

No. 845,930.

PATENTED MAR. 5, 1907.

T. E. CURD.
NUT LOCK.

APPLICATION FILED DEC. 13, 1906.

Fig. 1.

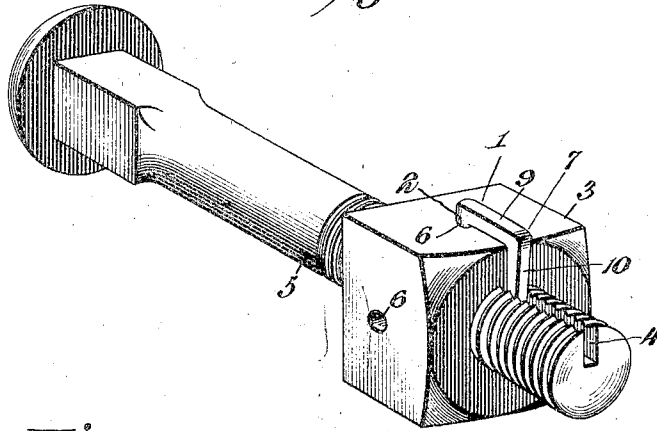


Fig. 2.

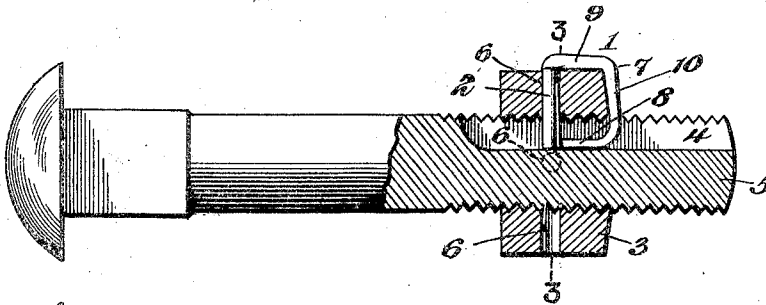


Fig. 3.

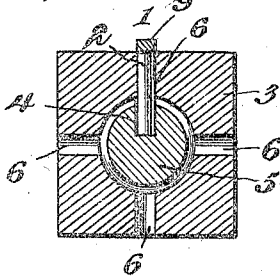
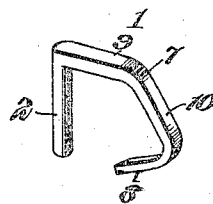


Fig. 4.



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UNITED STATES PATENT OFFICE.

THOMAS EDMUND CURD, OF MORLEY, MISSOURI, ASSIGNOR OF ONE-FOURTH
TO BENJAMIN F. EARLES, OF MORLEY, MISSOURI.

NUT-LOCK.

No. 845,930.

Specification of Letters Patent.

Patented March 5, 1907.

Application filed December 13, 1906. Serial No. 347,729.

To all whom it may concern:

Be it known that I, THOMAS EDMUND CURD, a citizen of the United States, residing at Morley, in the county of Scott and State of Missouri, have invented a new and useful Nut-Lock, of which the following is a specification.

The invention relates to improvements in nut-locks.

The object of the present invention is to improve the construction of nut-locks and to provide a simple and comparatively inexpensive locking device designed for use on rail-joints, machinery, and other constructions subject to vibration and adapted for enabling a nut to be readily locked to the bolt and capable of effectually preventing the former from accidentally unscrewing.

The invention also has for its object to improve the construction of that class of nut-locks employing a key for locking a nut on a bolt and to enable the means for retaining the key in engagement with the nut and the bolt to also serve as a nut-lock whereby a double lock is provided for holding the nut against rotary movement.

With these and other objects in view the invention consists in the construction and novel combination of parts hereinafter fully described, illustrated in the accompanying drawing, and pointed out in the claim here-to appended, it being understood that various changes in the form, proportion, size, and minor details of construction within the scope of the claim may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawing, Figure 1 is a perspective view of a nut-lock constructed in accordance with this invention and shown applied to a bolt and a nut. Fig. 2 is a longitudinal sectional view of the same. Fig. 3 is a transverse sectional view on the line 3 3 of Fig. 2. Fig. 4 is a detail perspective view of the lock and key.

Like numerals of reference designate corresponding parts in all the figures of the drawing.

1 designates a locking-key designed to be constructed either of malleable metal or spring metal and provided with a radially-arranged body portion 2, which extends through a nut 3 and engages a longitudinal groove 4 of a bolt 5. The nut is provided in

each of its faces with a radially-arranged transversely-disposed opening 6 to receive the body portion of the key, whereby the nut may be locked at each quarter-turn. In the accompanying drawing the key is shown applied to a square nut; but it is equally applicable to a nut having any number of wrench-receiving faces.

The groove 4, which may be of any desired depth, is preferably of a depth equal to about one-third the diameter of the bolt, so as not to materially weaken the same, and it extends longitudinally of the threaded portion of the bolt, as clearly shown in Figs. 1 and 2 of the drawing.

The body portion of the key is locked in engagement with the nut and the bolt by means of a substantially U-shaped loop portion 7, consisting of inner and outer sides 8 and 9 and a connecting portion 10. The outer portion 9 is arranged on the exterior of the nut and is disposed longitudinally of the bolt, extending from the key to the outer end face of the nut. The connecting portion 10 extends from the outer side 9 of the loop to the groove 4 of the bolt, and the inner side 8 is located within the groove and extends from the outer end face of the nut to the body portion 2 of the key. The terminal of the inner side 8 abuts against the body portion 2, and by arranging the inner side of the loop in the groove of the bolt the loop, which serves to retain the body portion of the key in engagement with the bolt, also operates to directly engage the latter. By this construction the key provides a double lock for engaging the bolt, and the nut is securely held against rotary movement.

When the key is constructed of malleable metal, it is applied to the nut in the form illustrated in Fig. 4 of the drawing, the terminal of the inner side 8 being spaced from the body portion 2 a sufficient distance to permit the said body portion 2 to be inserted in one of the holes 6 of the nut. The loop is then tapped into the position shown in Fig. 2, the inner side wall being driven into the groove 4 until its end abuts against the body portion 2 at the inner end thereof. When the key is constructed of spring metal, it will be applied to the bolt in the form shown in Fig. 2, but the loop will be constructed sufficiently thin and resilient to enable it to be opened wide enough to admit

of the introduction of the body portion of the key in one of the openings or holes of the nut. The resiliency of the loop will then cause the inner side to spring into engagement with the bolt, when the inner side is carried to the groove.

The bolt and the nut are not materially weakened by the groove and the holes, and when it is desired to remove the nut the loop may be readily withdrawn from the groove by a suitable tool.

The key for locking the nut on the bolt is hardly noticeable when applied to rail-joints and other constructions where it is exposed to view, and even if it should be noticed it would not be sufficiently understood to be unlocked, so that there will be no liability of unauthorized persons tampering with and unlocking the nuts.

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

In a nut-lock, the combination with a bolt

having a longitudinal groove, and a nut having a transverse opening, of a key consisting of a body portion extending through the opening of the nut and having its inner end arranged in the groove of the bolt, and a substantially U-shaped loop having inner and outer sides and a connecting outer portion, the outer side of the loop being connected with the outer end of the said body portion and the inner side of the loop being arranged in the groove of the bolt and fitting against the said body portion of the key, whereby the loop is adapted to engage the bolt and also retain the key in engagement with the same.

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

THOMAS EDMUND CURD.

Witnesses:

TRUSTEN POLK RANDAL,
GLENA BREWSTER.