P. KNITTEL.

TONGUE RAIL FASTENING FOR RAILWAYS.

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INVENTOR:

Paul Knittel

ATTORNEY:

The drawing shows a cross-sectional view of a tongue rail fastening for railways. The sections labeled AB and CD illustrate the design in detail. The inventor, Paul Knittel, is credited, and witnesses sign the document. The patent number and date are included at the top of the page.
To all whom it may concern:

Be it known that I, PAUL KNITTEL, engineer, a subject of the German Emperor, residing at 5 Oberstrasse, Crefeld, Germany, have invented certain new and useful Improvements in Tongue-Rail Fastenings for Railways; and I do hereby 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.

This invention relates to means of fastening the tongue-rail of a tramway-switch, as I shall describe, referring to the accompanying drawings.

Figure 1 is a plan, Fig. 2 is a longitudinal section on the line A B of Fig. 1, and Fig. 3 is a transverse section on the line C D of Fig. 1, of part of a tramway-switch near the pivot of the tongue-rail.

a is the main rail; b, the end of the tongue-rail; c, the guard-rail; d, the base-casting; e, the branch rail; f, the pivot of the tongue-rail.

The base-casting d has slots g, g', in which lies a key h in the position x x, Fig. 1, its one end being in the opening g of the base-casting. The pivot f of the tongue b is then inserted in the recess of the base-casting, and the key h is moved to the position y y, and held by a key i, the key h being thus driven into a slot h of the pivot f and lying with its one end in the opening g' and its other end in the recess g under an overlapping part l of the base-casting d. In this way the tongue-rail is prevented from rising.

The key i being hard-driven into the base-casting, so that it is held by friction, effectually prevents the key h from being loosened, so that the tongue-rail cannot spring out of its position, and it is prevented from moving laterally by its strong pivot f in the recess of the base.

If the tongue-rail is to be changed, the key i by a lever applied to its gib m is withdrawn, and by means of a tool inserted at an opening n the key h is moved from the position x y to the position x x, whereupon the tongue-rail can be removed.

As the pivot f and the recess for its reception are subjected to rapid wear owing to the lateral pressure of the wheel-flanges, it is of advantage to throw this wear entirely on the tongue-rail, which can be changed. For this purpose the rear part of the base-casting d is made of cast-steel and the sides of the pivot-recess are hardened, so that only the exchangeable tongue-rail becomes worn.

The above-described construction allows of the removing and replacing of tongue-rails and their fixing to be effected without interfering with the roadway. The upper surface of the tongue-rail is very massive and strong, there being no bolt-holes through it, so that local hollowing is impossible. All parts of the fastening are keys, without any screwing or riveting, so that they can be easily loosened and replaced.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is—

A fastening for a removable tramway-tongue-rail consisting of a cross-key engaged in a slot of the tongue-rail pivot, and having its ends held in a slot of the base-casting substantially as described.

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

PAUL KNITTEL.

 Witnesses:

E. Krülls,
ERNST BELOCH.