M. BARTLEY.

NUT LOCK.

APPLICATION FILED MAY 10, 1910.

982,223. Patented Jan. 17, 1911.

Fig. 1.

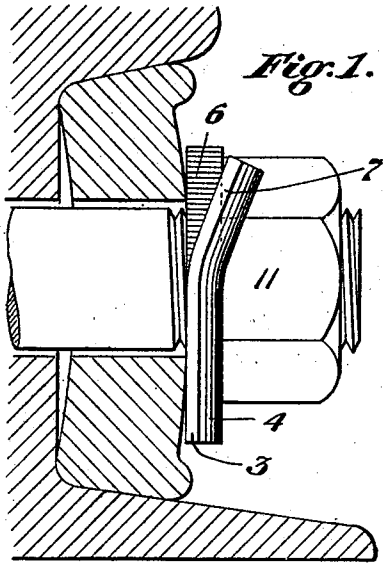


Fig. 2.

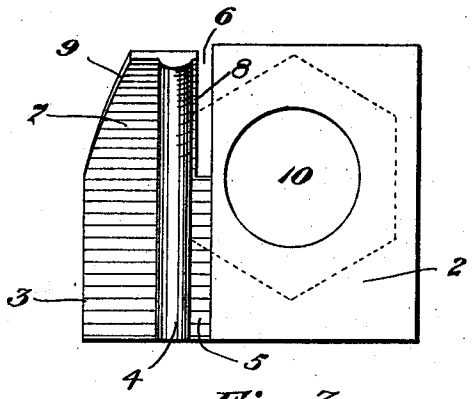


Fig. 3.

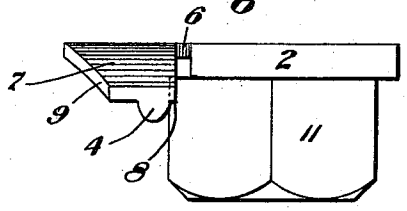


Fig. 4.

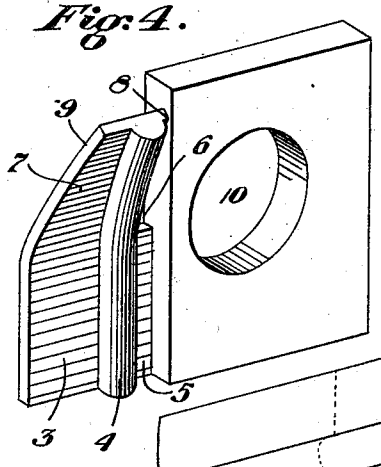
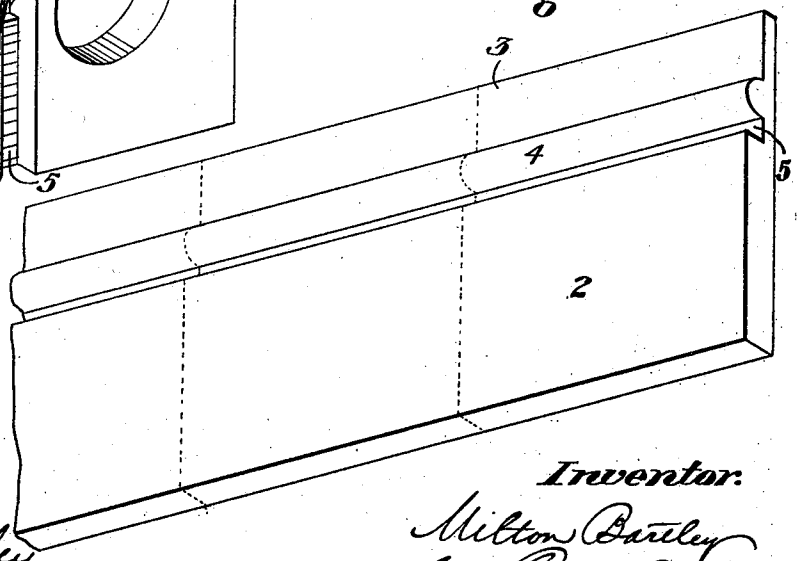


Fig. 5.



Witnesses:

Chas. S. Tupley.

Henry Sims.

Inventor:

Milton Bartley

by C. M. Clarke

his Attorney.

UNITED STATES PATENT OFFICE.

MILTON BARTLEY, OF PITTSBURG, PENNSYLVANIA.

NUT-LOCK.

982,223. Specification of Letters Patent. **Patented Jan. 17, 1911.**

Application filed May 10, 1910. Serial No. 560,419.

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 main rolled body portion adapted to be punched out for passage of the bolt and a lateral thinner edge portion and rib adapted to be severed and bent up, providing a spring tongue adapted to engage the edge 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 indicating the position of the nut in dotted lines. Fig. 3 is a plan view of Fig. 2. Fig. 4 is a perspective view of the device. Fig. 5 is a perspective view of a portion of a rolled blank from which the locking washers are made.

In carrying out my invention, I first roll a blank of a suitable thickness, 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 consists of a main body portion 2 of uniform thickness, say $\frac{5}{32}$ of an inch, adapted to be punched out for the passage of the bolt, having at one edge a depressed or thinner portion 3 of say $\frac{1}{16}$ of an inch thickness, and an intervening outwardly projecting rib or bead 4 of substantially the same thickness as body portion 2, located beyond the central portion of thickened part 2 a sufficient distance to aline with the straight side of the nut in the finished article. An intervening thin web 5 connects rib 4 with main body portion 2, said web being also about $\frac{1}{16}$ inch thick and about $\frac{3}{16}$ inch wide. The blank as thus formed, is designed to be cut in sections of suitable length and then partly severed along somewhat close to the inner edge of rib 4, by cutting out part of web 5, as indicated at 6 and bent up, providing a spring tongue 7 with the rounded rib at its inner portion.

In severing the tongue from the main blank a portion of the thin web 5 of say $\frac{1}{16}$ inch in width is left, projecting inwardly from the rib and providing a limiting ledge 8 which will always come upwardly into contact with the under side of the nut and prevent the tongue from springing up too far. The advantage of this feature is that the edge of the nut thereby retains the tongue against undue outward travel and is free to act against the rounded rib 4 to depress it in unlocking, and is never positively prevented from unscrewing by the inner severed edge springing up too far.

The corner of the severed blank is preferably cut off as indicated at 9 to provide a narrowing terminal to assist resiliency and the blank is punched as at 10 for the bolt. When thus formed, the entire piece if desired, or merely the tongue 7 and its rib may be then tempered by any suitable means so as to give it the necessary resiliency and strength, when it is ready for use.

When applying the device, it is set over the threaded end of the bolt in the manner of a washer; the nut 11 is then screwed upon the threaded end of the bolt, its corners riding over and depressing the free portion of the rib 4 of tongue 7 until the nut is securely screwed down tight. The rib and tongue will spring up behind each face of the nut as limited by ledge 8 and will securely hold it in position against accidental rotation in either direction, while the nut may be reversed or further tightened by the use of sufficient force. 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.

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 fulfil 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 bolt hole and a lateral partly severed outwardly bent resilient locking tongue having an outwardly extending portion adapted to engage the side of the nut and a laterally extending portion adapted to be engaged by and to bear outwardly by spring pressure against the under side of the nut, substantially as set forth.

2. A nut lock consisting of a flat metallic body portion having a bolt hole and a lateral partly severed outwardly bent resilient locking tongue having a rounded rib, and an inwardly extending limiting ledge, substantially as set forth.

3. A nut lock consisting of a rolled section of metal having a main body portion of uniform thickness punched out at its central portion, an edge portion of reduced thickness with an intervening projecting rib, said edge portion and rib being partly severed from the blank between the rib and the main body portion and bent outwardly to provide a resilient tongue, substantially as set forth.

4. A nut lock consisting of a rolled section of metal having a main body portion of uniform thickness punched out at its central portion, an edge portion of reduced thickness with an intervening projecting rib, said edge portion and rib being partly severed from the blank between the rib and the main body portion and bent outwardly to provide a resilient tongue and tempered, substantially as set forth.

5. A nut lock consisting of a rolled section of metal having a main body portion of uniform thickness punched out at its central portion, an edge portion of reduced thickness with an intervening projecting rib connected with the main body portion by a reduced web, said edge portion and rib and a portion of said web providing a bearing ledge being partly severed from the blank and bent outwardly to provide a resilient tongue, substantially as set forth.

6. 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 main body portion of uniform thickness punched out at its central portion, and edge portion of reduced thickness with an intervening projecting rib, said edge portion and rib being partly severed from the blank between the rib and the main body portion and bent outwardly to provide a resilient tongue, and a nut, 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.