

(No Model.)

W. J. McTIGHE.

NUT LOCK.

No. 334,790.

Patented Jan. 26, 1886.

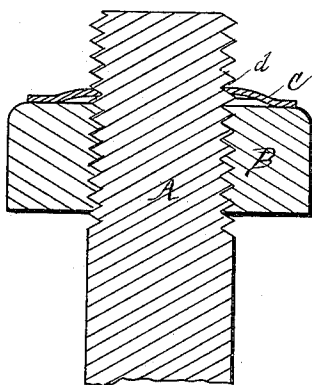


Fig. 1.

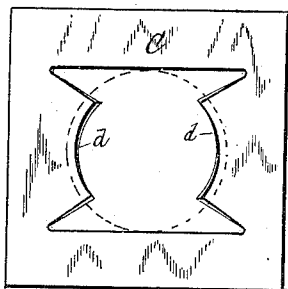
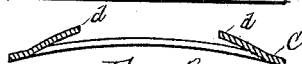


Fig. 2.

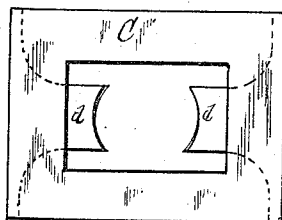
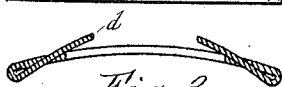


Fig. 3.

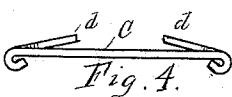


Fig. 4.

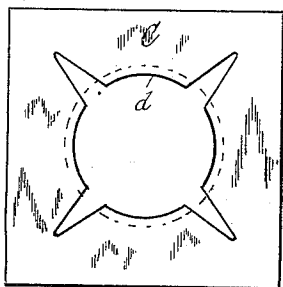


Fig. 5.

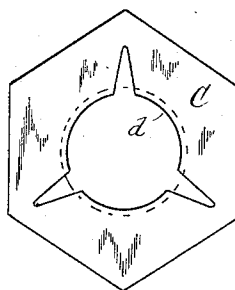


Fig. 6.

Witnesses
N. A. Connolly
J. L. Mildman

Inventor
Wm. J. McTighe
By
Connolly Bros & McTighe attys

UNITED STATES PATENT OFFICE.

WILLIAM JOSEPH MCTIGHE, OF PITTSBURG, PENNSYLVANIA.

NUT-LOCK.

SPECIFICATION forming part of Letters Patent No. 334,790, dated January 26, 1886.

Application filed March 14, 1885. Serial No. 158,827. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM J. MCTIGHE, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Nut-Locks; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

This invention has relation to an improved form of nut-lock, and belongs to that general class which are in the nature of a follower applied to the bolt after the nut has been screwed home.

The invention consists in a plate, preferably of elastic metal, having a central aperture for the reception of the bolt, and one or more inwardly-projecting tongues adapted to take final position on the bolt only by screwing down thereon, whereby the tongues are forced to grip the bolt, as hereinafter fully described and claimed.

My improved nut-lock may be made in various forms, all of which, however, will be seen to be based on the same general plan of grip, and differ only in shape.

The simplest form is shown by Figure 1, which is a longitudinal section of a bolt and nut with my improved lock applied. Fig. 2 is a plan and edge view of the same form of lock. Fig. 3 is a plan and edge view of a modification. Fig. 4 is an edge view of another form. Figs. 5 and 6 are plan views of further modifications.

A is the bolt, and B the nut applied thereto.

I stamp, punch, or otherwise shape out a square, hexagonal, or other shaped locking-plate, C, having a central opening; but I cut it with one or more tongues, *d*, having concave inner edges whose general radius is smaller than the outer thread-radius of the bolt A.

Tongues *d* are then shaped up so as to rise somewhat above the plane of the plate C, and by preference their inner edges are canted slightly to conform with the bolt-threads. Thus shaped the plate C will not pass onto bolt A, except by treating it as a nut and screwing it on by means of the tongues *d*. As the plate C is screwed down, it meets the face

of nut B, and can itself go no farther; but the tongues *d*, being more or less elastic, being preferably made of spring-steel, can be forced along the threaded portion of the bolt in a tightening direction, and act in a manner similar to a toggle-lever, so as to have their edges pressed against the bolt with great firmness. The action then is to hold the nut tight on the bolt so long as the plate C does not turn to loosen; but this cannot take place, because of the relation of the tongues *d* and plate C with the bolt and nut. The pressure exerted by the elastic tongues *d* is practically at right angles to the direction necessary to turn the plate, just as in the case of a worm and worm-wheel, and in a properly-constructed worm and wheel the latter is rigidly locked against movement, except by rotating the worm. At the same time the construction permits of the ready withdrawal of the plate C by simply unscrewing it, without injuring it or the bolt in any manner. It is easily made, cheap, and very efficient, and can be applied and withdrawn repeatedly without injuring either the lock or bolt.

In Fig. 3 the plate C has its tongues *d* bent in under and projecting upwardly through its central aperture.

In Fig. 4 the plate C, formed as shown in Fig. 2, has its outer edges beaded to give stiffness, for the application of a wrench.

Fig. 5 has the plate C formed with four tongues, *d*, of the same general character.

Fig. 6 is a hexagonal plate, C, with three tongues, *d*, similarly formed.

The particular configuration of the plate C may be varied. It may be curved or flat or corrugated; but in all cases the locking will be effected by the inward forcing of the tongue or tongues *d* as they are compressed toward the plate C in forcing the latter to rotate around the bolt and compelling the edges of the tongues to follow the inclined plane presented by the bolt-threads.

The invention is designed as an improvement on the lock for which I have obtained Letters Patent No. 282,348, dated July 31, 1883, and No. 307,671, dated November 4, 1884; and as it preserves the same characteristic of screwing onto the bolt and taking frictional grip without penetrating or cutting into the body of the bolt, it is to be distin-

guished from that class of top locks wherein the grip is established by forcing some part of the lock-plate into the body of the bolt.

I claim as my invention—

- 5 1. A nut-lock consisting of a metallic plate having a central bolt-hole formed by one or more tongues projecting out of the plane of said plate, said tongues having their inner or gripping edges substantially smooth and forming the bolt-hole, the whole adapted to use by screwing onto the bolt by the inner edges of said tongues taking into the bolt-threads, and effecting frictional contact therewith, substantially as described.
- 15 2. A nut-lock consisting of a flat or curved plate, C, having a central bolt-aperture formed

by one or more inwardly and upwardly extending tongues, *d*, having substantially smooth inner edges and adapted to take into the threads of the bolt, and thereby screw onto the same, substantially as described, whereby the plate becomes a stop against the nut, and continued rotation of the plate forces the tongues *d* more tightly against the bolt. 20

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses. 25

WILLIAM JOSEPH MCTIGHE.

Witnesses:

JNO. F. ATCHESON,
T. J. MCTIGHE.