C. H. NEWTON.

NUT.

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1,086,687.

Patented Feb. 10, 1914.

Fig. 1

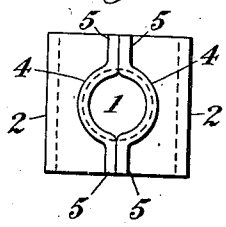


Fig. 4

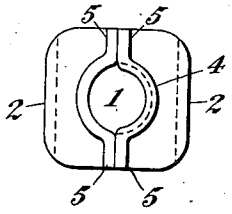


Fig. 3

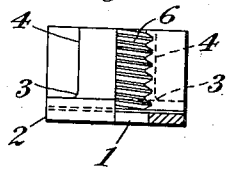


Fig. 2

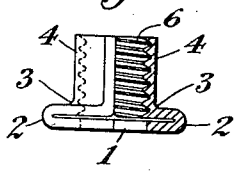


Fig. 5

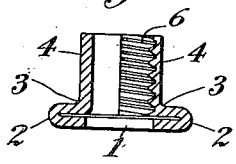
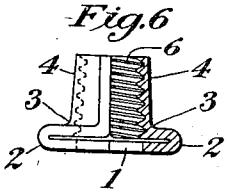


Fig. 6



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UNITED STATES PATENT OFFICE.

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NUT.

1,086,687. Specification of Letters Patent. Patented Feb. 10, 1914.

Application filed November 29, 1912. Serial No. 734,014.

To all whom it may concern:

Be it known that I, CHARLES H. NEWTON, a citizen of the United States, residing at Plainville, Connecticut, have invented certain new and useful Improvements in Nuts, of which the following is a specification.

My invention relates to a nut which is formed of comparatively thin sheet metal doubled over or bent upon itself and formed around a central bore, instead of being turned or died in the form of a solid block as is the usual method; and my improvements consists in the particulars hereinafter pointed out.

In the drawings Figure 1 is a top view, Fig. 2 is a side view, partly in section and looking from below on Fig. 1; Fig. 3 is a side view, partly in section looking from the side on Fig. 1; Fig. 4 is a top view of a modification and Fig. 5 is a cross sectional view of the same modification; and Fig. 6 is a view similar to Fig. 2 but showing an exaggerated taper of the sleeve in order to better illustrate the spring feature of the nut.

Similar reference numerals designate similar parts in all the figures.

In forming the nut a comparatively thin strip of sheet metal is employed. And this strip is pierced with a hole 1, and is doubled upon itself from either side at 2, 2 and is then bent upward at 3, 3, and extended and drawn into the form of the tubular sleeve 4, the edges of the metal forming the flat flanges 5, 5 which meet from opposite sides but are not, necessarily secured to each other. The doubling of the strip upon itself at 2, 2, causes the folds forming the head to be brought into close contact with each other. In the drawings the lines defining these folds are, for clearness, shown as distinct. But I use the phrase "doubled upon itself" to indicate a close contact of the folds.

The interior of the sleeve 4 is provided with a thread 6, which may extend entirely around the inside of the sleeve as in Figs. 1, 2 and 3 or which may extend but part way around as in Figs. 4 and 5. Those skilled in the art will understand that the thread may be stamped in the metal of the nut during the process of forming it up, and before the sides of the sleeve have been brought together; and that a less degree of accuracy of manipulation will be required where the thread is placed in one side only of the sleeve, instead of where it is placed in both sides so that the sides must meet with considerable exactness to prevent material distortion of the continuity of the thread.

In the form shown in Figs. 4 and 5 the unthreaded side of the sleeve is formed upon a curve of a longer radius than the threaded side, and the center of the curve is brought nearer than its ends to the center of the sleeve with the result that a screw meshing with the threaded side of the sleeve is engaged only by the central portion of the unthreaded side, which permits of easy adjustment of the nut on the screw and which also minimizes the importance of perfect accuracy in the formation of the opposite sides of the sleeve.

Owing to the fact that the opposite sides of the sleeve are not positively fastened to each other they will yield slightly outward if sufficient pressure is exerted. And if the sleeve is slightly contracted toward its top as is illustrated on an exaggerated scale in Fig. 6, the bolt or screw may be readily entered from below and will bind more and more as it advances through the nut the sides of which will spring outward and separate slightly if the bolt is of sufficient size to produce that result; and the sides will bear upon the bolt with a spring grip which will tend to lock the nut upon the bolt and prevent its too easy displacement.

By means of my invention I am able to produce a nut by a series of operations or manipulations performed upon a single strip of sheet metal, during which it is perforated, bent upon itself, formed up and threaded so as to make a completed nut, the operations being simple, consecutive and nearly all mechanical, resulting in no waste of the metal, except what is removed from the hole 1, and producing at a low cost a spring nut which is both novel and efficient.

It will be observed that the side flanges 5, 5, forming wing-like extensions from the sleeve of the nut, afford an excellent grip for the fingers in manipulating the nut, while the rectangular base presents a suitable grip for a wrench or other tool when a tool is needed in adjusting the nut.

It will be readily understood that details of construction may be modified without departing from the invention herein described and claimed. Thus the corners of the nut may be rounded as shown in Fig. 4. And

the interior thread might be continued through the hole 1, in case the metal is of sufficient thickness to make that desirable.

Having thus described my invention what I claim and desire to secure by Letters Patent of the United States is,—

1. A nut formed of a single strip of sheet metal having a central hole, the strip being folded inward from each end to meet around said hole and being provided with means for engaging in the groove of a threaded shank, and the folds in the metal being in close contact with each other and forming a head of double thickness.

2. A nut formed of a single strip of sheet metal folded inward from each end and into close contact with itself to form an apertured head of double thickness and the ends of the strip being then extended at an angle to the head to form the sides of a central sleeve provided interiorly with means for operatively engaging in the groove of a threaded shank.

3. A nut formed of a single strip of sheet metal folded inward from each end into close contact with itself to form a head of double thickness and the ends of the strip being extended at an angle to the head to form the sides of a central, interiorly threaded sleeve.

4. A nut formed of a single piece of sheet metal folded into close contact with itself to form a head of double thickness and extended at an angle to the head into a split, central sleeve the meeting edges whereof are extended into lateral flanges.

5. A nut formed of a single piece of sheet metal folded into close contact with itself to form a head of double thickness and extended at an angle to the head into a central sleeve with a tapered, threaded bore therein.

6. A nut formed of sheet metal doubled upon itself to form a head and extended at an angle to the head into a central sleeve with a bore the opposite sides of which are struck on different radii.

7. A nut formed of sheet metal doubled upon itself to form a head and extended at an angle to the head into a central sleeve with a bore inwardly contracted on one side.

CHARLES H. NEWTON.

Witnesses:
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