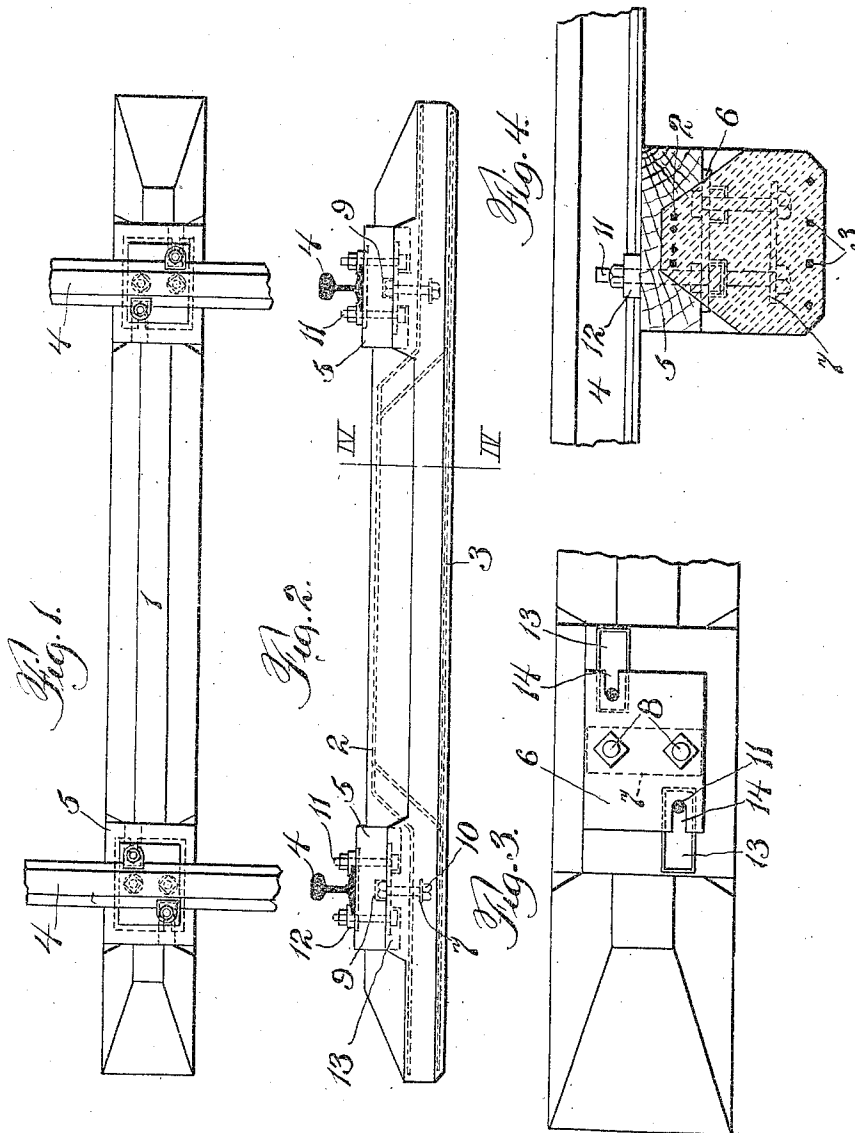


W. J. GREEN.
CONCRETE TIE.

APPLICATION FILED JUNE 2, 1908.

977,728.

Patented Dec. 6, 1910.



WITNESSES

Harry L. Lechner
Oscar Bellinger

INVENTOR

William J. Green
by atty
Paul Synnestvedt

UNITED STATES PATENT OFFICE.

WILLIAM J. GREEN, OF CHICAGO, ILLINOIS.

CONCRETE TIE.

977,728.

Specification of Letters Patent.

Patented Dec. 6, 1910.

Application filed June 2, 1908. Serial No. 436,319.

To all whom it may concern:

Be it known that I, WILLIAM J. GREEN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Concrete Ties, of which the following is a specification.

The invention relates to concrete ties and has for its principal objects; the provision of a tie of this character having improved and resilient rail bearing sections; and the provision of improved means whereby the rails may be adjustably secured to the concrete body portion. One embodiment of the invention is illustrated in the accompanying drawings, wherein:—

Figure 1 is plan view of the tie,

Figure 2 is a side elevation thereof,

Figure 3 is an enlarged partial plan view with the bearing block or cushion removed, and

Figure 4 is a section on the line IV—IV of Figure 2.

Briefly stated the tie comprises in its preferred form, a concrete body portion reinforced in any desired manner, rail bearing of cushioning blocks in position on the tie to receive the rails, and composed of a substance of a more yielding or resilient nature than the concrete, and means for adjustably securing the rails to the cushions.

Referring to the drawing, 1 is the concrete body portion preferably of the cross sections indicated in Figure 4, which body portion is re-inforced by longitudinally extending twisted or corrugated rods 2 and 3; 4—4 are the rails; 5—5 are bearing blocks or cushions preferably of wood, which are set into recesses in the opposite ends of the body portion 1; 6—6 are metal holding plates set into the concrete beneath the blocks 5—5 to which plates the blocks are secured; and 7—7 are the anchoring plates which are embedded in the body of the tie beneath the holding plates, and to which the holding plates are secured.

The means for securing the parts together is shown in detail Figures 3 and 4. The anchoring plate 7 is embedded in the concrete, and this anchoring plate is secured to the holding plate 6 by means of the bolts 8, such bolts having their heads received in recesses 9 in the bottom of the block 5, and having their nuts 10 embedded in the concrete beneath the anchoring plate. The rail 4 and

the block are secured to the holding plate 6 by means of the bolts 11, which bolts are provided with nuts at their upper ends engaging holding clips 12 extending over the flanges of the rail. The heads of these bolts 11 come beneath the holding plate 6, the concrete being recessed beneath the plate to provide room for the wooden blocks 13—13, which are recessed to receive the heads of the bolts. The plate 6 is slotted at 14—14 to receive the shanks of the bolts 11, and to provide for slight adjustment of these bolts laterally when desired.

The advantages of the construction will be apparent to those skilled in the art. Concrete ties as heretofore constructed, have been found too rigid and unyielding, and the provision of the wood blocks 5 provides for the necessary yielding or resilience. It will also be seen that the position of the rails upon the cushioning blocks may be easily altered by changing the location of the holes through which the bolts 11 pass, the slots 14 in the holding plates 6 permitting of the lateral adjustment of the bolts to suit the position of the bolt-holes in the blocks 5. The ties may be cast alike for all different weights and shapes of rail sections, and the rail connections may be altered or renewed without removing the tie from the road bed, all that is necessary being the removal of the wood blocks. A considerable portion of the strain is removed from the bolts 11 by reason of the shoulders on the ties between which the wood blocks 5 rest. It will also be seen that the arrangement of the anchoring plates, holding plates, and block provides a very secure and effective means for securing the rail to the tie. The term concrete is used in the specification and claims in its generic sense, and is intended to apply to all forms of cast composition ties. There is a great variety of those compositions and the term concrete is the one most generally applied to all of them. It will also be understood that the invention is not limited to the use of wood bearing blocks, but that other substances may be substituted therefor, the only requirement being that the substance be relatively more yielding than the concrete, and that it be sufficiently strong to resist the strain imposed upon it.

Having thus described my invention and illustrated its use, what I claim as new and

desire to secure by Letters Patent is the following:—

1. In combination in a tie, a concrete body portion, a metal holding plate provided with slots and seated in the body portion, a rail supporting block mounted over the plate, rail securing bolts passing through the block and through the slots in the plate, and means for securely anchoring the holding plate to the body portion.

2. In combination in a tie, a concrete body portion provided with recesses on the upper portion, a slotted metal holding plate mounted with its slots over the said recesses, a rail supporting block mounted on the plate, rail securing bolts extending through the block and slots with their ends lying in the said recesses, and means for securely anchoring the holding plate to the body portion.

3. In combination in a tie, a concrete body portion provided with recesses on the upper portion, a slotted metal holding plate

mounted with its slots over the said recesses, a rail supporting block mounted on the plate, rail securing bolts extending through the block and slots with their heads lying in the said recesses, wood blocks in the recesses for engaging the heads and preventing them from turning, and means for securely anchoring the holding plate to the body portion.

4. In combination in a tie, a concrete body portion, an anchoring plate embedded in the body portion, a holding plate thereabove, a rail supporting block above the holding plate, securing bolts connecting the two plates, a rail, and rail securing bolts extending through the holding plate and block.

In testimony whereof I have hereunto signed my name in the presence of the two subscribed witnesses.

WM. J. GREEN.

Witnesses:

H. T. SANDERS,
S. E. MYERS.