

UNITED STATES PATENT OFFICE.

HARRY A. DEITERS, OF SPENCER, WEST VIRGINIA, ASSIGNOR OF ONE-HALF
TO EDWARD L. BILL, OF SAME PLACE.

NUT-LOCK.

SPECIFICATION forming part of Letters Patent No. 646,898, dated April 3, 1900.

Application filed January 17, 1900. Serial No. 1,771. (No model.)

To all whom it may concern:

Be it known that I, HARRY A. DEITERS, a citizen of the United States, residing at Spencer, in the county of Roane and State of West Virginia, have invented a new and useful Nut-
5 Lock, of which the following is a specification.

This invention relates to nut-locks, and has for its object to provide improved means for locking a nut against accidental displacement
10 from a bolt and at the same time to permit of the ready removal of the nut when desired without damaging either the bolt or the nut. It is furthermore designed to provide a device of this character which may be applied to
15 any common or ordinary form of bolt without changing or altering the latter in any manner whatsoever.

With these and other objects in view the present invention consists in the combination
20 and arrangement of parts, as will be herein-after more fully described, shown in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that changes in the form, proportion, size, and minor details may be made
25 within the scope of the claims without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings, Figure 1 is a longitudinal
30 sectional view of a nut-lock constructed in accordance with the present invention. Fig. 2 is a transverse sectional view taken on the line *xx* of Fig. 1. Figs. 3 and 4 are detail
35 sectional perspective views of the main and locking nuts.

Corresponding parts in the several figures of the drawings are designated by like characters of reference.

Referring to the accompanying drawings, 1
40 designates an ordinary bolt having the usual head 2 and the opposite screw-threaded portion 3. Fitted to the screw-threaded portion of the bolt is the main nut 4, which is to be set up against a surface 5 and locked in such
45 position. In the outer face of the nut there is provided a smooth circular socket 6, which is disposed concentrically with the threaded bore of the nut, and the latter is provided with a marginal series of separate and distinct
50 notches or recesses 7, which open at their outer ends through the back of the

socket. This main nut is to be locked by means of a locking-nut 8, which has its inner face provided with an outwardly-directed boss or extension 9, which is disposed concentrically with respect to the threaded bore of the
55 nut, is circular in shape, so as to fit within the circular socket in the main nut, and also has a smooth periphery in order that the boss or extension may turn within the socket. The threaded bore of the locking-nut extends
60 through the boss or extension and is provided with a marginal series of separate and distinct notches or recesses 10, similar to the recesses in the main nut and opening outwardly
65 through the outer end of the boss.

In the application of the device the main nut 4 is fitted to the bolt and set to a desired position, after which a compressible washer 11, of lead or other suitable material, is placed
70 within the socket 6 in the outer face of the main nut, and then the locking-nut is fitted to the bolt, so that the boss or extension 9 is received within the socket in the main nut. It will now be apparent that the boss 9 turns
75 within and is also fed into the socket 6 while the locking-nut is being set up against the main nut, whereby the washer 11 is compressed or upset between the back of the socket 6 and the adjacent end of the boss 9,
80 so as to force portions of the washer, as indicated at 12, into the notches or recesses in both of the nuts and tightly against the threads of the bolt. By reason of the frictional engagement between the washer and the threads of
85 the bolt the washer is held against accidental turning upon the bolt, and the lugs 12, fitting snugly within the respective notches of the nuts, form an interlocking engagement between said nuts and the washer, whereby the
90 former are held against accidental turning upon the bolt. As indicated in Fig. 1 of the drawings, it will be noted that the boss 9 is shorter than the depth of the socket 6, so that the inner face of the locking-nut may rest
95 flush against the outer face of the main nut, and thereby exclude foreign matter from having access between the two nuts, as such foreign matter might interfere with the proper operation of the device.

From the foregoing description it will be apparent that the main nut may be readily

and conveniently locked upon the bolt without altering or changing the latter, whereby the present device is applicable to any common or ordinary form of bolt. While the nut is locked against accidental displacement, it will of course be understood that the device may be forcibly removed, as the frictional engagement between the comparatively soft and compressible washer and the threads of the bolt may be broken by forcibly unscrewing the nuts. It will thus be seen that the removal of the device does not damage the threads of the bolt or any portion of the nuts, and therefore may be again applied to the same bolt or to other bolts.

What is claimed is—

1. In a nut-lock, the combination with a bolt, of a nut, having a socket formed in its outer surface, and a plurality of notches or recesses formed in the bore of the nut and opening outwardly through the back of the socket, a soft or compressible washer seated in the socket of the nut, and a locking member, having a boss or extension fitting within the socket in the nut, and means for forcing the boss against the washer, to upset or compress the latter into the notches in the nut and against the thread of the bolt.

2. In a nut-lock, the combination with a bolt, of a nut, having a socket formed in its outer face, and a plurality of notches or recesses formed in the bore of the nut and opening outwardly through the back of the socket,

a soft or compressible washer fitting in the socket of the nut, and a locking-nut, having a boss or extension fitting the socket of the other nut and against the washer, the latter being compressed between the two nuts and forced into engagement with the threads of the bolt and the notches or recesses.

3. In a nut-lock, the combination of a bolt, of a main nut, having a circular socket formed in its outer face and concentric with the bore thereof, the latter being provided with separate notches or recesses opening outwardly through the back of the socket, a soft or compressible washer fitted in said socket, and a locking-nut, having a concentric circular boss or extension, which is interiorly screw-threaded, exteriorly smooth, and also provided with separate notches or recesses formed in the screw-threaded portion thereof, and opening outwardly through the outer face of the boss, the latter being received within the socket and against the washer, to force the latter into engagement with the threads of the bolt and also into the notches or recesses of both nuts.

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

HARRY A. DEITERS.

Witnesses:

N. O. RUDMAN,
E. A. ARNOTT.