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A. J. CAYOUILLE

2,007,293

LOCK NUT AND METHOD OF MAKING SAME

Filed June 20, 1933

FIG. 1

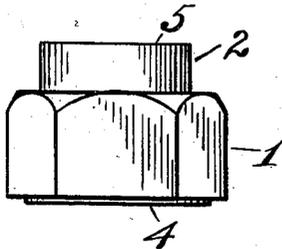


FIG. 2

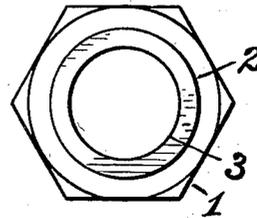


FIG. 3

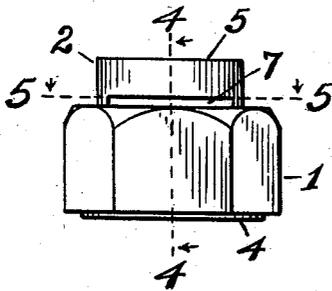


FIG. 4

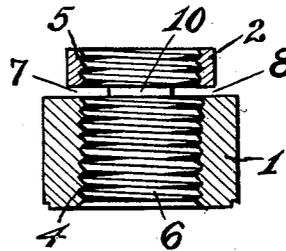


FIG. 5

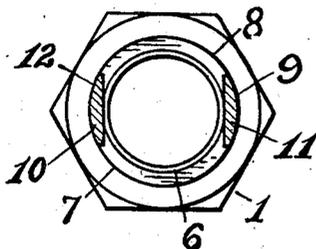
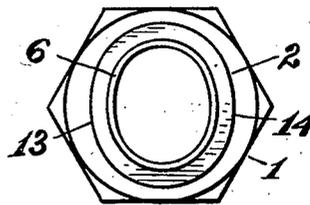


FIG. 6



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# UNITED STATES PATENT OFFICE

2,007,293

## LOCK-NUT AND METHOD OF MAKING SAME

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7 Claims. (Cl. 10-86)

This invention relates to lock-nuts and method of making same, and has for its main object to provide a lock-nut of simple construction and economical manufacture, which is practical in application and removal, and is efficient against jarring loose by vibration.

Another object of the invention is to provide a lock-nut of the above character, having a tubular extension with thin springy walls, which extension is threaded as is the body of the nut and its opposite walls compressed to a less diameter than same for gripping the bolt, shaft, or other threaded member to which the lock-nut is applied for retaining it thereon.

With the above and other objects in view, the invention will be hereinafter fully described as illustrated in the accompanying drawing, and the novel features thereof will be distinctly pointed out in the appended claims.

In the several views of the drawing, similar characters of reference are used to indicate corresponding parts.

Figure 1 is an elevation of a nut-blank constructed in accordance with my invention,

Fig. 2 is a plan view of Fig. 1,

Fig. 3 is a similar view to Fig. 1, with side slots cut in the tubular extension,

Fig. 4 is a sectional elevation taken on line 4-4 of Fig. 3,

Fig. 5 is a cross-sectional plan view taken on line 5-5 of Fig. 3, and

Fig. 6 is a plan view of the finished lock-nut.

The lock-nut is constructed of a single piece of suitable material, and the blank therefor may be a casting, a forging, or a piece milled from a hexagon or other form of bar material. In the drawing, the body of the nut, designated by 1, is of standard shape and size, and formed integrally therewith at its upper or outer end is a central extension 2. The body 1 and its extension 2 are provided in any suitable manner with a central cylindrical opening 3 extending from the contact face 4 of said body to an outer end 5 of said extension. The central cylindrical opening 3 is of uniform diameter and proper size for standard threads, indicated by 6, for application of the nut in the usual manner to a bolt or other threaded member.

The nut already described would not be anything more than ordinary, or in other words, said nut has no means for locking itself to a threaded member. The locking feature of the nut will now be described:

Extension 2 at its juncture with the body of the nut is provided with opposite slots 7 and 8

preferably saw cuts therethrough thereby leaving connecting necks 9 and 10 at diametrically opposite points and at a right angle to and between said slots. In order to prevent damage to the threads of the bolt, or nut, or both when the nut is being applied or removed from a threaded member, the threads at the inner sides of the necks 9 and 10 are entirely cut away, preferably on a straight line as shown at 11 and 12, by broaching or punching. The opposite walls, indicated by 13 and 14, of the tubular extension 2 above the slots 7 and 8 respectively, are compressed inwardly independently of and without distorting the body or the threads of the nut so that the distance between the inner threaded sides thereof is slightly less than the inner diameter of the threads of the body of the nut, thereby forming an oval threaded opening in said tubular extension as shown in Fig. 6. The opposite walls 13 and 14 of the tubular extension 2 are the proper distance apart for exerting maximum thread contact with the member to which the nut is applied. The threads 6 are preferably tapped after the slots 7 and 8 are cut and the cutting away of the inner sides of the necks. The nut is now ready to be heat treated for giving hardness and strength thereto, also proper temper for producing efficient resiliency of the tubular extension to cause it to grip and thereby retain the nut upon the member to which it is threaded. This lock-nut is manufactured from alloy steel or other suitable material, and is so treated that it will remain efficient even after application and removal many times and when subjected in use to great heat.

From the drawing and description, it is seen that this lock-nut is practical to manufacture and efficient in use, and it is to be understood that slight changes in the details of construction may be made within the scope of the claims without departing from the invention.

Having fully described my invention, what I claim is:

1. The method of manufacturing a lock-nut, consisting of providing a nut-blank with a tubular extension, providing slots through opposite walls of said tubular extension at the juncture thereof with the nut-blank, providing said nut-blank and said tubular extension with threads, compressing said opposite walls of said tubular extension to make its threads a distance less than the diameter of the threads in said other part of said nut-blank, and treating said nut-blank to make its said tubular extension resilient.

2. The method of manufacturing a lock-nut, 55

- consisting of providing a nut-blank with a tubular extension, providing slots through opposite walls of said tubular extension at the juncture thereof with the nut-blank thereby leaving necks,
- 5 providing said nut-blank and said tubular extension with threads, cutting away the threads of said necks, compressing said opposite walls of said tubular extension to make its threads a distance less than the diameter of the threads in
- 10 said other part of said nut-blank, and heat treating said nut-blank to make its said tubular extension resilient.
3. A lock-nut comprising a nut-blank having a tubular extension, the wall of the tubular extension having opposite slots cut therethrough at its
- 15 juncture with the nut-blank, said nut-blank and tubular extension being threaded, the opposite walls of said tubular extension being compressed to make its threads less in diameter than the
- 20 threads in said nut-blank, and said tubular extension being resilient.
4. A lock-nut comprising a nut-blank having a tubular extension, the wall of the tubular extension having opposite slots cut therethrough at
- 25 its juncture with the nut-blank and leaving necks, said nut-blank and tubular extension being threaded, the threads being omitted from said necks, the opposite walls of said tubular extension being compressed to make its threads less in diameter than the threads in said nut-blank, and
- 30 said tubular extension being resilient.
5. A lock-nut comprising a nut-blank having a tubular extension, the wall of the tubular extension having opposite slots cut therethrough at its juncture with the nut-blank and leaving necks, said nut-blank and tubular extension being threaded, the inner sides of said necks being on a straight line at right angle to said slots and a distance apart equal to the greater diameter of said threads of said nut-blank, said nut-blank being hard and said tubular extension being resilient for retaining said nut-blank on a threaded member.
6. A nut-lock comprising a nut-blank having a tubular extension, the tubular extension having a thin wall of uniform thickness, the wall of said extension having opposite slots at its juncture with the nut-blank, said nut-blank and extension being threaded, the opposite walls of said extension and above said slots being compressed and its threads less in diameter than the threads in said nut-blank, and said extension being resilient.
7. A nut-lock comprising a nut-blank having a tubular extension, said nut-blank and extension being threaded, said threads of said extension being separated by an intervening space from the threads of said nut-blank, opposite walls of said extension being compressed and the threads thereof being less in diameter than the threads of said nut-blank, and said extension being resilient.

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