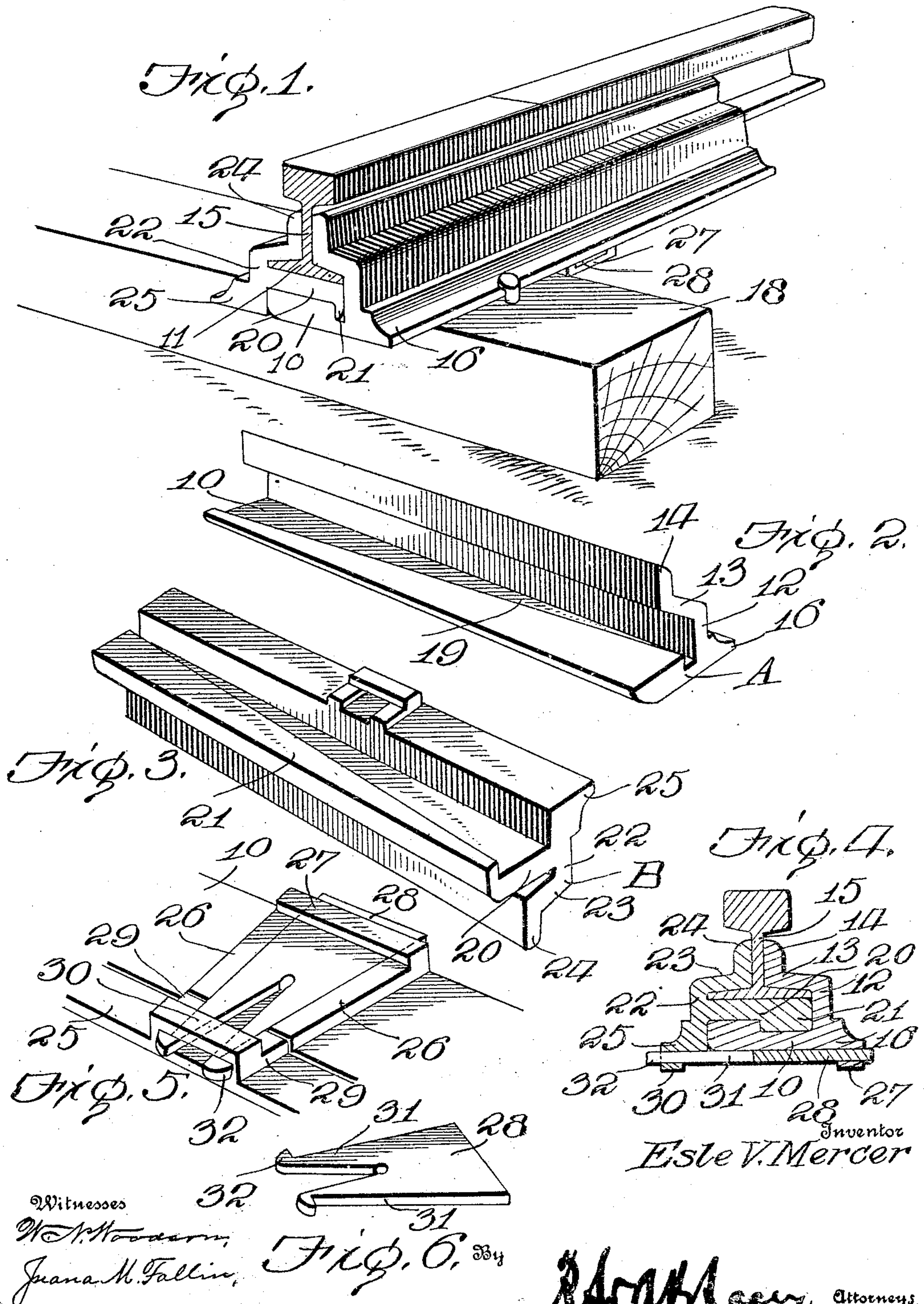


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RAIL JOINT.
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UNITED STATES PATENT OFFICE.

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RAIL-JOINT.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, ESLE V. MERCER, citizen of the United States, residing at Adena, in the county of Jefferson and State of Ohio, have invented certain new and useful Improvements in Rail-Joints, of which the following is a specification.

This invention relates to railways and refers particularly to a fastening device to be applied to the end of the rails for securing the same together.

An object of this invention is to provide a rail fastener in which no bolts or nuts are employed, whereby the same is not permitted to become loosened by the vibration incident to the passage of trains over the rails to which the fastener is applied.

The invention has for another object the provision of a fastener which may be applied to the rails without raising the same and which may be positioned with the consummation of but little time and which will be securely locked in position when applied.

A further object of this invention is to provide a rail fastening means which is of simple construction so that the same can be economically produced and at the same time to produce a fastener which is durable and strong so as to embody practical features.

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

Figure 1 is a perspective view of the improved fastener as applied to the extremities of two adjacent rails. Fig. 2 is a perspective view of the inner side of one of the locking members. Fig. 3 is an inverted perspective view of the opposite locking member. Fig. 4 is a transverse section centrally of the locking device disclosing a rail positioned in the same. Fig. 5 is an inverted perspective of the two locking members and means for securing the same in position, and, Fig. 6 is a detail perspective view of the key employed for securing the members in position.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawing by the same reference characters.

Referring to the drawing the improved rail fastener comprises two members A and B which are positioned upon the opposite sides of the rails and are secured in interlocked engagement against the same. The

member A comprises a base 10 which extends beneath the base 11 of the rail and which is provided with a flange 12 extended upwardly from the outer end of the same for engagement against the outer edge of the base 11 of the rail and which is provided with an inwardly turned portion 13 for engagement upon the upper face of the base 11 where it is turned upwardly to form a web 14 for engagement against the web 15 of the rail. The base 10 extends outwardly of the flange 12 to form a bead 16 against which the fastening spikes 17 are positioned in order to retain the base 10 upon the tie 18. The base 10 is further provided about its upper base with a longitudinal recess or slot 19 which flares at one extremity of the base 10 and is reduced at its opposite extremity for a purpose hereinafter set forth. The member B which is engaged upon the opposite sides of the rails comprises a base 20 which is engaged beneath the base 11 of the rail and which is disposed in overlapped relation upon the base 10 of the member A, the base 20 being provided with a depending bead 21 formed along its inner edge and which is enlarged at one extremity and reduced at the opposite extremity for engagement in the recess 19 formed in the base 10 to form a wedge for contracting the members A and B against the opposite sides of the rails.

The base 20 is provided at its outer edge with an upstanding flange 22 which carries an inwardly turned portion 23 at its upper edge for engagement about the base 11 of the rail and which is turned upwardly to form a web 24 for engagement against the side of the web 15 of the rail. The base 20 is provided with a depending and outwardly extended bead 25 which is disposed in the plane of the bead 16 to lie upon the upper face of the tie 18 to enable the positioning of a spike or the like thereagainst to retain the member B upon the tie.

For locking the members A and B against the rail and to prevent the longitudinal sliding of the same a keyway is positioned thereover which comprises a pair of guides which are positioned against the under face of the base 10 and are diverged outwardly thereon and are provided with a cross-bar for the purpose of retaining a wedge-shaped key 28 between the guides 26. The bead 25 formed upon the opposite base 20 is provided on its under face with corresponding

guides 29 which form extensions of the guides 26 when in registered relation therewith and which are provided at their outer extremities with a cross-bar 30 for the retention of the opposite extremity of the key 28. The key 28 is provided at its reduced end with fork-arms 31 which are spaced apart and which, owing to the formation of the key, are resilient and admit of the contraction of the same in order to admit of the engagement of the key 28 through the contracted end of the keyway. The arms 31 are provided with shoulders 32 which engage the outer extremities of the guides 29 when the key 28 is driven through the keyway and thereby retains the key in position.

In operation the member A is positioned against one side of the rails and the member B positioned upon the opposite side, the member B being positioned in advance of the member A so as to dispose the reduced end of the bead 21 within the enlarged end of the recess 19. The member 19 is now moved into parallel relation with the member A whereby the cam faces formed upon the base 10, by reason of the recess 19, and upon the base 20, by reason of the bead 21, cause the contraction of the flanges 12 and 22 against the opposite sides of the adjoining rails and firmly grip the same by reason of the engagement of the webs 14 and 24 upon the opposite sides of the webs 15 of the rails. The key 28 is now inserted through the enlarged end of the keyway when the shoulders 32 engage against the outer extremities of the guides 29 by reason of the springing outwardly of the arms 31 when the key 28 is locked and the members A and B are thereby rigidly held against the rails. It is readily seen that from this construction the members A and B cannot be disengaged from the rails until the key 28 is withdrawn from the keyway. This is due to the fact that the inwardly turned portions 13 and 23 engage against the upper face of the bases 11 of the rails and thereby prevent the raising of the bead from the recess 19 or of the disengagement of the overlapped bases 10 and 20.

In order to release the fastener from the rails it is necessary to contract the spring arms 31 to admit of the disengagement of the shoulders 32 from the guides 29 to withdraw the key 28 from the keyway. The members A and B are now moved longitudinally with respect to one another against

the opposite sides of the rails whereby the same are permitted to diverge and disengage from one another.

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

1. A fastener as specified comprising a pair of members engaged upon the opposite sides of a rail, bases formed on said members for overlapped relation, the underlying of said bases having a recess of wedge formation formed therein, a bead of wedge formation depended from the overlying of said bases for engagement in the recess, flanges upwardly extended from said bases, inwardly turned portions formed upon said flanges for engagement upon the upper face of the base of the rail, webs upwardly extended from said inturned portions for engagement against the opposite sides of the web of the rail, guides positioned across the under sides of said members and adapted for registration with one another, cross-bars positioned upon the ends of said guides and a key engaged between said guides for preventing the sliding of said members past one another.

2. A device as specified comprising a pair of members adapted for engagement against the opposite sides of a rail, cam faces formed upon said members for contracting said members upon the sliding of the same into registration with one another and a key positioned across the under sides of said members when in registered relation for locking the same from sliding movement.

3. In combination with the abutting extremities of two rails of members engaged upon the opposite sides of said rails, bases formed upon said members and positioned in overlapped relation beneath said rails, means disposed on said bases for interlocking engagement to contract said members against said rails upon the sliding of said bases into registration with one another, a keyway disposed across the under sides of said members for registration, a key engaged through said keyway and shoulders formed upon the extremity of said key for locking the same in said keyway.

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

ESLE V. MERCER. [L. s.]

Witnesses:

WILLIAM POTTS,
R. B. HARRISON.