No. 798,576. PATENTED AUG. 29, 1905.

I. W. EXLEY.

LOCK NUT.

APPLICATION FILED APR. 26, 1905.

Fig. 1.

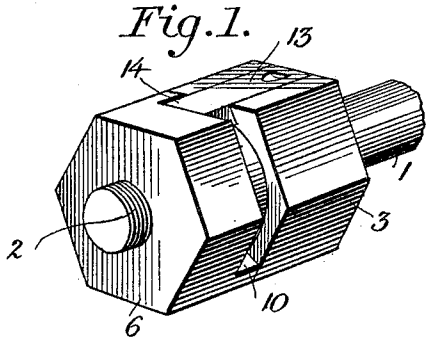


Fig. 2.

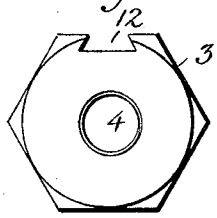


Fig. 3.

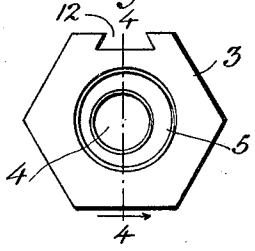


Fig. 4.

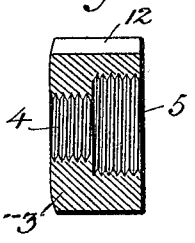


Fig. 5.

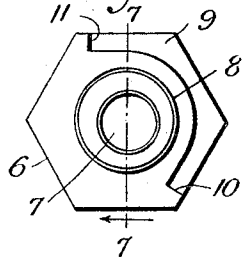


Fig. 6.

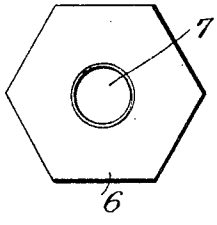


Fig. 7.

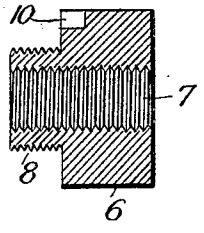


Fig. 8

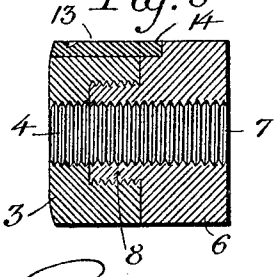
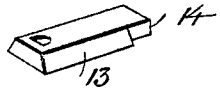


Fig. 9.



Witnesses

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UNITED STATES PATENT OFFICE.

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LOCK-NUT.

No. 798,576. Specification of Letters Patent. Patented Aug. 29, 1905.

Application filed April 26, 1905. Serial No. 257,500.

To all whom it may concern:

Be it known that I, ISREAL W. EXLEY, a citizen of the United States, residing at Colville, in the county of Stevens and State of Washington, have invented new and useful Improvements in Lock-Nuts, of which the following is a specification.

This invention relates to nut-locks, and has for its objects to produce a simple inexpensive device of this character which may be readily applied to a bolt and securely locked in position thereon, thus to prevent its accidental escape, and one wherein the nut may when circumstances require be freely moved.

To these ends the invention comprises the novel features of construction and combination of parts more fully hereinafter described.

In the accompanying drawings, Figure 1 is a perspective view of a lock-nut embodying the invention. Fig. 2 is an inner end view of the main nut. Fig. 3 is an outer end view of the same. Fig. 4 is a section of said nut, taken on the line 4 4 of Fig. 3. Fig. 5 is an inner end view of the auxiliary nut. Fig. 6 is an outer view of the same. Fig. 7 is a section taken on the line 7 7 of Fig. 5. Fig. 8 is a longitudinal section showing the two nuts in locked positon. Fig. 9 is a detail perspective view of the locking-key.

Referring to the drawings, 1 designates a bolt of ordinary construction provided, as usual, with a threaded portion 2, adapted to receive a primary nut 3, having a bolt-receiving opening 4 and an internally-threaded recess 5, opening toward the normally outer face of the nut, the opening 4 being arranged concentric of the nut and eccentric relative to the recess 5, as seen more clearly in Figs. 2 and 3.

Adapted for coöperation with the main nut 3 and to lock the latter in place upon the bolt is an auxiliary lock-nut 6, having an internally-threaded bolt-receiving opening 7 and an externally-threaded reduced neck 8, designed to enter and for threaded engagement with the recess 5, the neck which projects from the normally inner face of the nut 6 being concentrically arranged relative to the nut and the opening 7 eccentrically of the nut and neck, as seen more clearly in Fig. 5, whereby rotation of the nut 6 relative to the nut 3 will, through the engagement of the neck 8 with the recess 5, cause the openings 4 and 7 to move out of alinement, and thus bind and tightly lock upon the threaded portion of the bolt, as will be readily understood.

Formed in the body of the nut 6 adjacent its normally inner end is a marginal recess 9, which extends partially around the nut, as seen in Fig. 5, and presents at its ends stops or abutments 10 11, while in one face of the nut 3 there is formed a dovetailed groove or recess 12, adapted for the reception of a dovetailed locking member or key 13, the inner end of which projects, as at 14, beyond the adjacent face of the nut 3 and seats within the recess 9, constituting a stop to coöperate with the stops 10 and 11, for a purpose presently explained.

In practice when the end of the key 13 is in contact with the abutment 10 the openings 4 and 7 will be concentric, thus permitting the nuts to be screwed freely onto the bolt 1 until brought to the desired position, whereupon a rotation of the auxiliary nut 6 from left to right moves the openings into eccentricity, as before stated, for locking the nuts in position, it being understood that this rotation may be continued until the end of the key contacts with the stop 11, as seen in Fig. 1. To remove the nuts, the auxiliary nut 6 is engaged and rotated from right to left until the abutment 10 comes into engagement with the key, whereupon the openings 4 and 7 will again be concentric and both nuts move as one for disengagement with the bolt. It is to be observed that the key 13 serves normally to prevent disconnection of the nuts when removed from the bolt and, further, that owing to the key being removable the nuts may when desired be separated one from the other.

From the foregoing it is apparent that I produce a simple inexpensive device which in practice will efficiently perform its functions to the attainment of the ends in view, it being understood that minor changes in the details herein set forth may be resorted to without departing from the spirit of the invention.

Having thus fully described the invention, what is claimed as new is—

1. In a device of the class described, a pair of coöperating nuts having bolt-receiving openings, the opening in one of the nuts being eccentrically disposed, a reduced threaded neck carried by one of the nuts, the other nut having a threaded recess to receive said neck, a pair of abutments provided on one of the nuts, and a stop provided

on the other nut and adapted for movement between said abutments.

2. In a device of the class described, a pair of coöperating nuts having bolt-receiving openings adapted for relative registration or non-registration, one of said nuts having an internally-threaded recess disposed eccentrically relative to the bolt-receiving opening, a reduced externally-threaded neck carried by the other nut for entrance into said recess, a pair of spaced abutments provided on one of the nuts and a movable locking member carried by the other nut and adapted to normally project between and constitute a stop for coöperation with said abutments.

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

ISREAL W. EXLEY.

Witnesses:
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F. W. REHFELD.