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METALLIC RAILWAY TIE AND FASTENER FOR SECURING THE RAILS THERETO.
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To all whom it may concern:

Be it known that I, CHARLES E. POWELL, a citizen of the United States, residing at Philadelphia, county of Philadelphia, and State of Pennsylvania, have invented a certain new and useful Improvement in Metallic Railway-Ties and Fasteners for Securing the Rails Thereto, of which the following is a specification.

My invention relates to a new and useful improvement in metallic railway ties and fasteners for securing the rails thereto, and has for its object to provide a simple and effective construction of tie for supporting the railway rails, and a further object of my invention is to provide means for securely fastening the rails to the ties so that they cannot spread, and a still further object of my invention is to provide spacers by which the ties are secured together and which also serve to support the rails between the ties, thus obviating the necessity of placing the ties closely together as now is the custom, and to so construct certain of these spacers that they will serve as fish plates for joining the ends of the rails.

With these ends in view, this invention consists in the details of construction and combination of elements hereinafter set forth and then specifically designated by the claims.

In order that those skilled in the art to which this invention appertains may understand how to make and use the same, I will describe its construction in detail, referring by letter to the accompanying drawing forming part of this specification, in which—

Figure 1 is a perspective of a portion of a railway track showing my improved tie and the manner of securing the rail thereto and supporting the latter between the ties. Fig. 2, a detail perspective of one of the spacers. Fig. 3, a similar view of one of the spacers which is used as a fish plate, and Fig. 4, a similar view of one of the fasteners for securing the rail to the tie. Fig. 5 a similar view of a spacer to be used as a fish plate where the rails meet off a tie.

In carrying out my invention as here embodied, A and A' represent the ties which are made in the shape of I-beams having the notches B cut out in their top flanges and upon each of these ties are secured the fastening blocks C by being riveted in place as clearly shown, these fastener blocks have turned lugs D adapted to fit within the notches B and thus relieve the rivets of undue strain and prevent the fasteners from being forced outward by side thrusts upon the rail. Each of these fasteners has an offset section C' beneath which the outer base flange of the rail fits, thus securely holding the rail at this point against either outward thrust or upward movement of the tie.

E represents the spacers which are so bent as to form the overhanging flanges E' adapted to receive the base flanges of the rail, and these spacers also have formed thereon the lugs F which are adapted to be bolted to the webs of the I-beam as indicated at G, thus securing the ties together in a continuous series whereby they will be prevented from crawling or shifting on the road bed, and as these spacers are fitted to the base flanges of the rails upon both sides thereof they serve to hold the rails in place upon the ties, and at the same time support said rails between the ties.

In practice the ties are laid and the outer spacers E bolted in place so as to secure the ties together after which the rails are laid and finally secured in place by the bolting of the inner spacers to the ties and over the inner flanges of the rails.

From the foregoing description it will be seen that all of the ties being secured together will hold them in their proper relative positions to each other and greatly increase their resistance to downward and sidewise strains, and absolutely prevent the rails from spreading while increasing their firmness and better maintaining the level of the road. Of course the ties may be made of any desired length and I have here shown a tie of ordinary length as indicated at A and a tie of double length as indicated at A', the latter being for use at switchers, branch roads, crossings and the like.

Where the ends of the rails come together I prefer to use the spacer shown in Fig. 3 which has an upturned flange E' and an extension E'' which fits against the web of the rail and is adapted to be bolted thereto to take the place of the ordinary fish plate.

Having thus fully described my invention, what I claim as new and useful, is—

In combination with a pair of spaced I-beams having oppositely disposed notches formed in their upper flanges, fastening blocks engaging the rails and having lugs
along their sides which extend downwardly below the bottoms of the blocks and engage in said notches and spacers composed of bars having right angular lugs secured to the webs of said beams, a pair of spaced overhanging flanges carried by the upper part of said bars and receiving the base of the rail in said space between the flanges, said flanges being of less length than said bars so as to abut against the sides of the top flanges of the I-beam.

In testimony whereof, I have hereunto affixed my signature in the presence of two subscribing witnesses.

CHARLES E. POWELL.

Witnesses:

S. M. GALLAGHER,
K. WEISMAN.