ABSTRACT

This device is solenoid operated for efficiently cracking pecan nuts. The device consists primarily of a solenoid actuated weight which when striking a pivotable arm member of the device, will crack the shell of the nut which is placed between the arm member and a piston member carried within a sleeve.

3 Claims, 3 Drawing Figures
ELECTRIC PECAN CRACKING DEVICE

This invention relates to devices for rupturing the shell of meat nuts, and more particularly to an electrically operated cracking device.

It is therefore the principal object of this invention to provide a cracking device which will utilize a solenoid and a spring returnable weight for applying the necessary force for cracking the shell of a nut.

Another object of this invention is to provide a device of the type described which will include a sleeve member secured to the base of the device, the sleeve having a slideable piston therein, one end of which will engage the nut that is to be cracked while the opposite end will be engaged with a bar member which then struck by the weight, will shatter the shell of the nut.

Still another object of this invention is to provide a device of the type described which will have a shield member which will be lowered by hand so as to urge the piston forward to engage the nut, and the shield will serve as protection means against the flying fragmented shell.

Other objects of this invention are to provide a cracking device which is simple in design, inexpensive to manufacture, rugged in construction, easy to use and efficient in operation.

These and other objects will become readily evident upon a study of the following specification together with the accompanying drawing wherein:

FIG. 1 is a side view of the present invention shown in elevation and partly broken away, the upward position of the shield being shown in phantom lines.  
FIG. 2 is a top plan view of FIG. 1 showing the downward position of the shield member in phantom lines; and  
FIG. 3 is a schematic wiring diagram of the invention.

According to this invention, an electric pecan cracking device 10 is shown to include a rectangular configured base member 11, the top surface of which is provided with a sleeve 12 fastened thereto by means of extending brackets 13.  Brackets 13 are fixedly secured to the outer peripheral surface of shield 12 and are secured to base 11 by means of suitable fasteners 14.  

Carried slidably within shield 12 is a piston 15 having a recessed end 16 for engagement with one end of pecan nut 17.  The opposite end of the nut 17 engages a recessed projection 18 fixedly secured to pivotable bar 19.  Bar 19 is pivotably carried upon fastener 20 secured within base 11.  The opposite end of piston 15 includes an extending arm member 21 which is carried upon pivotable lever 22.  One end of lever 22 is secured by pin 23 to bar member 22a fastened to one of the brackets 13 of sleeve 12.  The opposite end of lever 22 is pivotably secured by pin 24 to arm 25 extending from one end of shield 26.  A spring 27 is carried by arm 25 and the opposite end of spring 27 engages lever 22 so as to springingly urge 26 downwards and piston 15 forward within sleeve 12.  A pin 28 of member 21, is slideably carried within an elongated opening 29 of lever 22 so as to effectively cause a pivoting action of sleeve piston 15 and shield 26.

When piston 15 is in the upward position against nut 17, the bar 19 engages a stop pin 30 fixedly secured within base 11 so as to prevent any forward movement thereof.

A rod 31 is freely carried within an opening 31a within one end of bar 19, and rod 31 is pivotably fastened to armature 32 of solenoid 33 by means of a suitable fastener 33a.  The opposite end of rod 31 is fixedly secured to one end of a cylindrical weight 34 which provides the necessary inertia for striking bar 19 so as to crack the shell of nut 17.

An eye 35 fastened to the opposite end of weight 34, engages one end of a coiled spring 36 an opposite end of spring 36 being in engagement with a post 37 extending upwards and fixedly secured to base 11 of device 10.  A push button switch 38 secured fixedly to base 11, provides a means for operating the solenoid 33.  A cord 39 fastened to plug 40, enables device 10 to be plugged into a suitable electrical outlet.

It shall be noted that solenoid 33 is fixedly secured to base 11 and when push button 38 is urged downwards by the user, the armature 32 will be forcibly entered into the body of solenoid 33 thus causing the weight 34 to violently strike bar 19 thus rupturing the shell of nut 17.

The operator of device 10 places the pecan nut 17 between the member 18 and the recess 16 of piston 15, the recess 16 not engaging the end of nut 17 until the user lowers the shield 26, the shield 26 when being lowered, will thus cause the piston 15 to be urged forward within sleeve 12 so as to engage one end of nut 17.  When the button 38 is pushed, the solenoid 33 is actuated and thus weight 34 strikes bar 19 and cracks nut 17.

What I now claim is:

1. An electric pecan cracking device, comprising in combination, a base, an upper side of said base forming a flat surface, a pair of brackets a sleeve mounted upon said base in a horizontal position by means of brackets, a piston slideable in said sleeve, one end of said piston having a concave recess for holding one end of a pecan nut, a fastener bolt secured upon said base, a bar pivoted at one end about said fastener bolt, a longitudinal intermediate portion of a side of said bar having a sideward projection, an outer side of said projection having concave recess for holding an opposite end of said pecan nut, means for moving said projection toward said piston for effecting cracking of said nut an axially extending first arm integral with an opposite end of said piston, a cross pin through an outer end of said first arm, a bar shaped extension affixed to one of said brackets, a lever pivotably attached at one end to said bar shaped extension, a longitudinally intermediate portion of said lever having a longitudinal extending slot engaging said first arm cross pin, a second arm, an opposite end of said lever being pivotally secured on an outer end of said second arm, a shield integral with said second arm, a first spring having one end held against a side of said lever and having an opposite end urging against a side of said second arm thus urging said shield downwardly over said sleeve and concave recesses so to cover said pecan nut there between during a nut cracking operation and prevent scattering nut shell fragments thereof.

2. The combination as set forth in claim 1 wherein an opposite side of said bar engages a stop pin mounted upon said base when said piston is fully slid against said nut.

3. The combination as set forth in claim 2, wherein said means for moving said projection further includes a solenoid stationarily mounted on said base, a horizontal rod fastened at one end to an armature of said solenoid, a cylindrical weight secured to an opposite end of said rod, a tension coil second spring secured to an op-
posite end of said weight, a post mounted on said base, an opposite end of said tension coil second spring being anchored to said post, an opposite end of said bar having a large transverse opening therethrough and a portion of said rod which is located between said solenoid armature and said weight freely extending therethrough, means for operating said solenoid whereby when said solenoid is activated, said weight strikes said bar thus causing said nut to be cracked.

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