O. E. HESTER.

RAIL JOINT.

APPLICATION FILED APR. 22, 1915.

1,167,174. Patented Jan. 4, 1916.

FIG. 1.

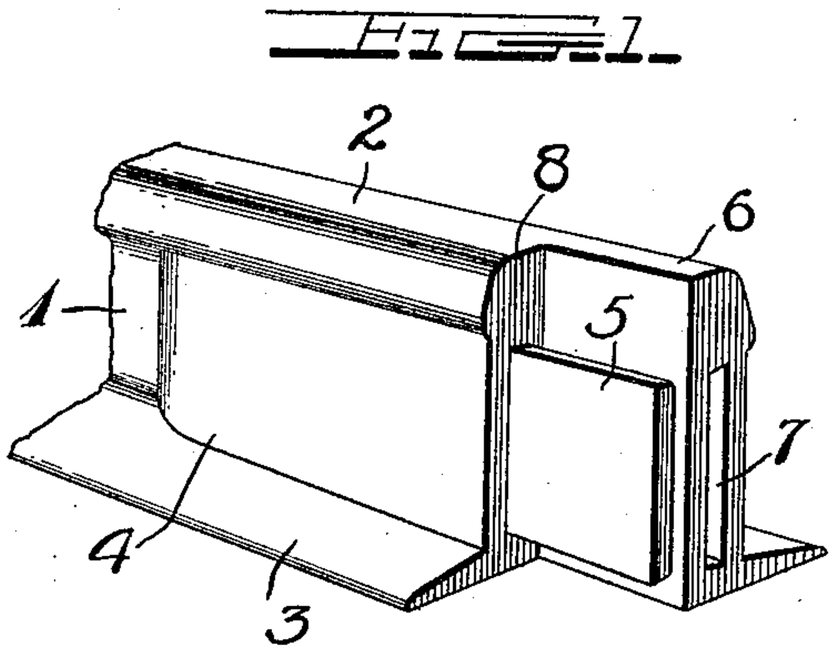


FIG. 2.

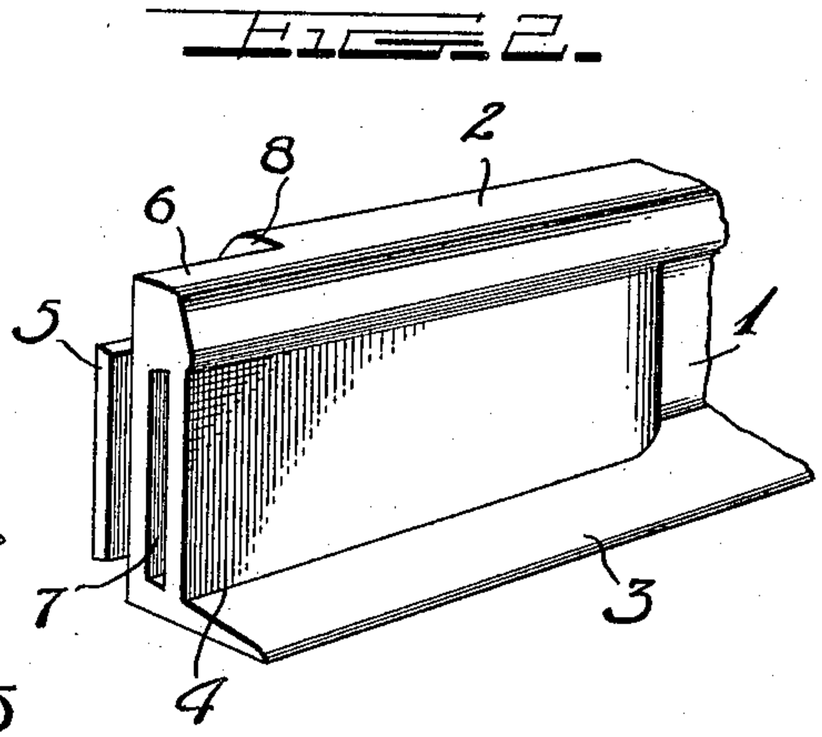


FIG. 3.

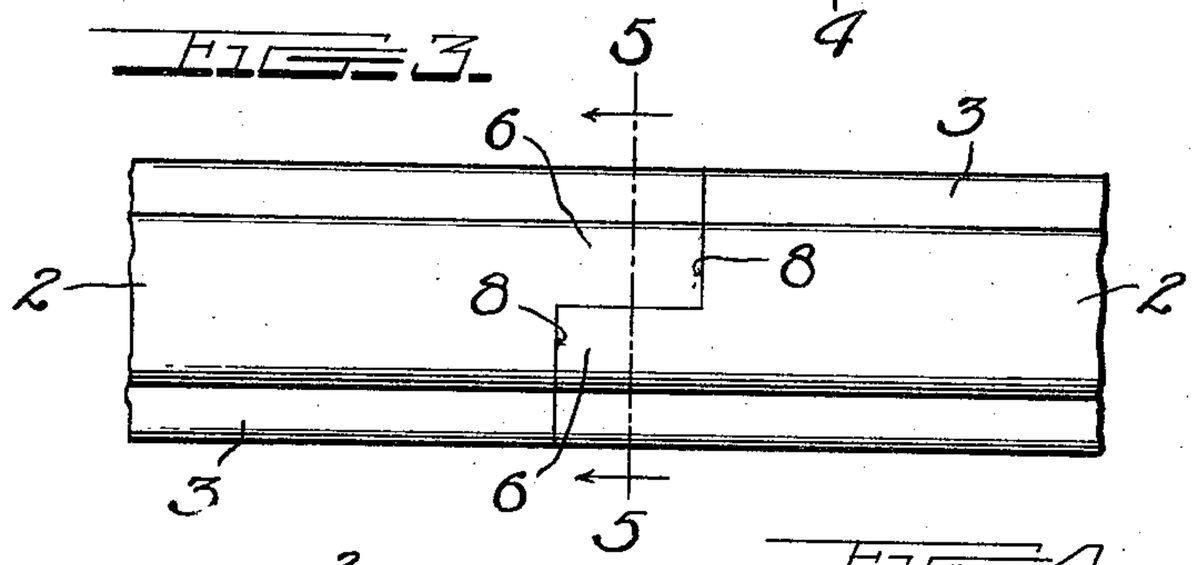


FIG. 4.

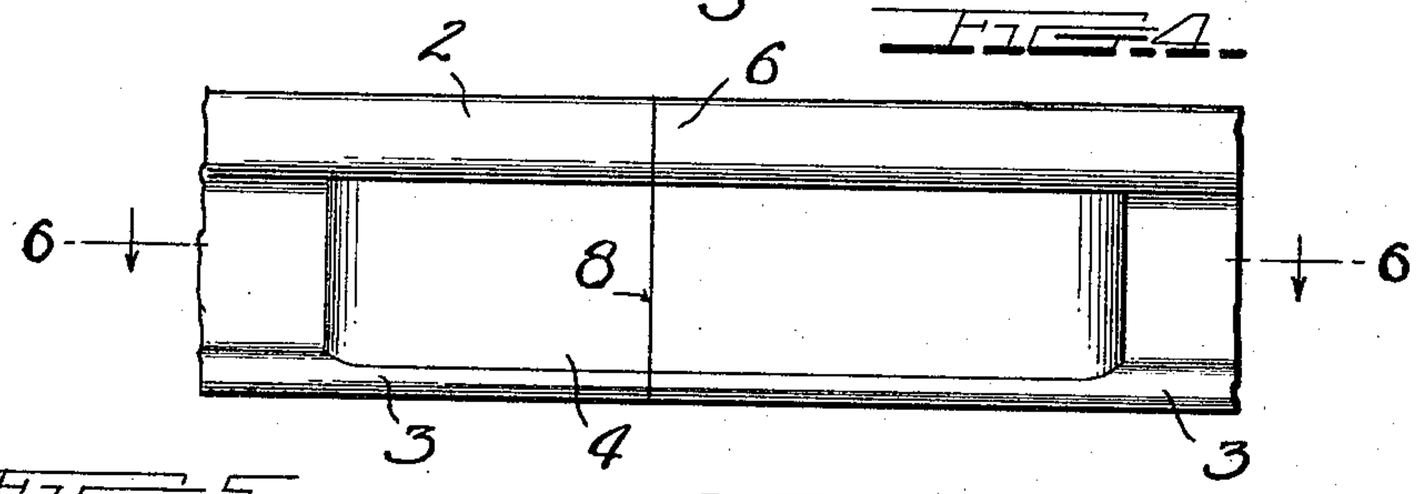


FIG. 5.

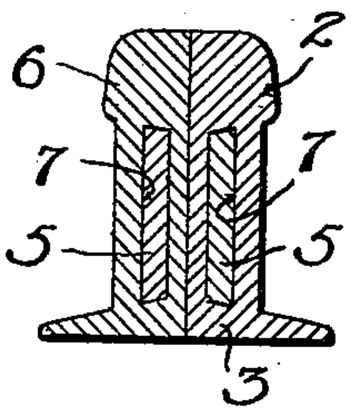
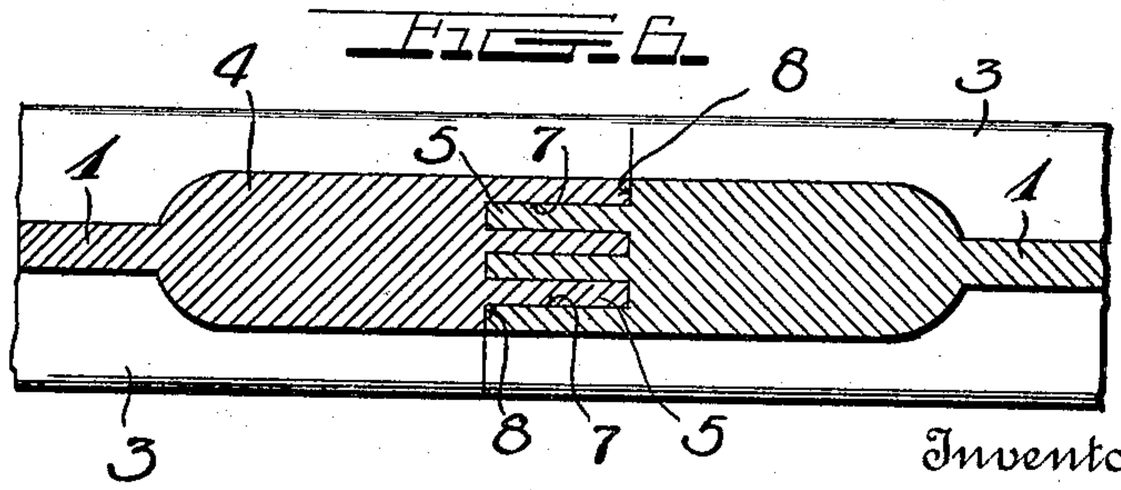


FIG. 6.



Witnesses

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RAIL-JOINT.

1,167,174. Specification of Letters Patent. Patented Jan. 4, 1916.

Application filed April 22, 1915. Serial No. 23,224.

To all whom it may concern:

Be is known that I, OTHO E. HESTER, a citizen of the United States, residing at Van Meter, in the county of Dallas and State of Iowa, have invented certain new and useful Improvements in Rail-Joints; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in rail joints and more particularly to that type known as scarf joints.

The primary object of the invention is to provide a simply constructed and efficient rail joint which will absolutely dispense with all bolts, fish plates and other fastening devices now in common use and yet securely hold the abutting ends of the rails against lateral movement.

Another object of the invention is to provide a rail joint including two interlocking members formed on the abutting ends of adjacent rails and which are so formed and positioned that they will act as centering elements for bringing the rails into positive alinement.

With these and other objects in view, the invention consists of certain novel features of construction, and the combination and arrangement of parts as will be more fully described and claimed.

In the accompanying drawings: Figures 1 and 2 are perspective views of the adjacent rail ends disconnected showing these improvements applied; Fig. 3 is a plan view of the rail joint constructed in accordance with this invention; Fig. 4 is a side elevation thereof; Fig. 5 is a transverse section taken on the line 5—5 of Fig. 3, and Fig. 6 is a longitudinal section taken on the line 6—6 of Fig. 4.

The preferred embodiment of this invention as clearly shown in the accompanying drawings includes coacting locking members formed on the abutting ends of adjacent rails, the vertical web portions of which are indicated at 1, the tread portions at 2, and the tie flange portions at 3 of the usual construction throughout the body portion of the rail; but at the ends the vertical web portion 1 is increased in transverse thickness substantially equal to the transverse thickness of the head or tread portion 2 as shown at 4.

Extending from the abutting ends of the rails are tongues and socket members 5 and 6 reversely disposed so that when united as shown in Figs. 3 and 6, each of the socket members 6 forms one half of the combined vertical web and tread portion with their inner faces in engagement, thus bridging the gap between them and forming an uninterrupted tread surface. The reversely disposed longitudinally extending socket portions 6 are provided with longitudinal sockets 7 which are of a height and length adapted to receive the tongues 5 of the adjacent rail ends. The tread and web portions of the rail ends which form the other half of the combined vertical web and tread are cut away at the root or base of the socket members 6, forming right angularly disposed laterally extending shoulders 8 arranged adjacent the inner faces of said socket members. Extending longitudinally from the shoulders 8 are the tongues 5 which are of a width equal to the height of the sockets 7 and are spaced laterally from the inner faces of said socket members 6 a distance equal to the thickness of the inner wall of said sockets 7, the distance between the outer faces of said tongues and the outer faces of the webs being equal to the thickness of the outer side walls of the sockets so that when the two rail ends are assembled in interlocking engagement, the tongues 5 will fit snugly in the sockets 7 with the tread portions and webs of the two rail ends disposed flush with each other as shown clearly in Figs. 3 and 6. The tongues 5 and socket members 6 are of the same length and are arranged in parallel relation, the upper portion of the socket member above the sockets 7 therein extending above the upper edges of the tongues as shown and it will thus be observed that when these members are assembled the rail ends will be securely locked against all possibility of their becoming accidentally disengaged or against their lateral movement relative to each other, the thick portions of these ends serving to reinforce and strengthen these joints, the tongue and the side walls of the socket or rear rail end being of uniform thickness and the thickness thereof corresponding to the distance between the side walls of the socket and the distance between the inner wall of the socket and the tongue, also to the distance between the base of the tongue and the outer face of the cut-away web portion through

which said tongue projects, whereby when said ends which are counter-parts of each other are engaged, they will act as centering elements to bring and hold the rail in positive alinement.

From the foregoing description taken in connection with the drawings, the application and operation of this improved rail joint will be readily understood and but slight description of the same is therefore necessary.

As previously set forth, the locking members are formed integral with the ends of the rails and when laying the track it is only necessary to properly position the ties upon the road bed, place the rails end to end upon the ties in such a manner that the end of one rail is adjacent the end of the next and then move the rails longitudinally to bring the locking tongues and sockets into engagement, and when so engaged, these members operate to bring the rails into proper alinement with each other.

From the above description it will be apparent that I have provided a simple and efficient form of rail joint and one which because of the ease in laying the rails is particularly applicable for use in laying temporary tracks, but it is to be understood that I do not wish to limit the joint in any way to use upon temporary tracks, as it may be used with equal advantage in the laying of permanent tracks of all descriptions, and in the use thereof great economy is effected, saving the labor of thousands of men and millions of bolts, nuts and fish plates, and its upkeep alone would mean the saving of thousands of dollars.

I claim as my invention:

A railway rail having its upright web increased horizontally in thickness from one end to a point spaced longitudinally therefrom, said rail being formed with a right angular notch opening through the upper surface of its head, through the lower side of its base, through one of its upright sides, and through its aforesaid end, one wall of said notch being disposed in a vertical longitudinal plane centrally intersecting the web of the rail, and the other wall of said notch being disposed in a vertical transverse plane to form a shoulder, and a flat rectangular tongue extending longitudinally from said shoulder in parallel spaced relation to the longitudinal wall of the notch, the free end of said tongue being disposed in the upright plane of the aforesaid end of the rail, while the upper and lower edges of said tongue are positioned respectively in the plane of the lower side of the rail head, and in that of the upper side of the rail base, the rail being formed with a longitudinal socket opening through its aforesaid end, said socket being of a shape and size identical with the shape and size of the tongue and being spaced from the longitudinal wall of the notch a distance equal to that between said wall and the tongue, the upper and lower sides of the socket being disposed in the horizontal planes of the upper and lower edges of said tongue; combined with a second rail of identical construction, the tongue of the first rail being received in the socket of the second, and vice versa.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

OTHO E. HESTER.

Witnesses:

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