(No Model.)

R. W. BURTON.

NUT LOCK.

No. 385,442. Patented July 3, 1888.

Fig. 1.

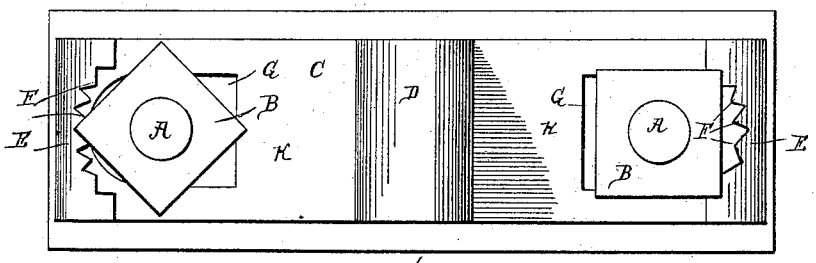


Fig. 2.

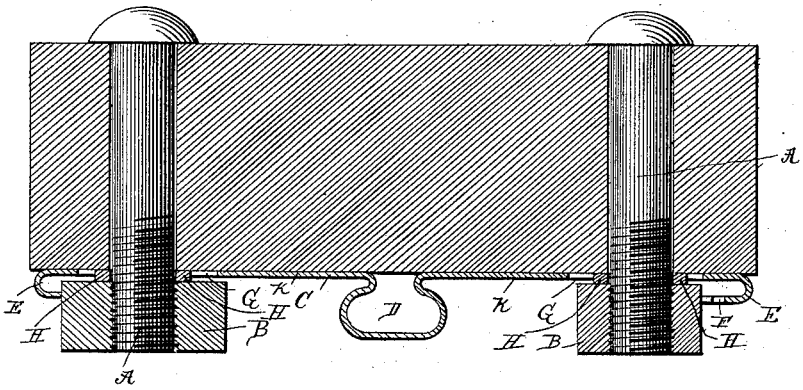


Fig. 3.

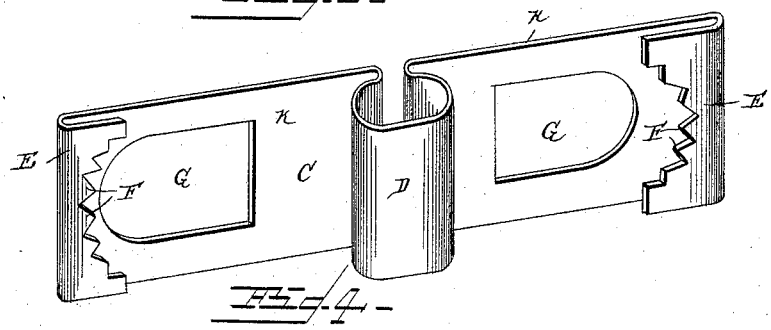
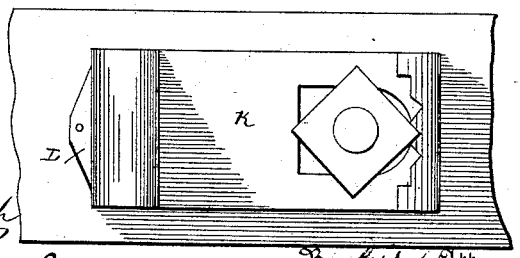


Fig. 4.



Witnesses.
Henry G. Dieterich
A. E. Doyle.

Inventor,
Robert W. Burton.
By his Attorneys
C. A. Snow & Co.

UNITED STATES PATENT OFFICE.

ROBERT W. BURTON, OF NEW RIVER, VIRGINIA.

NUT-LOCK.

SPECIFICATION forming part of Letters Patent No. 385,442, dated July 3, 1888.

Application filed February 24, 1888. Serial No. 265,112. (No model.)

To all whom it may concern:

Be it known that I, ROBERT W. BURTON, a citizen of the United States, residing at New River, in the county of Pulaski and State of Virginia, have invented new and useful Improvements in Nut-Locks, of which the following is a specification.

My invention relates to improvements in nut-locks; and it has for its objects to provide a simple, cheap, and durable lock which may be readily applied to the nut to prevent it from jarring loose.

It is my object, further, to provide a lock which may be applied and operated without the use of tools especially adapted for the purpose.

It is my object, further, to provide a lock which, with but slight change of construction, may be adapted to lock either one, two, or more nuts.

With these objects in view the invention consists in a longitudinally-movable locking-plate made of spring-steel or its equivalent and having one or more series of ratchet-teeth mounted thereon and normally engaging the angles of the nuts, the said series of teeth being movable with the locking-plate to allow the nuts to rotate and engage successive teeth.

The invention consists, further, in certain novel construction and combination of devices, fully set forth hereinafter, and illustrated in the accompanying drawings, wherein—

Figure 1 is a plan view of the improved lock applied in the operative position to two bolts. Fig. 2 is a longitudinal central section of the same. Fig. 3 is a perspective view of the locking-plate detached. Fig. 4 is a plan view of a locking-plate adapted for one nut and applied in the operative position thereto.

Referring to the drawings, A A designate bolts, on which are screwed the nuts B B, and C designates the locking-plate, which is applied to the said nuts. This plate is preferably of spring metal, as steel, and it is provided at its center with the spring-loop D, formed by bending up the center of the plate. The ends of the plate are turned up and bent inward to form the ears E E, which are recessed at their inner edges and provided with the ratchet-teeth F F. Apertures or slots G G are formed in the locking-plate near its ends, and through these apertures or slots project the threaded ends of the bolts A. Washers H H are located in the apertures or slots G around the bolts, and, as the said washers are thicker than the locking-plate, the nuts, when screwed tight, do not bear on the plate, but on the washers, thus allowing the plate to move freely (longitudinally) under the nuts.

The ratchet-teeth on the ears E E are arranged on curved lines, which are segments of circles described, approximately, around the centers of the bolts, and therefore as the nuts are screwed on the bolts their angles describe circles and pass within the recesses in the ears E. The loop at the center of the locking-plate draws inward upon the two arms K K of the locking-plate, and therefore causes the ratchet-teeth to bear against the nuts, and when the nuts are turned their angles engage successively in the teeth. The nuts are locked in any position, for when one of their sides is toward the ratchet-teeth the angles at the ends of the said side are both engaged in notches at the ends of the series of teeth. The sides of the ratchet-teeth are inclined to form rectangular notches between their adjacent sides to fit the angles of the nuts, and it will be seen that if the nuts are turned forcibly the toothed ears will be repressed against the strength of the spring-loop to allow the angle of the nut to pass from one of the said notches to the next.

It will be apparent that my lock is not designed to prevent nuts secured thereby from being turned; but it is merely designed to be applied to the nuts connected with machinery to prevent them from being jarred loose. When sufficient force is applied, the nuts may be turned in either direction.

The lock shown in the drawings and described herein is struck from a single sheet of metal, and I prefer to form them thus, as they are cheaper and lighter; but it is obvious that they may be formed in two separate arms connected by a spring and having the ratchet-teeth secured in place in a variety of ways. Further, the teeth may be placed at the inner ends of the apertures or slots, and the plate may then lock by having its arms pressed outward.

Fig. 4 shows a modification, in which the locking-plate is adapted to be applied to one

nut, and it differs from the plate before described in that one of the arms K is omitted, and on the free side of the spring-loop is placed an ear, L, which is secured rigidly to the ground or plate on which the locking-plate is placed.

It will be seen that by making the plate longer and providing it with ratchet-teeth and apertures or slots at intervals any desired number of nuts may be locked with the same device.

Having thus described my invention, I claim—

In a nut-lock, the combination, with the bolts, washers surrounding the bolts, and nuts screwed on the bolts and bearing on the washers, of the locking-plate comprising the arms K, arranged under the nuts and provided with slots G, embracing the said washers, the upturned ears E E at the outer ends of the said arms, having ratchet-teeth on their inner edges, and the spring D, connecting the adjacent ends of the arms and drawing them toward each other, whereby the ratchet-teeth on the said ears are normally held in engagement with the angles of the nuts, substantially as specified.

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

ROBERT W. BURTON.

Witnesses:
E. G. SIGGERS,
J. H. SIGGERS.