

E. C. WIMBROUGH.
RAIL JOINT.
APPLICATION FILED JAN. 11, 1908.

912,926.

Patented Feb. 16, 1909.
2 SHEETS—SHEET 1.

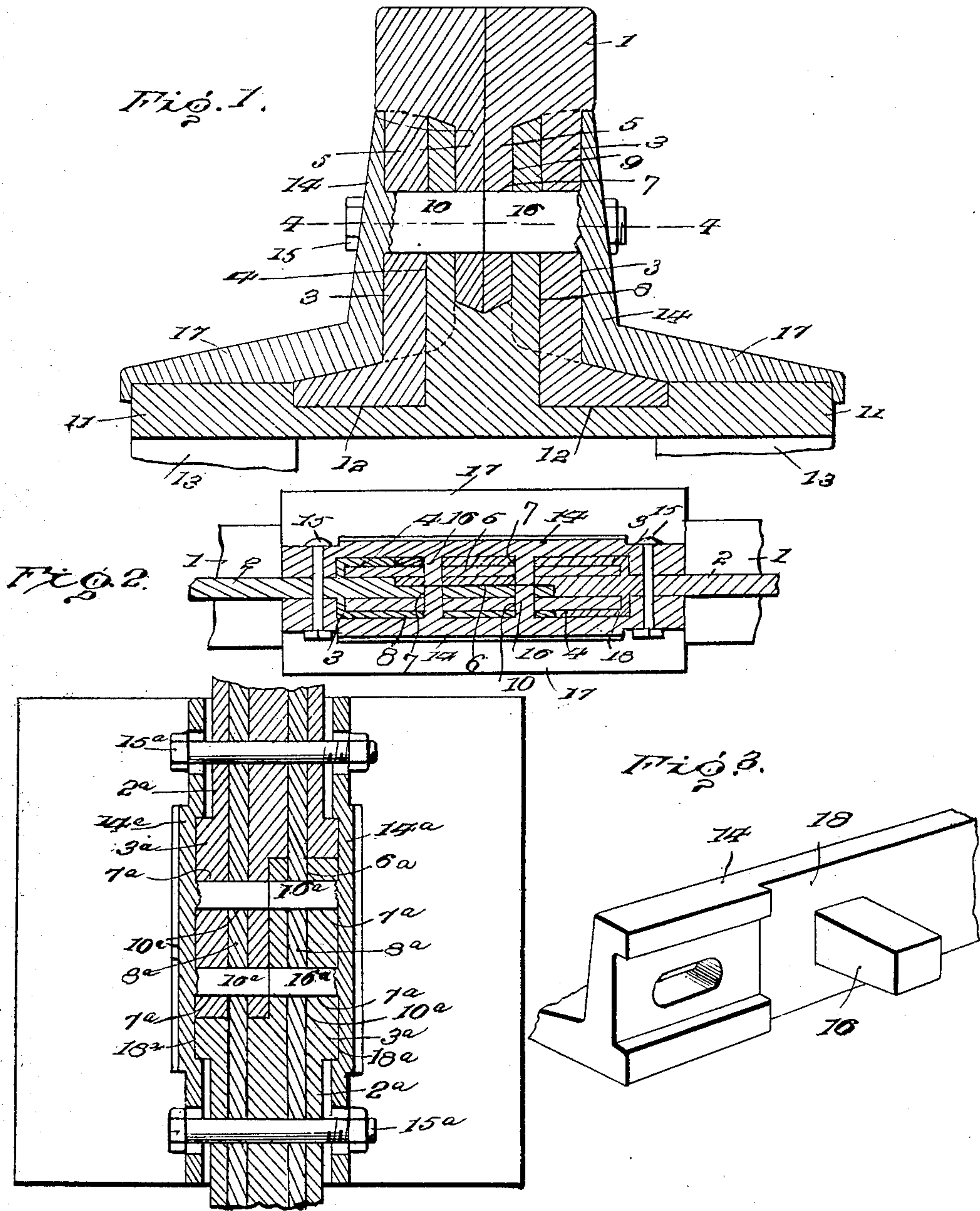


Fig. 4.

Inventor
E. C. Wimbrough.

Witnesses

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O. P. Hodson

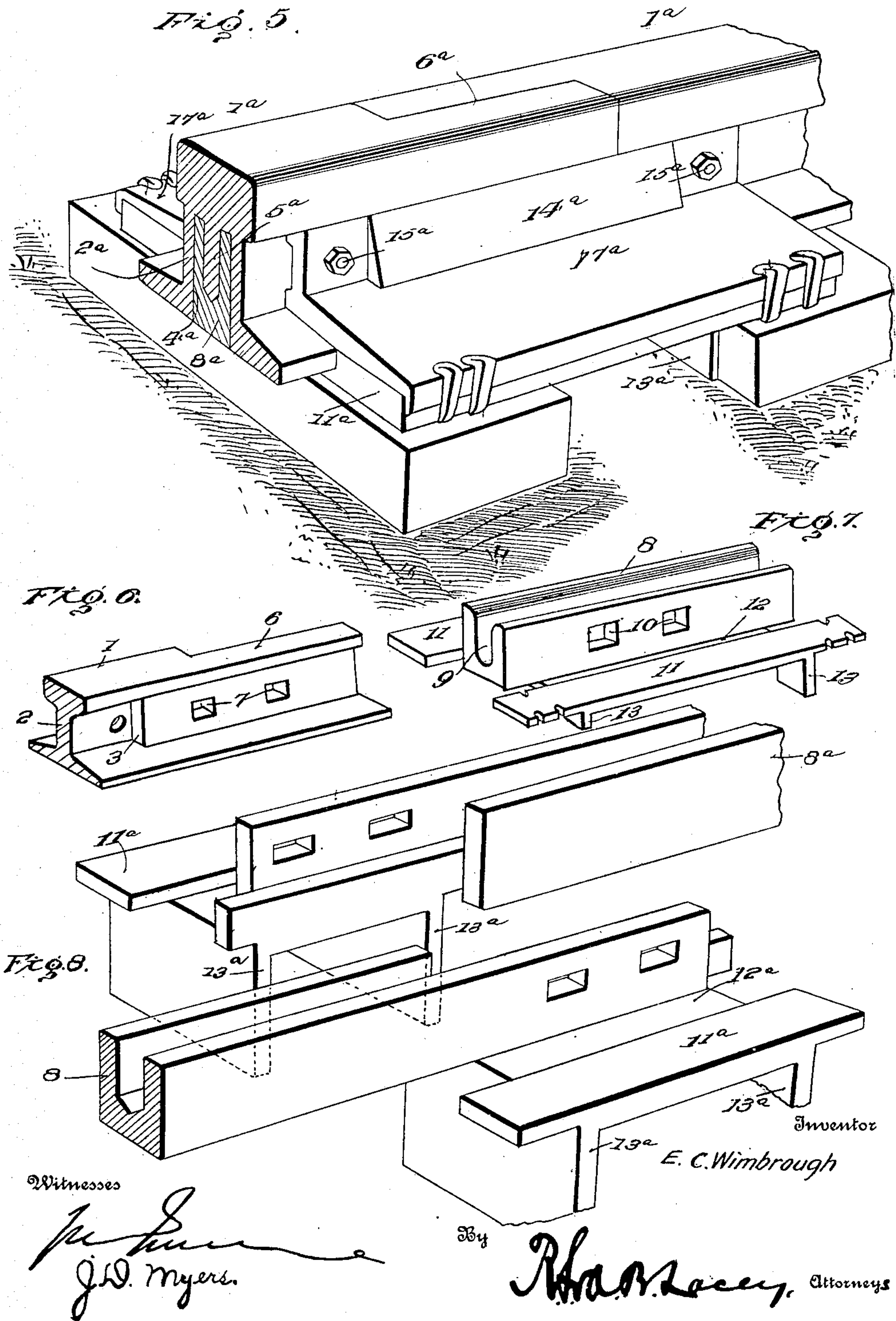
By

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UNITED STATES PATENT OFFICE.

EDWARD C. WIMBROUGH, OF MOBILE, ALABAMA.

RAIL-JOINT.

No. 912,926.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, EDWARD C. WIMBROUGH, citizen of the United States, residing at Mobile, in the county of Mobile and State of Alabama, have invented certain new and useful Improvements in Rail-Joints, of which the following is a specification.

This invention contemplates certain new and useful improvements in rail-joints and the object of the invention is a simple, durable and efficient construction of rail-joint which is composed of comparatively few parts, which employs only two bolts and thus economizes in the cost of construction, and maintenance of the track, and which is so constructed that the weight of the train is distributed to relieve the joint of excessive strain and to reduce the vibration and jar to such a degree that the latter will have a minimum effect to loosen the nuts of the bolts.

With this and other objects in view as will more fully appear as the description proceeds, the invention consists in certain constructions and arrangements of the parts that I shall hereinafter fully describe and then point out the novel features thereof in the appended claims.

For a full understanding of the invention and the merits thereof, reference is to be had to the following description and accompanying drawings, in which:

Figure 1 is a transverse section of my improved rail-joint. Fig. 2 is a horizontal section on the line 4—4 of Fig. 1. Fig. 3 is a detail view in perspective of one end of a fish-plate. Fig. 4 is a horizontal section of the modified form. Fig. 5 is a sectional perspective view thereof. Fig. 6 is a detail view of one end of a rail. Fig. 7 is a perspective view of the inner member, and, Fig. 8 is a perspective view showing two scarf jointed ends of the inner members in juxtaposition.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

Referring to the drawings, the numeral 1 designates two rails of the ordinary T construction, the webs 2 of said rails being thickened at the ends thereof as indicated at 3. These rails are formed in their ends with downwardly opening longitudinal slots 4 extending upwardly through the thickened web

portions 3 and are also formed in said slots with depending flanges 5 spaced from the walls thereof.

The adjacent ends of the rails 1 are halved to form scarf joints 6, and said rails are formed in their scarf jointed ends with two or more transverse openings 7 extending through the thickened web portions 3 and the depending flanges 5. An inner member 8 fits in the slots 4 in the scarf jointed ends of the rails, and is formed with an upwardly opening longitudinal recess 9 for the reception of the depending flanges 5, and with transverse openings 10 in registry with the openings 7 in the jointed ends of the rails. The inner member 8 is formed at its base with laterally extending bridge pieces 11 arranged with their ends resting on the adjacent cross-ties as shown. The bridge pieces are formed with longitudinally extending seats or chairs 12 designed for the reception of the base flanges of the rails 1 and are also provided intermediate of their ends with depending braces 13 adapted to bear respectively against the opposing sides of the two adjacent cross-ties to prevent any lateral movement of the bridge piece relative to said ties, and any creeping movement of the rails 1.

Fish-plates 14 are applied to the rails 1 contiguous to the jointed ends thereof and abut against the opposite faces of the webs 2 as shown, the opposite fish-plates being secured in position by two bolts 15 passing through the respective rails 1, and the ends of the said fish-plates. The fish-plates are each formed with two or more lugs 16 which extend inwardly in the respective registering openings 7 and 10 formed in the scarf jointed ends of the rails and in the inner member 8, and which coact with the lugs of the opposite fish-plate to secure together the separate elements of the joint. The fish-plates are each provided with an outwardly extending base 17 which rests on and extends beyond the base flanges of the rails and the corresponding bridge piece 11 in order to secure the rails 1 in the chair 12, and which is held in position by spikes or the like driven in the cross-ties with their heads bearing against the outer end of said base. In order to accommodate the thickened web portions 3 of the jointed ends of the rails, the fish-plates are recessed as indicated at 18, and thus ob-

viously strengthen the joint by serving to further unite the jointed ends and to relieve the lugs 16 of the joint of strain.

In one modification of my invention, the
 5 downwardly opening longitudinal slots 4^a
 of the rails extend throughout the entire
 length thereof, and the rails are formed at
 their middle points with transverse openings
 similar to the openings 7^a at their scarf joint-
 10 ed ends. The inner members 8^a fit in the
 slots 4^a of the rails and are preferably the
 same length as the latter. The adjacent
 ends of the inner members are halved as
 shown in Fig. 8 to form scarf joints which
 15 occur intermediate of the ends of the rails 1^a
 near the middle points thereof, said inner
 members being formed in their scarf jointed
 ends with transverse openings registering re-
 spectively with the openings at the middle
 20 points of the rails 1^a. These inner members
 are also formed at their middle points with
 similar transverse openings in registry with
 the openings 7^a in the scarf jointed ends of
 the rails. The inner members are formed at
 25 their scarf jointed ends and at their middle
 points with the laterally extending bridge
 pieces 11^a. In this modification the ele-
 ments at the respective joints of the rails 1^a
 and the inner members 8^a, are secured to-
 30 gether by the fish-plates 14^a as hereinbefore
 described.

By extending the thickened web portions
 out flush with the edge of the surface of the
 track, the fish-plates may be dispensed with
 35 and the ends of the rails secured together by
 any suitable number of bolts or the like.

It is to be understood that the scarf joint
 at the ends of the inner and outer members
 may be formed in any convenient manner
 40 other than that illustrated in the drawings.

It is obvious that the inner members assist
 in holding the ends of the outer members in
 alinement at the joint against any lateral dis-
 placement.

45 Having thus described the invention, what
 I claim is:

1. In a rail joint, the combination with
 the adjacent ends of two rails, said rails
 being formed with downwardly opening
 50 longitudinal slots, and in said slots with
 depending flanges spaced from the walls
 thereof, of an inner member fitting in the
 slots and having an upwardly opening longi-
 tudinal recess receiving the depending flanges,
 55 and fastening means passing through the ends
 of the rails and the inner member, as and for
 the purpose set forth.

2. In a rail joint, the combination with
 the adjacent ends of two rails, said rails
 60 being formed with downwardly opening
 longitudinal slots extending upwardly
 through the web portions thereof and also
 at their ends with transverse openings, of
 an inner member fitting in said slots and
 35 formed with transverse openings in registry

with the openings in the ends of the rails, and
 fish plates secured to the opposite sides of
 the rails, contiguous to the ends thereof,
 said fish plates being formed with lugs ex-
 tending inwardly in the registering open- 70
 ings, as and for the purpose set forth.

3. In a rail-joint, the combination with
 the adjacent ends of two rails, the web por-
 tions of said rails being thickened at such
 ends, and said ends being formed with 75
 downwardly opening longitudinal slots ex-
 tending upwardly through the thickened
 web portions, and in said slots with depend-
 ing flanges spaced from the walls thereof,
 of an inner member fitting in the slots and 80
 having an upwardly opening longitudinal
 recess receiving the said depending flanges,
 and fastening means passing through said
 thickened web portions and the inner mem-
 ber as and for the purpose set forth. 85

4. In a rail joint, the combination with
 the adjacent ends of two rails, said rails be-
 ing formed with downwardly opening longi-
 tudinal slots extending upwardly through
 the web portions thereof, the ends of the rails 90
 being scarf jointed and formed with trans-
 verse openings, of an inner member fitting in
 said slots and formed with transverse open-
 ings in registry with the openings in the scarf
 jointed ends of the rails, and fish-plates se- 95
 cured to the opposite sides of the rails con-
 tiguous to the jointed ends thereof, said fish-
 plates being formed with lugs extending in-
 wardly in the registering openings as and for
 the purpose set forth. 100

5. In a rail joint, the combination with
 the adjacent ends of two rails, the rails
 being formed in said ends with longitudinal
 slots, of an inner member fitting in said slots,
 bridge pieces extending laterally from the 105
 inner members and formed with chairs for
 said rails, and fastening devices passing
 through said ends of the rails and the inner
 member.

6. In a rail joint, the combination with 110
 the adjacent ends of two rails, said rails be-
 ing formed with downwardly opening longi-
 tudinal slots extending upwardly through
 the web portions thereof, of an inner member
 fitting in the slots, bridge pieces formed 115
 with chairs, the rails having base flanges
 received in said chairs, fish-plates secured
 to the opposite sides of the rails contigu-
 ous to such ends and holding said ends
 and the inner member together, said fish- 120
 plates being formed with bases resting on
 and extending beyond the respective base
 flanges and the corresponding bridge pieces
 as and for the purpose set forth.

7. In a rail joint, the combination with 125
 the adjacent ends of two rails, the web por-
 tions of said rails being thickened at such
 ends and formed with downwardly opening
 longitudinal slots and with transverse open-
 ings, of an inner member fitting in said slots 130

and formed with transverse openings in registry with the openings in the ends of the rails, and fish plates secured to the opposite sides of the rails contiguous to the ends thereof, said fish plates being recessed to accommodate the thickened web portions of the rails and being formed in such recessed portions with lugs extending inwardly in the

registering openings, as and for the purpose set forth.

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

EDWARD C. WIMBROUGH. [L. s.]

Witnesses:

S. P. MARSH,
W. F. BROWN.