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W. E. SABEN

1,829,017

LOCK NUT

Filed July 3, 1930

Fig. 2.

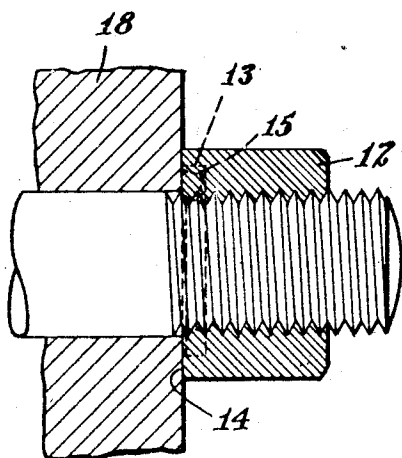


Fig. 1.

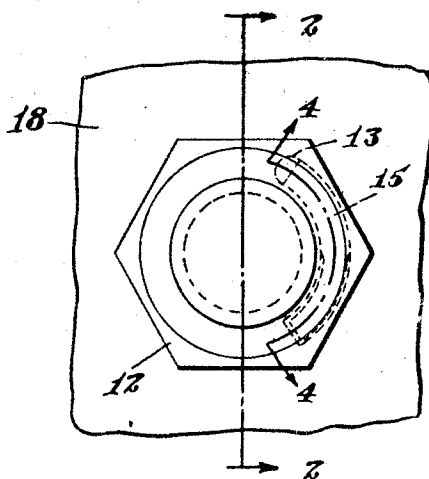


Fig. 4.

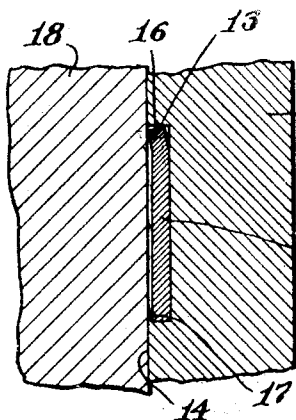


Fig. 5.

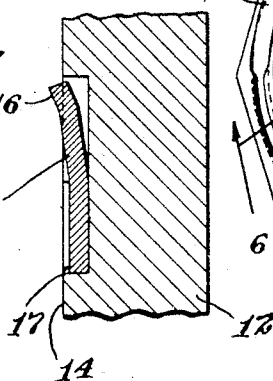


Fig. 3.

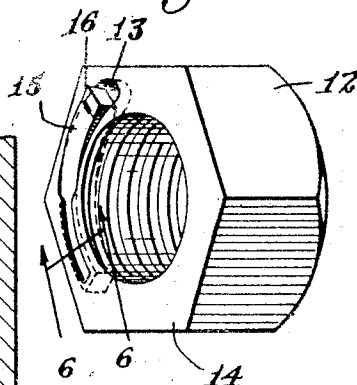
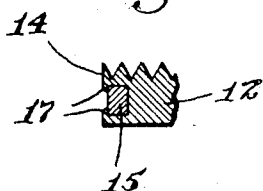


Fig. 6.



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UNITED STATES PATENT OFFICE

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LOCK NUT

Application filed July 3, 1930. Serial No. 465,481.

This invention relates to a nut locking device, and more particularly to a nut with the locking means permanently attached to the nut.

I am aware that lock nuts have been provided with a groove cut in the inner face of the nut extending all, or nearly all, the way around, in which groove a lock washer is inserted. One of my objects is to improve upon this type of nut by extending the groove less than half way around the face of the nut and at the same time retaining all the locking features. Another object is to provide an improved means of holding the lock washer in the nut.

Above all, my object has been to provide a locking nut which may be made from less material, with fewer operations, and at a lower cost generally than previously known nuts of this type. Still another object has been to make the locking feature hold indefinitely and yet have it work in such a way that the nut may be readily removed when desired.

The foregoing and other objects which will appear as the nature of the invention is better understood, may be accomplished by a construction, combination and arrangement of parts such as is disclosed by the drawings. The nature of the invention is such as to render it susceptible to various changes and modifications, and, therefore, I am not to be limited to the construction disclosed by the drawings; but am entitled to all such changes therefrom as fall within the scope of my claim.

In the drawings:

Figure 1 is a front elevation of my lock nut tightened against an abutment.

Figure 2 is a cross-section on the line 2—2 of Figure 1.

Figure 3 is a perspective view of my lock nut.

Figure 4 is a developed cross-section on the line 4—4 of Figure 1.

Figure 5 is a view similar to Figure 4; but with the nut away from the abutment.

Figure 6 is a cross-section on the line 6—6 of Figure 3 showing the edges of the groove pressed over to hold the bar in the groove.

As illustrated my nut 12, which can be used with an ordinary bolt, has a groove 13 formed in the inner face 14, which groove extends less than half way around. A curved spring pawl bar 15 has one end portion 16 bent up slightly so that it will project slightly beyond said inner face 14 of the nut 12 when said bar is in the groove. While this bent up end 16 is not absolutely essential, as a part of the bar portion could be sprung upwardly so that it normally extends beyond the face of the nut, having this small end to accomplish the locking purpose makes it easier to unscrew the bolt when desired, and yet it locks and holds the nut tight.

Said bar 15 fits in said groove 13 and is held in place by pressing or peening over the edges of the groove for a portion of its length as shown at 17. This may be done in one stamping operation. If the groove 13 extended all the way around it would not be practical to peen or press the edges over, as too much labor and machinery would be required; but with such a short groove this means of holding the bar in place is entirely practical and economical, and preferable to drilling a hole in the nut and inserting a bent over end of the bar in the hole which is commonly done.

As the nut is tightened against the fixed abutment 18 the end 16 of the bar is the first to contact with said abutment, and continued tightening forces said end 16 into said groove 13 until it is nearly flush with said inner face 14 of the nut, which is now locked tight and will remain so indefinitely until the nut is unscrewed, which can be done readily.

What I claim is:

In combination, a nut having a groove in one face thereof located between the central

aperture of the nut and a side of the latter, and within said groove a nut-locking spring pawl bar that is bowed outwardly away from the face of the nut so as to engage an abutment and adapted by engagement with the latter to be flexed inwardly into the groove, the side walls of said groove overlying the opposite inner end portion of said spring pawl bar thereby to oppose outward displacement of said end portion under flexing stresses imposed upon the outer end of said bar, and the inner end of the bar being in abutting engagement with the adjacent end wall of the groove.

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