No. 816,072. PATENTED MAR. 27, 1906.

H. H. CHESBROUGH.

TIME EGG BOILER.

APPLICATION FILED MAY 8, 1905.

2 SHEETS—SHEET 1.

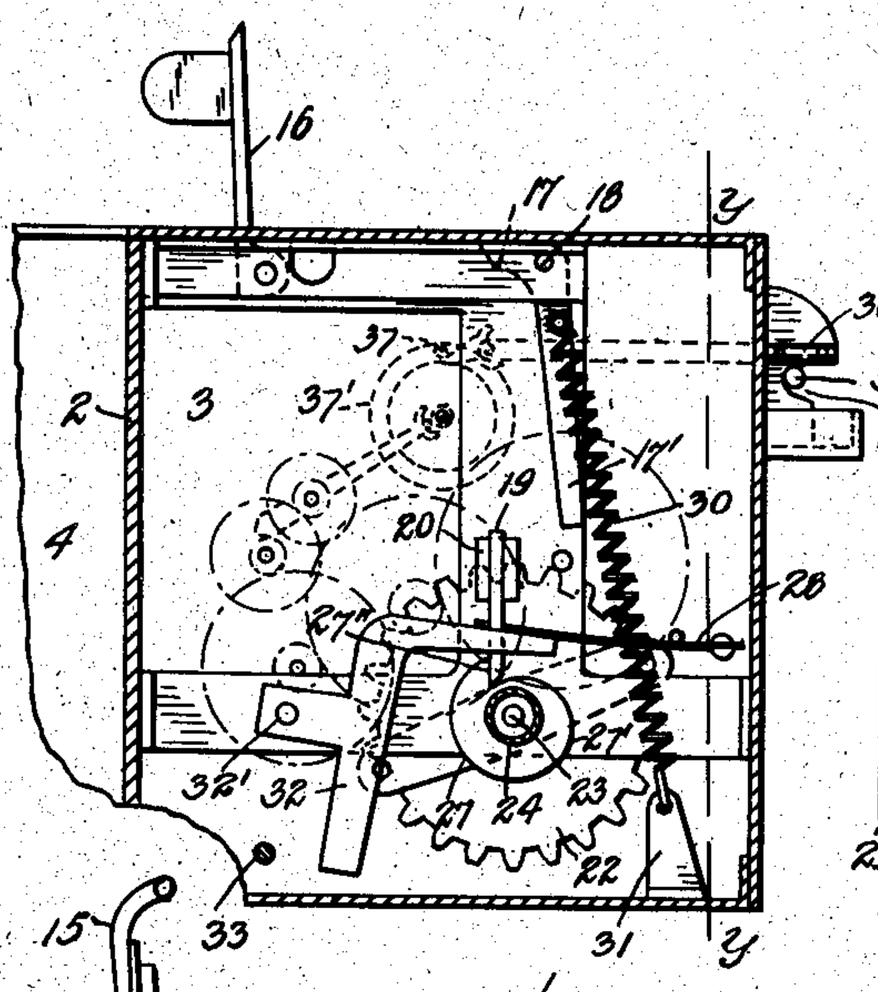

FIG. 4.

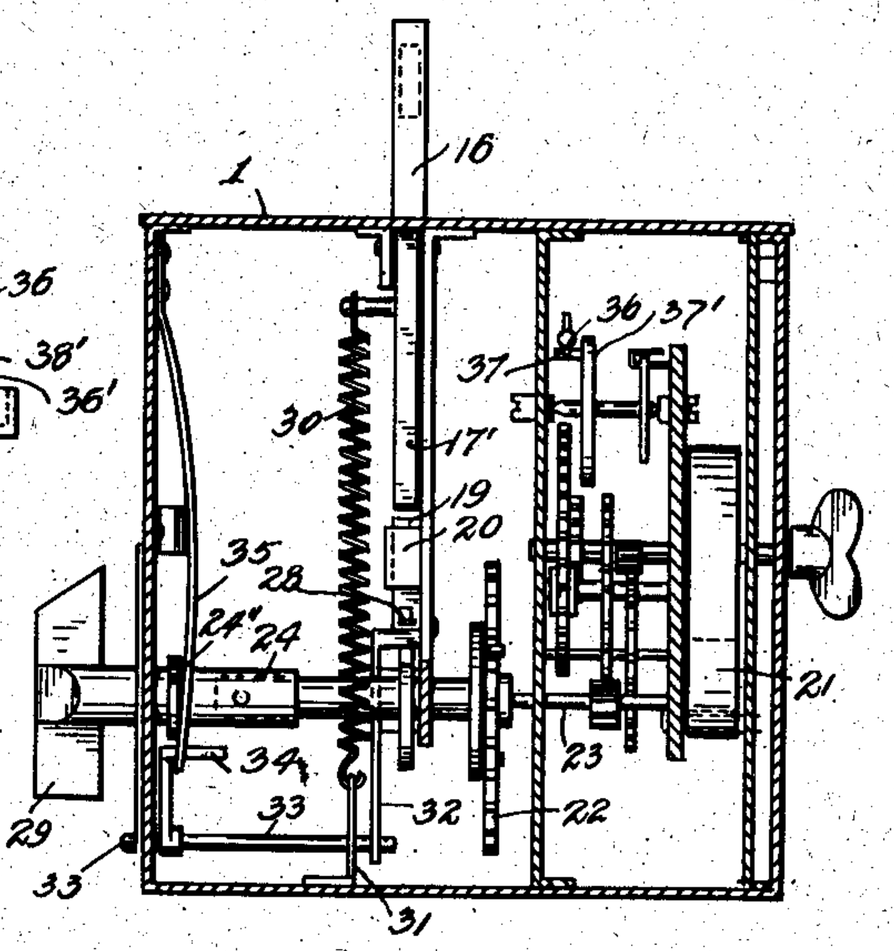

FIG. 5.

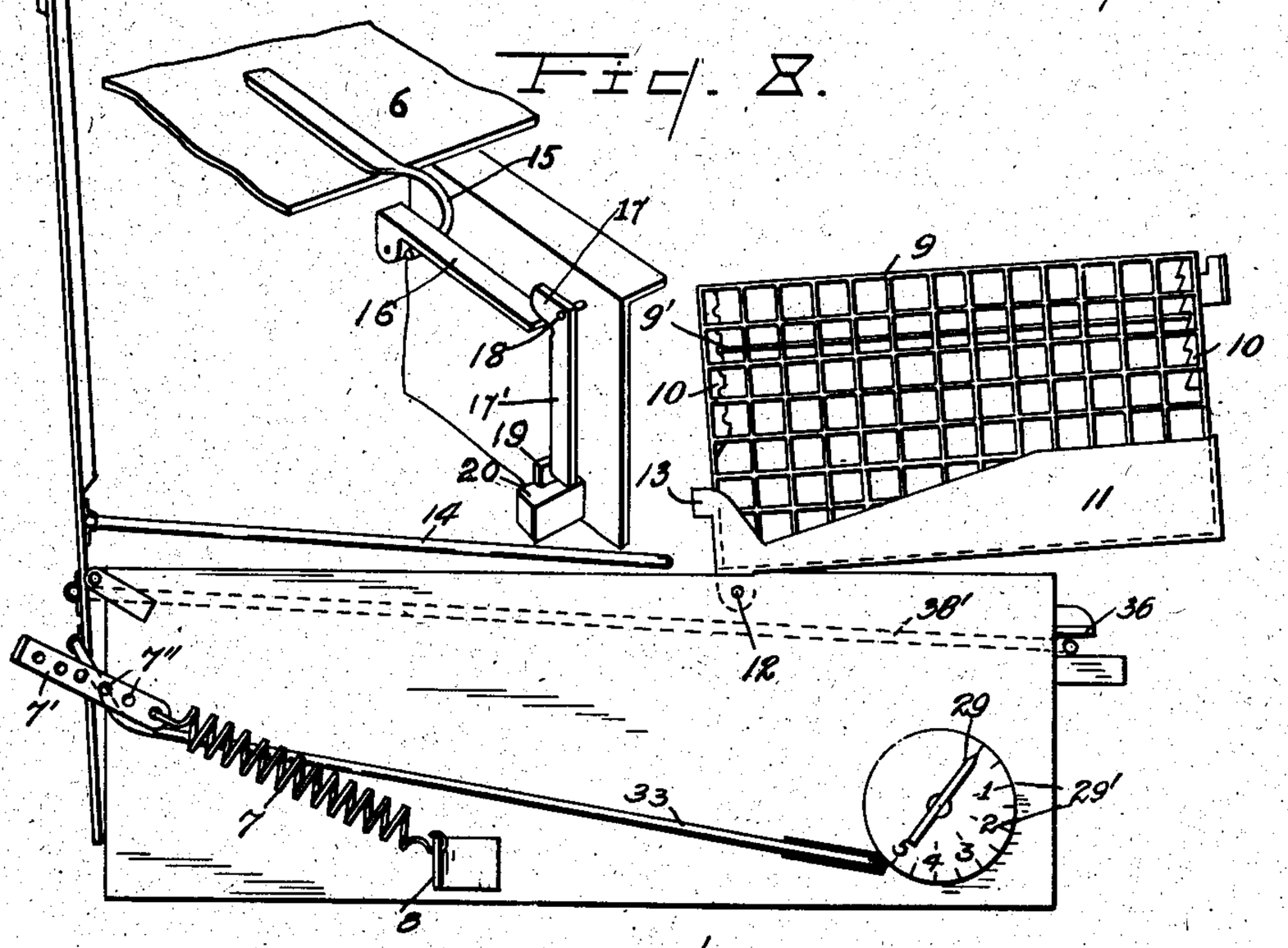

FIG. 1.

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2 SHEETS—SHEET 2.

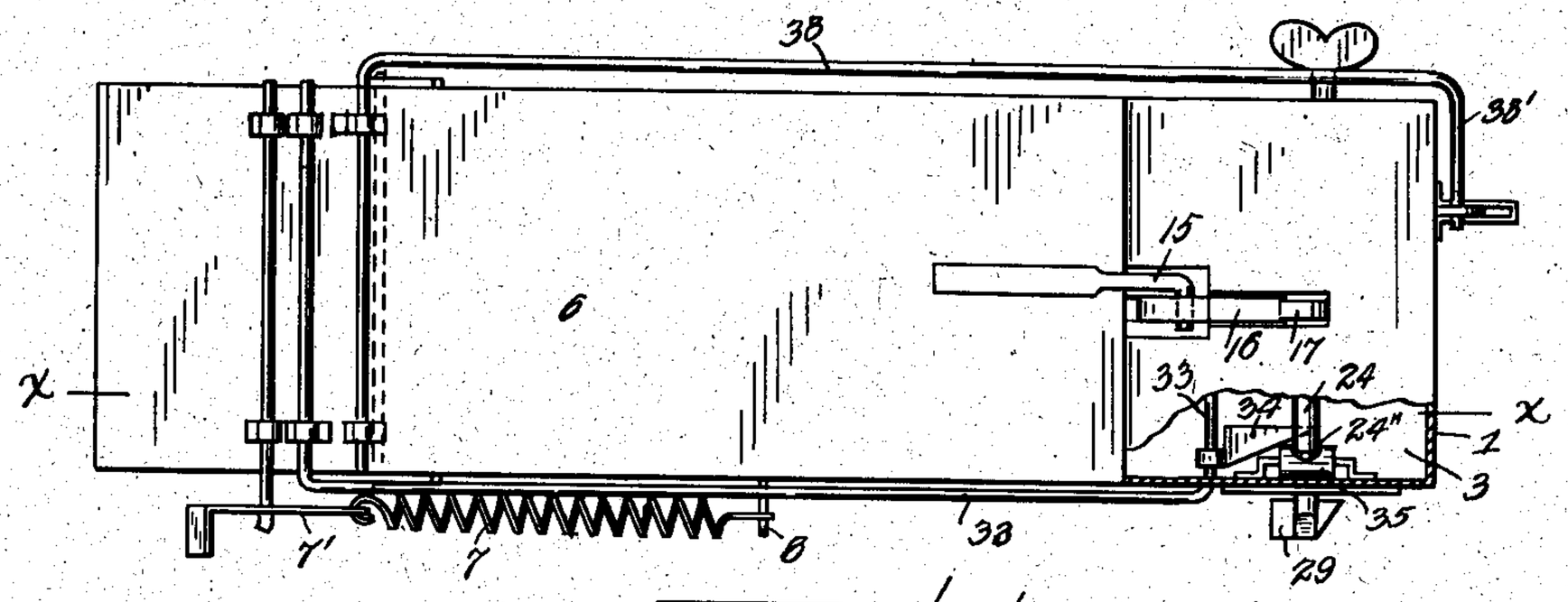

FIG. 2.

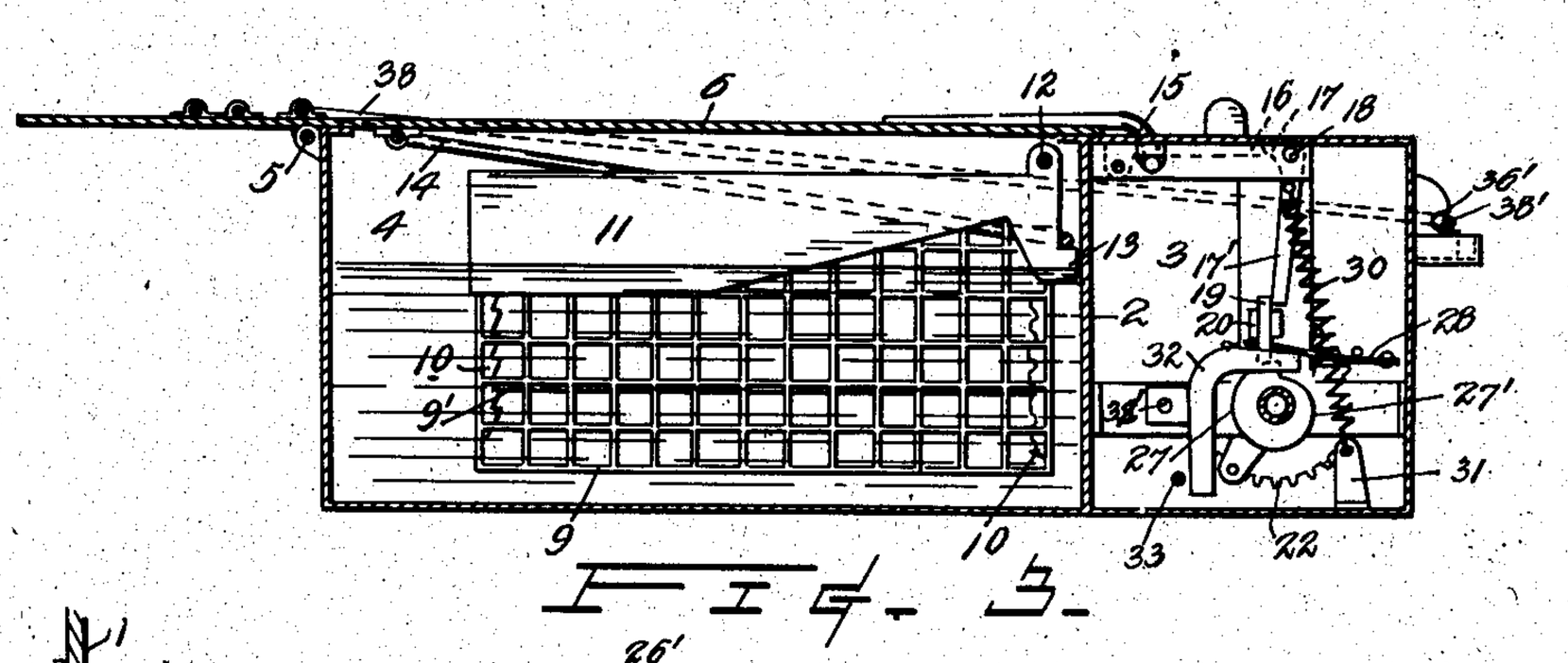

FIG. 3.

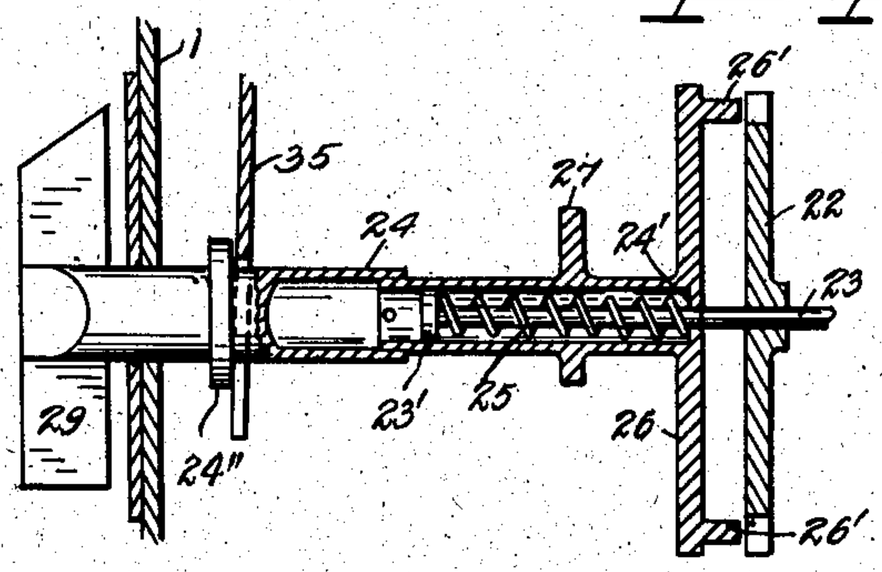

FIG. 7.

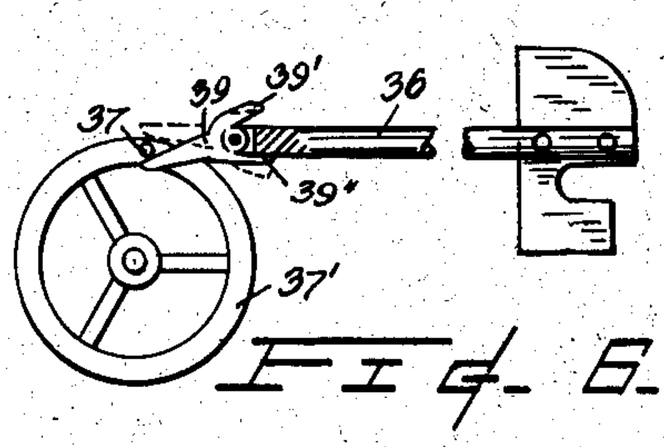

FIG. 6.

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UNITED STATES PATENT OFFICE.

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TIME EGG-BOILER.

No. 816,072. Specification of Letters Patent. Patented March 27, 1906.

Application filed May 8, 1905. Serial No. 259,275.

To all whom it may concern:

Be it known that I, HORACE H. CHESBROUGH, a citizen of the United States, residing at Seattle, in the county of King and State of Washington, have invented certain new and useful Improvements in Egg-Boilers, of which the following is a specification, reference being had therein to the accompanying drawings, in which—

Figure 1 is a side elevation of an embodiment of my invention with the egg-receptacle thereof shown removed from the cooking-compartment. Fig. 2 is a plan view of the same with the egg-receptacle in cooking position. Fig. 3 is a vertical section taken on line *x x* of Fig. 2. Fig. 4 is an enlarged longitudinal vertical section of a portion of the invention, wherein the illustrated parts are shown in the positions assumed when the several parts are as represented in Fig. 1. Fig. 5 is a cross-sectional view through *y y* of Fig. 4. Figs. 6 and 7 are enlarged fragmentary detail views, and Fig. 8 is an enlarged fragmentary detail view in perspective of a portion of the operating mechanism.

The object of this invention is to provide in compact and neat form convenient and reliable means for boiling eggs to any predetermined amount of hardness by the use of devices for immersing the same in the cooking-water, retaining them therein a sufficient time to attain such result, and then removing them automatically from the water.

The invention consists of the novel construction, adaptation, and combination of parts, which I will now describe with reference to said drawings.

The reference-numeral 1 designates a casing which is divided by a transverse partition 2 to provide at the front end a compartment 3 for the reception of the actuating and controlling mechanism and at the other end a compartment 4, which is open at its top and forms the chamber in which the eggs are cooked. Hinged at 5 to the rear end of the casing is a lid 6, which is normally held open by the action of an extensible spring 7, connecting the lid to the rear of its hinge connection with an attachment 8 at some suitable place on the casing. The tension of this spring is conveniently adjusted by means of a strap extension 7′ thereto, having a plurality of apertures 7″, which may be individually engaged, according to the desired tension, to the protruding end of attachment upon the lid.

9 is the egg-receptacle, constructed of woven wire or gauze side and end walls and provided with a similar horizontal partition 9′, which is removably secured therein at various predetermined heights by having its ends engaged in the notched plates 10, attached to the walls of the receptacle, thus permitting the space therebelow to be regulated for accommodating the number of eggs to be cooked. This egg-receptacle is fixedly secured within a drip-tray 11, which is hinged by pivots 12 to the casing in proximity to the forward end of chamber 4 and is provided with forwardly-projecting ears 13, which are engaged when in the closed position (see Fig. 3) by a looped rod 14, carried by the lid, and when the latter is thrown open by the action of said spring the egg-receptacle is tilted forwardly by the rod 14 into position shown in Fig. 1.

Provided on the end of the lid is a bent rod 15, which is engaged when the lid is closed by a hinged arm 16, which in turn is engaged by the trigger-arm 17 of a lever 17′, which is fulcrumed at 18 to suitable framework within compartment 3. When the lid is closed, the bent rod 15 passes behind the hinged arm 16, and this arm is then depressed to the position shown in dotted lines in Fig. 3 of the drawings and engaged by the trigger-arm 17 of the lever 17′, and the lever 17′ is in turn engaged at its lower end by an abutment 19, the construction and operation of which will hereinafter be more fully described. When the lid is engaged by these devices, the action of the spring 7 tends to swing the longer arm of the lever 17′ toward the rear and against the slidable abutment 19, seated in guideway 20.

Provided in compartment 3 is a clockwork consisting of a train of wheels driven from a power-spring 21 and imparting a uniform graduated motion to a toothed wheel 22, fixedly mounted upon a spindle 23, which extends axially within a hollow spindle 24, having an indicating-finger 29 thereon exteriorly of the casing. A spring 25 is interposed between a head 23′ of the first-named spindle and an inwardly-disposed flange 24′ of the other spindle. Provided upon the inner end of spindle 24 is a cross-bar 26, having horns 26′, adapted to be engaged with the teeth of wheel 22, and a cam comprised of a concentric portion 27 and an eccentric portion 27′ is formed or provided upon the hollow spindle immediately below said abutment 19.

28 is a spring tending to press the abut-

ment 19 downwardly against the cam, so that when the latter has been set by manipulating the finger 29 to register with the dial-mark 29′, corresponding with the time for which it is desired to retain the eggs in the cooking-water, the cam will have rotated in the direction indicated by arrow in Fig. 4 to bring the face 27″ of the cam beyond the abutment 19, which is then forced down by the spring 28, permitting the lever-arm 17′ to swing, thereby releasing the hinged arm 16 from engagement with the trigger-arm 17 of the lever 17′ and releasing the lid, which is opened, as aforesaid, by spring 7 and simultaneously throws the egg-receptacle out of the water by the pull which is exerted upon ears 13 by the loop-rod 14 as the lid is raised by the spring. While this opening movement is being effected, a spring 30, attached to the said lever 17′ and a lug 31 of the casing, returns the lever in the position shown in Fig. 4, and a bell-crank 32, fulcrumed at 32′, is then caused by the push-bar 33, connected to the lid, to press upwardly against the action of spring 30 to raise the abutment out of contact with the cam and allow the latter being turned in either direction for resetting. It is necessary, however, for setting the device to withdraw the horns 26′ out of engagement with the wheel 22, which is accomplished by a triangular-shaped attachment 34 of the bar 33 being forced against a spring 35 and wedging the lower end of the same outwardly and which in turn moves the spindle, carrying the cross-bar 26 therewith, against the action of the weaker spring 25 by bearing upon a collar 24′ of this spindle. The bar 33 acts upon the said bell-crank and the spring 35 only during the last portion of the opening movement of the lid, and to avoid confusion in the drawings I illustrate the positions of these parts in Figs. 4 and 5 just prior to such engagement.

Included in the invention are means for stopping the running of the clockwork coincidently with and actuated by the opening of the lid, said means consisting of a rod 36, extending into the casing from the front end and moved into the line of motion of a crank-pin 37 in the rim of the balance-wheel 37′ of said clockwork through the opening movement of the lid, to which it is operatively connected by a drag-rod 38. The inner end of the rod 36 is bifurcated and has hinged thereto and within the slot a tiltable piece 39, having forwardly-projecting fingers 39′ 39″, respectively, above and below the rod and projecting forwardly of the slot therein. (See Fig. 6.) The spring which actuates this balance-wheel acts to impart a partial rotation in the direction of the arrow in this view, and the resilience or reaction of the spring causes the wheel to reverse and make a partial rotation in the opposite direction, as is common to spring-actuated balance-wheels. Consequently when the piece 39 is moved within the path of travel of the crank-pin should it be at the time below the level of the rod it will permit the same being tilted up for the passage of the crank-pin thereby, while preventing the return movement when the pin is in a plane above the rod, thus stopping the clockwork with the spring of the balance-wheel in tension and enabling the clock mechanism being instantly started when the rod is withdrawn. The drag-rod 38 is formed with a bend 38′ and has its end hooked in a slot 36′ of the rod 36 and automatically moves the latter into position to stop the works, as above mentioned, when the lid is opened and may, if desired, be also connected thereto, so as to move the rod outwardly for starting the works automatically when the lid is closed; but I prefer to have the same started independently by the operator, as oftentimes it may be desirable to close the lid without causing the unwinding of the mainspring of the clockwork. The clock is wound by a key 40 upon the mainspring-spindle.

In operation the compartment 4 being first partly filled with boiling water and the eggs to be cooked placed in the receptacle 9 when in its inverted position and with the partition secured in same, the finger 29 is then turned around to register with the numeral on the dial designating the length of time which it is desired to cook the eggs. The egg-receptacle is then turned over and into the water-compartment, the operator then closing the lid and throwing the arm 16 backwardly and engaging the free end of the same with the trigger-arm 17 of the lever 17′ and at the same time with the other hand starting the clock mechanism to operate by withdrawing from the balance-wheel thereof the stop device. When the eggs have been retained in the water a length of time indicated by the dial-mark to which set, the mechanism within the case will, as before described, release the lid from its fastening, when the spring 7 will cause the same to be thrown back with sufficient momentum to throw the egg-receptacle upwardly and over into the position shown in Fig. 1.

The invention is extremely useful, reliable in action, and adapted to accomplish the purposes for which intended.

I do not wish to limit myself to the specific devices herein described and illustrated, as changes can obviously be made in the details without departing from the spirit of the invention or sacrificing its advantages.

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

1. In an egg-boiler, the combination with a water-receptacle, a lid hinged to said receptacle, a spring tending to open said lid, fastening devices adapted to retain the lid in closed position, clockwork, devices actuated by said clockwork for disengaging said fas-

tening devices from the lid, and means to adjustably set said clock-actuated devices to release the fastening devices at predetermined times, of an egg-receptacle hinged to said water-receptacle, and means operated by the opening of the lid for removing the said egg-receptacle from the other receptacle, substantially as described.

2. In an egg-boiler, in combination a water-receptacle, a lid hinged to said receptacle, a spring tending to open said lid, fastening means for securing said lid in its closed position, means actuated by clock mechanism for releasing said lid by disengaging said fastening means, said clock mechanism, means for adjustably and predeterminately setting the clock mechanism for disengaging said fastening means, an egg-receptacle hinged to said water-receptacle, means connected to said lid and operated by the opening thereof for removing the egg-receptacle from the water-receptacle, and means also operated by the opening of the lid for stopping the running of the clock mechanism, substantially as described.

3. In an egg-boiler, the combination of the water and egg receptacle, a lid hinged to said water-receptacle, clock mechanism, a spindle provided with a setting-finger, a cam on said spindle, means carried upon said spindle for detachably engaging the same with a spindle of the clock mechanism, means provided upon said lid adapted to be engaged by a trigger-lever, means for retaining said trigger-lever in engaged position with the first-named means and comprising a vertically-slidable abutment, means to cause the abutment to normally contact with said cam, means operated by the opening of the lid for withdrawing said abutment from contact with said cam and means also actuated by the opening of the lid for disengaging the first-named spindle from the spindle of the clock mechanism, substantially as described.

4. In an egg-boiler, the combination of the water-receptacle, an egg-receptacle hinged to said water-receptacle, and adapted to be swung down into the same, means for securing the egg-receptacle within the water-receptacle, means actuated by clock mechanism for releasing said securing means, and means carried by the water-receptacle and connected to the egg-receptacle for swinging the egg-receptacle on its hinge connection and withdrawing the egg-receptacle from the water-receptacle, substantially as described.

5. In an egg-boiler, the combination of the egg-receptacle, a water-receptacle provided with a hinged lid, clock mechanism adapted to be adjustably set for releasing the egg-receptacle so as to enable it to be removed from the other receptacle at the termination of predetermined lengths of time, means to accomplish such removal of the egg-receptacle, and means for stopping the action of said clock mechanism simultaneously with the removal of the egg-receptacle, substantially as described.

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

HORACE H. CHESBROUGH.

Witnesses:

PIERRE BARNES,

F. H. LEE.