

1,230,649.

A. F. BARRON.  
NUT LOCK.  
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Patented June 19, 1917

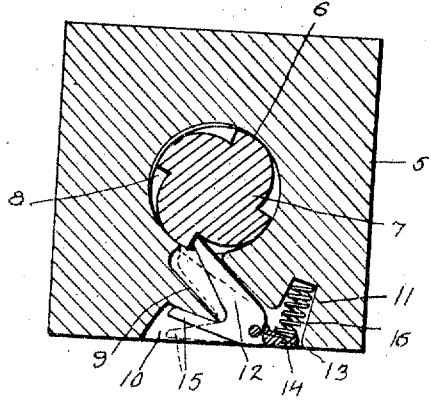


Fig. 1.

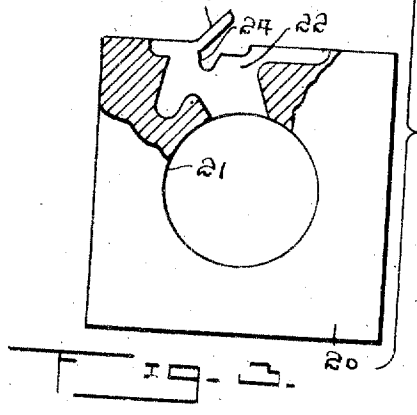
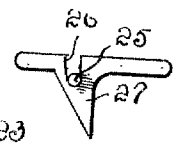
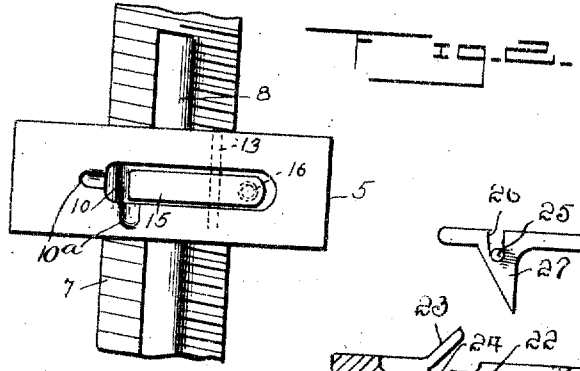
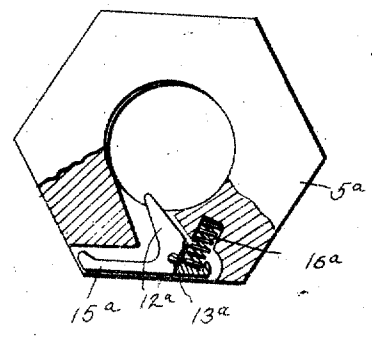


Fig. 4.



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# UNITED STATES PATENT OFFICE.

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## NUT-LOCK.

1,230,649.

Specification of Letters Patent. Patented June 19, 1917.

Application filed December 13, 1916. Serial No. 136,664.

*To all whom it may concern:*

Be it known that I, ANDREW F. BARRON, a citizen of the United States, residing at Watervleit, in the county of Albany and State of New York, have invented certain new and useful Improvements in Nut-Locks; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention has for its object to provide an improved nut structure embodying means for effectively locking the nut against removal from the bolt, and which is also provided with means to facilitate retraction of the locking element from the bolt to permit removal of the nut.

With these and other objects in view, the invention consists in the novel construction, combination and arrangement of parts as will be hereinafter specifically described, claimed and illustrated in the accompanying drawing, in which:

Figure 1 represents a transverse sectional view through a bolt and the improved nut lock,

Fig. 2 represents a side elevation,

Fig. 3 is a plan, partly in section, of a modified form of the nut and the locking pawl separated,

Fig. 4 represents a plan view, partly in section, of another modified form of the nut, illustrating the type of locking pawl associated therewith.

Referring to the drawing in detail, the numeral 5 indicates a rectangular nut of the usual construction having the ordinary internally screw threaded bore 6 receiving the threaded bolt 7, which latter is formed with a series of substantially V-shaped recesses defining radial shoulders or ratchet teeth 8. The nut 5 is formed with a substantially radial opening 9, communicating with the bore at its inner end and with a recess 10 formed in one side face of the nut 5. One wall of the opening 9 is formed with a depression 11 constituting a seat.

A locking pawl 12 is pivotally secured at 13 in the outer portion of the opening 9 and is provided with an integral laterally projecting lug 14, which overlies the open end of the seat 11. The side of the pawl 12 opposite the lug 13 is formed with an elongated lateral extension 15, which is received within the recess 10, and is normally disposed in

spaced relation to the inner wall of said recess to permit of the insertion of a pointed tool thereunder, whereby the pawl may be swung out of engagement with the bolt 7. A spring 16 is coiled within the seat 11 and is engaged with the lug 13 to normally retain the pointed inner terminal of the pawl 12 in engagement with the bolt 7.

In use, the nut 5 is threaded upon the bolt 7 and advanced to the desired position thereon, and, during rotary movement of the nut, the pointed inner terminal of the pawl 12 rides over the surface of the bolt and successively drops into the recesses or grooves 8. It is to be understood that the shoulders 8 are so disposed as to cooperate with the pawl 12 to lock the nut against removal from the bolt. The end wall and adjacent portion of one side wall of the recess 10, at a point adjacent the free end of the extension 15, are formed with recesses 10<sup>a</sup>, which are disposed at right angles to each other. When it is desired to purposely remove the nut, a pointed tool is positioned in either one of the recesses or cavities 10<sup>a</sup> and inserted under the lateral extension 15, thus lifting the latter out of the recess 10 and swinging the inner terminal of the pawl 12 out of engagement with the bolt 7 and permitting free movement of the nut.

Referring to the modification of the invention illustrated in Fig. 3 the numeral 20 indicates the nut having the internally screw threaded bore 21 communicating with a substantially radial opening 22, which is of substantially the same shape as the opening 9 in Fig. 1. The side walls of the opening 22 are slit to define fingers 23, which, before the application of the locking pawl to the nut, are directed outwardly, as illustrated in Fig. 4. At the base portions of the fingers 23, the walls of the opening 22 are formed with recesses 24 to accommodate the pivot pin 25 which is loosely fitted in a slot 26 formed in the locking pawl 27. In applying the pawl to the nut the pin 25 is positioned in the slot 26 in the pawl 27 and the latter is inserted in the opening 22, the pin 25 lying in the recesses 24. Subsequent to the application of the pin to the recesses 24 the fingers 23 are bent inwardly against the body of the nut 20, thus rigidly holding the pin in position and pivotally securing the pawl 27 in the opening 22. It will be understood that the pawl is normally retained in engagement with the radial shoulders or

ratchet teeth of the bolt by a spring similar to that shown in Fig. 1 and the pawl is so constructed that when the inner terminal thereof is moved out of engagement with the bolt, no part of the pawl lies outside of the side faces of the nut.

In the modification of the invention illustrated in Fig. 4, the locking device is shown applied to a hexagonal nut in which is formed an opening similar to the opening 9 in the form of the invention illustrated in Figs. 1 and 2, and receiving the locking pawl 12<sup>a</sup>, which is also identical to the corresponding part of the nut lock previously described. The locking element is pivotally secured at 13<sup>a</sup> in the opening and is normally retained in engagement with the bolt by the tension of the coil spring 16<sup>a</sup> and it may be conveniently disengaged from the bolt by outward pressure exerted upon the lateral extension 15<sup>a</sup> thereof.

What I claim is:

1. A nut lock including a bolt provided with longitudinal shoulders, a nut fitted on said bolt having an opening communicating with the bore, and a recess formed in one face thereof and communicating with the opening, a locking pawl pivotally secured in said opening and adapted to engage said shoulders to lock the nut against rotational movement in one direction upon the bolt, a

lateral extension formed integral with the pawl and adapted to be received within the recess, said recess having angularly disposed cavities formed in the walls thereof and at points adjacent the free end of the lateral extension to facilitate insertion of a tool under the extension to release the locking pawl, a laterally projecting lug formed on said pawl in opposed relation to the extension, and spring means engaging said lug and normally retaining the pawl in engagement with the bolt.

2. A nut lock including a bolt having longitudinal shoulders thereon, a nut fitted on said bolt having an opening therein, and recesses formed in the walls of the opening, a pivot pin engaged in said recesses and extending transversely through the opening, fingers struck out from said nut and adapted to be bent over the pin to secure the latter in position in the recesses, and a spring actuated locking pawl pivotally supported by said pin and normally engaging said bolt to lock the latter against rotary movement in one direction with relation to the nut.

In testimony whereof I affix my signature in presence of two witnesses.

ANDREW F. BARRON.

Witnesses:

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CLARA E. BAIL.