

(No Model.)

A. C. VAUGHAN.
LOCK NUT.

No. 419,385.

Patented Jan. 14, 1890.

Fig. 1.

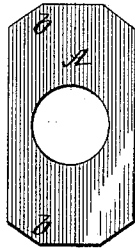


Fig. 2.

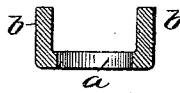


Fig. 3.

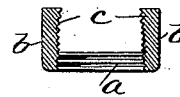
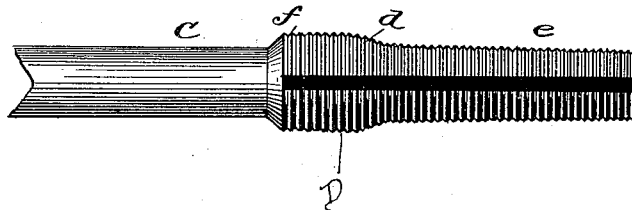


Fig. 4.



WITNESSES:

Fred G. Dietrich
Edw. W. Byrne.

INVENTOR

Aaron C. Vaughan
BY *Wm. L.*

ATTORNEY

UNITED STATES PATENT OFFICE.

AARON C. VAUGHAN, OF SHANE'S CROSSING, OHIO.

LOCK-NUT.

SPECIFICATION forming part of Letters Patent No. 419,385, dated January 14, 1890.

Application filed March 6, 1889. Serial No. 302,056. (No model.)

To all whom it may concern:

Be it known that I, AARON C. VAUGHAN, of Shane's Crossing, in the county of Mercer and State of Ohio, have invented a new and useful Improvement in Nut-Locks, of which the following is a specification.

My invention is in the nature of an improvement in nut-locks of that form in which a supplemental jam-nut is applied to the threaded end of the bolt outside the ordinary nut; and it consists of a thin plate of metal having a hole through the same which is threaded in the plane of the plate, and having a portion of the plate turned up at right angles to the rest of the plate and tangential to the circumference of the bolt-hole, and threaded on its side to form spring-jaws which clamp or pinch the threaded end of the bolt, as hereinafter fully described.

Figures 1, 2, and 3 are different views of the preferred form of nut-lock, in which Fig. 1 is a face view of the blank as stamped or punched out of sheet-steel about three-sixteenths of an inch thick. Fig. 2 is a cross-section, which shows the portions of the plate bent up to a position tangential to the bolt-hole; and Fig. 3 is a similar view showing the nut threaded. Fig. 4 is a side view of the tap used for threading the nut-lock.

Referring to Figs. 1, 2, and 3, the plate A is stamped out in oblong shape, with a circular hole *a* in the center and wings *b b* on each side. These wings are, by a bending operation, turned up at right angles to the plane of the body of the plate, with their inner sides tangential to the bolt-hole, as in Fig. 2, and by a tapping operation a thread of regular form is then cut in the plane of the plate to form a bolt-hole *a*, and this same threading operation is made to continue the cutting of threads up the sides of the wings *b b* to the top; but this thread is of a smaller diameter at the top of the wings at the points *c c*, so that when the bolt end passes up between the wings *b b* these latter are, by reason of the diminished circumference of the thread, spread apart, and form spring-jaws that clamp and hold the threaded end of the bolt with a positive and firm grip.

In order to effect the threading of the nut in accordance with the above construction, a special form of tap (shown in Fig. 4) is employed. This tap C has the usual tapered

threading-surface *e*, and at the base of the same has a swelled part D, which passes into the plane of the tapered part *e* with a curve at *d*. It is this curved part at *d* that forms the thread on the spring-jaws at *c* of smaller diameter, while the body portion of the swell at D cuts the thread in the bolt-hole *a*. To prevent wearing this bolt-hole too large by the continued progression of the swelled part D of the tap through it, the swelled part D is made at *f'* of a slightly reduced diameter.

I am aware that a nut-lock has heretofore been constructed of thin spring metal in which the edges are turned up and over toward the bolt and the said edges made to bear edgewise against the threaded end of the bolt. I am also aware that a nut has been formed with rigid lugs on its outer face which were not bent, but are formed by milling or cutting, and which lugs were threaded, so as to bear against the bolt with a friction, so as to hold the nut. My invention differs from these, in that the wings or upturned ends are bent so as to project at right angles to the face of the nut, and are of the same thickness as the body part of the device, being stamped from a plate of uniform thickness, and in which the upturned ends extend tangentially along the bolt, with their sides bearing against the bolt instead of their edges or ends. By bending the upturned ends at right angles the longitudinal lay of the fiber in the upturned ends is retained and a much stronger and better spring-clamping action is obtained than where the lugs are formed by milling or cutting, which creates a point of weakness at the angle where the lug joins the body part. Furthermore, as the bend is only at right angles, the metal is not strained at the angle.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

A lock-nut consisting of a plate provided with a central bolt-hole and having its ends bent up at right angles to the body of the plate and threaded on their inner faces, in continuation of the threads of the bolt-hole, substantially as shown and described.

AARON C. VAUGHAN.

Witnesses:

WILLIAM E. MOORE,
JOHN M. SMALL.