M. JOACHIMI, Sr.

RAILWAY TIE.

APPLICATION FILED JAN. 25, 1909.

919,586.

Patented Apr. 27, 1909.

2 SHEETS—SHEET 1.

FIG. 1.

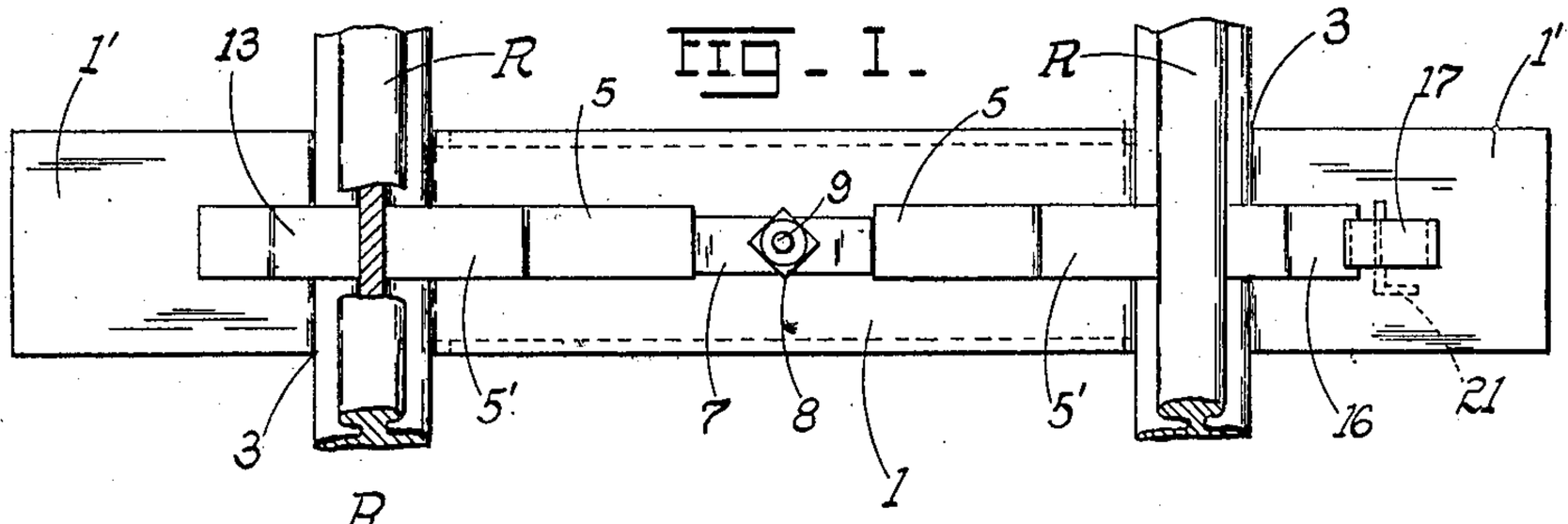


FIG. 2.

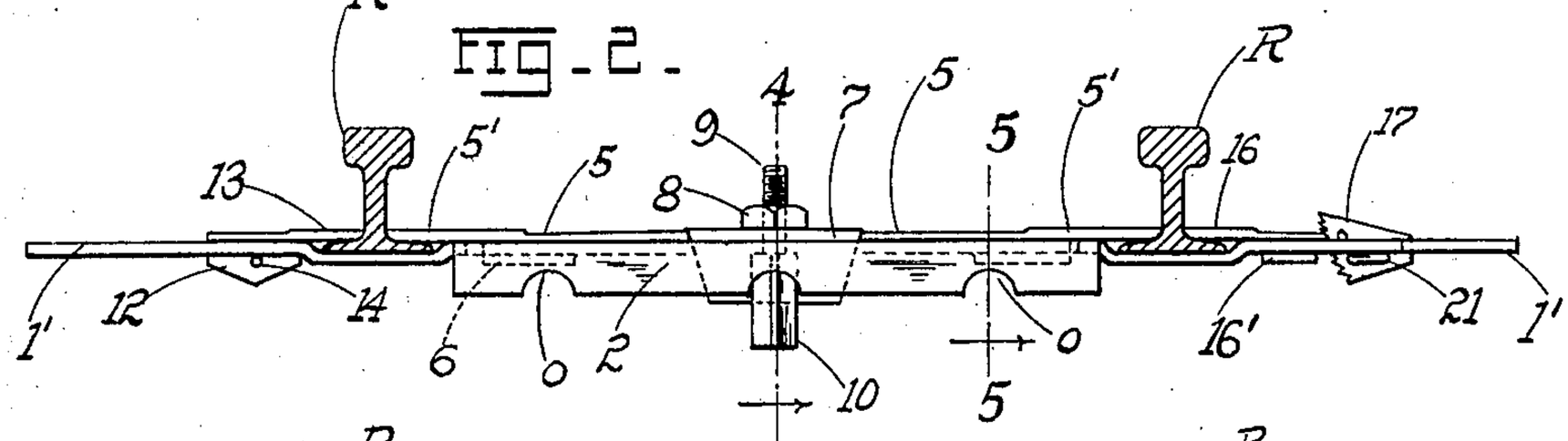


FIG. 3.

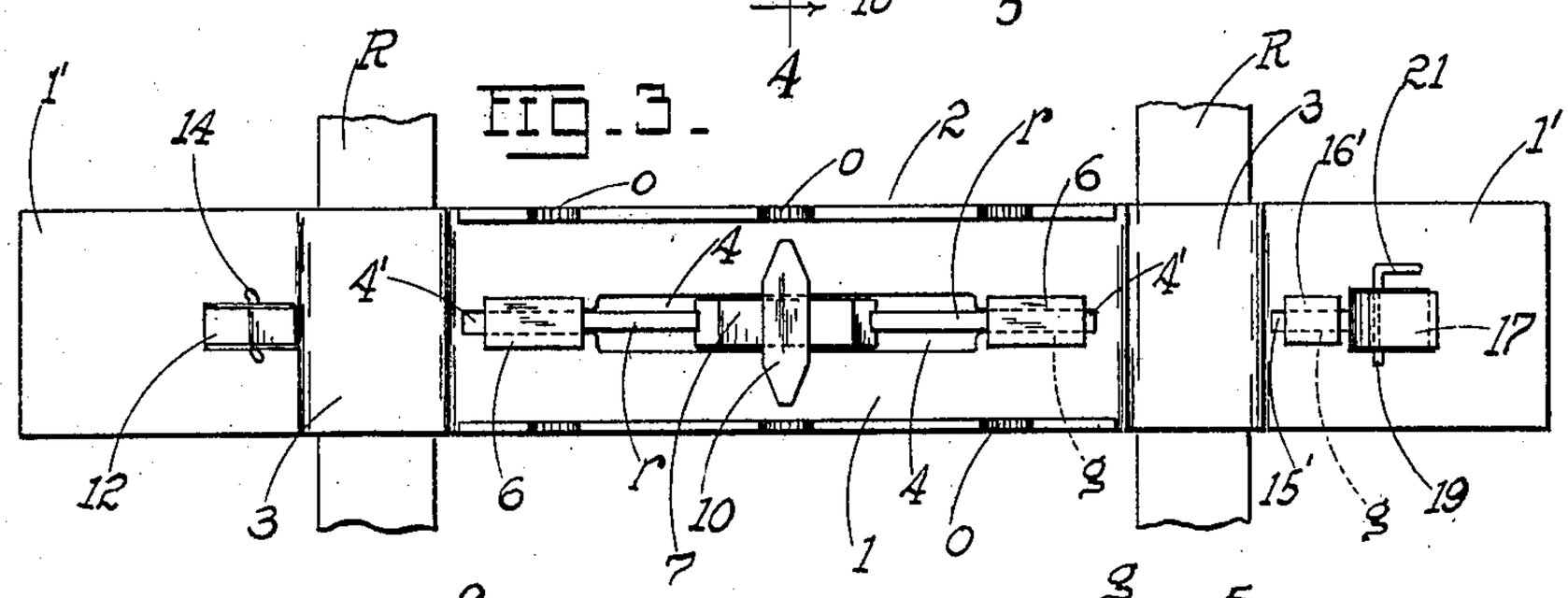


FIG. 4.

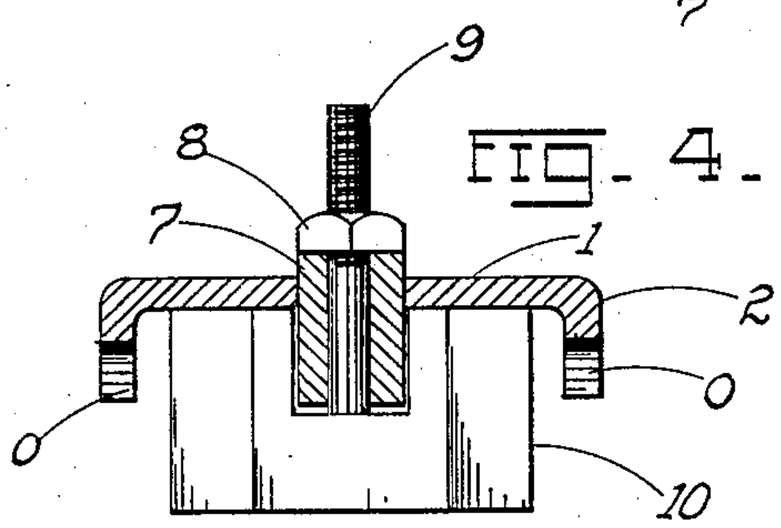
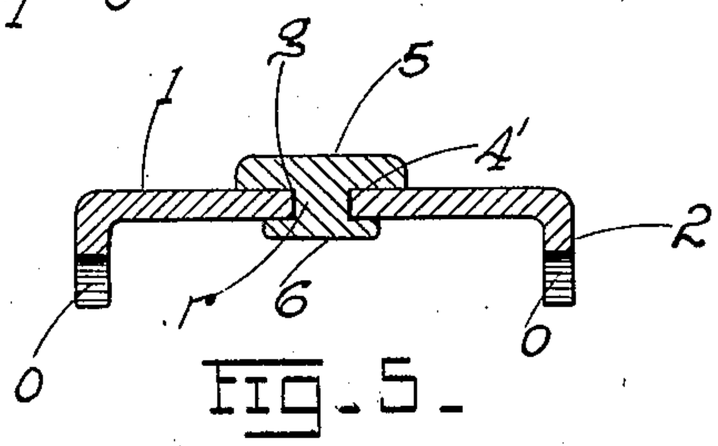


FIG. 5.



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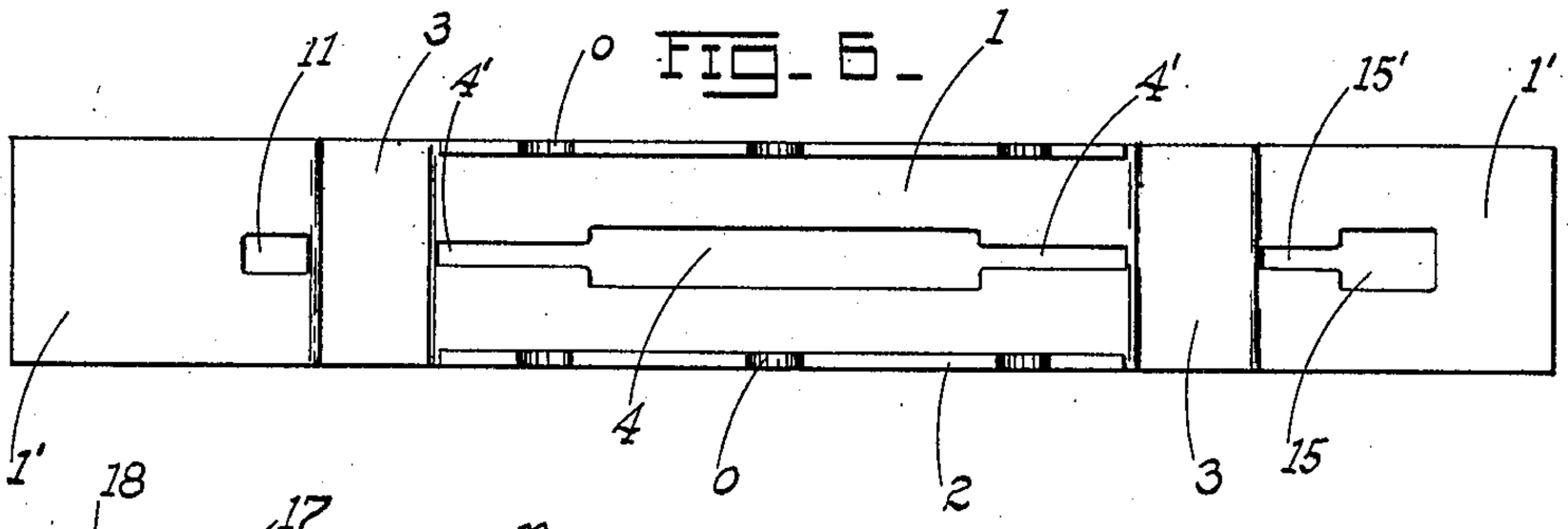
2 SHEETS—SHEET 2.

FIG. 6.



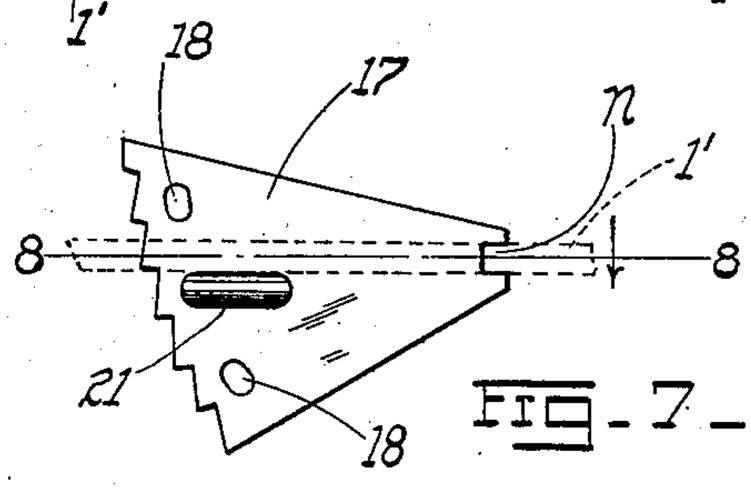


FIG. 7.

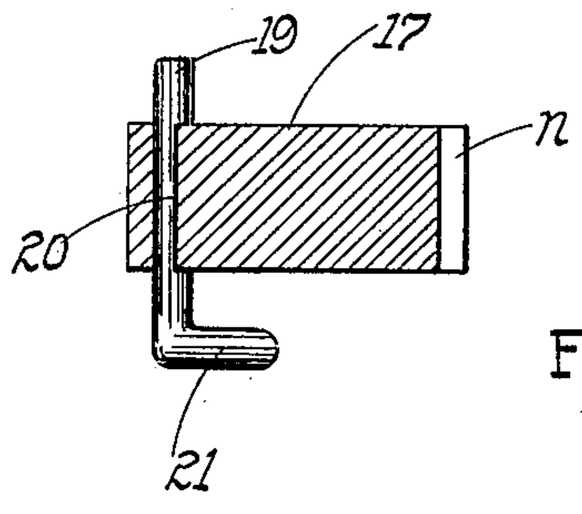


FIG. 8.

FIG. 9

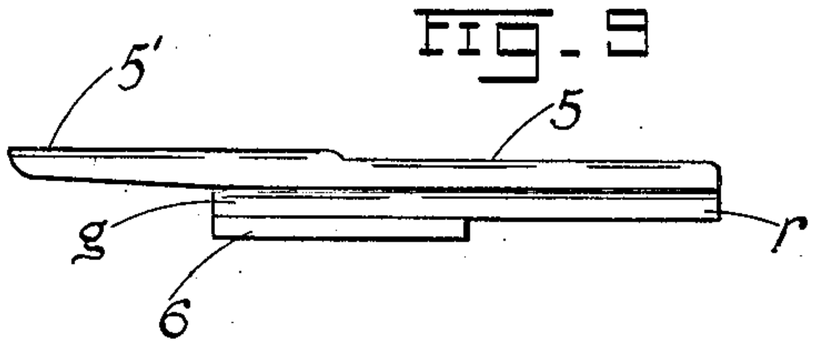
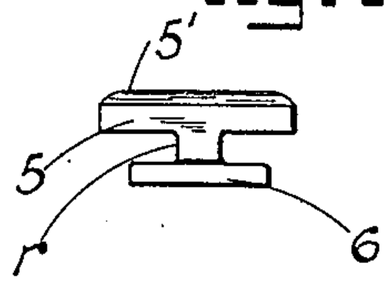


FIG. 10.



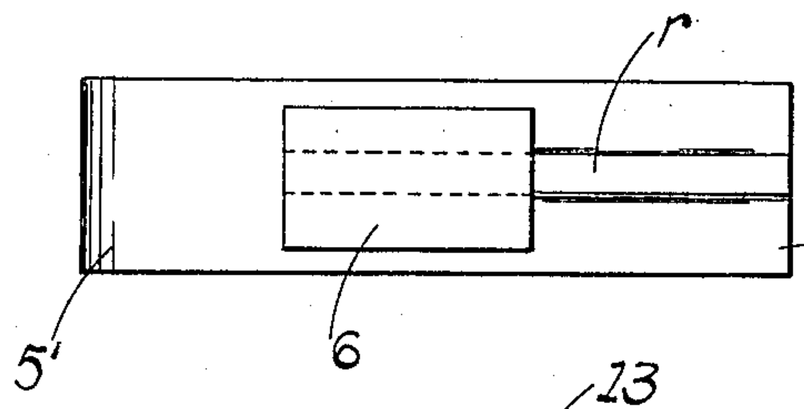


FIG. 11.

FIG. 12.

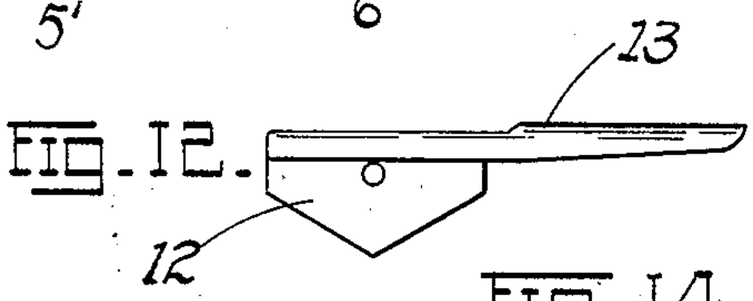


FIG 13.

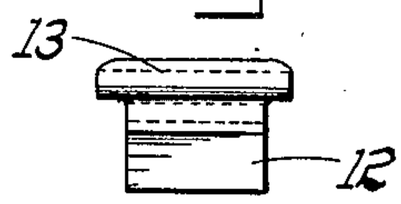
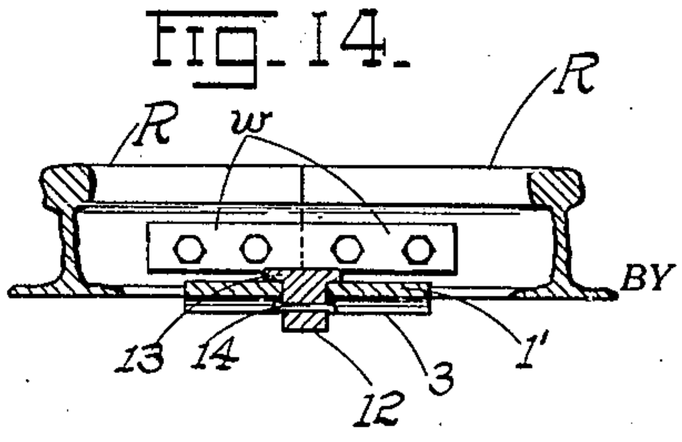


FIG. 14.



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RAILWAY-TIE.

No. 919,586. Specification of Letters Patent. Patented April 27, 1909.

Application filed January 25, 1909. Serial No. 474,029.

To all whom it may concern:

Be it known that I, MAX JOACHIMI, SR., citizen of the United States, residing at Versailles, in the county of Morgan and State of Missouri, have invented certain new and useful Improvements in Railway-Ties, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention has relation to improvements in railway-ties; and it consists in the novel details of construction more fully set forth in the specification and pointed out in the claims.

In the drawings, Figure 1 is a top plan showing the application of my invention; Fig. 2 is a side elevation the rails being in cross-section; Fig. 3 is a bottom plan view; Fig. 4 is an enlarged vertical cross-section on the line 4—4 of Fig. 2; Fig. 5 is an enlarged vertical cross-section on the line 5—5 of Fig. 2; Fig. 6 is a bottom plan of the tie proper with all other parts removed; Fig. 7 is a side elevational detail of the locking toothed segment detached; Fig. 8 is a transverse section on the line 8—8 of Fig. 7; Fig. 9 is a side view of one of the inner rail clamps; Fig. 10 is an end view of Fig. 9; Fig. 11 is a bottom plan of Fig. 9; Fig. 12 is a side view of one of the outer rail clamps; Fig. 13 is an end view thereof; and Fig. 14 is a side elevational detail of two abutting rails with the outer rail clamp provided with wings to serve as a fish-plate, the clamp and tie being shown in cross section.

The object of my invention is to construct a metallic railway tie which shall insure an elastic and yet firm support for the rail; one in which the rail can be securely locked to the tie; one making ready provision for widening the gage at the curves; one in which the tie is proof against creeping or shifting; one in which the prevailing fish-plate may be dispensed with; and one possessing further and other advantages better apparent from a detailed description of the invention which is as follows:—

Referring to the drawings, and for the present to Figs. 1 to 13 inclusive, 1, represents a metallic plate or tie provided with lateral depending flanges 2, 2, and terminal extensions 1′, 1′, at the base of which extensions and adjacent to the ends of the flanges are formed transverse grooves or depressions 3, 3, for the support of the flanges of the rails R, R. Formed along the longitudinal center of the tie between the depressions 3, 3, is a slot 4 having terminal reduced portions 4′, 4′. Over the slot 4 and on either side of the center of the tie is placed an inner clamping plate or member 5 of a width to overlap the sides of the slot, the bottom surface of the clamping plate being ribbed (rib *r*) said rib terminating in an enlarged head 6 of a width while not too great to pass through the slot 4, is of sufficient width to overlap the sides of the narrow extensions 4′ of the slot when the plate is shoved up toward the rail R. The outer end of the plate 5 terminates in a formation or projection 5′ which engages the upper surface of the rail-flange when the plate is shoved up against the rail. At the same time the formation 5′ will bear against the top of the inner flange of the rail. Thus not only is the plate 5 locked to the tie, but the plate locks the rail to the tie. In practice there are two locking members or plates 5, one on each side of the transverse center of the tie, the adjacent ends being beveled and receiving between them a wedge shaped key 7 which when driven its full extent downward forces the clamping members 5, 5, firmly against their respective rails. The wedge 7 is itself secured to the tie by a nut 8 passed over a screw-threaded stem 9 inserted through the wedge from the bottom, said stem 9 being secured to or forming part of a transversely disposed plate, block, wing, rib or equivalent member 10 recessed to engage the vertical side faces of the key and bearing against the under surface of the tie. Thus the key is locked against displacement by the member 10, the latter projecting considerably below the tie, and embedded as it is in the earth or road-bed it prevents the tie from creeping or shifting in a direction across the track.

At the base of one of the extensions 1′ is formed a slot 11 which receives a lug 12 formed on the under surface of an outer rail clamp 13, the latter bearing against the adjacent rail flange as shown. A pin 14 is driven through the lug 12 across the slot 11 and thus holds said clamp 13 in place. The opposite extension 1′ has formed therein a slot 15 terminating in a narrow extension 15′. The portion 15 receives freely an outer clamp 16 which is provided along the bottom with a head 16′ grooved on the sides and of sufficient width to overlap the slot 15′ the sides of which engage the grooves *g* of said head 16′ when the clamp is shoved up against the rail. This done, the clamp 16 is itself locked

against displacement by a ratchet block or segment 17 whose serrated edge engages the end of the clamp, the segment being fulcrumed to the outer terminal edge of the slot 15, preferably by notching the block at the fulcrum end, the wall of the slot engaging the notch *n* at such fulcrum. The ratchet block 17 being slightly eccentric, it can be forced firmly against the clamp 16 driving the latter well up against the rail. The segment 17 is further provided with elongated openings 18 through which a key-pin 19 may be passed, said pin being provided with a notch 20 which after the pin is inserted through the proper opening and then given a turn of ninety degrees causes the walls of the notch to engage the walls of the segment and thus additionally secure the latter against displacement. The key 19 is provided with a manipulating arm 21 which when the key is turned as described lies against the bottom of the extension 1′.

Where two rails come together, instead of using the prevailing and ordinary form of fish-plate, I form lateral extensions or wings *w*, *w*, on the inner ends of the outer clamps 13, 16, these wings spanning the joints between the rails, and being bolted to the latter the same as an ordinary fish-plate (see Fig. 14 where the wings are shown on clamp 13).

For widening the gage at curves, the depressions or grooves 3, 3, may be sufficiently widened on ties making up the curve, to allow for an outward shifting of the rails for such wider gage, though the same thing may be accomplished by having the width of the depressions 3 uniform, but spacing them the proper distance apart where a wider gage is desirable. That is a result which can be readily accomplished, or a condition readily met by the skilled mechanic.

The earth is tamped under the tie between the flanges 2, 2 thereof and under the extensions 1′, 1′, and when finally laid is found to be perfectly elastic, and non-creeping. It is durable, and cheap, and a road may be quickly constructed by the use of the tie, since all the parts are readily assembled. To more conveniently tamp the tie, the flanges 2 have cut away portions or scallops *o* formed thereon, through which the tamping bar may be readily inserted and the dirt firmly tamped down.

Having described my invention what I claim is:—

1. A metallic railway tie comprising a plate having lateral depending flanges, and provided with transverse depressions for the reception of the rails, and having extensions beyond said depressions, means for locking the rails from opposite sides of the webs thereof, and a transversely disposed member connected to the locking means and located below the plate for preventing creeping of the tie.

2. A metallic railway tie comprising a plate having a central slot terminating in reduced extensions, transverse depressions being formed in the plate beyond said slot extensions for the reception of the rails, clamping plates disposed on each side of the center of the tie and provided with bottom ribs terminating in lateral heads free to pass through the slot but locking with the sides of the reduced extensions, formations on said clamping plates for engaging the inner rail-flanges, a center wedge or key interposed between the adjacent ends of the clamping plates, a member disposed below the tie and provided with a stem passing through the key aforesaid, a nut for securing the stem to the key, the member being recessed to receive the portion of the key projecting below the tie, and clamps carried by the tie for engaging the outer rail-flanges.

3. In a metallic railway tie, a plate having transverse recesses for the reception of the rails, and provided with extensions beyond said recesses, a slot having a reduced end formed in one of said extensions, a rail-clamping plate having a laterally grooved head free to pass through the slot but interlocking with the edges of the reduced portion thereof, a ratchet block fulcrumed to the outer edge of the slot and engaging the adjacent end of the clamping plate, and a key-pin passed through the block and engaging the bottom of the tie for preventing accidental displacement of the ratchet block.

4. A metal tie having depressions for the support of the rails, inner and outer rail-clamps, means at the bottom of the tie for preventing creeping, and intermediate connections coupling said means to the inner rail clamps.

5. A metal tie having depressions for the support of the rails, inner rail clamps extending from points on each side of the center of the tie toward the adjacent rail-flanges, a key for driving the clamps toward the rails, and an anti-creeping rib or wall disposed across the bottom of the tie and coupled to the key.

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

MAX JOACHIMI, Sr.

Witnesses:
W. E. Jones,
F. M. Witten.