

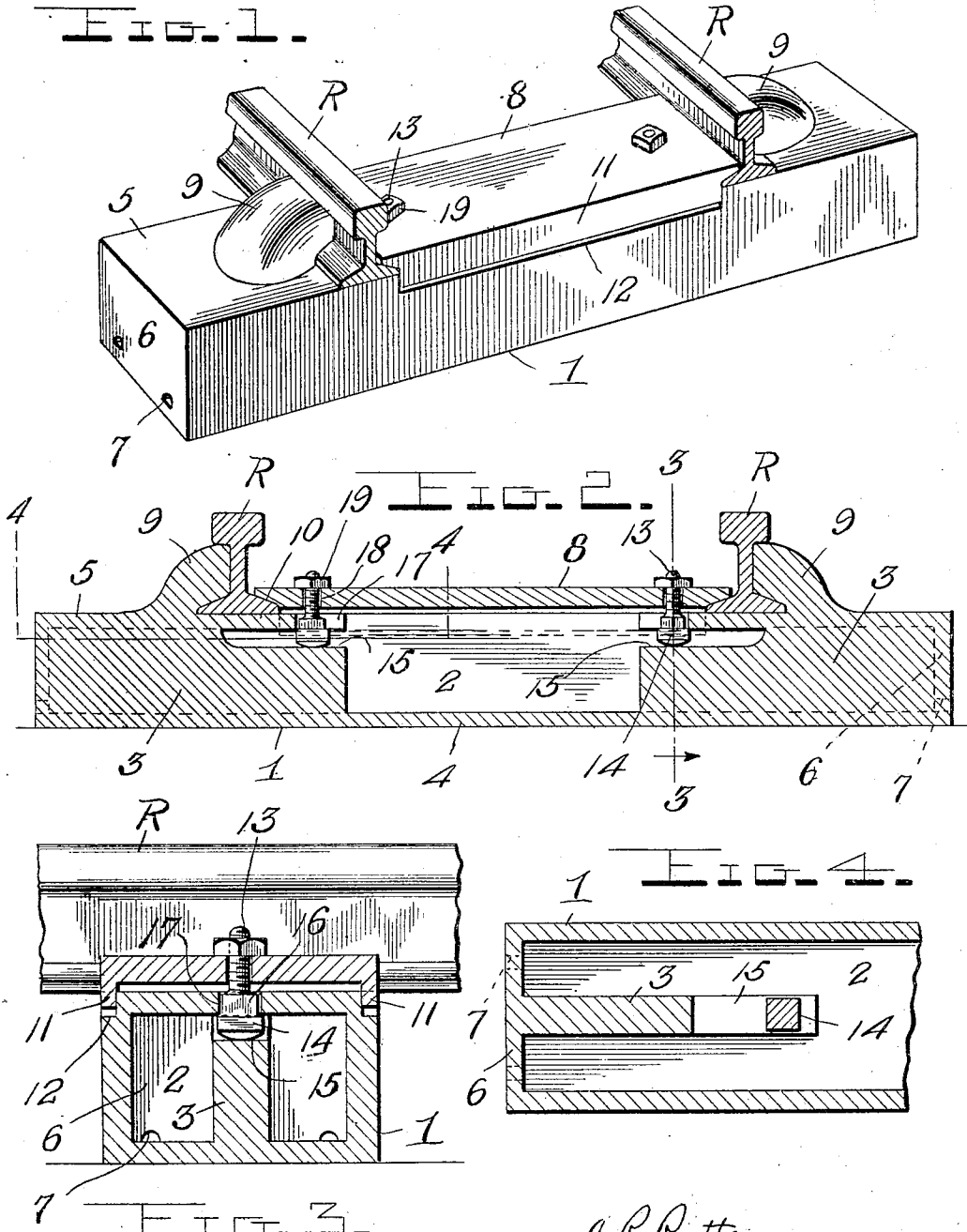
A. R. RUTTAN, J. ADAMS & C. W. & E. RUTTAN.
METAL CROSS TIE AND RAIL FASTENER.

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933,114.

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FIG. 1.



Witnesses

Chas. L. Giesbauer.
E. M. Ricketts

A. R. Ruttan
J. Adams
C. W. Ruttan
E. Ruttan

Inventors

By

Watson & Coleman, Attorneys

UNITED STATES PATENT OFFICE.

AMBROSE R. RUTTAN, OF HILLSIDE, JOHN ADAMS, OF SCOTIA JUNCTION, CHARLES W. RUTTAN, OF RAVENSWORTH, AND EDGAR RUTTAN, OF MOWAT, ONTARIO, CANADA.

METAL CROSS-TIE AND RAIL FASTENER.

933,114.

Specification of Letters Patent.

Patented Sept. 7, 1909.

Application filed April 29, 1909. Serial No. 493,000.

To all whom it may concern:

Be it known that we, AMBROSE R. RUTTAN and JOHN ADAMS, citizens of Hillside and Scotia Junction, respectively, in the Province of Ontario, Dominion of Canada, and CHARLES W. RUTTAN, a citizen of Ravensworth, in the Province of Ontario, Dominion of Canada, and EDGAR RUTTAN, a citizen of Mowat, Province of Ontario, Dominion of Canada, have invented certain new and useful Improvements in Metal Cross-Tie and Rail Fasteners, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to improvements in metallic cross ties and means for fastening track rails thereto.

The object of the invention is to provide a simple and practical tie of this character which may be produced at a small cost and will be strong and durable and upon which the track rails may be easily and effectively secured so that they will be held against spreading and in perfect alinement.

With the above and other objects in view the invention consists of the novel features of construction and the combination and arrangement of parts hereinafter fully described and claimed, and illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of the improved tie showing track rails secured thereon and in section. Fig. 2 is a vertical longitudinal section through the same. Fig. 3 is a vertical cross section taken on the line 3—3 in Fig. 2, and Fig. 4, is a detail horizontal section taken on the line 4—4 in Fig. 2.

In the drawings 1 denotes the body of the improved metallic tie, which body is cast in a single piece and preferably of hollow rectangular shape. Within the cavity 2 of the body adjacent its ends are longitudinally extending upright ribs 3 which unite the bottom 4 and the top portions 5 of the tie to materially strengthen its ends over which latter the track rails are disposed. The ends 6 of the body are closed with the exception of one or more small openings 7 which are provided for the purpose of allowing any water that may work into the body to drain from the cavity 2. The top portions 5 of the body extend inwardly from the end 6 a suitable distance so that the space between said portions forms an opening at the center

or intermediate portion of the top of the body, which opening is adapted to be closed by a removable cover plate 8 adapted to serve also as a track rail clamping means as presently explained. Formed integral with the top portions 5 at suitable distance from the ends of the body of the tie are rail engaging braces or enlargements 9, the inner faces of which are shaped to engage the outer sides of the track rails R as clearly shown in Fig. 2. Said rails rest upon the top portions 5 of the tie and are held against the braces or enlargements 9 by the beveled ends 10 of the end portions of the cover plate 8 and also by the ends of depending side flanges 11 formed on said cover plate. The flanges 11 are adapted to enter grooves 12 formed in the intermediate portions of the side walls of the body of the tie and not only serve to prevent lateral displacement of the cover plate but also to prevent the entrance of water and dirt into the body of the tie. Bolts 13 are provided for securing the combined cover plate and rail clamp 8 upon the body. Said bolts are disposed vertically and have at their lower ends heads 14 which rest upon recessed inner portions 15 of the ribs 3 in the body 1. Formed on said bolts adjacent their heads are squared or flat faced portions 16 which are adapted to enter slots 17 formed in the inner edge of the top portions 5 of the body immediately over the inner ends of the ribs 3, the engagement of said portion 16 with the walls of the slot 17 serving to prevent the bolts from rotating when in position in the tie. The threaded upper ends of the bolts are adapted to project through openings 18 in the top of the plate 8 and to receive clamping nuts 19, which latter when tightened, hold the plate 8 in position over the open portion of the top of the tie and also retain the rails upon the latter and in engagement with the braces 9.

From the foregoing it will be seen that the improved tie may be easily cast and at a comparatively small cost, that the track rails may be quickly and easily applied to the tie and secured thereon so that they will be effectively retained in position and at the same time may be readily removed without injury to the tie or the rail fastening device; and that the rails will be effectively held against spreading and in perfect alinement with each other.

Having thus described the invention, what is claimed is:

1. A metallic cross tie comprising a hollow metal body having an open intermediate portion, the top portion of the body being
5 formed with a slot, an upright rib uniting the top and bottom portions of the body and having its inner end disposed beneath said slot, means upon the tie body to engage one
10 base flange of a rail, a bolt having a flat faced portion to enter said slot in the top of the tie body and adapted to have its head rest upon the inner end of said rib, and a
15 rail clamping member to engage the other base flange of the rail, and held upon the tie by said bolt, substantially as described.

2. A metallic cross tie comprising a hollow cast metal body of rectangular form having an open intermediate portion, the
20 spaced top portions of said body being formed with slots, upright ribs uniting the top and bottom portions of the body and

having their inner ends disposed beneath said slots, rail engaging braces upon the top of the tie, bolts having flat faced portions
25 to enter the slots in the top portions of the body and adapted to have their heads rest upon the inner ends of said ribs, and a combined cover plate and rail clamp arranged
30 over the open intermediate portion of the top of the body and adapted to hold the rails in engagement with said braces, said bolts passing through the combined cover plate and rail clamp and securing the latter to the
35 body of the tie.

In testimony whereof we hereunto affix our signatures in presence of two witnesses.

AMBROSE. R. RUTTAN.

JOHN ADAMS.

CHARLES W. RUTTAN.

EDGAR RUTTAN.

Witnesses:

H. E. RICE,

F. A. FRASER.