

APPLICATION FILED NOV. 25, 1911. RENEWED SEPT. 24, 1912.

Patented Apr. 8, 1913.

Fig. 1.

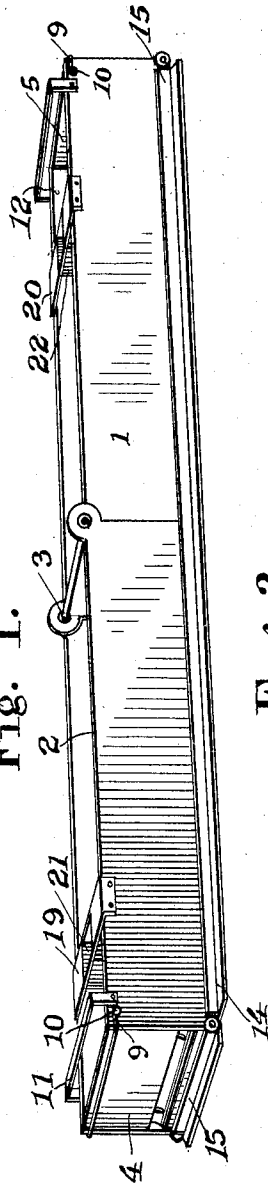
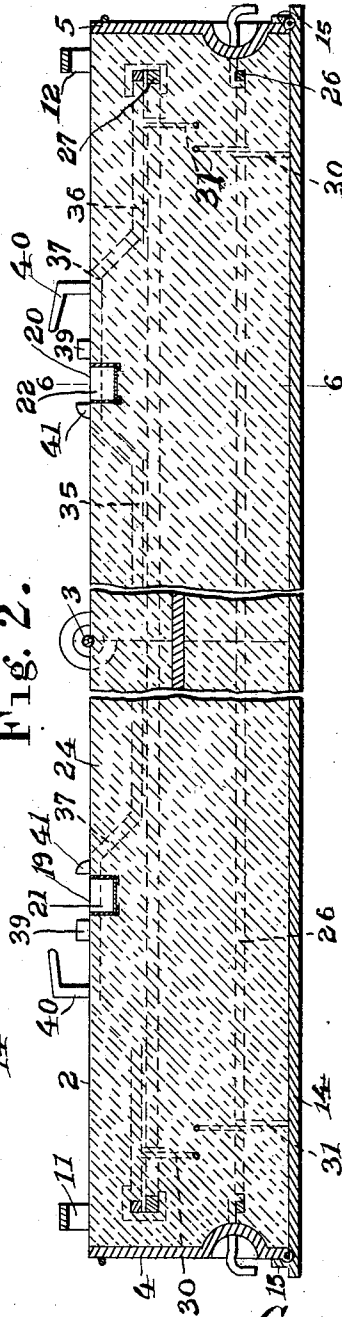
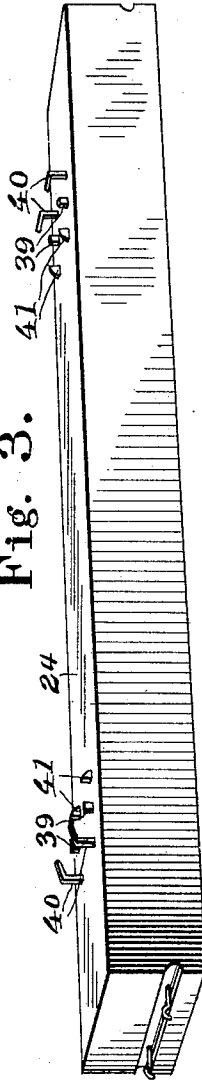


Fig. 2.



Fi m



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IRON FOR RAIL CONNECTING.

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1,058,477.

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3 SHEETS—SHEET 2.

Fig. 4.

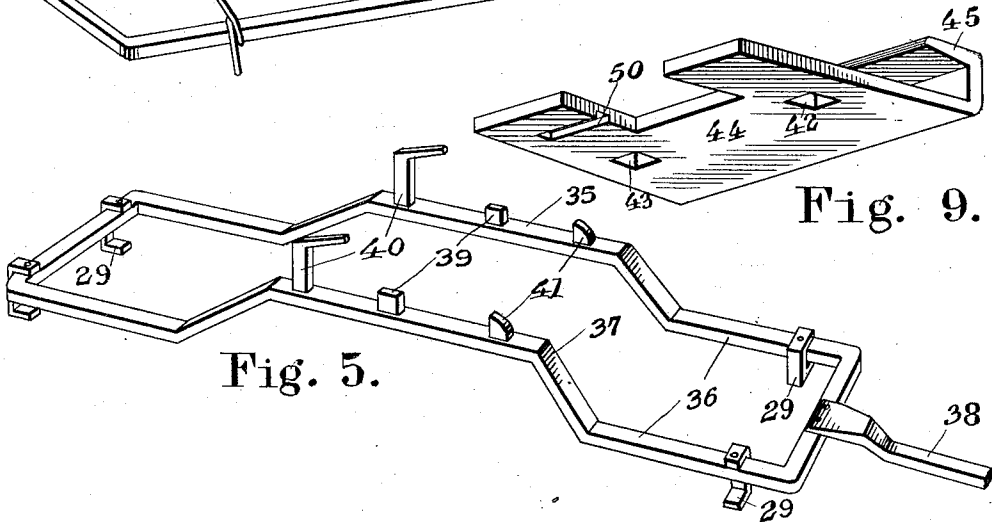
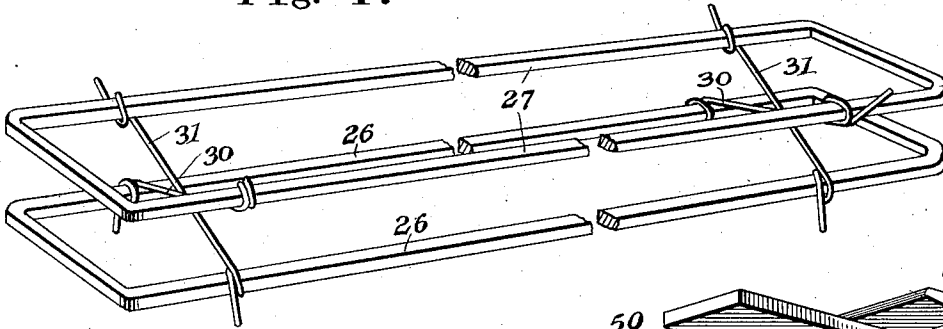
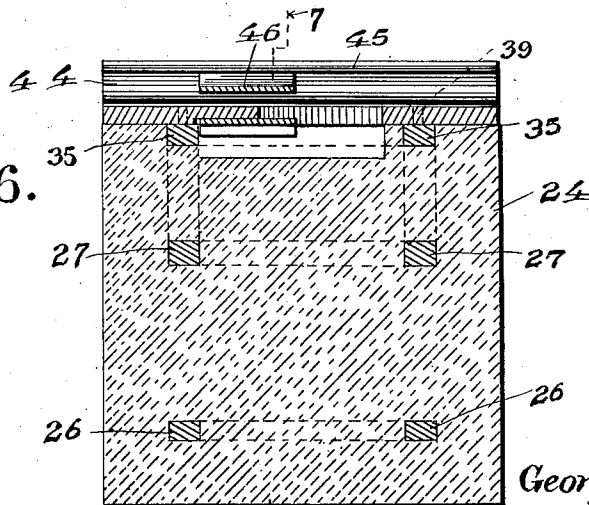


Fig. 9.

Fig. 5.

Fig. 6.



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3 SHEETS—SHEET 3.

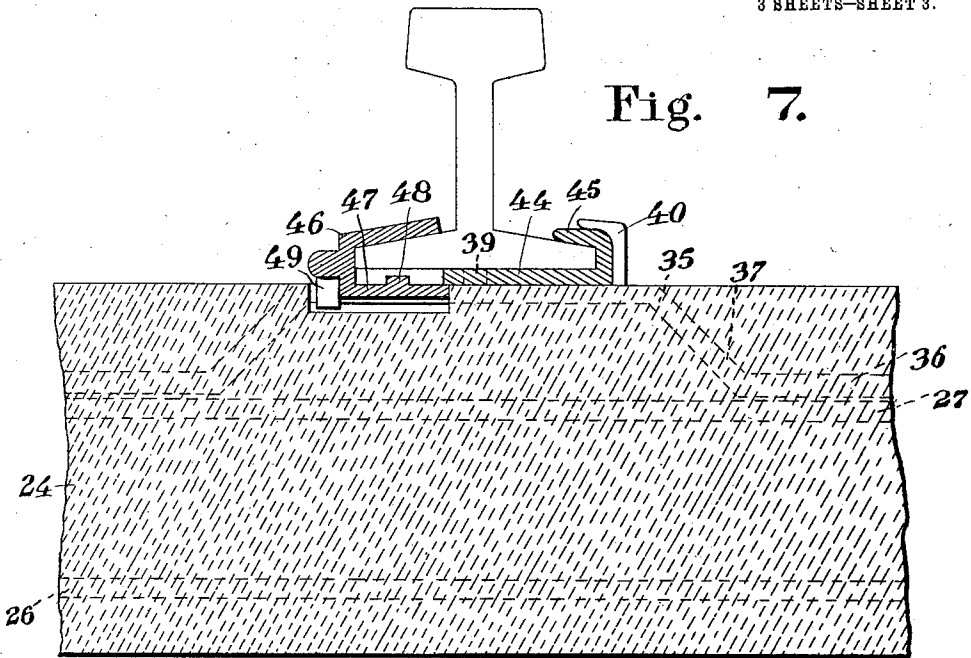


Fig. 7.

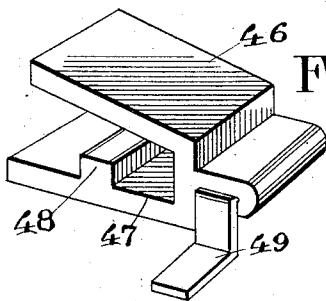


Fig. 8.

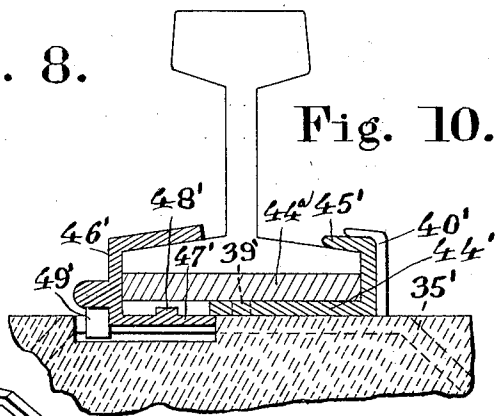


Fig. 10.

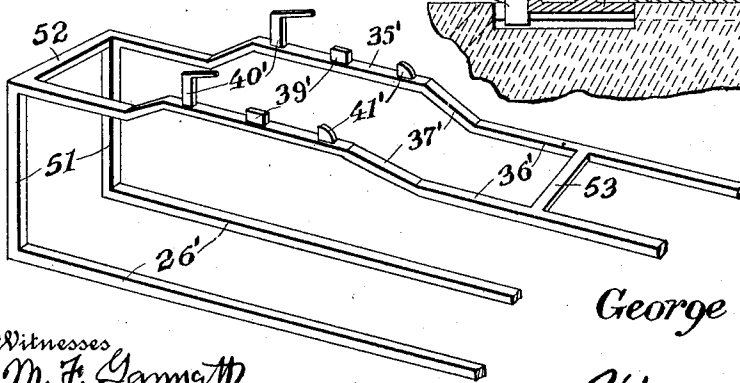


Fig. 11.

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UNITED STATES PATENT OFFICE.

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IRON FOR RAIL-CONNECTING.

1,058,477.

Specification of Letters Patent.

Patented Apr. 8, 1913.

Application filed November 25, 1911, Serial No. 662,474. Renewed September 24, 1912. Serial No. 722,122.

To all whom it may concern:

Be it known that I, GEORGE W. SLADE, a citizen of the United States, residing at Baker City, in the county of Baker and State of Oregon, have invented new and useful Improvements in Irons for Rail-Connecting, of which the following is a specification.

This invention relates to certain improvements in plastic railway ties, and a method of constructing the same.

In carrying out my invention it is my purpose to provide a plastic mold, and a method of constructing the same, the said tie having metallic reinforcing elements which are so constructed and arranged that the same may be adjusted to vary the heights of the ties.

A further object of the invention is to provide a tie with metallic reinforcements, parts of which being adapted to extend above the plastic body, the said extending portions being provided with means whereby the flanges of the rails may be effectively secured thereto without necessitating the employment of the spikes or analogous devices.

With the above recited objects and others of a similar nature in view, the invention consists in the construction, combination and arrangement of parts set forth in and falling within the scope of the appended claim.

In the accompanying drawings,—Figure 1 is a perspective view of the mold in which the tie is formed. Fig. 2 is a vertical longitudinal sectional view of the same, the tie being shown in position within the mold. Fig. 3 is a perspective view of the tie. Fig. 4 is a similar view of the metallic reinforcement for the tie. Fig. 5 is a similar view of the rail retaining element removed from the tie. Fig. 6 is a sectional view taken upon the line 6—6 of Fig. 2, showing the rail plate in position. Fig. 7 is a transverse sectional view taken upon the line 7—7 of Fig. 6, and showing the manner of securing the plate to the tie receiving member of the tie. Fig. 8 is a perspective view of the resilient plate retaining element. Fig. 9 is a perspective view of the rail plate. Fig. 10 is a detail sectional view illustrating the rail as provided with a cushion. Fig. 11 is a detail perspective view of a combined rail retaining and tie reinforcing element.

Referring now to the accompanying drawings in detail, the numeral 1 designates the mold in which the tie is constructed.

Briefly stated, the mold comprises a sectional box 2 which is hingedly connected together at its top portion as at 3. The box has its opposite ends provided with pivoted gates 4 and 5, the said gates having their upper extremities provided with substantially U-shaped bails which project a slight distance beyond the edges of the gates, and the said projecting portions are bent to provide fingers 9 which engage with off-sets 10 provided upon the sides of the mold. The sides of the mold are further provided adjacent the said off-sets with projecting substantially U-shaped handle members 11 and 12, the same affording means whereby one of the sections of the box may be swung upon the opposite section after the gates have been swung open, for the removal of the molded tie which will presently be described.

The numeral 14 designates the base of the mold. This base is of a rectangular construction, and is preferably formed of metal as are the remaining portions of the mold heretofore described. The base 14 has all of its edges upturned to provide flanges 15, and between which the sectional sides as well as the end gates of the mold are to be received when the box is placed upon the base. The mold is connected through the medium of suitable straps or belts 19 and 20, each of the said belts being preferably provided with a substantially rectangular depending portion 21 and 22, the purpose of which will hereinafter be set forth.

The numeral 24 designates the plastic tie. This tie is constructed in the usual manner by having the material from which it is formed tamped within the mold. The tie comprises essentially metallic reinforcing members which are each of a rectangular form, and the said members may be formed of a single strip of wire or other metal, as desired. In the present instance, the lower member 26 is constructed of wire while the next section is constructed of iron which is substantially square in cross section. The longitudinal edges of the said members 26 and 27 are connected together through the medium of leg sections, which are arranged in pairs, and which are designated respectively by the numerals 30 and 31. These members 30 and 31 are bent around the said metallic members and each of the said members 30 and 31 have their extremities bent

in opposite directions to provide feet as well as additional reinforcements for the plastic tie. It will be noted by reference to the several figures of the drawings that the said members 31 are arranged at angles to each other and it will be readily perceptible that by inclining the said members upon their eyes or loops the reinforcements 27 and 28 may be brought either toward or away from each other, thus providing for different heights or thicknesses of ties.

The numeral 35 designates the rail supporting element for the tie. This supporting element comprises a member having longitudinally extending side arms spaced a distance away from each other similar to the side arms of the reinforcing elements proper, and the said ends are provided with transversely arranged connections. The longitudinally extending arms 36 of the said member 35 are centrally arched as at 37, the upper member of each of the arches being horizontally straight and the said member being provided with centrally arranged lugs 39 arranged diametrically opposite each other with spaced enlarged hooks 40 and with upturned abutment members 41. The centrally arranged legs are adapted to receive the openings 42 and 43 provided in a rail sustaining plate 44. This plate has one of its ends provided with an overlying flange 45 and the said flange is adapted to contact with the abutment members when the flange is positioned upon the arched portions of the reinforcing element for the rail. The straightened ends are adapted to contact with the hooks upon the ends of the arch, and the rail plate is centrally provided adjacent its straightened edge with a substantially rectangular cut away portion. This portion is adapted to serve as a means for the reception of a securing clip 46, the said clip being substantially U-shaped in form, and having its lower arm 47 formed with a longitudinally extending lug or off-set 48, which is adapted to engage with the outer edges of the arched portions of the rail supporting reinforcing element of the device. It is of course to be understood that the upper arms of the retaining clips engage with the rail plate so as to sustain the said plate upon the arched portions of the reinforcing members, and the resilient clip is preferably further provided with an off-set or depending finger 49 which may be embedded in the plastic material.

In Fig. 10 I have illustrated the device provided with a cushion 44^a upon which the base of the rail lies. This cushion is adapt-

ed to produce the desired amount of resiliency for the device, so that the shock or jar of the rail, incident to the rolling stock passing thereover, will not weaken or otherwise affect the track.

In Fig. 11, I have illustrated a frame which comprises a reinforcement for the plastic tie, as well as a support for the rails. This frame is substantially rectangular in formation, comprising also longitudinally extending members 26', vertical members 50, connecting members 52, and upper longitudinally extending members 36'. The numeral 37' designates the upwardly inclined portions of the members, and 35' the longitudinal member of the upturned portion. The longitudinal members are provided with the hooks 45, abutment members 41', and the centrally arranged lugs 39', similar to the structure heretofore set forth.

Having thus fully described the invention, what I claim is:—

A plastic tie having metallic reinforcements each constructed of material comprising longitudinally extending arms and transversely connected arms, slidably tiltable supports for the said reinforcing members, a reinforcing element adapted to be arranged upon the uppermost reinforcing element, this reinforcing element being provided with an arched portion having its upper face horizontally straight, the said straightened face being centrally provided with projecting legs and having one of its ends formed with stops, the opposite ends of the horizontally straight portion being formed with off-set projecting fingers, a metallic rail plate having an angular overlying flange upon one of its ends and having its body provided with spaced openings, the said spaced openings adapted to engage with the centrally arranged lugs and the outer face of the plate adapted to be contacted by the stops, the plate having its straight face centrally cut away, flexible securing elements comprising substantially U-shaped members adapted to engage both the upper face of the plate and the lower face of the arched portion of the reinforcing member, and the arm of the plate engaging the said arched portion being provided with a longitudinally extending rib which contacts with the outer face of the said arched portion.

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

GEORGE W. SLADE.

Witnesses:

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JERRY FLEETWOOD.