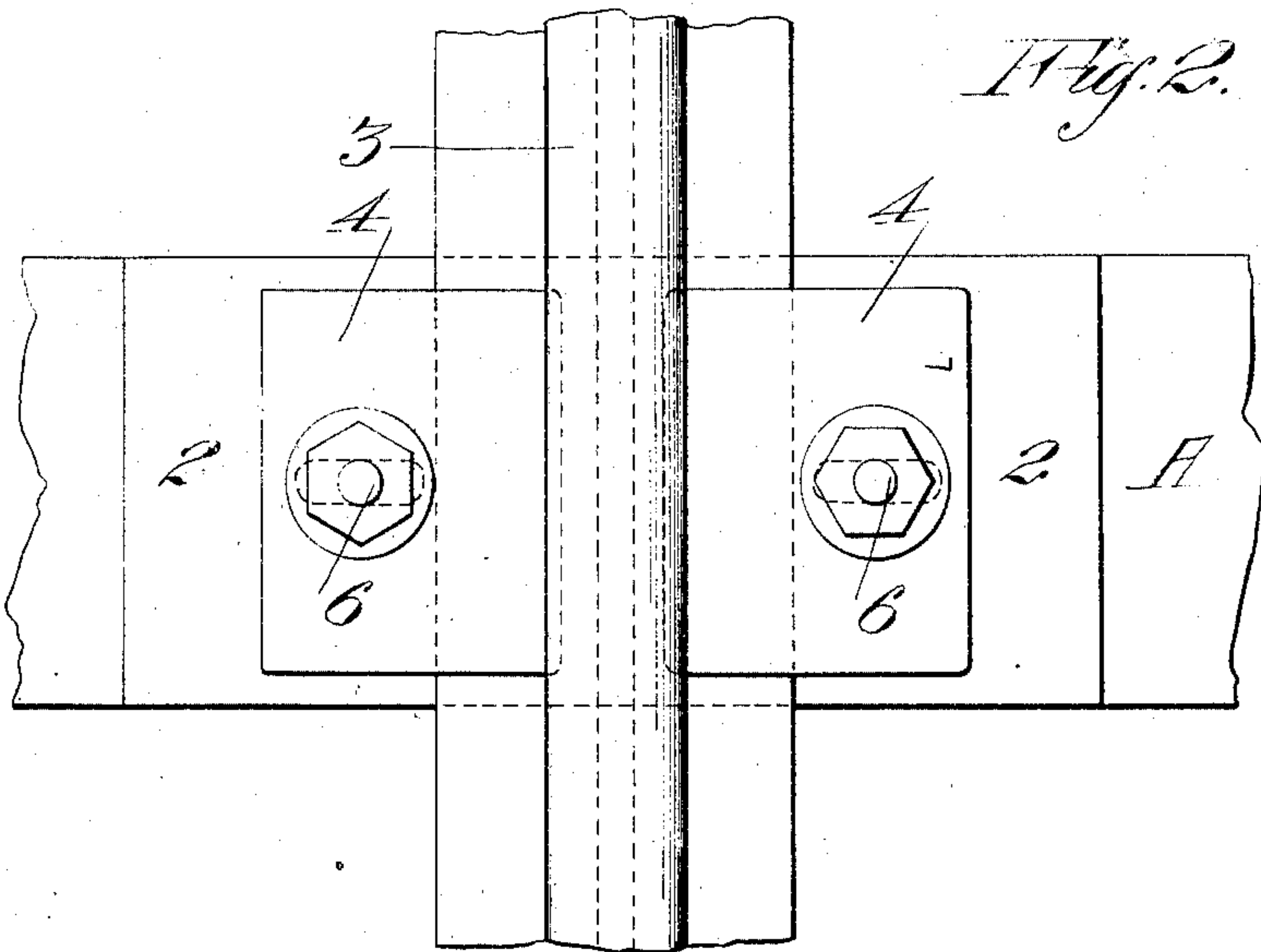
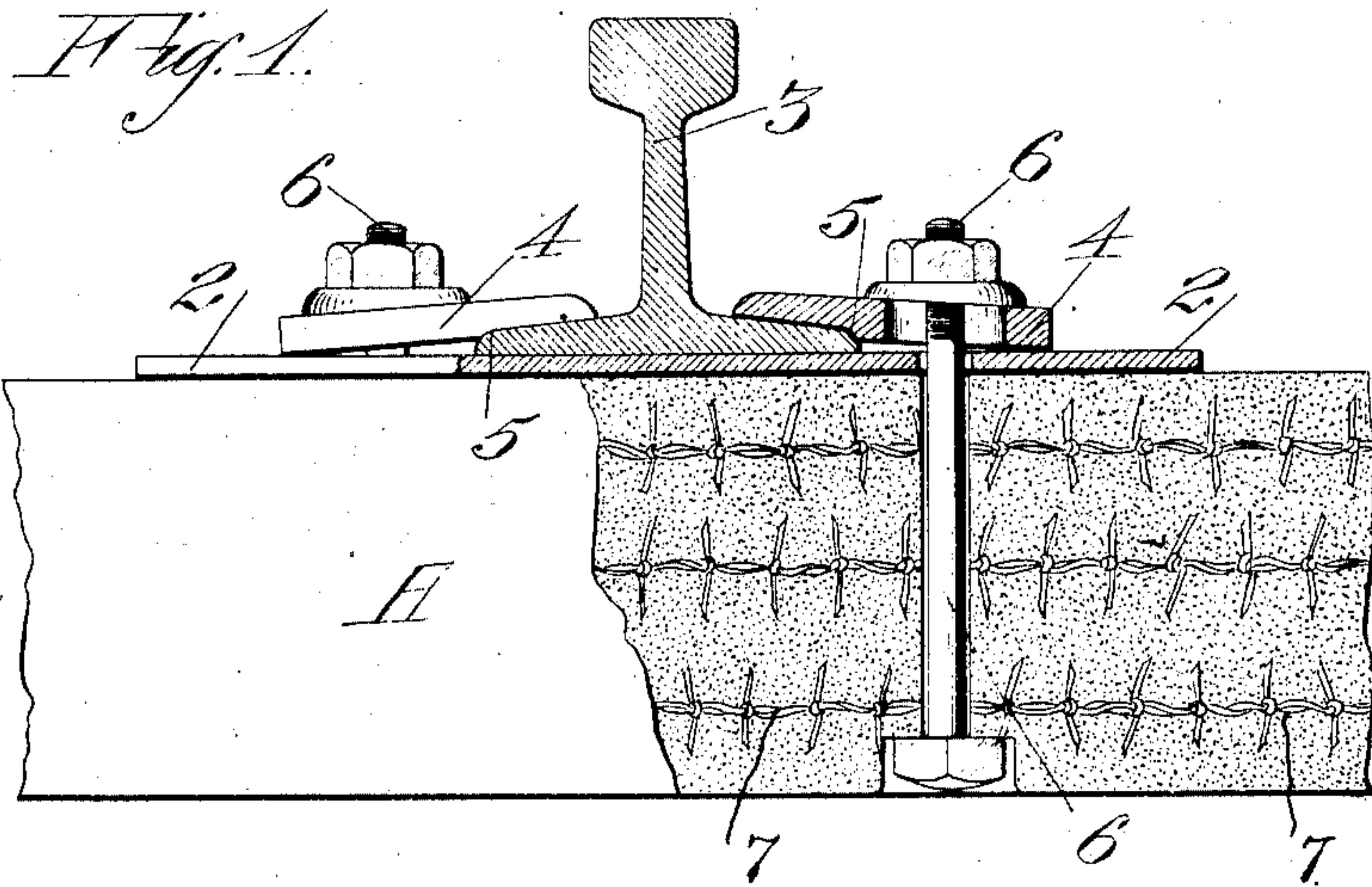


G. GATES.  
RAILWAY RAIL SUPPORT AND FASTENER.  
APPLICATION FILED APR. 29, 1908.

905,688.

Patented Dec. 1, 1908.



WITNESSES

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# UNITED STATES PATENT OFFICE.

GEORGE GATES, OF SAN JOSE, CALIFORNIA.

RAILWAY-RAIL SUPPORT AND FASTENER.

No. 905,688.

Specification of Letters Patent.

Patented Dec. 1, 1908.

Application filed April 29, 1908. Serial No. 429,956.

*To all whom it may concern:*

Be it known that I, GEORGE GATES, a citizen of the United States, residing at San Jose, in the county of Santa Clara and State of California, have invented new and useful Improvements in Railway-Rail Supports and Fasteners, of which the following is a specification.

My invention relates to improvements in railway rail ties or supports, and means for securing rails thereto.

It consists in the combination of parts and details of construction, which will be more fully explained by reference to the accompanying drawings, in which—

Figure 1 is a cross section, showing the construction of my device. Fig. 2 is a plan.

It is the object of my invention to provide a permanent, enduring tie, and means for supporting the railway rails thereon and for securing them firmly in place.

In the construction of my tie I employ concrete of any usual or well known mixture, and with it I mix pumice-stone, asbestos and wood-pulp, to provide a certain elasticity of the material and resist the tendency to break under shocks. The mass is molded in a box of suitable size and shape, and I employ barbed wire 7 as a reinforcing agent, the barbs of the wire forming a strong bond with the concrete. Upon the surface of the tie A thus constructed, and in the line of the rails which are to be supported thereon, I place a metal plate 2 of sufficient area, and upon this the rail 3 rests. The plate has sufficient area to prevent the jar and pounding of the rail from cutting into the tie and loosening the support.

4 are locking clamps, the inner ends of which are thinner than the outer ends, forming a shoulder as at 5; and these inner ends rest upon the bottom flange of the rail upon opposite sides. The outer, thicker ends rest upon the iron plate. Oblong holes are made through these clamps to provide for an adjustment thereof toward and from the flange of the rail, and holes are made through the tie and through the iron plates for the reception of bolts 6. These bolts have sufficiently large heads or equivalent washers at the bottom to prevent their cutting into the bottom of the tie, and the upper ends are screw-threaded. The clamps being placed over the upper ends of the bolts are then adjusted to rest upon the rail flanges, the rail being already in place; and by turning down the

nuts upon the plates or suitable washers which rest thereon, the clamps are firmly compressed upon the rail flanges. The angle at which they stand upon the plate 2 is such that the outer ends of the clamps form a fulcrum, the inner ends resting upon the rail, and the bolts and nuts form the power, while the clamps act as levers to firmly hold the rail in place.

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

1. An improved railway rail support and fastener, comprising a reinforced concrete tie having vertical perforations therethrough, a metal plate having corresponding perforations and adapted to support a rail flange between said perforations, transverse bars upon said plate and inclined horizontally relative thereto, said bars having their inner ends made thinner than the outer ends, said thinner ends adapted to rest upon the flange of the rail and to form a shoulder to abut thereagainst, the outer ends of the bars resting in contact with the upper surface of said plate, said bars having oblong slots in the direction of their length, bolts passing through said slots, the plate, and the tie, and locking nuts and washers for the bolts.

2. An improved railway rail support and fastener having in combination a tie formed of concrete containing a fibrous material adapted to render the concrete more or less elastic, a metal plate upon the upper surface of the tie, and forming a support for the rail flanges, transverse bars upon said plate having the lower surface of their inner ends provided with a shoulder adapted to abut against the rail flanges, said bars being horizontally inclined relative to the plate whereby their inner portions are raised above the surface of said plate except at the outer ends thereof, said outer ends serving as fulcrums for the bars; bolts passing through the tie, the plate and the bars, said bars having oblong holes to receive the bolts, and nuts and washers acting in conjunction with the bolts to produce a leverage to lock the bars upon the rails.

3. An improved railway rail support and fastener having in combination a concrete tie provided with a metal reinforce said tie being provided with perforations, a metal plate resting upon the tie and forming a support for the rails, said plate having holes adapted to register with those in the tie,



transverse bars above the plate normally inclined relative to the latter whereby the inner ends of the bars are raised out of contact with said plate and are in contact with the flanges of the rail, the outer ends of the bars being in contact with the plate and forming fulcrums, said bars having oblong openings, and bolts passing through the tie, the bars, and the plate, and nuts, and washers whereby

the bars are locked to the rail flanges and the supporting plate. 10

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

GEORGE GATES.

Witnesses:

GEO. H. STRONG,

CHARLES EDELMAN.