

No. 831,747.

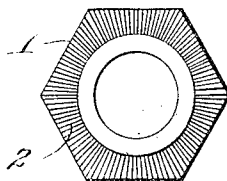
PATENTED SEPT. 25, 1906.

O. J. RUSSELL.

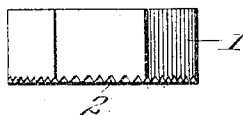
NUT LOCK.

APPLICATION FILED NOV. 18, 1905.

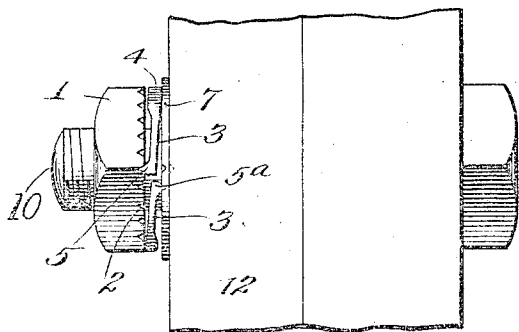
*Fig. 2.*



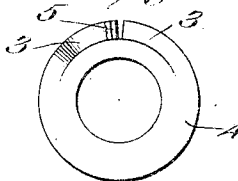
*Fig. 3.*



*Fig. 1.*



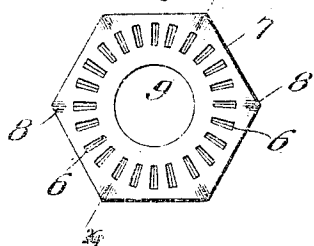
*Fig. 4.*



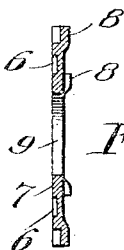
*Fig. 5.*



*Fig. 6.*



*Fig. 7.*



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# UNITED STATES PATENT OFFICE.

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## NUT-LOCK.

No. 831,747.

Specification of Letters Patent.

Patented Sept. 25, 1906.

Application filed November 18, 1905. Serial No. 288,005.

*To all whom it may concern:*

Be it known that I, OREN J. RUSSELL, a citizen of the United States, residing at Portsmouth, in the county of Scioto and State of Ohio, have invented certain new and useful Improvements in Nut-Locks; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to nut-locks; and its object is to provide means whereby a nut can be positively held against rotation. The invention consists of a nut having a series of beveled teeth radiating from the center thereof and adapted to engage a lug formed on a spring-washer adapted to be interposed between the nut and the object against which the nut is adapted to be screwed.

The invention also consists of a base-plate having a series of notches therein adapted to receive a lug on the spring-washer, said base-plate having projections for engaging the surface with which it contacts.

The invention also consists of the further novel features of construction and combination of parts, the preferred form whereof will be hereinafter more fully set forth, and pointed out in the claims.

In the accompanying drawings I have shown the preferred form of my invention.

In said drawings, Figure 1 is a view showing the nut-lock used upon a bolt connecting two wooden elements. Fig. 2 is an inner elevation of the nut. Fig. 3 is a side elevation thereof. Figs. 4 and 5 are plan and edge views, respectively, of the spring-washer. Fig. 6 is a face view of the base-plate, and Fig. 7 is a section on line *xx*, Fig. 6.

Referring to the figures by numerals of reference, 1 is a nut, having a series of grooves 2 in one face which radiate from the center of said face and are adapted to be successively engaged by a lug 5, carried by one of the spring-arms 3, extending from one face of a washer 4. Another spring-arm 3, having a lug 5<sup>a</sup>, extends downward from the washer, and said arms preferably extend about one-half the width of the washer, as shown particularly in Fig. 5, and are formed by slitting the washer and disposing the free end of one arm at one side of the washer and the other arm at the opposite

side of said washer, said arms being preferably thinner than the remainder of the washer to lend additional resiliency thereto. The lug 5<sup>a</sup> is adapted to engage any one of a series of notches 6, which are formed in one face of a base-plate 7, said notches radiating from the center of the plate and the corners of said plate being offset to form lugs 8. It will of course be understood that the base-plate 7 has a central opening 9 therein for the reception of a bolt 10.

In using this nut-lock upon a bolt for connecting metallic devices the bolt is disposed through the metal parts and the washer 4 interposed between the nut and the metallic devices, and by turning the nut in one direction the lug 5 will successively engage the recesses or grooves 2 and the other lug 5<sup>a</sup> will bite into the metallic parts or a groove formed therein in the path of the lug 5<sup>a</sup>, (not shown,) and therefore hold the nut securely against rotation.

Where the nut-lock is used upon a bolt which extends through a wooden element, as shown at 12 in Fig. 1, I utilize the base-plate 7, because when the nut is tightened the lug 5<sup>a</sup> of washer 4 will project into one of the grooves 6 and the lugs 8 will be forced into the wood. It will thus be seen that the nut will be held against casual rotation. The nut may, however, be removed by placing a wrench thereon and turning said nut backward, the arms 3 being sufficiently resilient to permit the lugs to move from groove to groove when the nut is rotated by force, although said arms are sufficiently rigid to hold said nut against rotation under normal conditions.

It will be seen that the entire nut-lock is very simple and inexpensive in construction and that it consists of but three parts, which when assembled constitute an efficient means for preventing the unscrewing of a nut after the same has been tightened upon a bolt.

What I claim is—

1. In a nut-lock, the combination with a spring-washer having slits therein and oppositely-extending arms formed integral with the washer by said slits, said arms being of less width than the washer, a lug at the free end of each of said arms; of a nut having radiating grooves in one face thereof, one of said lugs being adapted to be seated in any one of the grooves, and a base-plate having

radiating grooves therein adapted to be engaged by the other lug, said plate having offset portions constituting lugs for engaging the object against which it is forced.

- 5 2. The combination with a bolt; of a base-plate surrounding the bolt and having radiating grooves therein, said plate having offset portions constituting lugs for engaging the object through which the bolt is adapted  
10 to extend, a nut upon the bolt having radiating grooves in one face, a spring-washer interposed between the plate and nut and surrounding the bolt, said washer being slit to

form oppositely-extending arms, and a lug secured to each of said arms adapted to be 15 respectively seated within the grooves of the nut and base-plate, said arms being of less width than the washer.

In testimony whereof I have signed my name to this specification in the presence of 20 two subscribing witnesses.

OREN J. RUSSELL

Witnesses:

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JOHN W. BENNETT.