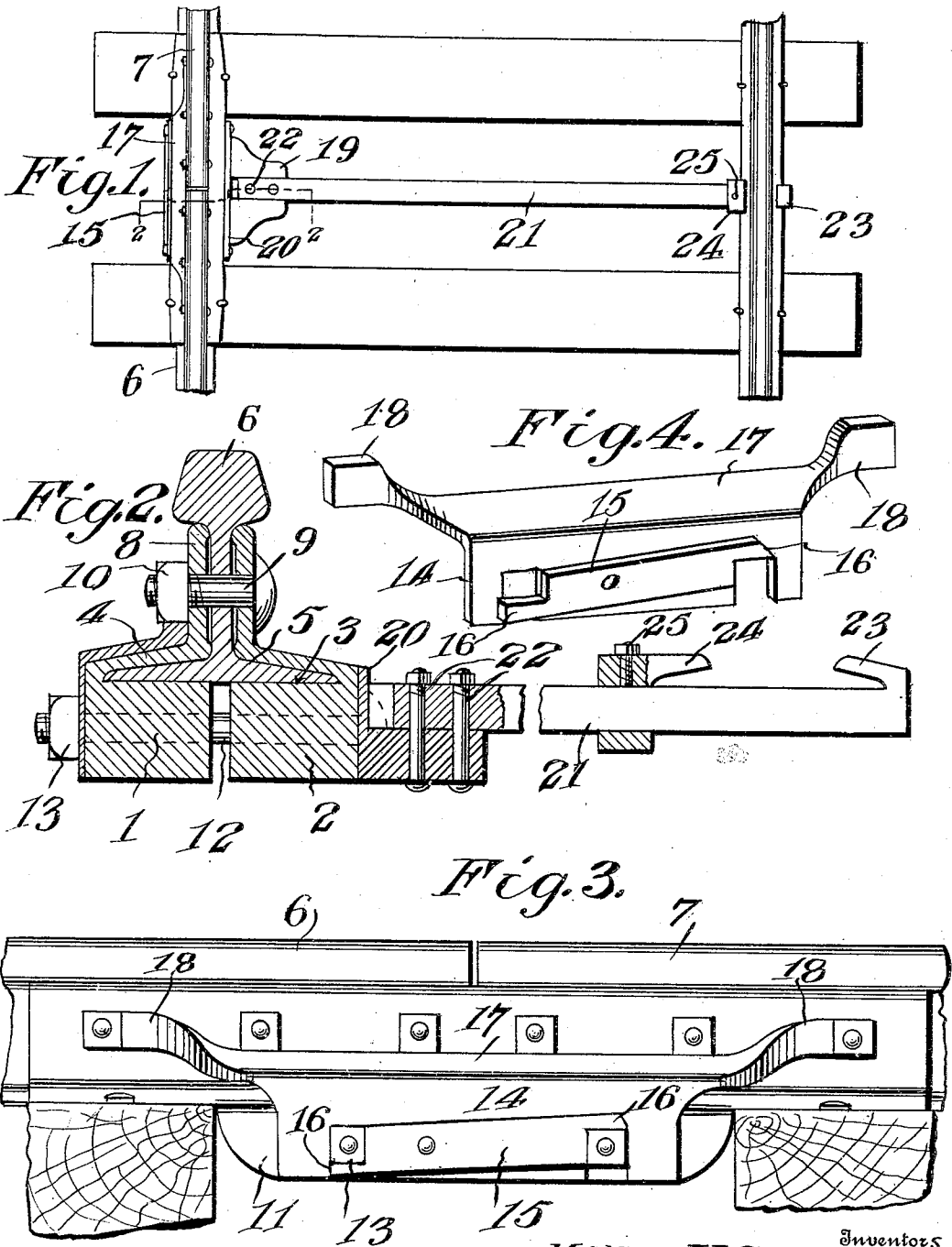


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RAIL JOINT AND TIE BAR AND NUT LOCK.

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Patented Oct. 26, 1909.



Witnesses:

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UNITED STATES PATENT OFFICE.

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ONE-FOURTH TO JOHN G. DUNCAN, OF KNOXVILLE, TENNESSEE.

RAIL-JOINT AND TIE-BAR AND NUT-LOCK.

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To all whom it may concern:

Be it known that we, CHARLES C. GROSS and MILTON K. GROSS, citizens of the United States, residing at Jacksboro, in the county of Campbell and State of Tennessee, have invented new and useful Improvements in Rail-Joints and Tie-Bars and Nut-Locks, of which the following is a specification.

This invention relates to combined rail joints and tie bars, and one of the objects of the invention is to provide a joint having structural features which will overcome the defects of ordinary joints as to noise and jar incident to car wheels passing thereover and loosening the bolts and the parts of the joint itself, thereby obviating damage to the rails and injury to the rolling stock, as well as inconvenience and jar to the traveling public.

A further object of the invention is to embody in a rail joint a construction which will so unite the rails as to make them practically continuous and to prevent depression of the joints occurring between the ties by the application to the under part of the contiguous ends of the rails of bracing means adapted to be easily disposed between the ties and readily accessible in the operation of applying the parts to the united rail ends, as well as in the disassociation of the rails.

A still further object of the invention is to provide a rail joint with a removable tie bar adapted to serve as a gage in spacing the rails and also provide effective means for preventing the spreading of the rails after the device has been applied.

With these and other objects in view the invention consists in the novel construction and arrangement of parts hereinafter fully described and claimed.

In the accompanying drawings, Figure 1 is a top plan view of the improvement illustrating the same in applied position. Fig. 2 is an enlarged sectional view upon the line 2—2 of Fig. 1. Fig. 3 is an elevation looking from the outer side of the contiguous meeting ends of the rails, illustrating the method of locking the rail connecting bolts. Fig. 4 is a detail perspective view of the bolt locking member.

Referring particularly to the rail connecting members the numeral 1 designates the outer member or splice bar and the numeral 2 the inner member or splice bar. These

members are precisely similar in construction each having a base flange 3 which is horizontally straight, and above the same is a downwardly inclined covering flange 4, integrally rising from the outer edge of the flange 3, the space between the two flanges being of such dimensions as to practically embrace one half of the base flanges 5 of rail sections 6 and 7. Rising from the inner terminal of the flange 4 is a fish or locking plate 8 adapted to extend the full length of the joint. The flanges 8 and the webs of the rail sections 6 and 7 are provided with alining openings adapted for the reception of retaining bolts 9 provided with securing nuts 10. Depending from the base flange 5 is an integrally formed brace block or enlargement 11. This block 11 is formed flush with the outer edges of the joint and is adapted to occupy a space equal to the distance between two of the rail ties. The base blocks are provided with alining openings adapted for the reception of bolts 12 having retaining heads 13. The nuts 13 are spaced a suitable distance apart and are positioned upon the splice bar having the nuts 10, and this member of the rail joint is also provided with a nut securing device 14. This device or member 14 comprises a vertical plate having cut away portions adapted for engagement with the nuts 13 and being provided with a swinging catch 15 having fingers 16 adapted to overlie one of the nuts 13 and underlie the opposite nut 13. The member 14 is provided with an offset flange adapted to underlie the nuts 10 and effectively prevent their rotation. The flange portion 17 of the device has its ends upturned to provide fingers 18, and these fingers are adapted to lie adjacent the sides of the outermost nuts 10. By this construction it will be noted that all the nuts employed with the device are effectively retained in locked position.

The member of the rail joint opposite the member provided with the nut locking device 14 is provided with a bracket member 19. This member 19 is provided with a vertical flange 20 having suitable openings adapted to be engaged by the bolt 12 by which the member is retained upon the rail joint. While the bracket member 19 is described as being formed separately from the joint, it is to be understood that the same

may be formed integrally therewith should it be desired. The bracket 19 is provided with a centrally arranged cut away portion or channel, and this channel is provided
 5 with suitable vertical openings adapted for alinement with similar openings provided upon a tie bar 21 and for the reception of
 10 suitable retaining elements 22 by which the bar is secured to the bracket. This bar 21 has its outer end provided with an up-
 15 turned inwardly projecting tongue 23, adapted to engage the base flange of the rail member opposite the rail joint. The tie bar 21 is also provided with a sliding securing
 20 clip or member 24 having an inclined lip adapted to engage the inner portion of the base flange of the rail. The clip 24 is provided with a suitable threaded aperture
 25 adapted for the reception of a threaded element 25, by which the clip may be retained in secured position upon the bar 21.

From the above description, taken in connection with the accompanying drawings, it will be noted that a device constructed in
 25 accordance with the present invention embodies features which effectively connect the contiguous meeting ends of a pair of rails and prevent the same from sagging as well
 30 as securely locking the nuts of the rail joints. The device also presents a substantial track gage whereby the rails may be positioned in proper spaced relation with
 35 each other and whereby the rails may be securely retained in said spaced position and the spreading of the rails entirely obviated.

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

1. In a device for the purpose set forth a pair of rail connecting members each comprising base flanges provided with base
 40 blocks adapted to ride adjacent to and between the ties of the rails, each of said connecting members being provided with an overlying flange and a vertical flange adapted
 45 to engage the webs and base flanges of the rails, one of the connecting members

having a projecting bracket provided with a plurality of spaced openings, a tie bar having one of its ends provided with spaced openings alining with the openings in the
 50 bracket, securing elements for the tie bar and the bracket, said tie bar having its opposite extremity provided with an upturned inwardly inclined extension, a slidable clip having an extending lip upon the tie bar,
 55 and a securing element for connecting the clip with the bar.

2. The combination with rail sections, of connecting members applied against the opposite sides of said contiguous sections and
 60 each having an upwardly projecting fish plate rising from an upwardly inclined covering flange integrally formed with a base flange, a base block projecting downwardly
 65 from the base flange, bolts for the base block and the vertical flanges and webs of the rails, nuts for the bolts, a nut locking member comprising a vertical plate having cut
 70 away portions engaging the nuts of the base block and having a flanged extension engaging the nuts of the vertical flange, said extension being provided with upturned fingers
 75 adapted to lie against the sides of the outermost nuts of the vertical flange, a swinging latch pivoted to the vertical plate and adapted to engage the sides of the nuts connecting
 80 the base blocks, one of said joint members being provided with a bracket, a tie bar secured to the bracket and having an upturned inwardly inclined extension
 85 adapted to engage the base flange of the opposite rail, and a clip having an extending lip and a retaining screw slidably mounted upon the tie bar.

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

CHARLES COSWELL GROSS.
 MILTON KELLY GROSS.

Witnesses:

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