No. 716,079. Patented Dec. 16, 1902.

E. B. MURRAY.

NUT LOCK FOR RAIL JOINTS.

(Application filed Mar. 15, 1902.)

(No Model.)

Fig. 1.

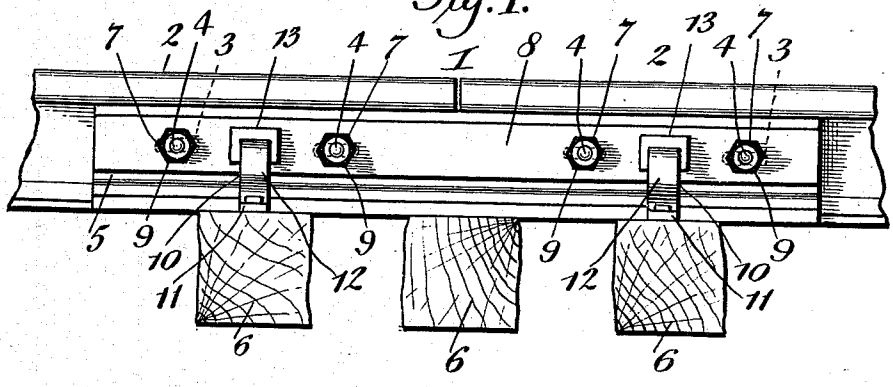


Fig. 2.

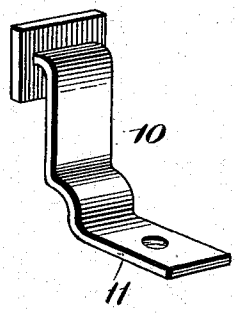


Fig. 3.

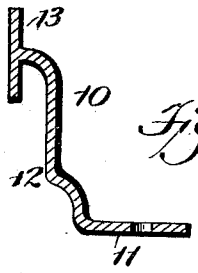
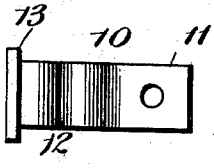


Fig. 4.



WITNESSES:

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NUT-LOCK FOR RAIL-JOINTS.

SPECIFICATION forming part of Letters Patent No. 716,079, dated December 16, 1902.

Application filed March 15, 1902. Serial No. 98,291. (No model.)

To all whom it may concern:

Be it known that I, EDWARD B. MURRAY, a citizen of the United States, residing at Jersey City, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Nut-Locks for Rail-Joints, of which the following is a specification.

This invention relates to nut-locks for railway-rail joints, and has for its object to provide an improved joint which will possess points of advantage in convenience, simplicity, inexpensiveness, and general efficiency.

Another object of my invention is to provide an improved joint which will be held firmly in place and not work loose, while permitting a limited amount of play vertically and longitudinally of the rails.

In the drawings, Figure 1 is a side elevation of a railway-rail joint embodying my improvement. Fig. 2 is a detailed perspective view of one of my improved fastening devices detached. Fig. 3 is a longitudinal sectional view of the same. Fig. 4 is a plan view of the same.

Corresponding parts in all the figures are denoted by the same reference characters.

Referring to the drawings, 1 designates the opposed ends of two rails 2, which have the usual elliptical openings 3 transversely through their webs to receive the bolts 4, securing the fish-bars 5. The joint is preferably over a tie 6, and the rails 2 are secured by fish-bars 5 and bolts 4 in the usual manner, the elliptical form of the openings 3 allowing a certain amount of play to the ends 1 of the rails. The bolts 4 are secured in the usual way by nuts 7, and when the nuts 7 have been screwed up tight they are locked against movement by a locking-bar 8. The bar 8 has as many spaced openings 9 as there are nuts 7 and of like shape, so that the bar 8 fits over the nuts 7. It is evident that when a train passes the ends 1 of the rails 2 will be depressed somewhat and that such depression will differ in degree for the ends 1 of the rails 2 as the wheels approach, cross, and pass from the joint. The rails 2 also move longitudinally to some extent, and it is therefore impossible to secure anything for holding the locking-bar in place on the nuts 7, to such locking-bar 8, and to one of the other parts of the joint. This difficulty is overcome and the locking-bar 8 held firmly in place by providing a device 10, which has one end secured to a tie 6 and extends over the flanges of the rails 2 and terminates in a relatively large flat surface and bears against the locking-bar 8, holding the latter in place, but permitting it to move freely. This device 10 is preferably a casting and is provided with a foot 11, adapted to rest on and be secured to a tie 6, a body portion 12, rising from the foot 11 and conforming substantially on its under surface to the upper surface of the lower flange of the rail 2 and of the lower part of the fish-bar 5, and a head 13, having a plane surface adapted to bear against the locking-bar 8.

The operation and advantages of my invention will be readily understood and appreciated.

The rails 2 being laid and their ends 1 secured by fish-bars 5 and bolts 4, the locking-bar 8 is placed with the spaced openings 9 over the nuts 7. The device 10 is now placed upon a tie 6 and its foot 11 secured thereto, with the body portion 12 extending up and over the lower flange of the rail 2 and lower portion of the fish-bar 5 and its head 13 bearing against the locking-bar 8. Under these conditions the ends 1 of the rails 2 may move vertically or longitudinally of the rails 2, causing more or less movement of the fish-bars 5, bolts 4, nuts 6, and locking-bar 8, but without affecting the relation of the locking-bar 8 to the nuts 6 or loosening the latter, since the device 10 will hold the locking-bar 8 in place, the head 13 sliding over the outer surface of the locking-bar 8 as it moves.

I do not desire to be understood as limiting myself to the details of construction and arrangement as herein described and illustrated, as it is manifest that variations and modifications may be made in the features of construction and arrangement in the adaptation of the device to various conditions of use without departing from the spirit and scope of my invention and improvements. I therefore reserve the right to all such variation and modification as properly fall within the scope of my invention and the terms of the following claims.

Having thus described my invention, I

claim and desire to secure by Letters Patent—

1. In an improved device of the class described, a locking-bar provided with openings adapted to receive nuts and to prevent any movement thereof, and a device supported independently of said bar and bearing slidably against said bar.

2. In an improved device of the class described, comprising ties, rails and fish-bars secured to said rails by bolts and nuts, a locking-bar fitting over the nuts to prevent movement thereof, and a device supported by a tie and bearing slidably against said bar.

3. In an improved device of the class described, comprising ties, rails and fish-bars secured to said rails by bolts and nuts, a locking-bar fitting over the nuts to prevent movement thereof; and a device provided with a foot secured to a tie, a body portion extending over the lower portions of the rail and fish-bar, and a head bearing slidably against the locking-bar.

4. In an improved device of the class described, comprising ties, rails and fish-bars secured to said rails by bolts and nuts, a locking-bar provided with spaced openings fitting over the nuts to prevent movement thereof; and a device provided with a foot secured to a tie, a body portion extending over the lower portions of the rail and fish-bar, and a head bearing slidably against the locking-bar.

5. In an improved device of the class described, comprising ties, rails and fish-bars secured to said rails by bolts and nuts, a locking-bar fitting over the nuts to prevent movement thereof; and a casting provided with a foot secured to a tie, a body portion extending over the lower portions of the rail and fish-bar, and a head having a flat surface bearing slidably against the locking-bar.

6. In an improved device of the class described, comprising ties, rails and fish-bars secured to said rails by bolts and nuts, a locking-bar provided with spaced openings the walls of which are formed complementary to the side faces of the nuts, and a device embodying a foot secured to a tie, a body portion extending over the base of the rail and lower portion of the fish-bar and a head having a relatively extended flat surface bearing slidably against the locking-bar.

In testimony whereof I have signed my name in the presence of the subscribing witnesses.

EDWARD B. MURRAY.

Witnesses:
HARTWELL P. HEATH,
JOHN M. HOCTOR.