

W. J. MUNDY.
NUT LOCK.

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992,136.

Patented May 9, 1911.

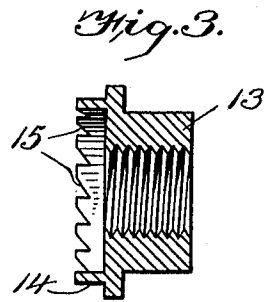
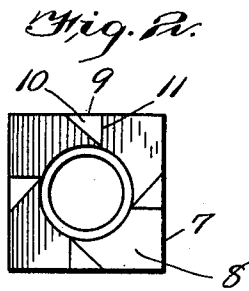
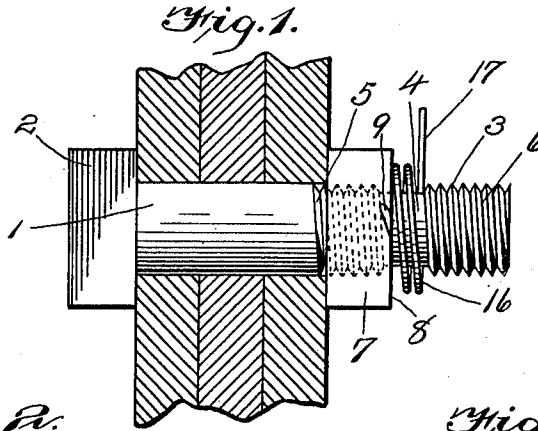


Fig. 4.

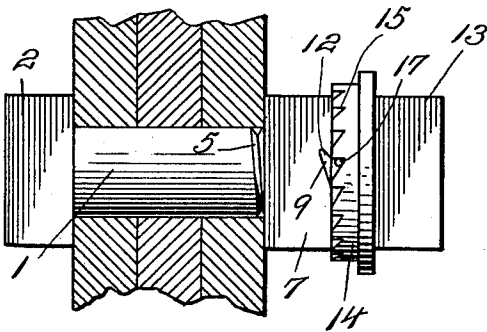
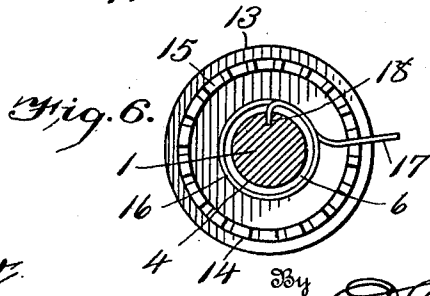
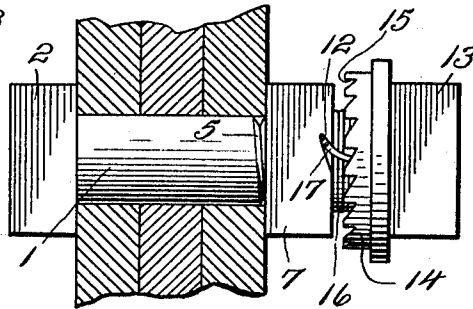


Fig. 5.



Witnesses

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UNITED STATES PATENT OFFICE.

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NUT-LOCK.

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To all whom it may concern:

Be it known that I, WILLIAM J. MUNDY, a citizen of the United States, residing at Shenandoah, in the county of Schuylkill and State of Pennsylvania, have invented certain new and useful Improvements in Nut-Locks; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to the class of nut locks and has for its object to provide a device of this class whereby a nut will not only be locked on a bolt but which is so constructed and arranged that the tendency will be to tighten the nut on the bolt.

A further object of this invention is to provide a nut lock which is so constructed and arranged that the nut can be easily and quickly unthreaded from the bolt.

With these objects in view my invention consists in the novel construction and arrangement of the bolt, nut and jam nut; and my invention also consists in the novel arrangement of the spring locking element as will be hereinafter fully described and afterward specifically pointed out in the appended claims.

Referring to the accompanying drawing: Figure 1 is a sectional view through the objects bolted together showing the bolt in elevation. Fig. 2 is a plan view of the locking nut. Fig. 3 is a transverse sectional view through the jam nut. Fig. 4 shows the device in locked position. Fig. 5 shows the device illustrating the position for threading or unthreading the jam nut, and Fig. 6 is a sectional view through the bolt illustrating the spring locking element and jam nut.

Like numerals of reference indicate the same parts throughout the several figures in which:

1 indicates the bolt having the usual head 2.

3 indicates the threaded portion of the nut, and as will appear from Fig. 1 a reduced smooth portion 4 is provided separating the threads 3 into two distinct threaded portions 5 and 6.

7 indicates the lock nut which is of ordinary form except that the outer face 8 thereof is provided with a series of recesses 9, said recesses 9 having an inclined surface 10 and a wall 11, said wall being cut under at 12 as clearly shown in Figs. 4 and 5.

13 indicates the jam nut which is provided with an annular wall 14, said wall 14 being provided with a series of ratchet teeth 15 as clearly shown in Fig. 3.

16 indicates the spring locking element which as shown in Fig. 1 is spiral in form, the outer end 17 of which extends a short distance beyond the lock nut 8. As will appear from Fig. 6 the bolt 1 is provided with a recess into which the inner end 18 of the spring locking element 16 enters, and as is clearly shown in Fig. 1 the spring locking element 16 is disposed in the reduced smooth portion 4 of the bolt 1.

Having thus described the several parts of my invention its operation is as follows: The bolt being in position to be locked and the lock nut 7 being threaded on the bolt the spring locking element 16 is placed on the bolt in such manner that the inner end 18 thereof enters the recess in the bolt. The jam nut 13 is then threaded on the threaded portion 6 and when the same is in position shown in Fig. 5 the end 17 of the spring locking element 16 is wound around the bolt in order to produce a spring tension to the element 16, and when sufficient tension has been imparted the end 17 of the spring element 16 is carried down into one of the recesses 10 in the lock nut 7 as shown in Fig. 5. When in this position the jam nut 13 is threaded down upon the lock nut 7 into position shown in Fig. 4 at which time the end 17 of the spring locking element 16 is released from the recess 9 and the end 17 of the spring element 16 engages one of the ratchet teeth 15 in the jam nut 13 as shown in Fig. 4. As the spring locking element 16 is wound in the opposite direction to that which the nut follows in being threaded on the bolt the tendency of the spring element 16 to unwind is communicated to the jam nut 13 and constantly rotates the same in a direction which causes the jam nut 13 to be threaded on the bolt 1 thus constantly tightening the jam nut 13 on said bolt. Should any play occur between the lock nut 7 and the jam nut 13 the action of the spring locking element 16 immediately rotates the jam

nut 13 to cause the same to jam on the face of the lock nut 7 in such manner that the two ends are at all times locked together and all tendency for the jam nut unthreading is
 5 entirely obviated. By this construction it will at once be apparent that while the spring locking element 16 locks the jam nut 13 it at the same time tends to tighten the jam nut 13 on the lock nut 7.

10 When it is desired to remove the jam nut 13 in order to displace the bolt the end 17 of the spring locking element 16 is carried down into one of the recesses 9 in the lock nut 7 as illustrated in Fig. 5 which operation
 15 disengages the end 17 of the spring element 16 from the ratchet teeth 15 of the jam nut 13 thus allowing the jam nut 13 to be readily run off of the bolt 1. As soon as the jam nut 13 has been removed from the bolt the spring
 20 locking element 16 is displaced and the lock nut 7 is unthreaded so that the bolt can be removed.

Having thus fully described my invention what I claim as new and desire to secure by
 25 Letters Patent of the United States, is;—

1. A device of the character described comprising a bolt having two threaded portions and a portion between said two threaded portions which is not provided with threads.
 30 a threaded nut adapted to be threaded on one of said threaded portions, the face of said nut being provided with a plurality of undercuts or recesses, a coil spring having one end thereof entering the bolt in the portion thereof lying between the said two
 35 threaded portions, the said coil spring lying

between the two said threaded portions, a threaded nut adapted to be passed on the outer one of said threaded portions, said threaded nut being provided on its inner
 40 face with an annular wall which annular wall is provided with a plurality of ratchet teeth adapted to be engaged by the outer or free end of the said coil spring, substantially as described.

2. A device of the character described comprising a bolt, a threaded nut adapted to be passed on the threaded end of said bolt, the face of said nut being provided with a series of recesses, a coil spring having one
 50 end thereof connected to said bolt, said spring being coiled around the said bolt and provided with an extending free end, a threaded nut adapted to be passed on the end of said bolt, an annular wall on the inner
 55 face of the last mentioned nut, said annular wall being provided with a series of ratchet teeth for engagement with the extending free end of the coil spring to lock the said last mentioned nut against unthreading on
 60 the said bolt, the said recesses in the face of the first mentioned nut being adapted to receive the said extending free end of the coil spring to allow the second mentioned nut to be unthreaded off the said bolt.

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

WILLIAM J. MUNDY.

Witnesses:

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 PATRICK BIRMINGHAM.