

No. 712,787.

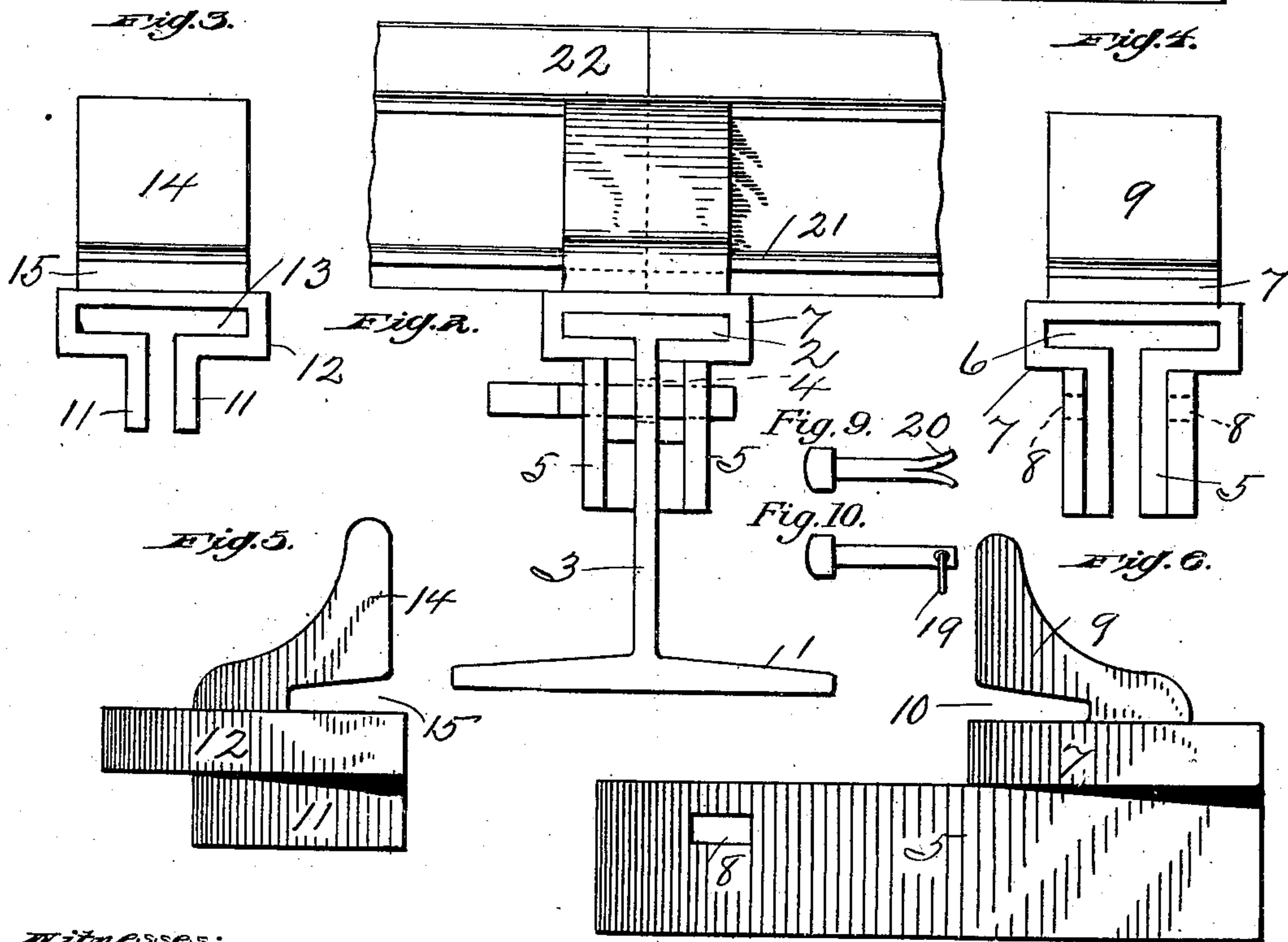
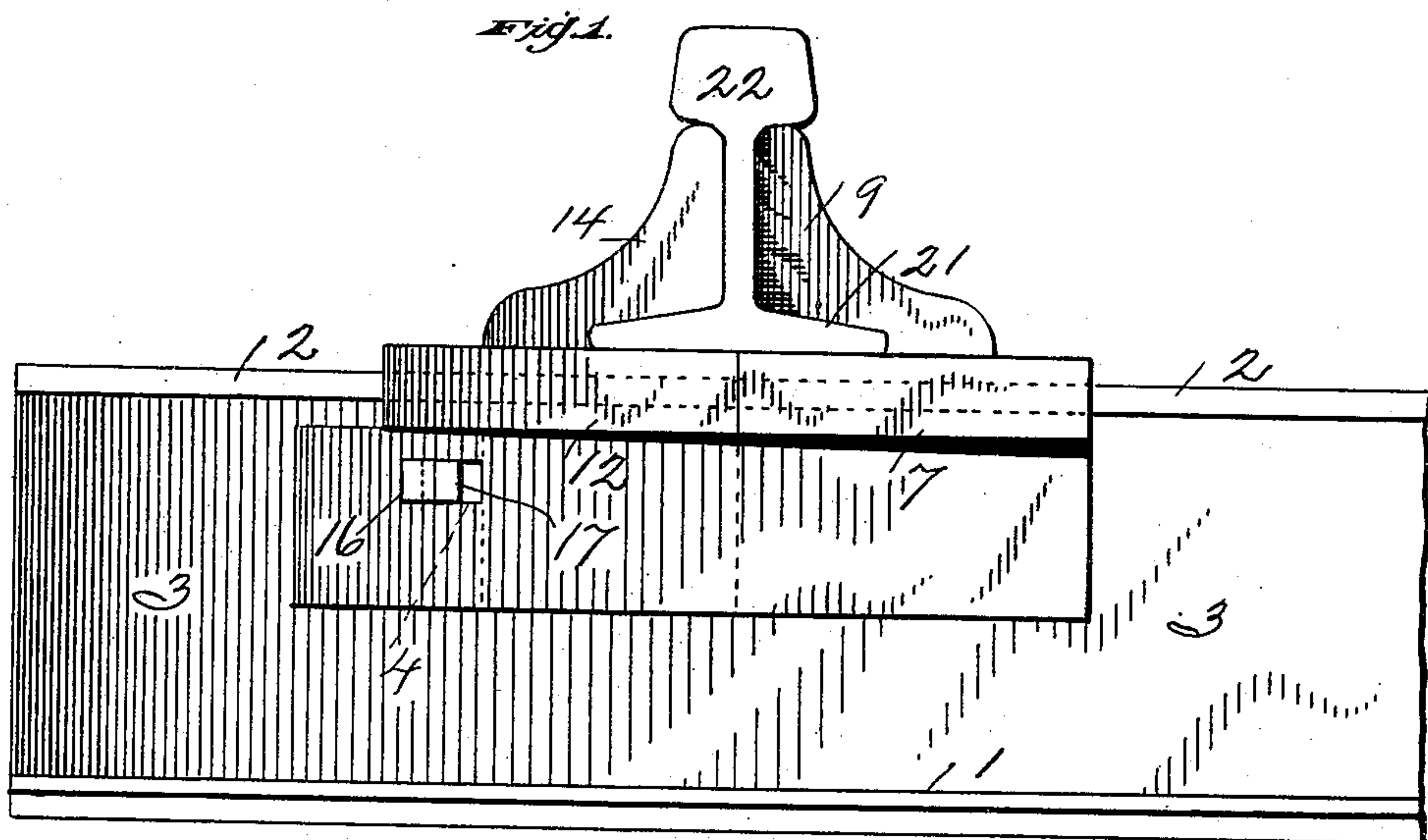
Patented Nov. 4, 1902.

C. GARDNER.

RAILWAY TIE AND RAIL CONNECTION.

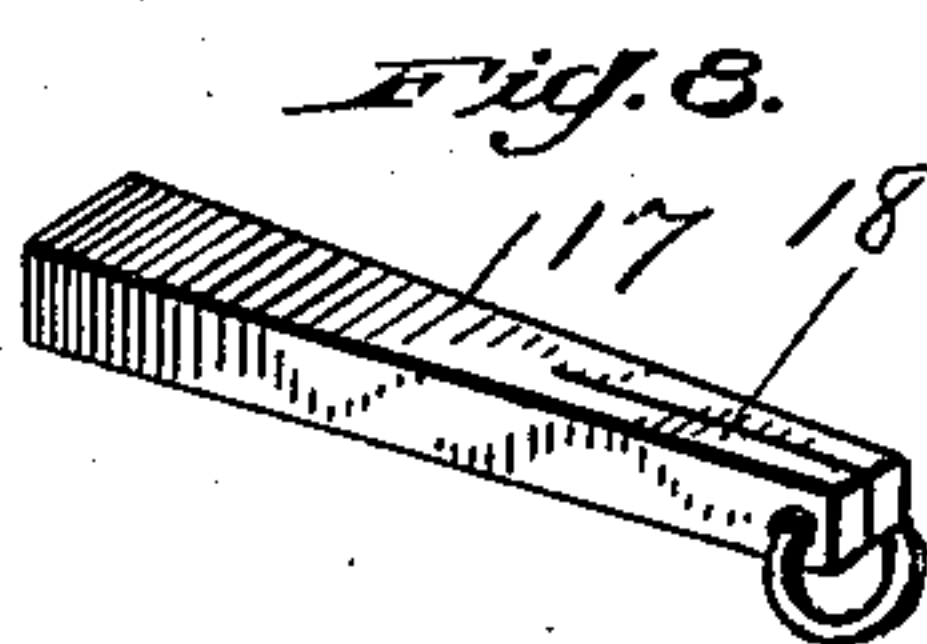
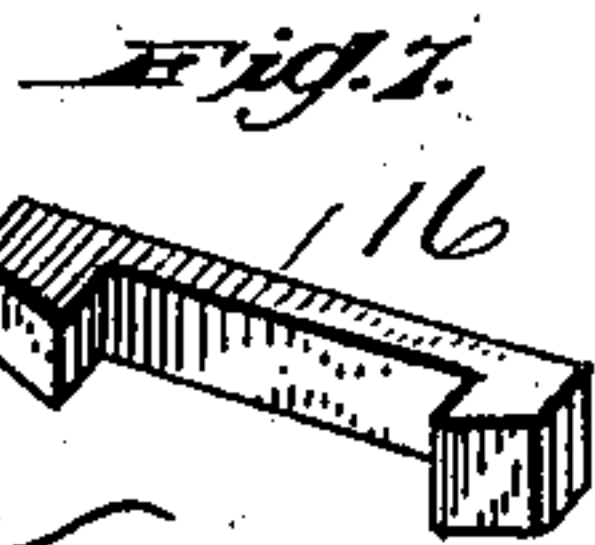
(Application filed Jan. 29, 1902.)

(No Model.)



Witnesses:

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# UNITED STATES PATENT OFFICE.

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## RAILWAY-TIE AND RAIL CONNECTION.

SPECIFICATION forming part of Letters Patent No. 712,787, dated November 4, 1902.

Application filed January 29, 1902. Serial No. 91,662. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES GARDNER, a citizen of the United States, residing at Washington, in the county of Washington and State of Pennsylvania, have invented a new and useful Improved Railway-Tie and Rail Connection, of which the following is a specification.

This invention relates to an improved railway-tie and rail connection; and it consists in forming the same from suitable metal parts, together with certain details of construction and combination of parts, as will be fully described hereinafter.

In the accompanying drawings, Figure 1 is a side elevation of my improved railway-tie together with its attached portions for connecting the ends of the railway-rails together or holding the rail to the tie, the same being constructed and arranged in accordance with my invention. Fig. 2 is an end elevation of the tie, also the parts forming the rail connection shown in side elevation. Fig. 3 is an end elevation of one of the clamps for holding the rails. Fig. 4 is an end elevation of the other clamp, showing the means whereby the two clamps are connected together. Fig. 5 is a side elevation of the first-mentioned clamp, or that shown at Fig. 3. Fig. 6 is a side elevation of the last-mentioned clamp, or that shown at Fig. 4 of the drawings. Fig. 7 is a perspective view of the gib used in connection with the locking pin or key. Fig. 8 is a similar view of the locking-key. Fig. 9 is a modified form of the said locking-key. Fig. 10 is another modification of the said locking-key.

To construct a railway-tie and rail connection in accordance with my invention, I first form the tie proper from a piece of wrought metal in the form of an I-beam, consisting of a broad flanged base 1, a central web 3, and a top flange 2, somewhat less in width than the lower or base flange 1, and the said I-beam of a length equal to that of an ordinary railway-tie, such as are now in common use. This tie is provided with two openings rectangular in form, and the said openings located outside of the position of the two rails 22 forming the track. I now form from pressed steel or other suitable metal clamp-

ing-pieces adapted to engage with the top flange 2 and web 3 of the tie above described, the inner clamp consisting of outwardly-extending flanges 5, the one parallel to the other and having an integral portion 7, the inner contour 6 of which is adapted to fit neatly about the upper flange 2 and web 3 of the tie, the same being placed over one end of the said tie. This inner clamp is also formed with an integral upwardly-extending portion 9, recessed, as at 21, whereby the same may correspond to the form of the railway-rails 22 on which it is used. A portion of the flanges 5 above mentioned are separated at one end (see Fig. 4) in order that similar flanges 11 of a second clamp may be entered and secured therein. This second clamp is arranged upon the outside of the railway-rails 22 and is provided, in addition to the above-mentioned flanges 11, with a head portion 12, similar to that of the inner clamp, and also with the upwardly-extending portion 14 and recess 15 to correspond with the form or outer contour of the rail. Formed through the flanges 5 of the inner clamp and in a position corresponding to the opening 4 through the tie is a similar opening 8, the two nearly registering the one with the other. Arranged through the above-mentioned openings 4 and 8 is a gib 16 (see Fig. 7) and a locking-key 17, (see Fig. 8,) slightly tapered and provided with a split point. When the said gib and key are in position, the split is opened, as in one of the views seen at Fig. 9 of the drawings, thereby preventing disengagement of the parts, or a pin or bolt may be used, as shown in the other view of the same figure.

In practice a set of the above-described clamps are arranged at either end of each of the ties and the said ties spaced and distributed along the line of track in a manner well known in the art.

In operation the inside clamps are first placed in position over each end of the tie and arranged at or about their proper position. The one rail 22 is now put in position and the outside clamp pressed over the end of the tie. The gib 16 is now inserted and the key 17 driven home and locked by opening the split end of the same. This key 17



being tapering and the openings through the flanges 5 and web 3 of the rail not being in exact alinement will draw the two clamping members tightly and rigidly to the rail 22 and secure the same to the tie. The other rail at the opposite end of the tie is secured in a like manner.

It will be observed that this combination of a railway-tie and rail-clamping device may be also successfully used without alteration or any modification in joining the ends of the rails together, thereby forming a splice, care being taken to place the end of the tie beneath connection.

Various slight modifications and changes may be made in the details of construction without departing from the spirit of the invention. Therefore I do not confine myself to the exact form shown and described.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a combined railway-tie and means for attaching the railway-rails thereto, the combination consisting of the tie formed from an I-beam of a suitable length, the inner clamping members formed to connect and be attached thereto, the outer clamping members interlocking with the said inner members, the two of which clamp the rail in po-

sition, and a means for drawing the one clamp toward the other, as and for the purpose described.

2. In a combination railway-tie and rail joint or connection, the combination consisting of the tie constructed as described, the inner clamping member having downwardly-extending flanges 5, a head portion 7 adapted to span the upper flange of the tie, the upwardly-projecting portion 9 formed with a recess 7, the contour of which corresponds with the sides of the rail 22, the outer clamping member having interlocking downwardly-extending flanges, a locking device to secure the two clamping members together, and an upwardly-projecting portion 14 having a recess 15, to fit neatly about the side of the rail 22, and a means whereby the two clamps may be drawn together to clamp the said rail and at the same time secure the two clamping members together, all arranged and combined for service, substantially as and for the purpose described.

In testimony whereof I have hereunto signed my name in the presence of two subscribing witnesses.

CHARLES GARDNER.

In presence of—

JOHN GROETZINGER,  
S. B. LEVIS.