M. BARTLEY.

NUT LOCK.

APPLICATION FILED MAY 10, 1910.

**982,118.** Patented Jan. 17, 1911.

Fig. 1.

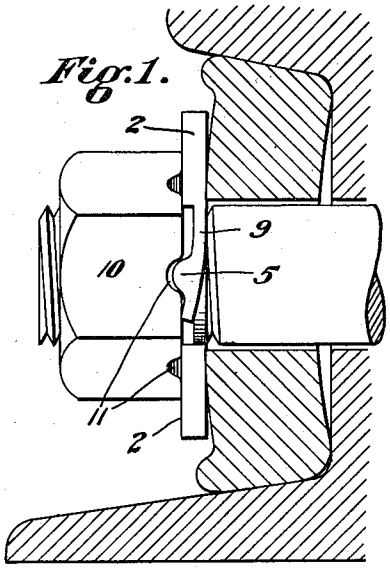



Fig. 2.

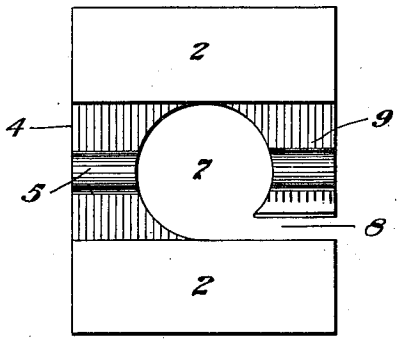



Fig. 4.

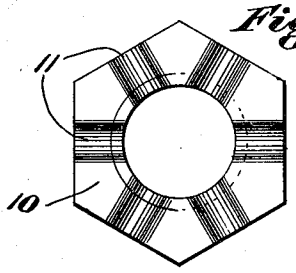



Fig. 3.

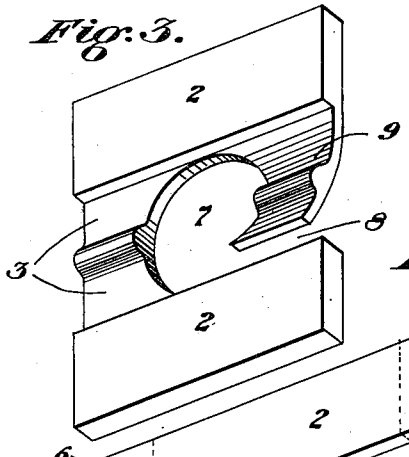
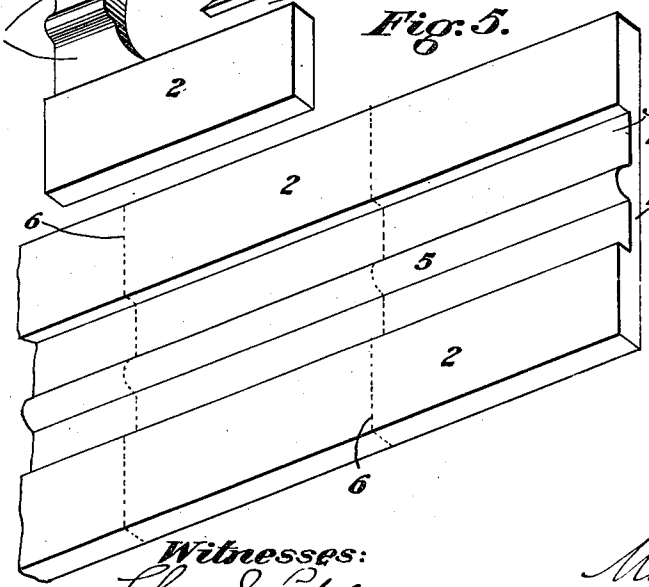



Fig. 5.



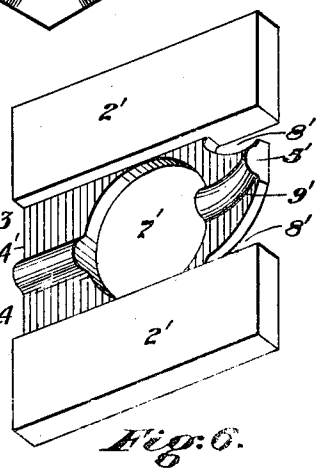




Fig. 6.

Witnesses:
Chas. S. Tipley.
Henry Senk.

Inventor:
Milton Bartley
by C. M. Clark
his attorney

# UNITED STATES PATENT OFFICE.

MILTON BARTLEY, OF PITTSBURG, PENNSYLVANIA.

## NUT-LOCK.

982,118. Specification of Letters Patent. Patented Jan. 17, 1911.

Application filed May 10, 1910. Serial No. 560,418.

*To all whom it may concern:*

Be it known that I, MILTON BARTLEY, a citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Nut-Locks, of which the following is a specification, reference being had therein to the accompanying drawing.

My invention relates to improvements in nut locks and consists of an especially constructed washer plate cut from a rolled blank in suitable sections for the use intended, the blank having a centrally depressed rolled portion adapted to be punched out for the passage of the bolt, and partially severed and bent up, providing a spring tongue having a projecting rib adapted to engage one of a series of radial grooves on the under side of the nut.

The invention is designed to provide a nut lock which may be economically manufactured and which will positively engage and hold the nut against accidental rotation on the bolt, while permitting of forcible turning in either direction for tightening or loosening.

The device is constructed and adapted to operate in the manner more fully hereinafter described.

In the drawings:—Figure 1 is a partial sectional view through a portion of a rail and fish plate, showing the application of my improved nut lock to a bolt and nut. Fig. 2 is a view of the locking washer in front elevation, ready for application. Fig. 3 is a perspective view of the device. Fig. 4 is an under plan view of a nut adapted for use with the locking device. Fig. 5 is a perspective view of a portion of a rolled blank from which the locking washers are made. Fig. 6 is a perspective view of a modified construction of lock.

In carrying out my invention, I first roll a blank in any suitable length as indicated in Fig. 5, said blank being of the proper width to form two sides of the lock which is generally rectangular in form. Said blank is of a suitable thickness along each side, say 5/32 of an inch, to insure ample strength and bearing support for the face of the nut, as indicated at 2, 2. The middle portion of the blank is depressed along one face as indicated at 3, providing a middle reduced web section 4 of say 1/16 of an inch thickness. Upon the face of said intermediate portion 4 and arranged centrally thereof on the same side as the projecting portions of sides 2, 2, is a rib or bead 5 extending upwardly from the face of the thin web portion 4 to about the level of the faces of sides 2. The blank as thus rolled is cut into suitable lengths on the dotted lines 6 and each severed piece is then punched out at its middle portion to provide the bolt hole or opening 7. The intervening thin web portion 4 is then partially severed longitudinally of the blank along the inner edge of one of the reinforced sides 2, as indicated at 8, and said partially severed portion is then bent upwardly as clearly indicated in Fig. 3, forming a spring tongue 9, whereby the rib 5 projects beyond the faces of sides 2, as clearly shown. The entire piece if desired, or merely the tongue 9 is then tempered by any suitable means so as to give it the necessary resiliency and strength, when it is ready for use.

In applying the device, it is set over the threaded end of the bolt in the manner of a washer. The nut 10 having on its under side a series of radial grooves 11, is then screwed upon the bolt and upon its inner face coming into contact with the rib 5 of tongue 9, the same will be depressed until the nut is firmly seated against faces of sides 2, the tongue 9 being pressed backwardly and its rib 5 entering each of the grooves 11 as the nut is rotated. Upon being finally screwed up tight, with the rib 5 of the tongue 9 inserted in one of the grooves 11, the nut will be positively held against accidental rotation in either direction, while, due to the rounded faces of the grooves and the engaging rib, the nut may be forced in either direction to further tighten or loosen. By the use of the blank as thus rolled, it will be seen that I provide in a single integral piece, sheared from said blank, a washer which when punched, shaped and tempered as above described, provides a serviceable, simple and useful lock, having the necessary holding power at very low cost.

In Fig. 6 I show a construction in which the thin middle web portion 4′ is partially severed from the sides 2′, 2′, backwardly toward the hole 7′ from one end, as indicated at 8′. Such partially severed portion with its integral rib is then bent upwardly

as shown, forming a spring tongue 9′ which engages the nut in the same manner generally as above described.

It will be understood that the device may be made in different proportions or designs and adapted to a great variety of applications, and will be found to fulfill the conditions of a nut lock in a very successful manner.

What I claim is:—

1. A nut lock consisting of a flat metallic body portion having a middle transverse reduced web provided with a projecting rib, said web having a bolt hole and being partly severed from the body portion and bent outwardly beyond the plane thereof to provide a resilient locking tongue, substantially as set forth.

2. A nut lock consisting of a rolled section of metal having a middle reduced web provided with a central rounded rib, said blank being punched out at its middle portion, said web being partly severed from the sides of the section at one side of the bolt hole and pressed outwardly to provide a resilient tongue, substantially as set forth.

3. A nut lock consisting of a rolled section of metal having a middle reduced web provided with a central rounded rib, said blank being punched out at its middle portion, said web being partly severed from the sides of the section at one side of the bolt hole and pressed outwardly to provide a resilient tongue, and tempered, substantially as set forth.

4. The combination with a bolt and a member to be secured thereby, of a nut lock consisting of a rolled section of metal having a middle reduced web provided with a central rounded rib, said blank being punched out at its central portion, said web being partly severed from the sides of the section at one side of the bolt hole and pressed outwardly to provide a resilient tongue, and a nut having radial grooves on its inner face adapted to be engaged by said tongue, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

MILTON BARTLEY.

Witnesses:
C. M. Clarke,
Chas. S. Lepley.