E. T. PAYNE & G. F. COCHRAN.

RAILROAD TIE.

APPLICATION FILED MAY 25, 1908.

917,118. Patented Apr. 6, 1909.

Fig. 1.

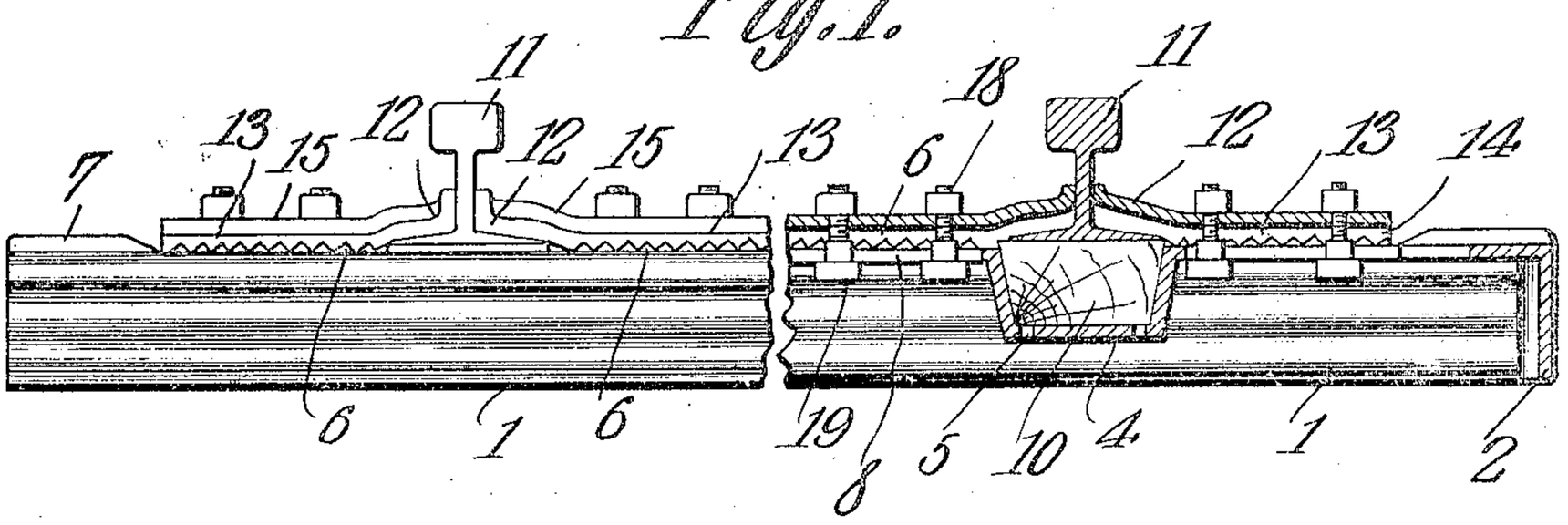


Fig. 2.

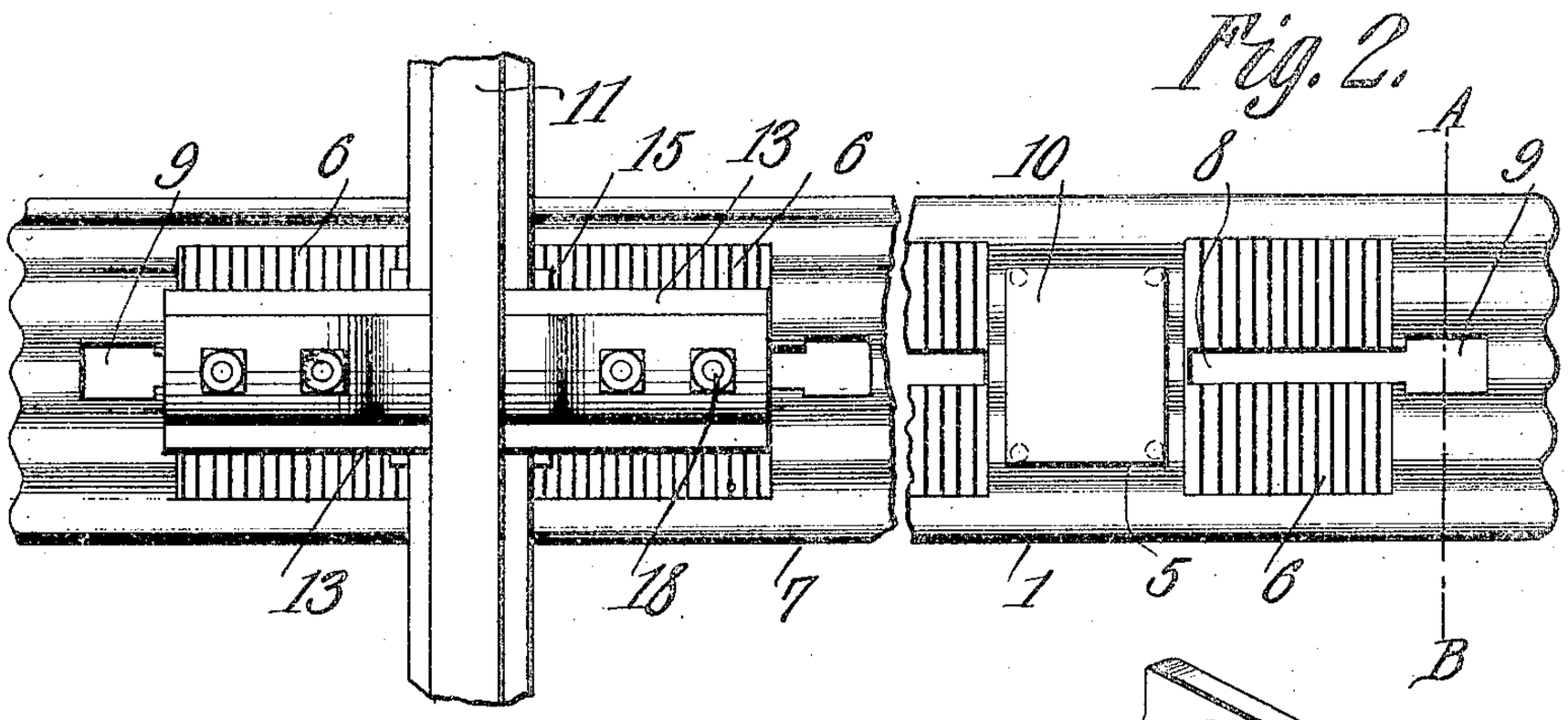
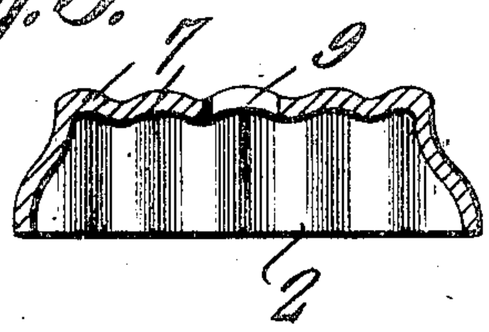


Fig. 3.



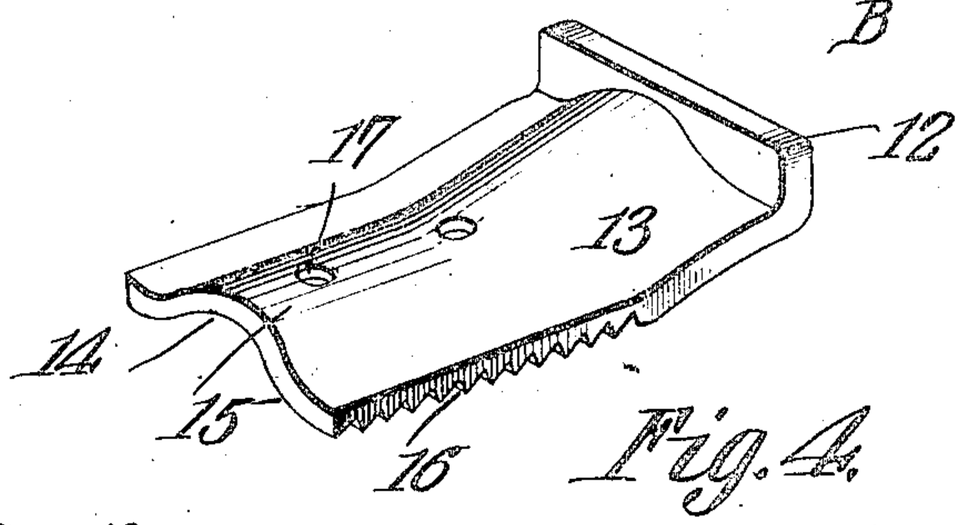
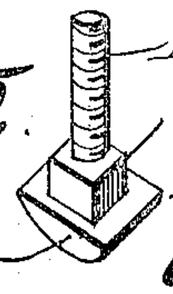


Fig. 4.

Fig. 5.



Witnesses

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UNITED STATES PATENT OFFICE.

EDWARD T. PAYNE AND GEORGE F. COCHRAN, OF ALBUQUERQUE, TERRITORY OF NEW MEXICO.

RAILROAD-TIE.

No. 917,118. Specification of Letters Patent. Patented April 6, 1909.

Application filed May 25, 1908. Serial No. 434,820.

To all whom it may concern:

Be it known that we, EDWARD T. PAYNE and GEORGE F. COCHRAN, citizens of the United States, residing at Albuquerque, in the county of Bernalillo and Territory of New Mexico, have invented a new and useful Railroad-Tie, of which the following is a specification.

This invention relates to metallic railway ties and its object is to provide an all-metal tie of this character designed to be stamped from heavy sheet metal and which is so shaped as to be reinforced longitudinally and to yieldingly support the rails thereon to a limited extent so as to avoid all danger of rails breaking as when supported upon a non-yielding tie.

Another object is to provide means integral with the tie for holding cushioning blocks in position beneath the rails, said holding means having drain openings to permit the escape of any moisture which may accumulate therein.

Another object is to provide rail fastening devices of novel form.

With these and other objects in view the invention consists of certain novel features of construction and combinations of parts which will be hereinafter more fully described and pointed out in the claims.

In the accompanying drawings is shown the preferred form of the invention.

In said drawings: Figure 1 is a view partly in side elevation and partly in longitudinal section of a tie embodying the present improvements, the middle portion of the tie being removed. Fig. 2 is a plan view of the tie, the rail fastening devices upon one end thereof being removed and the middle portion of the tie broken away. Fig. 3 is a section on line A—B, Fig. 2. Fig. 4 is a detail view of one of the rail engaging jaws. Fig. 5 is a perspective view of one of the bolts used for fastening the rails in position.

Referring to the figures by characters of reference, 1 designates the body of the tie, the same being preferably in the form of an inverted trough stamped or otherwise formed in a single sheet of metal and having its side or longitudinal walls corrugated in the direction of their lengths while the end walls of the tie are corrugated vertically as shown at 2. A recess 4 is formed in the top of the tie adjacent each end thereof, said recesses being spaced apart a distance equal to the distance between the rails to be fastened upon the tie and each recess has drain openings 5 formed in the bottom thereof for the escape of any moisture which might accumulate therein. The top of the tie is provided with transversely extending teeth 6 arranged adjacent each recess 4, there being two series of these teeth near each recess, the recess being interposed between the two series. The top of the tie is corrugated longitudinally, as indicated at 7, these corrugations being interrupted by the transverse teeth 6. A longitudinal slot 8 intersects the teeth 6 of each series and that end of each slot farthest removed from the adjoining recess 4 is enlarged as indicated at 9.

A cushioning block 10 of wood or other suitable material is seated within each recess 4 and a rail 11 is designed to rest thereon. Each base flange of the rail is lapped by the inclined head 12 of a fastening plate 13. This plate has a longitudinal groove 14 in the bottom thereof and a corresponding reinforcing rib 15 upon the upper face thereof, the bottom face of said plate being provided with transversely extending teeth 16 designed to engage the teeth 6 on the tie body. Openings 17 are formed within the plate 13 and are designed to receive the bolts 18, the heads 19 of which are proportioned so as to be readily inserted into the large ends 9 of slots 8 and moved into position beneath the reduced portion of the slots, whereupon these heads can not be withdrawn from the tie. A rectangular boss 20 is formed upon each bolt and is designed to fit within the reduced portion of the slot so as to hold the bolt against rotation.

In using the tie herein described the same is placed upon the roadbed with its edges bearing thereon and the cushioning blocks 10 are seated within the recesses 4. The rails 11 are then placed upon the blocks and the fastening plates 13 are placed at opposite sides of the rails and against the webs thereof. The heads 19 of the bolts are then inserted through the enlarged portions 9 of the slots and shifted longitudinally of the slots so as to bring the bosses 20 within the reduced portions of said slots. The bolts are then inserted through the fastening plates and secured therein by means of nuts so that the teeth 16 upon the plates will be clamped tightly in engagement with the teeth 6 upon the tie body. The plates will thus be se-

curely held against displacement. By corrugating the tie body in the manner shown and described said body is rendered elastic to a limited extent and the danger of the rails breaking is thus reduced to the minimum. The entire tie can be readily stamped from a heavy sheet of metal, or if preferred, can be otherwise produced. The fastening plates can be adjusted so as to hold the rails at any desired distance apart and after this adjustment has once been effected and the plates secured it becomes impossible for them to shift out of place.

What is claimed is:

1. A railway tie having longitudinally corrugated sides and top, and vertically corrugated ends.

2. A metallic railway tie comprisng an inverted trough-like body having longitudinally corrugated sides and vertically corrugated ends.

3. A metallic railway tie comprising an inverted trough-like body having a longitudinally corrugated top, and a recess in said top, the bottom of said recess being apertured, and teeth extending transversely upon the top of the tie at opposite sides of the recess.

4. A metallic railway tie comprising an inverted trough-like body having longitudinally corrugated sides and top, there being a recess in the top of the tie, teeth upon the top of the tie at opposite sides of the recess, and rail engaging devices mounted upon the toothed portions of the tie and overhanging the recess.

5. A metallic railway tie comprising an inverted trough-like body having a recess in the top thereof provided with a drain opening, there being longitudinal slots within the top of the body at opposite sides of the recess, transversely extending teeth upon the body and intersected by the slots, toothed rail engaging devices engaging the teeth upon the tie body and overhanging the recess, and means removably mounted within the slots for securing said devices upon the tie body.

6. The combination with an inverted trough-like body having a recess in the top thereof provided with a drain opening, there being longitudinal slots within the top of the tie body at opposite sides of the recess; of transversely extending teeth upon the tie body and intersected by the slots, longitudinal reinforcing rail fastening devices upon the tie body, teeth thereon for engagement with the teeth upon the tie body, and means removably mounted within and held against rotation by the walls of the slots for securing the fastening devices to the tie body.

In testimony that we claim the foregoing as our own, we have hereto affixed our signatures in the presence of two witnesses.

EDWARD T. PAYNE.
GEORGE F. COCHRAN.

Witnesses:
ALFRED GOODRICH,
FRANK L. WOOD.