

(No Model.)

B. WOLHAUPTER.
TIE PLATE.

No. 542,787.

Patented July 16, 1895.

Fig. 1.

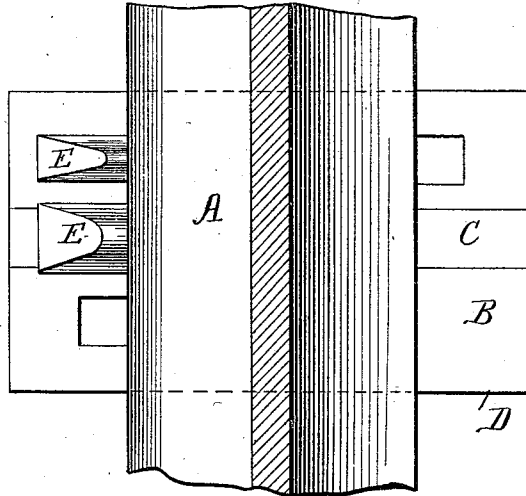


Fig. 2.

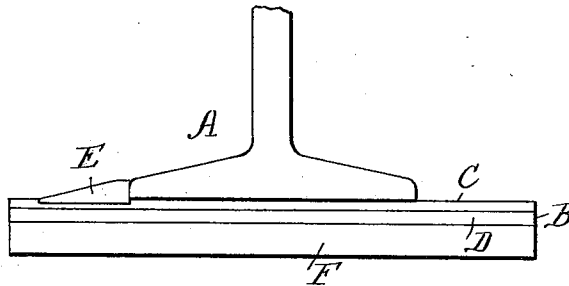


Fig. 3.

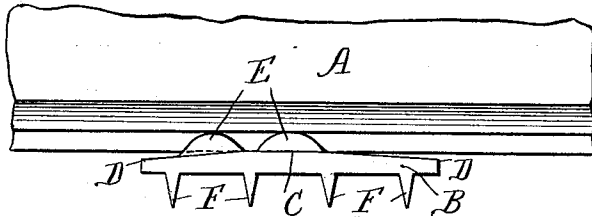


Fig. 4.

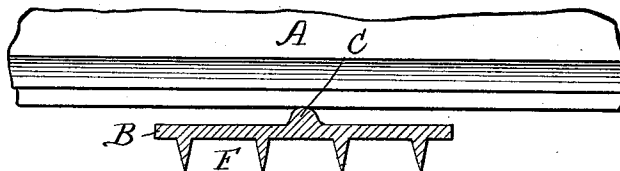
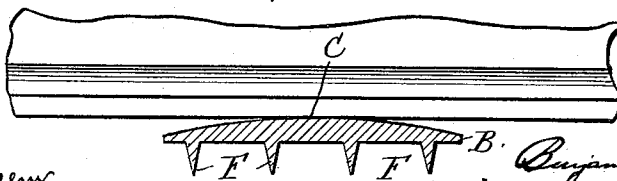


Fig. 5.



Witnesses.

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Wm. J. Fleming

Inventor

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by Walter H. Chamberlain atty

UNITED STATES PATENT OFFICE.

BENJAMIN WOLHAUPTER, OF MORGAN PARK, ILLINOIS.

TIE-PLATE.

SPECIFICATION forming part of Letters Patent No. 542,787, dated July 16, 1895.

Application filed March 13, 1895. Serial No. 541,523. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN WOLHAUPTER, a subject of the Queen of Great Britain, residing at Morgan Park, county of Cook, State of Illinois, have invented a certain new and useful Improvement in Tie-Plates; and I declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

Heretofore in the construction and use of railway tie-plates it has been customary to make the rail-seat on the upper side of the plate flat or level, so that, theoretically, the rail would be supported throughout the entire width of the plate; but the practical difficulty has been that the ties either had uneven surfaces on which the plates were laid or if the ties had dressed surfaces they would not always be laid so that their top surfaces were level, the result in either case being that the top surface of the tie, and consequently the rail-seat, was not level. This results in the rail bearing on one edge of the plate, and consequently to a greater or less extent on one edge of the tie. This causes what is known as "churning" of the tie—that is, a tilting movement of the tie in the ballast—soon loosening the tie in its bed. Again, the bearing of the rail on one edge of the plate causes that edge to embed itself more quickly in the tie and to tilt up the other edge of the plate, soon loosening the plate on the tie.

My invention relates to that class of plates one of which is placed on every tie between the rail and tie and forms a seat, not for two abutting ends of the rails, but for the rail at intervals throughout its length; and it has for its object the production of a plate which shall overcome the above-named difficulties by making the middle of the rail-seat higher than the edges that are transverse to the rail, so that whether the body of the plate is level or not the weight of the rail will be on this elevation and thus be distributed equally throughout the width of the plate.

Another feature of the invention is a peculiar formation of the tie-engaging devices, the entire construction being hereinafter more fully described and claimed.

In the drawings, Figure 1 is a plan view of the rail and my plate. Fig. 2 is a side elevation. Fig. 3 is an end elevation; Figs. 4 and 5, sectional views showing variations.

In carrying out the invention, A represents the rail, and B the plate. It will be observed that the rail-seat from one long end of the plate to the other, or, in other words, transversely of the rail, is made with the center C at a higher elevation than the edges D. Rail-abutting knobs or projections E may be provided on one or both sides of the rail. On the under side are the ridges or flanges F, extending parallel with the grain of the tie.

It is obvious that in the use of the above construction, whether the upper surface of the tie is level or not, (since the rail bears only at the middle,) the weight will be distributed throughout the width of the plate, thus causing it to be embedded into the tie equally. Again, this form of construction brings the thickest portion of the metal where there is the heaviest strain.

It is, of course, obvious that the construction might be modified in various ways and still be within my invention. For instance, the rail-seat might be made convex from side to side, as in Fig. 5, or there might be a rib extending across the rail-seat substantially at the middle, as in Fig. 4, the essential idea being to provide a plate which shall support the rail throughout the width of the rail to reduce the bearing-surface in a direction longitudinally of the rail to a minimum for each plate.

I am aware that rail-joints have heretofore been constructed wherein that portion of the bed-piece on which the two abutting ends of the rails rested was at a higher elevation than that portion which extended to and rested on two adjacent ties, and such construction I do not claim.

What I claim is—

1. A railway tie plate having a middle portion of the rail seat higher than the edges

and a series of tie engaging flanges on the under side, the latter extending parallel with the grain of the tie, substantially as described.

5 2. A railway tie plate having a middle portion of the rail seat higher than those edges parallel with the tie, said raised portion extending throughout the width of the rail but forming a restricted bearing longitudinally of the rail and devices more or less sharp-

ened on the under side of the plate for entering and engaging the tie, substantially as described.

In testimony whereof I sign this specification in the presence of two witnesses.

BENJAMIN WOLHAUPTER.

Witnesses:

W. H. CHAMBERLIN,
FLORENCE EMBREY.