C. CARLTON.

TIME COOKER.

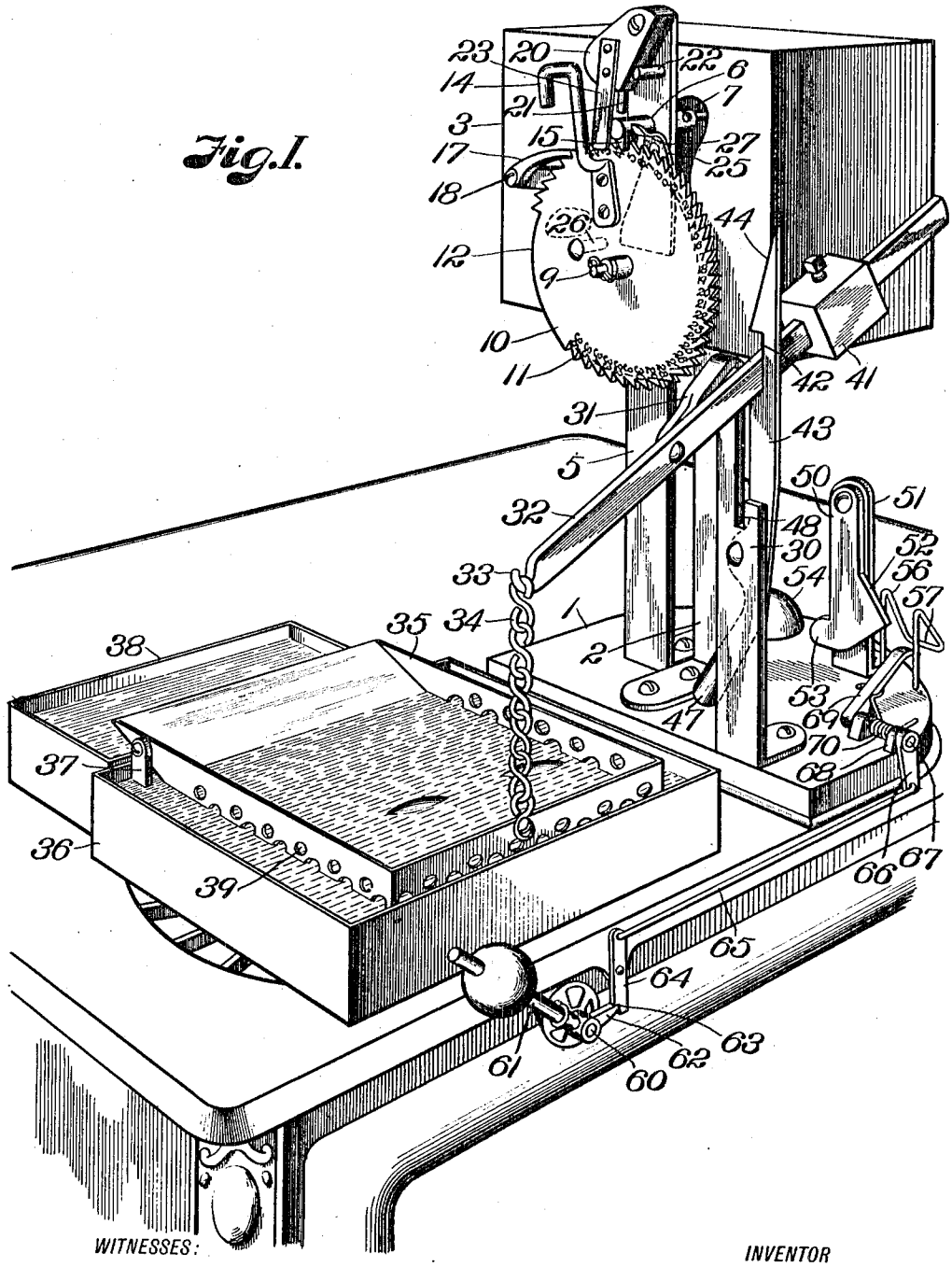
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1,118,471.

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2 SHEETS—SHEET 1.

Fig. 1.



WITNESSES:

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2 SHEETS—SHEET 2.

Fig. II.

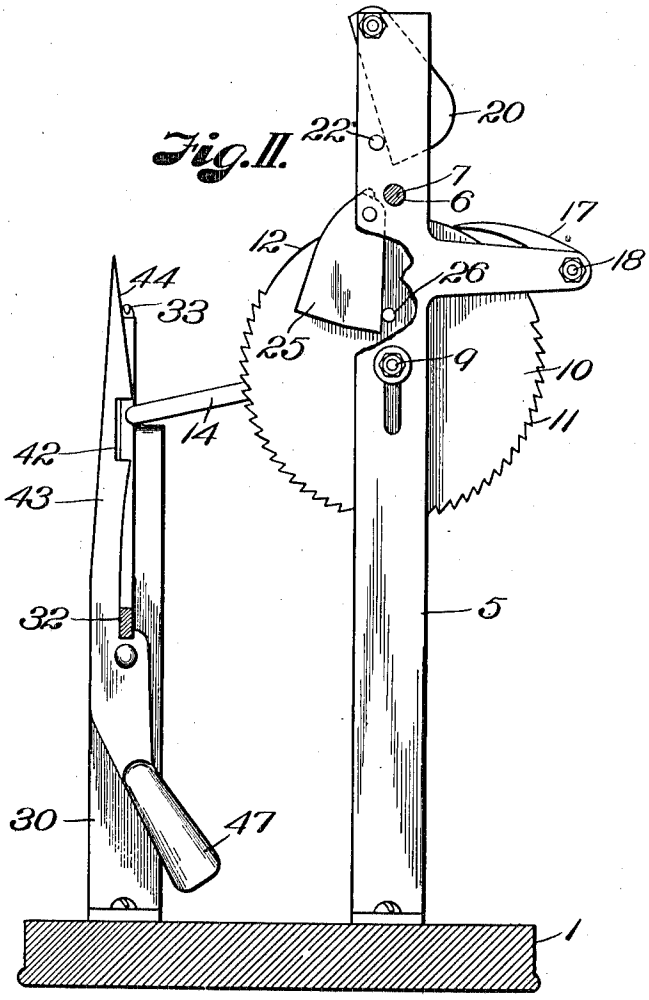
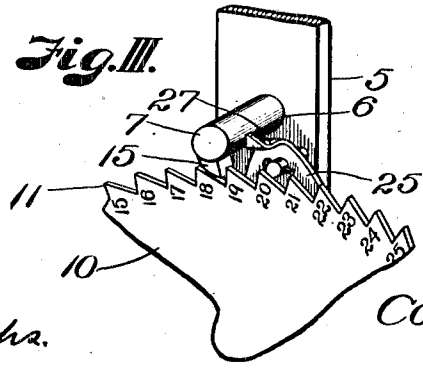


Fig. III.



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CORTLAND CARLTON, OF IOLA, KANSAS.

TIME-COOKER.

1,118,471. Specification of Letters Patent. Patented Nov. 24, 1914.

Application filed October 13, 1913. Serial No. 795,001.

To all whom it may concern:

Be it known that I, CORTLAND CARLTON, a citizen of the United States, residing at Iola, in the county of Allen and State of Kansas, have invented certain new and useful Improvements in Time-Cookers; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to a time cooker, and more particularly to an apparatus including time controlled mechanism for automatically terminating a cooking period, and which may be set for operation at the termination of any desired period of time.

One of the principal uses for which the apparatus is adapted is that for automatically terminating the period during which eggs, or the like, are to be boiled, and for removing the boiled articles from the water within which they are immersed during the boiling operation in order to completely terminate the boiling operation.

It is a well known fact that the specific period for which the eggs are to be boiled varies according to personal tastes, and for that reason the apparatus includes a setting mechanism whereby a desired period may be set on the time controlled-mechanism and the operating parts released at the termination of the fixed period.

In constructing an apparatus embodying the special features mentioned, I have provided improved details of structure, the preferred forms of which are illustrated in the accompanying drawings, wherein:—

Figure I is a perspective view of a time cooker embodying the features of my invention. Fig. II is a sectional view of the same, taken immediately in front of the clock mechanism, parts being broken away for better illustration. Fig. III is an enlarged detailed perspective of the time shaft and ratchet disk; showing the disk locking pawl.

Referring more in detail to the parts:—1 designates a base upon which the operating elements of the apparatus are mounted, and which comprises a standard 2 carrying a clock mechanism 3 of any suitable type, and which is merely indicated by the casing, as the details of structure of such clock mechanism may be of any suitable type and, therefore, form no part of the present invention. Also supported on the base 1, and rising along the front face of the casing 3, is a standard 5, having an aperture 6 therein forming a bearing for the extended shaft 7 of the clock mechanism; which shaft corresponds to a second hand shaft, in that it makes one complete revolution per minute.

Revolubly mounted on a stub shaft 9, that is carried by the standard 5, is a disk 10 having ratchet teeth 11 on its periphery adapted for travel beneath, and in proximity to, the clock shaft 7, and having a cam incline 12 at one end of the set of ratchet teeth whereby the rise from the base of the first teeth of the circumference of the disk is made gradual, for the purpose presently described.

The disk carries a weight 14, preferably in the form of a radial projection, which is arranged to center over the shaft 9 when the disk is set to initial position, but is adapted to overbalance the disk when moved off center, in order to carry said disk around to a striking position; the weight when made in this form also serving as a striking arm, as presently described.

The clock shaft 7 carries a tooth 15 which is adapted for engagement with the ratchet teeth on the disk when the parts are in operation, in order to move the disk forwardly one toothed space at each revolution of the clock shaft; it being apparent that when the disk is set back of center, the tooth on the clock shaft will lift the weight of the disk and striking arm, and eventually push same forwardly off center in order that it may automatically operate.

In order to hold the disk to a set position back of its center, and to determine the cooking periods, I provide a latch 17 comprising a pawl which is pivotally mounted on a stub shaft 18 carried by the standard 5, and is adapted for engagement with any of the teeth on the ratchet disk to hold the disk against backward movement but allow the disk to move forwardly under the influence of the time driven pawl.

In this connection, I number the teeth from one upwardly to any desired number to indicate the minutes the cooking operation is to continue; it being apparent that when the disk is set for a one minute period, the tooth 17 may be set behind the first

ratchet tooth to drag over the cam face 12, until the weight passes off center and carries the disk around.

As the clock shaft 7 must perform some work to carry the disk around, it is apparent that when relieved from its contact with the disk, it will travel idly until it again contacts the disk, and thereby afford fluctuation, unless some means is provided for retarding its travel. For this purpose I pivot a weight 20 on the upper end of standard 5 above the shaft, and provide the weight with a depending lip 21, which is adapted for engagement by the clock shaft tooth, so that the tooth must lift the weight during its travel above the disk, and thereby afford a working substitute for the driving contact with the ratchet disk.

In order that the clock shaft tooth may take up the work immediately on engagement with the lip 21, I project a pin 22 from the side of the standard 5, to hold the weight in a slightly inclined position back of its pendant center, so that its lifting process begins as soon as the clock shaft tooth engages the lip, and in order to insure proper contact with the lip and tooth, I provide the weight with an arm 23 which projects over the outer face of the ratchet wheel.

As the only function of the clock mechanism is to operate the time disk, it is useless to allow the mechanism to run when the apparatus is idle, and for that reason I provide a locking device for interrupting the travel of the clock shaft 7 when the disk has been released and the striking arm lowered to trip the cooking vessel, as hereinafter described; such mechanism comprising a leaf 25, which is pivotally mounted on the standard 5 and depends from its mounting into the path of a pin 26 projecting from the inner face of the disk in a radial line, intersecting the periphery of the disk to the rear of the cam face 12.

The leaf 25 has an ear 27 extended over the periphery of the disk, and which normally lies out of the path of the clock shaft tooth but is adapted for projection into such path when the leaf is rocked by the disk pin, so that when such engagement takes place the clock shaft is stopped and the clock mechanism held aginst idle operation. Also mounted on the base 1, adjacent the standards 2 and 5, is a standard 30 having an outturned arm 31 thereon, and pivoted to the arm 31 is a lever 32, the outer end of which has a hook 33 within which the upper end of a chain 34 is mounted.

The lower end of the chain 34 connects with the rear or tip end of a vessel 35, which is contained in a pan 36, and has its forward end overlying the fore end of the pan, and pivotally mounted on standards 37 that preferably rise from the base of the pan 36; the projection of the forward end of the vessel being such that its forward edge overlies a pan 38, which is preferably independent of the pan 36.

The vessel 35 is provided with apertures 39 in its sides and bottom so that the vessel may contain eggs, or other articles, but when lifted on its pivotal mounting may drain water through the apparatus while retaining the eggs or other articles.

The end of the lever opposite the hook is provided with a sliding weight 41 for overbalancing the vessel 35 and its contents, and the weighted end of said lever is supported in a notch 42 of a bracket 43, which is pivotally mounted on the standard 30; the upper end of the bracket having an inclined face 44 against which the weight or arm 14 on the ratchet disk is adapted to strike to move the bracket outwardly and release the lever, and the lower end of the bracket being provided with an offset weight 47, which is adapted to automatically return the bracket to its set position. The standard 30 is also preferably provided with a slotted seat 48 into which the lever 32 drops when released, as described, in order to retain the parts in alinement.

In order to notify the cook when the cooking operation has been completed, I pivotally mount a hanger 50 on a standard 51 in substantial alinement with the standard 30, and provide the hanger with a beveled head 52, which is adapted for engagement by the weighted end of the lever 32 to move the hanger laterally, and cause a striking head 53 thereon to engage a bell, or the like, 54, so that when the lever has dropped and lifted the cooking vessel from its pan, the hanger will be rocked laterally to cause an intonation of the bell.

In order to cushion the drop of the lever, I provide a trap 56, comprising a U-shaped wire, having its ends mounted in the base 1, and having an upwardly opening mouth adapted for receiving the end of the lever, so that the latter may strike against the offset head 57 to provide a cushioning contact of the lever with the receiver as the lever reaches the lower limit of its travel.

In order to obviate waste of fuel, I provide means for cutting off the supply of fuel beneath the cooking vessel when the cooking operation has been completed; such mechanism comprising a valve rod 60, having a weighted arm 61 fixed thereto, and provided at the side opposite the weighted arm with a tooth 62, which is adapted for engagement with the notched part 63 of a pivoted arm 64.

A link 65 is connected with the end of the arm 64 opposite the notched part 63, and at its opposite end with a crank 66 on a shaft 67, which is journaled in brackets 68 on the base 1, and carries a trip arm 69 in the path of the lever 32, so that when the

lever descends it engages the trip arm, rocks the shaft 67 to release the weighted arm 61 on the burner valve rod, so that the weighted arm may descend, and close the burner valve.

A spring 70 is wound on the shaft 67 with its opposite ends engaging the base 1 and trip 69 respectively, to yieldingly support the trip in operative position, so that when the lever 32 is set, the trip automatically rises to functional position and returns the bracket 64 to position for engaging the holding or weighted arm 61.

In using the device, presuming the parts to be constructed and assembled as described, the pan 36 may be set over a stove burner, with the pan 38 adjacent its forward edge, and both of the pans filled with water. The lever 32 is then connected with the chain 34 leading to the pivotally mounted vessel 35, and the weighted end of the lever placed in the notched seat of the trip bracket 42. The ratchet disk is then revolved until the tooth designation, corresponding with the number of minutes which the cooking operation is to continue, overlies the setting point. When the disk is revolved backwardly to set the parts, the clock shaft is freed from the locking leaf 35 and the clock mechanism immediately starts its operation, the clock shaft, revolving once during each minute, pushes the disk forwardly one notch for each revolution, until when the proper time has elapsed and the clock shaft is turned the required number of revolutions, the disk is pushed forwardly until the weighted striking arm is off center and carries the pivotally mounted disk about under the influence of the eccentric weight. The revolution of the disk brings the striking arm into engagement with the beveled head of the trip bracket 43, pushing the bracket laterally on its pivotal mounting and releasing the weighted end of the lever 32, which, overbalancing the cooking vessel and its contents, descends and lifts the tip end of the cooking vessel until the vessel is removed from the water within the pan and its contents caused to travel down the inclined base and over the edge of the vessel into the pan 38 of colder water, thereby immediately discontinuing the cooking operation. The weighted end of the lever when descending also rocks the hanger 50 to strike the bell and notify the cook that the cooking operation has been completed, and after rocking the hanger, engages the trip 69 to release the weighted burner valve arm, so that the valve rod may be turned to shut off the supply of fuel. When the ratchet disk has turned sufficiently to cause engagement of the pin 26 with the leaf 25, the leaf is moved on its pivotal mounting into position for engaging the tooth on the clock shaft, when the tooth is brought into position for engagement therewith, so that operation of the clock mechanism is interrupted to save idle travel and extend the winding periods.

Having thus described my invention, what I claim as new therein, and desire to secure by Letters-Patent, is:—

1. The combination with a pivotally mounted lever, having a weight on one end, of a pivotally mounted bracket adapted for projection beneath the weighted end of the lever to support the same, and time-controlled mechanism including a striking arm for engaging said bracket to rock the same out of supporting engagement with the lever.

2. The combination with a pivotally mounted lever, having a weighted arm, of a pivotally mounted bracket having a notched portion for projection beneath the weighted lever arm and having an inclined face for engagement by a striking arm and a weighted portion adapted for automatically urging the notched portion to operative position, and a normally restrained striking arm for engaging the inclined portion of said bracket and rocking said bracket against the tension of its weight to release the lever arm, and time controlled mechanism for releasing the striking arm.

3. The combination with a standard having an outturned arm and a slotted seat at the base of said arm, a lever pivotally mounted on said arm and having a weight adjustably mounted thereon at one side of its pivotal mounting, a bracket pivotally mounted on said standard and having a weighted lower end, a beveled upper end and a notched portion forming a seat for the weighted portion of said lever, a revoluble striking arm adapted for engaging the beveled face of said bracket, and time-controlled mechanism for tripping said striking arm.

4. The combination with a pivotally mounted lever, of a cooking vessel connected with one arm of said lever, a weight on the opposite arm of said lever adapted for overbalancing the cooking vessel, means for supporting the weighted arm of the lever, time-controlled mechanism for tripping the said arm, and a cushion for the weighted arm of said lever comprising a spring wire member having a laterally and downwardly bent central portion forming a U-shaped seat and having its ends anchored, substantially as set forth.

5. The combination with primary actuating mechanism, of means for holding said mechanism in set position, a freely revoluble disk, a striking arm mounted on said disk, and adapted for rotating the same when the disk has passed a center and for actuating the holding mechanism when the disk is rotated to release the primary actu-

ating member, means for holding said disk against rotation in one direction, and time-controlled mechanism for moving the disk in the opposite direction.

6. The combination with primary actuating mechanism, of means for holding said mechanism, a freely revoluble disk, a striking arm projecting beyond the periphery of said disk and adapted for engaging said holding means and for rotating the disk when moved past its vertical center, and means for holding said disk against backward rotation.

7. The combination with primary actuating mechanism and means for holding said mechanism in set position, of a revoluble disk having a striking member thereon adapted for engaging said holding means, and a time shaft, adapted for forwarding said disk a determined distance at each revolution of the shaft.

8. The combination with primary actuating mechanism and means for holding said mechanism in set position, of a revoluble disk having a striking member thereon adapted for engaging said holding means, a time shaft, and a tooth on said time shaft adapted for forwarding said disk a determined distance at each revolution of the shaft.

9. The combination with primary actuating mechanism and means for holding said mechanism in set position, of a revoluble disk having teeth in its periphery and having means for engaging said holding means, of means for holding said disk against backward revolution, and a time shaft having a tooth adapted for engaging the disk tooth to forward the disk a determined distance at each revolution of the time shaft.

10. The combination with primary actuating mechanism and means for holding said mechanism in set position, of a revoluble disk having teeth in its periphery and having means for engaging said holding means, of means for holding said disk against backward revolution, and a time shaft adapted for engaging successive disk teeth upon its successive revolutions to forward the disk a determined distance for each revolution of the shaft.

11. The combination with primary actuating mechanism, of means for holding said mechanism, a revoluble disk having teeth extending about its periphery, a striking arm on said disk adapted for striking the holding means and for overbalancing the disk to induce rotation thereof, and a time shaft located above the disk and having a tooth thereon adapted for engaging the disk teeth to induce stepped rotation of the disk until said striking arm has overbalanced the disk and carries the same about on its pivotal mounting.

In testimony whereof I affix my signature in presence of two witnesses.

CORTLAND CARLTON.

Witnesses:

ARTHUR W. CAPS,

L. E. COATS.