

C. D. GREEN.
RAILROAD TIE.

APPLICATION FILED JUNE 1, 1911.

Patented Jan. 30, 1912.

2 SHEETS—SHEET 1.

1,016,141.

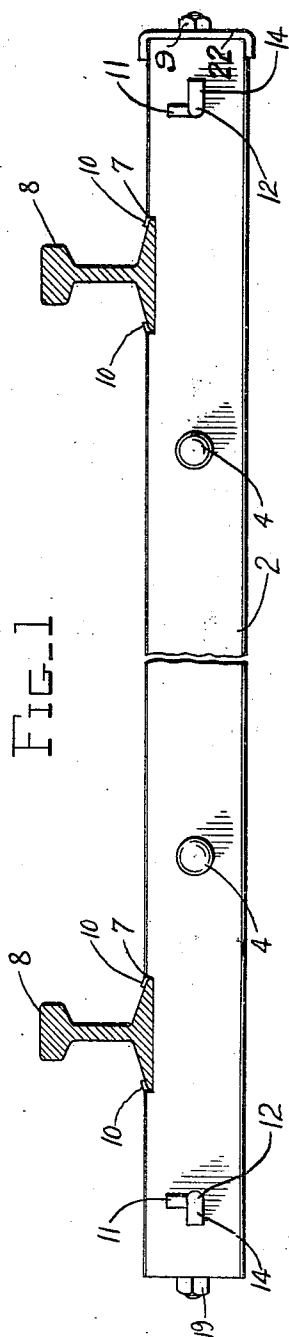


FIG. 1

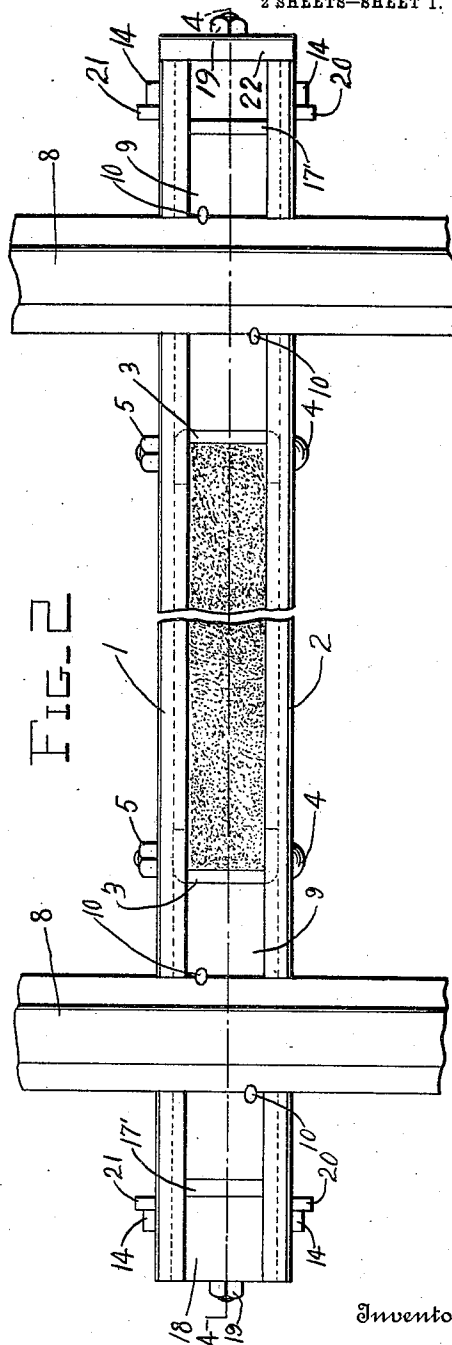


FIG. 2

Witnesses

J. H. England.
W. F. Woodman.

Inventor

C. D. Green.

By *[Signature]*
[Signature]

Attorneys

1,016,141.

C. D. GREEN.
RAILROAD TIE.
APPLICATION FILED JUNE 1, 1911.

Patented Jan. 30, 1912.

2 SHEETS—SHEET 2.

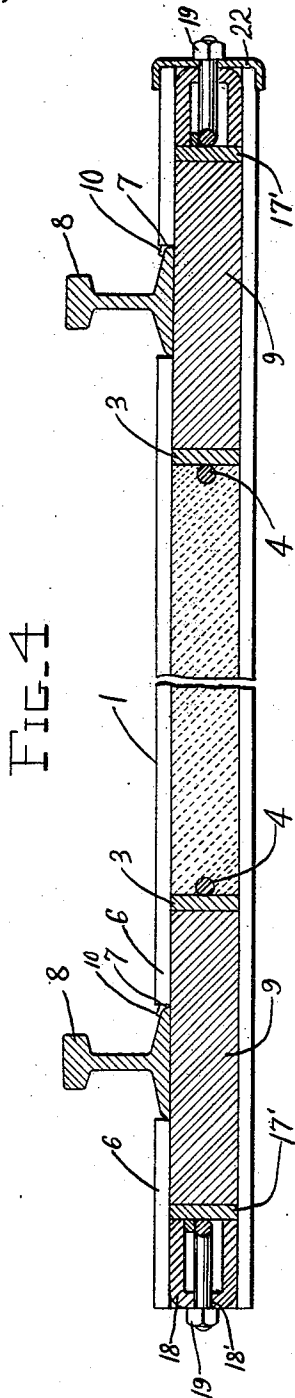


FIG. 4

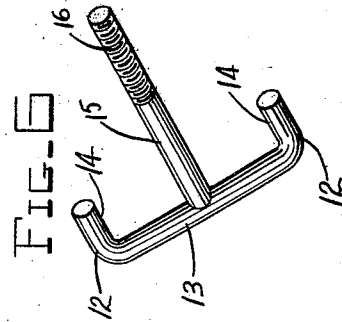


FIG. 5

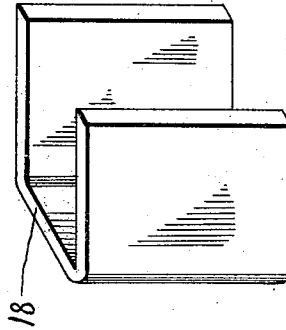


FIG. 6

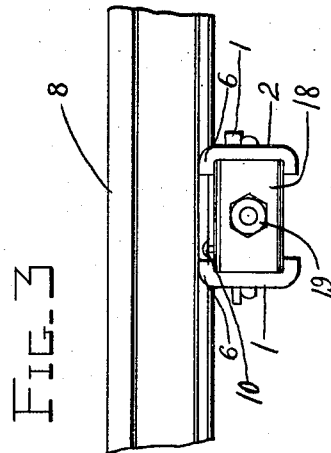


FIG. 7

Witnesses

J. H. England,
W. H. Woodman.

Inventor

C. D. Green.

[Signature]

Attorney

UNITED STATES PATENT OFFICE.

COLLINS D. GREEN, OF ROARING SPRING, PENNSYLVANIA.

RAILROAD-TIE.

1,016,141.

Specification of Letters Patent.

Patented Jan. 30, 1912.

Application filed June 1, 1911. Serial No. 630,577.

To all whom it may concern:

Be it known that I, COLLINS D. GREEN, a citizen of the United States, residing at Roaring Spring, in the county of Blair, State of Pennsylvania, have invented certain new and useful Improvements in Railroad-Ties; 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.

My invention relates to new and useful improvements in railroad ties, and more especially to metallic ties and the object of my invention is to improve the construction and increase the efficiency and utility of ties of the above described class.

A further object of my invention is to provide a metallic tie which incloses blocks of wood that serve to directly support the rails, thus combining all the advantages of the ordinary wooden tie with the additional advantages of strength and durability derived from the metallic tie.

A further object of my invention is to provide a tie of the above described character in which the wooden blocks may be readily removed when worn and replaced by new ones, without the necessity of removing the rail or tie, or of disturbing the road ballast in which the tie is packed. And a still further object of my invention is to provide a novel and efficient means of securing the wooden blocks in place in the metallic tie.

With these and other objects in view, my invention will be more fully described, illustrated in the drawings which show a preferred embodiment of my tie and then specifically pointed out in the claims which are attached to and form a part of this application.

In the accompanying drawings, Figure 1 is a side elevation of my improved tie. Fig. 2 is a top plan view thereof. Fig. 3 is an end elevation. Fig. 4 is a section on the line 4-4 of Fig. 2. Fig. 5 is a detail perspective of the follower used in securing the wooden blocks in place. Fig. 6 is a detail perspective of the locking means employed in securing the follower.

Referring more specifically to the drawings, in which similar reference numerals designate corresponding parts throughout, my improved tie will be seen to consist primarily of a body member formed of the two side members 1 and 2, each of which

consists of channel metal, said members being secured together longitudinally in spaced apart position, by means of the U-shaped spacer plates 3 and bolts 4 which are passed through said members and through the spacer plates and secured in place by means of nuts 5. Rivets may be used in place of nuts and bolts if desired, and possess the advantage of not becoming loosened by the jarring of the rails. The side members 1 and 2 are secured together with their flanged faces opposed to each other and the side portions of the spacer plates bear against the inner faces of said members between the flanges thereof, thereby rigidly connecting the side members together. If desired the central portions of the side members may be bowed inwardly to narrow that portion of the tie and the space inclosed between said side members and spacer plates are, in either form, preferably filled with concrete thereby increasing the rigidity of the tie and giving it sufficient weight to form a steady track.

Adjacent each end the upper flanges 6 of the side members are cut away as at 7 to form seats for the rails, one of which is shown conventionally at 8 by which means the rails are prevented from spreading. Blocks of wood 9 are positioned between the side members of the tie at either end and supported in place by the flanges of said members, these blocks as shown being positioned immediately below the cut away portions of the flanges 7 whereby the rail is seated directly upon the upper face of the block and secured thereto by means of the customary spikes 10. As a means for securing these blocks in position against the outer faces of the spacer plates 3 I have provided the side members 1 and 2 adjacent each end each with a transversely extending slot 11, through which extend the ends 12 of T-shaped bolts 13. As best shown in Fig. 6 of the drawings the ends 12 each terminate in lateral extensions 14 extending parallel to the stem 15 of the bolt, the free end of which is threaded as at 16. As shown in Fig. 1 these extensions normally project toward the end of the tie but by swinging the stem 15 upwardly said extensions may be brought in alinement with the slots and the bolt thus removed from the tie. Substantially rectangular shaped plates 17 are slipped into the ends of the tie between the sides thereof and positioned against the

outer ends of the blocks 9. The bolts are then placed in position and U-shaped followers 18 preferably formed from a single piece of metal are slipped into the ends of the tie between the side members thereof until their ends rest against the plates 17', the flanges of the side members forming guides for directing the sides of the followers. Each of these followers is provided with a centrally located aperture 18' by means of which it is passed over the stem of the bolt and forced inwardly until its ends bear against the outer ends of the blocks. Nuts 19 are then threaded upon the bolts thus firmly securing the followers in position. If desired a key 20 may be then passed through the slots above the bolt and held in place by its extension 21 thereby preventing any movement of the bolt. This key however is not a necessary part of my invention. If desired also a suitable cap 22 may be positioned between the end of the follower and the bolt as shown in Figs. 1 and 2. This cap however is not necessary and I prefer to construct the tie without it as its use necessitates the cutting of the blocks into predetermined lengths, whereas where the follower alone is used the blocks may vary slightly in length without in any way affecting the effectiveness of the block.

From the foregoing description it will be readily apparent that I have provided a composite tie, composed partially of metal, partially of concrete, and partially of wood, said tie being so constructed as to combine the advantages of concrete, iron, and wooden ties in one.

One of the chief advantages of my improved tie resides in the small amount of wood employed, and in the manner in which the wood is positioned and held in the metallic tie casing. In ties of this character the wood naturally deteriorates much sooner than the remainder of the tie, thereby requiring the removal of the blocks and substitution of new ones. By constructing my tie in such a manner as to remove the blocks

from the ends of the tie this change may be readily accomplished.

What I claim is:—

1. A tie, comprising a pair of side members secured together in parallel spaced apart relation to form a casing, wooden blocks movable into and out of said casing through the ends thereof, and means for securing said blocks in place, said means consisting of plates inserted in the ends of said casing and bearing against the outer ends of said block, U-shaped followers adapted to be inserted in the ends of said casing with their free ends bearing against said plates, and means for securing said followers in place.

2. A tie, comprising a casing composed of a pair of side members formed of channel metal secured together in spaced apart relation with their flanges directed inwardly, wooden blocks movable into and out of said casing through the ends thereof and supported by said flanges, said side members being provided with transversely extending slots adjacent their ends, plates inserted into the ends of said casing and bearing against the outer ends of said blocks, U-shaped followers inserted in the ends of said casing with their ends bearing against said plates, said followers being supported in place by the flanges of the side members, and means for securing said followers in place, said means consisting of T-shaped bolts the ends of the head portion of which are passed through said slots and held in place by laterally directed extensions and the ends of the stems of which are threaded and passed through the bight portion of the followers, and nuts engaged upon the threaded ends of said bolts and bearing against said followers.

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

COLLINS D. GREEN.

Witnesses:

EDW. HAIR,

D. B. CARPENTER.