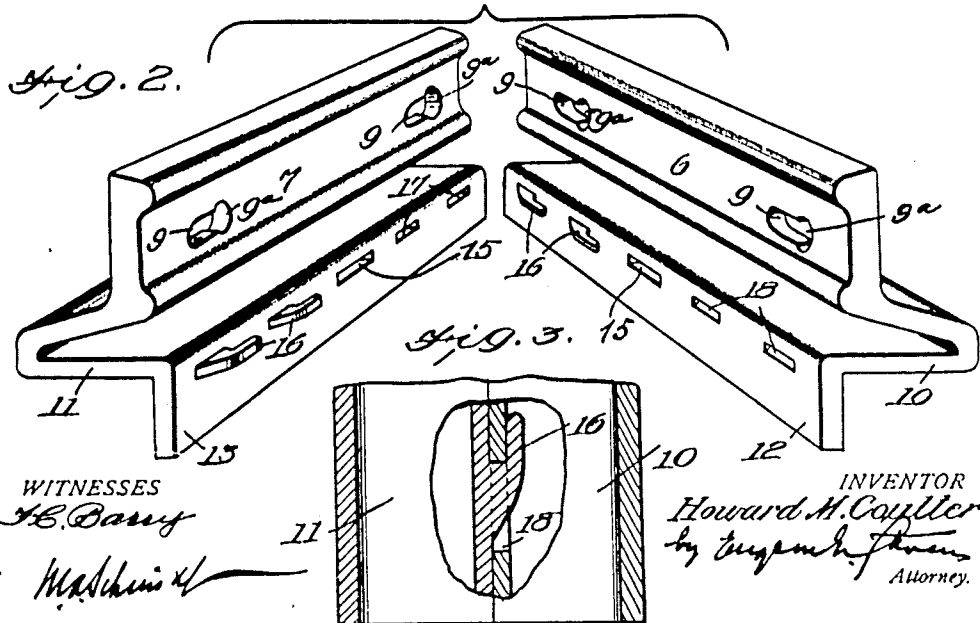
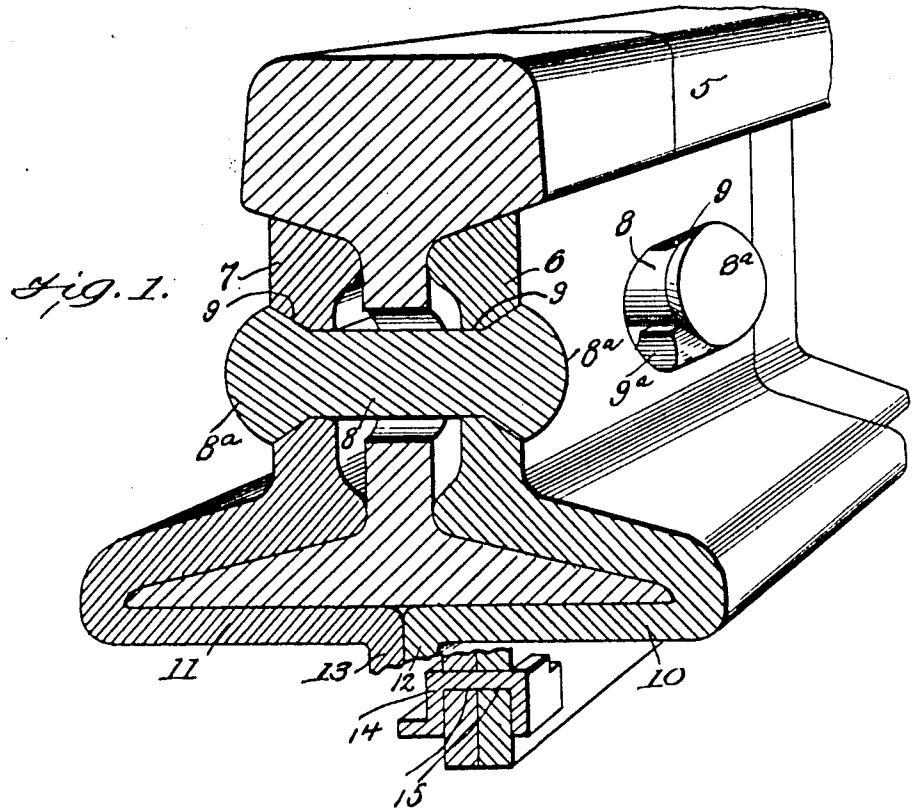


H. M. COULTER.
RAIL JOINT.

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1,054,280.

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UNITED STATES PATENT OFFICE.

HOWARD M. COULTER, OF RIFLE, COLORADO.

RAIL-JOINT.

1,054,280.

Specification of Letters Patent.

Patented Feb. 25, 1913.

Application filed June 14, 1912. Serial No. 703,720.

To all whom it may concern:

Be it known that I, HOWARD M. COULTER, a citizen of the United States, residing at Rifle, in the county of Garfield and State of Colorado, have invented certain new and useful Improvements in Rail-Joints, of which the following is a specification.

This invention relates to that class of joints for railway rails which are characterized by a pair of fish-plates, which latter are shaped to extend beneath the rails to form a rail chair.

The invention relates more particularly to the connection between the two fish-plate members, and its object is to provide novel and improved means for fastening said members together, whereby a strong and rigid joint is obtained.

In order that the invention may be better understood, reference is had to the accompanying drawing forming a part of this specification, in which drawing,

Figure 1 is a cross-section of the joint. Fig. 2 is a perspective view of the two members of the joint. Fig. 3 is a plan view, partly broken away.

Referring specifically to the drawing, 5 denotes the abutting ends of two railway rails. The joint between the rails is made by means of two members 6 and 7, respectively, said members, except as hereinafter described, being similar to the ordinary fish-plates employed in rail joints, the rail fitting between the same as usual, and the parts being united by bolts 8 passing there-through. The bolt holes 9 in the fish-plate members are elongated to permit expansion and contraction of the rails. The member 6 has a horizontal base portion 10 which extends beneath the base of the rail, and the member 7 has a similar base portion 11 which also extends under the rail base, the length of each of said base portions being substantially one-half the width of the rail base, so that their inner edges meet under the rail base midway between the edges thereof. The parts 10 and 11 form a chair on which the rails seat, and at the meeting edges of said parts are downturned flanges 12 and 13, respectively, which extend throughout the entire length of the joint and are fastened together in face-to-face relation by a key 14 passing through registering slots 15 therein. After the key is inserted the ends thereof are bent down

over the outside of the flanges, whereby the key is securely held in place. A further connection between the flanges 12 and 13 comprises hook-shaped tongues 16 projecting outward from the inner faces of the flanges, near the top thereof. Each flange has two of these tongues. The tongues of the flange 12 pass through apertures 17 in the flange 13, and the tongues of the flange 13 pass through apertures 18 in the flange 12. It will therefore be seen that the flanges interlock with each other. The tongues of one flange are adjacent to one end thereof, and the apertures of said flange are adjacent to the other end thereof. The tongues and apertures of the other flanges are correspondingly arranged, so that the tongues of one flange pass through the apertures of the other flange. The slots 15 are in longitudinal alinement with the tongues 16 and apertures 17 and 18.

In making the joint, the two members are first connected by inserting the tongues 16 through the apertures 17 and 18, and then moving the members longitudinally in opposite directions, after which the key 14 may be applied. The bolts 8 have a head 8^a on each end, and nuts are not employed for securing the same. The bolt holes 9 of one fish plate are enlarged at one end as indicated at 9^a, and the bolt holes of the other fish plate are enlarged at their opposite ends. In applying the bolts, the members 6 and 7 are placed so that the enlarged ends of the bolt holes register, after which the bolt may be inserted. This is the position of the members before the tongues 16 are inserted through the apertures 17 and 18. Upon moving the members lengthwise in opposite directions, as hereinbefore described, the bolt shank passes into the contracted portion of the bolt hole, and as the bolt heads cannot pass through said portions of the bolt holes, the bolt is now securely held against withdrawal. If the bolt is to be removed, the members must first be removed lengthwise in opposite directions so as to bring the enlarged ends of the bolt holes into registering position and in line with the bolt heads. It will of course be understood that the bolt holes in the web of the rail are large enough to allow the bolt heads to pass therethrough.

The parts herein described can be easily and quickly applied, and they form a strong

and durable joint, the two members being readily fastened together by the means shown. A broken rail can be temporarily repaired by employing the two members 6 and 7, leaving out the bolts 8, and supporting said members on the ties.

I claim:

1. A rail joint comprising fish-plates having base portions which extend beneath the rails and have downturned apertured flanges at their inner edges, tongues extending outwardly from the inner faces of the flanges and passing through the aper-

tures of the opposite flange, and fastening means passing through the flanges.

2. A rail joint comprising fish-plates having base portions which extend beneath the rails and have downturned flanges provided with interlocking tongues and alined openings, and keys secured in said openings.

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

HOWARD M. COULTER.

Witnesses:

HARMON J. COULTER,
MARK THOMAS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."