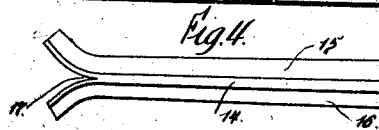
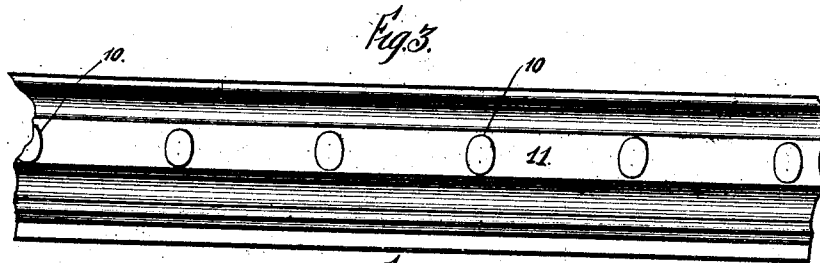
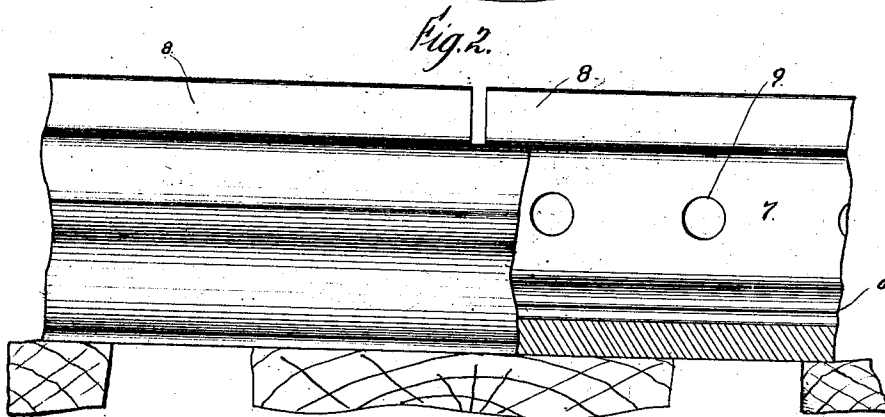
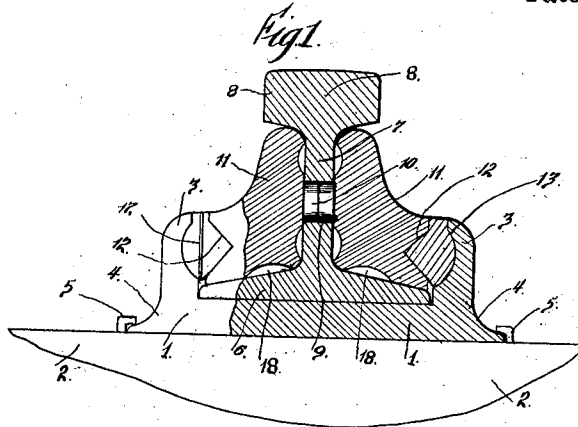


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RAIL JOINT.

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938,272.

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HARRY PROTHEROE AND HARRY SMITH, OF SWISSVALE, AND GEORGE W. WAY, OF WILKINSBURG, PENNSYLVANIA.

RAIL-JOINT.

938,272.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that we, (1) HARRY PROTHEROE, (2) HARRY SMITH, and (3) GEORGE W. WAY, citizens of the United States of America, residing at (1) and (2) Swissvale, and (3) Wilkesburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Rail-Joints, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to rail joints, and the objects of our invention are, first, to provide a novel rail chair for supporting the confronting ends of two rails; second, to use positive and reliable means in connection with a rail chair for retaining the confronting ends of two rails thereon, and prevent lateral and vertical displacement of said rails; third, to obviate the necessity of using bolts and nuts as a rail fastening medium; and fourth, to provide a strong and durable rail joint that can be easily and quickly placed in position to support the confronting ends of two rails without the use of skilled labor.

We attain the above objects by a rail joint that will be hereinafter described in detail and claimed.

Referring to the drawing forming part of this specification, Figure 1 is an end view of the rail joint partly broken away and partly in section, Fig. 2 is a side elevation of the same partly broken away and partly in section, Fig. 3 is an elevation of a portion of one of the splice bars of the rail joint, and Fig. 4 is a plan of one of the tapering keys used in connection with the joint.

In the accompanying drawings, 1 designates a rail chair adapted to be supported upon one or more ties 2. This chair is provided with oppositely disposed vertical side walls 3, extending from one end of the chair to the opposite end, the lower outer edges of these walls are provided with lateral flanges 4, extending throughout the length of said walls whereby the chair can be secured upon the ties 2 by spikes 5 engaging said lateral flanges.

The chair 1 is adapted to support the confronting ends of rails having base flanges 6, web portions 7, and heads 8, said base flanges resting upon the chair 1 between the vertical side walls 3. The web portions 7 of the rails are provided with equally spaced

transverse openings 9 and adapted to engage in said openings are oval bosses 10, equally spaced upon the inner sides of splice bars 11, said splice bars resting upon the base flanges 6 embracing the web portions 7 of the rails. The bosses 10 confront one another in the openings 9, and each boss is of a length equivalent to one-half the length of each of the openings 9. The outer sides of the splice bars 11 are provided with V-shaped tapering grooves 12 adapted to confront tapering grooves 13 formed in the inner sides of the walls 3, the grooves 12 and 13 corresponding in length to the splice bars 11 and the walls 3 and tapering in the same direction.

To lock the splice bars 11 in the chair, tapering keys 14 are used, said keys having tapering longitudinal V-shaped ribs 15 adapted to engage in the grooves 12 and longitudinal ribs 16 adapted to engage in the grooves 13, these ribs corresponding in cross section to the shape of the grooves 12 and 13. The keys have the smaller ends thereof split, as at 17, whereby the split ends of said keys can be spread after the keys have been placed in position, to prevent the keys becoming accidentally disengaged from the chair.

The splice bars 11 have the sides thereof confronting the webs 7 and the base flanges 6, cut away, as at 18, to allow for the expansion of the rails held by said splice bars.

The chair, splice bars, and keys are constructed of strong and durable metal, and the sizes and shapes can be varied according to the weight and type of rails in connection with which they are used.

Having now described our invention, what we claim as new, is:—

A rail joint comprising the combination with a pair of abutting rail sections, each having its web portion provided with a transverse opening, of a chair adapted to support said rail sections and comprising a base having vertically disposed walls at the sides thereof, the inner faces of each of said walls at a point removed from its upper terminus provided with longitudinally-extending grooves, splice bars seated upon the base of the rail section and adapted to brace the said rail section, said splice bars provided with bosses on the inner faces thereof, said bosses adapted to extend in the transverse openings of said rail sections for connecting said sections together, said splice

bars having the outer sides thereof provided with longitudinally-extending grooves positioned at a point removed from the top thereof and opposing the grooves in the walls of the chair whereby when the splice bars are arranged in operative relation with respect to the walls of the chair longitudinally-extending openings are provided which communicate with the contracted passage formed at the top of the sides of the splice bars and top of the walls of the chair, and keys provided with the contracted portion at the top thereof, said keys extending in said openings and contracted passages, said keys

having one end split, said split end adapted to be bent outwardly to engage the ends of the splice bars and the ends of the walls whereby said ends are maintained in position.

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

HARRY PROTHEROE.
HARRY SMITH.
GEORGE W. WAY.

Witnesses:

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