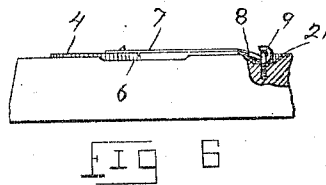
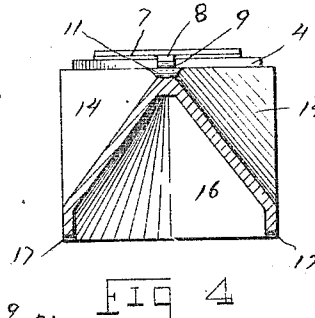
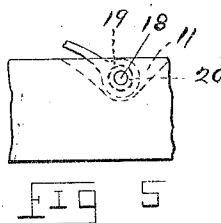
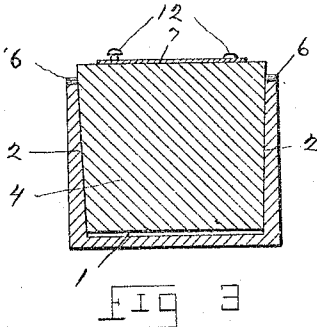
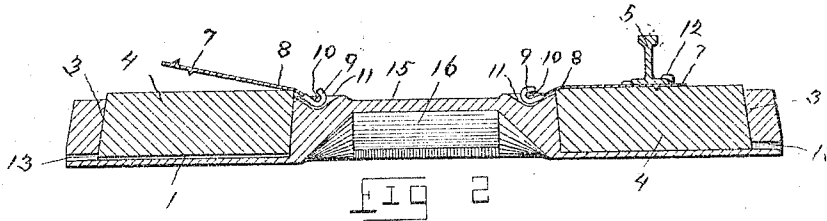
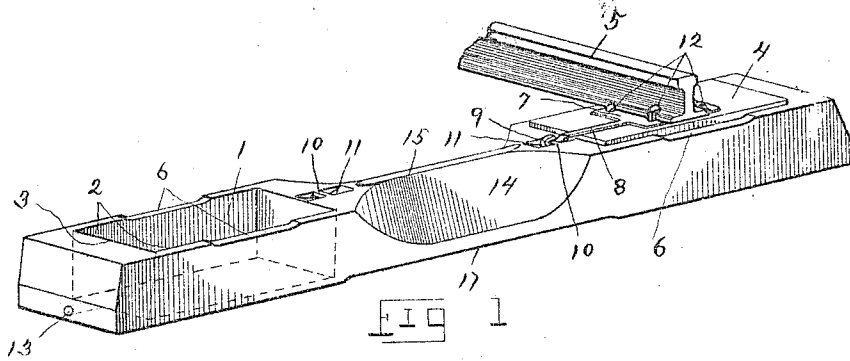


J. U. JOHNSTON & J. E. FUTER.
RAILROAD TIE.
APPLICATION FILED DEC. 10, 1910.

1,005,975

Patented Oct. 17, 1911.



WITNESSES

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JOTHAM U. JOHNSTON AND JACOB E. FUTER, OF GAP, PENNSYLVANIA.

RAILROAD-TIE.

1,005,975

Specification of Letters Patent.

Patented Oct. 17, 1911.

Application filed December 10, 1910. Serial No. 596,592.

To all whom it may concern:

Be it known that we, JOTHAM U. JOHNSTON and JACOB E. FUTER, citizens of the United States, residing at Gap, in the county of Lancaster and State of Pennsylvania, have invented certain new and useful Improvements in Railroad-Ties, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to a railroad cross-tie, of that class which is composed, both of metal and wood, and so constructed as to be simple, durable, inexpensive and afford the elasticity and sound deadening qualities of a wooden tie, with the durability of a metal tie.

The objects of the invention are to produce a tie of this class, comprising a metallic body, so constructed as to render it capable of being permanently bedded, and prevent creeping and twisting movement. Another object being to provide means whereby wooden blocks are employed to which the rails are spiked in the usual way; said blocks being held in sockets formed in the metal tie, partly by friction and partly by a locking tie plate, thus allowing the blocks to be readily removed without disturbing the tie.

Still another object of the invention is to provide means whereby the blocks are drained, thus prolonging the life of the rail block.

With these and other objects in view, our invention consists in certain construction and combination of parts as will hereinafter be fully described and claimed in the annexed specification and illustrated in the accompanying drawings which form a part of this application, and in which like figures of reference refer to corresponding parts in all of the views; but it is fully understood that while we have described our invention as herewith shown, that we do not confine ourselves to the exact design as shown, as slight changes may be made in the construction and arrangement of the several parts without departing from the spirit of the invention.

In the drawings:—Figure 1, is a perspective view of a cross-tie constructed in accordance with this invention. Fig. 2, is a longitudinal sectional view of the same. Fig. 3, is a cross-sectional view, taken through one of the rail blocks and sockets.

Fig. 4, is a cross-sectional view, taken through the center of the tie, showing the means for preventing the shifting of the tie. Fig. 5, is a detail view of a modified means of securing the tie plate to the tie. Fig. 6, is a detail view of still another means for this purpose.

Referring to the drawings:—The metallic tie body is formed with the rail block sockets 1, near the ends thereof; said sockets being formed with inwardly inclined sides 2, and outwardly inclined ends, adapted to receive a rail block 4, of corresponding taper, which, when originally placed therein, does not quite extend to the bottom of said socket 1, as shown in Figs. 2, and 3, but when the weight of the first train is applied, will be compressed within said socket 1, with its upper end extending above the surface of the tie to allow for wear, before the rail 5, could come into contact with the edges 6, of said socket; said edges 6, being also cut away to allow of greater wear of the block 4.

The rail blocks 4, are firmly held in the sockets 1, by reason of their tapered sides and ends, and are more firmly bound by the spreading tendency of the rails; but to further hold them, we have provided a tie plate 7, of the usual form, with the exception of a tongue 8, which extends from the inner end thereof, and which is provided with a hook 9, formed in the end thereof, and adapted to be hooked onto a bar 10, formed in a depression 11, in the top of the tie body; said tie plate 7, pressing upon the rail block 4, and spiked thereto in the usual way by the rail holding spikes 12.

The ends of the tie body are provided with drainage ducts 13, communicating with the sockets 1, to carry off any moisture that may enter through or by the sides of the blocks 4, and thus prevent the rotting of the blocks 4, although the blocks should be treated with a water-proofing material as well. The central portion of the tie is formed with the beveled sides 14, to prevent any object hanging from the train, from damaging the tie, as the same will ride up the beveled surfaces and over the tie; the upper edge 15, is also slightly cut-away for the same purpose. The body of the tie is also formed with the arched pocket 16, provided with the cut away edges 17, and designed to receive a sufficient amount of ballast to prevent any creeping or twisting movement of the tie, which is very important, as all metallic ties

which are flat on the bottom, will creep and twist upon the road bed.

In Fig. 5, is shown a modified form of tie plate securing means which comprise a pin 5 18, inserted transversely through the tie and holding an eye 19, formed in the tongue of the tie plate 7; and by this means, the tie plate 7, may be insulated from the tie by a bushing 20, of insulating material placed in said eye 19.

A further retaining means is shown in Fig. 6, and comprises a screw eye 21, threaded into the tie and adapted to hold the hook 9, of the tongue 8, on the tie plate 7.

15 Having thus described our invention what we claim as new and desire to secure by Letters Patent is:—

A railway-tie comprising a base portion formed with sockets near the ends thereof, said sockets having inclined side walls and 20 an undercut end wall, and means for draining said sockets, blocks adapted to fit within said sockets with their upper ends extending above the sides of said sockets, and a tie-plate having means for attaching the inner 25 end of the same to the tie, for the purpose of holding said blocks to said sockets.

In testimony whereof we affix our signatures in presence of two witnesses.

JOTHAM U. JOHNSTON.
JACOB E. FUTER.

Witnesses:

WM. J. COULTER,
JOHN J. THOMPSON.