

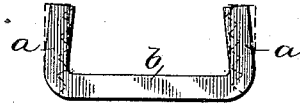
(No Model.)

A. C. VAUGHAN.  
NUT LOCK.

No. 423,193.

Patented Mar. 11, 1890.

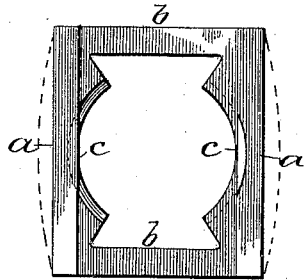
*Fig. 1.*



*Fig. 4.*



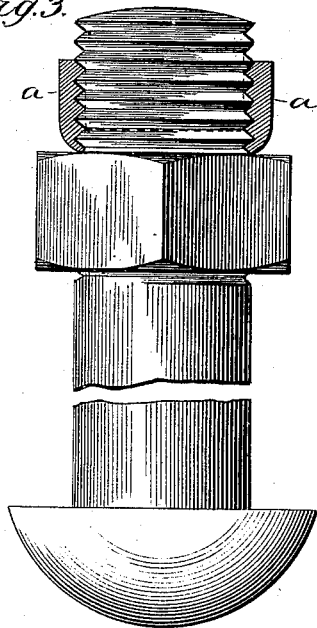
*Fig. 2.*



*Fig. 5.*



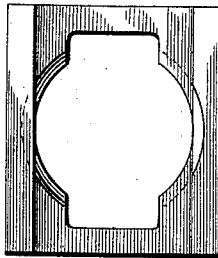
*Fig. 3.*



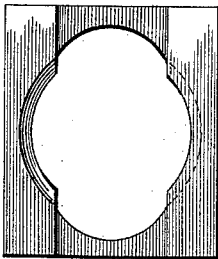
*Fig. 6.*



*Fig. 7.*



*Fig. 8.*



*Fig. 9.*



WITNESSES:

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# UNITED STATES PATENT OFFICE.

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

## NUT-LOCK.

SPECIFICATION forming part of Letters Patent No. 423,193, dated March 11, 1890.

Application filed June 21, 1889. Serial No. 315,085. (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 which is constructed as a screw-threaded metal plate adapted to be applied to the bolt outside the nut and to pinch the bolt so as to not only hold itself on, but also secure the nut.

My invention consists of a plate having a bolt-hole provided with oppositely-threaded sections, with the metal cut away between these sections, and having upturned wings lying tangential to the threaded parts of the bolt-hole, and also threaded upon their sides, which wings serve to pinch the bolt and lock the nut thereon by a spring action, as herein-after fully described.

Figure 1 is a side elevation or edge view of the nut-lock. Fig. 2 is a plan view. Fig. 3 is a section of the same applied to a nut and bolt, and Figs. 4 to 9 are modifications.

The nut-lock is made from a plate of thin steel or iron from three-sixteenths to three-eighths of an inch thick. It is provided with a bolt-hole of peculiar shape, as shown in Fig. 2, of which bolt-hole the two oppositely-lying sections *c c* are parts of the circle of the bolt and are screw-threaded, while the intermediate parts are cut away by the punch to the depth of the thread, leaving the comparatively small spring-bars *b b*. The ends of the plate are turned up at about right angles to form the wings *a a*, which lie tangential to the threaded portions *c* of the bolt-hole, and these wings are screw-threaded upon their inner faces and embrace the bolt.

In punching the bolt-hole it is punched of the shape shown, and in the same operation the wings *a a* are bent up. Then in another operation the sections *c c* and the inner walls of wings *a a* are successively threaded in a single operation. The nut-lock, it will be seen, is thus reduced to a very small cost, as it possesses a minimum amount of metal and is completed in two operations.

When the wings *a a* are bent up, they may be, and preferably are, slightly canted in toward each other, as in Fig. 5; and in tapping

the thread in the same the wings are expanded by the tap to the position indicated by the dotted lines in Fig. 1, so that when the tap is removed the wings spring back or inward to a little less diameter than the diameter of the thread of the bolt, by which construction the wings *a a* tightly pinch and hold the bolt when turned on the same. This spring action, it will be seen, resides not only in the wings *a*, but also exists largely in the spring-bars *b b*, whose movement, it will be perceived, is unrestrained by any direct connection with the thread. Furthermore, when the nut-lock is turned up on the bolt and the wings are expanded, the fact that the wings are weaker in the middle than elsewhere (owing to the screw-thread) causes the wings to assume a somewhat curved form, (indicated by the dotted lines in Fig. 2,) thus adding still further to the spring action. This combined spring clamping action permits the nut to be applied and removed as often as desired without impairing its efficiency.

In constructing this nut I may form it in various other ways. Thus, for instance, the wings may stand at right angles, as in Fig. 4, and the thread be cut with a straight tap, which in cutting the thread throws the wings still farther out or beyond the normal, so that when the tap is removed the wings return to the normal position, which leaves the distance between the wings sufficiently less than the diameter of the bolt to permit a clamping action; or the nut-lock may be punched and bent, as in Fig. 4, and be threaded with a tapering thread-cutter largest at the bottom; or the thread may be cut by a regular die and the two wings subsequently bent in, as in Fig. 5; or the thread may be cut by a regular die and the bars *b b* curved so as to throw the wings together, as in Fig. 6; or the base of the plate may be curved, as in Fig. 6, and the thread cut afterward by either a straight or a tapering die. I may also punch the bolt-hole in different shapes, as shown in Figs. 7 and 8.

Having thus described my invention, what I claim as new is—

1. A nut-lock consisting of a plate having a bolt-hole provided with oppositely-threaded sections, with the metal cut away between

these sections, and having upturned wings lying tangential to the bolt-hole, and also threaded upon their sides, substantially as shown and described.

- 5 2. A nut-lock consisting of a plate having a bolt-hole provided with oppositely-threaded sections, with the metal cut away between these sections, and having upturned wings lying tangential to the bolt-hole, the inner sides

of said wings being threaded and the base or 10 bars *b* of the plate being curved to cant the wings toward each other, substantially as shown and described.

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Witnesses:

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