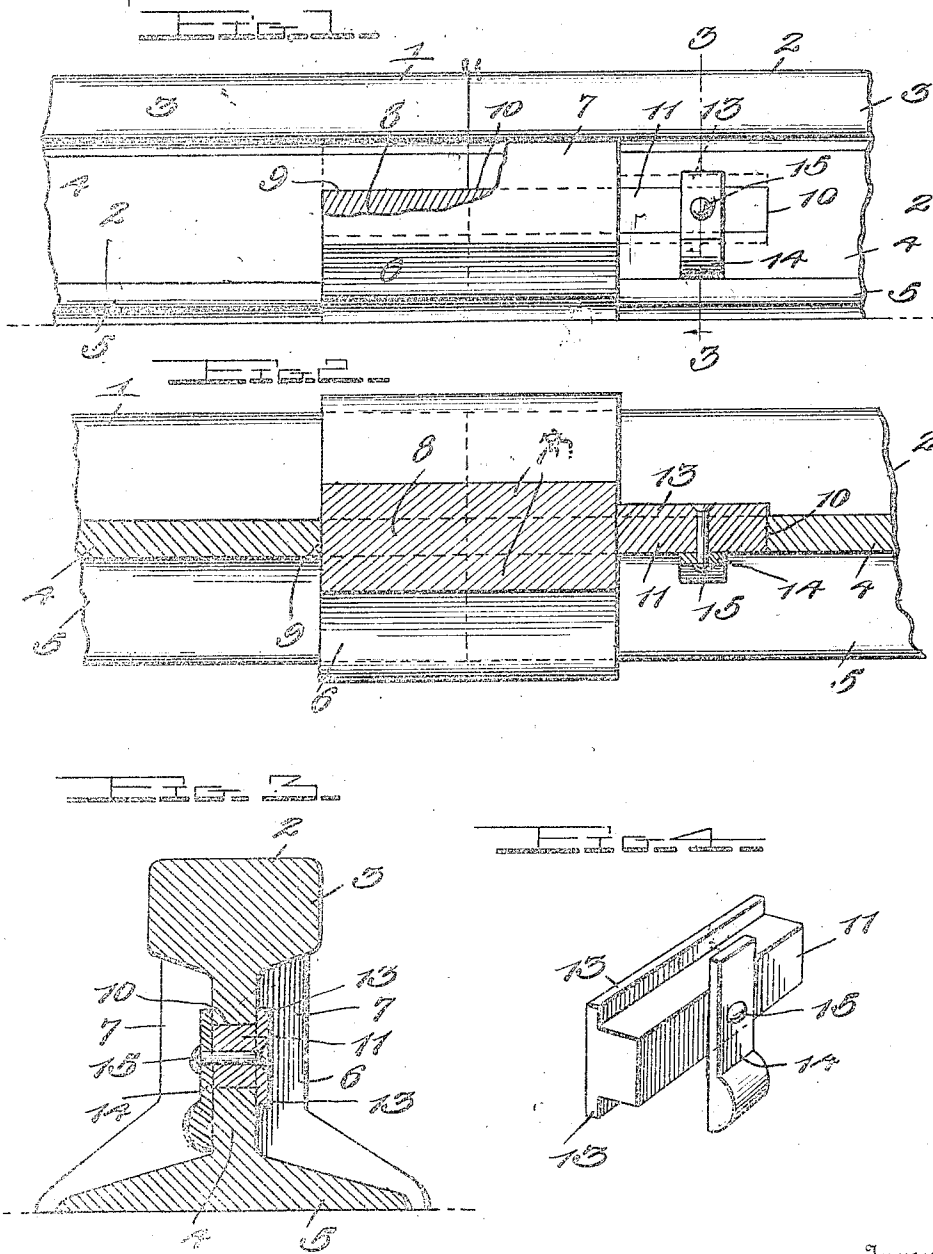


E. H. HIGGINS.
RAIL JOINT.

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RAIL-JOINT.

1,045,843.

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To all whom it may concern:

Be it known that I, EDMOND H. HIGGINS, a citizen of the United States, residing at Portland, in the county of Multnomah and State of Oregon, have invented certain new and useful Improvements in Rail-Joints, of which the following is a specification, reference being had to the accompanying drawings.

This invention comprehends certain new and useful improvements in rail joints and relates more particularly to joints of this nature which may be secured in position without the use of bolts.

The primary object of the invention is to provide a boltless rail joint which shall be extremely simple in construction, cheap to manufacture and which may be easily applied to the meeting ends of rails.

The invention also aims to generally improve devices of this nature, to render them more useful and commercially desirable.

With these and other objects in view, as shall become apparent as the description proceeds, the invention consists in certain novel features of construction and arrangement of parts as I shall hereinafter fully describe and claim.

For a complete understanding of my invention, reference is to be had to the following description and the accompanying drawings, in which—

Figure 1 is a side elevation of my rail joint a portion of one of the fish plates being broken away; Fig. 2 is a view taken on a horizontal plane passed centrally through Fig. 1; Fig. 3 is a sectional view taken on the plane of line 3—3 of Fig. 1, and Fig. 4 is a perspective view of the locking key.

In the following description and accompanying drawing, similar parts are referred to by like reference characters.

Referring to the drawing by numerals, 1 and 2 designate rails of the ordinary construction, each provided with a head 3; a web 4 and base flanges 5. The coupling 6 which I have provided for the purpose of securing the meeting ends of these rails, comprises a pair of opposed fish plates 7 held in parallel spaced relationship by the integrally formed longitudinally extending bar or core 8.

In order that the coupling 6 may be easily applied, I provide the rail webs 4 with the longitudinally extending end opening recesses 9 and 10. The recess 10 is equal in

length to the coupling 6 and is twice the length of the corresponding recess 9. Each recess conforms in cross section to the core 8 so that when said core is positioned within the recesses the fish plates 7, which conform in shape to the contour of the rails 1 and 2, will lie closely against said rails on opposite sides thereof. When the coupling is applied in operative position the inner half of the recess 10 is left open, so I have provided a key 11 adapted to be fitted within the open portion of the recess and of such a length that it will completely fill said recess and serve to prevent the coupling 6 working backwardly toward the rail 2. The key is provided on one side with the longitudinal flanges 13 which project respectively above the upper face and below the lower face of said key. These flanges engage the web 4 of the rail 1 and prevent the key from slipping entirely through the recess 10. The side of the key opposite the side carrying the flanges 13 is provided with a button 14 pivotally secured intermediate its ends by a bolt 15. The button is equal in width to the recess 10 and is of such a length as to project above and below said recess when turned transversely thereto. After the key has been positioned within the recess 10, the button which has a greater portion of its length disposed on one side of the bolt 15 than on the other side, is turned transversely of the recess so that the longer and heavier end will extend downwardly. When in this position the button will hold the key securely within the recess and because of its formation will not have any tendency toward rotational movement.

The method of assembling my invention is as follows:—First the coupling 6 is positioned on the rail 2 so that its outer end will lie flush with the end of said rail. Then the rails 1 and 2 are spiked to the cross-ties so that the recesses 9 and 10 will lie in longitudinal alinement. After this has been done, the coupling 6 is pushed toward the rail 3 until one end of the bar 8 contacts with the inner wall of the recess 9, in which position the fish plates 7 will extend equal distances upon both sides of the rails. The key 11 is then positioned within the inner end of the recess 10 and securely fastened by the button 14. It will be seen that this arrangement of the parts is such that after the rails have been securely spiked to the cross-ties, all lateral movement of said

rails in relationship to each other is prevented by the coupling 6.

From the foregoing description in connection with the accompanying drawing, it will be seen that I have provided an extremely simple and efficient rail joint which effectively secures the meeting ends of the rails against lateral movement without the use of bolts. It is to be understood that while I have shown a preferred embodiment of my invention I do not wish to be limited to the exact construction and arrangement of parts herein shown and described but may make such minor changes as will fall within the scope and spirit of the invention as defined by the appended claim.

Having thus described the invention, what is claimed is:

In a rail joint, the combination of a pair of rails having the ends at their meeting ends provided with longitudinally extending end

opening recesses, a pair of fish plates, a longitudinal bar formed integrally with said fish plates and holding them in spaced relationship, said bar being equal in length to the fish plates and adapted to be disposed entirely within one of said recesses, the other recess being equal to one-half the length of the bar, a key adapted to be positioned within the longer recess and provided adjacent one side upon its top and bottom with longitudinally extending vertical flanges, and a button pivotally secured intermediate of its ends to the other side of said key, whereby the key may be securely locked in position.

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

EDMOND H. HIGGINS.

Witnesses:

E. RADFORD,

J. F. FULTON.