

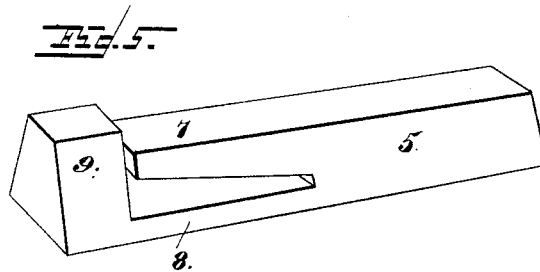
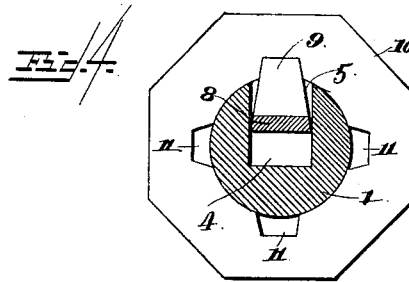
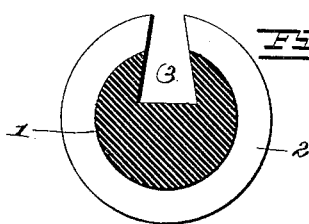
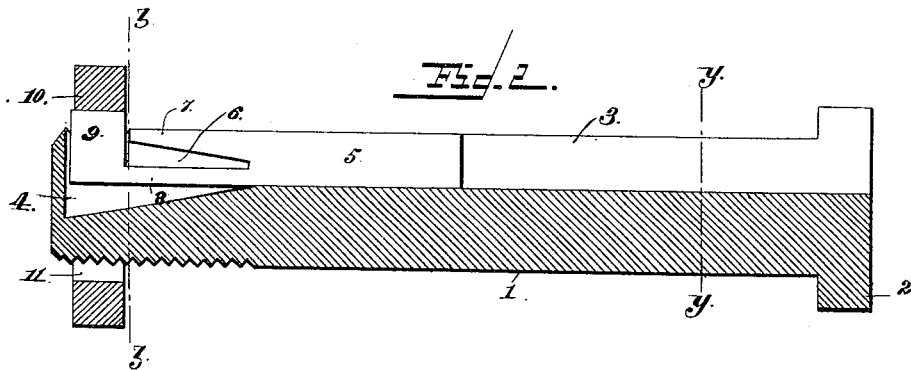
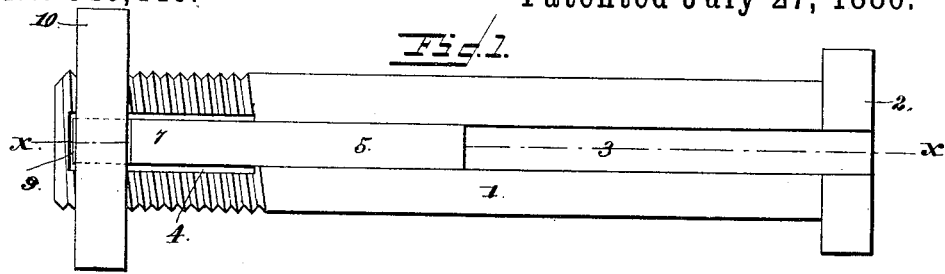
(No Model.)

C. LUTZ.

NUT LOCK.

No. 346,440.

Patented July 27, 1886.



Witnesses  
*M. E. Fowler*  
*J. P. Borchert*

Inventor  
*C. Lutz*  
By his Attorneys  
*C. A. Snow & Co.*

# UNITED STATES PATENT OFFICE.

CHARLES LUTZ, OF LOUDONVILLE, OHIO.

## NUT-LOCK.

SPECIFICATION forming part of Letters Patent No. 346,440, dated July 27, 1886.

Application filed May 10, 1886. Serial No. 261,722. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES LUTZ, a citizen of the United States, residing at Loudonville, in the county of Ashland and State of Ohio, have invented certain new and useful Improvements in Nut and Bolt Locks, of which the following is a full, clear, and exact specification.

My invention relates to improvements in nut and bolt locks; and it consists of the peculiar construction and arrangement of the various parts for service, substantially as hereinafter fully set forth, and specifically pointed out in the claim.

The object of my invention is to provide improved means whereby the nut shall be effectually prevented from rotating when it is fitted on the bolt to clamp the work, and which can be easily operated to permit the nut to be rotated, and thereby be tightened against the work or detached from the bolt, as presently described.

In the drawings hereto annexed, which form a part of this specification, and illustrates a nut-lock embodying my invention, Figure 1 is a top or plan view. Fig. 2 is a vertical central longitudinal sectional view on the line  $x-x$  of Fig. 1. Fig. 3 is a vertical transverse sectional view on the line  $z-z$  of Fig. 2. Fig. 4 is a similar sectional view on the line  $y-y$  of Fig. 2. Fig. 5 is a detached view of the key.

Referring to the drawings, in which like letters of reference denote corresponding parts in all the figures, 1 designates the bolt of my invention, which has the enlarged head 2 at one end, and the opposite end is exteriorly threaded, as is usual in this class of devices. The bolt has a longitudinal recess or key-seat, 3, cut or formed therein at one side, and the outer end of the bolt has a transverse opening or recess, 4, cut therein, which opens into the longitudinal key-seat, the lower line of the recess 4 being inclined, as shown, and joining the bottom of the key-seat, so as to form one continuous recess, which is enlarged at 4 at the free end of the bolt. The sides of the key-seat or recess 3 are arranged in inclined lines, which diverge in opposite directions, and in this seat is fitted a key, 5, which has inclined sides to correspond with the shape of the seat in cross-section and fit snugly and firmly therein.

One of the ends of this key is provided with a longitudinal horizontal slot, 6, which divides the said outer end of the key into an upper and lower arm or prong, 7 and 8, respectively. The lower prong, 8, is adapted to spring or yield, and at its free end it carries a locking nib or stud, 9, which is formed integral therewith and projects at right angles therefrom, the outer extremity of the upper arm, 7, terminating at a point a short distance in rear of the locking nib or stud to permit the latter to have free movement or play without hinderance from the arm 7. A nut, 10, is fitted or screwed on the threaded extremity of the bolt 1, and the nut 10 has radial recesses or slots 11 cut on its inner periphery and opening into the transverse threaded opening or aperture formed therein for the passage of the bolt. The key is fitted very snugly in the seat, and is secured to the bolt by welding, and the yielding arm or prong 8, that carries the locking nib or stud 9, is adapted to be depressed within the enlarged outer end, 4, of the longitudinal recess or key-seat, so that the nib will be depressed or withdrawn within the recess 4, to permit the nut 10 to be screwed on or unscrewed from the threaded end of the bolt, the nut being turned or adjusted until it bears against the work with sufficient force, and one of the radial slots 11 aligns with the key-seat, to adapt the locking nib or stud 9 on the yielding arm to be projected or forced into the said slot 11 of the nut to prevent the latter from turning or rotating.

It will be seen that the locking nib or stud 9 of the spring-arm 8 is fitted in one of the radial slots of the nut, and the latter is prevented from turning or rotating, and prevented from accidental displacement on the bolt, and by depressing the free end of the spring-arm within the enlarged end 4 of the recess the locking-nib is withdrawn from the slot of the nut, which can thereby be readily turned to tighten it or detach the same from the bolt. The locking-nib works freely in the vertical enlarged recess 4, and it is normally projected above the threaded periphery of the bolt to more readily take into the radial slots of the nuts.

I am aware of Patent No. 326,927, in which a bolt having a longitudinal recess is em-

ployed, and in this recess is fitted a yielding arm or spring that projects at its free end beyond the bolt, the opposite end of the said arm being secured in place to the said bolt by a screw. The free end of the spring-arm works in the slot of a washer or plate that is secured by a screw to the end of the bolt, and the said slotted plate is concealed from view by a cap-plate, that is secured to the bolt by the same screw that secures the slotted plate to the bolt. This cap-plate has an inwardly-extended flange, that lies in the path of a rib on the free end of the spring, to limit the upward movement or play thereof, and the spring is adapted to fit into inclined notches formed in a nut, so as to prevent the latter from turning. In my improved nut-lock I provide a slotted key with a spring-arm that carries a locking nut or stud at its free end, which works in an enlarged end of a longitudinal recess in the bolt, and is adapted to fit in one of a series of slots in the nut to be locked in place. By providing the bolt with the enlarged recess near its outer end, and arranging the spring-arm of the key with its locking-nib in the said en-

larged end of the recess, I am enabled to dispense with the slotted and cap plates shown in Patent No. 326,927, heretofore referred to, and at the same time conceal and protect the spring-arm and locking-rib from injury.

Having thus described my invention, I claim—

In a nut-lock, the combination of a bolt having a longitudinal recess or key-seat and a transverse enlarged recess, 4, opening into the longitudinal recess, a nut on the bolt, having the radial slots, and a key fitted in the key-seat of and secured to the bolt, and having its outer end slotted longitudinally to provide the two arms 7 and 8, the latter arm being elastic or yielding, and provided at its end with a right-angled locking nib or stud, 9, that is arranged out of contact with the arm 7, and works in the transverse recess 4, to readily enter one of the radial slots of the nuts, substantially as described.

CHARLES LUTZ.

Witnesses:

ORTON LUSK,  
J. McNAUL.