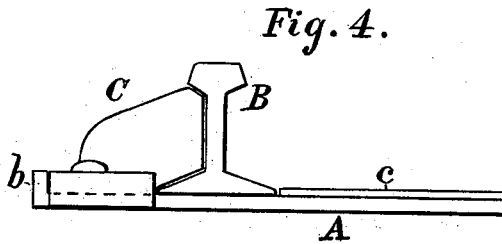
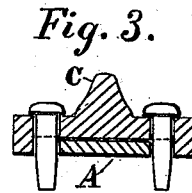
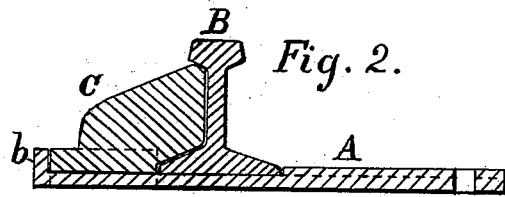
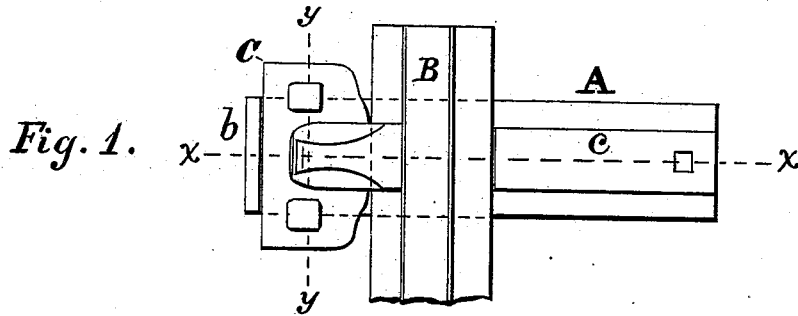


J. T. RICHARDSON.
 Brace and Plate for Point Switches.

No. 202,286.

Patented April 9, 1878.



Witnesses :
H. A. Daniels.
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UNITED STATES PATENT OFFICE.

JOHN T. RICHARDSON, OF HARRISBURG, ASSIGNOR TO THE PENNSYLVANIA
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IMPROVEMENT IN BRACES AND PLATES FOR POINT-SWITCHES.

Specification forming part of Letters Patent No. **202,286**, dated April 9, 1878; application filed
February 21, 1878.

To all whom it may concern:

Be it known that I, JOHN T. RICHARDSON, of Harrisburg, in the county of Dauphin and State of Pennsylvania, have invented certain new and useful Improvements in Braces and Plates for Railroad-Switches; and I do hereby declare that the following is a full, clear, and exact description thereof, which 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 letters of reference marked thereon, which form a part of this specification.

This invention relates to the braces and plates of railroad-switches.

In the drawings, Figure 1 is a plan view of the brace and plate adjusted to the rail. Fig. 2 is a longitudinal section on line *x x* of Fig. 1. Fig. 3 is a transverse section on line *y y* of Fig. 1. Fig. 4 is a side elevation of the brace and plate adjusted to the rail. Fig. 5 is a perspective view of the brace detached. Fig. 6 is a plan view of the plate detached; and Fig. 7 is an edge view of the plate detached.

The switches with which this invention will be used are of the class known as "split-switches" or "points," in which the points or shifting-rails are caused to slide up to and against outside rails. In such switches it is desirable to brace the outside rails against the lateral strains caused by the passage of trains, as, owing to the peculiar construction required to make the point-rails fit properly to the outer rails, the usual spikes cannot be used along a portion of the inner flanges of the outside rails, and they are therefore liable to tip and shove out if not stayed and braced on the outside. For this purpose a brace on the outside of the outer rails should have a solid support on the cross-tie and be made to fit closely to the rail.

Heretofore it has been the practice to combine such a brace with a plate on which the sliding or point rails rest by casting them in one solid piece. When thus made it is very difficult to make the brace fit the rail properly, and, owing to the brittleness of cast-iron, the plates are often broken and rendered useless for the purposes of either a brace or plate.

To avoid these difficulties I make a wrought plate, A, with an angular end, *b*, and I cast or otherwise form a brace, C, the proper size and shape to rest on the end of the plate against the angular end *b*, and to fit closely to the outside of the rail B, the brace being also retained in place by the spikes, as shown.

When split switches or points are constructed in a manner to avoid planing or notching of the outer rails, it is necessary to have the base of the point-rails to pass over the base or flanges of the outer rails; and to effect this the outer flange of each point-rail is beveled off to fit the outside rails, and the point-rails carried on a surface which is above the base of the outside rails. I make the plate A with a raised plate, *c*, to carry the point-rails, said raised plate *c* being secured by rivets, and also by the spikes which hold the switch-plate. The end of the raised plate also fits to the inner edge of the outside rails, thus locking the plate A and brace C against the rail B. A raised surface for the purpose of carrying the point-rails can also be produced by swaging the plate A, while hot, between dies or otherwise, and so produced is equivalent to the separate raised plate *c*.

It is evident that the braces and plates as described are not so liable to break as those cast in one piece, and the braces made thus separate are more readily fitted to the rails and more useful for the purpose.

What I claim as new, and desire to secure by Letters Patent, is—

The wrought switch-plate A, having the angular end *b*, and the raised plate *c*, adapted to form the bearing for the switch-rail and the lateral bearing for the inner flange of the fixed rail, in combination with the separate brace C, adapted to fit between the angular end of the plate and the side of the rail, substantially as and for the purposes described.

In testimony that I claim the foregoing as my own invention I affix my signature in presence of two witnesses.

JOHN T. RICHARDSON.

Witnesses:

GEO. W. PARSONS,
FRANK W. SHAFFNER.