

Feb. 15, 1938.

H. B. TYLER

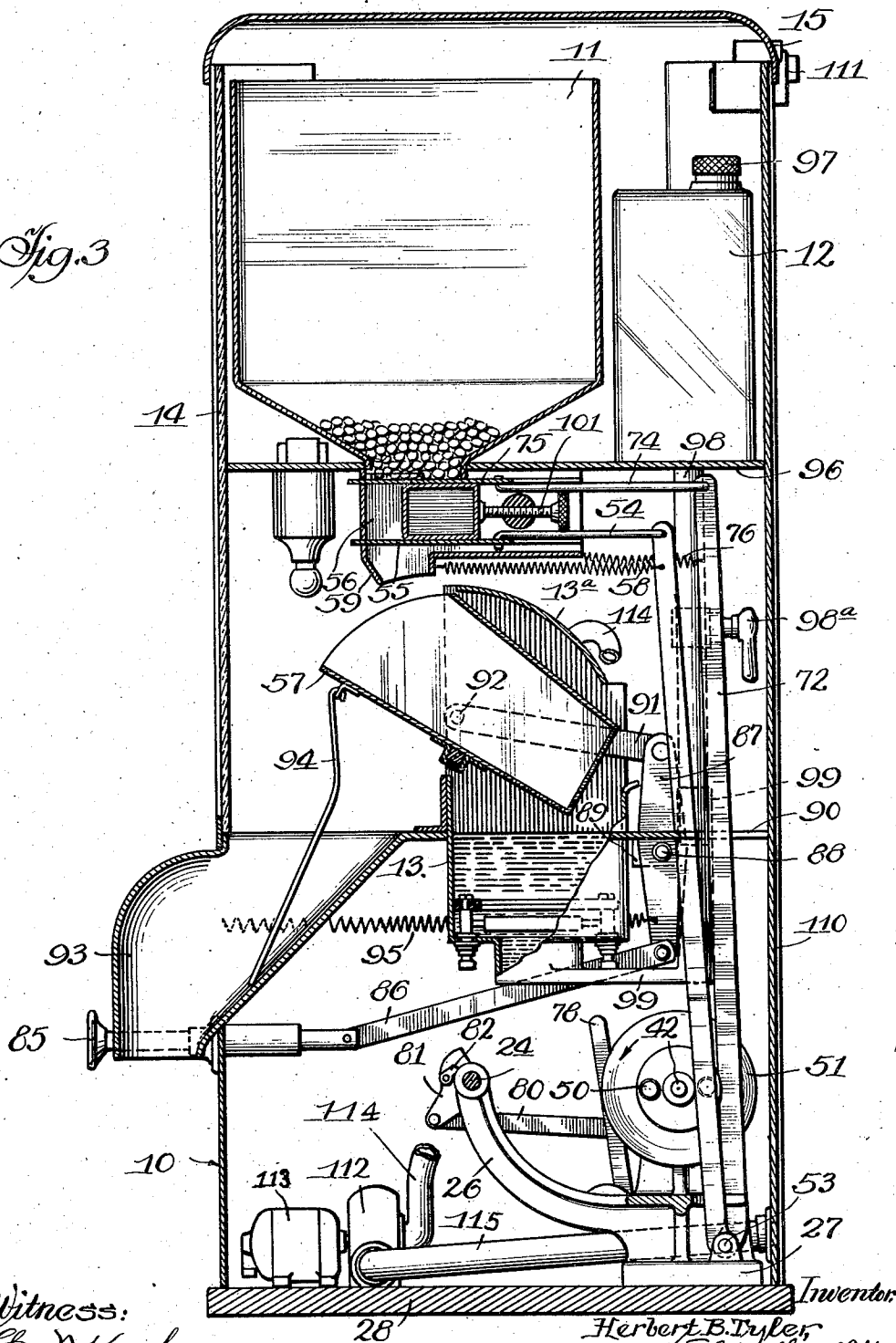
2,108,627

AUTOMATIC CORN POPPING MACHINE

Filed Sept. 24, 1934

6 Sheets-Sheet 2

Fig. 3



Witness:
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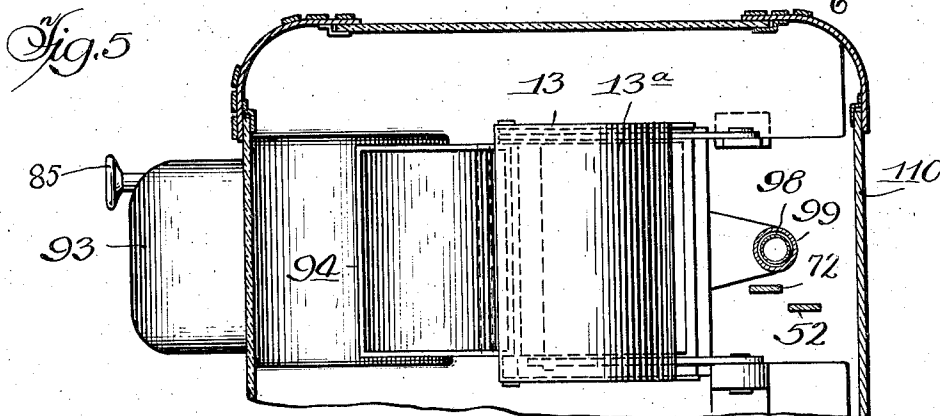
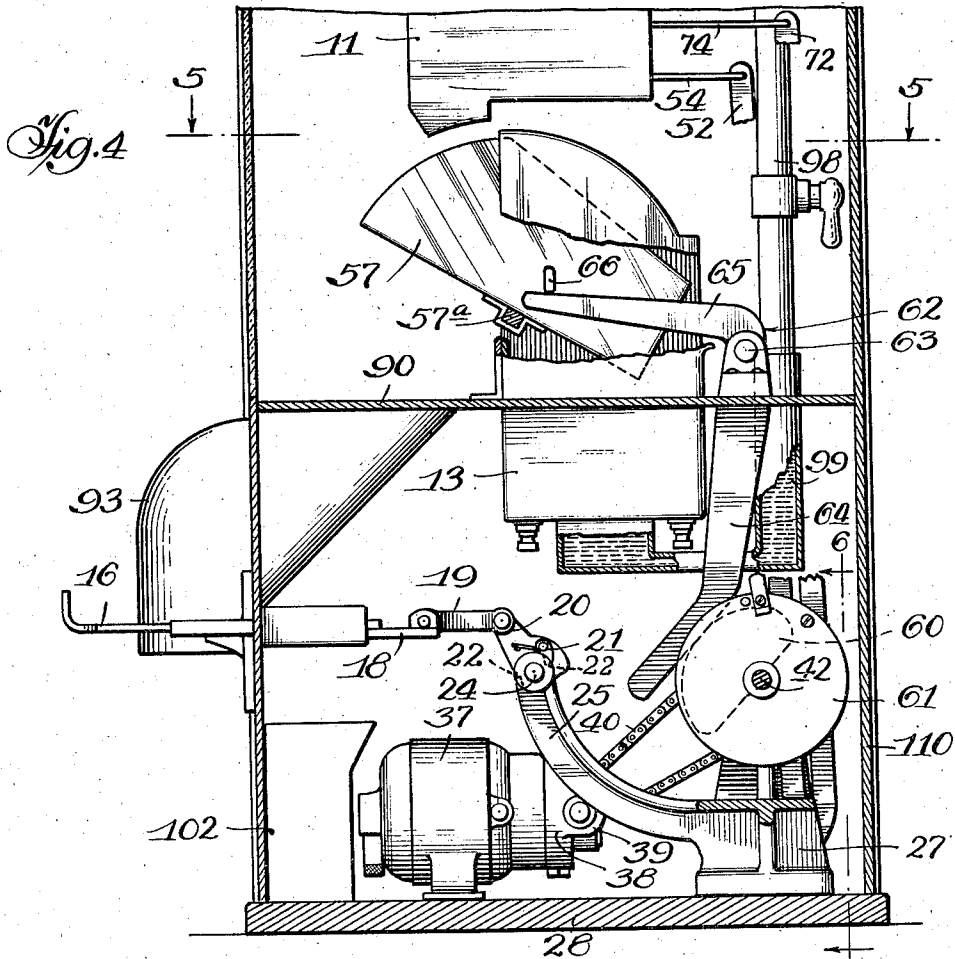
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AUTOMATIC CORN POPPING MACHINE

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6 Sheets-Sheet 3



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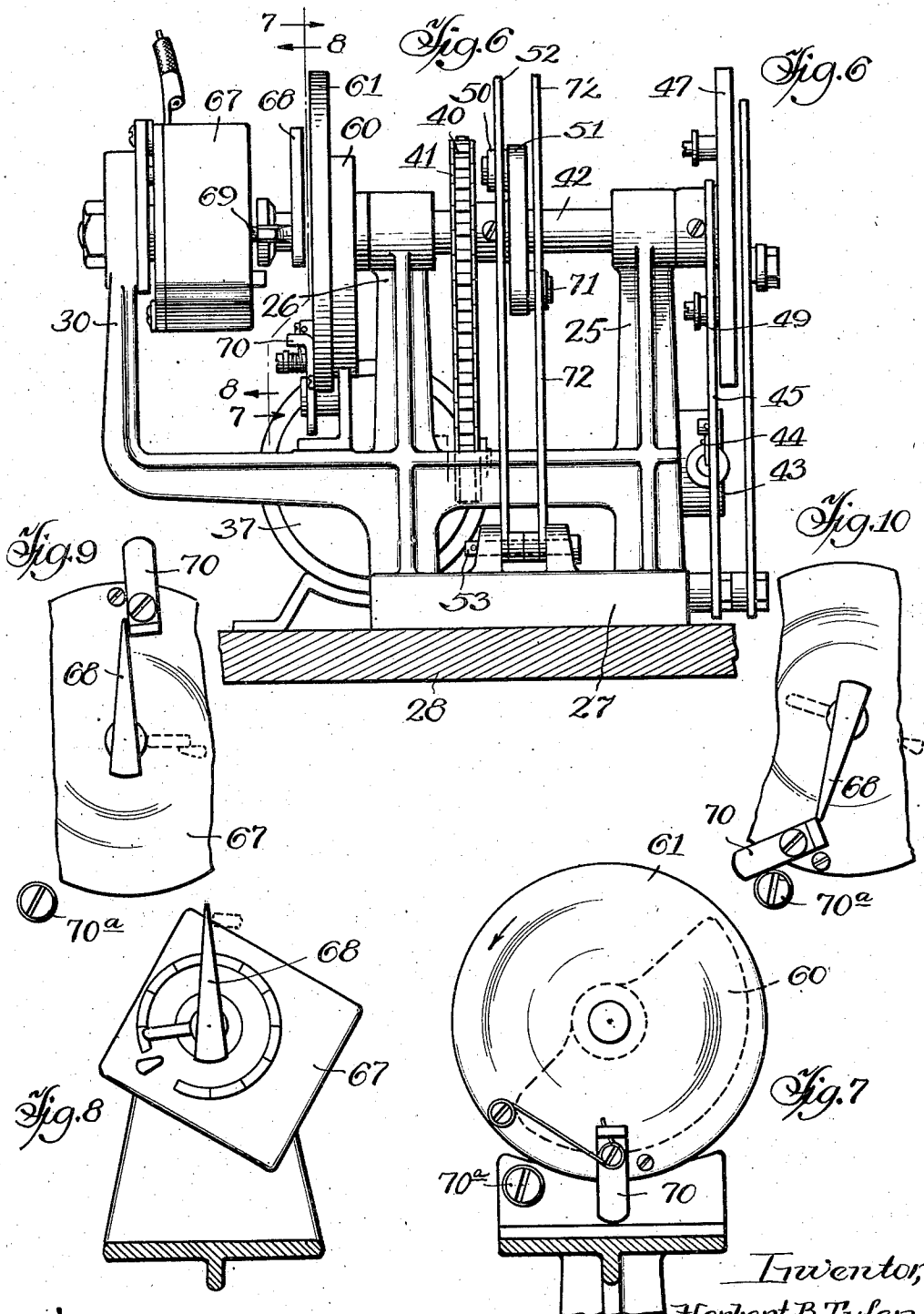
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2,108,627

AUTOMATIC CORN POPPING MACHINE

Filed Sept. 24, 1934

6 Sheets-Sheet 4



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Feb. 15, 1938.

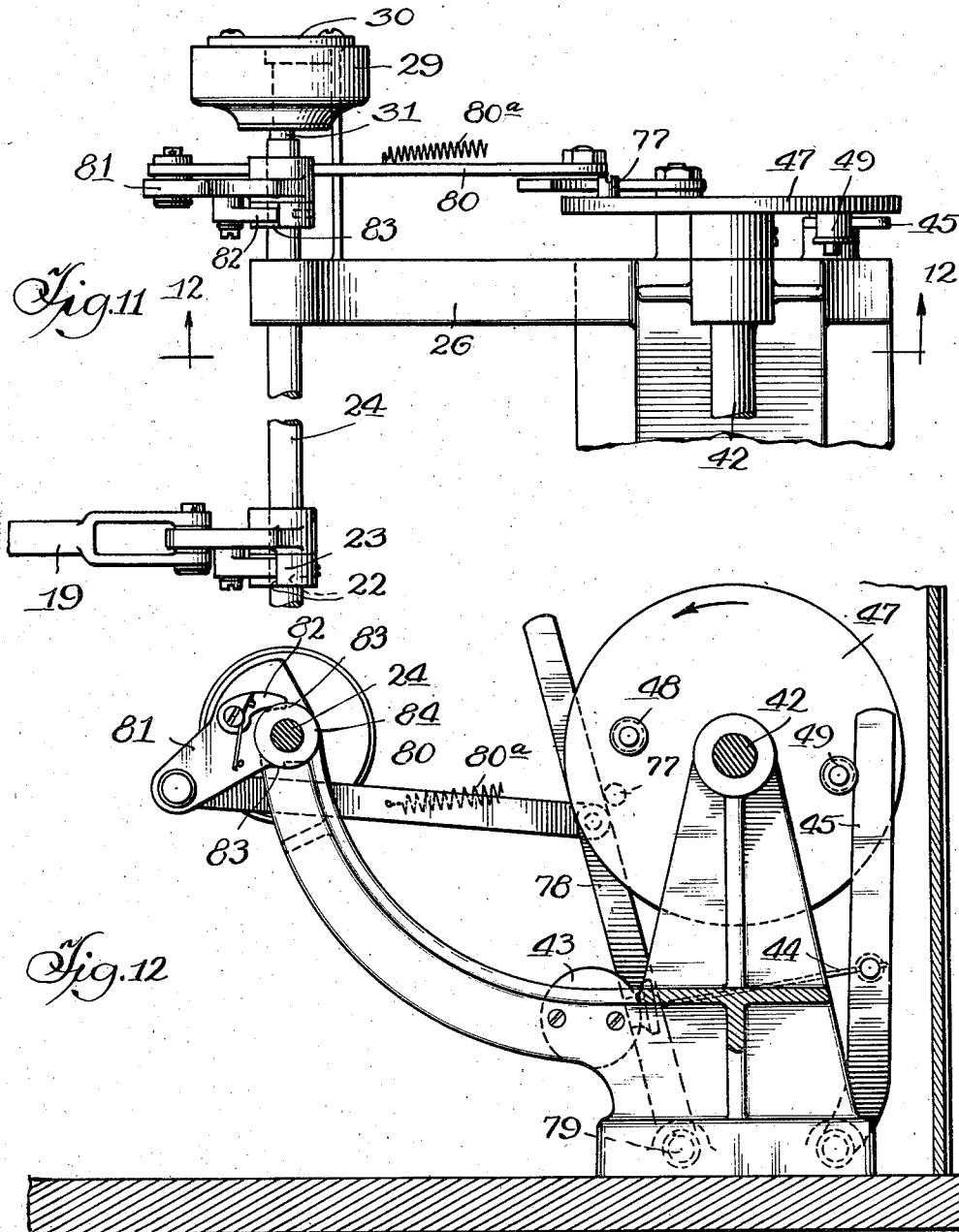
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AUTOMATIC CORN POPPING MACHINE

Filed Sept. 24, 1934

6 Sheets-Sheet 5



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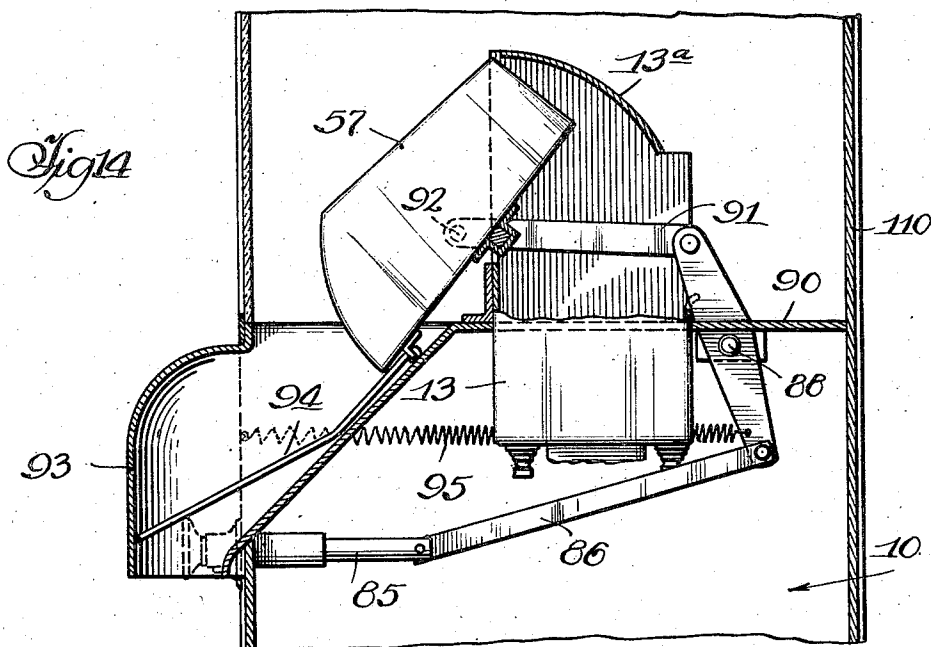
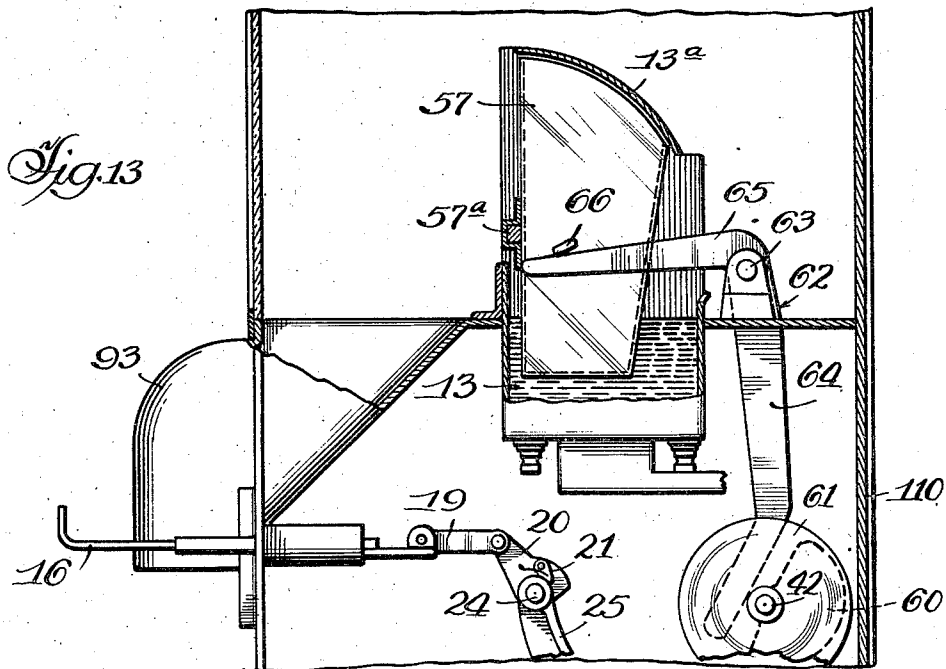
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AUTOMATIC CORN POPPING MACHINE

Filed Sept. 24, 1934

6 Sheets-Sheet 6



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UNITED STATES PATENT OFFICE

2,108,627

AUTOMATIC CORN-POPPING MACHINE

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Application September 24, 1934, Serial No. 745,215

22 Claims. (Cl. 53-4)

This invention relates to automatic corn-popping machines.

One object of the invention is to provide an improved corn-popping machine having means for automatically measuring successive quantities of corn to be popped, subjecting each batch to regulated popping temperature for a predetermined period of time, moving the popped corn to dispensing position and then stopping the operation of the machine after placing various control mechanisms in position for repeating the operating cycle.

A further object of the invention is to provide motor operated mechanism for popping corn having automatically operated switches which control the operation of the motor and the mechanism throughout the complete cycle of operation.

An additional object of the invention is to provide mechanism within a casing for popping and dispensing the corn, the mechanism in the illustrated embodiment of the invention having means extending to the exterior of the casing for closing a master switch to initiate the cycle of operation and to dispense the popped corn, the arrangement being such that said means are inoperative during the operating cycle.

Other objects relate to various features of construction and arrangement of parts which will be apparent from a consideration of the following specification and accompanying drawings, wherein:

Figure 1 is a perspective view of a corn-popping and vending machine embodying the present improvements.

Figure 2 is a diagrammatic view of the electric circuit.

Figure 3 is a vertical sectional view taken approximately on line 3-3 of Figure 1.

Figure 4 is a broken vertical sectional view taken on line 4-4 of Figure 1.

Figure 5 is a broken horizontal sectional view taken on line 5-5 of Figure 4.

Figure 6 is a broken vertical sectional view taken on line 6-6 of Figure 4.

Figure 7 is a side elevation of the clock winding disc taken on the line 7-7 of Figure 6.

Figure 8 is a broken sectional view taken on line 8-8 of Figure 6.

Figure 9 is a broken elevation of the clock winding disc illustrating the same in the position at the beginning of the winding action.

Figure 10 is a broken view illustrating the disc at the end of the winding action.

Figure 11 is a broken plan view illustrating the

master switch, and showing the mechanism for turning the same to circuit opening and circuit closing positions.

Figure 12 is a broken sectional view taken on line 12-12 of Figure 11.

Figure 13 is a broken sectional view illustrating the popping basket in popping position.

Figure 14 illustrates the basket in discharging position.

In the drawings in which one embodiment of the invention is disclosed, a casing 10 is provided within which the operating mechanism is housed as well as the hopper 11 for holding a supply of shelled corn and an oil reservoir 12 for maintaining a predetermined oil level in the hot oil tank 13.

The casing preferably has a front panel 14 of glass. The top 15 of the casing is removable for convenience in replenishing the supply of corn and oil to the hopper 11 and reservoir 12 respectively.

A coin-slide 16, of conventional type, is provided having a recess 17 for receiving a coin, such as a five cent piece. When the coin is in position in the recess, and the slide 16 is pressed inwardly, a bar 18 is moved to the right as viewed in Figure 4. A link 19 pivoted to the inner end of the bar 18 and to a pawl arm 20 moves the arm clockwise, whereupon the pawl 21 engages one of two diametrically opposite ratchet teeth 22 in a ratchet 23 secured to the main switch shaft 24 and rotates the shaft through 90 degrees or one quarter revolution. The shaft 24 is rotatably journaled adjacent its ends in the brackets 25, 26 of a support 27, attached to the base 28 of the casing 10. In alignment with the end of the shaft 24 a rotary master switch 29 is secured to bracket 30 and has its spindle 31 secured to the shaft for operation thereby (see Fig. 11). The switch 29 is of the conventional rotary type and during each complete rotation alternately opens and closes the circuit two times. When the shaft 24 is rotated one quarter revolution by the pawl 21 as above explained, the switch 29 is snapped to "on" or circuit closing position. The closing of the switch 29 admits current from the lines 32, 33 to the heating element 34 which is positioned in the oil tank 13. Current also flows to the pilot light 35, which is visible through the glass panel 14, to indicate that current is flowing in the circuit of the apparatus which is shown diagrammatically in Fig. 2.

The oil in the tank 13 is heated by the heating element 34 to a predetermined temperature (380°

F. having been found satisfactory) whereupon a heat responsive switch, such as a thermostat 36 in the oil tank closes its contacts and sends current to the motor 37.

5 The motor 37 preferably has a conventional speed reducing gear housing 38 attached thereto and operates a sprocket 39 which by means of chain 40 drives a sprocket 41 which is secured to the main or cam shaft 42. During this first 10 one half cycle of operation of the machine, that is, from the initiation of the operation by pressing in the coin slide 16 to and through the deposition of the corn into the hot oil, the motor rotates the shaft 42 only one half revolution 15 when it is stopped by the opening of an intermediate switch 43 in the motor circuit. The switch 43 is of well known type and is provided with a pull chain 44 or the like, which when actuated, alternately opens and closes the circuit 20 through the same. The switch 43 is illustrated as being secured to the support 27, adjacent the bracket 26 (see Fig. 12) with the chain 44 attached to a lever 45 which is pivoted at 46 to the support.

25 A disc 47 is mounted on the main shaft and carries on one side thereof rollers 48 and 49 which alternately are carried into engagement with the lever 45 to swing the same clockwise, as viewed in Fig. 12, to turn the switch 43 on 30 or off. As the motor rotates the shaft 42 toward the end of the first one-half rotation above mentioned, the lever 45 will close the switch 43 and stop the motor. In Fig. 12 the disc 47 is shown in the position it occupies at the end of a complete 35 cycle of operation or at the beginning of a next cycle. Thus when the motor begins to turn the shaft and disc 47 in the direction of the arrow, a roller 48 will engage the lever 45 and close the switch 43 at the end of the first half 40 cycle. At the beginning of the operation of the shaft during this one half cycle, however, which begins when the thermostat 36 has closed the motor circuit, an eccentric or cam roller 50 on a disc 51 carried by the shaft 42 will engage 45 a lever 52 and swing the same to the right as viewed in Fig. 3.

The lever is pivoted on a pintle 53 and at its upper end is connected by a link 54 to the sliding gate 55 of the corn measuring chamber 56. The 50 corn in such chamber will thus be discharged into the basket 57 which, as shown, is constructed of sheet metal with its base and lower side walls foraminated to admit the hot oil to the corn. The basket is pivotally secured at 57a to the 55 side walls of the tank 13.

A spring 58, secured at one end to the lever 52 and at the other end to a corn discharge spout 59, returns the lever 52 to the left, as viewed in Fig. 3, as soon as the lever is free of the roller 60 50. The gate 55 of the corn measuring chamber is thus moved to closed position and is ready for receiving the next measured quantity of corn during the second half cycle of operation of the shaft 42.

65 During the first half cycle, however, and after the corn has been discharged into the basket 57, the latter is lowered into the oil tank 13 to immerse the corn in the hot oil to pop the same. The movement of the basket from the inclined 70 position of Fig. 3 to the vertical or popping position shown in Fig. 13, is effected by means of a cam 60 secured to one side of a disc 61 mounted on the shaft 42 for rotation thereby. A bell-crank lever 62 is pivoted at 63 and has its lower 75 arm 64 extended into the path of the cam 60.

An upper forwardly extending arm 65 of the lever extends under a stud or lug 66 on the side of the basket 57 and as the cam 60 moves from the position shown in Fig. 4 to the position 5 illustrated in Fig. 13, the basket gravitates about its pivot 57a into the tank 13.

Also during this first half cycle of operation a clock switch 67 of known construction is wound up and released. The time required for the clock switch to unwind determines the period 10 that the corn is subjected to the hot oil. I have found that 55 seconds is adequate where the oil temperature is 380° although changes in both time and temperature may be required with corn of different quality. 15

The time switch 67 has a hand 68 secured to its spindle 69, which is engaged by a spring resisted pivoted catch 70 carried by the disc 61 as the latter begins to rotate at the beginning 20 of the first one half cycle of operation. As the catch 70 engages the hand 68 (see Fig. 9) and moves during 180 degrees counterclockwise, the spring of the clock is wound up. As the disc approaches the end of said movement, a stud 70a trips or deflects the catch 70 out of engagement 25 with the hand 68 and releases the latter as illustrated in Fig. 10. It is at this point in the cycle of operations, that is, upon release of the arm 68 that the basket 57 is lowered into the oil tank and that the intermediate switch 43 closes the motor circuit. No movement of the mechanism 30 occurs during the period that the time clock is unwinding, but as it reaches its unwound position fifty-five seconds, for example, after the release of the hand 68 and the simultaneous 35 lowering of the basket 57 to popping position, the clock switch, by internal contacts, not shown, closes the motor circuit to initiate the second one half cycle of operation.

During this second one half cycle the motor 40 37 operates the shaft 42 also one half revolution. During this movement of the shaft the cam 60 moves from the position of Fig. 13 to the position of Fig. 4, and tilts the basket 57 with the popped corn therein to the inclined position 45 shown in the latter figure. Any surplus oil in the basket drains back into the tank 13. Also during this movement of the shaft 42, a roller 71 on the disc 51, but diametrically opposite the roller 50, and being on the opposite side of the disc, engages a lever 72, pivoted at its lower end on the pintle 53, and moves it to the right 50 as viewed in Fig. 3. The upper end of the lever 72 is connected by a link 74 with a slidable closure gate 75 which is drawn to uncover the measuring chamber 56 to permit corn from the hopper to fill the chamber. As the roller 71 releases the lever 72, a spring 76 moves the 55 gate 75 to closed position.

When the basket 57 has been elevated from 60 the oil during this second one half cycle and the corn measuring chamber has been filled as above described (to prepare it for the discharge of corn into the basket upon the beginning of the next cycle of operation) the roller 49 on the disc 47 will move into engagement with the lever 45 and move it to the right, as viewed in Fig. 12, and close the intermediate switch 43. 65 Immediately thereafter a roller 77 on the opposite side of the disc will engage a lever 78 pivoted at 79 to the support 27 and move it to the left or counterclockwise, as viewed in Fig. 12, and by means of a link 80, swing a pawl arm 81 clockwise. Pivotally mounted on the arm 81 is a spring pressed pawl 82 which engages one of the 75

two ratchet teeth 83 of a ratchet 84 secured to the master switch shaft 24 and turns the same one quarter rotation thus opening the master switch 29 and stopping the motor, interrupting the flow of current to the heating element, and extinguishing the pilot light. A spring 80a returns the link 80 to the right upon release of the lever 78 by the cam 77.

The purchaser may then push a plunger 85 inwardly, the inner end of which is connected by a link 86 to a cross-head 87 pivoted at 88 to ears 89 depending from the horizontal partition 90 which supports the tank 13. The upper end of the cross-head is secured to a link 91 which is pivoted at 92 to a side of the basket 57. As the plunger 85 is pressed inwardly, the basket is tilted outwardly to the discharging position shown in Fig. 14. The popped corn is discharged through a chute 93 into a paper bag or the like (not shown) which the purchaser holds thereunder.

An agitator 94 is shown attached to the upper forward portion of the basket 57 and extending into the chute 93. By alternately pressing and releasing the plunger the agitator will release the corn if it tends to accumulate in or clog the chute.

A spring 95 returns the basket from discharging position to the position shown in Fig. 3 upon releasing the plunger 85.

The oil reservoir 12, which is removably supported by a horizontal partition 96 has a removable air tight filler-cap 97 at its upper end and a depending tube 98 at its lower end which extends into the open end of a pipe 99 which projects above the level of the oil in the tank 13. The pipe extends beneath the tank 13 into communication with the bottom thereof and thus supplies oil to the tank to maintain the oil at a level determined by the lower end of the tube 98. By admitting fresh oil through the bottom of the tank, loss of excessive heat through the oil feed line is avoided. A closure cock 98a is preferably provided in tube 98.

As illustrated in Fig. 3, one side wall of the measuring chamber 56 is formed by a slidable member 100 which has an adjusting screw 101 at its rear end by means of which said member can be moved forwardly or rearwardly for varying the corn holding capacity of the chamber.

A receptacle 102 may be provided beneath the inner end of the coin slide 16 for receiving the coins as they drop from the slide after actuation of the shaft 24 one-quarter rotation to close the master switch. Since the teeth 22 of the ratchet 23 and the teeth 83 of the ratchet 84 are similarly disposed with respect to the shaft 24, a quarter rotation of the shaft by the pawl 21 at the beginning of the operating cycle, will place one of the teeth of the ratchet 83 in position for engagement by the pawl 82. As the lever 78 is moved by the roller 77 to open the master switch at the termination of the operating cycle, that is, after the master switch is opened by the pawl 21, the teeth 83 will be positioned 90 degrees from the position shown in Fig. 12, and will be moved to the latter position by the pawl 82 in closing the master switch. While the machine is operating, therefore, the teeth 22 will not be in position for engagement by the pawl 21, and hence if a coin is placed in the slide 16 and the latter pressed inwardly during the operation of the machine, the master switch will not be closed.

It will also be observed that when the basket 57 is in the popping position illustrated in Fig. 13,

the pivot point 92 of the discharging mechanism will be moved arcuately from the position shown in Fig. 3 into alignment with the pivotal axis 57a of the basket and thus prevent the basket being elevated from the tank 13 during the popping operation by attempting to operate the plunger 85. As will be noted also, the arcuate top 13a of the tank forms a closure for the basket while the corn is being popped.

Referring to Fig. 2 which diagrammatically illustrates the electric circuit of the machine, including the circuit for the heating element and the auxiliary circuit of the motor, it will be seen that when the master switch is closed, current will flow to the heating coil 34 and pilot light 35. This circuit is established through wires 33, 103, master switch 29, conductor 104, through the coil and pilot light to conductor 32. When the thermostat 36 has been closed, current will pass from wire 33 through the closed intermediate switch 43, conductor 105, to the motor 37, conductor 106, through the thermostat 36 and to the wire 32. When the intermediate switch 43 has been opened at the end of the first half cycle, the motor is stopped. During the second half cycle after the corn has been popped, the clock switch re-establishes the motor circuit through conductors 33, 107, clock switch 67, conductors 108, 105, 106, and through the thermostat 36 to wire 32. At the end of the second half cycle, the master switch 29 will again be opened, as described above, to open the circuit of the heating coil 34 and the pilot light 35.

By the present improvements a compact corn popping and dispensing machine is provided which will pop successive batches of corn rapidly after the oil has been initially heated.

The casing 10 has a rear wall 110 which can be removed readily by sliding the same upwardly after the cover has been removed. This provides access to the interior of the casing for making adjustments or removing the accumulated coins. The cover preferably has a lock 111 for preventing surreptitious removal of the same and access to the interior of the casing.

During the popping operation vapor is formed which tends to condense on the interior of the casing. Some vapors are given off also by the oil at the operating temperature. To remove the vapors from the casing a suction device may be employed such as a suction fan 112 which is operated by a small electric motor 113. A tube 114 extends from the top 13a of the oil tank 13 to the fan for drawing the vapors from the tank and basket during the popping operation, or from the tank when the oil is hot but when the basket is in inoperative position. The vapors may be conducted by tube 115 to the exterior of the casing as shown in Fig. 3.

For operating the motor 113 it may be connected across the conduits 32 and 106, as illustrated in Fig. 2. It will thus be seen that the fan will begin to function when the oil reaches operating temperature and the thermostat 36 closes, and will continue to operate as long as the oil is sufficiently hot to retain the thermostat in circuit closing relation and the master switch is closed. It is at the higher temperatures that the vapors are most pronounced and objectionable.

While I have shown and described certain embodiments of my invention for the purpose of illustration, I do not wish to be restricted specifically thereto except as so limited by the appended claims.

I claim:

1. Corn popping mechanism comprising a heat source, a movable popping basket for holding corn to be popped, mechanism for moving said basket into and from popping relation with said heat source, means for interrupting the operation of said mechanism during the popping operation, and means automatically effecting the re-actuation of said mechanism to remove said basket from said heat source upon completion of the popping operation.

2. A corn popping machine comprising a source of heat, a popping basket movable to and from operative relation with respect thereto, a corn hopper, means for discharging a measured quantity of corn from said hopper into said basket, motor operated mechanism for actuating said discharge means and effecting the movement of said basket into operative relation with said heat source for popping the corn in the basket, means for interrupting the operation of said motor upon the completion of said movement of said basket, and timing means for effecting the operation of said motor after a predetermined interval for effecting the removal of said basket from said source.

3. A corn popping machine comprising a source of heat, a popping basket movable into and from operative relation with respect thereto, a corn hopper, means for discharging a measured quantity of corn from said hopper into said basket, means for moving said basket into and from operative relation with said heat source, an electric motor for actuating both said means, and a circuit for supplying current to said motor comprising a plurality of switches, one of said switches being arranged to energize said motor initially to actuate said dispensing means and said basket moving means to move said basket into operative relation with said heat source, a second switch in said circuit arranged to de-energize said motor when said basket has been moved into said operative position, and a third switch in said circuit arranged to re-energize said motor for effecting the removal of said basket from said heat source after a predetermined interval.

4. A corn popping machine comprising an oil tank, means for heating the oil therein, a movable popping basket, a corn hopper above said basket, discharge means for discharging a measured quantity of corn from said hopper into said basket, cam operated means for actuating said discharge means, cam operated means for moving said basket into popping position with respect to the oil in said tank and from operative relation with the oil when the corn has been popped, a rotary shaft provided with cams for operating said means, a motor for operating said shaft, and a circuit for said motor comprising a manually operable switch for initially energizing said motor to operate said cam shaft and effect the operation of said discharge means and move said basket into popping position, a second switch arranged to de-energize said motor as said basket is moved into popping position, and a timing switch arranged to re-energize said motor upon the completion of the popping operation to effect the removal of said basket from popping position.

5. A corn popping machine comprising an oil tank, means for heating the oil therein, a popping basket mounted adjacent said tank for movement into and out of contact with the oil therein, an operating lever for said basket, a motor, a shaft operated thereby, a cam on said shaft for

operating said lever to effect said movements of said basket, and a control circuit for said motor comprising switches for interrupting the operation of said motor when said basket has been moved into popping position and a time switch for re-energizing said motor after a predetermined period to effect the movement of said basket from popping position.

6. A corn popping machine comprising an oil tank having heating means for the oil therein, a popping basket movably positioned adjacent said tank, means for effecting the movement of said basket into and from popping position with respect to said tank, a corn hopper, a corn measuring chamber having an intake gate for admitting to said chamber measured quantities of corn from said hopper, a discharge gate for said chamber for discharging corn from said chamber to said basket, a temperature responsive circuit-closer in said tank, a motor, a rotary shaft operable by said motor and provided with a plurality of means for alternately operating said gates and effecting the movement of said basket actuating means, and an electric circuit for said motor, the circuit being arranged to be closed by said circuit closer when the oil in said tank is at a predetermined temperature to start said motor and shaft and actuate in sequence said second mentioned gate operating means and said basket operating means to effect the discharge of corn from said chamber into said basket and move the latter into popping position in said tank, said circuit comprising a switch having means for operation by said shaft for opening said circuit to stop said motor upon movement of said basket into said popping position, and a time switch for re-closing said motor circuit after a predetermined interval for operating said shaft and effecting the movement of said basket from popping position and actuating said first gate operating means to discharge a measured quantity of corn from said hopper into said measuring chamber.

7. A corn popping machine comprising an oil tank, means for heating the oil therein, a popping basket movably supported adjacent said tank, a corn hopper positioned at an elevation above said basket and provided with dispensing mechanism for delivering a measured quantity of corn from said hopper to said basket, operating means for moving said basket to and from popping position with respect to the oil in said tank, operating means for said corn dispensing mechanism, a rotary shaft having means thereon for effecting the movement of said dispensing mechanism, operating means to effect the discharge of corn into said basket and to effect the movement of said operating means of said mechanism to move the latter into popping position during the rotation of said shaft during an arc of 180 degrees and to move said basket from popping position during the movement of said shaft through the succeeding 180 degree arc, a motor for operating said shaft, and an electric circuit for said motor comprising a plurality of switches one arranged to interrupt said motor upon completion of the movement of said shaft through said first mentioned arc, and a second switch for closing the motor circuit after a predetermined time interval to effect the movement of said shaft through said second mentioned arc.

8. A corn popping machine comprising an oil tank, means for heating the oil therein, a popping basket movably supported adjacent said tank, a corn hopper positioned at an elevation above said

basket and provided with dispensing mechanism for delivering a measured quantity of corn from said hopper to said basket, operating means for moving said basket to and from popping position with respect to the oil in said tank, operating means for said corn dispensing mechanism, a rotary shaft having means thereon for effecting the movement of said dispensing mechanism operating means to effect the discharge of corn into said basket and to effect the movement of said operating means of said mechanism to move the latter into popping position during the rotation of said shaft during an arc of 180 degrees and to move said basket from popping position during the movement of said shaft through the succeeding 180 degree arc, a motor for operating said shaft, an electric circuit for said motor comprising a plurality of switches, one of said switches having means operable by said shaft for opening said motor circuit as said shaft terminates said first arc of rotation, and a time switch for closing said motor circuit to start said motor within a predetermined time interval after the stoppage of said shaft, and a third switch provided with means operable by said shaft for re-opening said motor circuit as said shaft completes its movement through said second arc.

9. A corn popping machine comprising an oil tank, an electric heating element therein, a popping basket movably supported adjacent said tank, a corn hopper positioned at an elevation above said basket and provided with dispensing mechanism for delivering a measured quantity of corn from said hopper to said basket, operating means for moving said basket to and from popping position with respect to the oil in said tank, operating means for said dispensing mechanism, a rotary shaft having means thereon for effecting the movement of said operating means of said mechanism to discharge corn into said basket and for effecting the movement of the operating means of said basket for moving the latter into popping position during the rotary movement of said shaft through an arc of 180 degrees and to move said basket from popping position during the movement of said shaft through the succeeding arc of 180 degrees, a motor for operating said shaft, an electric circuit comprising a master switch for closing the circuit through said heating element, an auxiliary circuit for controlling the operation of said motor comprising a heat-responsive circuit-closing member for closing said motor circuit when said oil has reached a predetermined temperature, an intermediate switch in said motor circuit having means actuatable by said shaft to open said motor circuit as said shaft completes the first mentioned arc of rotation, a time switch having setting means operable by said shaft during said first mentioned arc of rotation thereof and arranged to close said motor circuit to start said motor and shaft after a predetermined interval, and means actuatable by said shaft as the same approaches the termination of said second arc of rotation for closing said master switch.

10. A corn popping machine comprising a casing, a source of heat therein, a tiltable popping basket having means for moving the same to and from popping position with respect to said heat source, a corn hopper, dispensing means for delivering corn from said hopper to said basket when the latter is out of popping position, motor operated mechanism for actuating in sequence said dispensing means and basket-moving means for moving said basket into popping position, an

electric circuit for said motor, an automatically operated switch in said circuit for stopping the operation of said mechanism during the popping of the corn, an automatically operating time-switch in said motor circuit for closing the same when said corn has been popped to effect the operation of said motor operated mechanism and to move said basket from popping position, a discharge chute extending to the exterior of said casing, and manually operable means for tilting said basket when out of popping position to discharge the popped corn through said chute.

11. A corn popping machine comprising a casing, an oil tank therein, an electric heating element for heating said oil, a popping basket tiltable supported by said basket for movement into and out of contact with the oil therein, a corn hopper dispensing means having an inlet and outlet gate for delivering measured quantities of corn from said hopper to said basket when in non-popping position, a rotary shaft operable in two cycles of one half revolution each and having cams thereon for effecting the actuation of said outlet gate to deliver a measured quantity of corn to said basket and moving said basket into popping position during said first cycle of rotation and for effecting the removal of said basket from popping position and actuating said inlet gate during the second cycle of rotation, an electric circuit for said heating element, a switch in said casing for opening and closing said circuit, a switch shaft in said casing having a pawl and ratchet mechanism for turning said switch to circuit closing position, a coin slide extending outwardly of said casing for manually actuating said pawl mechanism, a motor operatively connected to said rotary shaft for driving the same, an auxiliary circuit for said motor, a heat-responsive circuit-closing member arranged to direct current through said motor circuit when the temperature of said oil has reached a predetermined degree to thereby effect the movement of said shaft through said first cycle, an intermediate switch in said motor circuit having means operable by said rotary shaft for stopping said motor at the end of said first cycle, a time switch in said motor circuit for re-closing the same after a predetermined popping interval and initiating said second cycle of rotation of said rotary shaft, means operable by said shaft for closing said intermediate switch at the end of said first cycle, a second pawl and ratchet mechanism on said switch shaft, means operable by said rotary shaft as the same reaches the end of said second cycle for operating said second pawl and ratchet mechanism for closing said first mentioned switch, a discharge chute extending to the exterior of said casing, and manually operable means for tilting said basket to discharge the popped corn into said chute.

12. A corn popping machine comprising a casing, an oil tank having a source of heat therefor, a popping basket movable into operative position in said tank, a motor operated suction device, a conductor circuit for said motor, a heat responsive circuit-closing member in said tank arranged to close said motor circuit when the oil in said tank has reached a predetermined temperature, and a vapor conduit communicating with said device and said tank for drawing off the vapors emitted by the corn and oil and discharging the same exteriorly of said casing.

13. Corn popping mechanism comprising a heat source, a movable popping basket for holding corn to be popped, mechanism for moving said

basket to and from popping relation with respect to said source, a motor for operating said mechanism, an automatically operated switch for stopping said motor when said basket has been moved to popping position, and a time switch for starting said motor after a pre-determined interval to effect the movement of said basket from popping position.

14. Corn popping mechanism comprising a heat source, a tank having oil therein adapted to be heated by said source, a popping basket supported adjacent the oil in said tank and arranged for movement into and from popping position with respect thereto, mechanism for effecting said movements of said basket, a motor arranged to actuate said mechanism, and a heat responsive switch for holding said motor inoperative until said oil has reached a pre-determined temperature.

15. Corn popping mechanism comprising a heating medium, a popping basket for holding corn to be popped and mounted for movement into and from popping relation with respect to said medium, mechanism for effecting said movements of said basket, a motor for operating said mechanism, and a circuit for said motor comprising automatically operated circuit controlling means for starting said motor when said medium has reached a predetermined temperature and stopping said motor when said basket has been moved to popping position and for re-starting said motor after a pre-determined popping interval to effect the movement of said basket from popping position.

16. A corn popping machine comprising a source of heat, a movable popping basket for holding a batch of corn to be popped, mechanism for moving said basket and corn into popping position with respect to said heat source and retaining the same therein for a predetermined interval and thereafter removing the same therefrom, a motor for operating said mechanism, a switch in the motor circuit, means for operating said switch manually to close said circuit, and means actuated by the motor for operating said switch to open said circuit upon removal of the basket from popping position by said mechanism.

17. A corn popping machine comprising a source of heat, a popping basket for holding a batch of corn to be popped and being mounted for movement to and from operative relation with respect to said source, mechanism for effecting the movement of said basket into operative relation with said heat source for popping the corn in the basket, means for interrupting the operation of said mechanism upon the completion of said movement of said basket, and timing

means for effecting the operation of said mechanism after a predetermined interval for removing said basket from said source.

18. In a pop corn machine of the character described, a reservoir; popping oil in said reservoir; a perforated container having a portion thereof in said reservoir below the level of said popping oil; and means controlled by the temperature of said popping oil for feeding corn to be popped into that part of said container below the said oil level.

19. In a pop corn machine of the character described, a reservoir; popping oil in said reservoir; a perforated container movable to and from a position in the reservoir where a portion thereof is below the level of said oil; and means for introducing a charge of corn to be popped into said perforated container when the temperature of said oil rises to a predetermined degree, said means being actuated by the said rise in temperature.

20. In a pop corn machine of the character described, a reservoir; popping oil in said reservoir; a perforated container movable to and from a position in the reservoir where a portion thereof is below the level of said oil; means for introducing a charge of corn to be popped into said perforated container when the temperature of said oil rises to a predetermined degree; and means submerged in the popping oil for heating the oil in the reservoir and container, said introducing means being actuated by the said rise in temperature.

21. In a pop corn machine of the character described, a reservoir for popping oil; a heating means for the oil; manual means for starting the action of the heating means; means for delivering a charge of corn to the oil; and a motor for operating said corn delivering means having a starting switch operable when the said oil rises to a certain temperature, said starting switch being operated by the said rise in temperature of the oil.

22. In a pop corn machine of the character described; a reservoir for popping oil; means in the reservoir for supporting the corn being popped below the surface of said popping oil; a heating element submerged in the said oil below the corn supporting means; means for delivering a charge of corn to the oil; a motor for operating said corn delivering means; and a circuit for supplying current to the motor, having a switch adapted to close to operate the said delivering means when the temperature of the oil rises to a predetermined degree, said switch being operated by the said rise in temperature of the oil.

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