No. 689,073. Patented Dec. 17, 1901.

J. H. FERGUSON.

NUT LOCK.

(Application filed Oct. 16, 1901.)

(No Model.)

Fig. 1.

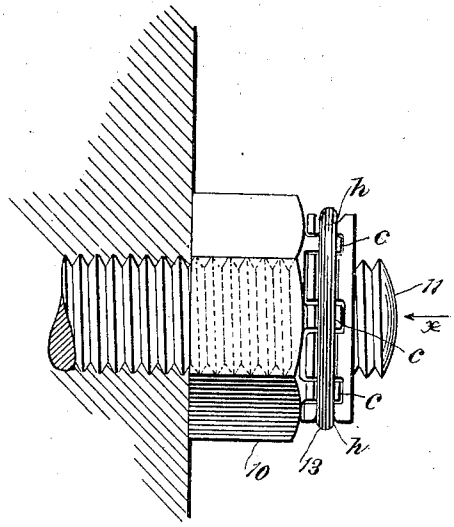


Fig. 2.

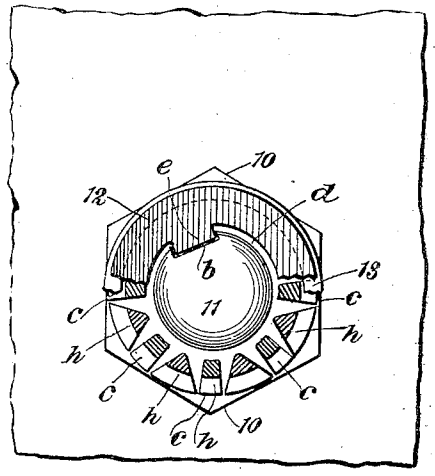


Fig. 3.

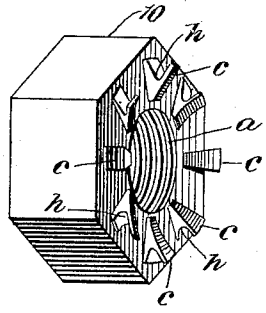


Fig. 4.

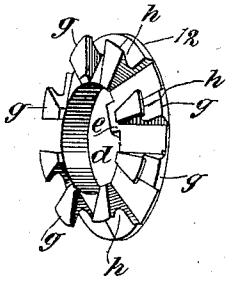
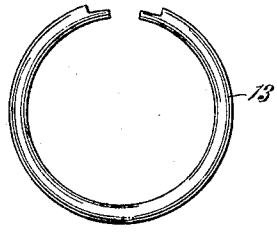


Fig. 5.



WITNESSES:

William P. Goebel.

Wm. L. Patton

INVENTOR

John H. Ferguson

BY Munn & Co.

ATTORNEYS

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JOHN H. FERGUSON, OF ZIMMERMAN, OHIO.

NUT-LOCK.

SPECIFICATION forming part of Letters Patent No. 689,073, dated December 17, 1901.

Application filed October 16, 1901. Serial No. 78,835. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. FERGUSON, a citizen of the United States, and a resident of Zimmerman, in the county of Greene and State of Ohio, have invented a new and Improved Lock-Nut, of which the following is a full, clear, and exact description.

The object of this invention is to provide a nut-lock of novel construction which adapts it for secure locking engagement with a bolt-thread and affords means for convenient release of the nut from the bolt-thread when this is desired.

The invention consists in the novel construction and combination of parts, as hereinafter described, and defined in the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a side view of the improved lock-nut screwed upon a bolt. Fig. 2 is a partly-sectional end view of the nut and bolt seen in the direction of arrow *x* in Fig. 1. Fig. 3 is a perspective view of the nut. Fig. 4 is a perspective view of a locking-ring employed, and Fig. 5 is a side view of a keeper-ring forming a detail of the invention.

The nut 10 may be square or hexagonal and is shown having six sides, said block, as usual, having a central perforation *a*, which is threaded to screw upon a threaded bolt 11, and to facilitate the locking engagement of the nut with the bolt a shallow channel *b* is formed longitudinally in the bolt, cutting away a portion of the bolt-thread.

Upon one end wall of the nut 10, which is outermost in service, a plurality of ears *c* are formed, which are arranged at spaced distances apart equally distant from the axial center of the threaded perforation *a*.

The locking-ring 12 is circular and centrally apertured, as at *d*, to pass freely over the end of the bolt-body 11, and from the circular wall defining the aperture *d* an integral locking-key *e* is projected, which is adapted to fit into the channel *b* when the nut is to be locked upon the bolt. From one side wall of the ring 12 a set of ears *g* project and are similar in number and form with the ears *c* on the nut, said ears being arranged concentrically with regard to the aperture *d* and so spaced apart as to permit them to occupy the spaces between the ears *c*.

When the ring 12 is applied upon the end wall of the nut 10, the interlocked ears *c g* form a substantially continuous laterally-projecting wall on the end of the nut, and in the periphery of this wall a groove *h* is formed, that obviously is cut partly in the ears *c* and partly in the ears *g*.

A resilient metal keeper-ring 13, preferably of wire, is provided, said ring being open and of such interior diameter as will adapt it to clasp the ears *c g* when these are assembled to provide a continuous groove for the reception of the keeper-ring.

The nut 10 may be freely screwed upon the bolt 11 when the locking-ring 12 is detached from the nut, and when the nut is placed where it is to be locked on the bolt application of the locking-ring 12 is effected by slipping it upon the bolt-body, entering the key *e* within the channel *b*, and when the ears *c g* are fully engaged the keeper-ring 13 is expanded by any suitable means, so that it may enter the groove *h* and by its resilience assume normal diameter, which will cause it to clasp the ears and hold the locking-ring 12 in place on the nut 10.

It will be evident that by the application of the locking-ring and keeper-ring the nut 10 will be held immovable on the bolt 11 at any desired point, but be adapted for release by the removal of the keeper-ring by means of any suitable tool.

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

1. A nut-lock, comprising a nut-body having ears on one end, a locking-ring having corresponding ears, the ears on the nut and ring having a peripheral groove, a projection in the ring adapted to engage the thread on a bolt, and a spring-ring adapted to be seated in the groove.

2. A nut-lock, comprising a nut-body having a series of spaced ears on one end, a locking-ring provided with a mating series of

ears, adapted to occupy the spaces between the ears on the nut-block, the ears on the nut and ring having alined grooves, a key projecting from the inner side of the ring to engage within a channel in a bolt whereon the nut is screwed, and a resilient open ring adapted to be seated in the alined grooves in the ears and to be removed therefrom.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN H. FERGUSON.

Witnesses:
W. L. MILLER,
WM. HULL.