

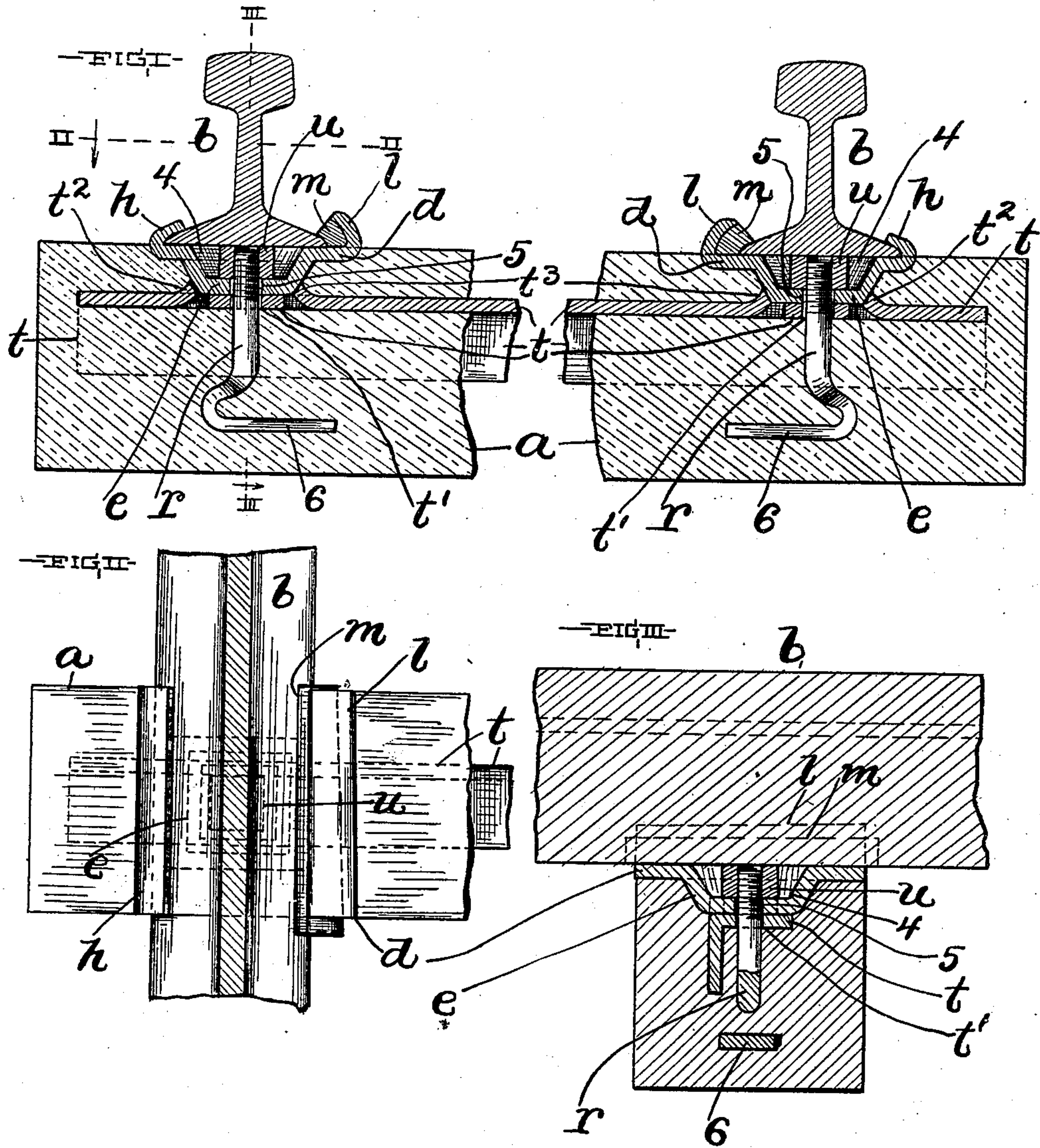
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W. E. JAQUES.
RAIL SUPPORT.

(Application filed Feb. 6, 1902.)

(No Model.)



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RAIL-SUPPORT.

SPECIFICATION forming part of Letters Patent No. 710,154, dated September 30, 1902.

Application filed February 6, 1902. Serial No. 92,815. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM E. JAKES, a citizen of the United States of America, residing at Grand Rapids, in the county of Kent and State of Michigan, have invented certain new and useful Improvements in Rail-Supports; and I 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 pertains to make and use the same.

My invention relates to improvements in rail-supports, and pertains more especially to improved means for fastening the rails of a railway-track to ties of cement or artificial stone.

The object of this invention is to provide efficient means for preventing displacement of the rails which is simple and durable in construction, readily applied, and reliable in its operation.

With this object in view the invention consists in certain features of construction and combinations of parts hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure I is a vertical section showing the two rails of a railway-track secured in place by means embodying my invention, and portions are broken away in this figure to reduce the size of the drawing. Fig. II is a top plan in section on line II II, Fig. I. Fig. III is a vertical section on line III III, Fig. I, looking inwardly.

Referring to the drawings, *a* designates a tie which is instrumental in supporting the rails *b* of a railway-track, which tie is arranged in the usual manner below and transversely of the rails. The tie *a* consists, preferably, of a block of cement or artificial stone.

Each rail *b* is not seated directly upon the tie, but rests upon and engages the upper side of a plate *d*, interposed between the base of the rail and the tie, which plate is preferably a metal plate fixed to the tie, as will hereinafter appear. The said plate *d* has its central portion depressed, as at *e*, below the rail and centrally widthwise of the rail, as shown in Fig. I, and centrally widthwise of the tie, as shown in Figs. II and III.

The depressed portion *e* of each plate *d* is preferably quadrilateral and depends into

and is embedded in the tie. The embedding or seating in the tie of the said depressed portion *e* of the said plate *d* effectually prevents displacement of the plate laterally as well as longitudinally of the tie.

Each plate *d* is provided at the outer side of the rail upon it with an upwardly and inwardly projecting flange *h*, which engages the outer edge of the base of the rail and somewhat overhangs and tightly engages the upper side of the rail-base at the outer side of the rail and is instrumental in holding the rail down upon the plate *d*. The said flange *h* constitutes a stop preventing outward lateral displacement of the said rail.

The plate *d* at the inner side of the rail is bent or flanged upwardly, as at *l*, and the said flange *l* overhangs a wedge *m*, which is driven between the inner side of the said flange *l* and the inner edge of the base of the rail, and obviously the application and operation of the said wedge results in a clamping or close engagement between the opposing surfaces of the rail-base and the flange *h*, and the said wedge also extends over and bears down upon the rail-base at the inner side of the rail and holds the rail down upon the said plate.

The means employed for positively attaching each plate *d* to the tie in addition to the embedding of the said plate in the tie comprises, preferably, a bolt *r*, which is arranged vertically and head down and has its screw-threaded shank extending through a correspondingly-arranged hole *s*, formed in and centrally of the bottom of the chamber *4*, formed within the depressed portion *e* of the plate *d*, and a correspondingly-threaded nut *u* is mounted upon the bolt-shank within the said chamber and is secured tightly against the bottom of the said chamber, and the arrangement of parts is such, preferably, that the nut when applied has its upper end flush with the upper and rail-bearing surface of the said plate *d*, so that the nut is not only out of the way of the rail, but unscrewing of the nut is prevented by the rail. The head of the said bolt is preferably in the form of a crook *6*.

A tie-bar *t*, preferably in the form of an angle-bar, ties together and braces apart and affords bearing to the bolt *r*, instrumental in securing both rails *b* of the railway-track to

the tie *a*. The tie *t* is arranged with one of its wings against the under side of the depressed portions *e* of the plates *d*, and the bolts *r* extend through corresponding holes *t'*, formed in the said wing, which affords lateral bearing for the bolts below the depressed portions *e* of the plate *d*, and the said wing has upwardly-projecting lugs or flanges *t²*, engaging the outer sides of the said portions *e* of the plate *d* and has other upwardly projecting lugs or flanges *t³*, arranged between and engaging the said portions *e* of the plates *d*. The members *t³* consequently brace apart the plates *d*, whereas the members *t²* are instrumental in preventing outward displacement of the said plates longitudinally of the tie.

The plates *d*, bolts *r*, and tie-bar are preferably assembled preparatory to forming the tie and are embedded in the tie during the process of molding the tie.

By the construction hereinbefore described it will be observed that the plates *d* and the rails are positively prevented from displacement, that the bolts *r* are efficiently tied together and braced apart, and that the depressed portions *e* of the plates *d* are also and directly tied together and braced apart by the tie-bar.

What I claim is—

1. The combination, with the two rails of a railway-track, and the tie arranged below and transversely of the rails, and plates interposed between the tie and the rails, which plates are provided, below the rails, with depressed portions embedded within the tie, of bolts and nuts instrumental in fastening the said plates, at their depressed portions, to the tie, and a tie-bar connecting the said bolts together, substantially as and for the purpose set forth.

2. The combination, with the two rails of a railway-track, and the tie arranged below and transversely of the rails, and plates interposed between the rails, which plates have means for holding the rails down upon the plates and are provided, below the rail, with depressed portions which depend into the tie, and upright bolts extending through the depressed portions of the plates and arranged head down and embedded in the tie, and correspondingly-threaded nuts mounted upon the shanks of the bolts within the aforesaid depressed portions of the plates, substantially as and for the purpose set forth.

3. The combination, with a rail and the tie arranged below and transversely of the rail, and a plate interposed between the under side of the base of the rail and the tie and having means instrumental in holding the rail down upon the plate, which plate is provided, below the rail, with a depressed portion which is embedded within the tie and forms a chamber 4 which is arranged next under the base of the rail and has a bottom provided with a bolt-hole 5, of an upright bolt extending through the said bolt-hole and

arranged head down with the head embedded in the tie, and a nut mounted upon the bolt-shank within the aforesaid chamber, substantially as and for the purpose set forth.

4. The combination, with the two rails of a railway-track, and the tie arranged below and transversely of the rails and plates interposed between the rails and the tie and having means instrumental in holding the rails down upon the plates, which plates are provided, below the rails, with depressed or depending portions, of upright bolts extending through the said depending portions of the plates, nuts mounted upon the bolt-shanks and arranged to hold the aforesaid plates down, and an angle-bar embedded in the tie next below the aforesaid plates and tying the aforesaid bolts together.

5. The combination, with the two rails of a railway-track, and the tie arranged below and transversely of the rails, and plates interposed between the rails and the tie and having means instrumental in holding the rails down upon the plates, which plates are provided, below the rails, with depressed or depending portions, of upright bolts extending through the said depending portions of the plates, nuts mounted upon the bolt-shanks and arranged to hold the aforesaid plates down, and a tie-bar extending longitudinally of the tie below the aforesaid plates and tying the aforesaid bolts together and having lugs or flanges bracing apart the said plates.

6. The combination, with the two rails of a railway-track, and the tie arranged below and transversely of the rails and plates interposed between the rails and the tie and having means instrumental in holding the rails down upon the plates, which plates are provided, below the rails, with depressed or depending portions, of means securing the said plates, at their depending portions, to the tie, and a bar embedded in the tie next below the aforesaid plates and arranged longitudinally of the tie and having upwardly-projecting lugs or flanges arranged to prevent displacement of the aforesaid plates longitudinally of the tie.

7. The combination, with the two rails of a railway-track and a tie arranged below and transversely of the rails, of plates interposed between the rails and the tie and provided, below the rails, with depressed or depending portions; means instrumental in holding the rails down upon the plates, and a bar embedded in and arranged longitudinally of the tie and connected with the depending portions of the aforesaid plates.

In testimony whereof I sign the foregoing specification, in the presence of two witnesses, this 20th day of January, 1902, at Cleveland, Ohio.

WILLIAM E. JAQUES.

Witnesses;

C. H. DORER,

TELSA SCHWARTZ.