M. P. CARPENTER.

NUT LOCK.

APPLICATION FILED JUNE 28, 1913. RENEWED JULY 6, 1915.

1,154,691. **Patented Sept. 28, 1915.**

Fig. 1.

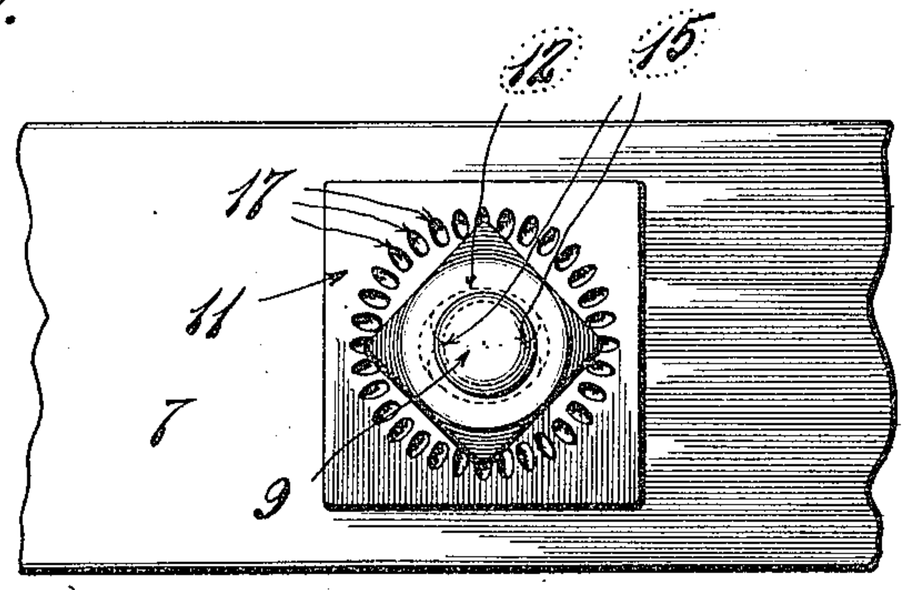


Fig. 2.

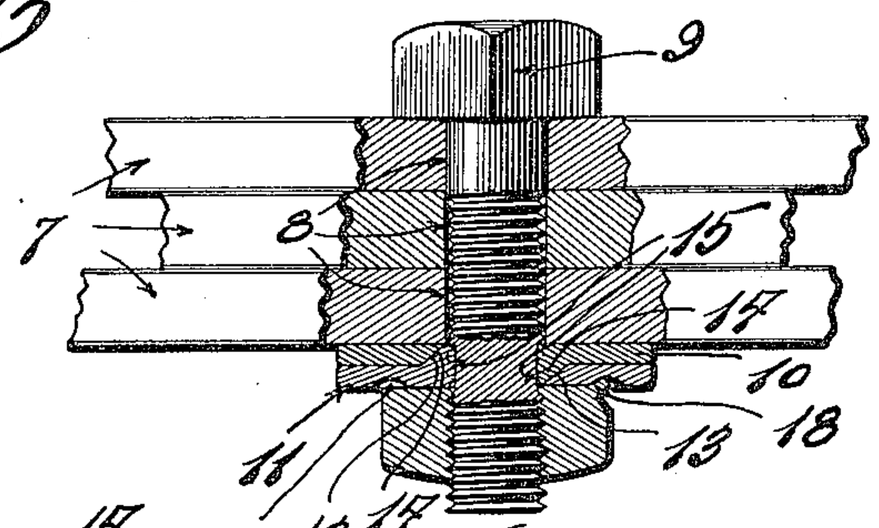


Fig. 3.

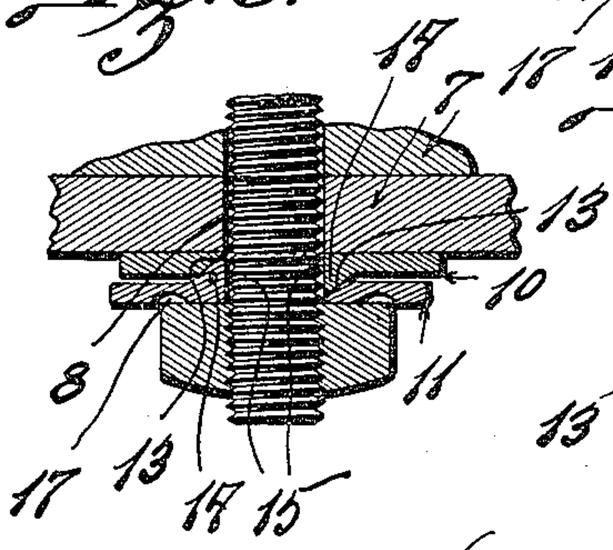


Fig. 4.

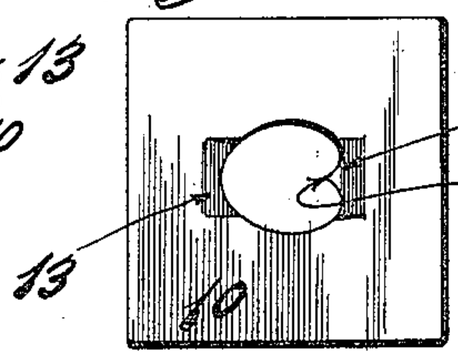


Fig. 5.

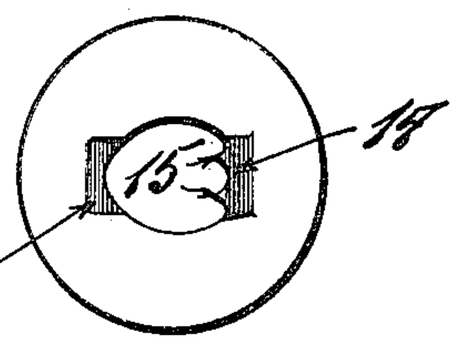
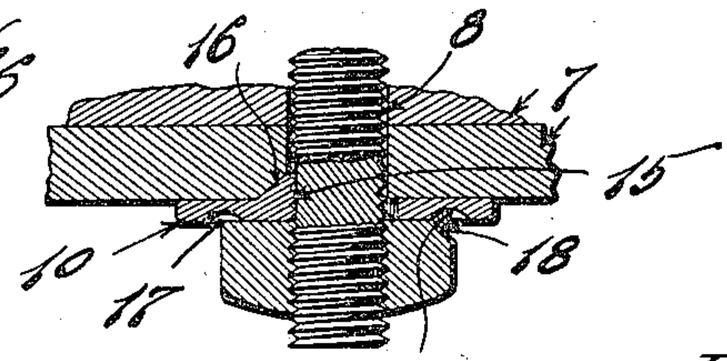


Fig. 6



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NUT-LOCK.

1,154,691. Specification of Letters Patent. Patented Sept. 28, 1915.

Application filed June 28, 1913, Serial No. 776,363. Renewed July 6, 1915. Serial No. 38,260.

To all whom it may concern:

Be it known that I, MASON P. CARPENTER, a citizen of the United States, and resident of Hickory Ridge, Cross county, Arkansas, have invented certain new and useful Improvements in Nut-Locks, of which the following is a specification containing a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to improvements in nut locks, and the primary object of my invention is to construct an element, preferably in the form of a washer, carrying a device arranged to embed in the bolt and a second device arranged to engage either the "work" or a companion element or washer in such manner as to move the element laterally relative to the bolt when the element is moved longitudinally by the drawing of the nut, to seat or embed the bolt-engaging device, and further to construct the element or washer with a plurality of depressions arranged concentrically relative to the bolt-opening in the element to receive a device carried by the nut, preferably in the form of a calk struck from the nut, whereby to prevent rotation of the nut relative to the element which in turn is locked to the bolt.

With the above purposes in view my invention consists in certain novel features of construction and arrangement of parts as will be hereinafter more fully described, pointed out in the claims and illustrated by the accompanying drawings, in which—

Figure 1 is an elevation of a nut lock constructed according to my invention; Fig. 2 is a plan of a piece of work, partly in section, showing my improved nut lock; Fig. 3 is a view similar to Fig. 2 showing the nut lock in an unseated position; Fig. 4 is an elevation of my preferred form of washer; Fig. 5 is a view similar to Fig. 4 of a modified form of washer; and Fig. 6 is a view similar to Fig. 2, showing the "work" constructed in a manner to coöperate with a washer to lock the bolt and nut.

Referring by numerals to the accompanying drawings: 7 designates the "work" through which there is formed an opening or openings 8, and extended through the work is a bolt 9.

10 and 11 designate companion washers which are shown as embracing the bolt, one of which rests against the work in opposition to the head of the bolt and the other rests against the first washer. These washers are identical in construction, hence a detail description of one will suffice for both. Formed in each washer at its approximate center is an oblong bolt hole 12. In the margin of the oblong hole 12 and located at one end of the oblong is a notch having an inclined face 13. At the opposite end of the hole 12 is a lug 14 projecting beyond the body of the washer and whose face removed from the bolt hole inclines in the same direction as the inclined face 13 of the notch at the other end of the bolt hole. The face of the lug 14 which projects from the margin of the bolt hole is provided with a tooth 15.

It is to be observed that the washer shown in Fig. 4 is angular. This is my preferred construction for the reason that the angular margins facilitate the placing of the two washers together. In Fig. 5 I show a circular washer provided with two of the teeth 15. Except for the shape of the washer and the number of teeth the washer shown in Fig. 5 is identically like the preferred form shown in Fig. 4.

It is to be observed, as clearly shown in Figs. 2 and 3, that the washers when employed on all ordinary work are in pairs, the lugs 14 coöperating with the inclined faces 13 of the notches to move the washers to positions drawing the teeth to embed in the bolt when the washers are moved longitudinally of the bolt, as when the nut is being seated.

In Fig. 6 the work itself is provided with a notch having an inclined face 16 which is in all particulars similar to the notch 13 of the washer and coöperates with the lug 14 of the washer to draw the tooth to embed in the bolt when the washer is moved lengthwise of the bolt in the act of seating the nut.

Formed in the outer faces of the washers is a row of depressions 17 arranged concentrically about the bolt hole for the purpose of providing means for coöperation with a device carried by the nut to prevent rotation of the nut relative to the washer.

The form of device carried by the nut for engagement with the indented washer is a calk 18 struck from one corner of the nut.

This may be very readily accomplished by a cold chisel and hammer, and by this expedient I may employ a common bolt and a common nut.

It is to be particularly noted that in my improved nut lock the bolt-engaging device is a rigid member and is not of the type of bolt-engaging devices which are made of spring material and lengthened out to engage the bolt when compressed.

I claim:

1. A nut lock, comprising in combination an element having an inclined face and through which there is a bolt hole, a washer, a lug having an inclined face carried by said washer and arranged to engage the inclined face of said element to move the washer laterally relative to the bolt when moved longitudinally of the bolt against said element, and a tooth on the lug carried by the washer to engage the bolt when the washer is moved laterally.

2. A nut lock, comprising in combination an element having an inclined face and through which there is a bolt hole, a washer having an inclined face arranged to coact with the inclined face of said element, to move the washer laterally relative to the bolt when moved longitudinally of the bolt against said element, a tooth carried by the washer to embed in the bolt when the washer is moved laterally, and a nut provided with means for engagement with said washer to prevent rotation of the nut relative to the washer.

3. A nut lock, comprising a pair of washers, an inclined face carried by each of said washers and arranged to coact to move the washers laterally relative to each other when moved longitudinally of a bolt, against each other, as when a nut is being screwed onto the bolt, and a tooth carried by one of the washers, adjacent its inclined face to engage the bolt, when said washer is moved laterally as stated.

4. In a nut lock, a washer having a pair of oppositely located inclined faces, one of which faces is between the two faces of the washer and the other projects beyond the body of the washer, and a rigid bolt-engaging device interposed between said inclined faces.

5. In a nut lock, a washer having a bolt-opening, one dimension of which is in excess of the diametrical dimension of the bolt to be employed therewith, oppositely arranged inclined faces carried by the washer in line with the longest dimension of said opening, and a rigid bolt-engaging device carried by the washer between said inclined faces.

6. In combination with a bolt, a nut, a washer arranged to embrace the bolt and having an opening therethrough, one dimension of which is in excess of the diameter of the bolt, an inclined face formed in the margin of the opening in the line of the longest dimension thereof, a lug having an inclined face projecting laterally beyond the body of the washer and located adjacent the opening opposite said first mentioned inclined face, a rigid tooth carried by said lug and projecting into the opening in the washer, and means carried by said washer for engagement with a device carried by a nut to prevent rotation of the nut relative to the washer.

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

MASON P. CARPENTER.

Witnesses:
E. L. WALLACE,
N. G. BUTLER.

Correction in Letters Patent No. 1,154,691.

It is hereby certified that Letters Patent No. 1,154,691, granted September 28, 1915, upon the application of Mason P. Carpenter, of Hickory Ridge, Arkansas, for an improvement in "Nut-Locks," were erroneously issued to Allie May Carpenter, Price M. Carpenter, Frank O. Hadley, P. H. Cullen, and H. J. Parks, as assignees of the entire interest in said invention, whereas said Letters Patent should have issued to the *insentor, said Mason P. Carpenter, and said Carpenter, Carpenter, Hadley, Cullen, and Parks, jointly*, they being assignees of *five-sevenths* only of said invention, as shown by the records of assignments in this Office; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 2nd day of November, A. D., 1915.

[SEAL.]

R. F. WHITEHEAD,

Acting Commissioner of Patents.