

W. E. McKIM.
TIE AND RAIL FASTENER.
APPLICATION FILED APR. 14, 1911.

1,012,683.

Patented Dec. 26, 1911.

Fig. 1.

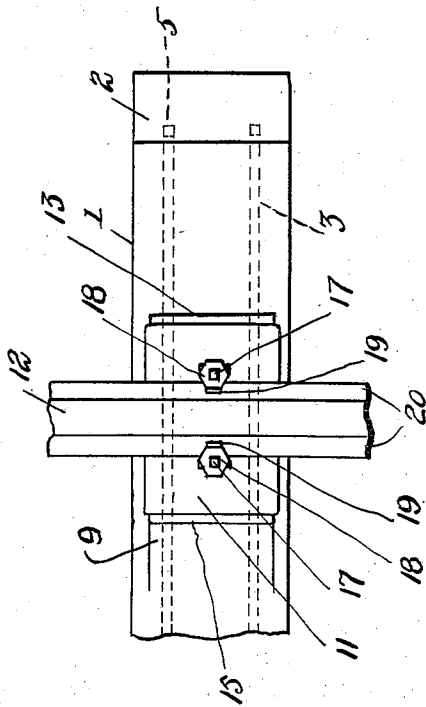


Fig. 3.

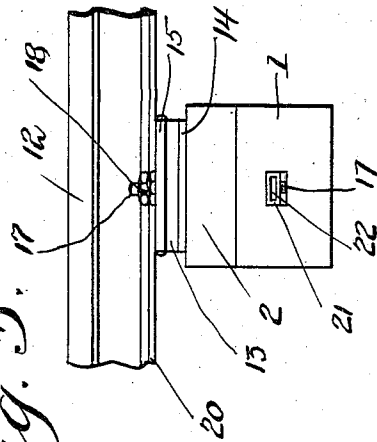
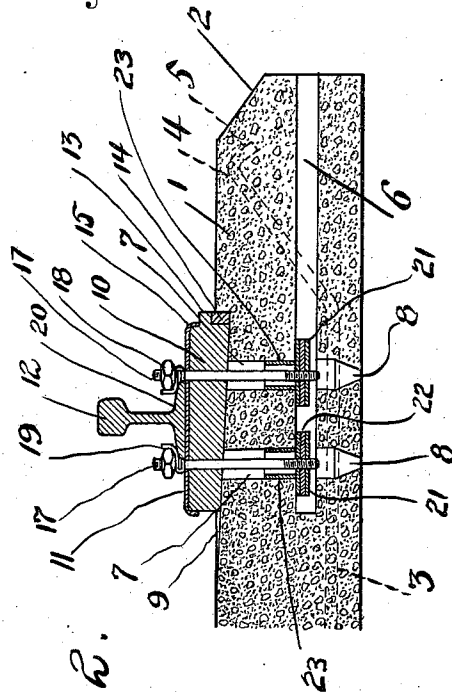


Fig. 2.



WITNESSES:

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TIE AND RAIL-FASTENER.

1,012,683.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WILMER E. McKIM, a citizen of the United States of America, residing at New Kensington, in the county of Westmoreland and State of Pennsylvania, 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 objects of my invention are to provide a concrete tie or sleeper for firmly supporting the rails of a track, and to furnish the tie with positive and reliable means, in a manner as will be hereinafter set forth, for fastening rails to the tie.

Other objects of my invention are to provide a tie made of concrete or other plastic material with novel rail seats that will prevent lateral displacement or spreading of the rails of a track, and to provide a tie that can be easily tamped in the ballast of a roadbed and capable of withstanding the forces of nature.

Further objects of my invention are to provide a rail fastener that can be easily and quickly installed without the use of skilled labor, and to arrange the fastener relatively to the tie whereby the gage of a track can be adjusted and maintained.

I attain the above objects by a mechanical construction that is simple, durable, inexpensive to manufacture and highly efficient for the purposes for which it is 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 plan of a portion of the tie and one of the rail fasteners, Fig. 2 is a longitudinal sectional view of the same, and Fig. 3 is an end view of the tie.

A tie in accordance with this invention comprises an oblong body 1 rectangular in cross section and having the ends thereof beveled at the upper edges, as at 2. The tie is preferably made of concrete or a similar plastic material and is strength reinforced by longitudinal tie rods 3 arranged in parallelism, adjacent to the bottom of the tie, and having the ends thereof bent upwardly at an angle, as at 4 and hook-shaped, as at 5 whereby the metallic reinforcements will be positively anchored in the body of the tie.

As the ends of the tie are identical in construction, I deem it only necessary to describe the details of construction at one end of the tie.

Longitudinally of the tie there is a bore 6 having one end thereof open at the end of the tie. This bore is preferably rectangular in cross section and adjacent to the inner end thereof is intersected by vertical openings 7, the lower ends of said openings being reduced, as at 8 and terminating at the bottom of the tie.

The top of the tie at the upper ends of the openings 7 is cut away to provide an inclined seat 9 for a rail block 10 having the upper surface thereof horizontal to accommodate a plate 11 adapted to support a rail 12. The rail block 10 is of a less width than the tie and snugly fits within the seat 9, whereby it cannot become laterally displaced. The outer end of the rail block 10 has a transverse rib 13 and under this rib, between the end of the block 10 and the end of the seat 9, is a filler block 14, said filler block being employed whereby the rail block can be adjusted upon the seat 9 to compensate for any irregularities or differences in the gage of a track.

The rail plate 11 has the ends thereof flanged, as at 15 to engage the ends of the rail block 10, and said rail plate and said rail block are provided with openings for the upper ends of bolts 17, said bolts extending into the openings 7. The ends of the bolts are screw threaded and detachably mounted upon the upper ends of the bolts are nuts 18 adapted to retain washers 19 upon the upper ends of the bolts and in engagement with the base flanges 20 of the rail 12. The washers 19 are provided with openings to receive the bolts and said washers are adapted to overhang the base flanges 20, the washers engaging the nuts 18 to prevent accidental displacement of said nuts. The lower screw threaded ends of the bolts 17 extend into longitudinal channel-shaped housings 21 arranged in the bore 6 beneath the openings 7, each housing containing a nut 22 that positively holds the lower end of the bolt therein. To prevent the walls of the openings 7 from crumbling by any movement of the bolts 17, sleeves 23 are arranged in the lower ends of the openings. With the lower ends of the openings 7 terminating at the bottom of the tie body, dirt and other matter is prevented from accumulating.

ing in the openings, prior to the tie being laid upon the roadbed, these openings allowing water and other matter to drain from the tie that would otherwise freeze and in all probability crack and expand the tie.

From the foregoing it will be observed that I have devised a tie for supporting rails in connection with which the ordinary electric signaling apparatus can be used, as one rail is thoroughly insulated from the other.

While in the drawing there is illustrated a preferred embodiment of the invention, it is to be understood that the structural elements thereof are susceptible to such changes as fall within the scope of the appended claims.

What I claim is:—

1. In a tie and rail fastener, the combination with rails, of an oblong concrete body having bores formed in the ends thereof and vertical openings intersecting the bore at each end of said body, the top of said tie having seats formed therein at the upper ends of said openings, a rail block mounted in each seat, a rail plate mounted upon said rail block and adapted to support one of said rails, bolts extending through said rail plate and said rail block, nuts mounted upon the upper ends of said bolts, washers

mounted upon the upper ends of said bolts and overhanging the base flanges of the rail supported by said rail plate, housings arranged in said bore and adapted to receive the lower ends of said bolts, and nuts arranged in said housings.

2. In a tie and rail fastener, the combination with rails, of a concrete body having the ends thereof provided with bores and vertical openings intersecting said bores, said tie having the top thereof provided with seats at the upper end of said openings, a rail block mounted in each seat, a filler block interposed between said rail block and one end of said seat, a rail plate mounted upon each block and adapted to support said rails, vertical bolts arranged in said block and said rail plate, means carried by the upper ends of said bolts and adapted to retain said rail upon said rail plate, and means located within the bore of said body and adapted to hold the lower ends of said bolts therein.

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

WILMER E. McKIM.

Witnesses:

ULYSSES S. ARMSTRONG,
EDWARD E. JACKSON.