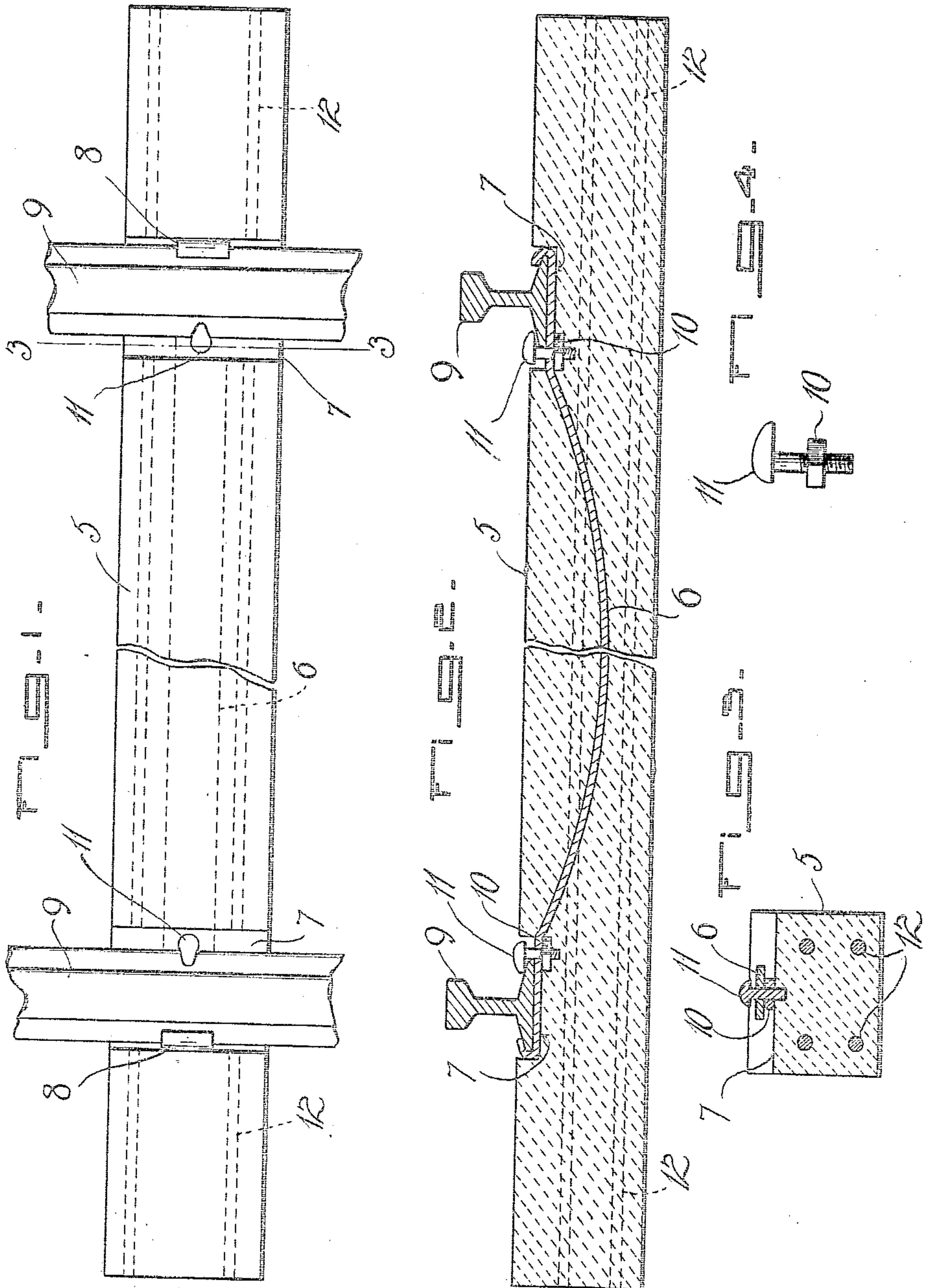


E. L. HORSTMANN.
RAILWAY TIE AND FASTENER.
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953,665.

Patented Mar. 29, 1910.



Witnesses

C. C. Chandler.
M. J. Miller.

Inventor
Ernest L. Horstmann.

By

[Signature]

Attorney

UNITED STATES PATENT OFFICE.

ERNEST L. HORSTMANN, OF CHATTANOOGA, TENNESSEE.

RAILWAY-TIE AND FASTENER.

953,665.

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To all whom it may concern:

Be it known that I, ERNEST L. HORSTMANN, a citizen of the United States, residing at Chattanooga, in the county of Hamilton, State of Tennessee, have invented certain new and useful Improvements in Railway-Ties and Fasteners; 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.

The invention relates to a railway tie and rail fastener and more particularly to the class of railway concrete ties and rail fasteners supported thereby.

The primary object of the invention is the provision of a novel concrete tie which will withstand the stresses and strains set up by rolling stock passing over the same and furthermore that is of durable construction so as not to be affected by climatic changes to destroy the efficiency of the tie.

Another object of the invention is the provision of a reinforced concrete tie for railways that is adapted to detachably receive a novel rail brace bar or securing device which can be easily and quickly mounted and detached when it is desired to fasten or unfasten a rail when positioned on the tie.

A further object of the invention is the provision of a railway tie and rail fastener that is simple in construction, thoroughly efficient in the operation, and inexpensive in the manufacture.

With these and other objects in view the invention consists in the construction, combination and arrangement of parts as will be hereinafter more fully described, illustrated in the accompanying drawing which discloses the preferred form of embodiment of the invention and as brought out in the claim hereunto appended.

In the drawings:—Figure 1 is a top plan view of a railway tie constructed in accordance with the invention and showing the fragmentary portion of rails mounted thereon. Fig. 2 is a longitudinal sectional view thereof. Fig. 3 is a transverse sectional view on the line 3—3 of Fig. 1. Fig. 4 is a detailed view of one of the detachable bolt fasteners for engaging the inner edge of the rail.

Similar reference characters indicate corresponding parts throughout the several views in the drawings.

In the drawings the numeral 5 designates

the body of a tie which is made of concrete molded in any suitable manner to the desired shape and length thereof, the body being preferably rectangular shape in cross section and has embedded therein a metal bar 6, preferably of steel which extends longitudinally for the greater portion of the length of said tie. In the middle portion of the tie the metal bar 6, extends in a curved manner through the body of the concrete but toward its end it extends upwardly and at the rail seat portions 7, in the tie it is substantially flush with the surface.

The metal bar 6, at opposite extremities thereof is bent upwardly and inwardly to form rail engaging tongues or ears 8, which latter are adapted to engage the outer edges of the bases by overlapping the same of the railway rails 9, so as to prevent the latter from spreading and to assist in holding them in the rail seat portion of the tie.

Immediately below the metal bar 6, near opposite extremities thereof are nuts 10, which latter lie within correspondingly shaped recesses or sockets formed in the rail seat portion 7 of the tie and their central threaded openings register with suitable openings contained in the metal bar to permit the detachable connection of bolts or other securing devices 11, which are adapted to engage the inner edges of the bases of the rails 9, to clamp and fasten the latter in the rail seat portion 7 of the tie.

Extending through the body 5 of the tie are reinforcing rods 12, which latter are embedded in the said body when the tie is being molded or otherwise constructed and these rods serve to strengthen and reinforce the said body of the tie.

It will be noted that there are employed only two securing devices for fastening the railway rails in the rail seat portions of each tie and it is to be understood that the metal bar is to be varied in length to correspond to the gage of the track.

From the foregoing description, the construction and operation is thought to be clear without the necessity of a more extended explanation and therefore the same has been omitted.

What is claimed is:—

A reinforced concrete tie having a body of concrete, a longitudinally disposed bar disposed in the concrete, the said body being provided with rail receiving depressions, the bar being extended through the concrete

and having its extremities resting in said depressions, the extremities of the bar being bent upwardly and inwardly toward each other to engage the outside edges of the bases
5 of railway rails positioned in the depressions, securing devices carried by the bar to engage the inside edges of the bases of railway rails, and reinforcing rods embedded in

and extending longitudinally of the body of the tie.

In testimony whereof, I affix my signature, in presence of two witnesses.

ERNEST L. HORSTMANN.

Witnesses:

CARL GIBBS,
S. C. BROOKS.