

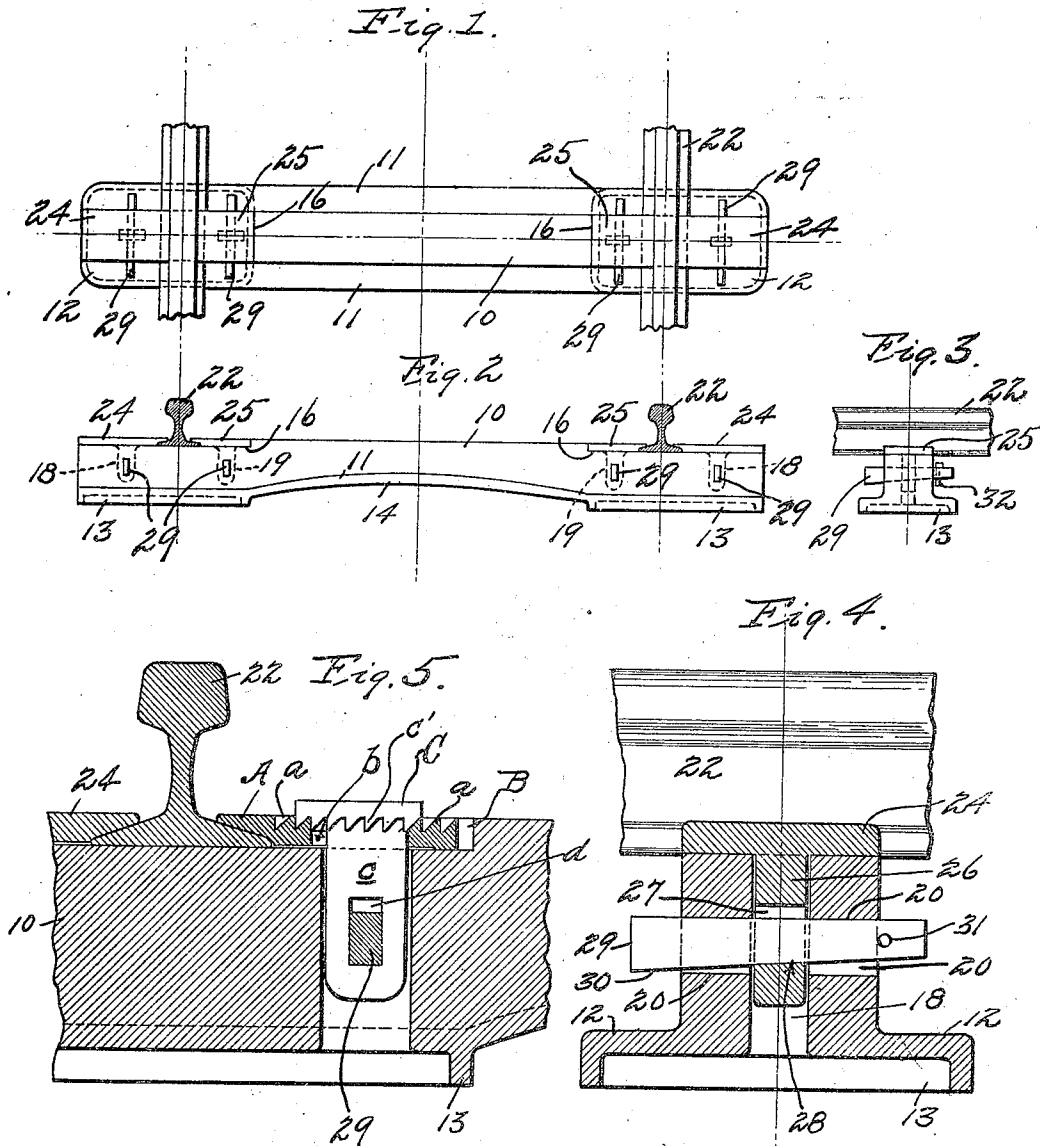
L. A. EMERLEY & F. MATSCHUK.

METALLIC TIE.

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942,721.

Patented Dec. 7, 1909.



Witnesses

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942,721.

Specification of Letters Patent.

Patented Dec. 7, 1909.

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To all whom it may concern:

Be it known that we, LEO A. EMERLEY, a subject of the Emperor of Germany, and FRIEDRICH MATSCHUK, a citizen of the United States, both residing at Altoona, in the county of Blair and State of Pennsylvania, have invented certain new and useful Improvements in Metallic Ties, of which the following is a specification.

10 This invention relates to metallic railway ties, and has specially in view certain novel forms of rail fastening means which are carried by the tie, and also a novel form of bottom for the tie which will insure of a firm interlocking engagement between the tie and the road bed.

With the above and other objects in view, the present invention contemplates the employment of fastening means which will 20 firmly grasp each side of the rail flange to lock the same to the tie, said fastening means being so arranged whereby they may be readily removed from their rail-engaging position when desired. And also the invention includes the provision of a cupped end 25 portion for the bottom of the tie which will insure of the same having a firm interlocking engagement with the road bed.

In carrying out the objects of the invention generally stated above it will of course be understood that changes in details may be resorted to, but a preferred and practical embodiment of the same is shown in the accompanying drawings, wherein—

35 Figure 1 is a top plan view of the tie showing the rails clamped thereto. Fig. 2 is a side elevation of the same. Fig. 3 is an end view projected from Fig. 2. Fig. 4 is an enlarged sectional view through the end 40 portion shown in Fig. 3. Fig. 5 is a transverse section through the tie showing a preferred form of rail locking clamp.

Like characters of reference designate corresponding parts.

45 Referring to the accompanying drawings, the numeral 10 designates a tie having a wide base or bottom 11, the ends 12—12 of which have their bottom surfaces provided with the depending flanges 13—13, forming 50 a substantially cup-shaped bottom to insure of the tie having a firm interlocking engagement with the road bed. The intermediate bottom portion 14 of the tie is arch-shaped to raise the same slightly above the road bed 55 to prevent what is known as "center binding."

The body portion of the tie is narrower than the base 11 and at each end of the top thereof it is recessed as indicated at 16, and also has formed therethrough the vertically 60 disposed spaced-apart end openings 18—19, said openings extending entirely through the tie and being intersected by the transverse openings 20—20. The said vertically disposed spaced apart openings receive between 65 them the rail 22 which is held in position by means of the rail clamps 24—25 provided with a shank 26 which depends into the vertically disposed openings formed in the tie and has formed through it an opening 27 to 70 register with the transverse openings 20—20 formed through the tie. The opening 27 formed through the said shanks has its bottom 28 inclined and normally retained a slight distance above the bottom of the said 75 transverse opening formed through the tie, to provide for the said shank being drawn downwardly by means of a locking wedge 29 which has its lower edge 30 inclined similar to the bottom of the opening formed 80 through the said shanks 26, being forced through said registering openings in the tie and the shank. The end portion of the locking wedge is preferably provided with an opening, 31, to receive a locking key 32 by 85 which the same is kept in its locking position.

In Fig. 5 a preferred form of locking mechanism is shown which is especially adapted for use in connection with outer 90 clamps. In this form of the invention the rail flange clamp A is slightly smaller in length than the recess B in which it is seated which permits of said clamp having a limited longitudinal movement in said recess. 95 Said clamp preferably has its upper surface *a* serrated and also has formed through its body an opening *b* through which is passed the shank *c* of a locking clamp the engaging head C of which has serrations 100 *c'* formed thereon for engagement with the serrated portion of the flange clamp A. The shank *c* in this form of the invention has an opening *d* formed through it which, as in the other forms of the invention above 105 described, aligns with the transverse opening formed through the tie and is held in such position by means of the locking wedge. This preferred form of locking clamp for the rails has special utility in cases where it 110 is necessary to shift the rails longitudinally to compensate for wear on the heads of the

rails, such for instance where the inside of the rail heads has been worn by the flanges of the car wheels.

From the foregoing description it will be seen that through the cupped bottom surfaces of the ends of the tie, an interlocking engagement may be had with the road bed which will retain the tie in an immovable position relatively thereto, and also through the described form of detachable means for locking the rails to the upper surface of the tie, the said rails are normally retained in the proper position, but may be readily detached therefrom.

15 Claims:—

1. The combination of a metallic tie provided with a recessed rail supporting surface, and also provided with vertical openings and with transverse openings intersecting the vertical openings, a rail engaging clamp having an opening therethrough, a locking clamp provided with a shank passed through the opening of the rail engaging clamp and into the vertical opening of the tie, and means for securing said locking

clamp in locking engagement with the rail engaging clamp.

2. A metallic tie the rail supporting surface of which is recessed and provided with vertical openings which are intersected by transverse openings, a rail engaging clamp provided with a toothed or serrated surface and having an opening formed therein, a locking clamp having a toothed or serrated surface corresponding to the toothed or serrated surface of the rail clamp and provided with a shank adapted to be passed through the opening in the said rail clamp and into the vertical opening of the tie, and means for locking said locking clamp in engagement with said rail clamp.

In testimony whereof we hereunto affix our signatures in the presence of two witnesses.

LEO A. EMERLEY.
FRIEDRICH MATSCHUK.

Witnesses:

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