

NUT LOCK.

APPLIOATION FILED MAR. 9, 1909.

Patented Nov. 8, 1910.



E. J. Hewitt
Mason B. Lawton

Conrad Glaum.

3314 *Cash & Co.*
Attorneys

UNITED STATES PATENT OFFICE.

CONRAD GLAUM, OF AUDUBON, MINNESOTA.

NUT-LOCK.

974,786.

Specification of Letters Patent.

Patented Nov. 8, 1910.

Application filed March 9, 1909. Serial No. 482,291.

To all whom it may concern:

Be it known that I, CONRAD GLAUM, a citizen of the United States, residing at Audubon, in the county of Becker and State of Minnesota, have invented a new and useful Nut-Lock, of which the following is a specification.

The objects of the invention are, generally, the provision of a device of the class above-mentioned which shall be inexpensive to manufacture, facile in operation, and devoid of complicated parts; specifically, the provision of a resilient element of novel and improved form designed to be assembled with a nut whereby to lock the said nut to the bolt upon which it is mounted; other and further objects being made manifest hereinafter as the description of the invention progresses.

The invention consists in the novel construction and arrangement of parts hereinafter described, delineated in the accompanying drawings, and particularly pointed out in that portion of this instrument wherein patentable novelty is claimed for certain distinctive and peculiar features of the device, it being understood that, within the scope of what hereinafter thus is claimed, divers changes in the form, proportions, size and minor details of the structure may be made without departing from the spirit or sacrificing any of the advantages of the invention.

Similar numerals of reference are employed to denote corresponding parts throughout the several figures of the drawings.

In the accompanying drawings Figure 1 shows my invention in side elevation, the resilient element being in normal position; Fig. 2 shows my invention in side elevation, the resilient element having been moved manually to a position of increased gripping action over that shown in Fig. 1; and Fig. 3 is a top plan; and Fig. 4 is a transverse section of the nut.

In the accompanying drawings, the numeral 2 denotes a nut which may be of any form and provided with the usual aperture to receive the bolt 1 upon which the nut is mounted.

In carrying out my invention, I provide a resilient U-shaped element comprising an upper arm 3 and a lower arm 4 the said resilient U-shaped element being arranged to be rigidly assembled with the nut 2. The ter-

minal of the lower arm 4 of the U-shaped element is bent substantially at right angles to the lower arm proper, the rectangularly bent portion being denoted by the numeral 5. 60

An aperture 25 is made in the upper surface of the nut 2 adjacent one edge thereof and into this aperture is introduced the bent portion 5 of the lower arm of the resilient element, the portion 5 being securely retained in the aperture in the upper face of the nut in any suitable manner. If desired, the portion of the nut which lies between the aperture in its upper surface and the outer wall of the nut, may be pressed inward as shown at 26 to engage and firmly hold the bent portion 5 of the resilient element 2. 65 70

The upper arm 3 of the resilient element is arranged to extend within the extended contour of the aperture in the nut 2 designed to receive the bolt 1, the terminal of the upper arm 3, owing to the resiliency of the member, normally standing at some distance above the face of the nut to which the resilient U-shaped element is attached. The terminal of the upper arm 3 which stands within the extended contour of the bolt-receiving aperture of the nut is cut away as denoted by the numeral 6 to conform to the contour of the bolt 1 the notch thus formed being cut upon the arc of a circle conformed to the cross-sectional contour of the bolt, in the threaded portion thereof. The upper arm 3, intermediate its ends, is bent downward as denoted by the numeral 7 and the lower arm 4 is bent upward, intermediate its ends, as denoted by the numeral 8, the bend 8 in the lower arm being disposed relatively near to the nut 2. These bends 7 and 8 form finger-receiving seats whereby the resilient U-shaped element may be operated as hereinafter described. 75 80 85 90 95

It will be seen, that, although the extremity of the upper arm 3 at all times stands within the extended contour of the bolt-receiving aperture in the nut, the resiliency of the U-shaped element causes the upper arm 3 when not in engagement with the bolt 1, to stand at a considerable distance above the face of the nut 2 to which the lower arm 4 of the U-shaped element is attached. Therefore, if desired, the nut 2 may be rotated for a considerable distance from the bolt 1 before the resilient U-shaped element has been engaged by the said bolt. The extremity of the upper arm 3, although normally standing within the extended con- 100 105 110

tour of the bolt-receiving aperture in the nut and in a position operative to engage the bolt when the same is mounted in the nut will, unless manually set into a locking position, exert but slight pressure upon the bolt.

After the extremity of the bolt 1 has traversed the space intermediate the upper face of the nut and the extremity of the arm 3, it will engage the end of the said arm 3 without being locked or held thereby to any appreciable extent. When the nut 2 has arrived into the position in which it is desired to be locked, the arms 3 and 4 may be grasped between the fingers, the fingers fitting into the seats 7 and 8 in said arms. The arms 3 and 4 may then be pinched together and tilted slightly downward to free the portion 6 of the arm 3 from the bolt. When the arms 3 and 4 are released the cut-away portion 6 of the upper arm will engage the threads of the bolt 1 and be held against them, the friction between the extremity of the upper arm 3 and the bolt 1 tending to prevent the rotation of the nut.

It is to be observed that the force with which the extremity of the upper arm 3 bears against the bolt may be adjusted, and this adjustment depends upon the amount of space which is allowed to intervene between the upper arm 3 and the lower arm 4 when the cut-away portion 6 of the upper arm is brought into contact with the thread of the bolt. If the U-shaped member is allowed to retain the position in which it normally stands the friction between the extremity of the upper arm 3 and the bolt will be very slight and if the arms 3 and 4 are brought into close relation the friction, and consequently the holding effect of the device, will be greatly increased.

In cases where a U-shaped element of moderate resiliency only is employed, it is possible to place the cut-away portion 6 of the upper arm in contact with the threads of the bolt 1 as soon as the first thread of the bolt 1 has appeared above the nut 2 and in

this position, since the cut-away portion 6 of the upper arm conforms to the periphery of the bolt, the nut and its locking mechanism may be rotated upwardly or downwardly upon the bolt until the desired position has been reached. This operation will manifestly make the rotation of the nut upon the bolt 1 more difficult and greater strength will have to be applied upon the wrench whereby the nut is rotated. When, however, the nut has arrived in its ultimate position, the resiliency of the U-shaped member will hold the nut in position against any effort less than the effort exercised to rotate it to place.

The resilient U-shaped locking clip is rigidly assembled with the nut which carries it and the two cannot be separated accidentally. The U-shaped member need be bent but little to seat it in its locking position and it may be used repeatedly. So long as a single thread of the bolt extends above the nut the U-shaped member will exercise its holding or locking function.

Having thus described my invention what I claim as new and desire to protect by Letters Patent is:

In a device of the class described, a nut having a bolt opening, and an aperture in its upper face adjacent one edge of the nut; and a resilient, U shaped member, one arm of which is rectangularly bent for mounting in the aperture of the nut, the other arm thereof being arranged to stand terminally within the extended contour of the bolt-opening in the nut; the portion of the nut which is disposed between the aperture and the periphery of the nut, being pressed inwardly to engage the bent part of the resilient member.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

CONRAD GLAUM.

Witnesses:

ANDREW O. METLAND,
INGVALD L. KNUDSON.