

J. DEMATTEIS.
METALLIC RAILWAY TIE.
APPLICATION FILED DEC. 16, 1910.

996,706.

Patented July 4, 1911.

Fig. 1.

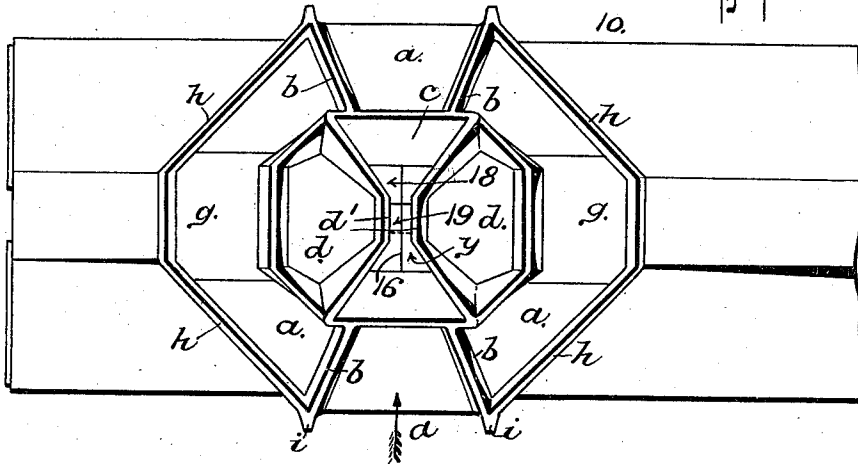


Fig. 2.

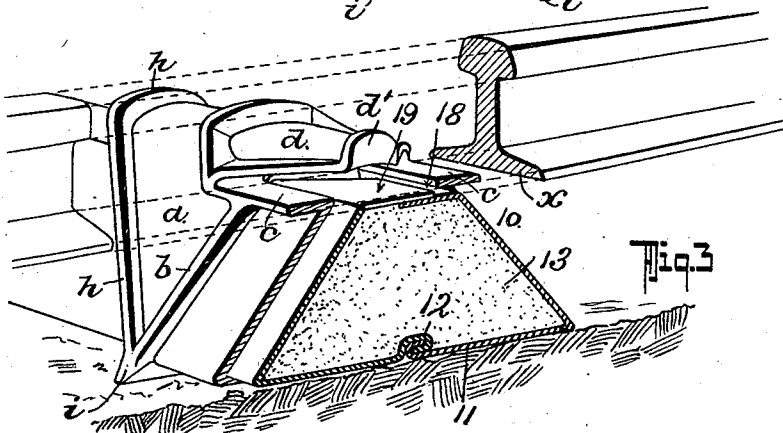
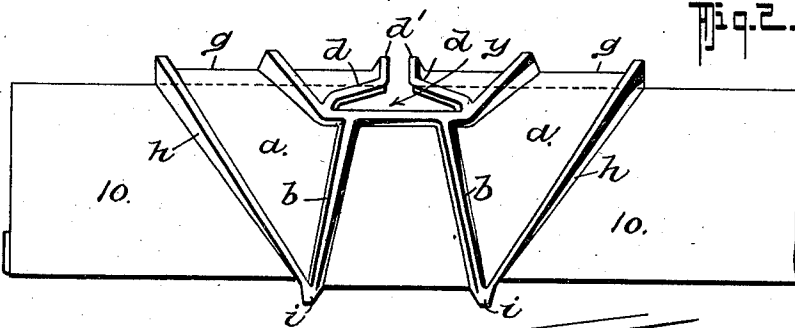
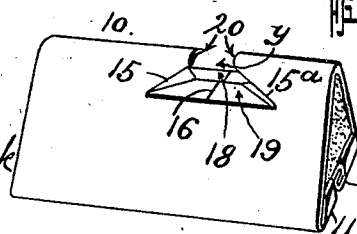


Fig. 4.



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METALLIC RAILWAY-TIE.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JULIAN DEMATTEIS, residing at Batavia, in the county of Jefferson and State of Iowa, have invented certain new and useful Improvements in Metallic Railway-Ties, of which the following is a specification.

My present invention, which generally relates to improvements in metallic railway ties, more especially refers to improvements in the type of railway tie disclosed in my Patent No. 971,256, issued Sept. 27, 1910, and my said invention primarily has for its object to render my patented form of railway tie more stable and to solidify the rail holding portions thereof in such manner whereby the vibrations of the tie, when a train is passing thereover, and danger of torsional or twist strain on the tie are reduced to the minimum.

With other objects in view that will hereinafter appear, my present invention, in its generic nature comprises a reinforce of malleable iron or steel for the sheet metal tie or casing member and so constructed that it can be readily shrunk upon the said sheet metal tie casing.

In its more complete nature, my present invention includes a reinforce of steel or malleable iron for the sheet metal tie casing adapted for being shrunk on the casing at the rail receiving part, combined with an improved construction of the casing, whereby to provide for engaging and clamping the opposite flanges of the rail instead of but one of the rail flanges as is shown in my patent referred to.

In its more subordinate features, my present invention consists in the details of construction and peculiar combination of parts, hereinafter fully described, specifically pointed out in the appended claims and illustrated in the accompanying drawing, in which:—

Figure 1, is a top plan of a portion of my form of railway tie with the new improvements applied. Fig. 2, is a side elevation thereof, looking in the direction of the arrow *a* on Fig. 1. Fig. 3, is a perspective view of the reinforce device applied to my form of rail, the parts being also shown in cross section to indicate the construction thereof the more clearly. Fig. 4, is a detail perspective view of the rail casing, hereinafter referred to.

In the practical application of my pres-

ent invention the tie body proper 10, is formed of a sheet metal member that is bent longitudinally upon itself to form a body substantially triangular-shaped in cross section and whose opposite ends overlap to form a crimped seam 12 that extends lengthwise on the bottom 11 of the tie.

The crown or apex of the body at the proper places is slit transversely as at 16 and diagonally as at 15—15^a, the several slits being relatively so made that the cut portions can be bent down to overlap upon each other and to form horizontal tread portions 18—19 in a plane below oppositely projected angle projections 20.

By reason of bending the slit portions as stated, the parts, when bent to shape, form a triangular shaped seat *y* to receive the base flange *x* of the rail, which, when the rails are set, are slid endwise through the said seat *y* in the manner clearly understood from Fig. 3 of the drawing.

13 designates a cement filling for the tie casing on which the slit members 18 and 19 bear when bent down to form the rail seat, before referred to.

So far as described, the construction is substantially like that shown in my other United States patent referred to.

In my present case, the sheet tie casing at the slit or tie seating portion is reinforced by a casing of malleable iron or steel, and the said casing comprises a body portion *a* of substantially triangular form, and of such size as to snugly slide onto the sheet metal rail or casing 10, when heated sufficiently to expand, it being obvious that after the said reinforce has been thus slipped onto the casing and it cools, it shrinks upon and is securely gripped on the casing against endwise movement thereon.

The casing *a* includes ribbed portions *b* and horizontal oppositely disposed members *c—c* that lie in the plane of the tread or seat portion of the tie casing 10 to form rail seats, and the said casing further includes the angle portions or inwardly extended flanges *d—d* that fit over and reinforce the rail gripping members 20 of the casing 1, as clearly shown in Figs. 2 and 3, by reference to which it will be also noticed the inner ends of said flanges *d—d* terminate in vertical flanges *d'* for bearing against the web of the rail when the same is in place.

To add rigidity to the sheet metal rail 10, I prefer to extend the opposite ends of the

reinforce so they form long bearing surfaces $g-g$ for engaging the top or crown portion of the metallic rail or casing and to include the flanged ends $h-h$ that meet the opposite edges $i-i$ of the bottom part of the reinforce that receives the seamed bottom of the tie casing 10.

From the foregoing taken in connection with the accompanying drawing, the complete construction, arrangement and advantages of my invention will be readily apparent.

It will be noticed the reinforce, which serves as a yoke, positively prevents the sagging or collapsing of the sheet metal rail portion, since the said yoke has a chair portion that takes up much of the rail and the weight thereon since the rail also rests on the horizontal or chair members $c-c$, it being also clear that the construction is such that the use of rivets, bolts or other expensive fastening means usually employed for holding the rail to the tie is avoided.

What I claim is:

1. A sheet metal tie having a transverse seat to receive and support the rail and a cast metal reinforce that incases the said seat portion of the tie.
2. A filled sheet metal tie of triangular shape, having its crown portion cut and bent to form a transverse seat for the rail and a cast metal yoke shrunk upon the seat portion of the tie.
3. A filled sheet metal tie, having portions thereof bent whereby to form a transverse seat for the rail and oppositely pro-

jected undercut members to engage the base flanges of the rail, and a cast metal yoke having the cross sectional shape of the tie adapted for being shrunk on the tie and provided with portions for lapping onto the rail flange engaging portions of the said tie.

4. A filled sheet metal tie, having portions thereof bent whereby to form a transverse seat for the rail and oppositely projected undercut members to engage the base flanges of the rail, and a cast metal yoke having the cross sectional shape of the tie adapted for being shrunk on the tie and provided with portions for lapping onto the rail flange engaging portions of the said tie, the ends of the said lapping portions being bent vertically to form bearing members for engaging the web of the rail.

5. In combination with a tie having a cut-away portion to receive the rail, a yoke fitted over said tie adjacent the said cut-away portion, said yoke including a rail chair alining with said cut-away portion to receive the rail.

6. In combination with a sheet metal tie having cut portions bent to form a rail seat and clamp, and a cast metal yoke fitted over the rail holding portion of the tie, said yoke having a chair portion for alining and reinforcing the chair portions of the tie, said yoke having angle ribs and laterally extended portions for seating on the top edge of the tie.

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Witnesses:

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