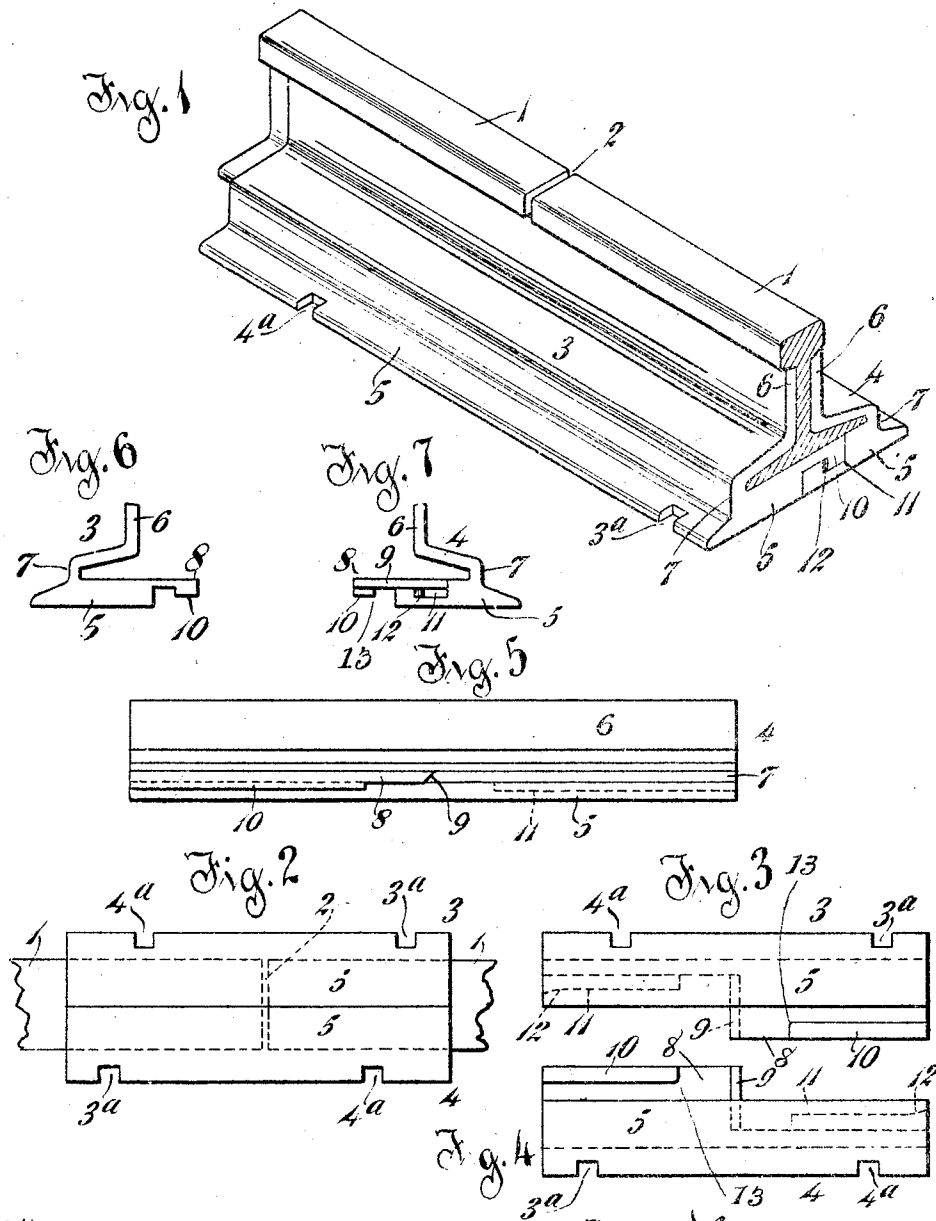


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RAIL JOINT.
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Patented Nov. 29, 1910.



Witnesses

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UNITED STATES PATENT OFFICE.

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To all whom it may concern:

Be it known that I, ASA DALY, a citizen of the United States of America, and a resident of Lebanon, in the county of Warren and State of Ohio, have invented a certain new and useful Improvement in Rail-Joints, of which the following is a specification.

This invention relates to rail-joints, or more particularly, to railway-track joints and the object thereof is to provide a boltless joint, the same consisting of a pair of corresponding, slidably-connected plates partially made to conform to the lower part of the rail beneath the ball or head thereof and adapted to firmly hold or contain between them two butt approaching or contacting ends of a pair of rails.

The details of my invention will be fully hereinafter described and the actual consistency thereof will be duly referred to in the description of the construction and arrangement of the several parts and also particularly pointed out in the claims.

In the sheet of drawings accompanying this description, Figure 1 is a perspective view of a rail-joint embodying my invention, one end of one of the rails being shown in section and the device appearing as in use; Fig. 2, a bottom plan view of Fig. 1, but on a reduced scale and showing the two jointed rails broken off at either side the joint; Fig. 3, a bottom plan view of one of the sections or members of the joint embodying my invention, taken on the same scale as that seen in Fig. 2; Fig. 4, a view similar to Fig. 3, but of the companion section or member of the joint comprising my invention herein; Fig. 5, a longitudinal elevation showing the inner face of the section or member seen in Fig. 4, but on a larger scale; Fig. 6, an end elevation of one of the sections or members seen in Fig. 1; and Fig. 7, a view similar to Fig. 6, but of the other section or member of the joint. (Both Figs. 6 and 7 are end views of the two sections or members of the joint, taken at the fore end seen in Fig. 1.)

In these views, 1 indicates each one of a pair of ordinary railway-track rails being duly spaced, as customary, at their adjacent, abutting ends, as shown at 2.

3 indicates one of the sections or members of the joint-making device comprising my invention herein and 4 indicates a companion section or member of said device. These members are each composed of a base

or bottom supporting-portion 5 having a vertical, angular limb 6, the latter being duly supported and spaced by part or ligament 7 above the upper face of said base and made to conform to a flange and the web of the rail. The upper edge of the said limb rests under one side of the head or ball of the rail and the lower portion of said limb is brought into close contact with the said flange of the base of the rail, the base of each section or member of the joint lying in close contact with the bottom of the base of the rail to evenly and otherwise properly support said rail.

The sections or members 3 and 4 are each provided with notches 3^a and 4^a, respectively, in their outer edges, at the customary distances from the opposite ends of the members, for the engagement of the ordinary spikes or other suitable devices for fastening the joint in place on the cross-ties. The bases or bottom supporting portions 5 of the members 3 and 4 are of uniform width the full length of the joint, with their inner edges lying contiguous in use, and each base 5 is provided with a slightly elevated inwardly-projecting portion 8 extended longitudinally half the length thereof and parallel to its side edges. The inner ends of the parallel, longitudinal projections 8 are beveled at 9, one bevel disposed upwardly and the other downwardly so that a miter joint is effected when the two members 3 and 4 are in place to make joint with the abutting rails.

10 indicates a broad tongue or longitudinal projection constructed along part of and parallel to the inner edge of each of the inwardly-projecting portions 8 of the members 3 and 4, a suitable space 11, of uniform width, comprising a longitudinal groove or guide-way being provided between the tongue 10 and the inner edge of said members 3 and 4. When the two members 3 and 4 are brought together to span the base and web portions of end-abutting rails, the tongues 10 engage the respective grooves or guide-ways 11. In order to provide for said drive-fit or snug frictional engagement of the two members 3 and 4 in engagement with the rail ends, I prefer to flare or taper one side of the mouth of each of the guide-ways 11, as shown at 12, so that the slightly rounded corner 13 at the inner end of each tongue 10 can readily pass along the said flared corners 12 and allow said tongues to

pass into firm frictional locking-engagement with the said guide-ways 11. Due allowance is made in the construction of the two companion members 3 and 4 for the tight drawing together thereof in engagement over the edges of the rails to be jointed, so that there shall not be any undue movement of the rail ends in relation to each other to become loose or to rattle in the joint or on the cross-ties.

It will be readily seen that a joint made of the companion members 3 and 4, such as herein shown and described, needs no cross bolts, nuts or other like fittings that are adapted to become loose and displaced in the use thereof and that need constant care to prevent looseness in the joint and accident occasioned by the separation of the ordinary form of fish-plates from the joint. The usual allowance of space between the rail ends is duly provided for, in fact, there is no definite limit to the space allowed between the rail ends in the use of my companion members 3 and 4, for the reason that there are no bolts or holes in the web of the rails or in said members 3 and 4 to limit such allowance. The rails can thus expand and contract without limit to suit varying temperatures and, there being no holes in the rail webs nor in said companion members 3 and 4, said rails and companion members are not weakened in any manner such as are the fish-plates and rails that are joined together with bolts in general use. In use the two companion members 3 and 4 are compactly held together over the abutting ends of the rails to be joined, and the usual spikes driven into engagement with the notches in the edges of said companion members prevent any longitudinal or sidewise movement thereof, although the above-named snug frictional engagement or drive-fit and the engagement of the tongues and grooves of said companion members 3 and 4 are amply sufficient to prevent any movement, either sidewise or longitudinal, even if any of such spikes should become loosened or withdrawn. An extra precaution against longitudinal movement of the companion members 3 and 4 can be taken in the provision of spikes driven into the cross-ties at the opposite ends

of the bases of said companion members 3 and 4, but it is not likely that such precaution will be necessary except in unusual or extreme cases.

It is obvious that my companion members 3 and 4 can be readily used in making joint in broken rails, to which feature it is very readily adapted at any time in repairing tracks and in making up sidings or the like where cast-off rails as a rule are frequently used. This is an important point in the use of my invention herein and renders it extremely well adapted to emergencies.

I claim:—

1. A rail-joint comprising a pair of imperforate corresponding companion members having resting or supporting bottom portions or bases of uniform width and on the same lower plane with each other and angular upright limb portions, each the full length of the joint, corresponding grooves or guide-ways constructed part way along the upper face of each of said bases and having straight side walls running parallel to the side edges of said bases and tongue formations made along part of the slightly elevated lateral portions of said bases and with their side walls parallel to said side edges of the bases and adapted to slidably and frictionally engage said guide-ways approximately their full lengths.

2. A rail-joint comprising a pair of companion members each having a base portion and an angular upright limb portion, each the full length thereof, adapted to contiguously engage under and over the rail bases and against the rail webs, respectively, inwardly-projecting portions along part of said base portions, tongue or elevated formations along said inwardly-projecting portions, grooves or guide-ways constructed parallel to said tongue-formations in said bases and adapted to receive said tongue-formations with a frictional-fit, and tapered mouths or distended throats in the outer ends of said grooves or guide-ways.

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