No. 690,900. Patented Jan. 7, 1902.

L. T. STEPHENSON.

NUT LOCK.

(Application filed Aug. 21, 1901.)

(No Model.)

Fig. 1.

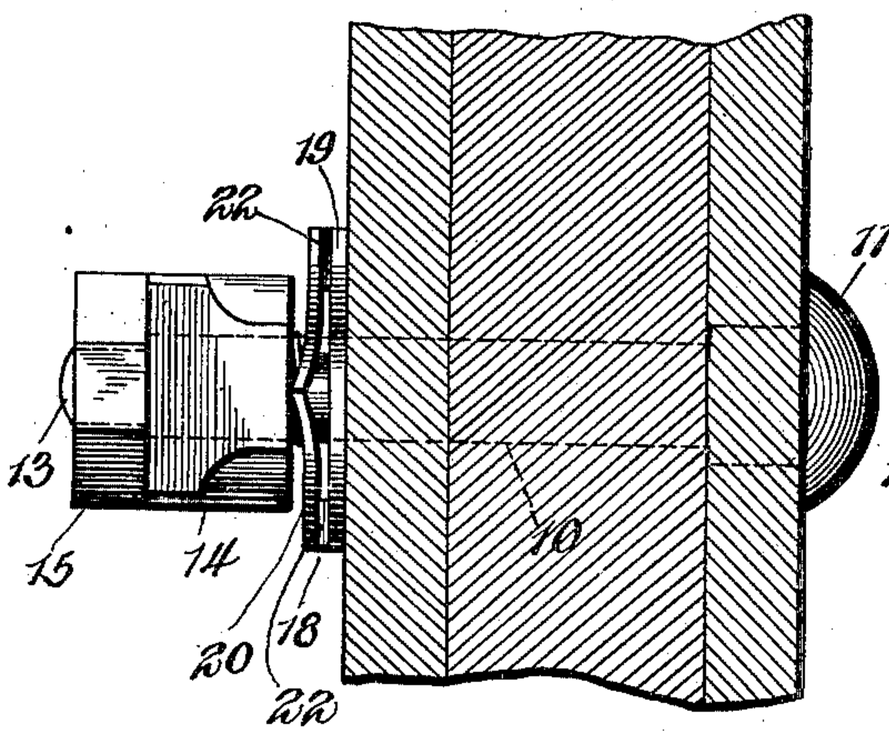


Fig. 2.

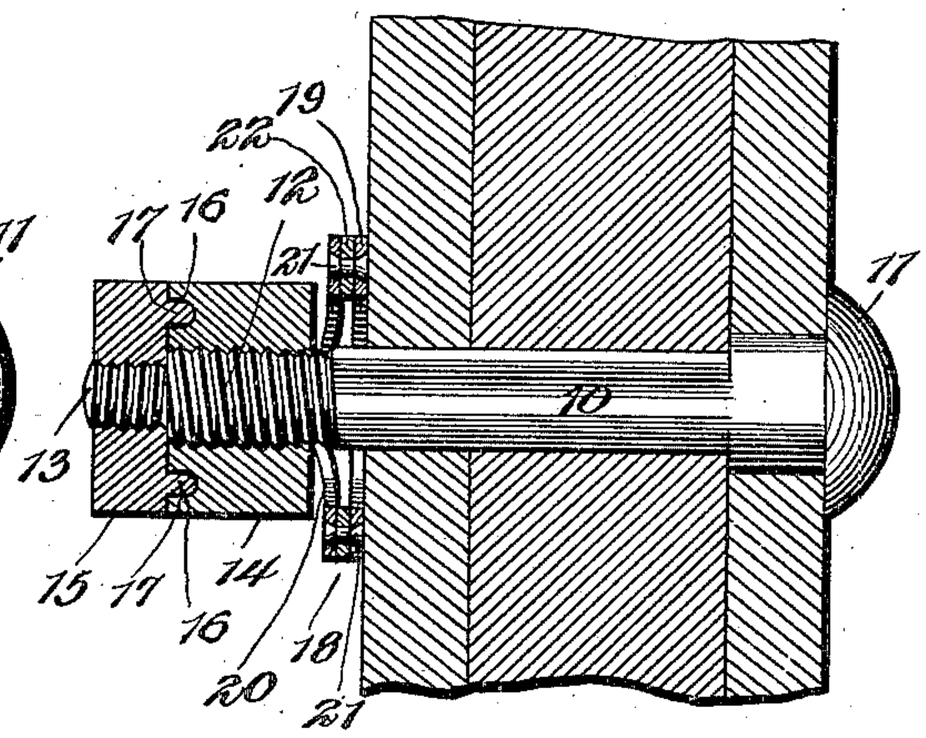


Fig. 3.

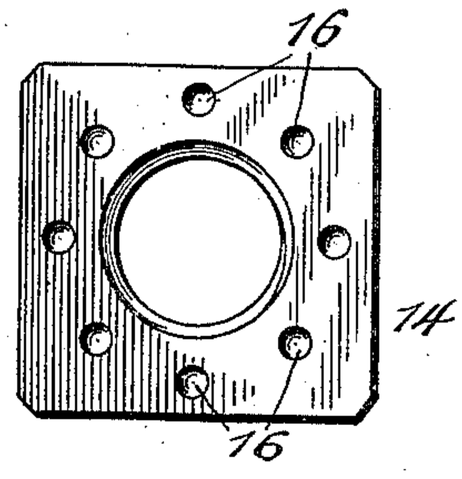


Fig. 4.

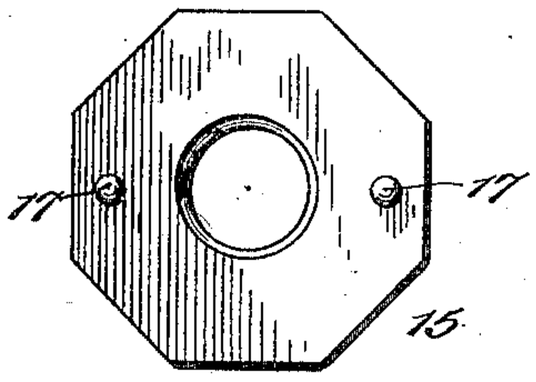
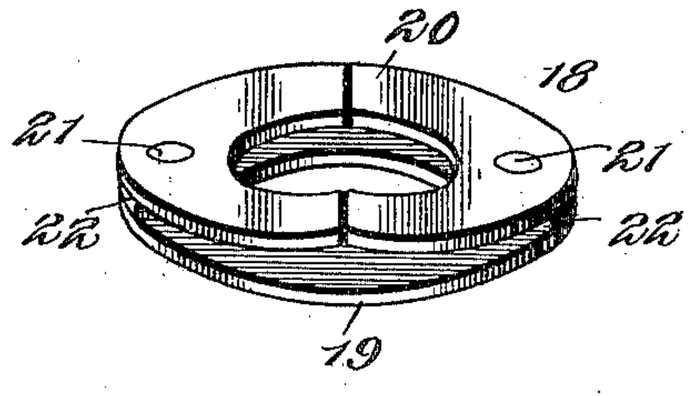


Fig. 5.



Witnesses
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UNITED STATES PATENT OFFICE.

LEVI T. STEPHENSON, OF TRINIDAD, COLORADO, ASSIGNOR OF ONE-HALF TO WILLIAM P. DUNLAVEY AND JAMES P. DUNLAVY, OF TRINIDAD, COLORADO.

NUT-LOCK.

SPECIFICATION forming part of Letters Patent No. 690,900, dated January 7, 1902.

Application filed August 21, 1901. Serial No. 72,841. (No model.)

To all whom it may concern:

Be it known that I, LEVI T. STEPHENSON, a citizen of the United States, residing at Trinidad, in the county of Las Animas and State of Colorado, have invented a new and useful Nut-Lock, of which the following is a specification.

This invention relates to nut-locks; and one of the objects thereof is to provide means for securely locking a nut in place upon a bolt, the locking mechanism being concealed, so that a person unacquainted with the same will be unable to remove the nut and in attempting to do so will only lock it more securely.

A further object is to provide a novel form of spring-washer which will compensate for the necessary movement of the nut during the locking operation and will insure the proper binding engagement of the bolt.

In carrying out these objects the embodiment shown in the accompanying drawings is considered preferable. This embodiment is fully described in the following specification; but it will be understood that such slight changes may be made from the construction shown and described as the scope of the appended claims will permit.

In the drawings, Figure 1 is a side elevation of a bolt, showing the improved nut-lock applied thereto. Fig. 2 is a longitudinal sectional view of the same. Fig. 3 is a plan view of the outer face of the holding-nut. Fig. 4 is a similar view of the under face of the lock-nut. Fig. 5 is a perspective view of the spring-washer employed.

Similar numerals of reference designate corresponding parts in all the figures of the drawings.

The bolt shown comprises the usual shank 10, having a head 11 at one end and provided at its other end with oppositely-screw-threaded portions 12 and 13, the inner one, 12, having right-hand threads and the outer one, 13, being reduced in diameter and having a left-hand thread. On these oppositely-threaded portions are arranged nuts 14 and 15, which for the purpose of distinction are hereinafter termed, respectively, the "holding-nut" and the "lock-nut." The holding-nut 14 is preferably rectangular, and is provided in its upper face with a plurality of sockets 16, which sockets are located entirely within the outer edges or faces of the nut. The lock-nut 15 is shown as octagonal in form, though it may have any other angular periphery desired, and is provided on its under face with lugs 17, arranged to engage in certain of the sockets 16 when the ends are in coacting relation, as hereinafter described.

Fitted upon the shank 10, beneath the inner or holding-nut 14, is a spring-washer 18, comprising a base ring or plate 19 and a sectional spring-plate 20, the sections of which are secured intermediate their ends to the base by rivets 21 or other suitable fastening means, spacing-plates 22 being preferably located between the base and sections at their points of attachment. The terminals of the sections are bent up so as to be located a considerable distance from the base, and they are disposed adjacent to each other, thus forming springs which bear against the under face of the holding-nut.

The manner of applying the nuts is as follows: The bolt having been passed through the articles to be fastened together, the washer is placed thereon and the holding-nut screwed down as tightly as possible in the ordinary manner. The lock-nut is then threaded upon the outer reduced portion of the shank until the lugs thereof are directly over certain of the sockets of the holding-nut. The two nuts are then rotated simultaneously to the left, which will bring them closely together, and the lugs will seat themselves in the sockets. This movement will slightly raise the holding-nut from its seat; but the spring-washer will compensate for the same, and as it is comparatively slight the binding engagement of the bolt will be practically as great as if the nut were screwed tightly down. When locked, the two nuts are in close engagement and the spurs or lugs are completely hidden, so that to one unacquainted with the structure it appears as if a single nut of peculiar form were employed or, at the most, that the upper one is simply a jam-nut. Therefore an attempt to unscrew the same or both of them together would only result in bringing them into closer engagement. To

release the lower nut, it is only necessary to turn both simultaneously to the right, the result being that the nuts will separate until the spurs or lugs 17 are clear of the sockets, whereupon by continuing the movement upon the upper nut it will be turned off the end of the shank and the holding-nut may then be removed in the ordinary manner.

By this construction it will be seen that an exceedingly simple device is provided having a minimum number of parts and so arranged that there is little chance of an unauthorized person removing the nut.

From the foregoing it is thought that the construction, operation, and many advantages of the herein-described invention will be apparent to those skilled in the art without further description, and it will be understood that various changes in the size, shape, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

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

1. In a nut-lock, the combination with a shank having oppositely-threaded portions, of a nut threaded on each portion, said nuts being provided on their adjacent faces with interlocking holding means, and a spring-washer fitted upon the shank beneath the inner nut, said washer comprising a base, and a sectional washer, the sections being secured to the base intermediate their ends, and having their terminals spaced from said base.

2. In a nut-lock, the combination with a shank having oppositely-threaded portions, of a nut threaded on each portion, said nuts being provided on their adjacent faces with interlocking holding means, and a spring-washer fitted upon the shank beneath the inner nut, said washer comprising a base and a sectional washer, the sections being secured to the base intermediate their ends and having their terminals located adjacent to each other, said terminals being spaced from the base and bearing against the under side of the lower nut.

3. A spring-washer comprising a base having a bolt-receiving opening therethrough, and a spring element secured to one face of the base, said spring element comprising sections secured to the base intermediate their ends and having said ends spaced from the base and located adjacent to each other.

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

LEVI T. STEPHENSON.

Witnesses:
SUMNER D. IRISH,
ANDREW J. HEITSMAN.