

N. HAWRYLASZ.
 NUT LOCK.
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1,297,845.

Patented Mar. 18, 1919.

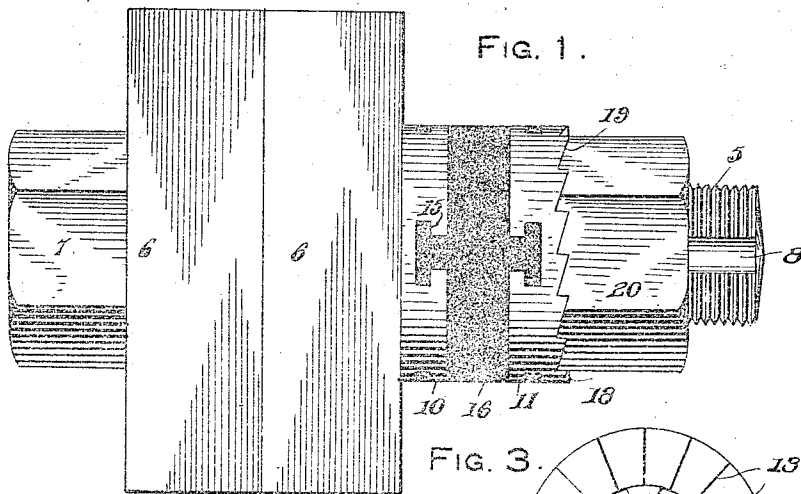


FIG. 1.

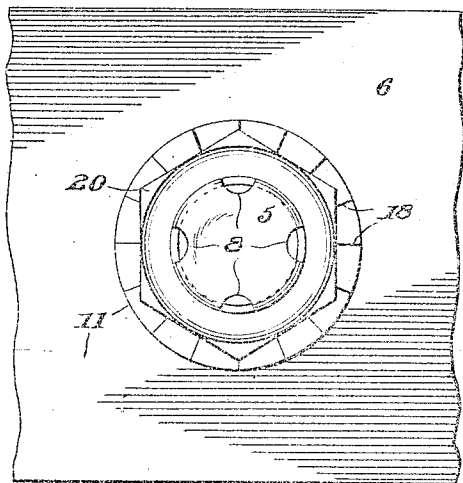


FIG. 2.

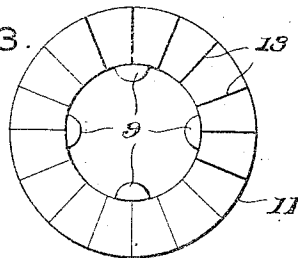


FIG. 3.

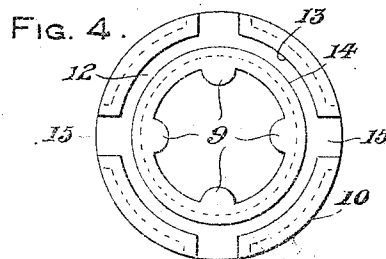


FIG. 4.

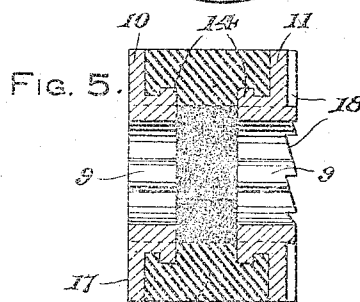


FIG. 5.

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NUT-LOCK.

1.297,845.

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To all whom it may concern:

Be it known that I, NIKYFOR HAWRYLASZ, a subject of the Emperor of Austria, residing at Southington, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Nut-Locks, of which the following is a specification.

This invention relates to certain new and useful improvements in nut locks and has among its principal objects the provision of a device of this character which is extremely efficient in operation and capable of being easily and cheaply manufactured.

A further object of the invention is to provide a nut lock of the ratchet type which embodies a specifically novel and improved form of laminated washer, the washer being of a compressible nature and adapted for interlocking engagement with a bolt and ratchet engagement with the base of a nut.

With these general objects in view and others that will become apparent as the nature of the invention is better understood, the same consists in the novel form, combination, and arrangement of parts herein-after more fully described, shown in the accompanying drawing and claimed.

In the accompanying drawing, wherein like characters of reference indicate corresponding parts throughout the several views,

Figure 1 is a side elevational view of the present invention operatively disposed and shown connecting a pair of plates.

Fig. 2 is an end view of the device shown in Figure 1.

Fig. 3 is a detail view of the improved washer embodied in the present invention looking at the ratchet end thereof.

Fig. 4 is a detail view showing the construction of the metal members of the washer embodied in the present invention but being connected by the intermediate resilient layer, and

Fig. 5 is a central transverse sectional view of the compressible washer forming part of the present invention.

Referring more in detail to the several views, the present device is shown as embodying a bolt 5 extended through a pair of connected plates 6 and provided with the usual head 7 upon one end thereof.

The shank of the bolt 5 is threaded in the usual manner and provided with a plurality

of equally spaced longitudinal grooves 8 in the outer face thereof adapted to slidably receive the inwardly projecting lugs 9 which are rigidly provided on the metal washer members 10 and 11 so as to effectively maintain said washer members against rotation relative to the bolt 5.

Each of the washer members 10 and 11 are of shell formation and constructed to provide a concentric groove 12 of circular form which is under cut so as to provide overhanging flanges 13 and 14 respectively at the outer and inner sides of said groove. The groove 12 is directed radially as at 15 at a plurality of points so as to extend the periphery of each of the washer members 10 and 11 and a compressible intermediate layer 16 is provided between the members 10 and 11, the same being preferably in the form of vulcanized rubber which is molded so as to enter the under cut groove 12 and the radial portions 15 of the latter with the flanges 13 and 14 overhanging portions of the same, thus preventing separation of the members 10 and 11 and causing the same to constitute substantially a single unit.

The members 10 and 11 are operatively disposed in opposite relation as shown more clearly in Figs. 1 and 5, the inner face 17 of the inner washer member 10 being smooth so as to flatly seat against the adjacent plate 6, and the outer face 18 of the washer member 11 is provided with a plurality of radial ratchet teeth which are directed in one direction and adapted for engagement with the oppositely directed ratchet teeth 19 provided on the base or inner face of the nut 20.

It will be understood that the washer comprising the permanently united members 10, 11 and 16 are slidably positioned upon the shank of the bolt 5 as shown in Fig. 1 after said bolt has been inserted through the plates 6, and as the lugs 9 of the members 10 and 11 enter the longitudinal grooves 8 of the bolt 5, relative turning of the washer and the bolt is prevented. The nut 20 is then screwed onto the bolt 5 in a clockwise direction until the teeth 19 thereof engage the teeth 18 of the washer member 11. Further rotation of the nut 20 is allowed by reason of the fact that the intermediate layer 16 may be compressed so as to permit the washer member 11 to yield toward the washer member 10, at which time the teeth

19 ratchet over the teeth 18. When the layer 16 has been compressed so that it is extremely hard to further turn the nut 20 in a clockwise direction, the rotation of said nut 20 is stopped and the expansion of the layer 16 yieldingly forces the member 11 slightly outwardly so as to provide a firm interengagement of the teeth 18 and 19, thus effectively preventing counterclockwise rotation of the nut 20 and thereby preventing removal of said nut.

From the foregoing description, it is believed that the construction and operation as well as the advantages of the present invention will be readily understood by those skilled in the art and while the form of the invention herein shown and described is what is believed to be the preferable embodiment thereof, it is nevertheless to be understood that minor changes may be made in the form, combination and arrangement of parts without departing from the spirit and scope of the invention as claimed.

What I claim as new is:—

1. In a nut lock, a washer comprising a pair of spaced metallic plates of shell-like

formation having under cut grooves in the adjacent faces thereof and provided with inwardly extending rigid lugs, and a compressible layer between said washer members extending into the under cut grooves of the latter, one of said members being provided with an outer ratchet face, substantially as described.

2. In a nut lock, a washer comprising a pair of oppositely disposed washer members of metallic material having inwardly directed lugs and provided with under cut grooves in the adjacent faces thereof providing overhanging flanges, said grooves being provided with radial extensions terminating at the periphery of the respective washer members, and a compressible layer arranged within said grooves and the extensions thereof to rigidly connect the washer members, one of said washer members being provided with an outer ratchet face, substantially as described.

In testimony whereof I affix my signature. 50

NIKYFOR HAWRYLASZ.