J. T. PHARES, C. MIEHER & M. SEYFRIT.

CROSS AND SWITCH TIE.

APPLICATION FILED MAY 17, 1911.

1,011,839. Patented Dec. 12, 1911.

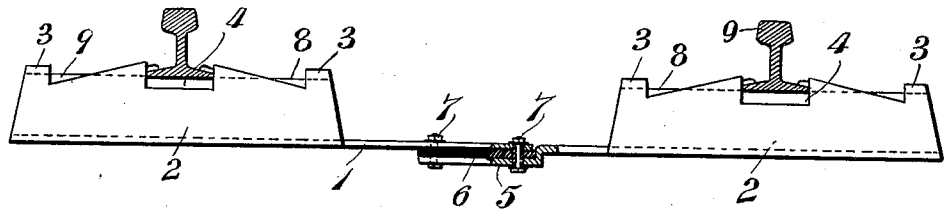


Fig. 1.

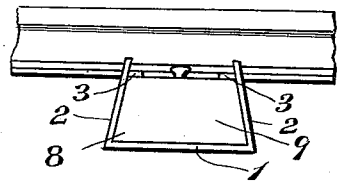


Fig. 2.

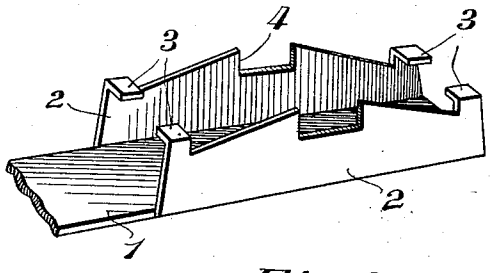


Fig. 3.

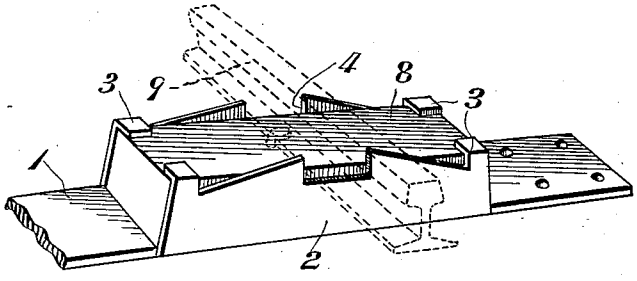


Fig. 4.

Witnesses
Thos. F. Knox,
U. B. Hillyard.

Inventors
James T. Phares,
Charles Mieher,
Matt Seyfrit.
By Victor J. Evans
Attorney

COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JAMES T. PHARES, CHARLES MIEHER, AND MATTHEW SEYFRIT, OF CARLINVILLE, ILLINOIS.

CROSS AND SWITCH TIE.

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Application filed May 17, 1911. Serial No. 627,713.

To all whom it may concern:

Be it known that we, JAMES T. PHARES, CHARLES MIEHER, and MATTHEW SEYFRIT, citizens of the United States, residing at Carlinville, in the county of Macoupin and State of Illinois, have invented new and useful Improvements in Cross and Switch Ties, of which the following is a specification.

The present invention provides a tie for use in the construction of railways which will combine the lasting qualities of metal and the elastic characteristics of wood, the main portion of the tie being of metal and the rail supports of wood which will enable the spiking of the rails thereto, admit of replacement when decay sets in and avoid excessive wear upon the rolling stock, which would be the case if the tie were constructed wholly of metal or other material incapable of allowing for vibration.

The invention consists of the novel features, details of construction and combination of parts, which hereinafter will be more particularly set forth, illustrated in the accompanying drawing, and pointed out in the appended claim.

Referring to the drawing, forming a part of the specification, Figure 1 is a side view of a railroad tie embodying the invention. Fig. 2 is an end view. Fig. 3 is a perspective view of an end portion of the tie, the wooden block being removed. Fig. 4 is a detail view of an end portion of a modified form of tie.

Corresponding and like parts are referred to in the following description, and indicated in all the views of the drawing, by the same reference characters.

The tie involves a composite structure, the main portion being of metal and the rail supports of wood. The metal part of the tie comprises a base 1 and boxes at the ends of the base, each of said boxes comprising side walls 2 which form an integral part of the base and consist of wings bent upwardly. The side walls 2 are upwardly converged and their upper edges incline in opposite directions from a central point. Lugs 3 are formed at the corners of the walls 2 and extend inwardly so as to project over the rail supports and hold the latter in place. Recesses 4 are formed in the upper edges of the side walls 2 at a middle point and receive the foot of the rail.

The metal part of the tie may be formed in any manner and is usually constructed of plate metal bent into the shape substantially as shown.

The base 1 may consist of a single part, but when the tie is constructed for use upon electric railways the base is formed of two parts which are electrically insulated at their point of juncture. The inner end of one part of the base has an offset whereby the end portion 5 beyond the offset is in a lower plane than the main portion of the base, a block 6 of insulating material being interposed between the overlapping ends of the parts forming the base and said parts being secured together by bolts or fastenings 7 which are electrically insulated from the members of the base. In some instances the base may be extended beyond the boxes at the ends thereof, as indicated in Fig. 4, whereby provision is had for supporting switch mechanism or other parts to be located at one side of the track and desired to be attached to end portions of the ties.

The rail supports consist of wooden blocks 8 whose sides and ends are upwardly sloped. These wooden blocks are slipped into the boxes or between the side walls 2 from either end and are held in place by the lugs 3 and by the spikes employed for securing the rails to the blocks. The blocks of wood are of a height or depth to project above the lower ends of the inclined edges of the walls 2 so that in the event of derailment of a train the side walls 2 of the boxes will not be subjected to material injury. After the wooden blocks 8 have been placed in position and the lugs 3 bent over the same the rails 9 are placed in position upon the blocks and enter the recesses 4. When the rails are spiked to the rail support or wooden blocks 8 the latter are prevented from longitudinal movement even though the lugs 3 should become loose, since the rails are prevented from lateral movement by engagement with the vertical walls at the ends of the recesses 4, it being remembered that said rails are secured to the blocks. When a block 8 has become unfit for further effective service it may be quickly replaced at a nominal cost without

interrupting traffic or necessitating disturbing the metal portion of the tie. To remove the block the spikes securing the rail thereto are extracted when the block may be driven from the box either outwardly or inwardly, the rail resting upon the side walls 2. The new block may be driven into the box beneath the rail and when in proper position is made secure at the same time the rail is spiked thereto.

From the foregoing description, taken in connection with the accompanying drawing, the advantages of the construction and of the method of operation will be readily apparent to those skilled in the art to which the invention appertains, and while we have described the principle of operation of the invention, together with the device which we now consider to be the embodiment thereof, we desire to have it understood that the device shown is merely illustrative, and that such changes may be made when desired as are within the scope of the claim appended hereto.

Having thus described the invention what is claimed as new, is:—

A railroad tie comprising a metal base embodying two parts having their end portions overlapped and electrically insulated and secured together, each of said parts having a box at its outer end formed by side walls which have recesses in their upper edges, the latter being oppositely inclined from the recesses and having inwardly extending lugs at their corners, and wooden blocks having their sides upwardly sloped and fitted between the side walls of the boxes and secured thereto by the inwardly extending lugs and by means of the rails which are spiked thereto.

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

JAMES T. PHARES.
CHARLES MIEHER.
MATT SEYFRIT.

Witnesses:
FRED G. OELTJIN,
CHARLES H. HACKE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."