Nov. 25, 1924. 1,516,716

E. J. COLE

NUT AND METHOD OF MAKING THE SAME

Filed July 15, 1922

Fig. 1.

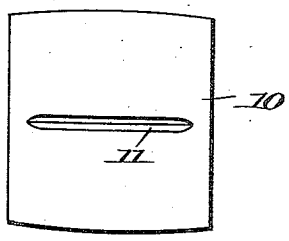


Fig. 2.

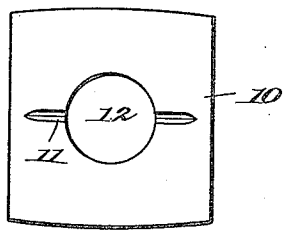


Fig. 3.

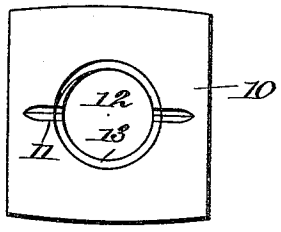


Fig. 4.

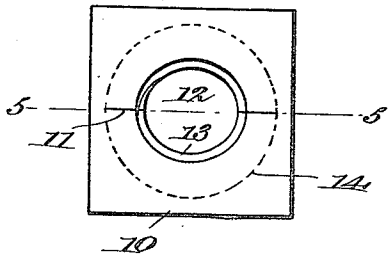


Fig. 5.

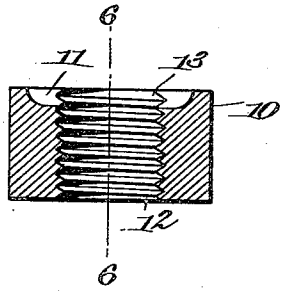
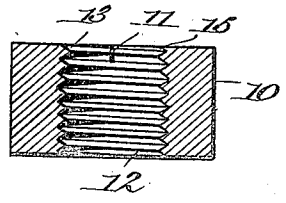


Fig. 6.



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UNITED STATES PATENT OFFICE.

EDWARD J. COLE, OF PEEKSKILL, NEW YORK.

NUT AND METHOD OF MAKING THE SAME.

Application filed July 15, 1922. Serial No. 575,434.

To all whom it may concern:

Be it known that I, EDWARD J. COLE, a citizen of the United States, residing at Peekskill, in the county of Westchester and State of New York, have invented new and useful Improvements in Nuts and Methods of Making the Same, of which the following is a specification.

This invention relates to nuts and locking means therefor.

More particularly the invention relates to the types of nuts which are self-locking.

The present invention in part resides in the method of producing a nut of the character mentioned.

Nuts hitherto produced of the self-locking type are characterized by a kerf or cut which is made across the axial center of the bolt-hole; the cut extending entirely across the top face of the nut, and in some instances nuts are concaved on their bottom faces in conjunction with the cuts in their top faces. It has been found that, the type of nut which is cut entirely across one face thereof when put under pressure to effect the proper binding together of parts to be bolted, breaks through the cut and renders the nut useless. Especially is that so in the application of small nuts or thin nuts. The nut of the type having the cut entirely across one face thereof which has its bottom face concaved not only allows reaction which results in the upsetting of the locking or impinging action of the nut, but it breaks through its cut rendering the nut useless. The latter type of nut is comparatively expensive.

Some of the objects of the present invention are: to overcome the aforementioned disadvantages; to produce a nut having a screw threaded converging bolt-hole, a divided portion surrounding the bolt-hole, and an undivided portion surrounding the divided portion; and with these and other objects in view the invention resides in the sequence of steps in the production of the nut.

In the drawing forming a part of this specification

Figures 1 to 4 inclusive illustrate the several stages of the work in the production of the nut of the present invention.

Figure 5 is a sectional view of the finished nut taken on the line 5—5, Figure 4.

Figure 6 is a sectional view taken on the line 6—6, Figure 5.

The nut of the present invention, in the production thereof, is characterized by its first being cut from a suitable piece of material to form a blank 10 which may be of any shape and size. The blank 10 is then punched with a tool having a sharp cutting edge to make a division 11 in a portion of the blank. The division 11 which might be called a cut does not extend entirely across the top face of the blank in which it is made, but extends partly across the top face as shown in Figure 1. None of the material of the blank is removed or cut out; it is merely displaced. The blank, in the next operation, has a hole 12 punched therein as shown in Figure 2. The hole 12 is then screw threaded as indicated by the inner circle 13, Figure 3. The blank 10 is then put under pressure to bring the separated portions (within the dotted circle 14 Figure 4) caused by the division 11, together, thus providing an inner divided portion surrounding the bolt-hole 12, and an outer undivided portion which surrounds the divided portion within the circle 14.

The division or cut 11 may be of a depth in proportion to the size of the nut as to height. The compressing of the blank as the final operation, causes the bolt-hole 12 to converge as at 15, Figure 6.

In the use of the nut, the same may be threaded onto a bolt of the proper size with the hand until the converge 15 is encountered, whereupon it is necessary to use a wrench. In using a wrench the nut may be screwed home, and in so doing the portions of the nut surrounding the bolt-hole impinge the bolt and thus set up a locking action. The nut cannot again be moved without the use of a wrench. By having an undivided portion surrounding the divided portion of the nut, the breaking of the nut is obviated.

From the foregoing, it will be manifest that, the nut of the present invention is in fact a self-locking nut, in that it does not require the coaction of the nut itself and one of the parts it binds to set up the impinging action; and none of its strength and durability is sacrificed.

What is claimed is:

A self-locking nut of the character de-

scribed in which the upper surface thereof is provided with diametrically oppositely disposed indentations extending from the threaded bore toward the side faces of the nut but not reaching thereto, said indentations having had their side walls collapsed so that said walls are in engagement to form a converging end portion in the threaded bore adapted to grip the threads of a bolt and the top surface being otherwise plane so as not to weaken the nut.

In testimony whereof I hereby affix my signature.

EDWARD J. COLE.