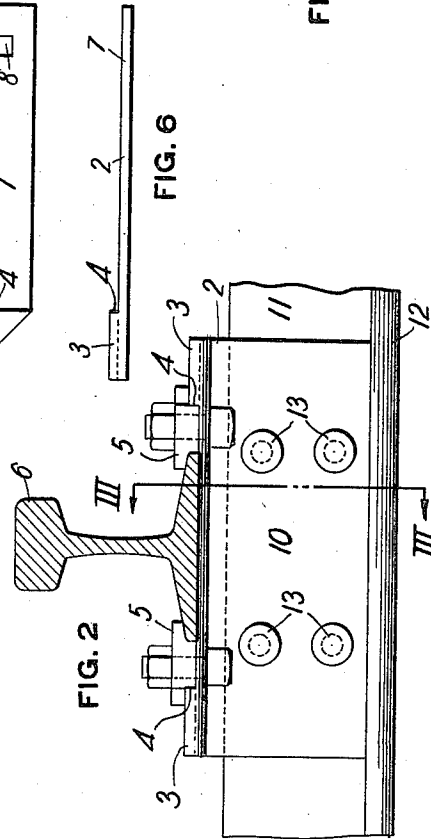
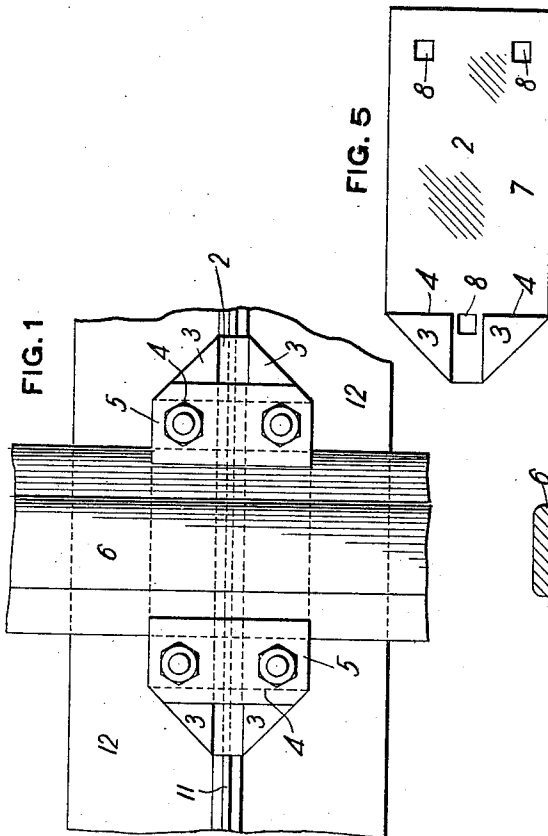
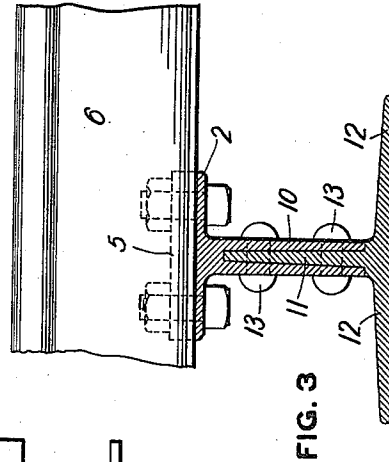
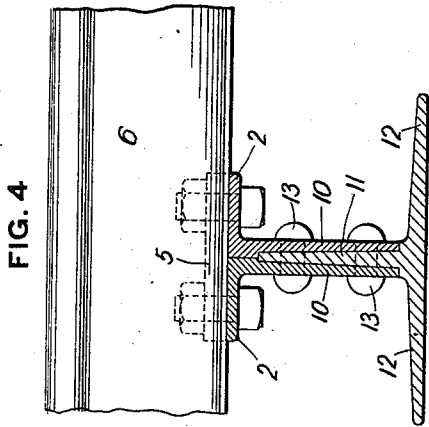


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TIE PLATE.
APPLICATION FILED AUG. 14, 1911.

1,045,107.

Patented Nov. 19, 1912.

2 SHEETS—SHEET 1.



WITNESSES

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2 SHEETS—SHEET 2.

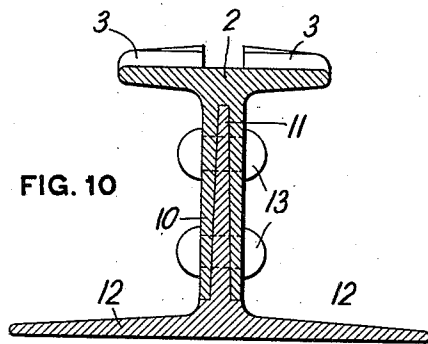


FIG. 10

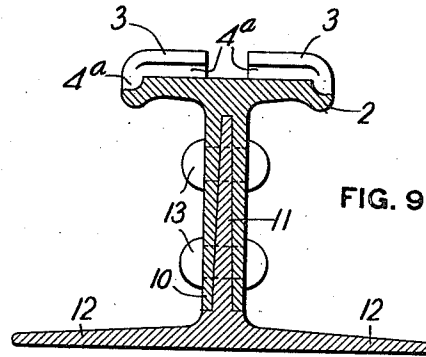


FIG. 9

FIG. 7

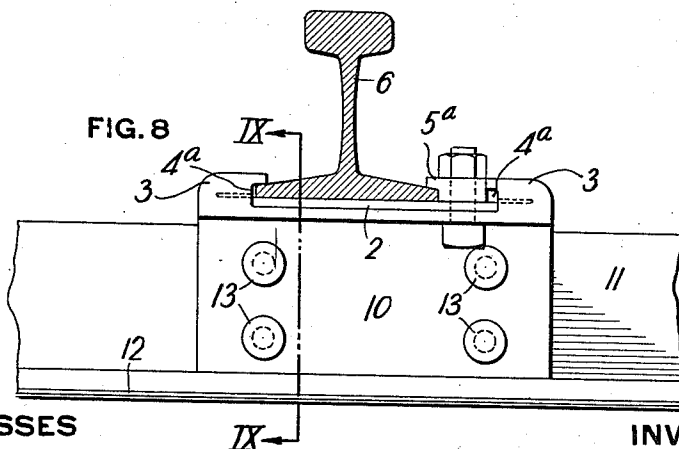
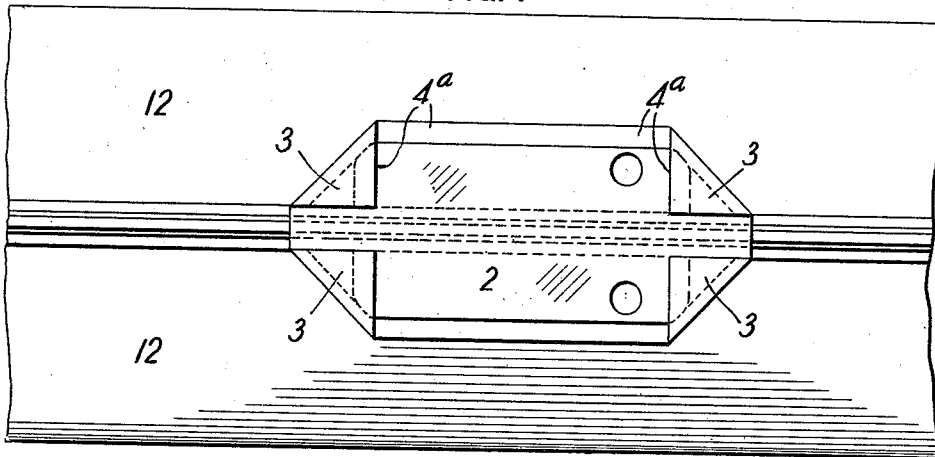


FIG. 8

WITNESSES

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WILLIAM WHIGHAM, OF PITTSBURGH, PENNSYLVANIA.

TIE-PLATE.

1,045,107.

Specification of Letters Patent.

Patented Nov. 19, 1912.

Application filed August 14, 1911. Serial No. 644,028.

To all whom it may concern:

Be it known that I, WILLIAM WHIGHAM, of Pittsburgh, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Tie-Plates, of which the following is a specification.

My invention relates to metal tie plates used on rail ties in constructing railway tracks, and more particularly relates to the construction and arrangement of the top surface of tie plates for railway ties.

One object of my invention is to provide a tie plate of improved construction having novel means whereby a rail receiving and seating recess for the flanges of the rails forming the railway is formed in the top or upper surface of the tie plate.

Another object of the invention is to provide a tie plate whereby the metal forming the tie plate is disposed in a novel manner in forming the recess in the top surface thereof and the amount of metal used in forming the tie plate thereby lessened and reduced to the minimum.

A further object of the invention is to provide a tie plate having improved means by which the tie plates are fastened or secured to the ties of the railway track.

Referring to the accompanying drawings forming part of this specification, Figure 1 is a plan showing one form of my improved tie plate as applied for use on a railway tie having vertical web and horizontally disposed base members. Fig. 2 is a side elevation of the construction shown in Fig. 1. Fig. 3 is a transverse section of the same, the section being taken on the line III—III of Fig. 2. Fig. 4 is a similar transverse section showing a modified form of tie-plate and the manner in which it is secured to the rail tie. Fig. 5 is a plan showing a modified form of tie plate adapted for use in connection with ties having plane or flat top surfaces and formed of either wood or metal. Fig. 6 is a side elevation of the tie plate shown in Fig. 5. Fig. 7 is a plan showing a further modified form of tie plate constructed in accordance with my invention. Fig. 8 is a side elevation of the construction shown in Fig. 7 the track rail being shown secured in place thereon. Fig. 9 is a transverse section on the line IX—IX of Fig. 8 showing the means employed in securing the tie-plates on the ties, the track rail being omitted for the sake of clearness. Fig. 10 is

a transverse section of the tie-plate illustrated in Figs. 1, 2, and 3 with the track rail removed for the sake of clearness.

In the drawings, 2 designates a metal tie-plate having its corner portions 3 doubled or bent over and pressed flat so that the lower surfaces of the bent corners are in contact with the adjoining top surface of the tie plate. The marginal side edges 4 of the bent over corners form the side surfaces of a recess thus formed in the top surface of the tie-plate, these marginal side edges being engaged by the rail flanges or, when clips 5 are used, with the ends of the rail clips, so as to take and resist the side thrust transmitted to the tie plate 2 by the track rails 6 when in service.

In the construction shown in Figs. 1, 2, 3, Fig. 4 and Figs. 7, 8, 9, and 10, the under surface of the tie-plate 2 is provided with a downwardly depending flange or leg 10 which is forked. This downwardly extending forked leg 10 embraces the vertical web 11 of the tie which comprises the vertical web 11 and horizontally extending webs 12.

In the construction shown in Fig. 4 the tie-plate is formed of two separately rolled parts angular in cross section which when arranged back and back and secured in place on the tie form a tie-plate having a recessed top surface and substantially the same in cross section as in the construction shown by Figs. 1, 2, and 3. The marginal edges of the engaging legs on the tie-plate and tie also interfit with each other in the same manner as in Figs. 1, 2, and 3.

As shown in Figs. 5 and 6, the tie-plate has a flat bottom surface 7 which is adapted to rest upon the flat upper surface of a metal or wooden tie. Holes 8 are provided through which the bolts or spikes extend in securing the tie-plate in place on the ties.

In the tie-plate shown in Figs. 7, 8 and 9, the upper edge of the longitudinal side edges 4^a of the tie-plate are provided with a rabbet before the corner portions 3 are bent over, and when these corner portions are later doubled into contact with the top surface of the plate, the marginal side edge 4^a of the so formed recess is under cut to form a recess narrower at the top than at its bottom. The upper edge of the vertical web 11 on the tie bears against the bottom of the recess formed by the forked leg 10 and the lower marginal edges of the forked legs 10 engage with the surfaces of the shoulders or

jogs formed at the root of the tie adjacent to the point of intersection of the vertical and horizontal legs 11 and 12 of the tie. In this construction the under cut side edge 4^a on one end of the tie-plate, engages with one flange of the rail 6 and a rail clip 5^a is employed to engage with the other flange of the track rails and with the side edges 4^a of the doubled corner portions 3 to secure the rails in place and transmit side thrust from the rail to the tie-plate without putting the clip securing bolts in shear.

Rivets 13 or equivalent means are employed to secure the tie-plates of either construction rigidly in place on the ties.

The advantages of my invention will be apparent to those skilled in the art.

By folding or doubling the corners of the tie-plate in the manner shown, the amount of metal used in forming the tie-plate is lessened. By grooving or rabbeting the longitudinal side edges of the tie-plate before bending the corners, an under cut recess extending crosswise is provided in the top surface of the tie. The forked depending flange or leg of the tie-plate provides a strong and durable means for securing the tie plate in place upon the ties.

Modifications in the construction and arrangement of the parts may be made without departing from my invention as defined in the appended claims.

The ends of the tie-plates may be folded upon themselves for the entire width of the tie-plate instead of at the corners, as shown, and means other than the forked depending flange or leg may be used in securing the tie-plates to ties of the form shown in Figs. 1, 2 and 3.

I claim:—

1. A tie plate for railway ties having angularly bent corner portions doubled upon themselves to bring the marginal side edges thereof into alinement, said edges defining

the side surfaces of a rail seating recess formed thereby in the top surface of said tie plate, and means for securing the tie plate in place on the railway ties.

2. A tie plate for railway ties having angularly bent corner portions doubled upon themselves to bring the side edges thereof into alinement, said edges forming the side surfaces of a rail seating recess in the top surface of said tie plate, a downwardly depending flange on the under surface of the tie plate, and means by which said depending flange is secured in place on the railway tie.

3. A tie plate for railway ties having bent end portions doubled upon themselves, the marginal edges of the doubled portions defining the side surfaces of a rail seating recess formed thereby in the top surface of said tie plate, and a downwardly depending flange on the under surface of the tie plate by which the tie plate is secured in place on the railway ties, said depending flange being forked to embrace the web of the rail ties when secured in place thereon.

4. A tie plate for railway ties having its diagonally opposite corner portions doubled upon themselves, the marginal edges of the doubled portions defining the side edges of a rail seating recess formed thereby in the top surface of said tie plate, and a downwardly depending flange on the under surface of the tie plate by which the tie plate is secured in place on the rail ties, said depending flange being forked to embrace the web of a rail tie when secured in place thereon.

In testimony whereof, I have hereunto set my hand.

WILLIAM WHIGHAM.

Witnesses:

HENRY J. BAER,
T. F. KINSEL.