

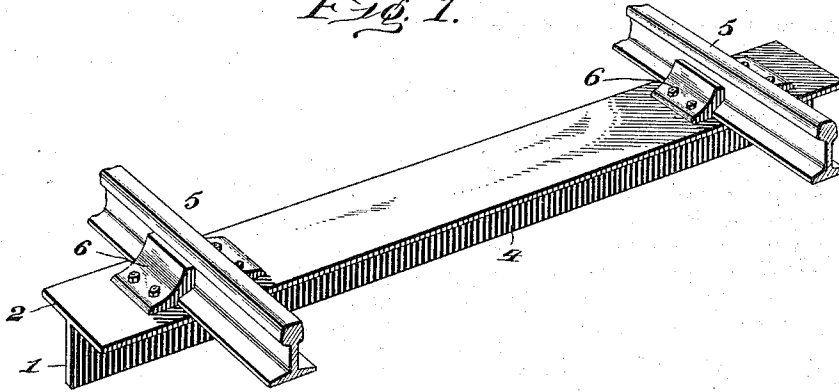
(No Model.)

R. P. McRAE.  
RAILROAD TIE.

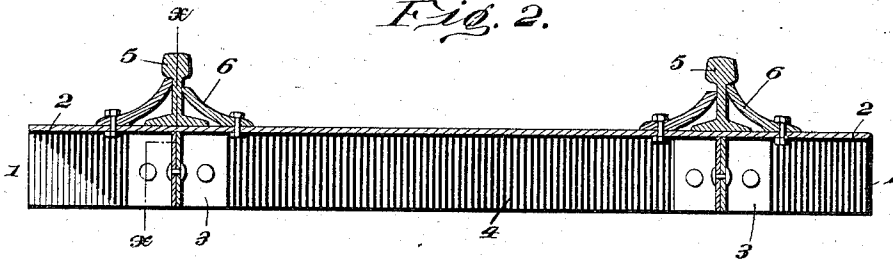
No. 579,520.

Patented Mar. 23, 1897.

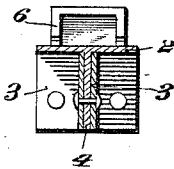
*Fig. 1.*



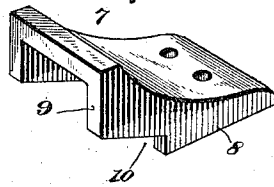
*Fig. 2.*



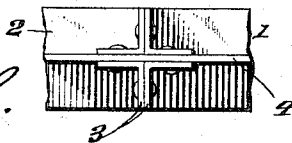
*Fig. 3.*



*Fig. 4.*



*Fig. 5.*



WITNESSES

*Theo. L. Gatches.*  
*J. L. Tappan*

INVENTOR

*Robert P. McRae*  
*by John W. Heddaburn*  
Attorney

# UNITED STATES PATENT OFFICE.

ROBERT P. McRAE, OF ST. ALBANS, WEST VIRGINIA.

## RAILROAD-TIE.

SPECIFICATION forming part of Letters Patent No. 579,520, dated March 23, 1897.

Application filed September 26, 1896. Serial No. 607,077. (No model.)

### *To all whom it may concern:*

Be it known that I, ROBERT P. McRAE, a citizen of the United States, residing at St. Albans, in the county of Kanawha and State of West Virginia, 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 railroad-ties, the object of the same being to provide a metallic cross-tie for railroads which is cheap in construction and more durable than the ordinary wooden tie now commonly employed.

The invention consists of a metallic cross-tie, T-shaped in cross-section, the upper flanges thereof being braced and supported at points just beneath the securing-points of the rails to prevent longitudinal displacement of the tie or a bending of said flanges. On the top surface of the tie, a short distance from each end thereof, suitable rail-securing means are provided.

The invention also consists in other details of construction and combinations of parts, which will be hereinafter more fully described and claimed.

In the drawings forming part of this specification, Figure 1 represents a perspective view of a tie constructed according to my invention with rails shown secured thereon. Fig. 2 is a vertical longitudinal section. Fig. 3 is a cross-section on the line *xx* of Fig. 2. Fig. 4 is a detail perspective of one of the rail-securing devices with the track-rail removed. Fig. 5 is a bottom plan view of the tie with bracing-plates thereon.

Like numerals of reference indicate like parts in the different views.

My improved tie 1 is constructed of metal, T-shaped in cross-section, with the upper flanges 2 2 thereof suitably braced or supported by the plates 3 3, riveted, bolted, or otherwise secured to the upright portion 4 of said tie and to each other. Said plates 3 3 are located at points just beneath the rails 5, and serve the function of preventing the bending of the flanges 2 and the longitudinal displacement of the tie 1. The said plates are L-shaped in cross-section and are bolted, riveted, or otherwise secured to each other and to the upright portion 4 of the tie.

On the upper surface of the flanges 2 2, at

points adjacent to the outer ends of the tie, are rail-securing devices 6 6, the same being arranged in pairs, as clearly shown, and bolted or otherwise secured to the top surface of the tie 1. The same consist of blocks 7 7, formed with solid bases 8 and with inwardly-extending flanges 9 9, the same being cut away, as shown at 10, to permit the passage of the base of the rails 5 therein, and the members of the pairs are so located relatively to one another that the web of the rail is clamped on both sides. By this construction it will be seen that the rails 5 are adapted to be inserted into place without the employment of spikes, and that when once in place they are held firmly and securely.

Having now described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A metallic railroad-tie, T-shaped in cross-section, and bracing or supporting plates secured to the upright portion thereof and to each other, whereby longitudinal displacement of the tie and bending of the upper flanges are prevented.

2. A metallic railroad-tie, T-shaped in cross-section, and bracing or supporting plates L-shaped in cross-section, bolted, riveted or otherwise secured to one another and to the upright portion of said tie, whereby longitudinal displacement of the tie and a bending of the upper flanges are prevented.

3. A metallic railroad-tie, T-shaped in cross-section, having rail-securing devices secured to the upper surface thereof adjacent to its outer ends, the said rail-securing devices consisting of blocks arranged in pairs having inwardly-projecting flanges thereon and cut-away portions at their lower ends between which the bases and webs of the rails are adapted to fit, and bracing or supporting plates secured to the upright portion of said tie and to each other just beneath the said rail-securing devices, for preventing longitudinal displacement of the tie and a bending of said flanges, substantially as and for the purpose described.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

ROBERT P. McRAE.

Witnesses:

J. E. CUNNINGHAM,  
W. T. ROGERS.