

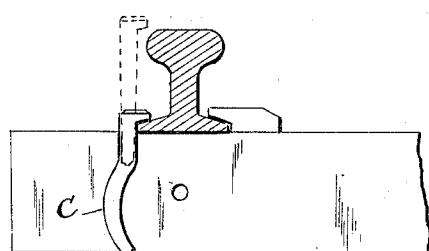
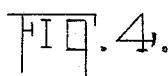
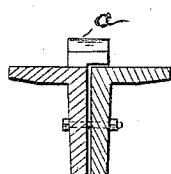
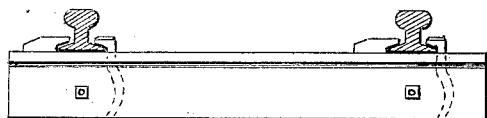
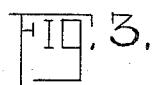
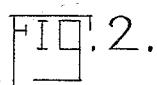
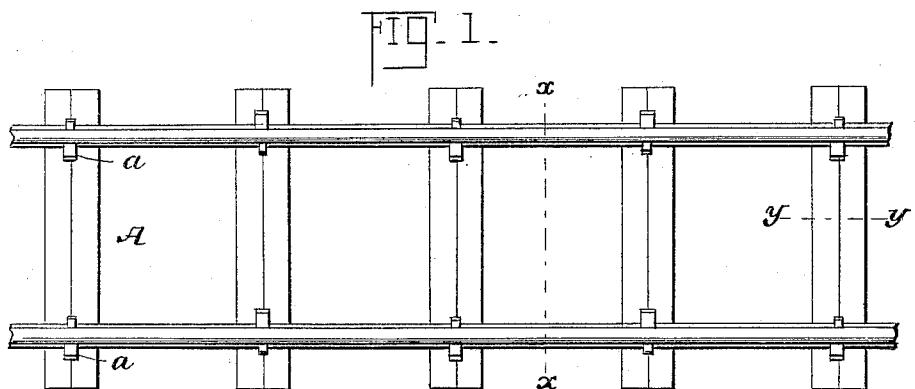
(No Model.)

G. W. YOUNG.

## RAILWAY RAIL FASTENING TO METAL TIES.

No. 453,099.

Patented May 26, 1891.



**WITNESSES:**

WITNESSES:  
Sam'l R. Turner  
Van Buren Hillyard.

INVENTOR

George W. Young.

BY  
R. A. SACEY  
HIS ATTORNEY'S

# UNITED STATES PATENT OFFICE.

GEORGE W. YOUNG, OF HELENA, MONTANA.

## RAILWAY-RAIL FASTENING TO METAL TIES.

SPECIFICATION forming part of Letters Patent No. 453,099, dated May 26, 1891.

Application filed September 11, 1890. Serial No. 364,627. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE W. YOUNG, a citizen of the United States, residing at Helena, in the county of Lewis and Clark and State of Montana, have invented certain new and useful Improvements in Railway-Rail Fastenings to Metal 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.

This invention relates to railway-rail fastenings, and aims to provide simple and efficient means for securing the rails to the metal ties, which will not be affected by vibration, and which when in position cannot be readily withdrawn.

The improvement consists of the novel feature and peculiar construction and combination of the parts, which are hereinafter more fully described and claimed, and which are shown in the annexed drawings, in which—

Figure 1 is a top plan view of a portion of a railroad embodying my invention. Fig. 2 is a cross-section on the line X-X of Fig. 1. Fig. 3 is a section of a tie on the line Y-Y of Fig. 1. Fig. 4 is a view showing the operation of the invention, the position of the spike when driven home being indicated by full lines and its position prior to being driven being indicated by dotted lines.

Each of the ties is similarly constructed. Hence a detail description of one will suffice for all.

The metal tie A is provided near its ends with retaining lugs or projections a a, which are cast or otherwise formed therewith. The spike-openings C are provided at a proper distance from the lugs a and are crooked or deflected from a straight line passing through their ends. These spike-openings may be formed in the tie in any convenient manner,

preferably at the time of casting the tie, either by coring or in any other desired manner. The preferred way is to cast the ties in two parts and form the opening part way in the meeting faces of each. In this event the lugs a will be cast on one of the parts and project therefrom, so as to overlap the other part, as shown most clearly in Fig. 1.

The operation of the invention is as follows: The ties are placed in position in the usual manner, and the rails are placed thereon in such a manner that the lugs a a will project over the foot thereof. The spikes, which are of ordinary construction, are driven in the spike-openings, and as they advance are deflected or bent from a straight line and made to conform to the outline of the spike-opening, as shown most clearly in Figs. 2 and 4. The spike-openings are arranged opposite the retaining-lugs a. Hence the spikes and the retaining-lugs act in conjunction to hold the rails on the tie.

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

1. A metal tie formed in two pieces and having a crooked spike-opening formed part way in the meeting face of each part, substantially as set forth.
2. The herein-described metal tie, composed of two parts, one part having an end lug cast therewith and adapted to overlap the other part and having a crooked spike-opening formed part way in the meeting face of each part, substantially as specified.

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

GEORGE W. YOUNG.

Witnesses:

HARRY C. BURGESS,  
MICHAEL H. WALL.