

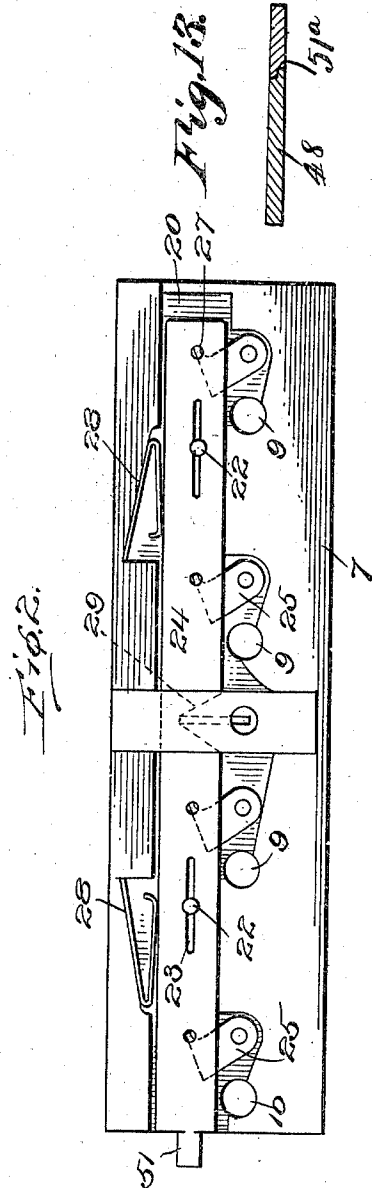
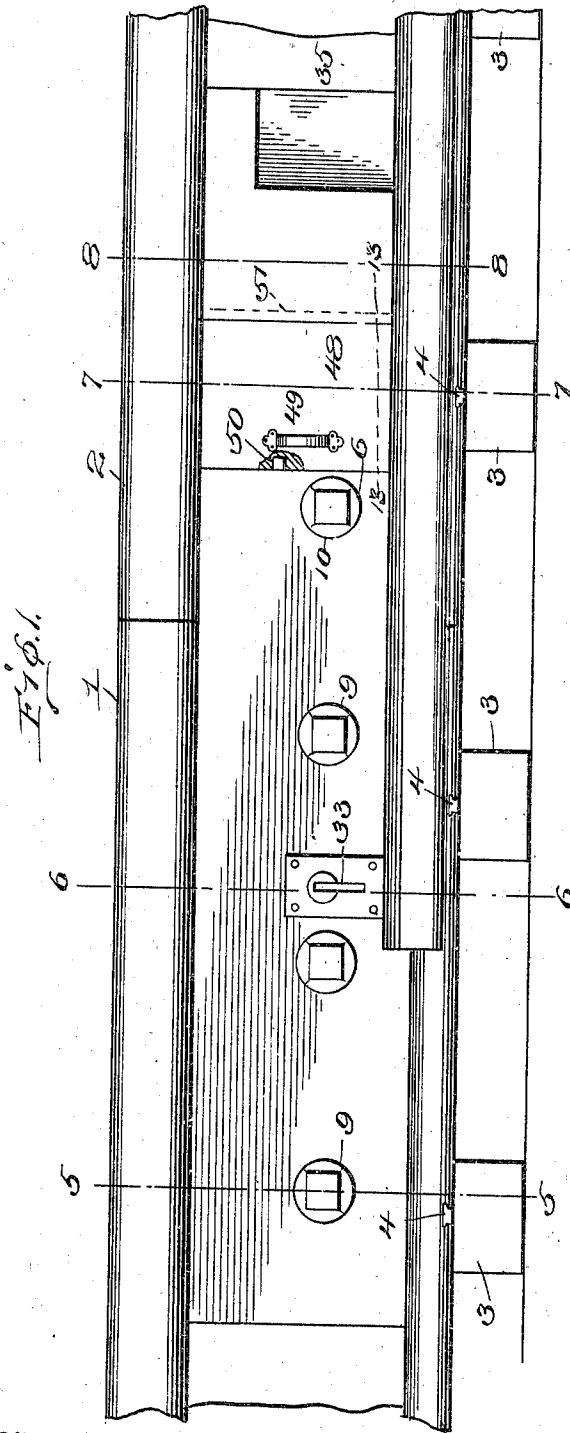
J. H. WILLIAMS & A. TORTORICE.
RAIL JOINT.

APPLICATION FILED JAN. 30, 1909.

Patented Mar. 8, 1910.

3 SHEETS—SHEET 1.

951,713.



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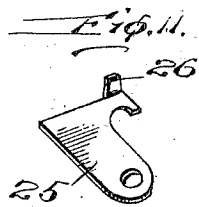
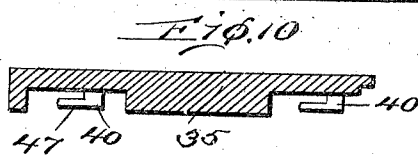
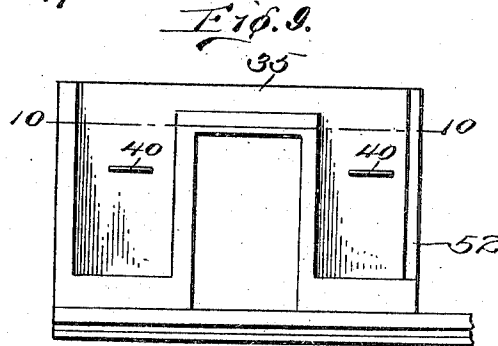
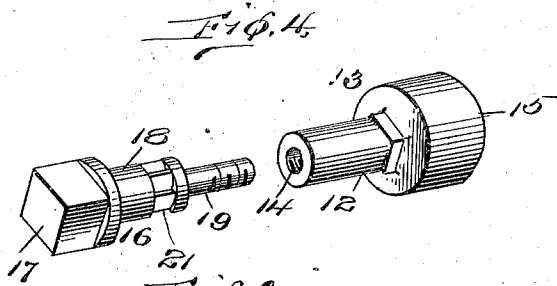
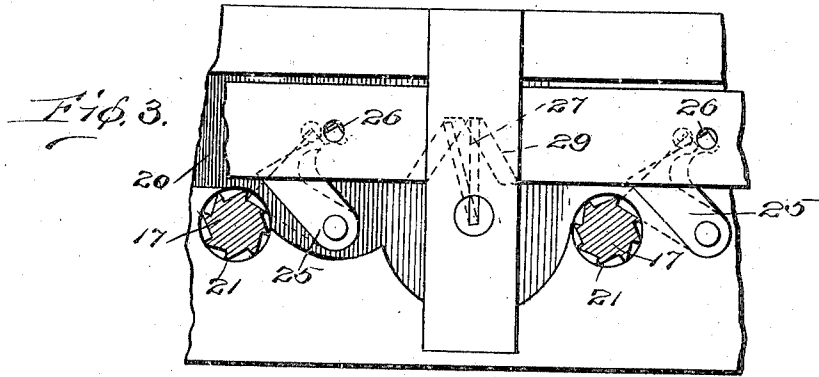
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3 SHEETS—SHEET 2.



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3 SHEETS—SHEET 3.

Fig. 5.

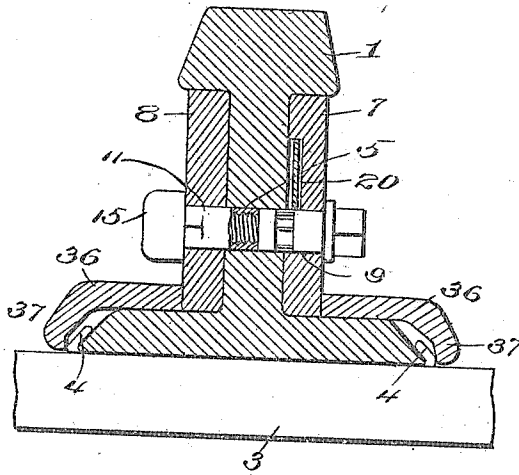


Fig. 6.

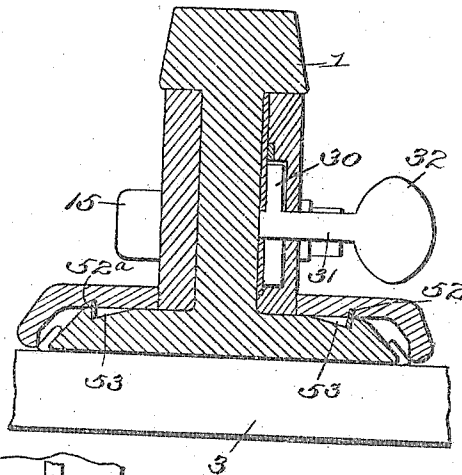


Fig. 12.

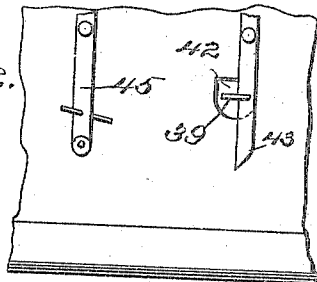


Fig. 7.

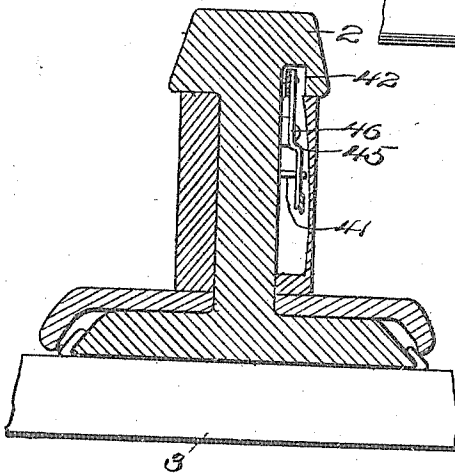
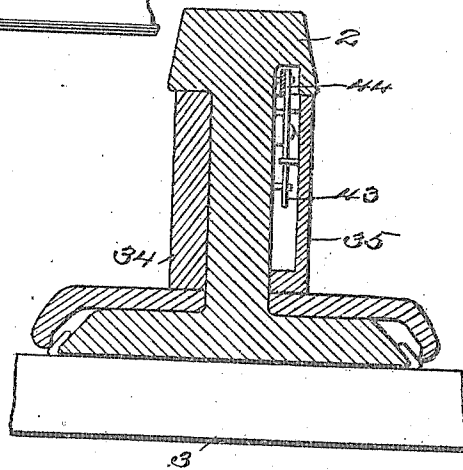


Fig. 8.



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UNITED STATES PATENT OFFICE.

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RAIL-JOINT.

951,713.

Specification of Letters Patent.

Patented Mar. 8, 1910.

Application filed January 30, 1909. Serial No. 475,184.

To all whom it may concern:

Be it known that we, JOHN H. WILLIAMS and ANTONINO TORTORICE, citizens of the United States, residing at Lutcher, in the parish of St. James and State of Louisiana, have invented new and useful Improvements in Rail-Joints, of which the following is a specification.

This invention relates to rail joints, and has for an object to provide a device of this character that can be applied to rail ends of the ordinary construction without materially changing the same, and to so arrange said means that the rail ends can be easily and quickly engaged with or disengaged from each other.

A further object of our invention is to provide key actuated means for holding the fish plate retaining bolts against displacement from the rail ends.

Other objects and advantages will be apparent as the nature of the invention is better set forth, and it will be understood that changes within the scope of the claims may be resorted to without departing from the spirit of the invention.

In the drawing, forming a portion of this specification and in which like numerals of reference indicate similar parts in the several views:—Figure 1 is a side view of the joint. Fig. 2 is a detail plan view of one of the fish plates looking toward the inner side thereof. Fig. 3 is a detail view similar to Fig. 2, showing the dotted and full line positions of the bolt engaging dogs. Fig. 4 is a detail perspective view of one of the bolts. Fig. 5 is a vertical section taken on the line 5—5 of Fig. 1. Fig. 6 is a vertical section taken on the line 6—6 of Fig. 1. Fig. 7 is a vertical section taken on the line 7—7 of Fig. 1. Fig. 8 is a vertical section taken on the line 8—8 of Fig. 1. Fig. 9 is a detail elevation of a portion of one of the locking members. Fig. 10 is a section taken on the line 10—10 of Fig. 9. Fig. 11 is a detail perspective view of one of the bolt engaging dogs. Fig. 12 is a detail side view of a portion of one of the rail ends. Fig. 13 is a detail section taken on the line 13—13 of Fig. 1.

Referring now more particularly to the drawings, there is shown rail ends 1 and 2 supported upon ties 3 of the usual or any

preferred form, and as clearly shown, the base flanges of the rail ends are secured to the ties by means of spikes 4 which may also be of the usual form.

The rail end 1 has formed therein in its web portions a series of horizontally disposed passages 5, and the rail end 2 is provided with a horizontally disposed passage 6 located directly in line with the passages 5 as clearly shown in Fig. 1 of the drawings. Fish plates 7 and 8 are located at the sides of the web portions of the rail end 1 and as shown, the plate 7 is provided with a series of horizontally disposed passages 9 located directly in line with the passages 5 formed in the rail end 1. The plate 7 is also provided with a passage 10 disposed in line with the passage 6 formed in the rail end 2. The plate 8 is provided with passages 11 located in line with the passages 5 and 6 and with the passages 9 and 10. The passages 11 formed in the plate 8 receive cylindrical portions 12 of bolt sections 13. The portions 12 are interiorly threaded as indicated at 14, and in order that the said sections can be conveniently manipulated we provide heads 15 at their outer extremities to be positioned outwardly of the plate 8 when the rail ends are in their operative positions. The passages 5 and 6, and the passages 9 and 10 receive bolt sections 16 provided with headed portions 17, inwardly extending cylindrical portions 18, and inwardly extending threaded stems 19 which are engaged in the interiorly threaded portions 14 of the bolt sections 13. The plate 7 is provided with a longitudinally extending recess 20, and the cylindrical portions 18 of the bolt sections 16 have formed therein annular series of ratchet teeth 21 located in line with the recess 20.

The fish plate 7 is provided with a plurality of inwardly directed horizontally disposed guide studs 22 which extend into the recess 20 and which are disposed in longitudinally extending slots 23 formed in a sliding plate 24. The plate 7 carries a plurality of pivotally mounted dogs 25 provided with horizontally disposed fingers 26 engaged in passages 27 formed in the sliding plate 24. To prevent casual movement of the plate 24, we provide the plate 7 with a plurality of leaf springs 28, one leaf of each spring being yieldingly engaged with the upper edge of

the plate 24 to hold said plate effectively against vibratory movement. Preferably midway between the ends of the plate 24 is formed a V-shaped notch 29 arranged to receive the wing 30 upon the shank 31 of a key 32. The plate 7 is provided with a key receiving passage 33 which when the dogs 25 are in an inoperative position is disposed directly in line with the notch 29. From the construction herein set forth and described, it is obvious that when the key 32 is properly positioned in the passage 33, the wing 30 will be positioned between the walls of the notch 29 so that the plate 24 can be moved in a longitudinal plane in order that the dogs 25 can be moved to lie partly into the passages 9 and 10, and by reason of the fact that the ratchet portions 21 of the bolt sections 16 lie in the recess 20 when the plates 7 and 8 are assembled, it will be readily appreciated that the sections 13 and 16 will be effectively held against rotation and consequently prevented from becoming displaced from each other, thus affording effective means for holding the plates 7 and 8 in a locked position until the plate 24 has been actuated by the engagement thereof with the key 32.

Supplemental locking members 34 and 35 are located at the sides of the rail end 2 and are provided with base flanges 36 having depending outer portions 37 that extend downwardly beside the outer edges of portions of the base flanges of the rail ends 1 and 2 and effectively house the headed ends of the fastening spikes 4 to effectively prevent their working loose as has been common heretofore in rail joints of the well known type. The rail end 2 is provided with a series of horizontally disposed passages 39 and the member 35 is provided with a corresponding number of horizontally disposed hooks 40 disposed in the passages 39. The member 34 is provided with a plurality of horizontally disposed hooks 41 that are also disposed in the passages 39 and preferably positioned beneath the hooks 40.

The rail end 2 has formed therein upon the under side of the tread flange a longitudinally extending recess 42, and as clearly indicated in Fig. 12 of the drawings the rail end 2 has pivotally mounted thereon a plurality of locking elements or dogs 43 pivotally connected at their upper ends to a bar 44 located in the recess 42. The bar 44 is loosely connected with an operating lever 45 pivoted at 46 to the rail end 2. The lever 45 is thus arranged in connection with the bar 44 so that the latter may be actuated to simultaneously operate the plurality of locking elements or dogs 43 in order that they can be effectively engaged with the bills 47 of the hooks 40 and 41.

In order to prevent tampering with the

operating lever 45, we provide a housing plate 48 provided with a handle 49, and this housing plate has formed therein at one end a passage 50 disposed directly in line with a bolt 51 at one end of the sliding plate 24. The housing plate is provided with a tongue 51^a to be engaged in a recessed portion 52 formed in the member 35. It will appear that upon operation of the sliding plate 24 so that the dogs 25 are engaged with the ratchet portions 21 of the bolt sections 16 the bolt 51 will be moved to the extent that it will be effectively engaged in the passage 50 at one end of the housing plate to prevent the same from becoming displaced.

In order to provide a more durable and stronger construction, we secure to the locking members 34 and 35 a plurality of depending strips or plates 52^a adapted to be seated in recesses 53 formed in the base flanges of the rail ends. This construction effectively prevents the locking members 34 and 35 from moving both longitudinally and laterally.

We claim:—

1. The combination with meeting rail ends, of plates at the sides of said ends, bolts engaged with said ends and with said plates, key actuated means having locking engagement with said bolts, members located at the sides of said rail ends disposed in line with said plates, hooks carried by said members, and means having locking engagement with said hooks.

2. The combination with meeting rail ends, of plates at the sides of said ends, bolts engaged with the plates and with the ends, means having locking engagement with the bolts, members at the sides of said ends, hooks carried by said members, means having locking engagement with said hooks, a lever for actuating said means, a housing strip disposed between one of said plates and one of said members for protecting said lever, and means for locking said housing strip between said member and said plate.

3. The combination with meeting rail ends, of plates located at the sides of said ends, bolts engaged with the rail ends and with the plates, said bolts being provided with ratchet portions, dogs having locking engagement with said ratchet portions, key actuated means for operating said dogs, members at the sides of one of said rail ends, and means having locking engagement with said members.

4. The combination with meeting rail ends, of plates at the sides of said ends, bolts engaged with said plates and with said ends, said bolts having ratchet portions, locking dogs carried by one of said plates adapted to engage the ratchet portions of said bolts, members at the sides of one of

said rail ends, means for locking said members to each other, a lever for actuating said means, a housing plate disposed between one of said first named plates and between one
5 of said members for covering said lever, and key actuated means for operating said dogs and for effecting locking engagement with said housing plate.

In testimony whereof we affix our signatures in presence of two witnesses.

JOHN H. WILLIAMS.

ANTONINO TORTORICE.

Witnesses:

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