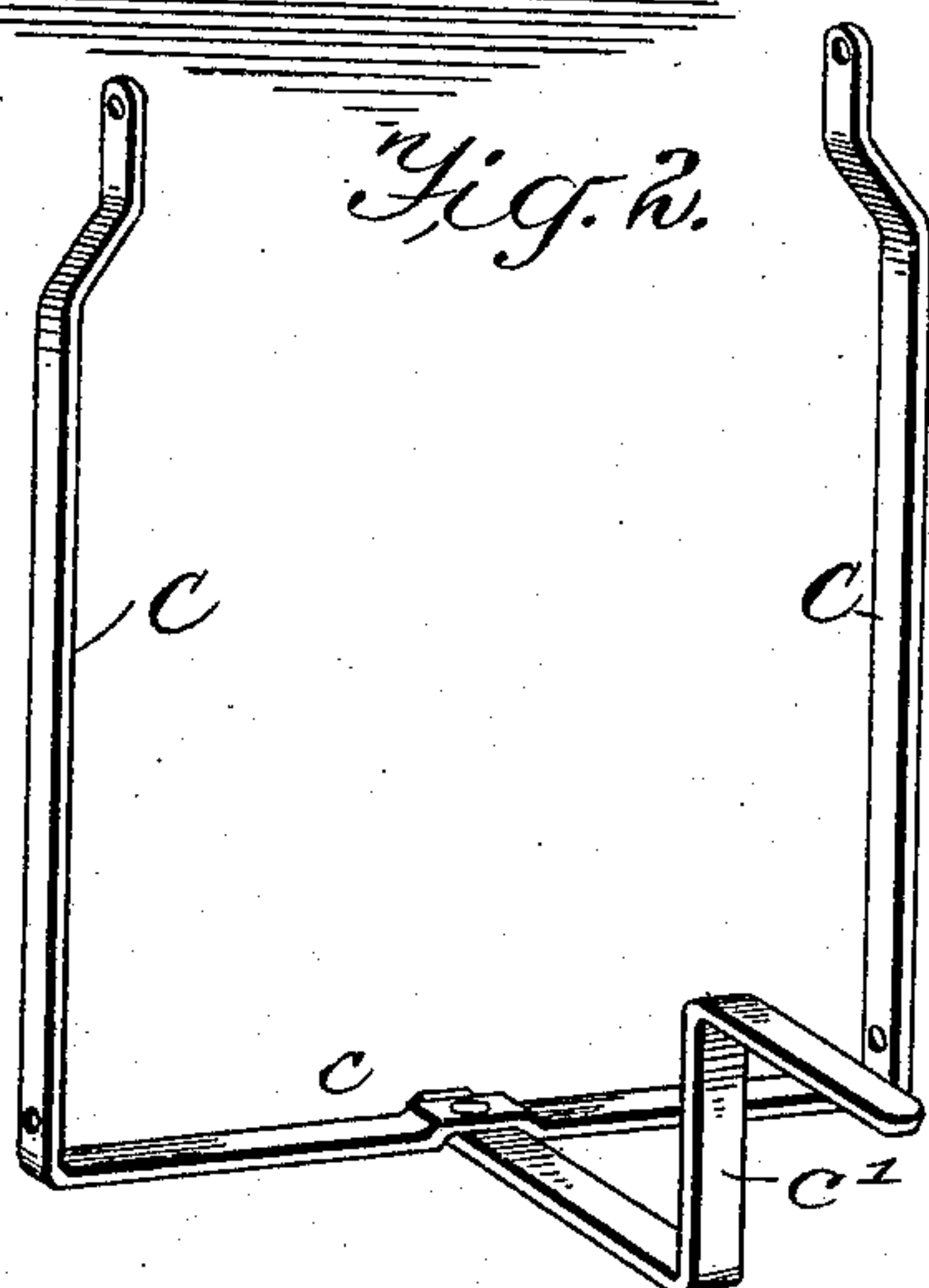
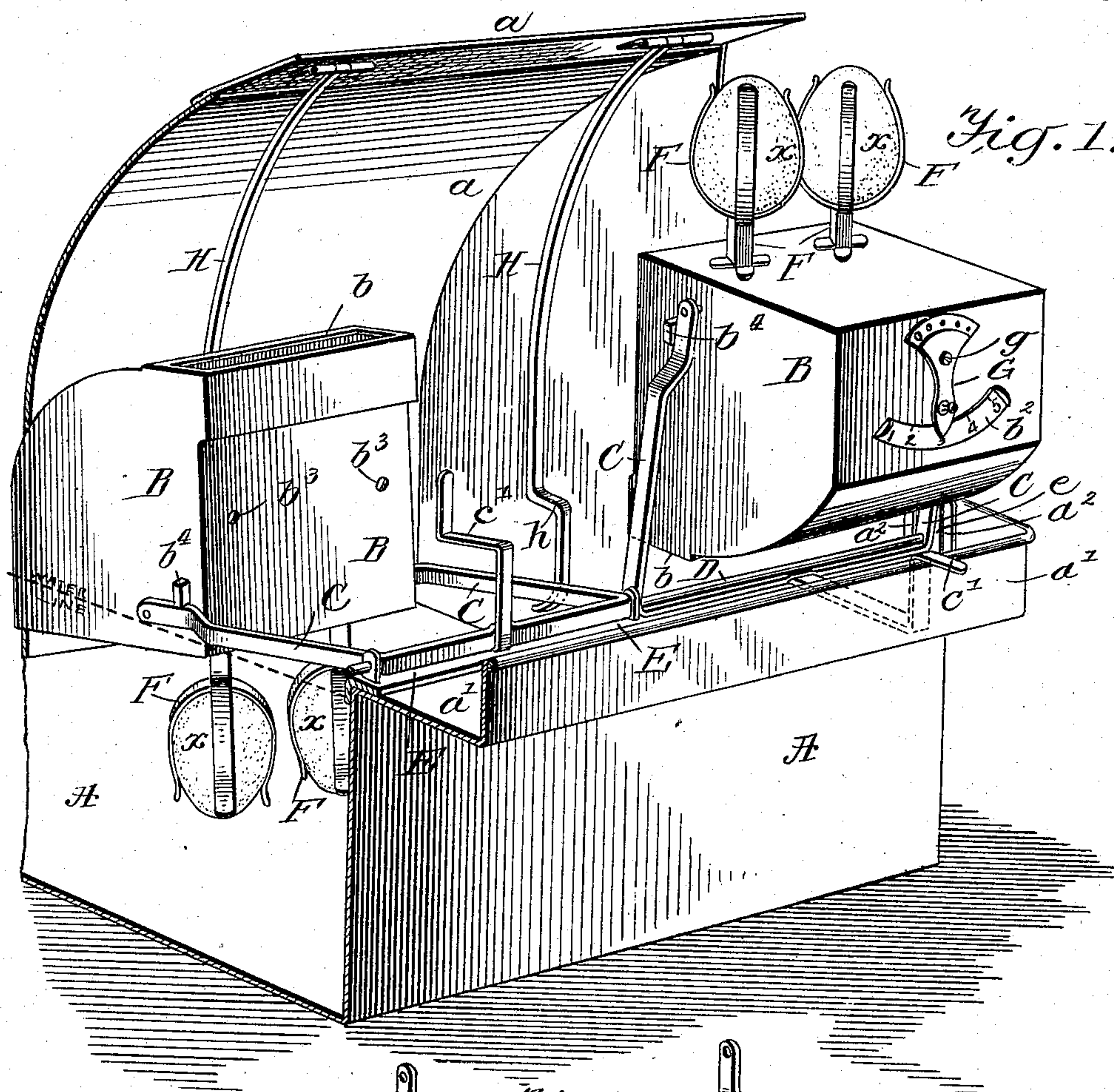


No. 867,921.

PATENTED OCT. 8, 1907.

C. B. MARTIN.
AUTOMATIC EGG BOILER.
APPLICATION FILED JULY 17, 1907.

2 SHEETS—SHEET 1.



WITNESSES

Samuel E. Wade.
Amos W. Hart

INVENTOR
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Fig. 3.

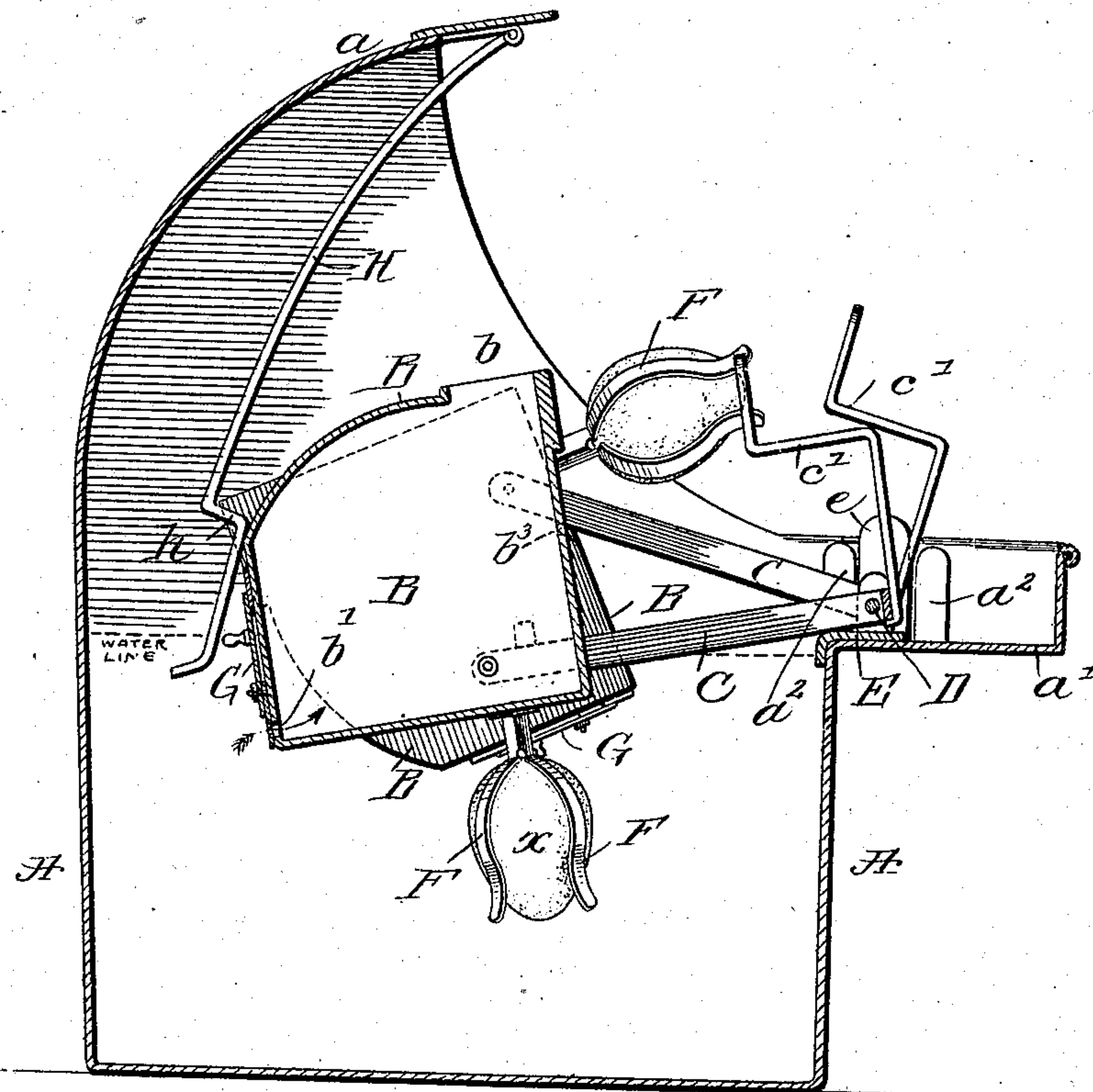
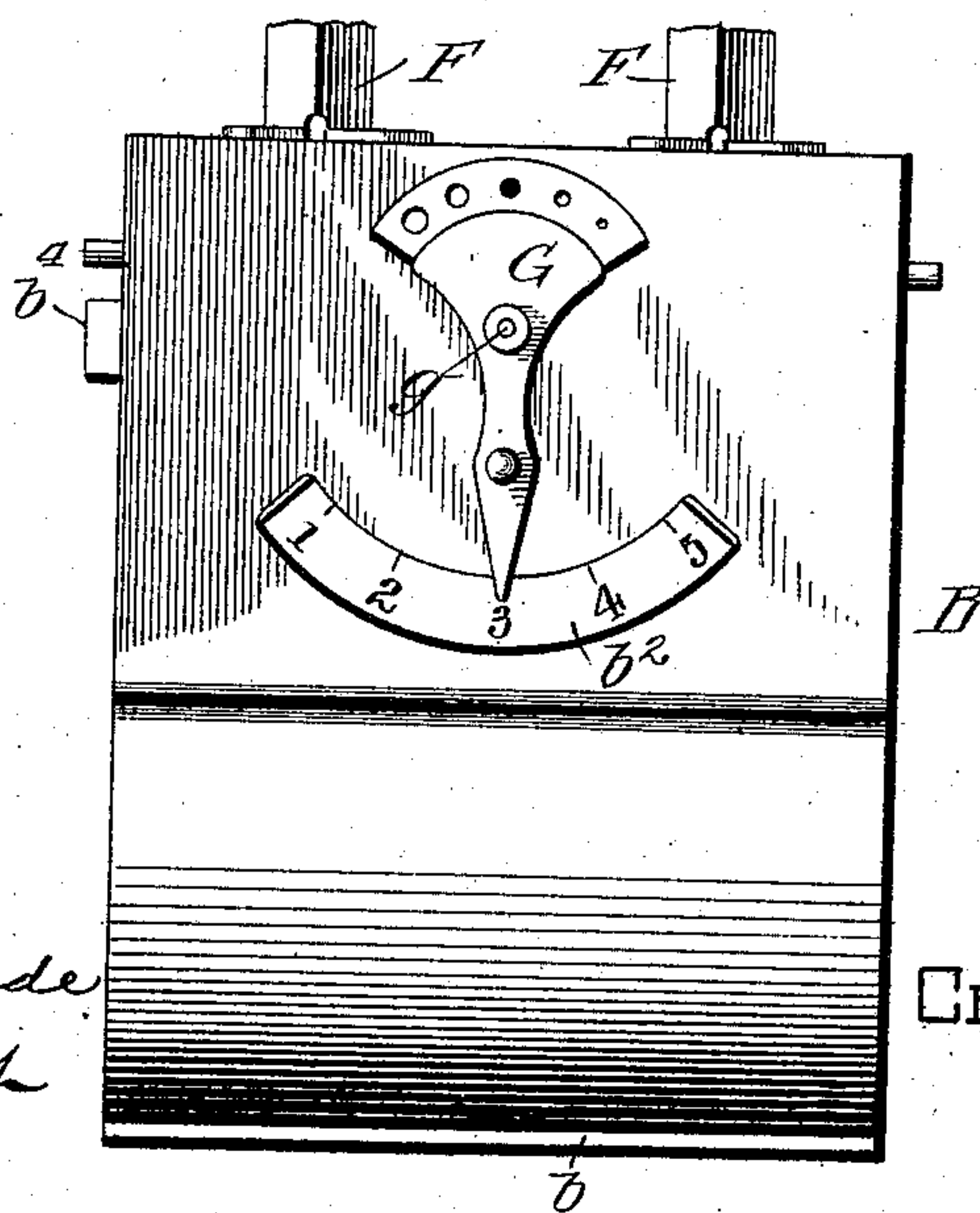


Fig. 4.



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UNITED STATES PATENT OFFICE.

CHARLES B. MARTIN, OF PORTLAND, OREGON, ASSIGNOR OF TEN ONE-HUNDREDTHS TO
J. FRED KENNEDY, OF PORTLAND, OREGON.

AUTOMATIC EGG-BOILER.

No. 867,921.

Specification of Letters Patent.

Patented Oct. 8, 1907.

Application filed July 17, 1907. Serial No. 384,203.

To all whom it may concern:

Be it known that I, CHARLES B. MARTIN, a citizen of the United States, and a resident of Portland, in the county of Multnomah and State of Oregon, have invented an Improvement in Automatic Egg-Boilers, of which the following is a specification.

My invention is an improvement in egg-boilers of that type in which eggs are held submerged in boiling water for a predetermined length of time, so as to cook them more or less, and are then raised out of the water automatically; and the number of minutes, 1 to 5, during which the eggs are held submerged and thus cooked to a corresponding degree is determined by the more or less rapid flow of water into the hollow rotatable vessel to which the eggs are temporarily secured by suitable means, such inflow continuing until the quantity of water accumulated in the vessel is sufficient to shift the center of gravity so that the vessel makes a half revolution and thus brings the previously submerged eggs above the water. Means are provided for regulating such inflow of water, it being obviously requisite that the most rapid inflow shall be permitted when the eggs are to be boiled the shortest time, say one minute, and that the inflow shall be the slowest when they are to be boiled the longest time, say five minutes.

The details of construction, arrangement, and operation of parts are as hereinafter described, and shown in the accompanying drawings, in which

Figure 1 is a perspective view of my improved egg-boiler, one of the hollow vessels being shown in an elevated position, or supported entirely above the water, and the other in the lowered position and partly submerged in the water, eggs being in one case held above, and the other in, the water. Fig. 2 is a perspective view of the tilting frame in which the said vessels are pivoted. Fig. 3 is a vertical cross section of the egg-boiler, one of the vessels being shown in the lowered position and the other in transition from the raised to the lowered position. Fig. 4 is a side elevation of one of the aforesaid vessels.

The boiler proper A, is constructed of sheet metal and in this instance as having an oblong rectangular form and provided with an upwardly extending curved portion *a* constituting a hood; and on the front side it is provided with a lateral flanged extension in the nature of a shelf *a'*. The space between top of the hood and the shelf is entirely open and free. The water line is indicated by dotted lines in Figs. 1 and 3, it being as near the top of the boiler as practicable. The automatic attachment of the boiler proper is embodied in a hollow vessel B which is pivoted in the frame C—see Fig. 2—that is in turn pivoted on the shaft D extending the length of the shelf *a'* and journaled at its ends in the vertical ears *e* of a bar E, which

lies flat upon the shelf, it being arranged between cleats *a*² forming attachments of the end flanges of the shelf. Thus the bar E with the shaft D and the vessels B and frame C connected therewith are all easily detachable from the shelf and boiler. Such adaptation for attachment facilitates cleaning the apparatus and also is of advantage in several other particulars.

The frame C is composed of two practically parallel arms connected at one end by a cross bar *c* which is provided with a handle or lever attachment *c'* for use in tilting the frame with the vessel B from the vertical to the horizontal position, and vice versa, as required to carry the vessel with eggs attached into the water and out of the same, as will be further explained. In this instance two vessels B are shown, but it is to be understood that any desired number may be employed, it being only necessary that the boiler A shall be corresponding in length. Each vessel B is nearly cubical in form, it being cut away or curved at one corner to enable it to pass into and out of the water without coming in contact with any portion of the boiler or hood. It is provided on one side with a large opening *b* which provides for free discharge of water from the vessel when it is raised out of the body of water in the boiler. Eggs to be boiled are held in spring clamps F that are rigidly attached to one side of the vessel. Another side of the vessel is provided with a water-inlet, or small opening, *b'*—see Fig. 3—and the admission of water therethrough is controlled by a device in the nature of a valve G, the same being approximately sector-shaped and pivoted at *g*. Its broader end is provided with a series of holes, five in number, the same being gradually increased in diameter from one end of the row to the other. It is apparent that if the valve G be placed so that the largest opening be in register with the opening *b'* of the vessel B, and the latter be partly submerged in the water, as shown at the left in Fig. 1, and also in Fig. 3, water will flow in with comparative rapidity. On the other hand if the device G be adjusted with its smallest opening in register with the inlet *b'* in the vessel B, the inflow of water will be correspondingly retarded; or, in other words it will require five times as long for the same quantity of water to accumulate in the vessel B as when the inflow is through the largest opening in the regulator G. The three openings intermediate the smallest and largest being graduated in size, it is obvious that in adjusting the regulator G so that no one of the three is in register with the inlet *b'*, the rapidity of inflow will correspond. For convenience in determining the exact position to which the device G must be adjusted, a graduated arc *b*² is secured to the front of the vessel B and the smaller end of the device G is arranged to sweep over this arc. Thus, as shown in Figs. 1 and 4, the regulator G is adjusted with the pointer at 3, and consequently the

third hole of the regulator is in register with the inlet b' . This is the correct position of the regulator for boiling eggs three minutes. The tiltable vessels B are pivoted near one corner between the free ends of the parallel arms of frames C and they are provided with lateral lugs b —see Fig. 1—that serve as stops preventing the vessels rocking too far when lowered into or raised out of the water.

It will be understood that normally the center of gravity of each vessel B is such that when two eggs are supported in the spring holders, as shown at the right in Fig. 1, they still retain their position without tilting; but, when turned and submerged in the water so that a certain quantity is admitted, the center of gravity is shifted so that the vessels rotate automatically and thus bring the eggs up out of the water.

In further explanation of operation of the apparatus, I will now state that in use of the latter, eggs being placed in the spring holders F, the operator seizes the projecting end of the handle or lever c' and tilts the frame C so that the vessel pivoted thereon is carried backward and downward. It will be understood that, in this movement, the vessel B will not of itself tilt or turn over so as to carry the eggs x into the water, and hence it is necessary to employ means to aid in effecting such partial rotation. This means is the bar H, which is pivoted to and hangs free from the top of the hood a . The lower portion of said bar H has an angle, or shoulder, h —see Fig. 1—which shoulder, as the vessel B swings backward and downward, enters or projects into the opening b of said vessel, so as to engage the edge of said opening, and as the vessel continues to descend, holds or arrests the vessel at such point of engagement, thus causing it to tilt or turn half way over and hence carry the eggs down into the water as shown in Figs. 1 and 3, the rotation of vessel B being arrested by the stop b^4 coming into contact with frame C as shown in Fig. 1. The lower portion of vessel B is submerged along with the eggs x and water therefore flows in through the coincident openings of the regulator and vessel as shown by the arrow in Fig. 3.

It will be understood that, in the first instance, the weight of the eggs serves to hold the vessel tilted when once the eggs are submerged, until, by the inflow of water into the chamber of the vessel, its center of gravity is shifted and thus it swings on its pivots and brings the eggs up out of the water. Then the operator at his leisure may raise the vessel B to the position indicated at the right in Fig. 1, in which case it is obvious that all the water still remaining in the vessel will be discharged through the large opening b . As before stated, the time required for a sufficient inflow of water to cause the automatic tilting of the vessel B so as to raise the eggs above the surface of the water is determined by the size of the particular opening of the timing device G which is in register with the inlet b' of the vessel. It will thus be seen that upon lowering the vessel with eggs attached it is tilted automatically a half revolution so as to submerge the eggs, as shown to the left in Figs. 1 and 3. Then, upon accumulation of a due quantity of water, the center of gravity shifts automatically and the eggs are raised out of the water.

As shown at the left in Fig. 1, the vessels B are provided in one side with openings b^3 which are of service

to allow escape of air when the vessels tilt to bring the eggs up out of the water. When it is desired to remove the eggs x from the holders F, the vessels B are raised to the position indicated at the right in Fig. 1, in which case the frame C inclines vertically slightly to the front, and the handle or lever attachment c' of said frame rests upon the shelf, as indicated by dotted lines Fig. 1, so that the vessel B retains the required position until fresh eggs are again placed in the holders to be submerged, as before described.

What I claim is:

1. The improved automatic egg-boiler comprising a boiler, a swinging frame journaled thereon, a hollow vessel provided with an egg holder and pivoted at the free end of the frame, and provided at one side with a water inlet whereby, when lowered into the water in the boiler, the inflow of water shifts the center of gravity of said vessel so that the eggs held temporarily submerged are raised out of the water, substantially as described.
2. The improved automatic egg-boiler comprising a boiler proper, a hollow vessel having an egg-holder and means for pivotally supporting it so that it may be swung into and out of the water, means for regulating the flow of water into said vessel when in a lowered position, and means for automatically engaging and tilting the vessel as it descends into the water, substantially as described.
3. The improved automatic egg-boiler comprising a boiler proper, a frame pivoted on the upper portion thereof, a vessel pivoted on the free end of the frame and provided with an egg-holder, and a water inlet and water outlet at opposite points, a device for regulating the inflow of water at the inlet, and a device attached to the upper portion of the boiler and adapted for engaging the vessel when lowered, thereby rotating it to the position required to submerge the eggs, substantially as described.
4. The improved automatic egg-boiler comprising a boiler proper, a frame pivoted thereon and adapted to swing inward, a vessel pivoted to the free end of the frame at a point near one side, egg-holders attached to such sides in proximity to the pivots, a water inlet provided adjacent to the side whereon the egg-holders are attached, a water-discharge opening on the opposite side, and means for engaging the vessel when lowered into the water, for tilting it a half revolution to bring the eggs into the water, and means for regulating the admission of water to the chamber of the vessel, substantially as described.
5. The improved automatic egg-boiler comprising a boiler proper, a frame pivoted thereon, a vessel pivoted to the free end of the frame and provided with egg-holders, and means for regulating admission of water for timing the submerging of the eggs, and a swinging bar pivoted to the top portion of the boiler and provided with a shoulder adapted to engage a portion of the vessel when lowered, whereby the latter is rotated a half revolution and the eggs submerged, as shown and described.
6. The improved automatic egg-boiler comprising a boiler proper, a frame pivoted thereon, a vessel having an egg-holder and water inlet with regulator therefor and pivoted to the free end of the said frame at a point near the side to which the egg-holders are attached, and stops arranged adjacent to the pivot and for engagement with the frame for arresting rotation of the vessel when lowered into or raised out of the water, substantially as described.
7. The combination, with the boiler proper having a lateral shelf provided with a flange, of a frame pivoted near the junction of the shelf and the boiler proper and provided with a lateral arm for use in tilting the frame and for supporting it when in a vertical position, a vessel pivoted to the free end of the frame and provided with egg-holders, and means for regulating inflow of water and permitting its discharge therefrom in the manner described.

CHARLES B. MARTIN.

Witnesses:

J. FRED KENNEDY,
WM. L. BREWSTER.