

J. NELSON.
NUT-LOCK.

No. 177,416.

Patented May 16, 1876.

Fig. 1.

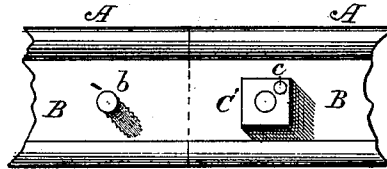


Fig. 2.

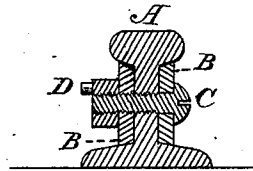


Fig. 3.

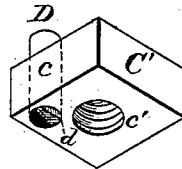


Fig. 4.



Attest:

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UNITED STATES PATENT OFFICE.

JOHN NELSON, OF ROCKFORD, ILLINOIS.

IMPROVEMENT IN NUT-LOCKS.

Specification forming part of Letters Patent No. **177,416**, dated May 16, 1876; application filed February 11, 1876.

To all whom it may concern:

Be it known that I, JOHN NELSON, of the town of Rockford, in the county of Winnebago, in the State of Illinois, have made certain Improvements in Nut-Locking Devices, of which the following is a specification:

The object of this invention is to introduce a cheap, effective, and secure means of retaining a screw-nut in its hold upon a screw-bolt, where sudden jars or continued concussions would tend to unscrew the nut, and thereby loosen the parts held together by the screw-bolt; and it consists in the construction and arrangement and of parts whereby the object is attained.

In the drawings the invention is shown applied to the joint in railroad-rails, but can be applied wherever a washer or forelock is used under the screw-nut and the nut is turned hard up against the washer.

Figure 1 represents a side view of two abutting ends of railroad-rails, and the invention applied; Fig. 2, an upright transverse section of same; Fig. 3, an enlarged view of the screw-nut; and Fig. 4 an enlarged view of the locking pin.

A A represent the common railroad-rails, that are to be held and secured together, having in each the ordinary slotted holes to receive the clamping-bolts. B B are the two ordinary fish-plates, with bolt-holes through them, to coincide with the slotted holes in the rails A, or so that the screw-bolts will pass through the holes in the two fish-plates and the slotted holes in the web of the rails. C is the screw-bolt, having a head upon one end and a screw-thread cut upon the other, and long enough to go through the fish-plates, the web part of the rail, and receive the screw-nut on its end. C' is the screw-nut, of ordinary construction, to be screwed upon the screw-bolt, by having the center opening *c'* with an internal or female screw-thread cut therein. *c* is a hole through the thickness of nut C' and near to one of its four corners, to receive a locking-pin. D is a steel locking-pin, a little longer than the nut C' is in thickness, and is, preferably, slightly curved, as seen in Fig. 4, by which curvature, when the pin is tempered and slightly less in diameter than the hole in the nut, it will keep its hold better in

the nut than when it is straight, and it can be drawn out easier, when necessary, than if straight and filling the hole. The inner end of this pin is made, as seen in Fig. 4, by having one side with a long bevel and the opposite side a short bevel, leaving a kind of blunt chisel-edge, *d*, as the extreme point. This edge or end *d* is tempered or hardened to be harder than the fish-plate.

In operation, the rails, fish-plates, screw-bolts, and nuts, are placed in the ordinary manner with relation to each other, and the screw-nuts turned onto the screw-bolts and hard against the fish-plates, and where they are to remain. The pin D is now driven into hole *c* in nut C', with the long beveled side to the right (if it is a right-hand screw-thread) until the edge *d* is driven slightly into the fish-plate B, as seen by indentation *b* in Fig. 1. The spring in the pin, by reason of its curvature, prevents its withdrawal, unless great force is used to so withdraw it, and securely holds the nut to the position, and any tendency to turn the nut to unscrew it would, by the shape of the edge of the pin, cause a groove to be cut in the fish-plate, accumulating the metal so cut forward of the chisel-edge *d*, which would pack the displaced metal between the nut and fish-plate or other surface, and stop the backward rotation of the nut as soon as it began. To successfully turn the nut back, the pin must first be withdrawn, so that the edge *d* shall be out of contact with the face of the fish-plate, when no resistance from the pin will result. Other forms of the edge of the locking-pin than the one shown and described can be used, but preference is given to the chisel-edge.

What I claim is—

1. The chisel-edged and bent locking-pin D, screw-nut C', having hole *c*, and screw-bolt C, in combination with plate B, substantially as and for the purpose described.

2. In a nut-locking device, the curved locking-pin D, having its holding end beveled to form a chisel-edge, as and for the purposes described.

JOHN NELSON.

Witnesses:

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J. MASON GOSZLER.