J. A. MALOY.

RAIL JOINT.

APPLICATION FILED SEPT. 8, 1913.

1,103,677. Patented July 14, 1914.

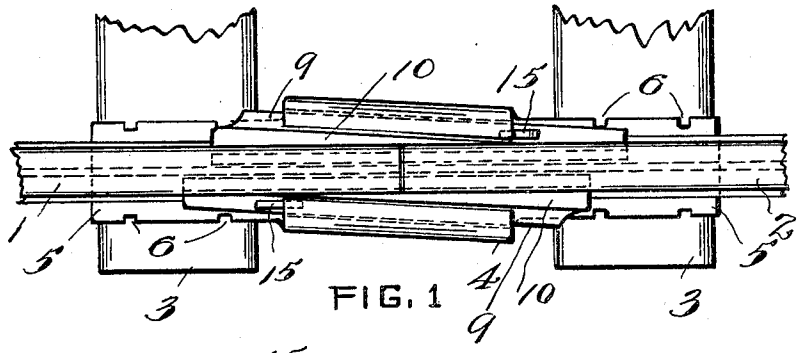

FIG. 1

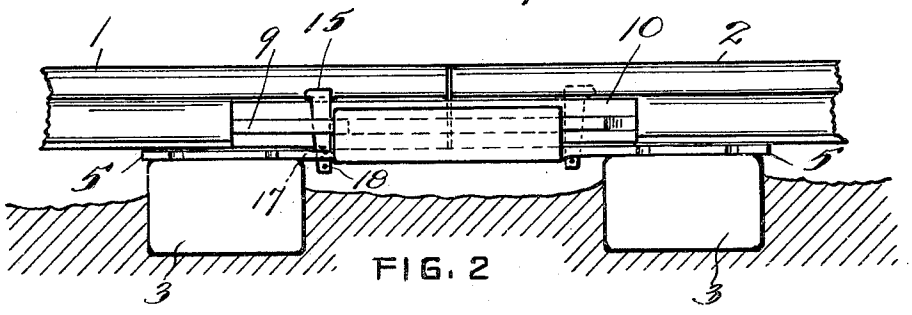

FIG. 2

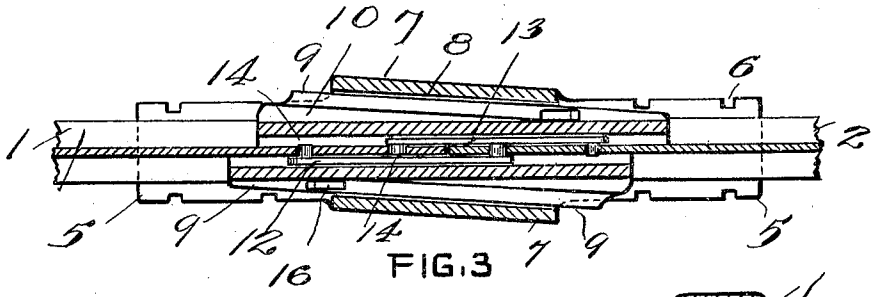

FIG. 3

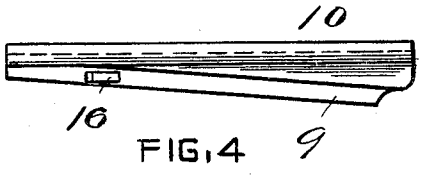

FIG. 4

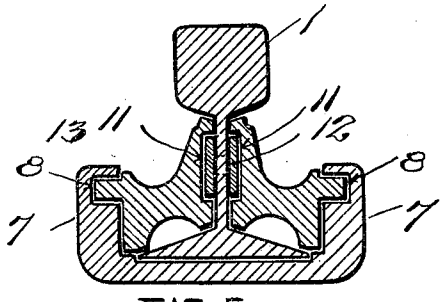

FIG. 5

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RAIL-JOINT.

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Application filed September 8, 1913. Serial No. 788,621.

To all whom it may concern:

Be it known that I, JAMES A. MALOY, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Rail-Joints, of which the following is a specification.

The present invention relates to improvements in rail joints for railway rails, and also embodies means for preventing creeping of the rails.

The primary object of the invention is the provision of a rail jointing device which will eliminate the use of bolts and nuts, which is automatically self-tightened and prevented from creeping, which enables the track hands to line up or gage the track accurately, and which provides a smooth surface for the passing rolling stock.

The invention consists in the combination with a specially formed chair under the joint, of wedge members coacting with the chair to hold the joined ends in alinement, as will hereinafter be more fully pointed out and claimed.

In the accompanying drawings I have illustrated one complete example of the physical embodiment of my invention constructed according to the best mode I have so far devised for the practical application of the principles of the invention.

Figure 1 is a plan view of a rail joint device embodying the novel features of my invention. Fig. 2 is a side elevation of Fig. 1. Fig. 3 is a horizontal, sectional view of Fig. 2 showing the relation of parts of the device. Fig. 4 is a view of one of the wedge members, detached. Fig. 5 is a cross section, enlarged, through the rail joint.

In the preferred embodiment of the invention as illustrated the two rail ends 1 and 2 are joined between the ties 3, 3, and a chair 4 bridges the gap between the ties. When the joint occurs between ties as illustrated, the chair is fashioned with extension plates 5, 5, that rest on the respective ties and are notched as at 6 for the spikes that secure the chair to the ties. The chair fits up snugly under the rail ends and is in direct contact therewith as a support, while its side walls 7, 7 that rise at right angles therefrom are grooved on their inner faces as at 8. As seen clearly in Fig. 3 these grooves are arranged obliquely to the line of the rails as are also the walls 7 themselves of the chair. These grooves in the side walls of the chair are provided to receive a tongue 9 of a wedge 10, one of which is located at each side of the rail within the chair walls 7. These wedges are of angle iron material and are fashioned at the bottom to lie flat upon the upper surface of the base flanges of the rail, while their inner faces are formed to fit against the web of the rail between the base and head. A groove 11 is formed in the face of the wedge that fits against the web to accommodate a splice bar as 12, 13, each of which is formed with integral bosses or lugs 14 projecting therefrom. As clearly seen in Fig. 3 these splice bars lie against the ends of the rails and their bosses project into the bolt holes in the rail ends, the bosses on each bar projecting into a bolt hole in each rail end to lock the rails together, as it will be seen that the splice bars can not be displaced from the grooved face of the wedges and of course the bosses can not be withdrawn from the bolt holes. The wedges are held in place by friction and are locked by means of keys as 15 which are passed through a slot 16 in the wedge and an alined slot 17 in the extension 5 and held by a cotter pin as 18.

From the above description taken in connection with the drawings, it will be noted that the ends of the rails 1 and 2 rest firmly in the chair and are held absolutely level, while the ends are each prevented from sinking lower than the other as a load passes over the joint, by the chair, thus providing a smooth joint, and improving the general efficiency of the joint. While the base plate or chair is shown between two ties, and suspended by the extensions, it will be understood that the chair may be placed directly upon a tie, or if desired it may be supported between the ties on the ballast of the track. The rails are automatically self tightened and prevented from creeping by the action of the wedges, as for instance, should a tendency to creep to the right in Fig. 1 occur, due to continuous passage of a train or trains in that direction, it will be seen that the wedge at the outside of the rail can not be moved, while if the wedge at the inner side of the rail is moved at all, it will be to tighten the wedge between the rails and the grooved side wall of the chair. The splice bars also hold the rail ends against creeping, but this is accomplished without the use of the bars when desired, and in fact the bars may be omitted when it is necessary for in-

stance, to insert a short or new section of rail in the track and when the new section is not provided with bolt holes.

Having thus fully described my invention, what I claim is:—

The combination with perforated rail ends, of an integral chair having oblique, parallel, grooved side walls, a pair of wedge members each having an outer obliquely extending tongue fitted in a grooved wall and having a flat grooved inner face bearing against the rail ends, and a splice bar located in each grooved face having a boss in each perforated rail end.

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

JAMES A. MALOY.

Witnesses:

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