No. 753,273. PATENTED MAR. 1, 1904.

N. JAMISON.

NUT LOCK.

APPLICATION FILED FEB. 24, 1902.

NO MODEL.

Fig. 1.

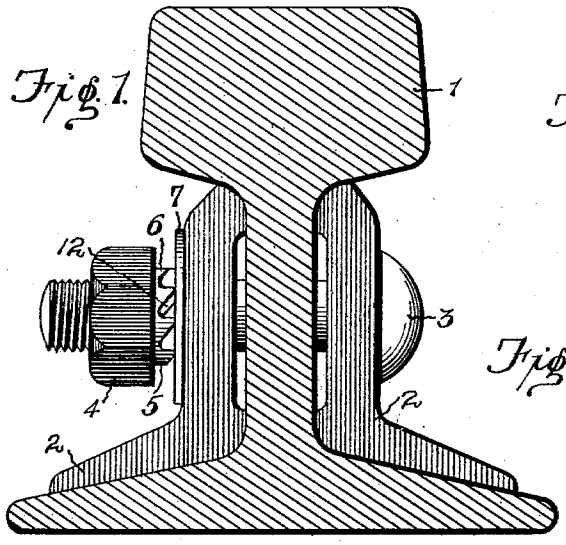

Fig. 3.

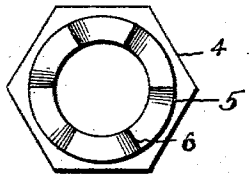

Fig. 2.

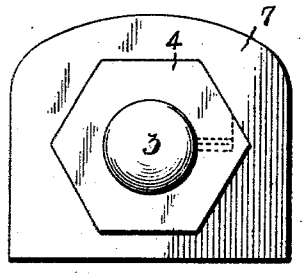

Fig. 4.

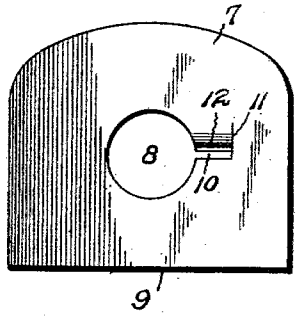

Fig. 5.

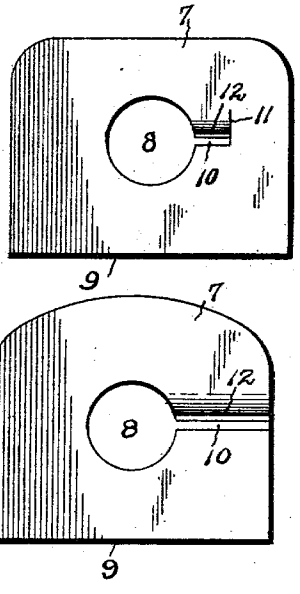

Fig. 6.

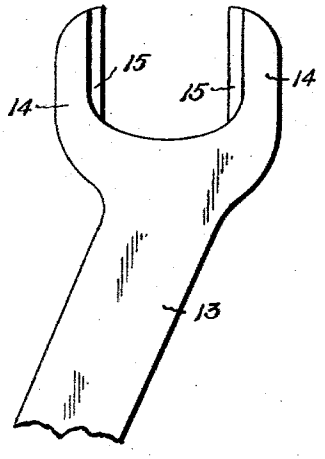

Fig. 7.

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No. 753,273. Patented March 1, 1904.

UNITED STATES PATENT OFFICE.

NEHEMIAH JAMISON, OF MANSFIELD, OHIO.

NUT-LOCK.

SPECIFICATION forming part of Letters Patent No. 753,273, dated March 1, 1904.

Application filed February 24, 1902. Serial No. 95,306. (No model.)

To all whom it may concern:

Be it known that I, NEHEMIAH JAMISON, a citizen of the United States of America, and a resident of Mansfield, county of Richland, and State of Ohio, have invented certain new and useful Improvements in Nut-Locks, of which the following is a specification.

This invention relates to nut-locks, and has for its object to provide a simple and improved device of this character for convenient application without altering or changing the bolt in any manner whatsoever and at the same time arrange to effectively lock the nut against accidental loosening.

It is furthermore designed to protect the locking engagement with the nut against blows from external objects and also to give convenient access to said locking engagement for facilitating the removal of the nut without damage thereto or to the bolt.

With these and other objects in view the present invention consists in the combination and arrangement of parts, as will be hereinafter more fully described, shown in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that changes in the form, proportion, size, and minor details may be made within the scope of the claims without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings, Figure 1 is a sectional view of a rail-joint, showing the device of the present invention applied to one of the nuts thereof. Fig. 2 is an elevation looking at the outer face of the nut. Fig. 3 is a rear elevation of the nut. Fig. 4 is a detail view of the washer. Fig. 5 is a detail view of a modified form of washer. Fig. 6 is a detail view of the implement for disengaging the washer from the nut. Fig. 7 is a detail view of another modified form of washer.

Like characters of reference designate corresponding parts in each and every figure of the drawings.

Although the present device is applicable in many relations, I have illustrated it as applied to a rail-joint, and upon reference to the drawings it will be seen that there has been shown an ordinary rail 1, having the usual type of fish-plates 2 applied to opposite sides thereof, with a bolt 3 piercing the fish-plates and the web of the rail in the usual manner. It will of course be understood that these members form no part of the present invention, and while conventional forms have been illustrated any other preferred form may be employed without affecting the spirit of the present invention.

In carrying out the present invention I employ a nut 4, which is provided upon its back face with a reduced tubular boss or extension 5, disposed concentrically with the threaded bolt-opening of the nut and having a smooth cylindrical exterior. The outer face of this boss is serrated or provided with ratchet-teeth 6 for coöperation with a spring-ratchet device for locking the nut. For coöperation with the nut there is a washer 7, preferably a flat metallic plate having a central opening 8 for the reception of a bolt. At least one edge of the plate—for instance, as indicated at 9—is made straight to bear against some part of the device to which it is applied, so as to prevent turning of the plate upon the bolt. In the present instance the straight edge 9 is at the bottom of the plate and engages the flange of the fish-plate. However, if desired, the upper edge of the plate may be extended into contact with the under side of the tread of the rail to accomplish the same purpose. A diametric slit 10 intersects the inner peripheral edge of the washer-plate and terminates short of the outer edge of the plate, as indicated in Figs. 4 and 5, while, as shown in Fig. 6, this slit may also intersect the outer edge of the plate. As indicated in Figs. 4 and 5, a slit 11 intersects the slit 10 at substantially right angles thereto, and the material of the plate within the angle of the two slits is bent laterally outward to form a spring-tongue 12.

In employing the present device the washer or plate is first placed upon the bolt with the spring-tongue 12 upon the outer face of the plate, after which the nut is fitted to the bolt and screwed up against the plate, whereby the spring-tongue rides over the teeth or serrations of the boss 5 and eventually locks the nut against accidental turning.

A very important advantage of the present device will here be noted by reference to Fig. 2 of the drawings, wherein it will be noted that the spring-tongue does not project beyond the periphery of the nut, and is thereby protected from blows by external objects.

For convenience in removing the nut I provide an implement in the form of a spanner-wrench (indicated at 13) and having a pair of jaws 14, adapted to straddle the nut and provided upon their inner faces with ribs 15 to embrace the boss of the nut and lie in the space between the back of the nut and the washer-plate. One of the ribs 15 is tapered to provide means for gradually forcing the tongue 12 out of engagement with the boss and into a position flush with the washer-plate, so as to permit of the nut being backed away from the plate without interference by the tongue.

It will here be noted that although the boss 5 may be set up tight against the washer and prevent further tightening of the nut the spring-tongue 11 will still be projected in front of the washer and can be forced back into the washer, so as to permit removal of the nut. This is a very important feature of the present invention, as it permits of the convenient removal of the nut no matter how tight it may be set up against the washer.

Having thus described the invention, what is claimed, and desired to be secured by Letters Patent, is—

1. A nut-lock embodying a nut having a concentric tubular boss upon the back thereof, the outer end of the boss being provided with ratchet-teeth, and a non-rotatable washer having a spring-tongue bent therefrom and disposed for engagement by the teeth of the nut, the boss forming a spacing device to maintain a space between the washer and the body of the nut to permit of the reception of an implement for springing the tongue out of engagement with the ratchet-teeth.

2. A nut-lock embodying a nut having a concentric tubular boss upon the back thereof, the outer end of the boss being provided with ratchet-teeth, and a non-rotatable washer having a bolt-opening and provided with a substantially radial slit intersecting the edge of the bolt-opening and another slit intersecting the radial slit, that portion of the washer in the angle between the two slits being bent outwardly to form a spring-tongue for engagement with the ratchet-teeth of the nut.

3. A nut-lock embodying a nut having a cylindrical concentric tubular boss upon the back thereof, the outer end of the boss being provided with ratchet-teeth, and a washer having one edge formed to bear against a stationary member and prevent rotation thereof, said washer also having a bolt-opening, a substantially radial slit intersecting said opening and another slit intersecting the radial slit, that portion of the washer in the angle between the two slits being bent out to form a spring-tongue for engagement with the ratchet-teeth of the nut, the spring-tongue being of a width to lie within the external periphery of the nut.

Signed at Mansfield this 20th day of January, 1902.

NEHEMIAH JAMISON.

Witnesses:

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