No. 641,054. Patented Jan. 9, 1900.

J. TIRRELL, JR.

NUT LOCK.

(Application filed Sept. 11, 1899.)

(No Model.)

Fig. 1.

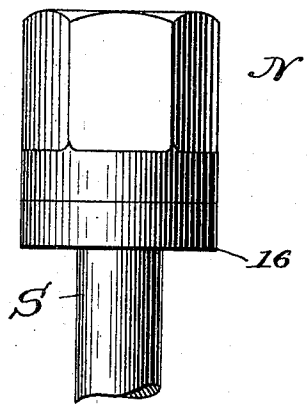


Fig. 2.

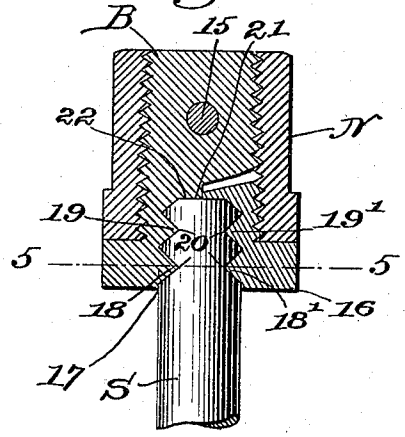


Fig. 3.

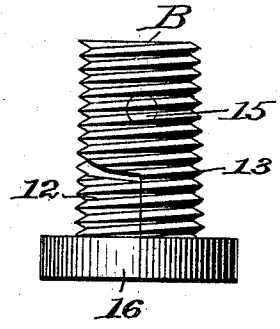


Fig. 4.

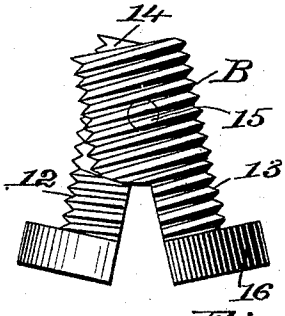


Fig. 5.

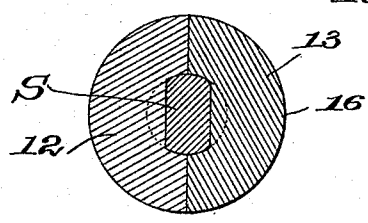
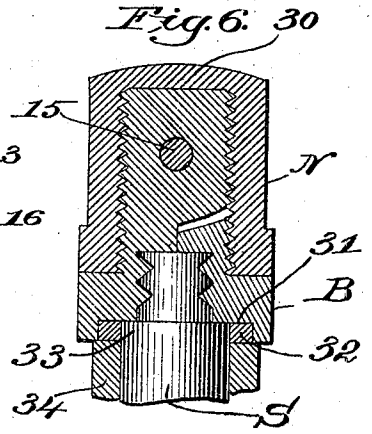


Fig. 6.



Witnesses.
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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JAMES TIRRELL, JR., OF WEYMOUTH, MASSACHUSETTS, ASSIGNOR OF ONE-HALF TO THOMAS ARNOLD, OF ABINGTON, MASSACHUSETTS.

NUT-LOCK.

SPECIFICATION forming part of Letters Patent No. 641,054, dated January 9, 1900.

Application filed September 11, 1899. Serial No. 730,093. (No model.)

To all whom it may concern:

Be it known that I, JAMES TIRRELL, Jr., of South Weymouth, county of Norfolk, State of Massachusetts, have invented an Improvement in Nut-Locks, of which the following description, in connection with the accompanying drawings, is a specification, like letters and numerals on the drawings representing like parts.

This invention is in the nature of a nut-lock; and it consists of a bolt in two parts constructed to clamp an object, such as the end of a spindle or shaft, between them, and a nut for the bolt serving to hold said parts in working position, whereby the bolt is firmly held against detachment from the spindle.

In the present case the bolt consists of two pivotally-connected parts or halves, and it has a seat or pocket extending through the head and into the body or shank of the bolt, the wall or walls of said pocket being corrugated or otherwise roughened to receive the similarly-shaped end of the spindle or shaft, and I prefer to taper the bolt, so that when its nut has reached the head the nut will be wedged firmly in place against retractive movement and will more firmly clamp the two sections thereof in engagement with the spindle or shaft carrying the same.

The device constructed as aforesaid constitutes an effectual stop upon a shaft, or it can be employed for other purposes.

In the drawings, Figure 1 is an elevation of a nut-lock constructed in accordance with my invention in the preferred embodiment thereof and showing the manner of using the same. Fig. 2 is a longitudinal central sectional view of the lock, the shaft to which the same is applied being illustrated in elevation. Fig. 3 is an elevation of the bolt. Fig. 4 is a similar view showing the halves as opened to receive a shaft. Fig. 5 is a sectional view, the section being taken in the line 5 5, Fig. 2; and Fig. 6 is a view corresponding to Fig. 2 and showing a different use of the appliance.

In the drawings the device is represented as including in its organization a bolt, as B, comprising two substantially duplicate or similar parts, between which an object can be clamped, and a nut, as N, of suitable kind, adapted to embrace the shank or threaded portion of the bolt and fit against the head thereof, thereby to hold the two parts in firm engagement with the object to be gripped.

Upon reference to Figs. 3 and 4 the bolt B is represented as consisting of two parts, denoted, respectively, by 12 and 13, the part 12 having a tongue, as 14, adapted to enter a notch or opening extending longitudinally of the part 13, and the two are united by the pivot 15, which can be driven into position, opposite ends of the pivot being dressed down so as to be flush with the threaded surface of the bolt. It will be understood that the parts 12 and 13 carry complemental or mating segments of the thread.

The bolt is represented as having at one end a pocket or opening to receive the end of a spindle or shaft S, the purpose being to clamp the bolt to the spindle, whereby the head 16 thereof can serve as a stop, and one half the pocket is formed in one of the sections of the bolt, while the other half is formed in the other section of the bolt. This spindle-receiving pocket is denoted by 17, and it extends centrally through the annular head 16 and upward for a short distance into the shank or threaded portion of the bolt. The wall or walls of the pocket are preferably roughened, whereby the bolt when in working position will be positively held against endwise movement and consequently against displacement from the shaft.

The wall of the pocket 17, which is substantially circular in cross-section, is provided at diametrically opposite sides with the superposed V-shaped projections or teeth 18 and 19 and 18′ and 19′, adapted to enter correspondingly-shaped notches, each denoted by 20 and formed upon the periphery of the spindle at diametrically opposite sides thereof. When the bolt is clamped to the spindle, it will be evident that by reason of the coöperating projections and notches the bolt 16 cannot be pulled from the shaft, and therefore I do not always depend upon the mere frictional engagement of the parts to hold the bolt on; but in some cases where the bolt is not subjected to unusual stress it may be held in place simply by friction. The inner end of the pocket is flattened, as at 21, against which the correspondingly-flattened end of

the shaft or spindle S is adapted to abut when the parts are in their proper positions indicated in Fig. 2.

To connect the device to the spindle or shaft, the nut N will first be removed and the parts 12 and 13 swung open, so that the bolt can be placed over the end of the shaft S and the projections 18 and 19 and 18′ and 19′ inserted in the several notches upon the shaft, after which the parts 12 and 13 will be closed and the nut N placed on the threaded portion or shank of the bolt and turned forward until its inner end abuts against the head 16 of the bolt, whereby the two parts of the bolt will be held clamped upon the shaft S.

Upon reference to Fig. 3 it will be seen that the shank or threaded portion of the bolt 15 is tapered; but this is not the case with the threaded interior of the nut N, by reason of which it will be evident that as said nut is turned onto the threaded portion of the bolt it will be firmly locked or wedged thereon, so that when it abuts against the head 16 any backward movement thereof due to ordinary jars or shocks will be absolutely prevented, and likewise by virtue of this construction the two sections of the bolt may be caused to more firmly clamp the end of the shaft S.

In Fig. 6 I have shown a different mode of using the appliance, wherein the nut N is employed to hold the wheel of a vehicle upon the axle S. The bolt B and the nut are constructed precisely like those illustrated in the other views excepting that the outer end of the nut is closed, as at 30, and the head of the bolt has a cylindrical recess 31. This recess 31 is adapted to snugly receive the washer or ring 32, surrounding the shouldered end 33 of the axle, said shoulder abutting against the inner face of the cylindrical recess or depression 31. The usual axle-skein is denoted by 34 and surrounds the axle and bears, respectively, against the washer and the head of the bolt B.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. An exteriorly-threaded two-part bolt having a longitudinal tubular pocket therein, one-half of the pocket being formed in each part of the respective halves of the bolt, the pocket being provided on its opposite walls with projections, and a nut adapted to embrace the two parts of the bolt.

2. A bolt in two parts, said bolt having a pocket, a nut embracing the threaded portion of the bolt to hold the parts thereof in clamping position, and having a closed end, a spindle clamped between the two parts of the bolt, and a washer surrounding the spindle and seated in the recess in the bolt.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JAMES TIRRELL, JR.

Witnesses:
EMMA J. BENNETT,
ALEXANDER C. PROUDFIT.