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G. H. MARTIN.
RAILROAD TIE.
APPLICATION FILED MAY 29, 1909.

Patented Apr. 5, 1910.

2 SHEETS—SHEET 1.

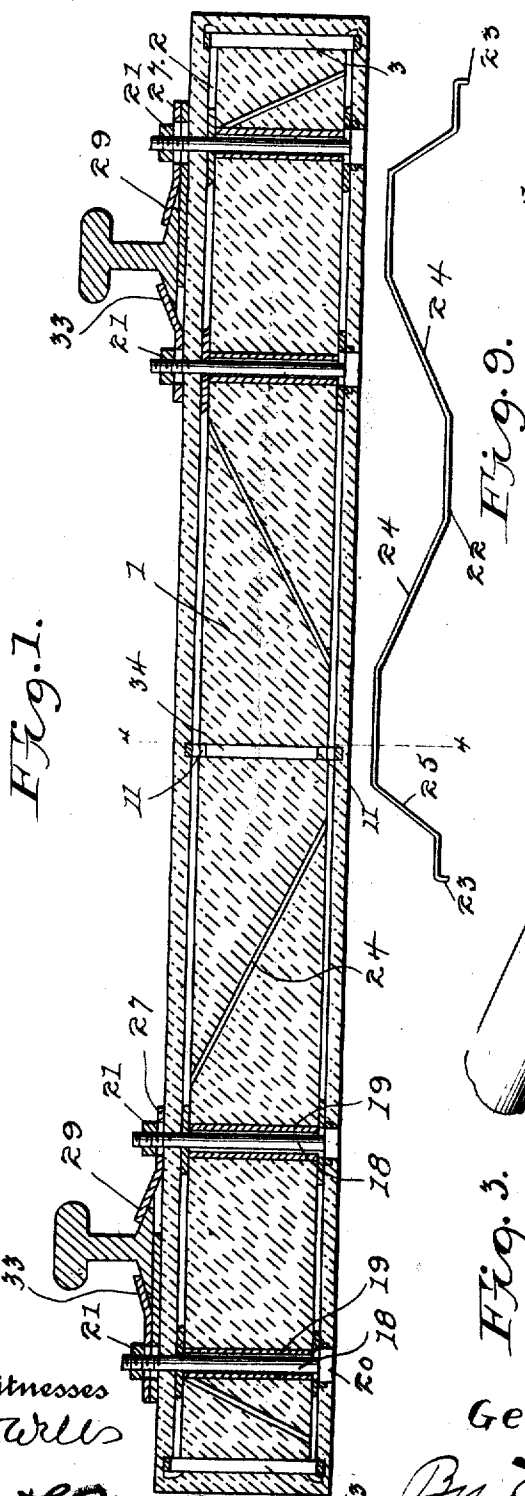


Fig. 1.

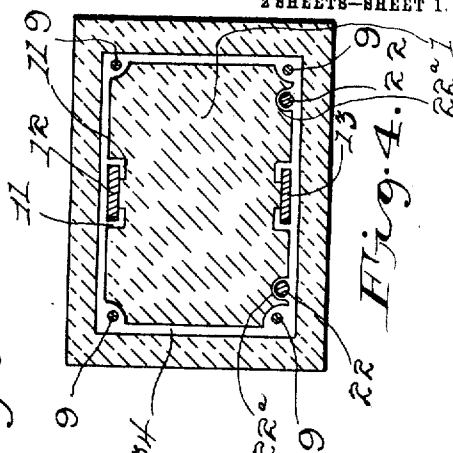


Fig. 4.

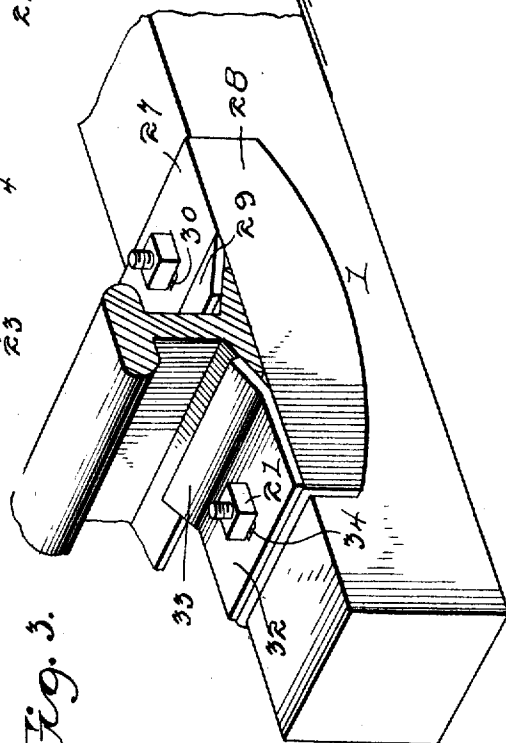


Fig. 3.

Witnesses
J. W. Wells

Geo. L. M. Cathran,

Inventor
George H. Martin.

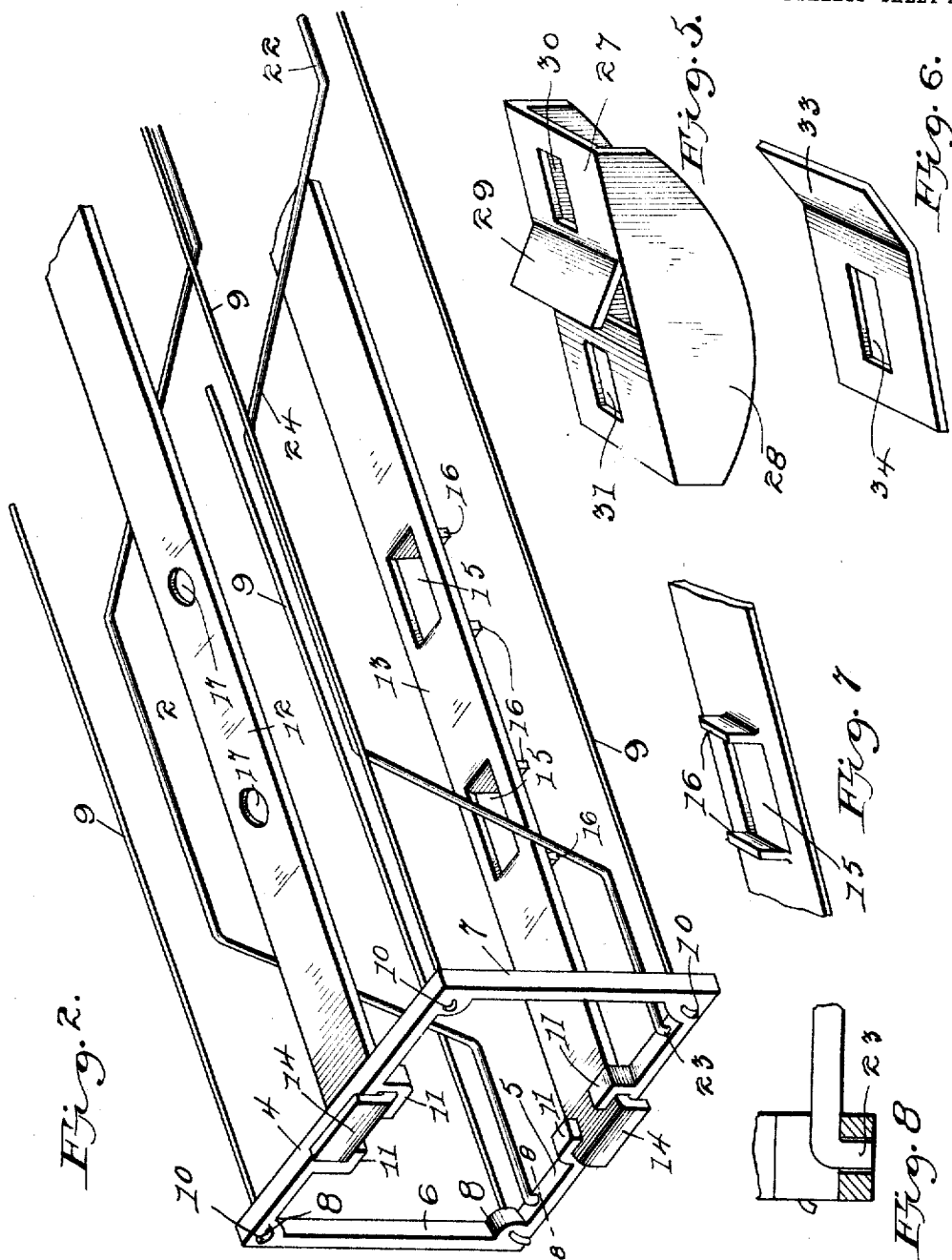
By E. E. Vrooman
his Attorney.

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2 SHEETS—SHEET 2.



Witnesses
J. W. L. McEntee
George H. Martin.
Inventor
By E. O. Brooman, Attorney.

UNITED STATES PATENT OFFICE.

GEORGE H. MARTIN, OF OKLAHOMA, OKLAHOMA.

RAILROAD-TIE.

954,000.

Specification of Letters Patent.

Patented Apr. 5, 1910.

Application filed May 29, 1909. Serial No. 499,192.

To all whom it may concern:

Be it known that I, GEORGE H. MARTIN, a citizen of the United States, residing at Oklahoma city, in the county of Oklahoma and State of Oklahoma, have invented certain new and useful Improvements in Railroad-Ties, of which the following is a specification, reference being had therein to the accompanying drawing.

The present invention relates to plastic ties and has for its object the production of a tie, which will last considerably longer than the ordinary wooden tie, which is now in common use.

Another object of this invention is the production of a tie, which can be manufactured at any place along the road where water can be obtained, and which will make a far more satisfactory road bed than the ordinary wooden tie.

With the foregoing and other objects in view the present invention relates to other objects and advantages, which will be pointed out in the annexed specification and claims.

In the drawings: Figure 1 is a longitudinal section of the tie, showing the rails attached thereto. Fig. 2 is a detail perspective of one end of the frame-work. Fig. 3 is a detail perspective of one end of the tie, showing the rail chair positioned thereon. Fig. 4 is a transverse section of the tie. Fig. 5 is a detail perspective of the chair. Fig. 6 is a detail perspective of the plate adapted to engage one of the flanges of the rail for securing the same upon the chair. Fig. 7 is a detail perspective of the under side of the lower brace member. Fig. 8 is a section taken on line 8—8 of Fig. 2.

Referring to the drawings by numerals, 1 designates the plastic body in which is embedded the frame-work 2, which frame-work comprises a pair of end braces 3, which members comprise upper and lower integral portions 4 and 5 and side portions 6 and 7. At the corner or junction of the side portions and the end portions are formed bulged portions 8 through which are adapted to pass longitudinal rods 9, which are held in said bulged portions 8 by having their outer ends 10 bent, as shown in Fig. 2 of the drawing: The upper and lower portions 4 and 5 are provided upon their inner faces with integral angle ears 11, which engage the upper and lower brace members 12 and 13 and prevent the lateral

displacement of the same from said end portion. The brace members 12 and 13 are each provided, at each end, with angle ends 14, which overhang the upper and lower portions 4 and 5 of the end portion and prevent any longitudinal movement of the same.

The lower brace portion 13 is provided, near each end, with a pair of apertures 15, which apertures are provided, at their ends, with depending angle-integral extensions 16. The upper brace member 12 is provided directly above the apertures 15 with apertures 17 and bolts 18 are adapted to pass through said apertures 15 and 17 and firmly secure the rail chair upon the top of the tie as hereinafter described.

Positioned intermediate the top of the brace member 12 and the lower brace member 13 is a sleeve portion 19 and the bolts 18 are adapted to pass through said sleeve portion, which sleeve portion acts as a guide for the bolts 18. The lower head 20 of the bolt 18, when positioned in the sleeve portion 19, is adapted to be engaged by the angle extensions 16 upon the lower brace member 13 and hold said bolt against rotation, when the nut 21 is threaded upon the upper end of said bolt 18. Truss members 22 also form a portion of the frame and have their ends 23 attached to the lower portion 5 of the end frame. The truss members 22 are provided, near each end, with upwardly-bent portions 24, which are adapted to come up to the level with the upper longitudinally-extending rods 9. The truss members 22 comprise lower bent ends 23, bent at right angles thereto, and said truss members comprise an upwardly-extending angle portion 25 which again is bent, so as to be in the same longitudinal plane with the body portion of the truss member, and again is bent downwardly forming an angle portion 24, which terminates into the body portion of the truss member. The other end of the truss member 22 is formed in a similar manner to that described in the present instance, as, for instance, as shown in Fig. 9.

A chair 27 is secured to the top of the tie, preferably, at each end, and is adapted to firmly secure a rail thereto. The chair is provided with downwardly-extending ears or flanges 28, which are adapted to engage or overhang the sides of the tie. Said chair is also provided with a flanged portion 29, which is stamped from the body portion and

forms a lip, which lip is adapted to engage one side of the base of a rail adapted to be positioned thereon. The chair is also provided with longitudinally-extending slots

5 30 and 31, formed upon each side of the flanged portion 29 and through the longitudinally-extending slot are adapted to pass the upper ends of the bolts 18 for securing said chair firmly upon the tie, as previously stated. A plate 32 is adapted to be positioned upon the top of the chair 27 and is provided, at one end, with a bent portion 33, which is adapted to engage the other flange or other side of the base portion of the rail adapted to be engaged by the bent portion 29 of the chair. The plate 32 is also provided with a longitudinally-extending slot 34 and one of the bolts 18 is adapted to pass through the tie and the longitudinally-extending slot 31 of the chair and through the slot 34 and a nut 21 is adapted to be threaded upon the outer end for firmly holding the plate in a set position. By having the longitudinally-extending slots formed in the chair and the plate 32, it will be obvious that the chair can be adjusted, so as to allow the rails to be more easily positioned upon the chair and secured thereto. A central brace member 34 is positioned between the end frames and the brace members 9, extending through the corners of the same, as in the end frame and the upper and lower brace members 12 and 13 are securely held to the intermediate brace member 34, as shown in Fig. 4, by means of angle extensions 11, similar to those formed upon the end brace members.

From the foregoing description, it will be obvious that I have produced a plastic tie, which is simple in construction and consists of a comparatively small number of parts, and which is durable and thoroughly braced throughout its entire length. Further it will be obvious that the longitudinally-extending members will be greatly reinforced, in view of the fact that the same are connected to the end and central frames. It will also be obvious that the truss members will be greatly reinforced by passing through the bulged portions 22^a upon the lower portion of the central brace member 34.

What I claim is:

1. A railroad tie of the class described comprising a plastic body having a frame embedded therein, said frame comprising end frames, longitudinally-extending rods secured to the corners of said end frames, said frames provided with ears formed thereon upon the upper and lower sides thereof, longitudinally-extending upper and lower central brace members having their ends secured between said ears, means formed upon the end of said upper and lower members and adapted to overhang the end frame and prevent the longitudinal-displacement of said upper and lower members,

and said ears adapted to prevent the lateral displacement of said upper and lower members therefrom.

2. A railroad tie of the class described comprising a plastic body, a frame embedded therein, said frame comprising end frames provided with upper and lower sides and end sides, said upper and lower sides provided upon their inner faces with integral-angle ears formed thereon, longitudinally-extending central members secured between said ears, said central members comprising flanged ends adapted to overhang the sides of the upper and lower sides, and longitudinally extending braces secured to said end frames for securing the same together.

3. A railroad tie of the class described comprising square end frames, longitudinally-extending rods secured at their ends to the corners of said frames, truss members secured to said end frames and provided, near each end, with upwardly-bent portions, and centrally located bracing means secured to said end frames.

4. A railroad tie of the class described comprising a plastic body, a metallic frame embedded therein and comprising end frames, longitudinally-extending rods secured to the corners of said end frames, centrally located longitudinally-extending brace members secured to the top and bottom of said end frames, said bottom of the longitudinally-extending brace member provided near each end with a plurality of apertures having integral angle depending portions formed upon the ends thereof, means adapted to pass through said aperture for engaging a chair adapted to be carried by the top of said tie for securing the same thereto, and said depending portions adapted to hold said means against rotation.

5. A device of the class described comprising a plastic body, end frames embedded therein, longitudinally-extending rods secured to the corners thereof and embedded within said plastic body, truss members secured to said end frames and provided near one end with upwardly-extending angle portions terminating into a longitudinally-extending portion in the same plane with the body portion of said truss members, and said longitudinally-extending portion terminating into a downwardly extending angle portion terminating into the body portion of said truss members.

6. A railroad tie of the class described comprising a plastic body, a frame-work positioned therein, and comprising upper and lower longitudinally-extending central members, said upper longitudinally-extending members provided with apertures formed near each end thereof, said lower longitudinally-extending members provided with apertures formed near each end thereof, a

sleeve positioned between said upper and lower longitudinally-extending members, flange portions formed upon each side of said apertures formed in the lower longitudinally-extending members, means passing through said sleeve and said apertures and adapted to engage a rail chair for firmly securing the same upon the tie, and said flanges adapted to hold said means against rotation.

7. In a railroad tie of the class described the combination with a plastic body, a metallic frame embedded therein, of a chair positioned upon said body, said chair provided upon each side thereof with a depending flanged portion adapted to engage the side of said body, means formed upon the top of said chair and adapted to engage the rail for firmly holding a rail upon said chair, and means passing through the body and said chair for firmly holding said chair upon said body.

8. In a device of the class described the combination with a plastic body, of a railroad chair provided with a pair of depending flanged sides, said chair provided with longitudinally-extending slots, of a plate posi-

tioned upon the top of said chair, and means passing through said body and said chair for firmly holding the same upon the tie and holding a rail in engagement with said chair.

9. In a device of the class described the combination with a plastic body, of a rail chair secured thereto, an angle extension formed upon the top thereof, said angle extension adapted to engage one side of the base of a rail, said chair provided with longitudinally-extending slots formed therein, a plate positioned upon said chair, an angle portion formed upon said plate, and adapted to engage the other side of the rail positioned upon said chair, said plate provided with a longitudinally-extending slot, and means passing through said tie, said plate and chair for firmly holding the same upon said tie and the rail upon said chair.

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

GEORGE H. MARTIN.

Witnesses:

T. M. RICHARDSON,
W. J. PETTIE.