J. DOZIER.

TIE.

APPLICATION FILED OCT. 2, 1914.

1,187,284.

Patented June 13, 1916.

2 SHEETS—SHEET 1.

Fig. 1.

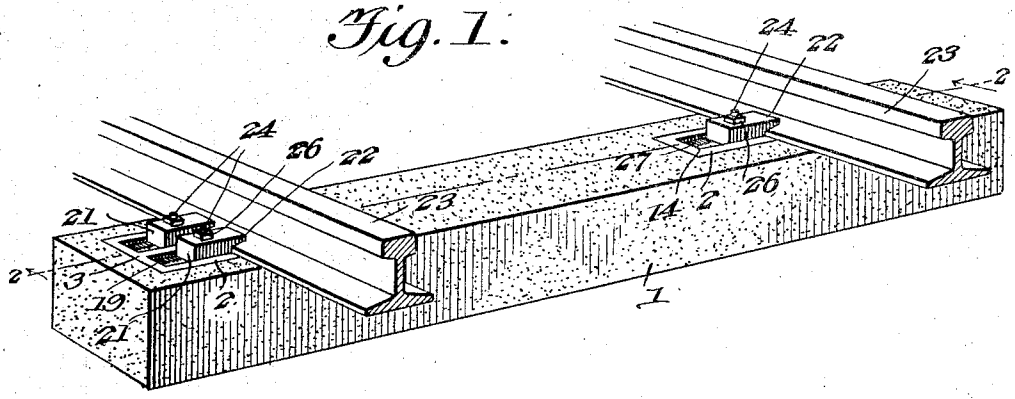


Fig. 2.

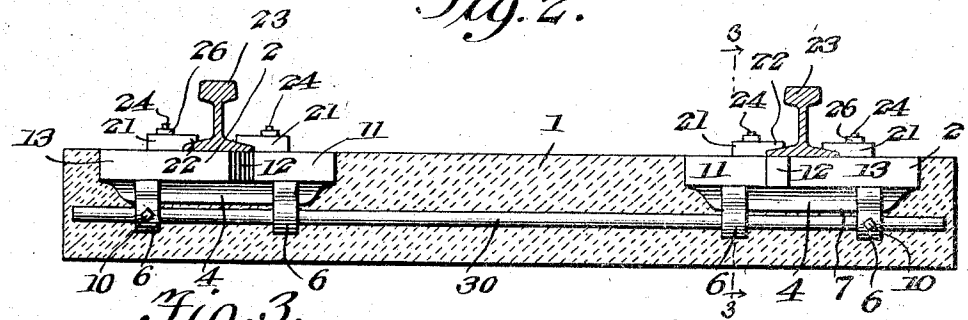
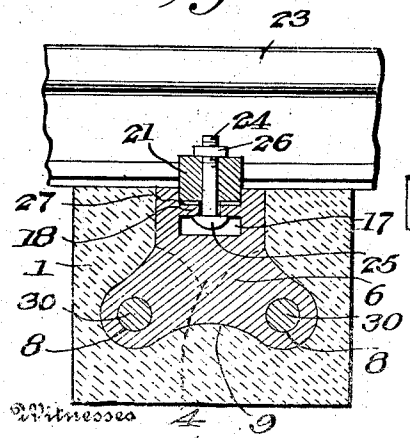


Fig. 3.

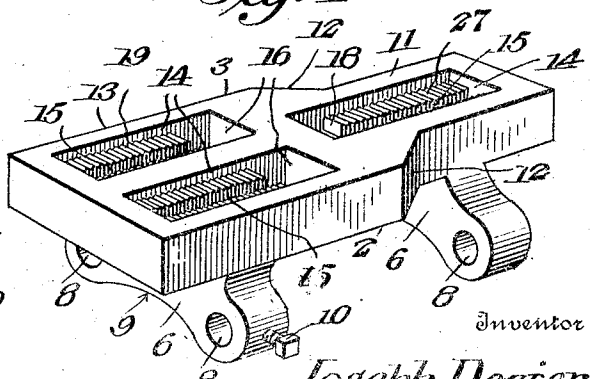


Witnesses

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Fig. 4.



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2 SHEETS—SHEET 2.

Fig. 5.

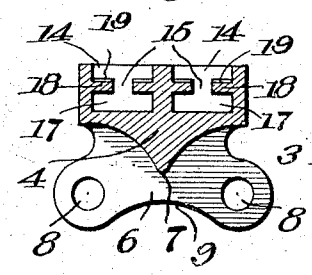


Fig. 6.

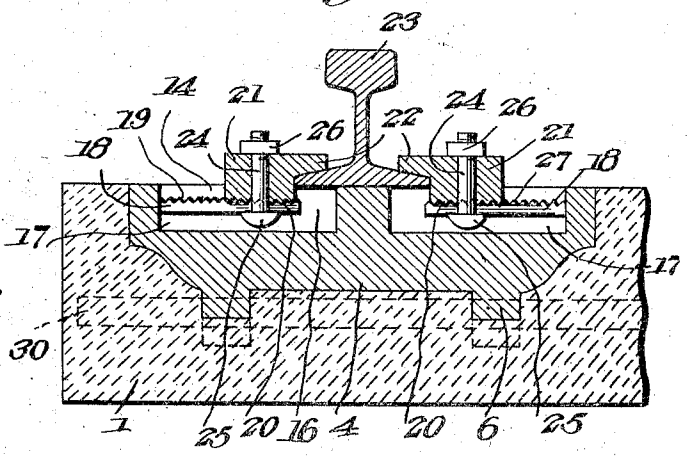


Fig. 7.

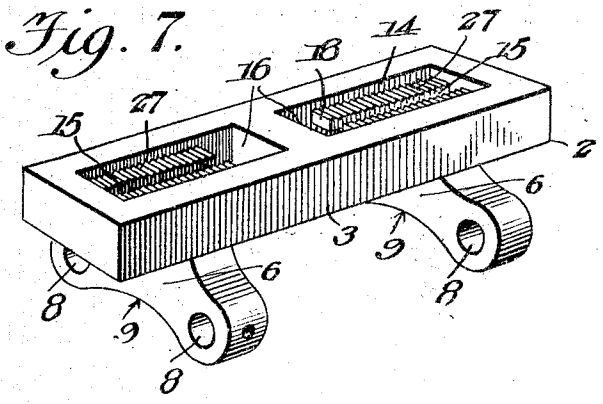
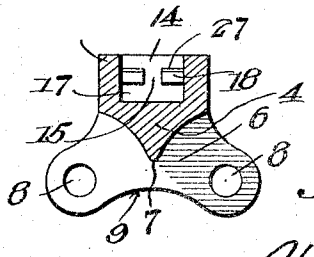


Fig. 8.



Witnesses

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UNITED STATES PATENT OFFICE.

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TIE.

1,187,284. Specification of Letters Patent. Patented June 13, 1916.

Application filed October 2, 1914. Serial No. 864,654.

To all whom it may concern:

Be it known that I, JOSEPH DOZIER, a citizen of the United States, residing at Columbus, in the county of Muscogee and State of Georgia, have invented new and useful Improvements in Ties, of which the following is a specification.

My present invention relates to improvements in ties for railway rails.

In carrying out my invention it is my purpose to construct a tie of plastic material and to have arranged therein rail seats of a peculiar formation which will effectively reinforce the tie, members being associated with the rail seats for sustaining the same in proper spaced relation with each other, the said members being adjustable with relation to the said rail seats and also providing reinforcing members for the plastic tie.

It is also my purpose to provide a plastic tie with metallic members forming rail seats, the said seats having simple but effective means for securing the rails thereon, the underfaces of the seats being provided with both longitudinal and transverse ribs to secure the seats within the plastic tie as well as for reinforcing the said tie, while adjustable longitudinally extending members pass through suitable openings in the transverse ribs of the rail plates and are secured thereto, thus properly spacing the oppositely disposed seats as well as providing longitudinal reinforcing members for the tie.

With the above and other objects in view, the improvement resides in the construction, combination and arrangement of parts set forth in the following specification and falling within the scope of the appended claim.

In the drawings: Figure 1 is a perspective view of a tie constructed in accordance with the present invention, showing rails supported upon and secured to the same, Fig. 2 is a longitudinal sectional view approximately on the line 2—2 of Fig. 1, Fig. 3 is a transverse sectional view approximately on the line 3—3 of Fig. 2, Fig. 4 is an enlarged perspective view of one of the metallic rail supports, Fig. 5 is a detail transverse sectional view through the same, Fig. 6 is an enlarged longitudinal section illustrating the manner of securing the rails upon the seat, Fig. 7 is a perspective view of a slightly modified form of the rail seat, and Fig. 8 is a transverse sectional view through the same.

The tie 1 is constructed of plastic material which may be suitably reinforced, but it is my endeavor to effectively reinforce the said tie by providing the same with rail seats 2. Each of the seats has its upper portion formed of an elongated substantially rectangular metal plate 3, the same having its underface centrally provided with a longitudinally extending rib 4 and with transverse members or ribs 6 which intersect the rib 4 and are disposed a suitable distance away from the ends of the rib 4 and from the ends of the top member 3. The ribs 6 extend a distance below the rib 4, and, as shown in the cross sectional view of the drawings, the rib 4 is substantially V-shaped in cross section, the apex thereof being preferably rounded, as indicated by the numeral 7, and the portions of said rib 4 projecting beyond the outer faces of the ribs 6 are flared or gracefully rounded downwardly toward the edge 7 of the rail. The ribs 6 are preferably of the same thickness throughout, and are formed with the longitudinal edges in the base of the top 3, the same being rounded inwardly from the said lower edges and from thence outwardly to provide what I will term eyes 8, and the lower portions of the ribs 6 between the eyes are rounded upwardly, as at 9. The rib arranged adjacent what I will term the outer edge of each of the members 2 is provided with a threaded opening which communicates with one of the eyes 8, each of said openings receiving the threaded stem of a securing bolt 10.

Preferably the outer portion of the plate or head 3 is of a greater width than the inner portion 11 thereof, and the widened portion is of a greater length than the said inner portion, the inner and outer portions being connected by angular walls 12. The purpose for this arrangement is two fold. In the first place, the enlarged portion which is designated by the numeral 13, will be prevented from sliding inwardly of the plastic body comprising the tie, and secondly, the said widened portion provides ample space for two longitudinally extending depressions 14. Formed at the side walls of the depressions 14 are laterally extending ribs provided with teeth 19. These ribs extend from one of the end walls

provided by the said depressions and terminate a distance from the opposite end wall so that the space 16 thus provided will accommodate the heads of bolts hereinafter referred to and the space between the ribs will accommodate the shanks of the said bolts.

The numerals 21 designate clamping blocks having their lower faces provided with teeth 20 which co-act with the teeth 19 of the ribs. These clamps have their inner faces flanged, as at 22, to engage with the base flanges of the rails 23 and the bodies of the clamps are provided with vertical openings for the reception of the bolts 24 while nuts 26 engage with the said bolts to force the teeth 20 to engage between the teeth 19 and likewise force the lips 22 against the base flanges of the rails 23. The heads 25 of the bolts 24 are first passed through the enlarged openings 16 before the rails 23 are arranged upon the plates or seats, and thereafter, it will be noted that a simple adjustment of the clamps will secure the rails upon the seat. It is, of course, to be understood that one of the clamps is disposed at each side of the rails 23, and by providing the outer end of the head 3 with two similar passages or channels for the reception of bolts and disposing the same centrally of a single centrally arranged depression or channel having its opposite walls flanged and provided upon their upper faces with teeth 27 to receive the toothed lower faces of clamps similar to the clamps 21 and also providing for the longitudinal adjustment of the said clamps and the arrangement of bolts similar to the bolts 24 to engage with the said clamps.

In Figs. 7 and 8 the device is substantially similar to that described, except that the pockets for the rail engaging clamps are arranged in alinement, the said pockets being of a similar construction to that previously described, as are also the rail engaging clamps and the securing elements for the rail engaging clamps.

During the process of molding the tie 1, metal rods 30 are passed longitudinally through the eyes of the transverse ribs 6, the members 3 being longitudinally adjusted upon the said rods 30 before the plastic material forming the tie is tamped in the mold. The adjusting bolts 10 are forced into contact with the rods 30 for properly spacing the members 2 with relation to each other. The rods 30 not only serve as retaining members for the oppositely disposed rail plates 2 but also serve as reinforcing elements for the plastic tie. Likewise, the longitudinal ribs 4 as well as the transverse ribs 6 of the members 2 serve as effective reinforcements for the ends of the tie.

From the above description, taken in connection with the accompanying drawing, the simplicity of the device, as well as the advantages thereof will, it is thought, be perfectly apparent to those skilled in the art to which such invention appertains without further detailed description.

Having thus described the invention, what I claim is:

In a plastic railway tie, metal rail seats comprising alining substantially rectangular members having their inner ends reduced, transverse substantially V-shaped ribs upon the underface of the said members, rod members passing through openings in the ribs and connecting the opposite rail seats, the wider outer end of the seats having spaced longitudinal depressions, the reduced ends of the seats having longitudinal depressions, all of the depressions having the side walls thereof from one of the end walls formed with lateral ribs which terminate adjacent the opposite end wall provided by the said depressions, the said lateral ribs being toothed, headed members passing through the space between the ribs and the mentioned end walls of the depressions and having their shanks projecting between each pair of spaced ribs, clamps having toothed undersurfaces upon the ribs and engaged by the shanks of the headed members, and securing elements for the said shanks.

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

JOSEPH DOZIER.

Witnesses:
S. A. BOSTIC,
J. H. JOHNSON.