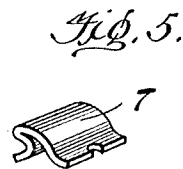
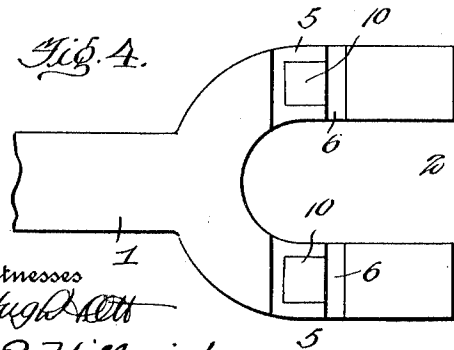
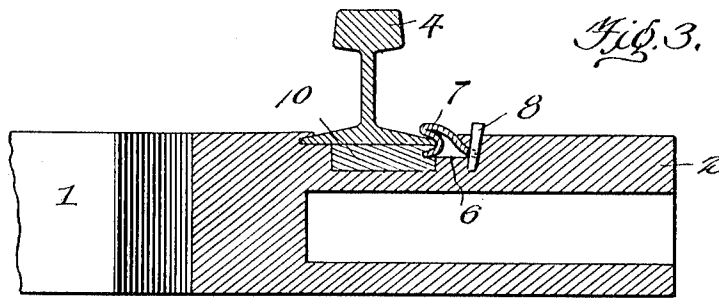
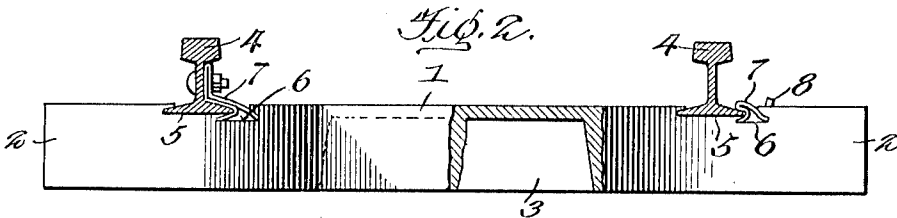
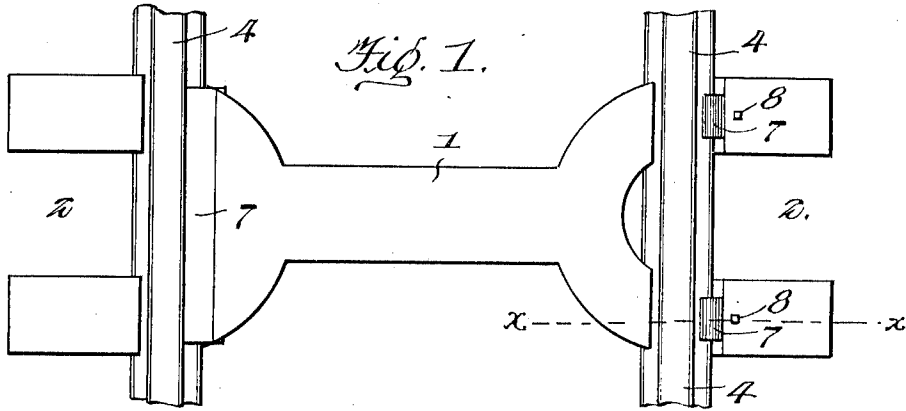


J. S. McANARNEY.
 METAL RAILWAY TIE.
 APPLICATION FILED FEB. 11, 1911.

1,001,420.

Patented Aug. 22, 1911.



Witnesses
 Hugh A. Ott
 V. B. Hillyard.

Inventor
 John S. McAnarney

By Victor J. Evans
 Attorney

UNITED STATES PATENT OFFICE.

JOHN S. McANARNEY, OF DALHART, TEXAS.

METAL RAILWAY-TIE.

1,001,420.

Specification of Letters Patent. Patented Aug. 22, 1911.

Application filed February 11, 1911. Serial No. 608,015.

To all whom it may concern:

Be it known that I, JOHN S. McANARNEY, a citizen of the United States, residing at Dalhart, in the county of Dallam and State of Texas, have invented new and useful Improvements in Metal Railway-Ties, of which the following is a specification.

The present invention has for its object to provide a metallic cross-tie for railways which is durable, comparatively light, free from creeping, resilient to a degree to compensate for vibration to diminish the wear and tear on rolling stock and which will facilitate the construction of a railway since it is not necessary to gage the track, the ties being provided with seats at predetermined distances apart.

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 top plan view of a tie embodying the invention. Fig. 2 is a front view, a portion being broken away to show the recess in the body. Fig. 3 is a section on the line $x-x$ of Fig. 1. Fig. 4 is a plan view of an end portion of the tie. Fig. 5 is a detail perspective view of a clip.

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 comprises a body portion 1 and end portions 2. The body 1 is comparatively long and slender and consists of a bar. The end portions 2 are forked, the fork members being located equidistant from opposite sides of the body portion 1. The body 1 is hollow having a recess in its lower side. The forked ends are likewise hollow, the openings being cored and opening outward through the extremities of the members. The forked members provide an extended bearing for the rails 4 and the spaces between said members are adapted to receive ballast, thereby preventing creeping of the tie upon the road bed. The ballast is also adapted to enter the recess 3 and thereby materially assist in retaining the tie in place. The upper sides of the fork members are recessed to form seats 5, which receive the rails. The walls of the seats 5

are undercut so as to retain the rails in place. A channel 6 is formed along the edge of each of the seats 5 to receive the base of a clip 7. The walls of the channels 6 are undercut to retain the clips in place. When the rails 4 are in position one edge of the base engages the undercut portion of the wall at one end or side of a seat 5 and the other edge is engaged by the upper portion of the clip 7. The clip 7 is driven into the channel 6 from a side of the fork member, the edge portions of the base engaging the undercut walls at the sides of the channel 6. A fastening 8 let into an opening formed in the tie engages a notch in the base of the clip 7 and prevents longitudinal displacement of the clip after the parts have been assembled.

The clip comprises an upper portion which is inclined to overhang the base or foot of the rail and a base portion to fit within the channel 6. In the preferable construction the clip 7 is formed from a sheet metal blank, such as steel, which is doubled upon itself and has its edge portions spread so as to engage under the overhanging portions of the walls of the channel 6. The folded portion of the blank extends upwardly and engages over the foot of the rail. The lower or base portion of the clip is possessed of a degree of resiliency so that it may conform to any variations in the width of the channels to admit of driving the clips home therein. The fastening 8 may be a bolt, pin, or the like, which is secured in an opening formed in the tie and intersecting the channel 6.

A block of wood 10 is fitted in a recess formed in each of the seats 5 and forms a support for the rail which rests directly thereon, said block serving to neutralize vibration and thereby prevent the excessive wear upon rolling stock which is attributable to ties constructed of metal and composition. While wood is preferred it is to be understood that any resilient material may be provided to absorb the vibration.

In the formation of joints the end portions of adjacent rails are received upon the fork members at the end of a tie, thereby preventing the vertical play incident to supporting the ends of adjacent rails upon separate ties. The seat 5 may be constructed to receive single clips one for each fork member or a clip the full width of the fork end of the tie may be provided so as to overlap the joint formed between adjacent rail ends.

In this case the clip is prevented from longitudinal movement by being bolted to the ends of the rails, as shown in Fig. 2 at the left.

5 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 I have described the principle of operation of the invention, together with the device which I now consider to be the embodiment thereof, I 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.

20 By having the body of the tie made hollow it can settle without binding and the fork or U-shaped ends will to a certain extent make the tie self clamping, since the vibration caused by the passage of a train will

tend to cause the dirt or ballast to work under the shoulders of the tie and to pack. 25 While it is preferred to make the clip resilient nevertheless it may be formed solid.

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

A metal tie having a seat to receive the 30 foot of a rail and having a channel at one edge of the seat with its walls undercut, and a clip secured in said channel and comprising an upper portion to engage over an edge portion of the foot of a rail and having its 35 lower portion spread to engage the undercut walls of the channel and adapted to yield to allow for any variation in the width of the channel.

In testimony whereof I affix my signature 40 in presence of two witnesses.

JOHN S. McANARNEY.

Witnesses:

W. L. GRIFFITH,
J. L. FINNIE.