

(No Model.)

F. MURPHY.

NUT LOCK.

No. 302,860.

Fig. 1. Patented July 29, 1884.

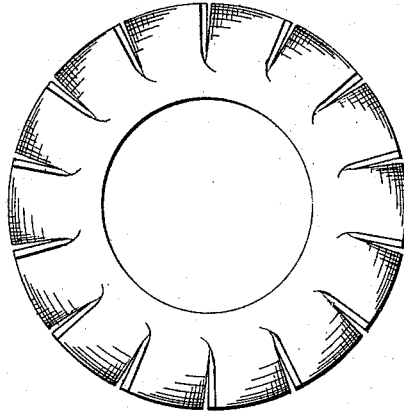


Fig. 2.



Fig. 3.

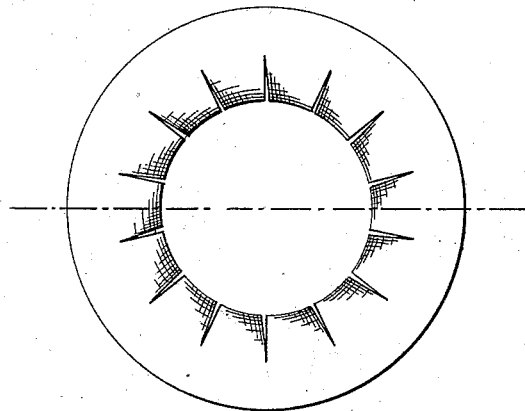


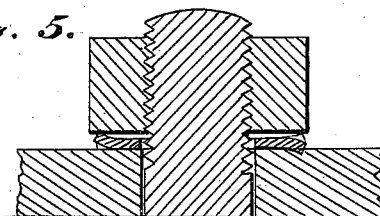
Fig. 4.



Fig. 5.

Witnesses:

J. C. Bruck
David H. Mead



Inventor:

Francis Murphy,
per *Wm. L. Entire,*
Attorney.

UNITED STATES PATENT OFFICE.

FRANCIS MURPHY, OF CHICAGO, ILLINOIS.

NUT-LOCK.

SPECIFICATION forming part of Letters Patent No. 302,860, dated July 29, 1884.

Application filed December 31, 1883. (No model.)

To all whom it may concern.

Be it known that I, FRANCIS MURPHY, a citizen of the United States, residing at Chicago, Cook county, Illinois, have invented new and useful Improvements in Nut-Locks, of which the following is a specification.

My invention relates to certain new and useful improvements in nut-locks, and especially that type described and claimed in Letters Patent No. 261,947, granted to me August 1, 1882.

My invention has for its object to produce the barbs or file-teeth such as described in my above-recited Letters Patent, but with the central portion thereof compressed, and their biting edges or corners of the original thickness, and projecting beyond the kerf by which they are formed, as will be hereinafter more fully explained.

In the accompanying drawings, Figure 1 represents a plan view of my improved nut-lock; Fig. 2, an edge view of the same; Fig. 3, a plan view of a modification in which the leaves or barbs are arranged at the interior circumference of the plate, and Fig. 4 a cross-section taken at the line *xx* of Fig. 3. Fig. 5 is a central section of my device when in operation.

Similar letters denote like parts in the several views.

A represents a washer composed of a piece of spring-steel with the center punched out to form a passage for a bolt, and a series of leaves, B, formed in the outer circumference by radial kerfs or slits, as shown. The leaves B are then twisted out of the horizontal plane, and as described in the Letters Patent hereinbefore referred to, but instead of being spread laterally, as described in said patent, by spreading them from their roots toward their free ends, which correspondingly lessens the thickness of the metal generally. I produce the expansion of the leaves in the present case beyond the kerfs or radial slits by compression of the metal at the centers of the leaves, which forces the corners outwardly, but at the same time preserves the original thickness of metal at such points, or slightly increases it; and as

such compression, to be effective for the accomplishment of the object stated, naturally transforms the flat surfaces of the wings into curved lines, it is apparent that the angular corners or edges *a* are necessarily more acute and sharp, and consequently, when confined between a nut and fish-plate, embed themselves with greater facility into the surface of the same, and hold with greater tenacity. When it becomes desirable to remove a nut, it will be readily understood that the knife-edges *a* act as plane-bits, and plane out their own depth from the surface of the fish-plate or nut.

One essential point of difference between the form of leaves or barbs shown and described in my former patent, herein referred to, and those forming the subject of this case is that in the former the whole of the torsional strain comes on the roots of the leaves, and where they are narrowest and weakest, while in the latter case, and by reason of thinning the metal at the center, the torsional resistance becomes uniform throughout the entire length of the leaves without loosening the holding-power of the barbs or edges.

In the drawings I have shown my invention as applied only to circular or disk plates; but it will be understood that it may be applied equally as well to the other forms shown in my Letters Patent referred to.

What I claim as new, and desire to secure by Letters Patent, is—

In a nut-lock of the kind referred to, the leaves B, formed in the plate A, and expanded laterally beyond the kerfs or slits by compression at the center, whereby the original thickness of the leaves is maintained or slightly increased at the corners, and is diminished at their middle portions, and the barbs rendered more severe and active, substantially as and for the purposes set forth.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

FRANCIS MURPHY.

Witnesses:

JOHN McDONNELL,
T. J. KINSELLA, Jr.

It is hereby certified that in Letters Patent No. 302,860, granted July 29, 1884, upon the application of Francis Murphy, of Chicago, Illinois, for an improvement in "Nut-Locks," certain letters of reference were omitted from the drawing which should be read therein, as follows: the entire article, shown in Figures 1 and 3, should be designated by the letter "A," which letter should have been placed on each figure near its unbroken edge, being the inside of Fig. 1 and the outside of Fig. 3; the letter "B" should have been placed on these two figures on or adjacent to the slitted peripheries; and that the Letters Patent should be read with these corrections on the drawing to make it conform to the specification forming a part of the record of the case in the Patent Office.

Signed, countersigned, and sealed this 9th day of September, A. D. 1884.

[SEAL.]

Countersigned:

R. G. DYRENFORTH,
Acting Commissioner of Patents.

M. L. JOSLYN,
Acting Secretary of the Interior.