(No Model.)

J. E. WOOTTEN.

NUT LOCK.

No. 262,193. Patented Aug. 1, 1882.

FIG. 1

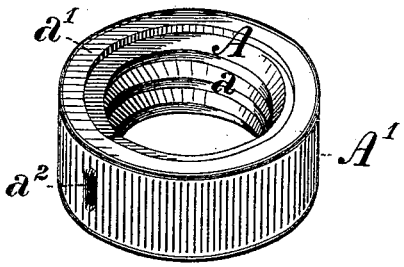


FIG. 4.

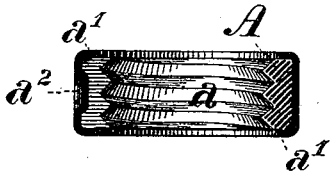


FIG. 2.

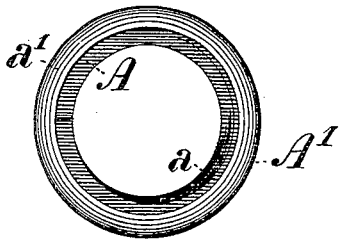


FIG. 3.

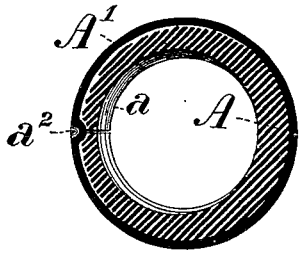
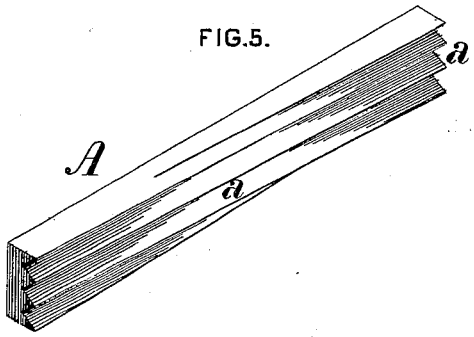


FIG. 5.



WITNESSES:

Geo. B. Collier

Geo. T. Kelly.

INVENTOR

John E. Wootten,

by Collier & Bell

attys

UNITED STATES PATENT OFFICE.

JOHN E. WOOTTEN, OF PHILADELPHIA, PENNSYLVANIA.

NUT-LOCK.

SPECIFICATION forming part of Letters Patent No. 262,193, dated August 1, 1882.

Application filed June 28, 1882. (No model.)

To all whom it may concern:

Be it known that I, JOHN E. WOOTTEN, of the city and county of Philadelphia, in the State of Pennsylvania, have invented certain new and useful Improvements in Lock-Nuts, of which improvement the following is a specification.

My invention relates to lock-nuts in which a compressible elastic block having a permanent internal thread is combined with a rigid unthreaded inclosing case, as exemplified in Letters Patent of the United States No. 248,975, granted and issued to me under date of November 1, 1881.

The object of my present invention is to economize and facilitate the manufacture of lock-nuts of the above class; and to this end my improvements consist in an elastic filling for lock-nuts, consisting of a quadrangular block adapted to form a continuous screw-thread when bent into annular form; also, in the combination of a rigid shell or case and a threaded quadrangular elastic block bent into annular form and inserted and retained in said case.

The improvements claimed are hereinafter more fully set forth.

In the practice of my invention I provide a sheet of india-rubber or analogous elastic material of any convenient size, the surface of which is uniformly ridged or serrated by a series of rectilineal ribs or projections of a triangular or V section, corresponding in form, size, and relative position to the screw-threads to be formed. The thickness of the sheets from the top of said projections to the opposite side equals that of the elastic blocks required. Having ascertained accurately the internal circumference of the blocks which are to be made, I cut the sheets of rubber transversely to the angular ribs or projections into strips, the width of each of which equals said circumference. I then divide each of said strips by cutting it at an angle to the projections governed by the lead required for the screw-threads into a series of block-sections, the width of each section corresponding to the depth of the elastic block required. The rapid and accurate division of the strips I effect in practice by an adjustable cutting mechanism which I have devised for the purpose, but which does not *per se* constitute part of my present invention, and will not therefore be herein described. Having likewise provided a rigid inclosing case or shell of sufficient strength to resist the greatest strain to which the lock-nut is to be subjected in service, and of height and diameter suited to receive the elastic block, I bend the block-section just described and insert it in the case, springing it into annular form therein, in which position it is securely retained by stops on the case.

It will be obvious that the block-section, having been cut to and at the proper ascertained length and angle, will form, by the meeting of its ends when bent into a ring, a continuous permanent screw-thread, its joint presenting no impediment to the engagement of the thread of the bolt on which it is to be fitted, and its relation to the case being such as to prevent any departure from its adjusted annular form.

It will be further apparent that by the above-described method of forming the elastic blocks a substantial economy in the cost and time of manufacturing lock-nuts is attained, as compared with the employment in such manufacture of jointless blocks molded into the required form, such as are illustrated in Letters Patent No. 248,975, before referred to.

In the accompanying drawings, Figure 1 is an isometrical view of a lock-nut in accordance with my invention; Fig. 2, an end view in elevation of the same; Figs. 3 and 4, central transverse sections of the same, taken in horizontal and in vertical planes, respectively; and Fig. 5, an isometrical view of a block-section before insertion in the case.

The elastic block A is cut, as hereinbefore described, in quadrangular form from a sheet of india-rubber or analogous elastic material having ridges or projections of triangular or V section, which form the screw-threads *a*, and is inserted and sprung into annular form in an inclosing case or shell, A′, of light sheet metal or other suitable material, which may be milled or scored on its outside to afford a sufficient grip for the hand or for a wrench in bringing the nut to a bearing. An inwardly-projecting flange, *a′*, is turned upon each end of the case to retain the block A in position endwise therein, the width of said flanges being such

that the diameter of the central openings which they surround shall be greater than the diameter of the bolt on which the lock-nut is to be used, and a lateral stop, spur, or inward projection, a^2, is formed on the case, preferably by indenting the metal of which it is composed, said stop entering the joint of the elastic block A and preventing axial movement thereof independently of the case.

It will be apparent that two or more inward projections of the metal of the case at each end thereof may, if desired, serve to fulfill the function of the continuous flanges a' described and shown.

In operation the lock-nut is screwed upon a bolt against the outer face of a main metallic nut and the elastic block A compressed upon the thread of the bolt to lock the main nut in position, in a similar manner to the elastic block of Letters Patent No. 248,975 aforesaid.

I claim as my invention and desire to secure by Letters Patent—

1. As a new article of manufacture, an elastic filling for lock-nuts, consisting of a quadrangular block cut from a sheet of india-rubber or analogous elastic material, having rectilineal ribs or ridges upon its surface, at an angle to the line of direction of said ribs or ridges, substantially as set forth.

2. The combination of a rigid inclosing case or shell and a threaded quadrangular block of rubber or equivalent elastic material inserted and sprung into annular form in said case, substantially as set forth.

3. The combination of a rigid inclosing case or shell, a threaded quadrangular block of elastic material fitting in annular form within said case, end flanges or projections serving to retain said block endwise within the case, and a lateral stop or spur to prevent independent axial movement of the case and block, substantially as set forth.

JOHN E. WOOTTEN.

Witnesses:
J. SNOWDEN BELL,
THOS. F. FITZPATRICK.