June 28, 1955 J. R. CONWAY 2,711,580

ELECTRIC CAN OPENER

Filed Dec. 31, 1952 4 Sheets-Sheet 1

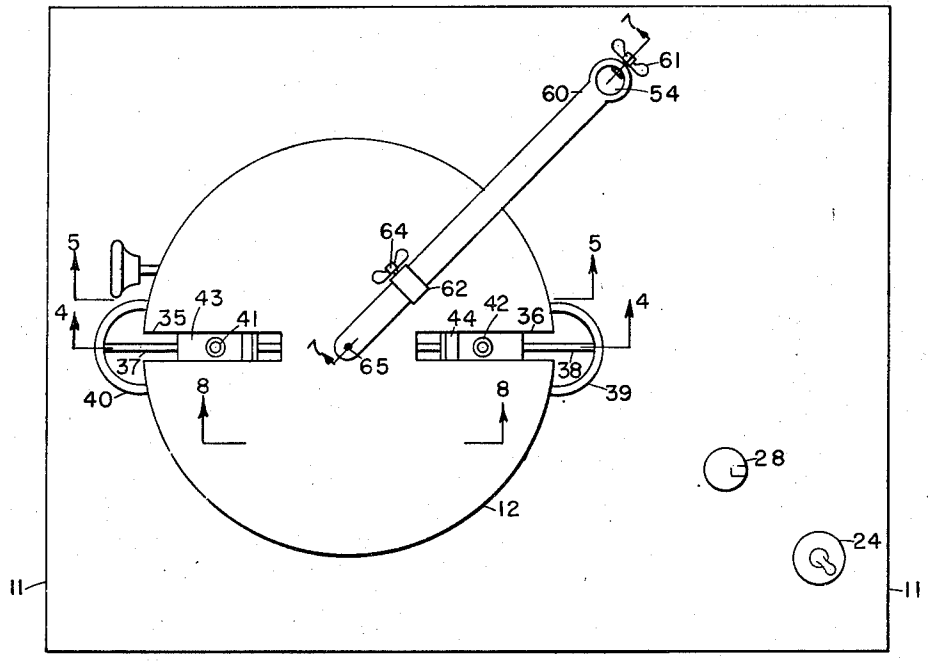

FIG. 1

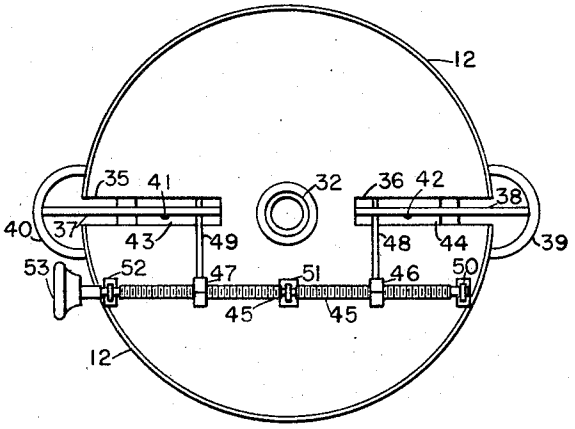

FIG. 2

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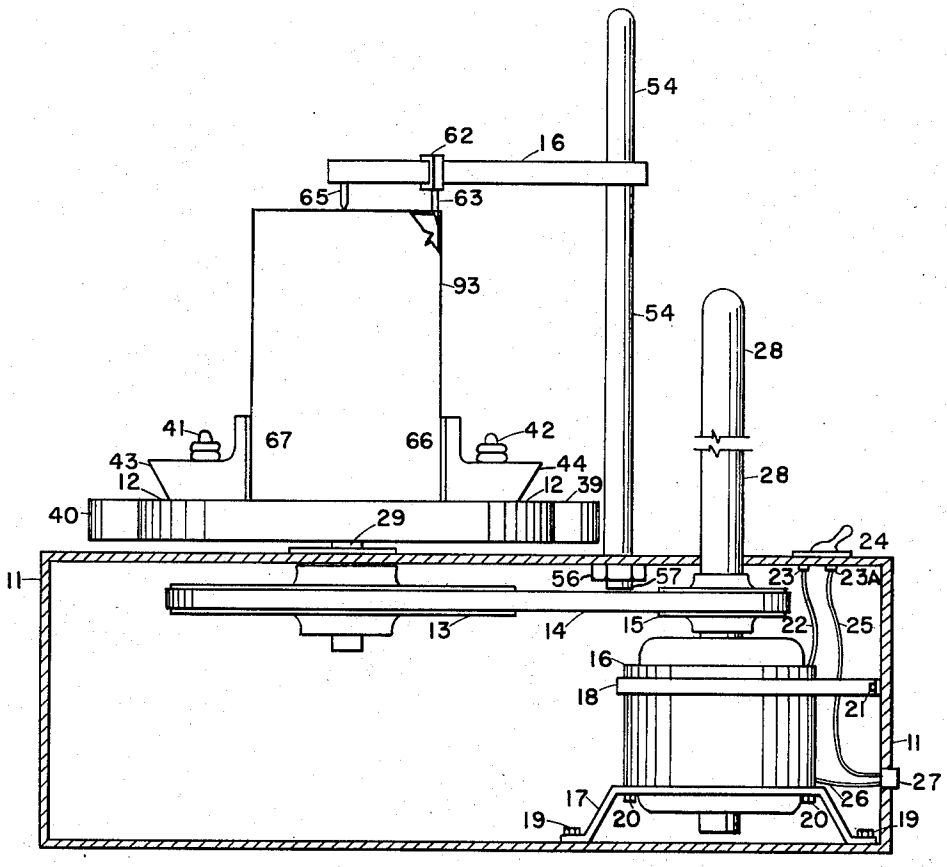

FIG. 3

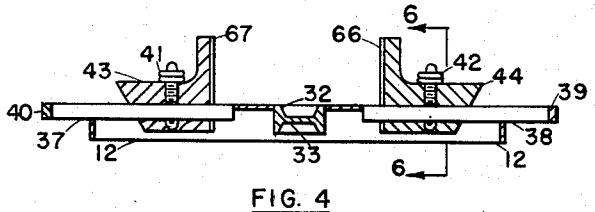

FIG. 4

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ELECTRIC CAN OPENER

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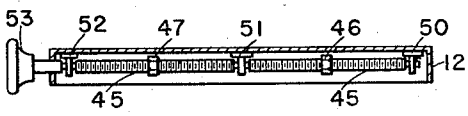


FIG. 5

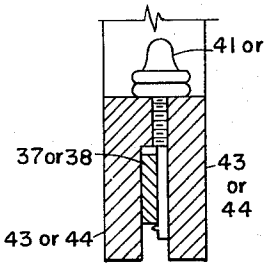


FIG. 6

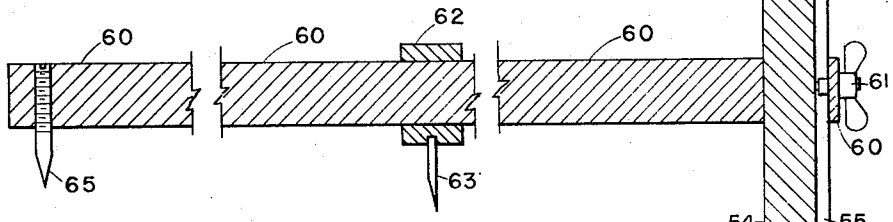


FIG. 7

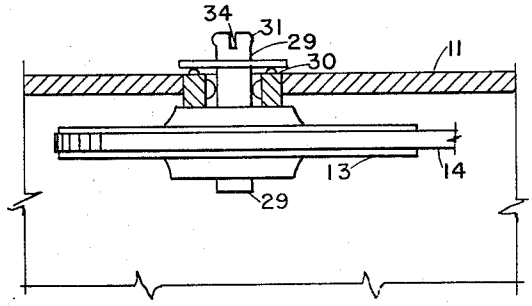
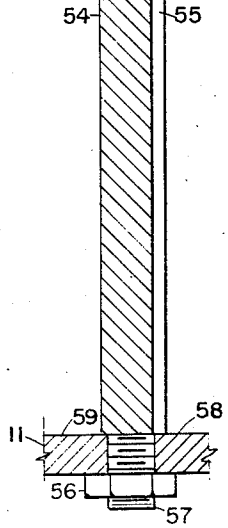


FIG. 8



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ELECTRIC CAN OPENER

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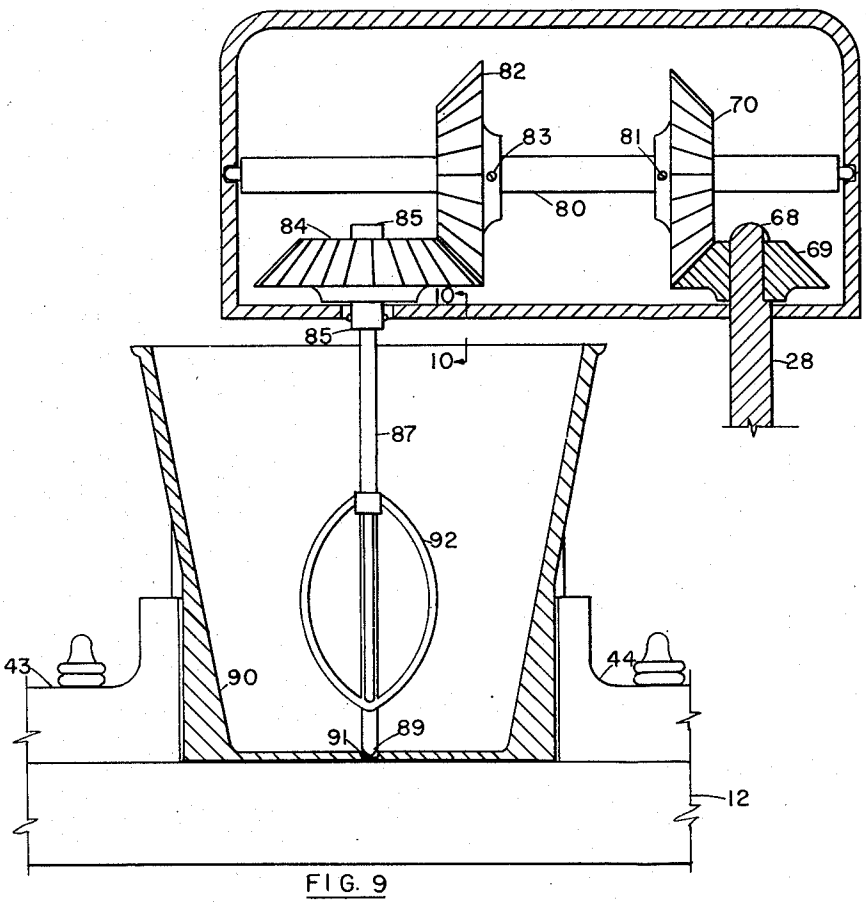

FIG. 9

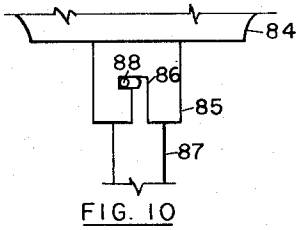

FIG. 10

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United States Patent Office 2,711,580 Patented June 28, 1955

2,711,580

ELECTRIC CAN OPENER

Josephine R. Conway, Mobile, Ala.

Application December 31, 1952, Serial No. 328,897

1 Claim. (Cl. 30—8)

The present invention relates to an improvement in can openers and has for its main purpose to provide a new type can opener that is operated by electricity.

One of the outstanding advantages provided by this new electric can opener is presented through the ease of use, the adaptability of the machine to open any size can, and the elimination of any muscular effort on the part of the operator.

Another advantage is forwarded through the compactness of design, and the adaptability of the machine to perform other duties than cutting cans. Its construction is such that it may be used as an egg beater or batter mixer as well as perform other similar duties.

The low cost of manufacture provides another advantage, comparing favorably to the cost of the present day electric mixers.

With these and other advantages to be pointed out as we proceed I refer to the drawings in which like parts are denoted by the same reference characters throughout the several views,

Whereas:

Figure 1 is a plan view of this new invention in electric can openers.

Figure 2 is a bottom view of the turntable of the invention.

Figure 3 is an elevational view of the invention with part broken away to show the inner construction.

Figure 4 is a sectional view of the turntable showing the clasping arrangement as taken at 4—4 in Figure 1.

Figure 5 is a sectional view of the turntable as taken at 5—5 in Figure 1 further showing the clasping arrangement.

Figure 6 is a sectional view of the construction of one clasping arm, as taken at 6—6 in Figure 4.

Figure 7 is a sectional view of the cutter arm as taken at 7—7 in Figure 1.

Figure 8 is a partial sectional view of the pulley and turntable receiver as taken at 8—8 in Figure 1.

Figure 9 is a sectional view of the egg beater and cake batter mixer arrangement which is attachable to the electric can opener.

Figure 10 is a partial elevation of the beater shaft showing more particularly the coupling arrangement as taken at 10—10 in Figure 9.

Referring more particularly to the drawings:

11 indicates the box of the electric can opener on the top face of which is attached a turntable 12, operated through the action of a pulley 13, a pulley belt 14, and a pulley 15 which is attached to a motor 16. The motor 16 is attached to the box 11 through the application of arms 17 and 18 by means of screws or the like 19, 20, and 21.

Wire 22 leads from the motor 16 to a toggle switch 24 and is attached thereto through the use of screw 23. Wire 25 is also attached to the toggle switch 24 through the application of the screw 23A and also to a receptacle 27 inserted in the side of box 11. A wire 26 is connected between the receptacle 27 and the motor 16. It should

be understood that a three speed motor may be used in this new invention in which case a three way switch would be used instead of the toggle switch shown.

The pulley 15, attached to the motor 16 through the shaft 28, is smaller than the pulley 13 which is instrumental in turning the turntable 12, and is thus proportioned to reduce the speed of the turntable to one which would be applicable to the use, in this instance the opening of cans. As shown more particularly in Figure 8, the pulley 13 has an extending shaft 29 which works within a ball bearing 30 attached to the top of box 11. Roller bearings may be used, or other methods which will allow the free rotation of the turntable 12. The end 31 of the extending shaft 29 snaps into a receiver cup on the turntable 12, seen more particularly in Figures 2 and 4, to the end that the turntable 12 may be snapped on and off the shaft 29. A cross bar 33 or the like, within the cup 32, fits into a groove 34 within the shaft 29 to prevent the slipping of the cup 32 on the shaft 29.

To facilitate the holding of a can 93 on the turntable 12 while the can is being cut, the turntable 12 is provided with a slotted surface, the slots being indicated by the numerals 35 and 36. Welded to the inner end of the slots 35 and 36 and placed centrally therein are rails 37 and 38 which are welded on their outer ends to a semi-circular 39 or 40 as the case may be. Riding on the rails 35 and 36 and attached thereto through the application of an adjustable screw 41 or 42 are brackets 43 and 44. Figure 6 shows the particular construction of the screw 41 or 42 and their operability. To accommodate any size can the brackets 43 and 44 are movable inwardly toward the center or outwardly toward the circumference of the turntable 12. This movement is accomplished through the application of a right and left hand screw 45 having nuts or the like 46 and 47 riding on the opposite ends thereof. Welded to the nut 46 is an attachment bar 48 which is also welded or otherwise attached to the bracket 43. The nut 47 is similarly attached to the bracket 44 through the attachment bar 49. The screw 45 is attached to the turntable 12 through the application of braces 50, 51 and 52 which are welded or otherwise attached. The screw 45 moves freely within these braces 50, 51 and 52 and has on one end a knob or the like 53 by which the screw 45 may be manually operated. The action of the screw 45 when working with the nuts 46 and 47 is similar to that accomplished by a turnbuckle, and since the nuts 46 and 47 are attached to the brackets 43 and 44 a firm hold may be accomplished on the can 93 by the turning of the knob 53.

Also attached to the top of the box 11 is a vertical rod 54 having a vertical groove 55. Rod 54 is attached to the top of the box 11 through a nut or the like 56 screwably mounted on the bottom end 57 of the rod 54 which passes through the top of the box 11 by means of a hole 58, the boss 59 pressing against the top edge of the top of the box 11 holding the rod 54 firmly when the nut 56 is tightened against the bottom edge of the top of the box 11.

Movably mounted on the vertical rod 54 is a cutter arm 60 being held on the rod 54 by means of a set screw or the like 61 working within the groove 55. Movably horizontally on the cutter arm 60 is a sleeve 62 having a cutter blade 63 welded or otherwise attached to the bottom thereof. A wing nut 64 serves to hold this sleeve 62 in the desired position. The wing nut 64 need not be tightened unless the operator desires to do so because the cutter blade 63 will tend to press against the outer rim of the can it is cutting and thus cut the lid of the can close to the rim.

Near the free end of the cutter arm 60 is a center point 65 which is used to center the cutter arm on the can. This center point 65 is screwably mounted with the cutter arm, or may be otherwise removably mounted thereon.

In the operation of this new invention in electric can openers a can 93 is placed on the turntable 12, the brackets 43 and 44 are caused to tighten against the can by the turning of the knob 53 and the can 93 is held in position through the application of felts 66 and 67 attached to the brackets 43 and 44. The cutter arm 60 is lowered and a slight pressure applied by the operator to allow the cutter blade to pierce the top of the can 93. The switch 24 is turned on and the can is automatically cut by the blade 63 as the turntable 12 is rotated through the application of power by motor 16. When the top of the can is cut out the switch 24 is turned off, the cutter arm raised, the brackets moved away from the can through the turning of the knob 53 in the opposite direction used to tighten the brackets and the can removed from the turntable.

This new invention may also be used as a batter mixer or egg beater or the like through the application of the mechanism as shown in Figure 9, or similar device. The extending shaft 28 of the motor 16 is provided with a slot 68 into which is slidably mounted a bevel gear 69 which meshes and works with a second beveled gear 70 attached to a horizontal shaft 80 by means of a set screw or the like 81. Also attached to this horizontal shaft 80 is a third beveled gear 82, by means of a set screw or the like 83. Gear 82 meshes and works with a fourth beveled gear 84 which is attached to a vertical shaft 85 having a hollow lower end with two L-shaped grooves 86 (seen in Figure 10) on the opposite sides thereof. An egg beater or batter mixer having a shaft 87 and extending prongs 88 on opposite sides of the top of the shaft 87 fits into and meshes with the grooves 86 of the hollow shaft 85. The lower end of the shaft 87 is provided with a point or the like 89 which holds the beater centered in the bowl 90 by insertion in a recess 91. Curved agitators 92 may be inserted on the shaft 87 to create the whipping or mixing action desired. A special bowl 90 having partial vertical sides to accommodate the brackets 43 and 44 will be usable on the turntable 12 and through the action of the beater and the rotation of the turntable create a double mixing action.

Other attachments may be provided to work on this

new electric can opener and mixer to accomplish duties similar to this shown and described herein.

While I have disclosed the best form of the invention known to me at the present time I desire it to be understood that I reserve the right to make alterations and changes insofar as said alterations and changes are covered by the appended claim.

I claim:

An electric can opener comprising a motor operated turntable attached to the top of a box container, slots cut into the turntable opposite one to the other, a slide rail welded to the turntable in a longitudinally central position within each of the said slots, a slidable brace attached to and riding on each of the said rails, a screw provided with right and left hand threads rotatably attached to the bottom of the said turntable, and extending outwardly from the edge of one side of the turntable, nuts adjustably mounted on the threads of said right and left hand screw, a bar connecting each of the said nuts to one of the slidable braces, means provided on the extending end of the right and left hand screw to manually operate the said screw, a vertical arm attached to the top of the said container, a horizontal arm movably mounted on the said vertical arm, means provided on the said horizontal and vertical arms to hold the horizontal arm in a fixed position both vertically and horizontally, a slidable sleeve working on the horizontal arm, means provided to hold the said sleeve fixedly on the horizontal arm, a cutter blade attached to the bottom of said sleeve, a center point removably mounted on the free end of the said horizontal bar, and means provided to attached the said electric can opener to electric current.

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