A. L. STEVENS.

RAILWAY CROSS TIE.

APPLICATION FILED APR. 17, 1914.

1,106,423. **Patented Aug. 11, 1914.**

Fig. 1

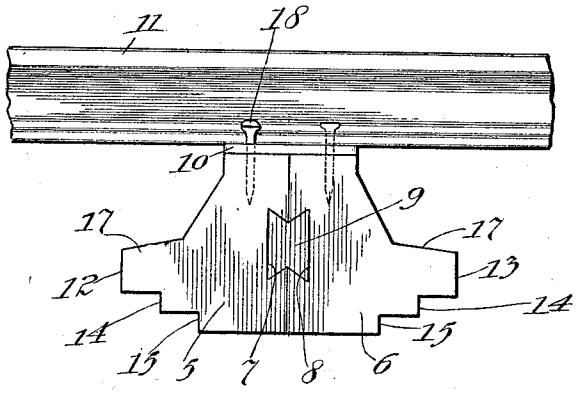
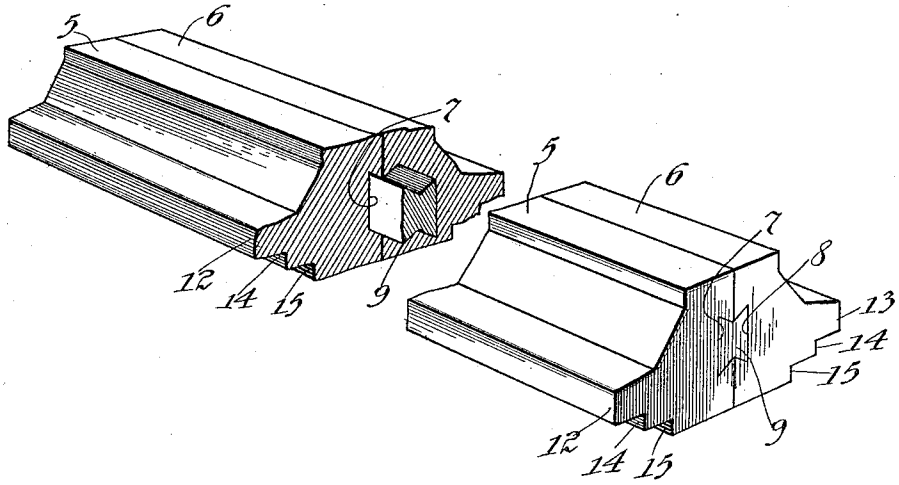


Fig. 2



Witnesses:
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UNITED STATES PATENT OFFICE.

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RAILWAY CROSS-TIE.

1,106,423. Specification of Letters Patent. Patented Aug. 11, 1914.

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To all whom it may concern:

Be it known that I, ALFRED L. STEVENS, 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 Railway Cross-Ties, of which the following is a specification.

My invention relates to improvements in railway cross ties.

One of the objects of my invention is to provide a composite wooden cross tie, of unusually large lateral dimensions, to more unyieldingly bear the burden of the passing train than where a larger number of ties, of smaller lateral dimensions, are used.

Wood, suitable for tie purposes, is not abundant and such as can be used is expensive as a result of its scarcity. I therefore supply the deficiency by making a composite tie of a plurality of smaller pieces, joined in a longitudinal plane, to provide a tie of sufficiently large lateral dimensions to answer the purpose intended, and furthermore I place the joint, between the two major pieces, immediately below the tie plate, upon which the rail rests, so that there will be no unequal pressure applied to the two pieces of which the tie is composed, as the train passes over it, the weight being equally distributed by the bridging tie plate to both pieces.

Another object of my invention is to provide a tie of such cross sectional shape as to be economically and advantageously cut from a relatively small tree and which will present certain, advantageous features when in use.

Other and further objects of my invention will become readily apparent to persons skilled in the art from a consideration of the following description, when taken in conjunction with the drawing, wherein—

Figure 1 is an end elevation of my composite tie, shown as it will appear in use. Fig. 2 is an isometric view of a tie broken in two, showing the method of joining together the two major portions thereof.

In all the views the same reference characters are employed to indicate similar parts.

The two major portions 5 and 6, of the tie, are dovetailed at their confronting edges, as at 7 and 8, to provide two channels extending longitudinally of the respective pieces for receiving the joining key portion 9, which is cut to conform to both of the dove tail channels, as clearly shown. The key portion 9 may be made of any suitable material, such as wood, iron, or the like, and is of such configuration as to key the parts 5 and 6 together so as to prevent lateral or vertical displacement.

In most instances the key member 9 which extends longitudinally of the parts 5 and 6 can be used to join them and hold them in place. In practice I place the joint thus made immediately below the bearing surface, as the tie plate 10, upon which the rail 11 rests, so that by this means pressure is applied equally to the members 5 and 6, and the joint is relieved of any unequal strain due to the imposed load.

The lateral dimensions of my composite tie are extended by the longitudinal projections 12 and 13, so as to provide a larger bearing face in contact with the ballast or earth upon which the tie may be placed. The vertical shoulders 14 and 15 are provided to prevent the tie from shifting longitudinally of the track.

A larger tie is much more buoyant and supports the load better than a smaller one and by making such a tie in two pieces, the wood preservative material, with which the respective parts or pieces, may be treated, permeates more completely the entire inner body of the parts, thus rendering the tie more water proof than could be accomplished if it were made in a single piece. The key 9, if made of wood, may also be treated in the same manner.

By making relatively large composite ties, in the manner herein described, they may be placed along the rails in the tracks so close together as to leave relatively small spaces between them, thereby providing a most excellent foundation for the rails, at a relatively small cost.

A large body of ballast may be contained between the inclined surface 17, of the tie, and the bottom portion of the rail 11, and when the ballast has been placed in position the portion of the tie that will show above the ballast is not greater than that of ties ordinarily used.

It will be observed that the spikes 18 are placed in the respective members 5 and 6, through each side of the tie plate 10, so that the members 5 and 6 are thereby prevented from shifting longitudinally with respect to each other, and the spikes enter those por-

tions of the tie where they will not interfere with, or injure in any way, the joining surfaces.

While I have herein shown a single embodiment of my invention, for the purpose of clear disclosure, it is evident that immaterial changes may be made in the structure without departing from the scope of the appended claims.

Having described my invention, what I claim is:

A wooden railway tie composed of two major members each having a dove-tailed channel in one of its longitudinal edges, a key for insertion in said channels to hold the members together, said joint thus provided being immediately below the weight bearing surface of the tie.

In testimony whereof I hereunto set my hand in the presence of two subscribing witnesses.

ALFRED L. STEVENS.

In the presence of—
FORÉE BAIN,
MARY F. ALLEN.

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