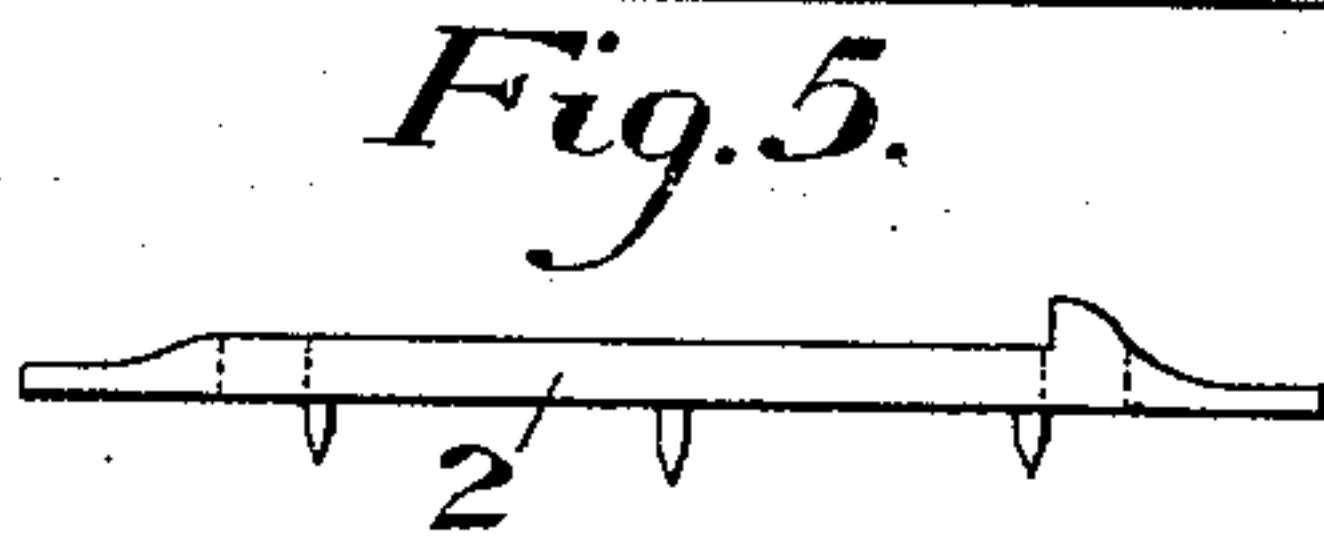
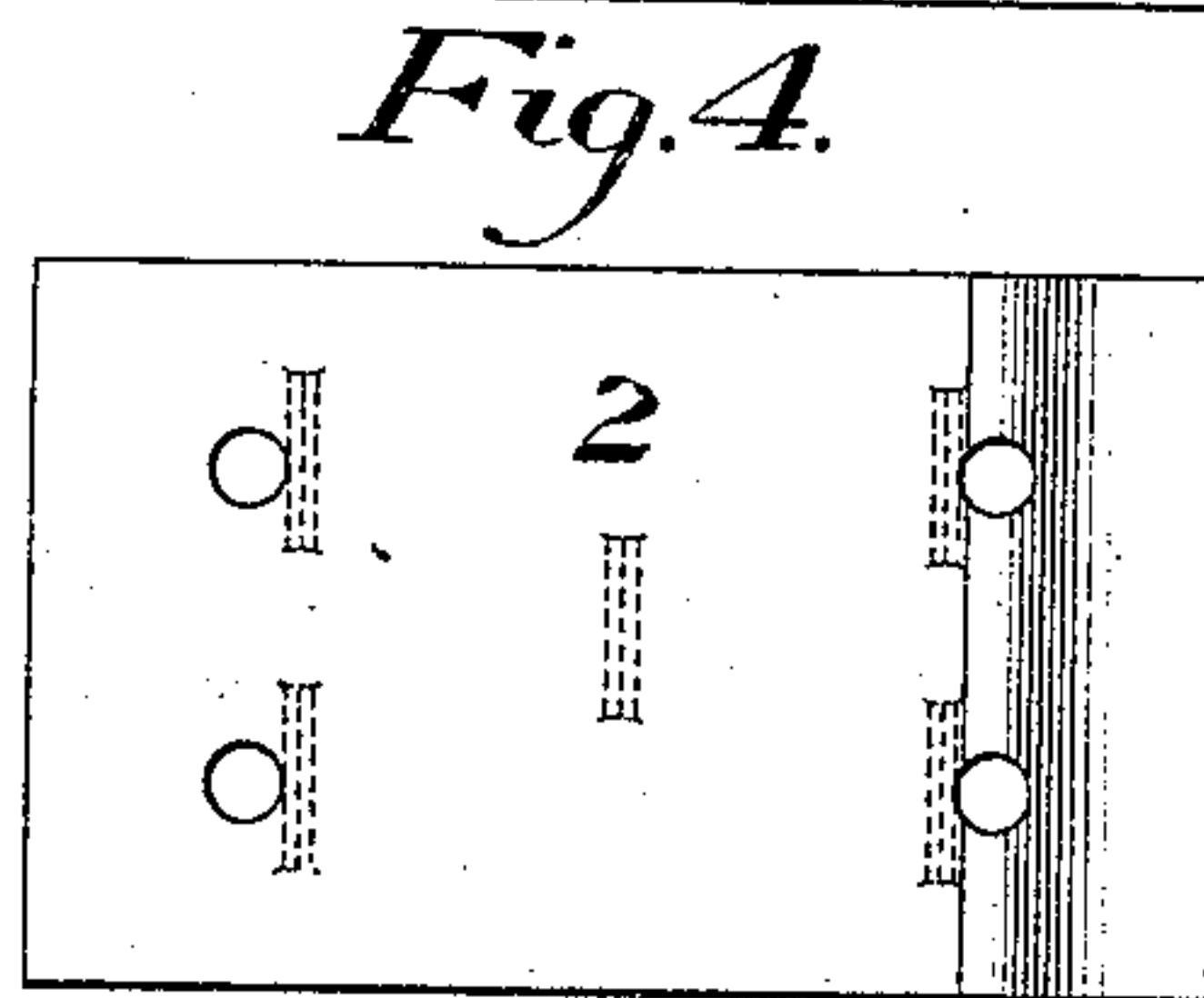
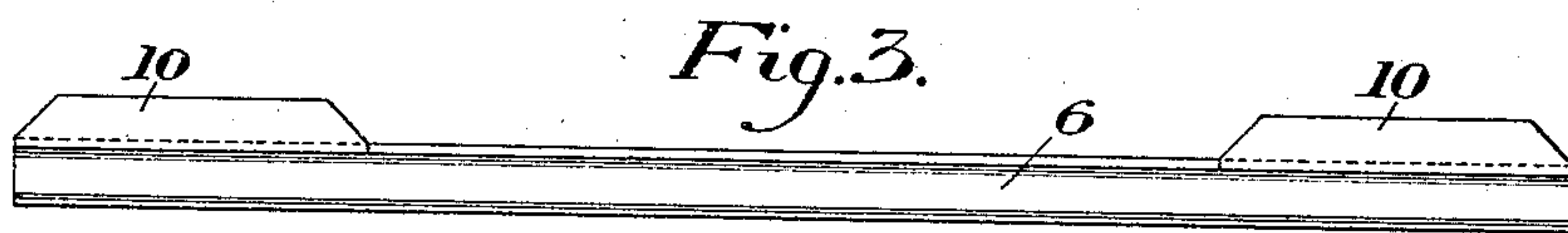
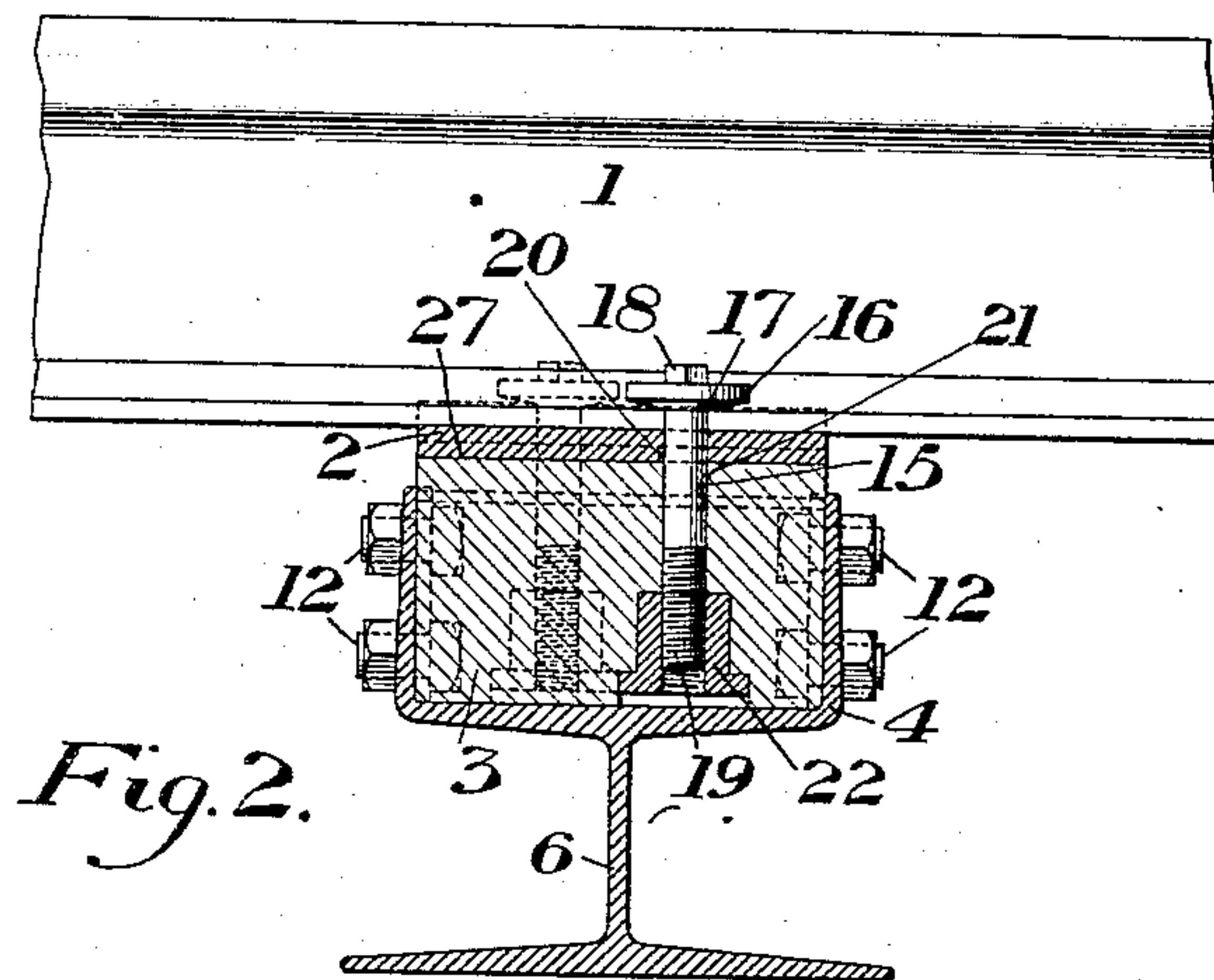
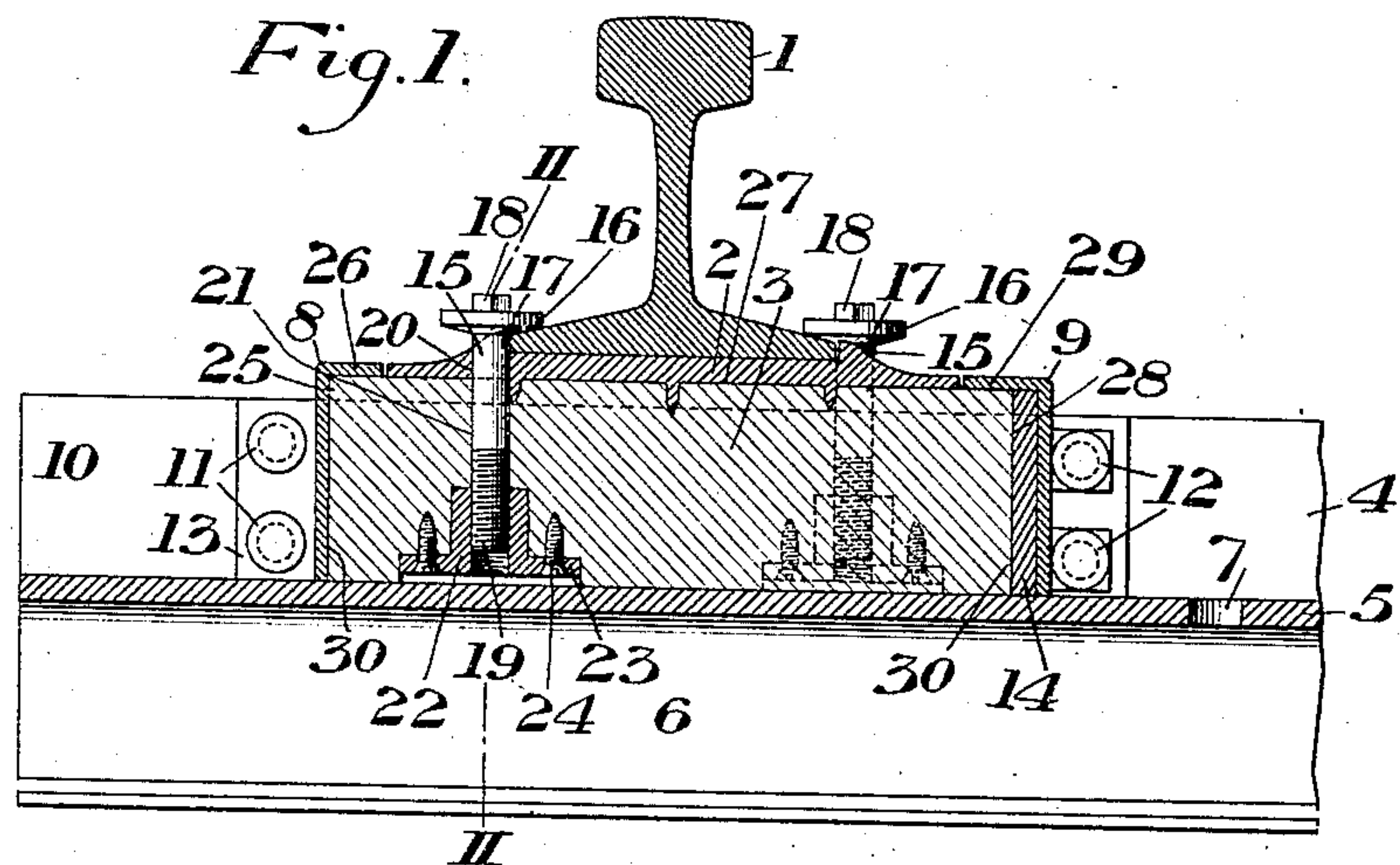


S. CLARY.
METALLIC RAILWAY TIE AND FASTENER.
APPLICATION FILED FEB. 20, 1908.

914,792.

Patented Mar. 9, 1909.



WITNESSES
W. W. Swartz
R. A. Balderson

INVENTOR
Simon Clary
by Wallace Dymally & Carmichael
his attys

UNITED STATES PATENT OFFICE.

SIMON CLARY, OF CARNEGIE, PENNSYLVANIA.

METALLIC RAILWAY-TIE AND FASTENER.

No. 914,792.

Specification of Letters Patent.

Patented March 9, 1909.

Application filed February 20, 1908. Serial No. 416,853.

To all whom it may concern:

Be it known that I, SIMON CLARY, a resident of Carnegie, Allegheny county, Pennsylvania, have invented a new and useful
5 Metallic Railway-Tie and Fastener, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

10 Figure 1 is a partial longitudinal section; Fig. 2 is a section on lines II—II of Fig. 1; Fig. 3 is a modification of my improved tie; and Figs. 4 and 5 are modifications of the tie plate.

15 My invention has for its object the providing of a railway tie and fastener, which, by its construction, preserves the advantages of a wooden tie and at the same time avoids its well known defects, and which can be
20 easily and readily insulated for electrical use.

My invention consists in a metallic tie of the I-beam type, having a top flange so constructed as to receive wooden filler blocks for supporting the tie plates and in a fastener
25 adapted to secure the rail and tie plate to the wooden filler block.

A further object is to provide means by which the gage of the rails may be easily changed without detaching the rails from the
30 plates and blocks.

Referring to the drawings, the rail 1 is supported upon the tie plate 2, which rests upon a wooden filler block 3, placed in the trough 4, formed by the sides 10 on the top
35 flange 5 of the tie 6, said sides forming the trough 4, running longitudinally the entire length of the tie and the trough 4 so formed having drainage outlets 7 to carry off any water accumulating therein.

40 The wooden filler block 3 is secured in position in the trough 4 by means of brackets 8 and 9, which are preferably secured to the sides 10 of the trough 4 by rivets 11 and bolts 12 respectively, through reinforcing bracket
45 plates 13. The liner or liners 14 are to be used in adjusting or changing the gage of the rails 1 and in securing a proper fit of the filler block 3 between brackets 8 and 9.

The fasteners 15 have annular heads 16
50 with beveled lower faces 17 and squared upper portions 18 in form of a bolt head, and a screw-threaded lower portion 19, adapted to be inserted through openings 20 and 21 in the tie-plate 2 and filler-block 3, respectively,
55 into threaded nuts 22 seated in filler-block 3 in the opening 21, said nuts having reinforcing

flanges 23, secured to the filler-block 3 by screws 24.

In assembling the parts a suitably shaped filler block 3 is placed in the trough 4 with
60 its outer face 25 against the bracket 8, the lip 26 of which engages the top surface 27 of the filler block and securely bolts the block against vertical movement. Liners 14, if
65 necessary, are placed in the trough adjacent to the inner vertical face 28 of the filler-block 3, and the bracket 9 is bolted into position, engaging vertical face 28 of the
70 adjacent liner 14, and the top surface 27 with its lip 29. The faces 30 and lips 25 of the brackets prevent respectively longitudinal and vertical movement of the filler-
75 block and the sides 10 of the trough lateral movement thereof. The tie-plate 2 is then mounted on the filler-block 3 and the rail 1 is placed thereon and secured to the tie-plate
80 2 and block 3 by means of rail fasteners 15. The rail fasteners 15 are inserted through openings 20 and 21 in the tie-plate 2 and filler-block 3, and the threaded lower portions 19 are then screwed into nuts 22 by
85 means of a wrench on the squared upper portion 18 of the fastener 15 until the beveled lower face 17 of the fastener 15 contacts with the flange of the rail, thus making a
90 rigid contact between the rail 1, tie-plate 2, and filler-block 3. Flanges 23 are provided on the nuts 22, to resist the upward drawing force of the rail 1 upon the nut 22, when in engagement with the rail fastener.

In adjusting or changing the gage of the rail 1, it is only necessary to take out the bolts 12, from the brackets 9, and to change the position of the liner or liners 14 from one
95 end to the other of the filler block 3 which can readily be done without disturbing the connection between the rails, tie-plate and filler-blocks.

I make the wooden filler-block of such a height that it projects slightly above the
100 sides of the trough, so that the tie-plate will not be in contact with the tie, in this way retaining the advantages arising from the resilience of the wood, and for that I leave a space between tie-plate 2, and lips 26 and 29,
105 thus enabling insulation of the rails. I also preferably in order to cheapen the tie, cut out portions of the sides 10 of the trough, both between and outside of the rails, as shown in Fig. 3; I also preferably use a tie-
110 plate of the construction shown in Figs. 4 and 5, without the inner shoulder shown in Fig. 1,

and with the outside ribs cut away except where adjacent to the opening in the plate, and with the central rib cut away, at each end thereof.

5 I claim:

1. A metallic railway tie of **I**-beam type having a trough in the top flange thereof, and a wooden filler-block secured therein by means of brackets.
- 10 2. A metallic railway tie of **I**-beam type, having a trough in the top flange thereof, and a wooden filler-block mounted therein and secured against lateral longitudinal and vertical movement by the side walls of said trough, the brackets positioned therein, and the lips of said brackets, respectively.
- 15 3. A metallic railway tie of **I**-beam type having a trough in the top flange thereof, and a wooden filler-block positioned therein, in combination with a rail, a tie-plate and a rail fastener with a head and threaded lower portion, said threaded lower portion being fitted to engage a threaded nut seated in the said wooden filler-block, and said head being adapted to draw down the flange of the rail to bring the rail, tie member and plate into rigid contact with the wooden filler-block.
- 20 4. A metallic railway tie of **I**-beam type having a trough in the top flange thereof, and a wooden filler-block positioned therein, in combination with a rail, a tie-plate, and a rail fastener, said rail fastener having a head with a beveled lower face to contact with the flange of the rail member, and a threaded lower portion adapted to engage and draw down into a nut seated in the wooden filler-block to bring the rail, tie-plate and wooden filler-block into rigid contact, said nut having reinforcing flanges to resist the upward drawing force of the rail member.
- 35 5. Metallic railway ties, of **I**-beam type having a trough in the top flange thereof,
- 40

and wooden filler-blocks mounted therein, tie-plates with rails on the top surfaces thereof secured to said filler-blocks, said filler-blocks being adapted to be moved to change the gage of the rails without disturbing the connection between the rails, tie-plates and filler blocks. 45

6. A metallic railway tie comprising a beam having top and bottom flanges, the top flange having substantially vertical longitudinally extending sides arranged to form a trough, and a wooden block adjustably mounted in said trough. 50

7. A metallic railway tie comprising a beam having top and bottom flanges, the top flange having substantially vertical longitudinally extending sides formed integral therewith and arranged to form a trough, and a block of resilient material adjustably secured in said trough. 55

8. A metallic railway tie comprising a beam having top and bottom flanges, the top flange having substantially vertical longitudinally extending sides formed integral therewith to form a trough, a block of resilient material adjustably secured in said trough having a nut embedded therein, a tie-plate on the block of resilient material, a rail, and a fastening device for the rail, said fastening device having a head with a beveled lower face arranged to contact with the flange of the rail and having a threaded lower portion adapted to engage with a nut seated in the resilient block to bring the rail, tie-plate and block into rigid contact. 60 65 70 75

In testimony whereof, I have hereunto set my hand.

SIMON CLARY.

Witnesses:

JOHN MILLER,
H. M. CORWIN