J. H. SPENCER.

NUTCRACKER.

APPLICATION FILED JULY 26, 1915.

1,255,808. Patented Feb. 5, 1918.

Fig_5_

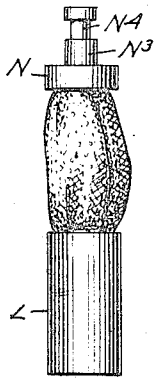


Fig_7_



Fig_8_

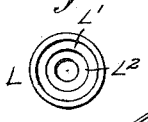


Fig_6_

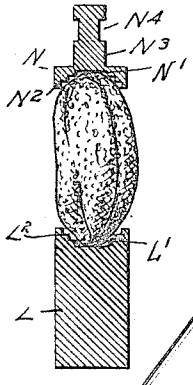


Fig_1_

Fig_3_

Fig_4_

Fig_2_

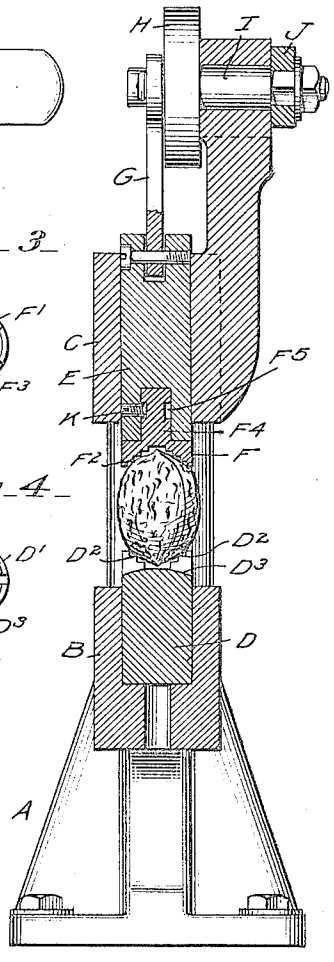


Fig_9_

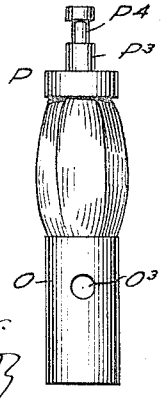


Fig_10_

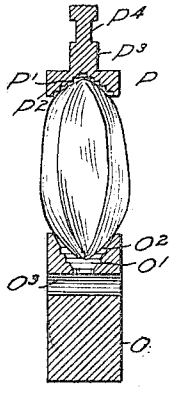


Fig_11_

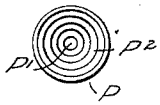


Fig_12_



WITNESSES

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NUTCRACKER.

1,255,808. Specification of Letters Patent. Patented Feb. 5, 1918.

Application filed July 26, 1915. Serial No. 41,912.

To all whom it may concern:

Be it known that I, JAMES H. SPENCER, a citizen of the United States, and a resident of the city of New York, borough of Manhattan, in the county and State of New York, have invented a new and Improved Nutcracker, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved nut cracker arranged to permit of sufficiently cracking the shells of walnuts, Brazilian nuts, pecan nuts and other nuts for convenient removal by hand of the broken shell parts and without danger of crushing or unduly bruising the kernels or meat of the nuts. In order to produce the desired result, use is made of pairs of dies, one for each particular kind of nut to be cracked, and a press having a bed provided with a die seat adapted to accommodate one of a pair of dies, and a plunger adapted to carry the mating die and movable toward and from the said seated or stationary die, the said dies having recessed faces each provided with stepped concentric seats.

A practical embodiment of the invention is represented in the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of the nut cracker having dies for cracking walnuts;

Fig. 2 is a sectional front view of the same;

Figs. 3 and 4 are face views of the pair of dies for cracking walnuts, and shown in Figs. 1 and 2;

Fig. 5 is a side elevation of a pair of dies for cracking a Brazilian or butternut;

Fig. 6 is a sectional side elevation of the same;

Figs. 7 and 8 are face views of the pairs of dies shown in Figs. 5 and 6;

Fig. 9 is a side elevation of a pair of dies for cracking a pecan nut;

Fig. 10 is a sectional side elevation of the same; and

Figs. 11 and 12 are face views of the dies shown in Figs. 9 and 10.

The nut cracker is mounted on a suitably constructed frame or bed A adapted to be bolted or otherwise fastened to a bench or similar support, and on the frame A is arranged a seat B and a bearing C in axial alinement with the seat B. In the latter is removably seated a bottom or stationary die D and in the bearing C is mounted to reciprocate a plunger E carrying at its lower end a removable die F operating in conjunction with the die D on reciprocating the plunger so as to move the die F toward the die D and at the time a nut is seated on the die D. The upper end of the plunger E is connected by a pitman G with a crank disk H held on a shaft I journaled on the upper portion of the frame A. On the shaft I is secured a handle J under the control of the operator for imparting a turning motion to the shaft I with a view to reciprocate the plunger E and with it the die F.

The dies D and F are provided at their opposite faces with recesses D′, F′, of conical shape, and having their walls formed with concentric steps or seats D^2, F^2 so as to readily accommodate the corresponding ends of the nut to be cracked. The face of the die D is further provided with a number of cross cuts D^3 extending diametrically across the face and having their bottoms merging with the bottom of the recess D′, the bottom of each cross cut D^3 being inclined from the center of the die in an outward and downward direction, as will be readily understood by reference to Fig. 2. It will be noticed that by this construction a large number of convenient seats are provided for accommodating the irregular end portions of a nut with a view to hold the same in position at the time the plunger E is moved downward and with it the die F to crack the nut from the ends toward the center to retain the kernel or meat as a whole. The top die F is also provided with diametrical cross cuts F^3 which are approximately of inverted V shape. The cross cuts D^3 are preferably four in number while the cross cuts F^3 are preferably two in number. It is expressly understood that the cross cuts D^3 and F^3 provide a large number of individual seats for the irregular ends of the nuts and at the same time allow small portions of the shell of a nut cracked and lodging between the seats to pass out from the conical recesses of the dies. The die F is provided with a shank F^4 fitting into a corresponding recess in the plunger E, and the shank F^4 is provided with an annular groove F^5 engaged by a screw K screwing in the plunger E so as to hold the die F against dropping out of the plunger E.

In using the nut cracker for cracking walnuts, the handle J is raised to lift the plunger E and die F to allow of placing the nut with one end into the recess of the die D, and then the handle J is swung downward to cause the plunger E and the die F to move downward whereby the upper end of the nut is seated in the recess F′ of the die. On a short further downward movement, the shell of the nut is cracked, first lengthwise of the nut, and then the individual shell sections are cracked crosswise at or near the middle, after which the handle J is raised to allow removal of the cracked nut. By cracking the nut as described, the several broken pieces of the shell can be readily removed or peeled off by an operator, it being understood that the kernel or meat of the nut remains whole during the cracking and peeling operation. It is further understood that the cross cuts and steps form individual jaws to compensate for any irregularities in the ends of the nuts, and when pressure is applied the shell tends to split lengthwise prior to breaking or cracking in the middle. By the use of cross cuts with their inclined bottoms any shell fragments lodging in the recess D′ can be readily removed to keep the die clean.

The dies D and F described are especially intended for cracking walnuts, but for splitting or cracking Brazilian nuts the dies D and F are removed from the seat B and the plunger E, and another set of dies L and N are placed in their stead in the seat B and the plunger E. The die L is provided in its face with a conical recess L′, the wall of which is provided with concentric steps L^2 similar to the steps D^2 and F^2 of the dies D and F previously mentioned. The die N is provided with a conical recess N′, the wall of which is formed with concentric steps N^2. The conical recesses L′ and N′ in both dies L and N are rather shallow so that the Brazilian nut is seated at one end on the bottom of the die L and is engaged at the other end by the bottom of the recess N′ of the die N on forcing the plunger E downward so as to split the Brazilian nut open from one end to the other. The steps L^2, N^2 hold the nuts against accidental lateral displacement. The die N is provided with a shank N^3 having an annular groove N^4 for engagement by the screw K to hold the die N in place in the plunger E.

For cracking pecan nuts use is made of two dies O and P, of which the die O is seated in the seat B and the die P is adapted to be removably fastened in the plunger E. The die O is provided in its face with a conical recess O′, the walls of which are provided with concentric steps O^2 for forming seats for one end of the pecan nut. The bottom of the opening O′ leads to an aperture O^3 extending crosswise in the die for removal of any small shell fragments. The die P is provided in its face with a conical recess P′, the wall of which is provided with concentric steps P^2 for engagement with the other end of the pecan nut. The shank P^3 of the die P is provided with an annular recess P^4 adapted to be engaged by the screw K for holding the die P in place in the plunger E. If the nut cracker having the dies O and P is used in place of the dies D and F, it is understood that the nut is placed lengthwise between the dies and the nut shell is cracked first lengthwise and then at or near the middle so that the kernel or meat remains whole.

In cracking pecan nuts it is not necessary to provide the dies with cross cuts above described with reference to the dies D and F.

Although I have shown and described the nut cracker as being operated by hand it is evident that the same may be actuated by mechanical or electrical power.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

A nut cracker, comprising a frame provided with a seat, a plunger movable toward and from the said seat, and a pair of dies, of which one is the stationary die and is removably held in the said seat, and the other is the movable die and is removably held in the said plunger, each of the dies having a shallow conical recess in its face, the recesses being of a depth to receive the end only of a nut and the wall of each recess being provided with narrow annular steps throughout its entire extent, each of the dies having cross cuts extending diametrically across the die face, the bottoms of the cross cuts of the stationary die being inclined from the center of the die in an outward and downward direction.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JAMES H. SPENCER.

Witnesses:
W. A. Pendleton,
Chas. P. Heitkamp.