J. C. RAINEY.

RAIL JOINT.

APPLICATION FILED MAY 24, 1907.

903,315. Patented Nov. 10, 1908.

Fig. 1.

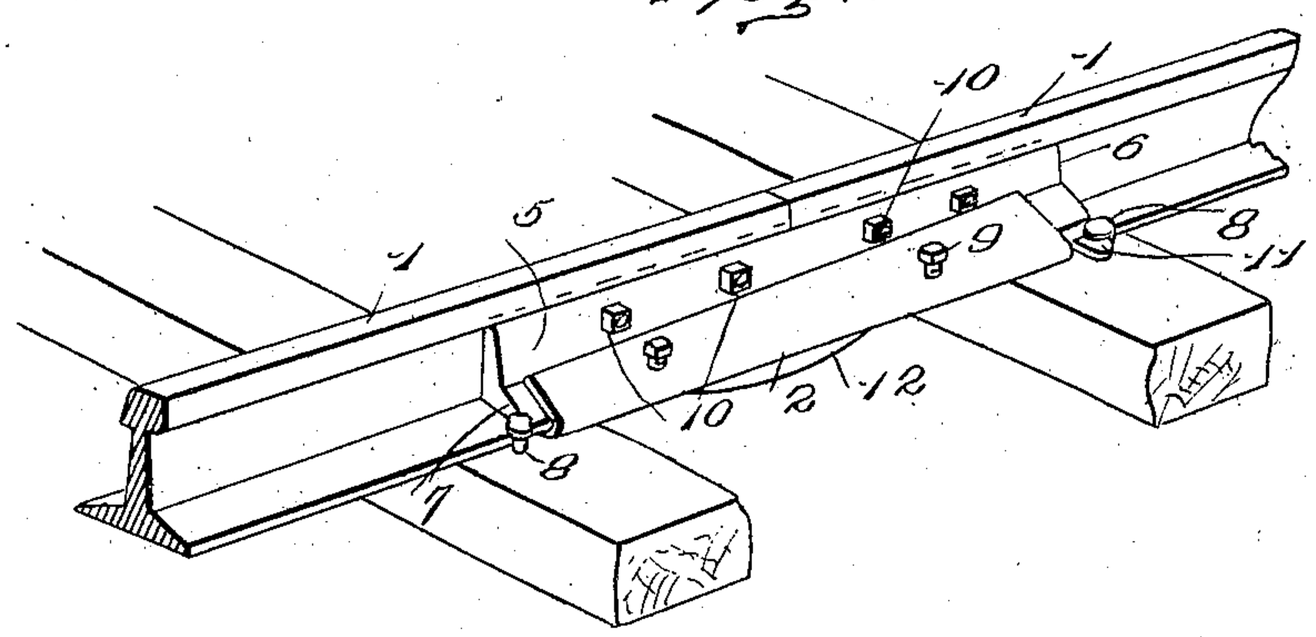


Fig. 2.

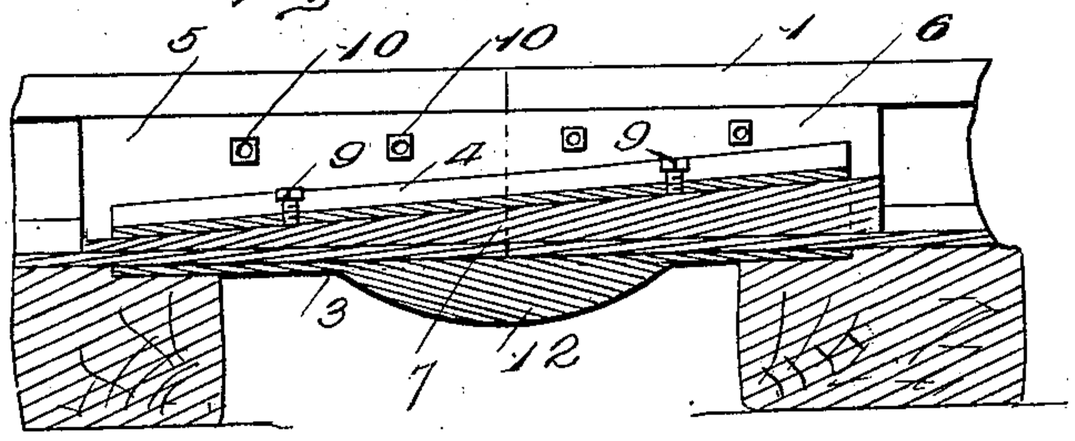


Fig. 3.

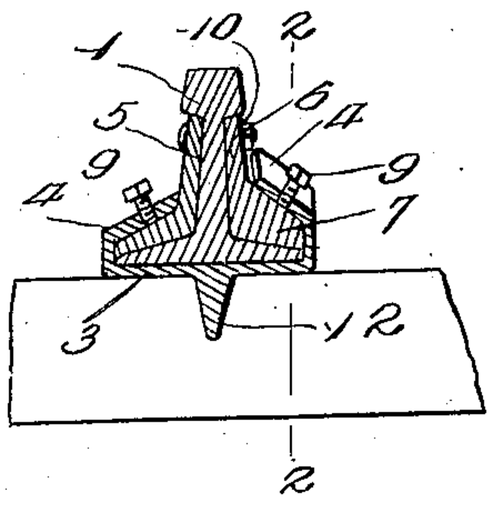


Fig. 4.

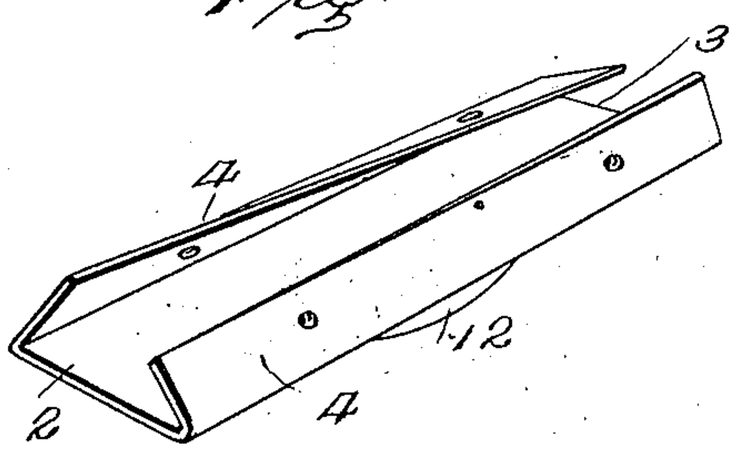
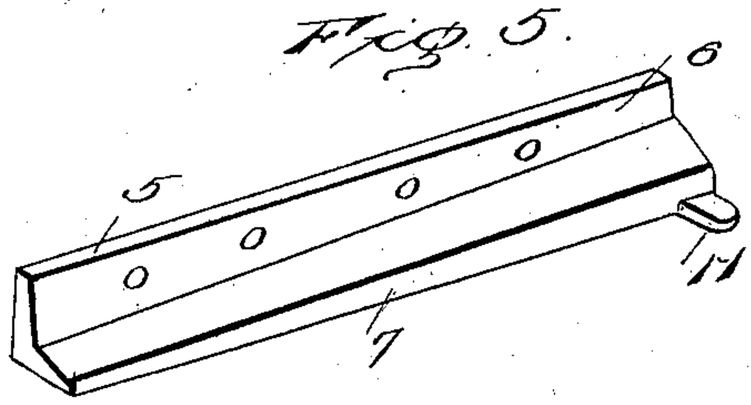


Fig. 5.



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UNITED STATES PATENT OFFICE.

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RAIL-JOINT.

No. 903,315. Specification of Letters Patent. Patented Nov. 10, 1908.

Application filed May 24, 1907. Serial No. 375,467.

To all whom it may concern:

Be it known that I, JAMES C. RAINEY, citizen of the United States, residing at Grove City, in the county of Mercer and State of Pennsylvania, have invented certain new and useful Improvements in Rail-Joints, of which the following is a specification.

The present invention relates to certain new and useful improvements in rail joints, and aims to provide a novel means for connecting the abutting ends of rails or like members whereby the same are rigidly locked against both vertical and lateral displacement with respect to each other, and rolling stock is enabled to pass over the joint without any objectionable jarring or jolting. The invention also contemplates a joint of this character which is peculiarly designed so as to be readily assembled or dismounted at any time as may be found desirable.

For a full description of the invention and the merits thereof and also to acquire a knowledge of the details of construction and the means for effecting the result, reference is to be had to the following description and accompanying drawings, in which:

Figure 1 is a perspective view of a rail joint embodying the invention. Fig. 2 is a longitudinal sectional view on the line 2—2 of Fig. 3. Fig. 3 is a transverse sectional view. Fig. 4 is a detail view of the chair. Fig. 5 is a detail view of one of the fish plates.

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 numerals 1 designate the abutting rail ends which have the bases thereof received within a chair 2. In the specific formation of the said chair it will be observed that the same comprises a base 3 extending under the rail joint, and longitudinal wings 4 which are bent over the edge portions of the rail bases. One end of each of the wings 4 is returned slightly further toward the base 3 than the opposite end whereby a wedge-shape space is formed between each of the said wings and the corresponding rail base. It will be observed that the wings are inclined with respect to the rails, and that the spaces between the said wings and the base are contracted toward one end thereof both vertically and laterally.

In this connection it may be mentioned that in the preferred form of the invention the wings 4 upon opposite sides of the chair 2 are so formed that the mouths or larger end portions of the wedge-shape spaces face toward opposite ends of the chair.

Fish plates 5 are applied to the sides of the rail joint and each of these fish plates comprises a vertical arm 6 fitting against the web portion of the rails, and an approximately horizontal arm 7 extending over the base of the rails and engaging the corresponding wing 4 of the chair 2. These horizontal arms 7 are gradually reduced both in thickness and width toward one end thereof and constitute wedges which coöperate with the wings 4 to clamp the rail ends 1 rigidly in alinement with each other. The two fish plates 5 are preferably driven into position from opposite ends of the chair and may be locked against displacement by any suitable means such as the spikes 8 engaging the end portions of the fish plates.

In the preferred construction shown in the drawings a lug or projection 11 extends laterally from one end of each of the fish plates whereby spikes 8 for holding the fish plates in position can be driven directly into the tie without the necessity of notching the rail bases. Set screws similar to those shown at 9 may be utilized for locking the fish plates in position, a plurality of the said set screws being carried by each of the wings. It will also be observed that the base of the chair is formed with a longitudinally extending reinforcing rib 12.

If found desirable the usual bolts 10 may be passed through the vertical arm 6 of the fish plates and the web portions of the abutting rail ends. It will thus be apparent that after the rail ends have been received within the chair 2 and the fish plates 5 driven into position from opposite ends of the chair, the rail ends are rigidly clamped in position and are securely held against all displacement relative to each other.

Having thus described the invention, what is claimed as new is:

1. In a rail joint, the combination of abutting rail ends, a chair receiving the abutting rail ends and comprising a base and longitudinal wings, one end of each of the wings being returned slightly further toward the

base than the opposite end and the said wings being inclined with respect to the axis of the rails so that the spaces between the wings and base are contracted toward one end both vertically and laterally, and fish plates applied to opposite sides of the joint and engaging the wings of the chair, the said fish plates having a wedge action both inwardly and downwardly.

2. In a rail joint, the combination of abutting rail ends, a chair receiving the abutting ends and comprising a base and longitudinal wings, one end of each of the wings being returned slightly further than the opposite end and the said wings being inclined with respect to the axis of the rails so that the spaces between the wings and base are contracted toward one end both vertically and laterally, and fish plates applied to opposite sides of the joint, each of the fish plates comprising an arm for engaging the corresponding wing of the chair, the said arm being reduced toward one end both in thickness and width and adapted to coöperate with the corresponding wing of the chair to force the rails inwardly and downwardly.

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

JAMES C. RAINEY. [L. S.]

Witnesses:

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