O. H. SLEEPER.

NUT LOCK.

APPLICATION FILED SEPT. 8, 1914.

1,156,105. Patented Oct. 12, 1915.

Fig. 1.

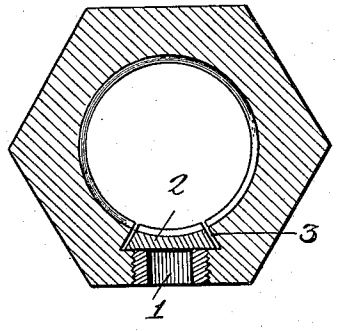
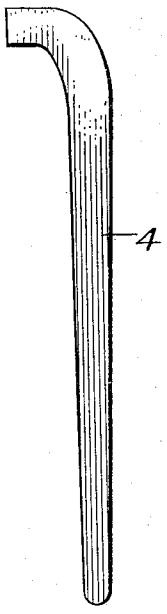


Fig. 3.



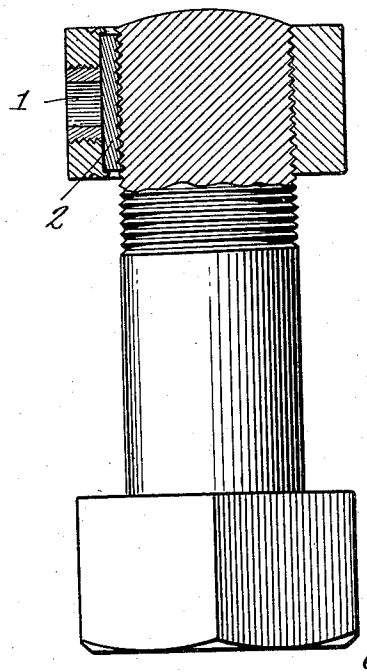


Fig. 2.

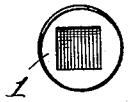


Fig. 4.

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UNITED STATES PATENT OFFICE.

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NUT-LOCK.

1,156,105. Specification of Letters Patent. Patented Oct. 12, 1915.

Application filed September 8, 1914. Serial No. 860,688.

To all whom it may concern:

Be it known that I, OTIS H. SLEEPER, a citizen of the United States, residing at Exeter, in the county of Rockingham and State of New Hampshire, have invented new and useful Improvements in Nut-Locks, of which the following is a specification, reference being made therein to the accompanying drawing.

This invention relates to nut locks and particularly to a construction wherein the nut and bolt may be locked together against relative movement by a key carried in the nut itself.

It has been proposed heretofore to provide nuts with keys but these keys have been either liable to accidental displacement and loss or otherwise open to objection in manufacture or operation.

The device of my present invention is characterized by the fact that the key is longitudinally disposed within the nut and confined therein so that it can not be lost when the nut is removed from the bolt and yet can be permanently locked in place by a radial movement of the key.

The construction and operation of my invention will be more fully disclosed in the specification that follows.

In the drawings forming a part of that specification I have shown as an illustrative embodiment a form of nut lock which has been found satisfactory in use and well adapted to the requirements of manufacture. Throughout specification and drawings like reference numerals are correspondingly applied and in these drawings: Figure 1 is a plan section of a nut lock in accordance with my invention. Fig. 2 is a face view of the rotatable socket piece or plug thereof. Fig. 3 is a detail view of the actuating wrench for rotating said plug, and Fig. 4 is a view partially in section of the nut lock assembled.

In carrying out my invention the nut or other part to be locked upon the bolt is provided with a radial opening in which a radially movable hollow socket piece or plug 1 is adjustably threaded. The plug 1 is provided with a wrench socket preferably of square or polygonal form. The inner end of the plug 1 bears against the outer face of a radially but not longitudinally movable key or shoe 2 having threads on its inner face corresponding to the threads on the stem of the bolt. The key 2 is of a dove tailed shaped in cross section and is radially movable in a dove tailed groove or slot 3 cut in the inner face of the nut, the slot 3 being of slightly greater width than the key 2. The metal of the nut at each end of the slot is upset inwardly slightly to provide stops for limiting the longitudinal movement of the key to prevent it from accidentally dropping out of the slot.

The key is moved radially but not longitudinally against the threads of the bolt to lock and unlock the nut and bolt by setting up or loosening the plug 1 by the use of any suitable actuating member having an end which will fit in the exposed end of the plug 1. As a convenient form of actuating member I have shown a wrench 4 having a laterally bent end to fit the wrench socket in the threaded plug 1.

In use, the actuating end of the wrench is inserted in the socket of the threaded plug 1 and turned to partially rotate the plug. The screwing in of the plug forces in the key or shoe 2 radially and causes it to bind firmly against the threads of the bolt. In unlocking the nut, the plug is screwed outwardly to release the key from the bolt. The slight play of the key in its slot permits these radial movements. The stops at the ends of the slot prevent accidental displacement of the key from the nut.

Various modifications in the form and construction of my device may obviously be resorted to within the limits of the appended claims.

What I therefore claim and desire to secure by Letters Patent is:—

1. A lock nut comprising an internally threaded nut having a dove tailed groove across its inner face parallel to its axis, a dove tailed locking piece having threads corresponding to the threads of said nut and having a slight radial play in said groove, means at the ends of said groove for confining said locking piece against longitudinal displacement therein, and a radially adjustable tightening member having a bearing on said locking piece.

2. A lock nut comprising an internally threaded nut having a laterally undercut groove across its inner face parallel to its axis, a laterally extended locking piece having its portion exposed along the inner opening of said groove threaded in correspond-

ence with the threads of said nut and having a slight radial play in said groove, means at the ends of said groove for confining said locking piece against longitudinal displacement therein, and a radially adjustable tightening member having a bearing on said locking piece.

In witness whereof I affix my signature in the presence of two witnesses.

OTIS H. SLEEPER.

Witnesses:
EMMA C. SLEEPER,
ALMON L. SLEEPER.

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