M. FLAK.

TIE AND RAIL FASTENER.

APPLICATION FILED DEC. 29, 1911.

1,020,406.

Patented Mar. 19, 1912.

FIG. 1

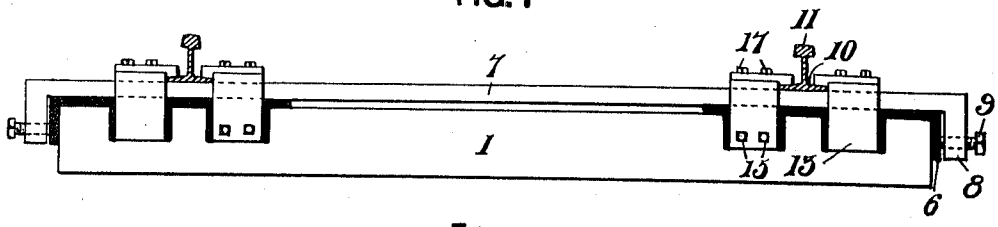


FIG. 2

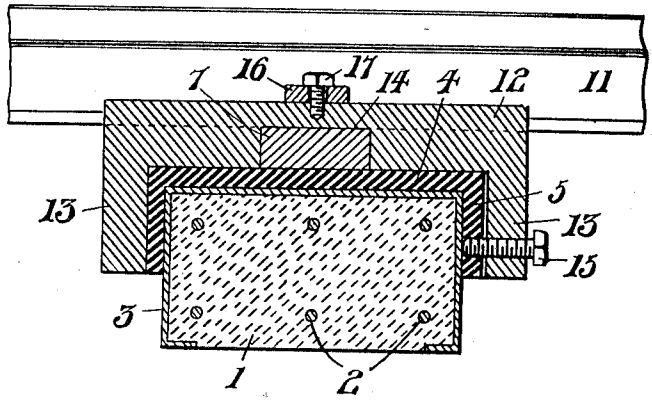


FIG. 4

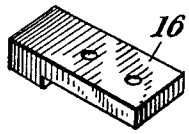


FIG. 3

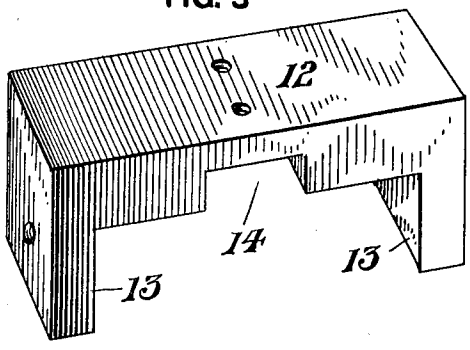
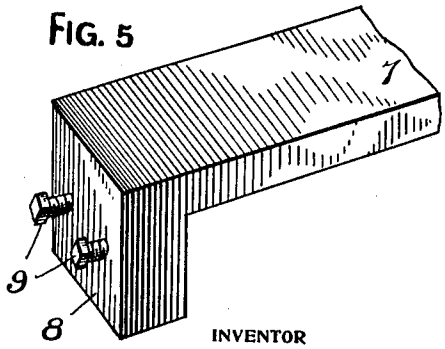


FIG. 5



WITNESSES

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UNITED STATES PATENT OFFICE.

MARCIN FLAK, OF PORT JEFFERSON, NEW YORK.

TIE AND RAIL-FASTENER.

1,020,406. Specification of Letters Patent. **Patented Mar. 19, 1912.**

Application filed December 29, 1911. Serial No. 668,540.

To all whom it may concern:

Be it known that I, MARCIN FLAK, a subject of the Emperor of Austria-Hungary, residing at Port Jefferson, in the county of Suffolk and State of New York, have invented certain new and useful Improvements in Ties and Rail-Fasteners, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to a tie and rail fastener, and the primary object of my invention is to provide a strong and durable tie for supporting the rails of a track, the tie being made of reinforced concrete incased in a shell that prevents deterioration of the concrete by forces of nature.

Another object of this invention is to furnish a tie with novel cushioned rail fasteners that will positively retain rails upon the tie and prevent accidental displacement of the rail due to heavy rolling stock passing over the same.

A further object of this invention is to accomplish the above result by a combination of mechanical elements that are highly efficient for the purposes for which they are intended.

The invention will be hereinafter specifically described and then claimed, and reference will now be had to the drawing, wherein—

Figure 1 is a side elevation of a tie and rail fastener in accordance with this invention; Fig. 2 is an enlarged cross-sectional view of the tie and one of the fasteners; Fig. 3 is an enlarged perspective view of a detached transverse yoke; Fig. 4 is a perspective view of a detached fastener member; and Fig. 5 is a perspective view of one end of the longitudinal yoke.

The reference numeral 1 denotes an oblong concrete body reinforced by equally spaced longitudinal metallic rods 2, said rods being located in proximity to the walls of the concrete body. The concrete body constitutes ties and said ties can be of any desired length.

The reference numeral 3 denotes a metallic shell incasing the top and sides of the concrete body, said shell having the lower longitudinal edges thereof flanged inwardly and extending under the concrete body 1.

The reference numeral 4 denotes saddles of insulation, as fiber or rubber, said saddle being mounted upon the tie at the ends thereof. The saddles 4 have depending side pieces 5 and end pieces 6, said end pieces engaging the ends of the tie.

The reference numeral 7 denotes a longitudinal yoke extending from one end of the tie to the opposite end thereof. This yoke is mounted upon the saddles 4 centrally of the tie, and the depending ends 8 of the yoke are locked in engagement with the end pieces 6 of the saddle by screws 9 or other fastening means. This longitudinal yoke is made of metal and supports the base flanges 10 of rails 11.

The reference numeral 12 denotes transverse yokes that are mounted upon the longitudinal yoke 7 adjacent to the base flanges 10 of the rails 11, said transverse yoke having the depending ends 13 thereof engaging the side pieces 5 of the saddle 4. The transverse yokes 12 are cut away as at 14 to provide clearance for the longitudinal yoke 7, and the inner transverse yokes are clamped to the tie by set screws 15 at one side of the tie, while the outer transverse yokes are clamped to the ties by similar fastening means upon the opposite side of the ties.

The reference numeral 16 denotes fastener members that are secured to the transverse yoke 12 by set screws 17 or other fastening means, said fastening members extending on to the base flanges 10 of the rails 11 and firmly clamping said rails to the longitudinal yoke 7.

The saddles 4 and the yokes 12 and 7 can be mounted upon ordinary wooden ties, when bridges, trestles, and other track structures or road beds are already equipped with wooden ties. The yokes 7 and 12, together with the fastener members are made of metal, and ordinary nut-locking devices can be used in connection with the set screws 9, 15 and 17.

What I claim is:

1. In a tie and rail fastener, the combination with a concrete tie, a metallic casing inclosing the top and side walls of said ties, and rails, of saddles of insulation arranged upon said ties and having side and end pieces, a longitudinal yoke arranged upon said saddle and having the depending ends thereof locked relatively to the end pieces of said saddle, transverse yokes arranged upon said longitudinal yokes and having the depending ends thereof locked relatively to the side pieces of said saddle, said transverse yokes being cut away to provide clear-

ance for said longitudinal yoke, and fastener members secured to said transverse yoke and adapted to retain said rails upon said longitudinal yokes.

2. In a tie and rail fastener the combination with a concrete tie, and rails, of saddles of insulation arranged upon said tie at the ends thereof, said saddles of insulation having side pieces engaging the sides of said ties, and end pieces engaging the ends of said ties, a longitudinal yoke arranged upon said saddle and adapted to support said rail, said yoke having the depending ends thereof in proximity to the end pieces of said saddle, screws arranged in the ends of said longitudinal yoke and engaging the end pieces of said saddles, transverse yokes arranged upon said longitudinal yokes adjacent to said rails, said transverse yoke having the depending ends thereof extending in proximity to the side pieces of said saddle, set screws locking said transverse yoke relatively to said saddle, and fastener members secured to said transverse yoke and engaging the base flanges of said rail.

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

MARCIN FLAK.

Witnesses:
F. W. AMES,
A. T. NORTON.