

No. 894,403.

PATENTED JULY 28, 1908.

J. G. SNYDER.
METALLIC RAILWAY TIE.
APPLICATION FILED SEPT. 3, 1907.

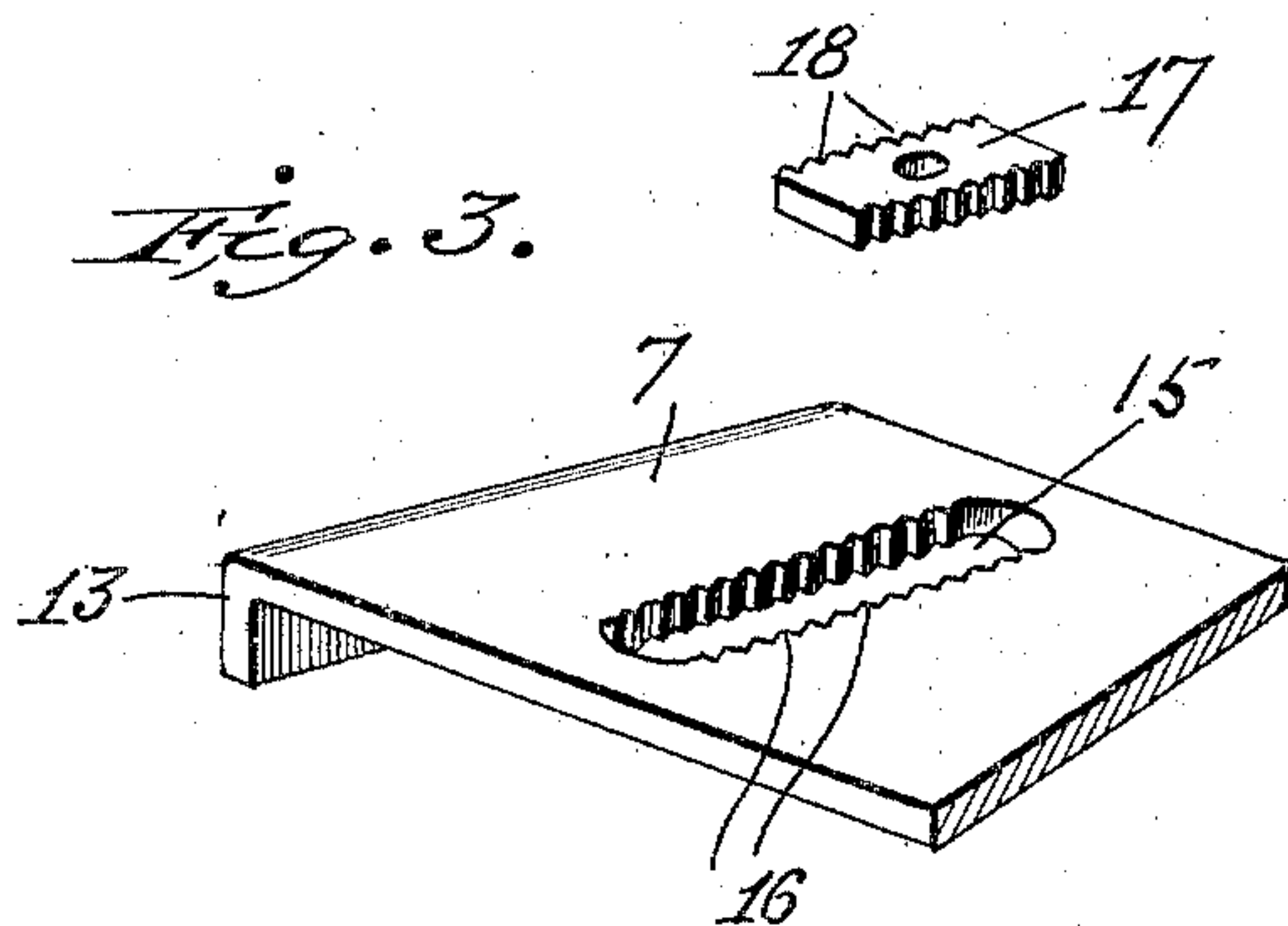
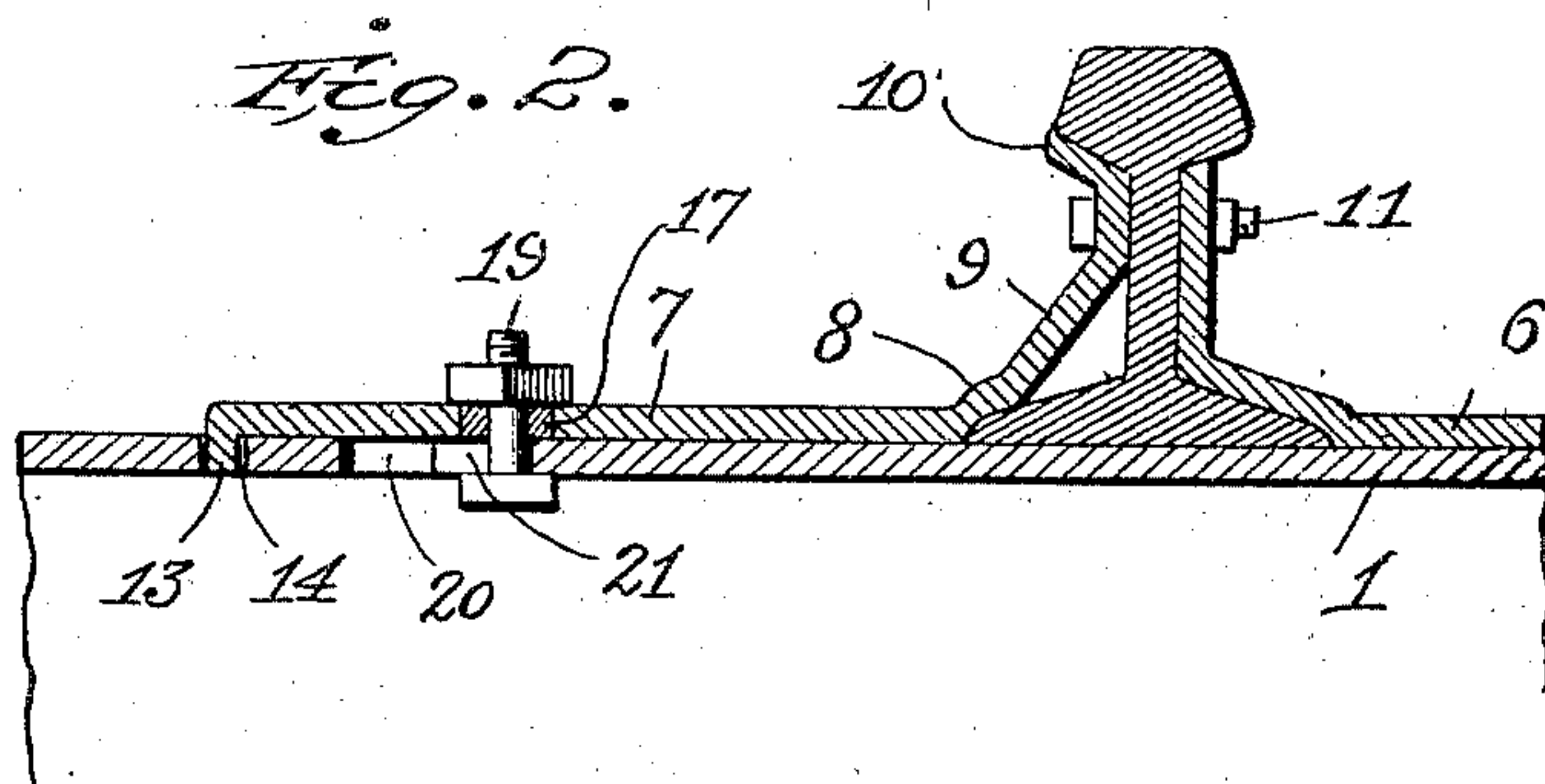
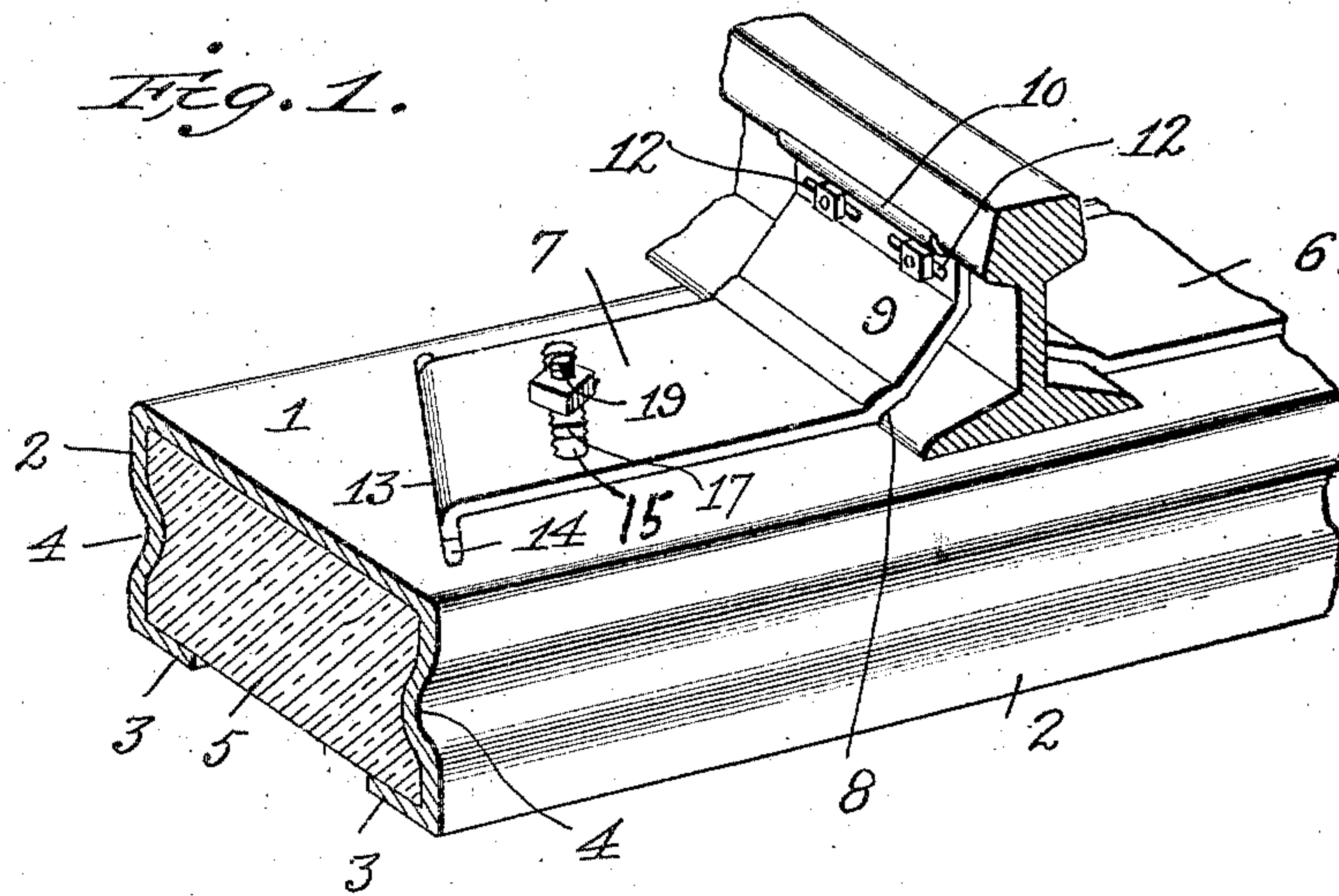


Fig. 4.

Witnesses

Edwin L. Jewell
J. E. Hutchinson

Inventor

John G. Snyder

By William M. Davis
Attorney

UNITED STATES PATENT OFFICE.

JOHN G. SNYDER, OF ALTOONA, PENNSYLVANIA.

METALLIC RAILWAY-TIE.

No. 894,403.

Specification of Letters Patent.

Patented July 28, 1908.

Application filed September 3, 1907. Serial No. 391,101.

To all whom it may concern:

Be it known that I, JOHN G. SNYDER, a citizen of the United States, residing at Altoona, in the county of Blair and State of Pennsylvania, have invented certain new and useful Improvements in Metallic Railway-Ties, of which the following is a specification.

The invention relates to metallic railway-ties of that description in which the body of the tie comprises a hollow shell or casing inclosing a resilient filling. It also relates to clamping mechanism for securing the rail to the tie.

It consists in the novel construction, combination and arrangement of parts, such as will be hereinafter fully described, pointed out in the appended claims and illustrated in the accompanying drawings.

In the accompanying drawings, in which similar reference characters designate corresponding parts, Figure 1 is a perspective view showing an end of the tie with the clamping mechanism. Fig. 2 is a longitudinal sectional view. Fig. 3 is a detail perspective view of the holding plate. Fig. 4 is a similar view of one end of the clamp.

The tie comprises a casing of sheet metal in the general shape and dimensions of the ordinary wooden tie. It has the flat upper surface or crown 1, the sides 2 extending downwardly at right angles from the crown, and the flanges 3 bent inwardly from the lower edges of the sides. In the sides 2 the metal is bent to form the opposing ribs 4 extending longitudinally of the tie. These ribs, which have considerable depth, form springs to give the tie the required resiliency to meet the traffic conditions of the road.

In the casing is the elastic filling 5 of such a nature as to give the tie the stability required and which, at the same time, will permit the tie to yield to take up the shock of the passing load. The filling is preferably composed of a mixture of asphalt, bitumen and fiber, which latter may be either mineral or vegetable. The asphalt and bitumen give the required body and cohesion to the filling and the fiber acts as a binder to hold the mass together. The fiber also serves to render the filling elastic so that it can yield to the movement of the tie without disintegration. The filling is retained within the tie by the flanges 3 and the ribs 4. As there is a comparatively wide opening between the edges of the flanges 3 the material of the road-bed can

contact with the filling in the tie and adhere to the same over a considerable space. This union of the roadbed material and the filling of the tie holds the latter against creeping.

The rail is held in place on the tie by the clamps 6 and 7 placed on opposite sides of the rail and secured to the tie. The inside clamp 6 is shaped at its inner end to fit the base and web of the rail and to abut against the under side of the crown. The inner end of the outside clamp 7 is shaped to fit over the edge of the base, as at 8, and is bent upwardly to form the brace or strut 9. The upper end of the latter abuts against the upper part of the web and is shaped to fit the under side of the crown, as at 10. Bolts 11 pass through the web of the rail and the clamps to hold the several parts together at that point. In the upper part of the clamp 7 are the slots 12 through which the bolts 11 pass. These slots permit an adjustment of the clamp on the rail.

The outer end of the clamp 7 is provided with the diagonal flange 13 that engages the slot 14 extending obliquely across the crown of the tie. The slot is considerably longer than the flange so that the clamp can be moved sidewise. In the flat part of the clamp is the groove 15 extending diagonally across the same parallel with the flange 13 and with the slot 14. The edges of the groove are serrated, as at 16. In the groove is the holding plate 17 having serrated edges 18 to engage the serrated edges 16 of the groove. The holding plate is secured in place by the bolt 19 passing through the same and the crown of the tie. The latter is provided with the opening 20 to receive the head of the bolt and the reduced recess 21 leading from the opening to receive the shank of the bolt.

In assembling the parts, the bolt 19 being in position, the clamps 6 and 7 are placed on opposite sides of the rail. The clamp 7 is positioned with its inner end abutting against the rail, the flange 13 engaging the slot 14, and the groove 15 registering with the bolt 19. The clamp is then adjusted with relation to the rail and the bolts 11 secured by the nuts tightened on their ends. The holding plate 17 is then placed over the bolt 19 in the groove 15 with its serrations 18 engaging the serrations 16. The nut is then turned onto the bolt 19 and the several parts are thereby secured together. The plate 17 held firmly in place by the bolt,

through the engagement of its serrations with those on the edge of the groove will firmly hold the clamp against movement sidewise. The flange 13 engaging the slot 5 14 will take up any end thrust of the clamp exerted by outward pressure on the rail. As the clamp 7 is on the outside of the rail it receives the greater strain. The strut or brace 9 strengthens this clamp to withstand 10 the strain. As the flange of the wheel is on the inside of the rail the strut or brace will not be in the way of the flange.

Having thus described my invention what I claim and desire to secure by Letters 15 Patent is:

1. In a metallic railway-tie, the shell or casing, a clamp on said shell or casing having a serrated groove, a bolt mounted in said shell or casing and extending through said

groove, and a serrated holding plate seated 20 in said groove on said bolt.

2. In a metallic railway-tie, a shell or casing having a slot extending diagonally across its crown, a clamp engaging the rail at its inner end and adjustable on said shell 25 or casing and provided with a serrated groove parallel with said slot, a flange on the outer end of said clamp engaging with said slot, a bolt mounted in said shell or casing and extending through said groove, 30 and a serrated holding plate seated in said groove on said bolt.

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

JOHN G. SNYDER.

Witnesses:

STEPHEN H. REID,
J. C. L. O'REILLY.