Aug. 27, 1957 P. C. BURCHETT 2,804,111

MANUALLY OPERATED NUTCRACKER WITH NUT POSITIONING SPRING

Filed June 29, 1956

Fig. 1

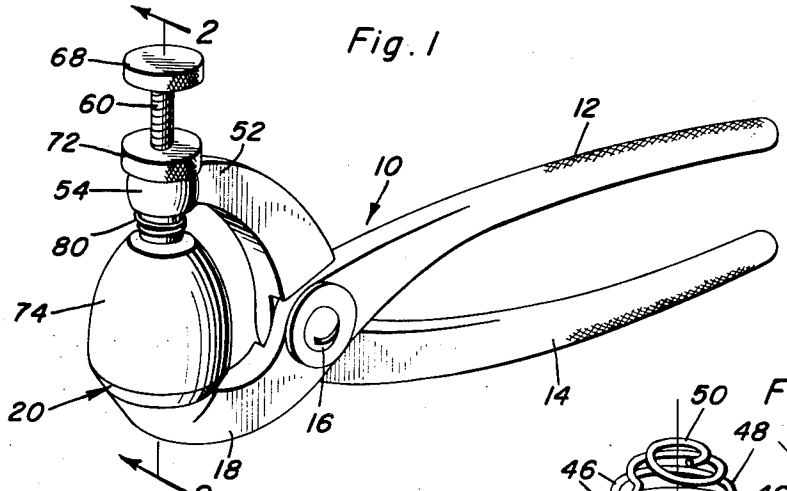

Fig. 2

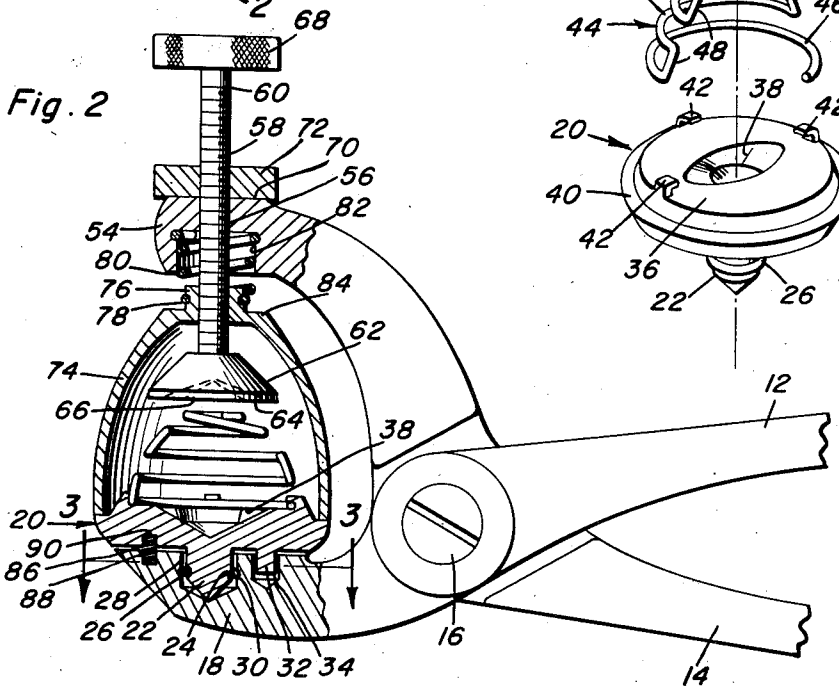

Fig. 4

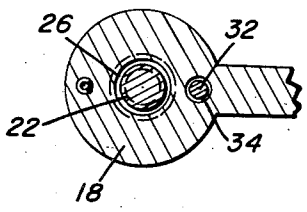

Fig. 3

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MANUALLY OPERATED NUTCRACKER WITH NUT POSITIONING SPRING

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3 Claims. (Cl. 146—13)

This invention relates to new and useful improvements in nutcrackers and is an improvement on my prior Patent No. 2,753,906, dated July 10, 1956.

Heretofore the cracking of nuts has been done with other devices with concavities, and other devices in the anvils thereof for positioning the nut to be cracked. However, although this has been a fairly satisfactory practice, there has been no positive method of retaining the nut to be cracked in a preselected position until the jaws of the nut cracker are to be brought together. Therefore, the primary object of this invention is to provide a nutcracker with a positioning device attached to one of the jaws thereof for retaining the nut in a preselected position preliminary to cracking.

Another object of this invention is to provide a nutcracker having self-aligning jaws.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

Figure 1 is a perspective view of the nut cracker;

Figure 2 is an enlarged vertical fragmentary sectional view taken substantially along the plane of section line 2—2 in Figure 1;

Figure 3 is a horizontal sectional view taken along the plane of section line 3—3 of Figure 2; and

Figure 4 is an exploded perspective view of the lower jaw and nut positioning spring.

Referring now to the drawings in detail, it will be seen in Figure 1 that a nutcracker, shown by reference numeral 10, has the general configuration of a pair of pliers, having an upper handle 12 and a lower handle 14, both handles 12 and 14 being elongated to insure adequate leverage for cracking of nuts. The handles 12 and 14 are disposed in cross relationship and are pivotally joined at their point of crossing by pivot screw 16. The pivot screw 16 retains the lateral faces of the handles 12 and 14 in a close face-to-face relationship, thus preventing unnecessary lateral motion of the handles during operation thereof.

As best seen in Figure 2, the upper handle 12 is formed into a lower jaw 18 which has attached thereto a lower anvil, referred to in general by the reference numeral 20. The lower anvil 20 is of generally circular configuration and has depending from its lower surface a centrally disposed cylindrical tang 22. The tang 22 has formed about the circumference thereof a snap ring recess 24 which receives a snap ring 26. The lower jaw 18 has formed therein a recess 28 having a mating snap ring recess 30, and is of suitable size to allow the insertion of the tang 22 having the snap ring 26 thereon into the recess in retaining engagement. The lower anvil 20 is also provided with an off-center tang 32, also depending from its lower surface, which engages an off-center recess 34 in the lower jaw 18, to prevent rotation of the lower anvil 20. Symmetrically disposed about the center of and on

the upper face 36 of the lower anvil 20 in a recess 38. The purpose of the recess is to receive a nut and to hold the nut in a somewhat central location with relation to the anvil 20. The lower anvil 20 is also provided with a generally horizontal annular lip portion 40 adjacent the outer extremity thereof. There is also provided a plurality of inturned tangs 42 on the upper face 36, the ears of which are in spaced relation above the upper face 36 and receives thereunder one coil of a positioning spring, referred to in general by the reference numeral 44. As is best seen in Figure 4, the positioning spring 44 consists of a series of semi-circular partial coils 46, vertically interconnected by straight portions 48. The coils 46 decrease in size from bottom to top with the upper coil 50 being the smallest and forming a complete, modified circle. When assembled with the lower anvil 20, the lower partial coil 46 is snapped into engagement under the tangs 42 with the upper coil 50 disposed in substantially vertical alignment with the recess 38. It should be noted that a nut may then be placed in the recess 38 through the open side of the positioning spring, and retained therein by the upper coil 50.

The lower handle 14 is formed into an upper jaw 52 having at its outer end and disposed directly over the lower anvil 20 an enlarged portion 54. The portion 54 has along its axis and perpendicular to the upper face 36 of the lower anvil 20 a threaded hole 56 which receives a threaded portion 58 of a stem 60 which is integral with and upstanding from an upper anvil 62. On a lower face 64 of the anvil 62 is a recess 66 which is centrally located on the face 64 and therefore disposed generally in line with and above the recess 38 in the lower anvil 20.

As is best seen in Figure 2, the threaded portion 58 extends above the portion 54 and has attached at its other extremity an adjusting head 68 which when turned, causes the raising or lowering of the upper anvil 62 for the purpose of accommodating larger or smaller nuts as the case may be.

Threadedly engaged on the portion 58 and having a face-to-face relationship with the upper face 70 of the portion 54 is a lock nut 72 which locks the threaded portion 58 and with it the upper anvil 62 in any desired preset position.

As is best seen in Figures 1 and 2, the adjusting head 68 and the lock nut 72 have knurled circumferential surfaces which alleviate the tendency of the fingers to slip on these members when adjusting and locking the nutcracker.

As is best seen in Figure 2, the stem 60 has slidably attached on the lower portion thereof an inverted cup-shaped guard 74 which has the same general lower diameter as the lip 40 of the lower anvil 20, which it engages prior to the actual cracking of a nut.

A bushing 76 formed integral with and centrally located on the upper surface of the guard 74, act as a guide for the guard 74 to confine its movement, with relation to the stem 60 to a direction parallel to the stem 60. The bushing 76 has formed about its outer periphery a groove 78 which receives the bottom coil of a spring 80. The spring 80 is spirally wound and is received at its larger or upper end into an aperture 82 in the lower face of the portion 54. The aperture 82 is formed concentric with the stem 60 and the bushing 76.

In operation, the handles 12 and 14 are opened, thus opening the anvils 20 and 62 and the guard 74. The opening or raising of the guard 74 is accomplished by the spring 80 which is attached at its upper end in the aperture 82 and in the recess 78 formed in the bushing 76 at its lower end. A nut is placed on the lower anvil as before described and the handles are brought together. It will be noted that the nut is retained in an upstanding position between recess 38 and the coil 50 of the positioning spring until the upper anvil 62 is brought into

engagement with the upper end of the nut. A shoulder **84** is provided on the upper portion of the guard **74**, the upper surface of which acts as a stop against the lower surface of the upper jaw **54** to prevent crushing of the nut meat when the nut is being cracked.

It should be further noted that a spring **86** is provided between the lower jaw **18** and the lower anvil **20**. The spring **86** is reecived in mating off-center apertures **88** and **90**, in the lower jaw **18** and the lower anvil **20** respectively, which are located diametrically opposite the tank **32** adjacent the outer extremity of the jaw **18**. The spring **86** maintains the lower anvil **20** in a somewhat tilted position to provide approximate alignment of the lower jaw with the guard **74** when the two elements are brought into initial contact.

The preceding description of the operation of the nutcracker relates to any nut which could be more effectively cracked by end pressure. If nuts are to be cracked in any other position, the spring **44** may be removed and the nut to be cracked may be placed in the recess **38** in any position desired.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed.

What is claimed as new is as follows:

1. A nutcracker comprising a pair of crossed handles pivotally secured together, upper and lower jaws presented by one end of the respective handles, a lower anvil carried by said lower jaw, an upper anvil carried by said upper jaw, said upper anvil including a threaded shank projecting through said upper jaw for adjustable movement toward and away from said lower anvil, an inverted cup-shaped guard carried by said upper jaw and slidable on said shank in surrounding relation to said upper anvil, said threaded shank receiving thereon a threaded lock nut, said lock nut retaining said shank and said upper anvil in any desired pre-set position, a positioning spring carried by said lower anvil, said spring having an access opening on one side thereof to allow the insertion of a nut.

2. A nutcracker comprising a pair of crossed handles pivotally secured together, upper and lower jaws presented by one end of the respective handles, a lower anvil carried by said lower jaw, an upper anvil carried by said upper jaw, said upper anvil including a threaded shank projecting through said upper jaw for adjustable movement toward and away from said lower anvil, an inverted cup-shaped guard carried by said upper jaw and slidable on said shank in surrounding relation to said upper anvil, said threaded shank receiving thereon a threaded lock nut, said lock nut retaining said shank and said upper anvil in any desired pre-set position, a positioning spring carried by said lower anvil, said spring having an access opening on one side thereof to allow the insertion of a nut, said spring including an upper coil and a plurality of partial lower coils, one of said lower coils retained in face-to-face engagement with the upper surface of said lower anvil, said spring positioning a nut in an upright position for cracking on said lower anvil.

3. A nutcracker comprising a pair of crossed handles pivotally secured together, upper and lower jaws presented by one end of the respective handles, a lower anvil carried by said lower jaw, an upper anvil carried by said upper jaw, said upper anvil including a threaded shank projecting through said upper jaw for adjustable movement toward and away from said lower anvil, an inverted cup-shaped guard carried by said upper jaw and slidable on said shank in surrounding relation to said upper anvil, said threaded shank receiving thereon a threaded lock nut, said lock nut retaining said shank and said upper anvil in any desired pre-set position, a positioning spring carried by said lower anvil, said spring having an access opening on one side thereof to allow the insertion of a nut, said lower anvil including an upper surface, a lower surface, a centrally disposed downwardly projecting cylindrical tang, and an offset downwardly projecting retainer pin, said tang received in a socket in said lower jaw, a lock ring in surrounding relation to said tank for retaining said tang in said socket.

No references cited.