

M. E. HOGAN.
METAL RAILWAY TIE.
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1,064,484.

Patented June 10, 1913.

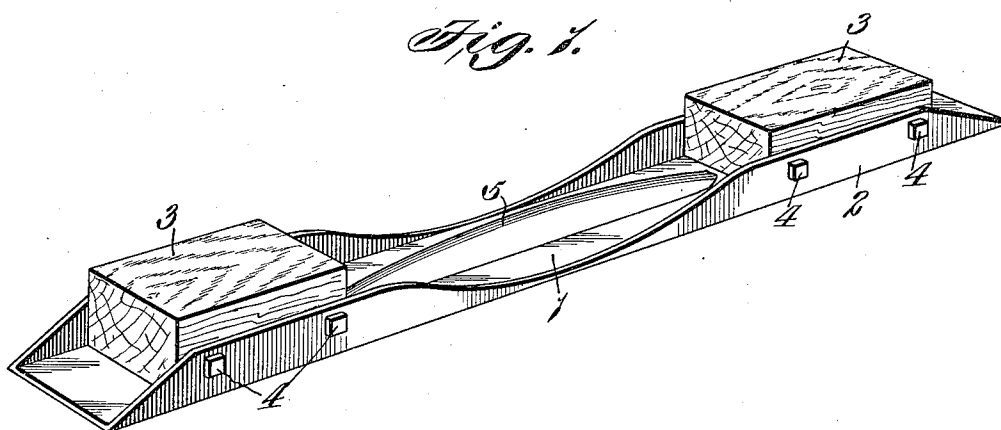


Fig. 2.

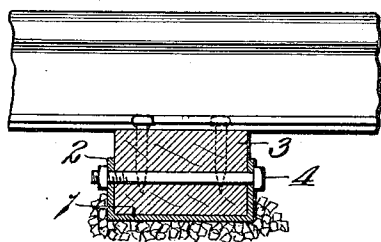
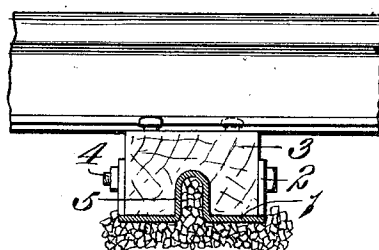


Fig. 3.



Witnesses:
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UNITED STATES PATENT OFFICE.

MICHAEL E. HOGAN, OF ST. LOUIS, MISSOURI.

METAL RAILWAY-TIE.

1,064,484.

Specification of Letters Patent.

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Application filed February 14, 1913. Serial No. 748,324.

To all whom it may concern:

Be it known that I, MICHAEL E. HOGAN, a citizen of the United States, residing at St. Louis, Missouri, have invented a certain new and useful Improvement in Metal Railway-Ties, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to metal railway ties.

One object of the invention is to provide a metal railway tie that has sufficient strength to successfully withstand the strains to which the tie is subjected when in service and which is so designed that water will not collect and remain on or in the tie.

Another object is to provide a metal railway tie which is so designed that ordinary rail-fastening devices such, for example, as rail spikes, may be used for securing the rails to same. And still another object is to provide an inexpensive railway tie that comprises a metal body portion having flanges and ribs that impart great strength to same and which are so designed that water will not collect and remain on said body portion, and non-metallic rail-supporting members combined with said metal body portion to which the base flanges of the rails are adapted to be secured by means of rail-fastening devices of the kind now in general use.

Other objects and desirable features of my invention will be hereinafter pointed out.

Figure 1 of the drawings is a perspective view of a metal railway tie constructed in accordance with my invention; Fig. 2 is a cross sectional view taken through the end portion of the tie showing the rail secured to the tie; and Fig. 3 is a cross sectional view taken through the center of the tie.

As shown in Fig. 1 of the drawings which represents the preferred form of my invention, my improved tie comprises a metal body portion provided adjacent its ends with non-metallic rail-supporting members which are so proportioned and designed that the base flanges of the rails can be connected to same by means of rail spikes of the kind now in general use for fastening rails to wooden ties. The metal body portion of the tie preferably consists of a hori-

zontally disposed web 1 provided with side flanges 2 that project upwardly from said web and which embrace non-metallic rail-supporting blocks or members 3, said members 3 being securely connected to the metal body portion of the tie in any suitable manner, as, for example, by means of bolts 4 that pass transversely through the blocks 3 and the side flanges 2 of the metal body portion, as shown in Fig. 2. The side flanges 2 are so shaped that water will not collect and remain on the horizontal web of the body portion and thus cause same to rust out quickly, and in the preferred form of my invention as herein shown the side flanges 2 are reduced in height adjacent the center of the tie so that the water which collects on the horizontal web 1 can drain laterally off of same at the center of the tie.

In order to impart sufficient strength and stiffness to the metal body portion of the tie to enable the tie to successfully withstand the strains to which it is subjected when in service I have provided the web 1 of the body portion with one or more longitudinally disposed strengthening ribs 5. The metal body portion of the tie herein shown is pressed, drawn, or rolled from a plate of metal and the rib 5 is pressed upwardly from the horizontal web 1 and increases gradually in height from points adjacent the rail-supporting members 3 to the center of the tie. I do not wish it to be understood, however, that my invention is limited to such a construction for the exact number of ribs on the web of the metal body portion is immaterial so far as my broad idea is concerned, and the exact location of said rib or ribs and the cross sectional shape of same is also immaterial. Furthermore, while I prefer to form the body portion of the tie from sheet metal, it will, of course, be understood that the body portion could be forged or formed from cast metal. A sheet metal body portion is light and inexpensive to manufacture but it is efficient and will not bend or twist out of shape owing to the arrangement and design of the longitudinally extending flanges and rib that are formed integral with the horizontal web of the body portion.

A tie of the construction above described possesses great strength and is superior to a metal tie of channel-shape in cross section throughout its entire length on account of

the fact that water will not collect and remain on the web of the metal body portion. The non-metallic members 3 on which the rails rest, act as cushions to absorb shocks so that the tie forms a substantial support for the rails without being too rigid, and as said rail-supporting members 3 are thick enough to receive a rail spike the rails can be connected to the tie by means of ordinary rail-fastening devices of the kind now in general use, thereby overcoming the necessity of using special rail-fastening devices. I prefer to form the rail-supporting members 3 from blocks of wood that have been treated with creosote or some other preserving substance but any other suitable non-metallic material may be used for the rail-supporting members 3 without departing from the spirit of my invention. In addition to the function of reinforcing and strengthening the metal body portion of the tie, the longitudinally extending rib 5 on the horizontal web 1 forms a pocket into which the ballast of the roadbed packs, as shown in Fig. 3, and thus reduces the tendency of the tie to twist or turn in the roadbed.

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

1. A railway tie comprising a metal body portion provided with an approximately horizontally-disposed web, a longitudinally disposed cambered rib that is pressed upwardly from said web and side flanges formed integral with said web.

2. A railway tie comprising a metal body portion provided with an approximately horizontally-disposed web, and a longitudinally disposed hollow rib and side flanges formed integral with said web, said side flanges being so formed that water can drain laterally off the web.

3. A railway tie comprising a metal body portion provided with an approximately horizontally-disposed web that has an integral longitudinally extending hollow cambered rib which stiffens said web.

4. A railway tie comprising a pressed metal body portion provided with an approximately horizontally-disposed web that has an integral longitudinally extending cambered rib that is pressed upwardly there-

from which stiffens said web, and non-metallic rail-supporting members securely connected to said body portion.

5. A railway tie comprising a pressed metal body portion provided with an approximately horizontally-disposed web, upwardly projecting flanges on said web that are reduced in height adjacent the center of the tie, and a longitudinally-disposed hollow U-shaped rib on said web for stiffening and strengthening the center portion of same.

6. A railway tie composed of a pressed metal member whose end portions are substantially channel-shape in cross section, a longitudinally-disposed cambered rib on the web of said member for strengthening and reinforcing the intermediate portion of said member, said rib being U-shaped in cross section, and non-metallic rail-supporting blocks carried by said member and securely connected to the side flanges of same.

7. A railway tie comprising a metal body portion provided with an approximately horizontally-disposed web, upwardly projecting flanges on said web which are reduced in height adjacent the center of the tie, and an upwardly projecting cambered rib that is U-shaped in cross section on said web for reinforcing and strengthening the portion of the web where the side flanges are shallowest.

8. A railway tie comprising a pressed metal body portion having an approximately horizontally-disposed web, a pressed cambered rib extending longitudinally of said web for reinforcing and strengthening the central part of the metal body portion, non-metallic rail-supporting blocks on said web to which the base flanges on the rails are adapted to be connected, flanges on said web that embrace said blocks, and fastening devices passing transversely through said blocks and flanges for securing said blocks to said metal body portion.

In testimony whereof I hereunto affix my signature in the presence of two witnesses, this eleventh day of February 1913.

MICHAEL E. HOGAN.

Witnesses:

WELLS L. CHURCH,
GEORGE BAKEWELL.