No. 842,573. PATENTED JAN. 29, 1907.

LA FAYETTE MITCHELL & W. S. FORD.

RAIL TIE.

APPLICATION FILED APR. 18, 1906.

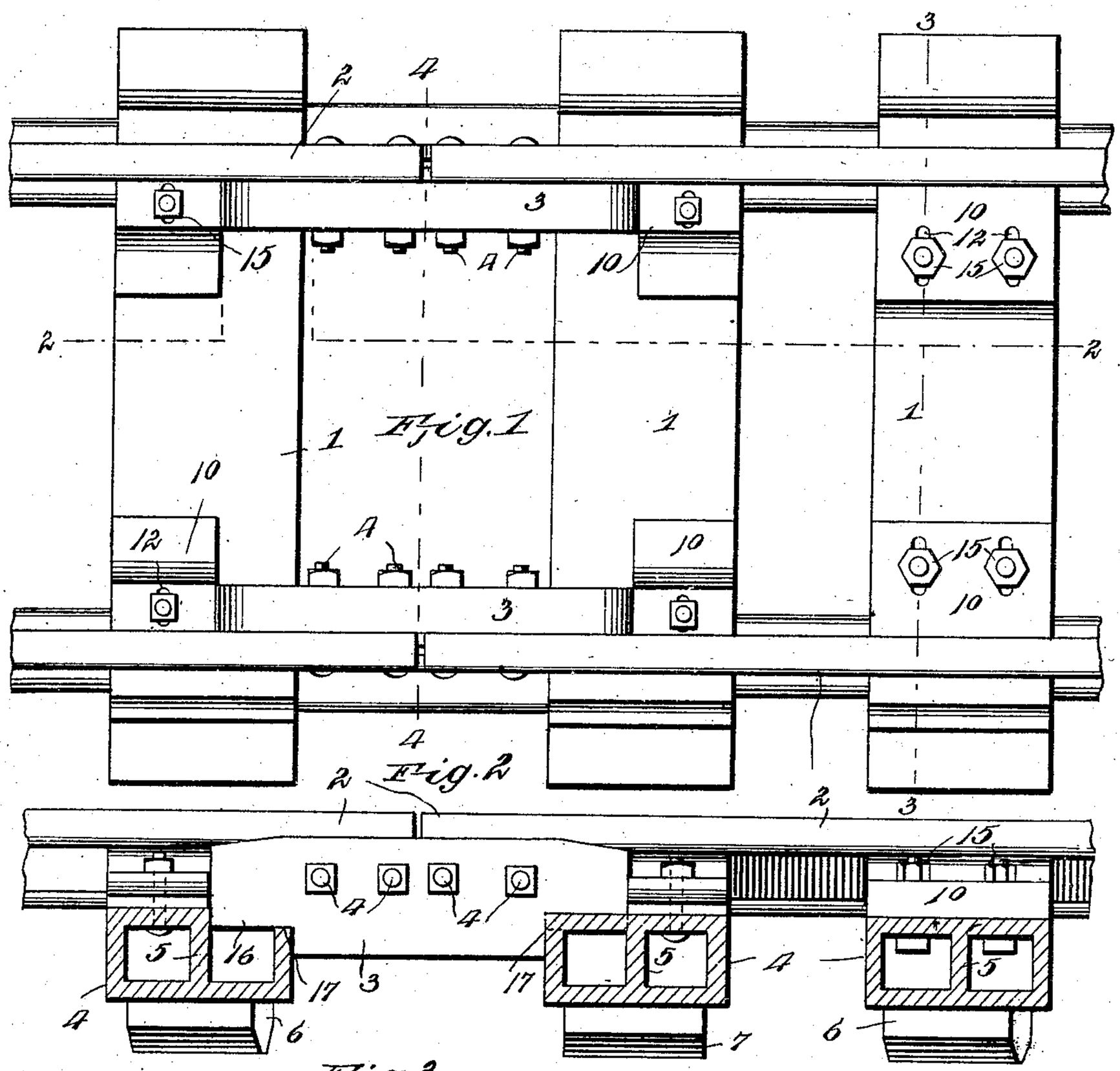


Fig. 3

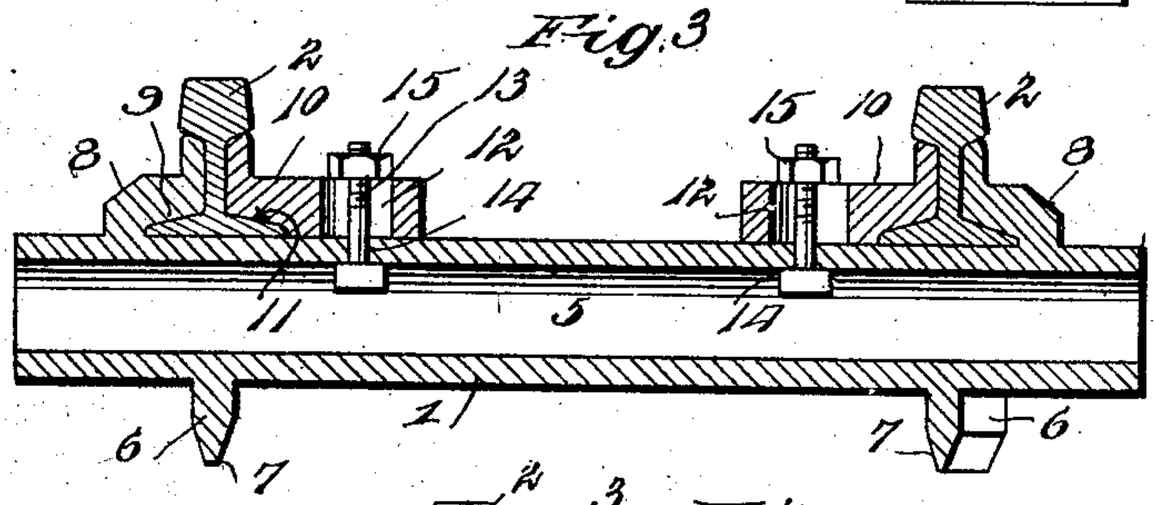
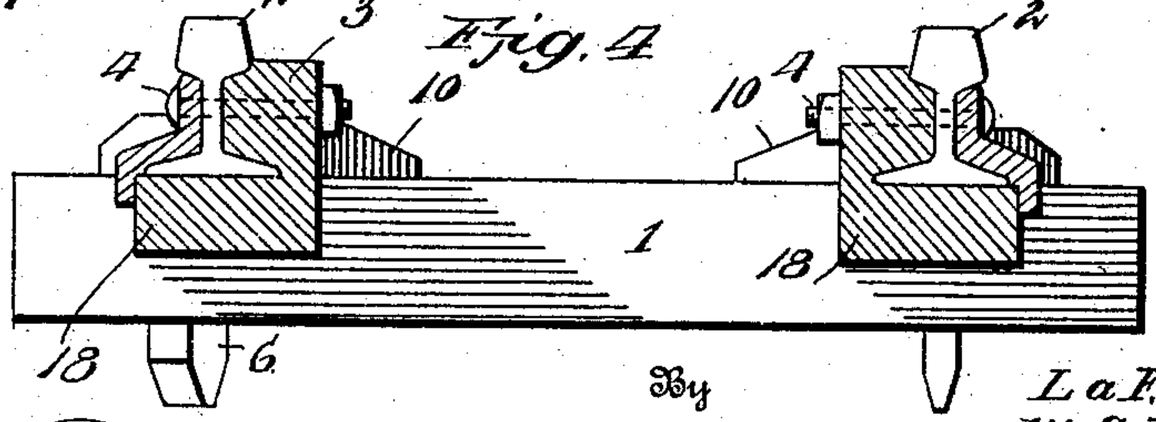


Fig. 4



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UNITED STATES PATENT OFFICE.

LA FAYETTE MITCHELL AND WILLIAM S. FORD, OF NEBO, ILLINOIS.

RAIL-TIE.

No. 842,573. Specification of Letters Patent. Patented Jan. 29, 1907.

Application filed April 18, 1906. Serial No. 312,433.

To all whom it may concern:

Be it known that we, LA FAYETTE MITCHELL and WILLIAM S. FORD, citizens of the United States, residing at Nebo, in the county of Pike and State of Illinois, have invented new and useful Improvements in Rail-Ties, of which the following is a specification.

This invention relates to rail-ties of the type known as "hollow metal" ties, and has for its objects to produce a comparatively simple inexpensive device of this character which will be exceedingly strong and durable, one which will be positively held in proper position beneath the rails, and one to which the rails may be readily and firmly attached.

A further object of the invention is to provide a simple and efficient means for attaching the rails to the ties—one in which the movable rail-engaging member may be adjusted for rails of varying thicknesses or to permit removal of the rails when circumstances require.

A further object of the invention is to provide a simple efficient form of bridge-piece especially adapted for use in connection with the improved ties for uniting and supporting the ends of the rail-sections and one which may be quickly applied for securely uniting the rail-sections.

With these and other objects in view the invention comprises the novel features of construction and combination of parts more fully hereinafter described.

In the accompanying drawings, Figure 1 is a plan view of a portion of a railroad equipped with my improved form of tie and showing the rails connected together and fastened to the ties in accordance with the invention. Fig. 2 is a longitudinal sectional view taken on the line 2 2 of Fig. 1. Figs. 3 and 4 are cross-sections taken on the line 3 3 and 4 4 of Fig. 1.

Referring to the drawings, it will be seen that the track comprises a pair of parallel rails sustained upon cross-ties 1 and each comprising a plurality of sections 2, assembled in endwise relation, as usual, and having their meeting ends connected by splicing members or bars 3, united to the rails by transverse fastening members or bolts 4, these parts, except in the particulars hereinafter described, being of usual form and material.

Each of the ties 1, which are identical in form and construction, comprises a length of metal tubing of requisite proportions and of rectangular form in cross-section, having a central longitudinal strengthening web or partition 5, formed integral with the tie during the operation of molding or otherwise producing the same, there being provided on the lower face of the tie respectively adjacent its ends a pair of depending engaging portions or lugs 6, extended transversely of the tie and having sharpened lower edges 7, one of the lugs being disposed at an angle relative to the other and to the transverse axial line of the tie, as seen more clearly in Figs. 3 and 4.

The tie has cast upon its upper face and at points adjacent its ends rigid rail-engaging members or blocks 8, adapted to bear on the outer faces of the rails and recessed, as at 9, to receive the base-flange of the rail, while coöperating with each of the blocks 8 to attach the rails to the tie is a movable rail-engaging member or block 10, having its outer end recessed at 11 to fit the rail-base and provided between its ends with a longitudinal slot 12, adapted to receive a fastening member or bolt 13, fitted through an opening 14 in the tie and having a nut 15 tapped onto its upper end, the bolt having a head formed as usual on its lower end and arranged to bear at the inner face of the upper wall of the tie. It is to be noted in this connection that the blocks may be of a width corresponding to that of the tie and held in place by a pair of the bolts 13, as shown at the right in Fig. 1, or of a width equalling substantially half the width of the tie and held in place by a single bolt, as seen at the left in said figure, blocks of the latter form being employed upon the ties on which the ends of the splicing members 3 rest, as more fully hereinafter explained.

Each of the splicing members or bars 3 is recessed adjacent its ends, as at 16, to fit upon the adjacent ties 1, which are slotted transversely, as at 17, to form seats for the reception of the lower edges of the end portions of the bar, which is provided between its ends throughout a distance coextensive with the width between the ties with a transversely-extending base portion 18, adapted to lie beneath and support the meeting ends of the rail-sections at the joint, as seen more clearly in Fig. 4.

In practice the ties are laid as usual in the road-bed with the engaging lugs 6 buried in the ground, after which the rails are positioned on the ties and to bear at their outer faces against the blocks 8, after which the blocks 10 are applied to bear on the inner faces of the rails and secured by means of the bolts 13, it being apparent that by the provision of the slots 12 for the reception of the bolts the members 10 may be conveniently adjusted for rails of varying widths. After the rails have been positioned and secured upon the ties the meeting ends of the sections 2 are joined by means of the splicing members or bars 3 after being fitted with the base portion 18, extending beneath the rails, and the ends seated in the slots 17 are attached to the rail-sections by means of the bolts 4, as before stated, it being observed that each of the splice-bars bears at its ends against the adjacent blocks 10, which, as before explained, are secured by a single bolt 13, but are prevented from turning by and at the same time form a bearing for the ends of the splice-bar.

Having thus described our invention, what we claim is—

1. In a device of the class described, a pair of cross-ties arranged in spaced relation and having transverse recesses formed in their upper faces, a pair of rail-sections sustained upon the ties and disposed in endwise relation, said sections being arranged for their ends to meet at a point between the ties, a splicing member having recessed end portions seated in the recesses in the ties and a depending portion disposed between and terminally contacting with the ties, said depending portion being extended across and to bear beneath the bases of the rail-sections, and fastening members connecting the splicing member with the rail-sections.

2. A hollow metal tie having a longitudinal strengthening-web formed therein, undercut rail-engaging blocks formed on the upper face of the tie and in appropriate spaced relation, and surface-engaging lugs formed on the lower face of the tie at points adjacent its ends.

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

LA FAYETTE MITCHELL.
WILLIAM S. FORD.

Witnesses:
RELLA MAY,
B. PEARSON.