

No. 710,153.

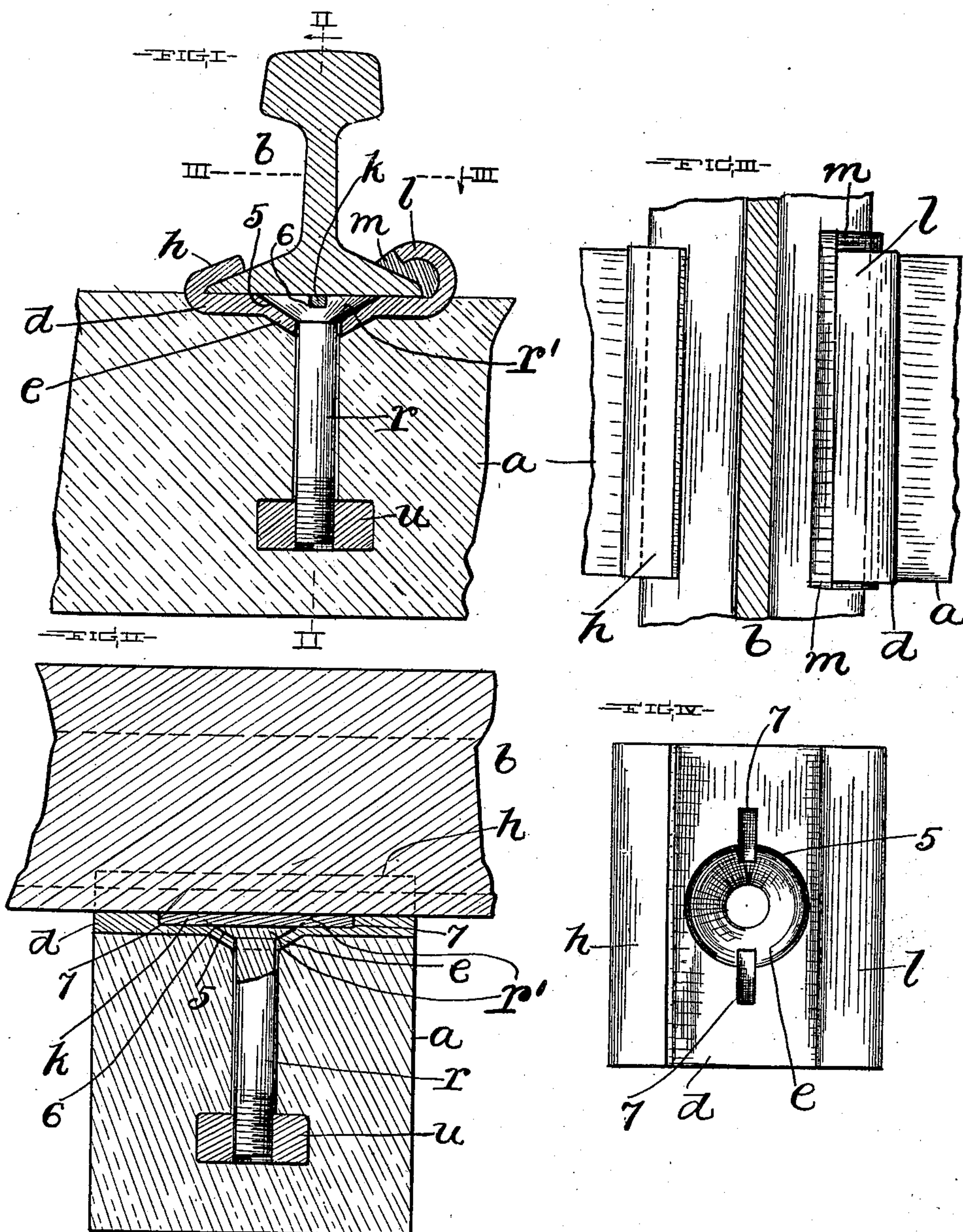
Patented Sept. 30, 1902.

W. E. JAKUES.

RAIL SUPPORT.

(Application filed Jan. 27, 1902.)

(No Model.)



WITNESSES:

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UNITED STATES PATENT OFFICE.

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RAIL-SUPPORT.

SPECIFICATION forming part of Letters Patent No. 710,153, dated September 30, 1902.

Application filed January 27, 1902. Serial No. 91,443. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM E. JAQUES, 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 rail of a railway-track to ties of cement or artificial stone.

The object of this invention is to provide simple, durable, and efficient and reliable means for preventing displacement of the rail.

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 a rail secured in place by means embodying my invention. Fig. II is a vertical section on line II II, Fig. I, looking outwardly. Fig. III is a top plan section on line III III, Fig. I. Fig. IV is a top plan of the rail-bearing plate detached.

Referring to the drawings, *a* designates a tie which is instrumental in supporting a rail *b*, extending over and across the said tie. The tie *a* consists, preferably, of a block of cement or artificial stone.

Preferably the rail is not seated directly upon the tie, but rests upon and engages the upper side of a bed-plate *d*, which is preferably a metallic plate fixed to the tie, as will hereinafter appear. The plate *d* has its rail-bearing portion preferably set into the upper side of the tie flush with the upper surface of the tie, as shown more clearly in Fig. I.

The 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 Fig. II.

The depressed portion *e* of the plate *d* depends into and is embedded in the tie. The embedding or seating in the tie of the said

depressed portion *e* effectually prevents displacement of the plate laterally as well as longitudinally of the tie.

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

The plate *d* at the inner side of the rail is bent upwardly, as at *l*, at the said side of the rail and overhangs the base of the rail at the said side of the rail.

A wedge *m* is driven between the inner side of the member *l* and the rail-base, engaging the inner edge of the said base, and obviously the application and operation of the said wedge result in a clamping or close engagement between the opposing surfaces of the rail-base and the flange *h*.

The means employed for positively attaching the plate *d* to the tie, in addition to the embedding of the said plate in the tie, comprises, preferably, an upright bolt *r* and a correspondingly-threaded nut *u*.

The depressed portion *e* of the plate *d* is shown in the form of an annular upwardly-flaring member forming an annular upwardly-flaring seat for the correspondingly-shaped head *r'* of the bolt *r*, which is arranged shank down. The bolt-head *r'* preferably snugly fills the recess *5*, formed within the depressed portion *e* of the plate *d*, and is arranged with its upper extremity flush with the upper and rail-bearing surface of the plate *d*. The bolt-shank extends a suitable distance downwardly into the tie and has its lower end engaged by the nut *u*, which is embedded in the tie.

The rail prevents unscrewing of the bolt *r*, and means for preventing turning of the bolt, and thereby avoiding wear upon the head of the bolt and upon the base of the rail, is provided and comprises, preferably, a key-forming bar *k*, which extends through a slot or recess *6*, formed in and extending across the head of the bolt, and projects beyond oppo-

site sides of the said head and engages two corresponding depressions or recesses 7 and 7, which are arranged in line and formed in the plate *d* at opposite sides, respectively, of and connected with the bolt-head-receiving recess 5 of the said plate.

What I claim is—

1. The combination, with the rail, and the tie arranged below and transversely of the rail, a plate interposed between the under side of the rail-base and the tie and having a recess below the rail-base, and means holding the rail down upon the said plate, of a fastening device arranged to hold the plate down and having a member engaging the aforesaid recess under the rail-base and comprising another member embedded in the tie below the aforesaid plate.

2. The combination, with the rail, and the tie arranged below and transversely of the rail, a plate interposed between the under side of the rail-base and the tie and having a recess below the rail, and means holding the rail down upon the said plate, of an upright bolt having its head within the said recess and arranged to hold the plate down and having its shank extending downwardly into the tie, and a nut embedded in the tie and engaging the said shank.

3. The combination, with the rail, and the tie arranged below and transversely of the rail, a plate interposed between the under side of the rail-base and the tie and having a recess below the rail, and means instrumental in holding the rail down upon the plate, of an upright bolt having its head within the said recess and arranged to hold the plate down and having a slot or recess, a nut embedded in the tie and engaging the shank of the bolt, and a key engaging the slot or recess in the bolt-head and extending into

the aforesaid plate, substantially as and for the purpose set forth.

4. The combination, with the rail, and the tie arranged below and transversely of the rail, a plate interposed between the under side of the rail-base and the tie and provided, below the rail, with a depressed or depending upwardly-flaring annular portion or member, of an upright bolt having its head snugly engaging the recess formed within the said flaring member and having its shank extending downwardly into the tie, and a nut embedded in the tie and engaging the shank of the bolt, substantially as and for the purpose set forth.

5. The combination, with the rail, and the tie arranged below and transversely of the rail, a plate interposed between the under side of the rail-base and the tie and having a bolt-head-receiving recess below the rail and two depressions or recesses arranged in line at opposite sides, respectively, of and connecting with the first-mentioned recess, and means instrumental in holding the rail down upon the plate, of an upright bolt arranged shank down and having its head engaging the aforesaid bolt-head-receiving recess and provided with a transversely-extending slot or recess; a key extending through the slot or recess in the bolt-head into the aforesaid aligned depressions or recesses, and a nut engaging the bolt-shank and embedded in the tie, substantially as and for the purpose set forth.

In testimony whereof I sign the foregoing specification, in the presence of two witnesses, this 8th day of January, 1902, at Detroit, Michigan.

WILLIAM E. JAQUES.

Witnesses:

B. FRANKLIN MULFORD,
JAMES E. DICKINSON.