H. H. MARKLAND.

RAIL JOINT AND FASTENER.

APPLICATION FILED JUNE 1, 1909.

938,262.

Patented Oct. 26, 1909.

2 SHEETS—SHEET 1.

Fig. 1.

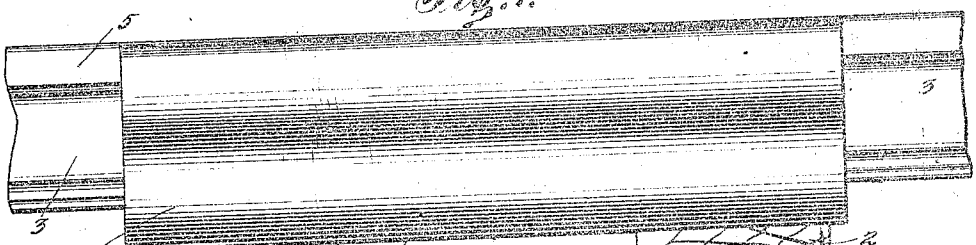


Fig. 2.

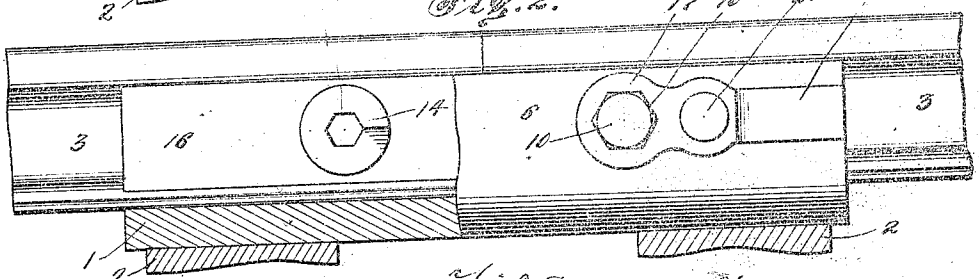


Fig. 3.

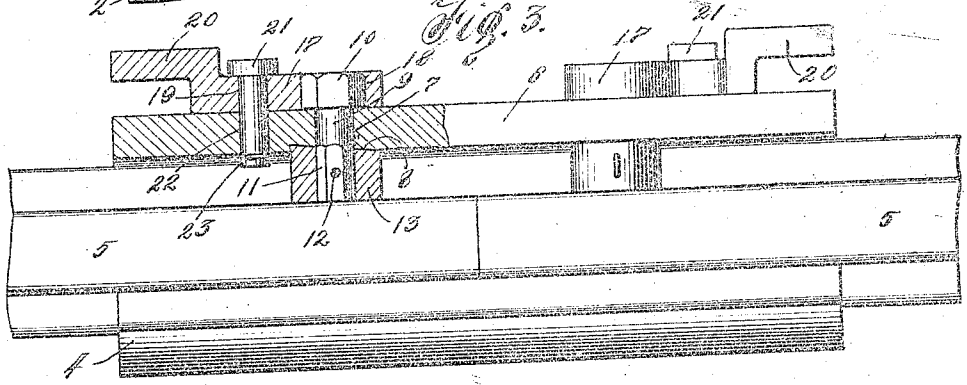


Fig. 4.

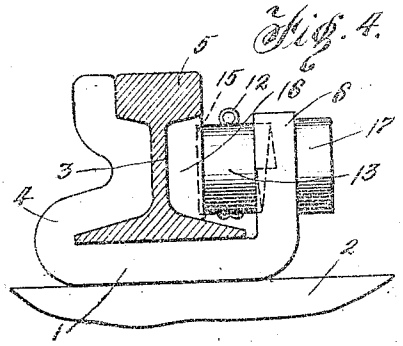
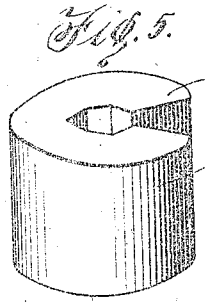


Fig. 5.



Witnesses

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RAIL JOINT AND FASTENER.

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938,262. Patented Oct. 26, 1909.

2 SHEETS—SHEET 2.

Fig. 6.

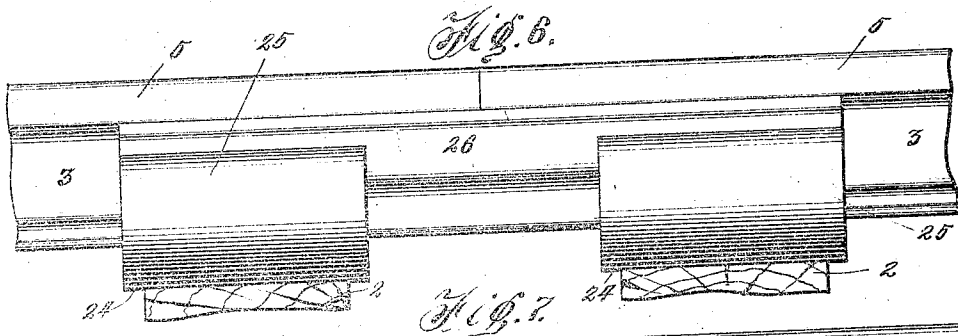


Fig. 7.

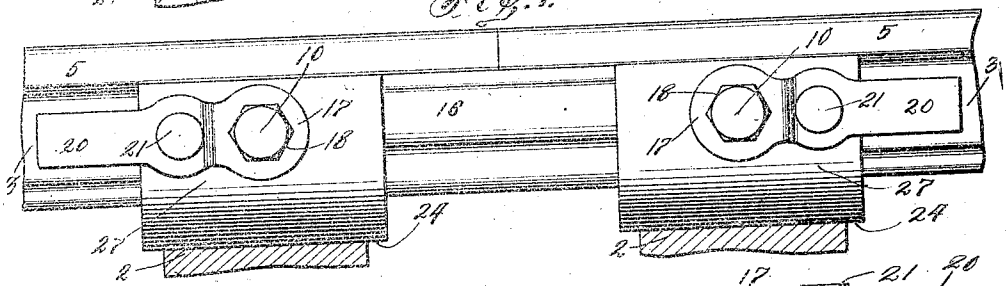


Fig. 8.

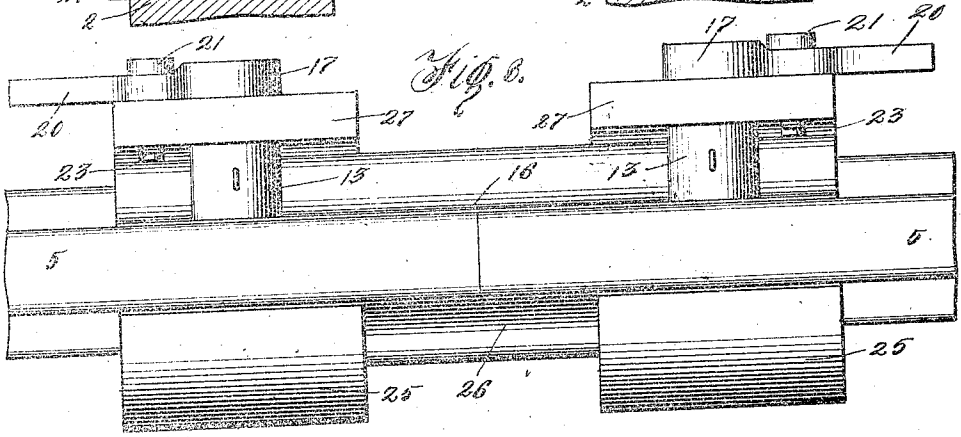


Fig. 9.

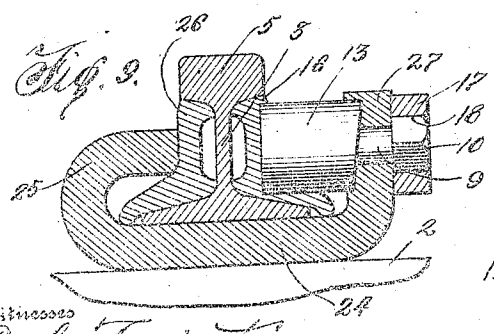
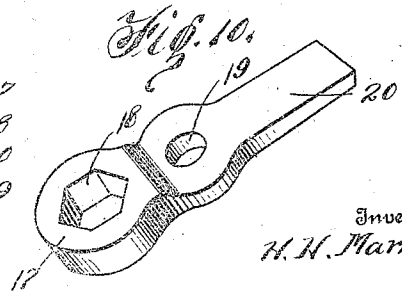


Fig. 10.



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UNITED STATES PATENT OFFICE.

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RAIL JOINT AND FASTENER.

938,262. Specification of Letters Patent. Patented Oct. 26, 1909.

Application filed June 1, 1909. Serial No. 499,276.

To all whom it may concern:

Be it known that I, HARRY H. MARKLAND, a citizen of the United States of America, residing at McKeesport, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Rail Joints and Fasteners, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to rail joints and fasteners, and the invention has for its objects, first, the provision of simple and effective means for connecting the confronting ends of two rails without the use of bolts and nuts; second, to provide a strong and durable rail brace that will prevent lateral and vertical displacement of the confronting ends of two rails, and third, to provide a rail fastener that can be advantageously used for bracing and connecting together the ends of a broken or otherwise injured rail. These and such other objects as may hereinafter appear are attained by a structure that will be presently described in detail and then claimed, and reference will now be had to the drawings forming part of this specification, wherein there are illustrated the preferred embodiments of the invention, but it is to be understood that the structural elements thereof are susceptible to various changes without departing from the spirit and scope of the invention.

In the drawings, Figure 1 is a side elevation of a rail joint constructed in accordance with my invention, Fig. 2 is a similar view, partly broken away and partly in section, illustrating the inner side of the rail joint, Fig. 3 is a plan of the rail joint partly broken away and partly in section, Fig. 4 is an end view of the joint, Fig. 5 is a perspective view of a fastener forming part of the joint, Fig. 6 is a side elevation of a modified form of rail joint, Fig. 7 is a similar view illustrating the inner side of the modified form of rail joint, Fig. 8 is a plan of the same, Fig. 9 is a cross sectional view of the modified form of rail joint, and Fig. 10 is a perspective view of a locking member or wrench used in connection with the modified form of joint.

In the accompanying drawings 1 denotes a plate adapted to be supported by two ties 2, and resting upon said plate are the confronting ends of two rails 3. The outer edge of the plate 1 is provided with an integral splice bar 4 adapted to brace the outer sides of the rails 3, said splice bar extending upwardly under the heads 5 of the rails and against the outer sides of said heads, to prevent the rails from tilting or the heads 5 from shearing relative to the web portions of said rails. The inner edge of the plate 1 is provided with a vertical flange 6 and this flange is provided with two transverse openings 7, the inner ends of said openings terminating in sockets 8 having beveled faces for a purpose that will hereinafter appear.

Rotatably mounted in the opening 7 are pins 9 having the outer ends thereof provided with hexagon or octagon shaped heads 10, while the inner ends thereof are provided with hexagon or octagon shaped shanks 11. Fitted upon the shanks 11 and retained in engagement therewith by cotter pins 12 are fastener members 13, these members being cylindrical and each having a ratchet or offset end 14 for engaging in the sockets 8. The opposite ends of the members 13 are adapted to engage in sockets 15 provided therefor in a splice bar 16 adapted to engage and brace the inner sides of the rails 3.

Detachably mounted upon the heads 10 of the pins 9 are locking members or wrenches 17 having openings 18 and 19, the former spanning the heads 10 similar to an ordinary spanner wrench. These locking members or wrenches are provided with offset handles 20 and are employed for rotating the pins 9. To lock the members 17 and hold the same relative to the vertical flange 6, pins 21 are employed, these pins extending through the openings 19 in said locking members and openings 22 provided therefor in the flange 6, said pins being locked in the openings by cotter pins 23.

With the locking members upon the heads 10 of the pins 9, said pins can be rotated to turn the fastener members 13, whereby the ratchet or offset ends of said members will ride upon the beveled surface of the sockets 8 and force the splice bar 16 into engagement with the rails 3 and bind said rails against the splice bar 4.

In the modification of the invention shown in Figs. 6 to 10 inclusive, straps or plates 24 are used in lieu of the plate 1, said straps having outer curved ends 25 for holding an outer splice bar 26 against the rails 3, while the opposite ends of the straps are bent upwardly to provide vertical flanges 27 similar to the flange 6. Another type of

inner splice bar 16 is used, and the offset handles 20 of the locking members are dispensed with, otherwise, the remaining elements of the modified form of construction are identical with the preferred embodiments of the invention.

The modified form of construction has been particularly designed as a rail brace and fastener for the broken ends of a rail, while the preferred form of construction can be used as a connection for the confronting ends of two rails, similar to an ordinary rail joint.

Having now described my invention, what I claim as new, is:—

1. In a rail joint and fastener, the combination with rails, of plates adapted to support said rails, said plates having the outer ends thereof bracing the outer sides of said rails, said plates having the inner ends thereof provided with vertical flanges having beveled sockets, a splice bar bracing the inner sides of said rails, rotatable fastener members interposed between said vertical flanges and said splice bar and having beveled ends engaging in said beveled sockets, pins extending through said vertical flanges and connecting with said fastening members, locking members detachably mounted upon said pins for rotating said fastening members, and means for fixing said locking members relative to said vertical flanges.

2. In a rail joint and fastener, the combination with rails, of plates adapted to support said rails, said plates having the outer ends thereof bracing the outer sides of said rails, said plates having the inner ends thereof provided with vertical flanges, a splice bar bracing the inner sides of said rails, rotatable fastener members interposed between said vertical flanges and said splice bar, pins extending through said vertical flanges and connecting with said fastening members, locking members detachably mounted upon said pins for rotating said fastening members, and means for fixing said locking members relative to said vertical flanges, said means including pins adapted to extend through said locking members and said vertical flanges, and cotter pins mounted in the inner ends of said pins.

3. In a rail joint, the combination with rails, of a plate supporting said rails, said plate having the outer ends thereof bracing the outer sides of said rails, a vertical flange carried by the inner edge of said plate and having beveled sockets, a splice bar bracing the inner sides of said rails, fastener members rotatably mounted between said flange and said splice bar and provided with beveled ends engaging in said sockets, pins extending through said vertical flange and connecting with said fastener members, locking members detachably mounted upon said pins for rotating said fastener members, and means for fixing said locking members relative to said flange.

4. In a rail joint, the combination with rails, said plate having the outer edge thereof bracing the outer sides of said rails, a vertical flange carried by the inner edge of said plate, a splice bar bracing the inner sides of said rails, the confronting sides of said splice bar and said flange having sockets formed therein, fastener members rotatably mounted in said sockets for binding said splice bar against said rails, and means for adjusting said fastener members, said means including pins connected to said members, and locking members for rotating said pins.

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

HARRY H. MARKLAND.

Witnesses:
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MAX H. SROLOVITZ.