

G. F. EVANS.
 MEANS FOR FASTENING RAILWAY RAILS TO TIES.
 APPLICATION FILED MAR. 30, 1912.

1,032,474.

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Fig. 1.

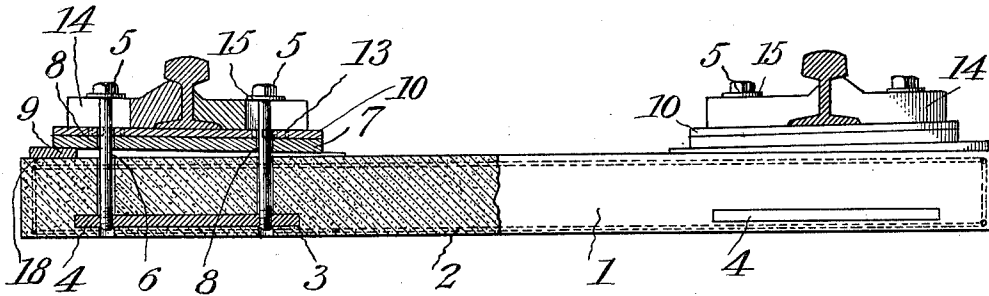


Fig. 2.

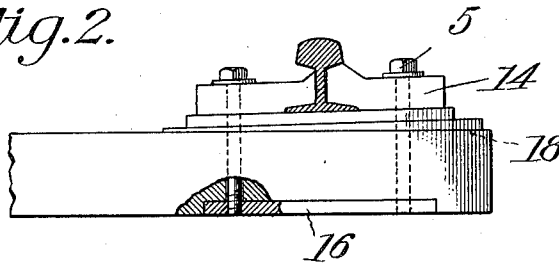


Fig. 3.

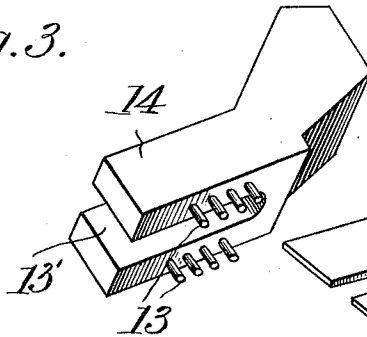


Fig. 4.

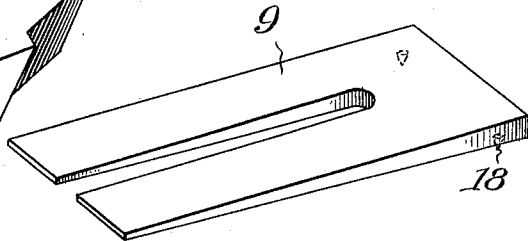
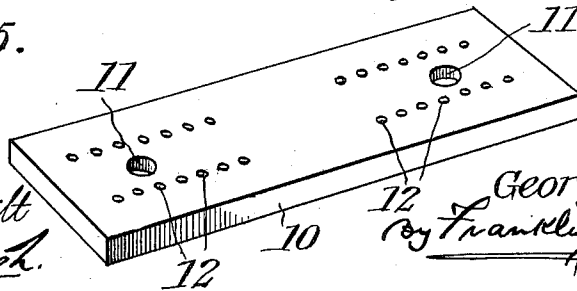


Fig. 5.



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MEANS FOR FASTENING RAILWAY-RAILS TO TIES.

1,032,474.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, GEORGE F. EVANS, a citizen of the United States, residing at Wimmers, in the county of Lackawanna and State of Pennsylvania, have invented certain new and useful Improvements in Means for Fastening Railway-Rails to Ties; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to new and useful improvements in apparatus for fastening railway rails to ties, either concrete or wood, and comprises a simple and efficient apparatus of this nature having various details of construction and combinations and arrangements of parts which will be hereinafter fully described, shown in the accompanying drawings and then specifically defined in the appended claims.

I illustrate my invention in the accompanying drawings, in which:—

Figure 1 is a view in elevation, partly in longitudinal section and transversely through the rails. Fig. 2 is a cross sectional view through a rail fastened to a tie adapted to be made of wood. Fig. 3 is a detail perspective view of a rail clamping member. Fig. 4 is a detail perspective view of a wedge block, and Fig. 5 is a perspective view of a cushion block.

Reference now being had to the details of the drawings by numeral, 1 designates a tie which may be made of any suitable material, such as concrete or cement or of wood and, when made of a composition, is reinforced by wire cables 2, as shown, which are embedded within the cement or concrete and afford additional strength to the tie. Said tie, made up of a composition of any suitable material, is provided with a transverse elongated slot or opening 3 for the reception of a metallic plate 4 which is provided with threaded apertures for the reception of the threaded ends of the bolts 5 which coöperate to hold the rail fastening means in place. Said tie is provided with bolt receiving apertures 6 through which the bolts 5 pass. A cushion plate 7, having apertures 8 therein, rests upon a slotted, wedge-shaped block 9, upon the tie, which

block 9 has lugs 18 engaging indentures in the tie. A plate 10 having apertures 11 therein for the reception of said bolts rests upon the cushion plate and is provided with series of perforations 12 which are adapted to receive the pins 13 projecting from the under surface of the clamping plates 14, which latter have elongated slots 13' therein for the reception of the bolts 5. There are two of said clamping plates each provided with pins which are adapted to engage a series of holes in the plate 10, thus affording means for holding the clamping members in different adjusted positions. By the adjustable mechanism described, it will be understood that the gage of the rails may be narrowed or widened and securely held in adjusted positions. Suitable washers 15 are mounted upon each bolt and adapted to rest upon the upper edges of the clamping members 14 adjacent to the slot therein and against which washers the heads of the bolts are adapted to contact, while the threaded portions of the bolts pass through the threaded holes formed in the plate 4.

In Fig. 2 of the drawings, I have shown a slight modification of the invention in which the tie is adapted to be made of wood and has a recess formed in the bottom thereof for the reception of the plate 16 which has threaded apertures for the reception of the threaded ends of the bolts 5, otherwise the mechanical construction of the fastening device is similar to that before described and as illustrated in Fig. 1 of the drawings.

By the provision of an apparatus for holding rails to railway ties made in accordance with my invention, it will be noted that the parts are made adjustable and adapted to fit rails of different widths and a secure means is afforded for holding the rails to the ties when made either of cement, concrete, etc., or wood, the bolts being held in either instance by threaded connection with holes in the plates which are held to the tie either in transverse openings or in recesses formed in the bottom thereof. By the provision of the cushion blocks, jar or vibration will, in a measure, be taken up and by the employment of the wedge-shaped blocks, the rails may be leveled or held at different inclinations as may be desired.

What I claim to be new is:—

1. An apparatus for fastening railway rails to ties, comprising a tie, a plate embedded in the tie and having threaded aper-

tures therein, a perforated plate supported upon the tie, clamping members having pins projecting therefrom and engaging the perforations of said plate, and a bolt passing
5 through the clamping members and perforated plate and engaging the threaded apertures in the plate which is embedded in the tie, as set forth.

2. An apparatus for fastening railway
10 rails to ties, comprising a tie, a reinforced concrete tie having a transverse opening therein, a plate mounted in said opening and having threaded apertures, rail clamping
15 members having each a slotted portion, pins projecting from the bottom of each clamping member, a perforated plate for the reception of said pins, a cushion plate intermediate the perforated plate and tie, bolts
20 passing through said clamping members, perforated and cushion plates and their threaded ends engaging the threaded apertures in the plate mounted in said opening in the tie, as set forth.

3. An apparatus for fastening railway
rails to ties, comprising a reinforced concrete 25 tie having a transverse opening therein, a plate mounted in said opening and having threaded apertures, rail clamping members having each a slotted portion, pins projecting from the bottom of each clamping mem- 30 ber, a perforated plate for the reception of said pins, a cushion plate intermediate the perforated plate and tie, bolts passing through said clamping members, perforated and cushion plates and their threaded ends 35 engaging the threaded apertures in the plate mounted in said opening in the tie, and a slotted wedge-shaped plate intermediate the cushion plate and tie, as set forth.

In testimony whereof I hereunto affix my 40 signature in the presence of two witnesses.

GEORGE F. EVANS.

Witnesses:

E. KLEIN,

NELLIE DUFFY.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."