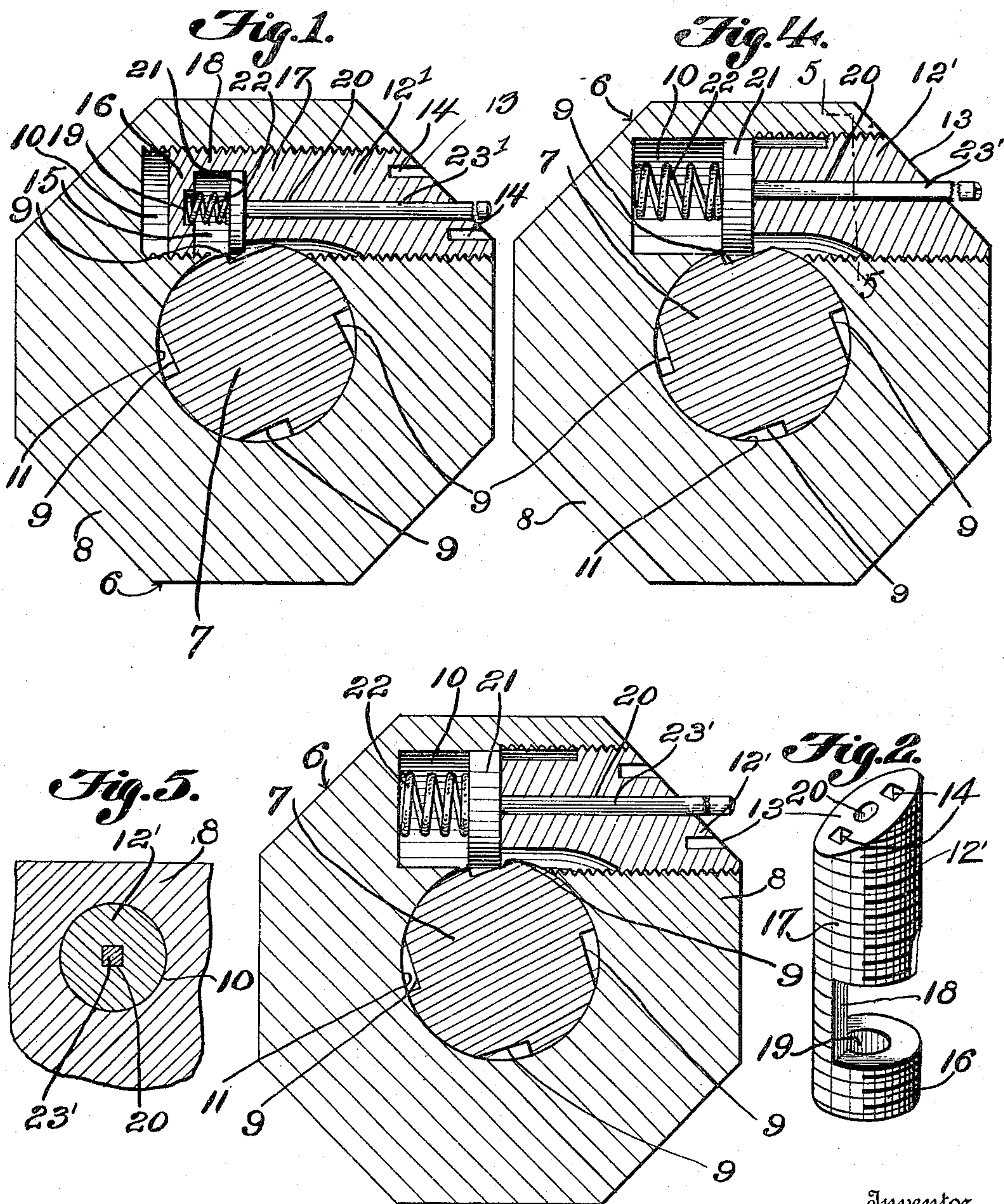


R. O. HAMMOND.
NUT LOCK.
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1,155,233.

Patented Sept. 28, 1915.



Inventor
Robert O. Hammond

Witnesses
Albert L. Key
John R. Woodworth

Fig. 3.
By *Charles Richardson*
Attorney

UNITED STATES PATENT OFFICE.

ROBERT O. HAMMOND, OF AMITYVILLE, NEW YORK, ASSIGNOR TO CHARLES F. DELANO,
OF AMITYVILLE, NEW YORK.

NUT-LOCK.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, ROBERT O. HAMMOND, a citizen of the United States, residing at Amityville, in the county of Suffolk and State of New York, have invented certain new and useful Improvements in Nut-Locks, of which the following is a specification.

This invention relates to new and useful improvements in lock nuts and bolts.

The object of this invention is the provision of a device of this character, which will securely hold the nut against any undesired rotation upon the bolt, but which can be very quickly removed when desired.

Another object of this invention, is to improve and simplify devices of this character, rendering them comparatively simple and inexpensive to manufacture, reliable and efficient in use, and readily operated.

With the above and other objects in view, this invention resides in the novel features of construction, formations, combinations, and arrangements of parts to be hereinafter more fully described, claimed and illustrated in the accompanying drawing in which:

Figure 1 is a transverse sectional view taken through a nut and bolt constructed in accordance with my invention. Fig. 2 is a detail perspective view of my improved plug removed from the nut. Fig. 3 is a view similar to Fig. 1, but showing a modified form of plug; and Fig. 4 is a similar view showing a still further modification. Fig. 5 is a detail sectional view taken on the line 5—5 of Fig. 4.

Referring to the accompanying drawing by similar characters of reference, the numeral 6 designates generally my improved lock nut, which embodies a threaded bolt 7 upon which is located a nut 8. The bolt 7 is formed upon its opposite sides with longitudinal grooves 9 for a purpose to be later more fully explained.

The nut 8 can be any desired shape, and is formed in one side with a cylindrical opening 10 which leads from the outer side of the nut to a point adjacent the opposite side thereof. The intermediate point of this opening 10 communicates with the central portion of the usual threaded opening 11 of the nut 8. The interior of the opening 10 is threaded as shown and receives a plug 12' the outer end of which is beveled as at 13 to lie flush with the outer side of the nut, while the same is also formed with key

sockets 14 by means of which the same can be rotated and moved longitudinally of the opening 10. One side of the plug as shown in Figs. 1 and 2 of the drawings is cut away as at 15, to produce a pair of cylindrical spaced blocks 16 and 17 which are connected by an integral bar 18. The inner end of the block 16 is formed with a socket 19, while the block 17 is provided with a central bore 20, which leads through the ends thereof.

A plunger 21 is disposed between the adjacent ends of the blocks 16 and 17, and extends into the opening 11, being normally forced into one of the grooves of the bolt 7 by a spring 22, which is seated in the socket 19. A stem 23' is formed upon one end of the plunger 21 and extends through the bore 20 and projects slightly beyond the outer side of the nut 8, in such manner that when a wrench (not shown) is applied to the nut 8 the same will cause the inward movement of the stem 23', which releases the nut from the bolt 7 and permits its rotation in either direction; and upon the removal of the wrench, the spring 22 will force the plunger 21 into one of the grooves 9 which again locks the nut against any rotation relative to the said bolt.

Upon the insertion of an instrument into the sockets 14, and the movement of the plug within the nut 8, the plunger will be moved into or out of operative relation with the bolt 7.

In Fig. 3 of the drawing the plug is made to engage only one side of the plunger 21 as clearly shown, and the spring 22 engages the end of the opening 10 and adjacent face of the plunger 21, while in Figs. 4 and 5 the stem 23' is square and passes through a square opening in the plug. The end of the stem 23' is also formed with a notch, so that upon the rotation thereof by means of a suitable instrument, the plug 12' will be moved longitudinally of the opening 10.

The operation of the device is as follows:—The bolt 7 is passed through the material to be secured, and then the nut 8 is applied and as soon as the same has grasped the threads of the bolt 7, a wrench is applied to the said nut 8, the jaws of the wrench hold the stem 23' of the plunger inwardly bringing the rounded end portion of the stem 23' flush with the inclined face of the nut 8, thus holding the plunger out of engagement with the grooves 9 of the bolt 7.

The nut 8 is now turned and screwed on by means of the wrench, until said nut is tightened to its full extent. The wrench is then removed and by means of the coil spring 5 22 the plunger is forced back into its normal position at the same time seating its lower edge in the first groove 9 of the bolt 7 that happens to feed into it. To remove the nut 8 and bolt 7 the same operation is required, 10 but of course the nut 8 must be turned and screwed in the opposite direction, with the wrench applied in the same manner.

From the foregoing it should be understood in this connection that various minor 15 changes in the details of construction can be resorted to within the scope of the appended claim without departing from or sacrificing any of the advantages of the invention.

From the foregoing disclosures taken in 20 connection with the accompanying drawings it will be manifest that a nut lock of the type described is provided which will fulfil all of the necessary requirements of such a device.

25 Having thus fully described this inven-

tion, what I claim and desire to protect by Letters Patent is:—

The combination with a bolt having grooves therein, of a nut having a threaded opening for receiving the bolt and a thread- 30 ed recess in communication with the opening therein, a spring pressed plunger movable in said recess into and out of engagement with the grooves in said bolt, a plug movable in the recess into and out of en- 35 gagement with the plunger for limiting the movement of the same into and out of operative relation with the grooves in the bolt and retaining the said plunger in inopera- 40 tive position, and a stem projecting from the plunger through the plug and beyond the side of the nut, whereby upon depression of said stem, the plunger will be forced to inoperative position.

In testimony whereof I affix my signature 45 in presence of two witnesses.

ROBERT O. HAMMOND.

Witnesses:

JNO. R. WOODWORTH,

ALBERT L. KREY.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."