

No. 886,266.

PATENTED APR. 28, 1908.

D. P. STEVENS.

EGG OPENER.

APPLICATION FILED AUG. 19, 1907.

2 SHEETS—SHEET 1.

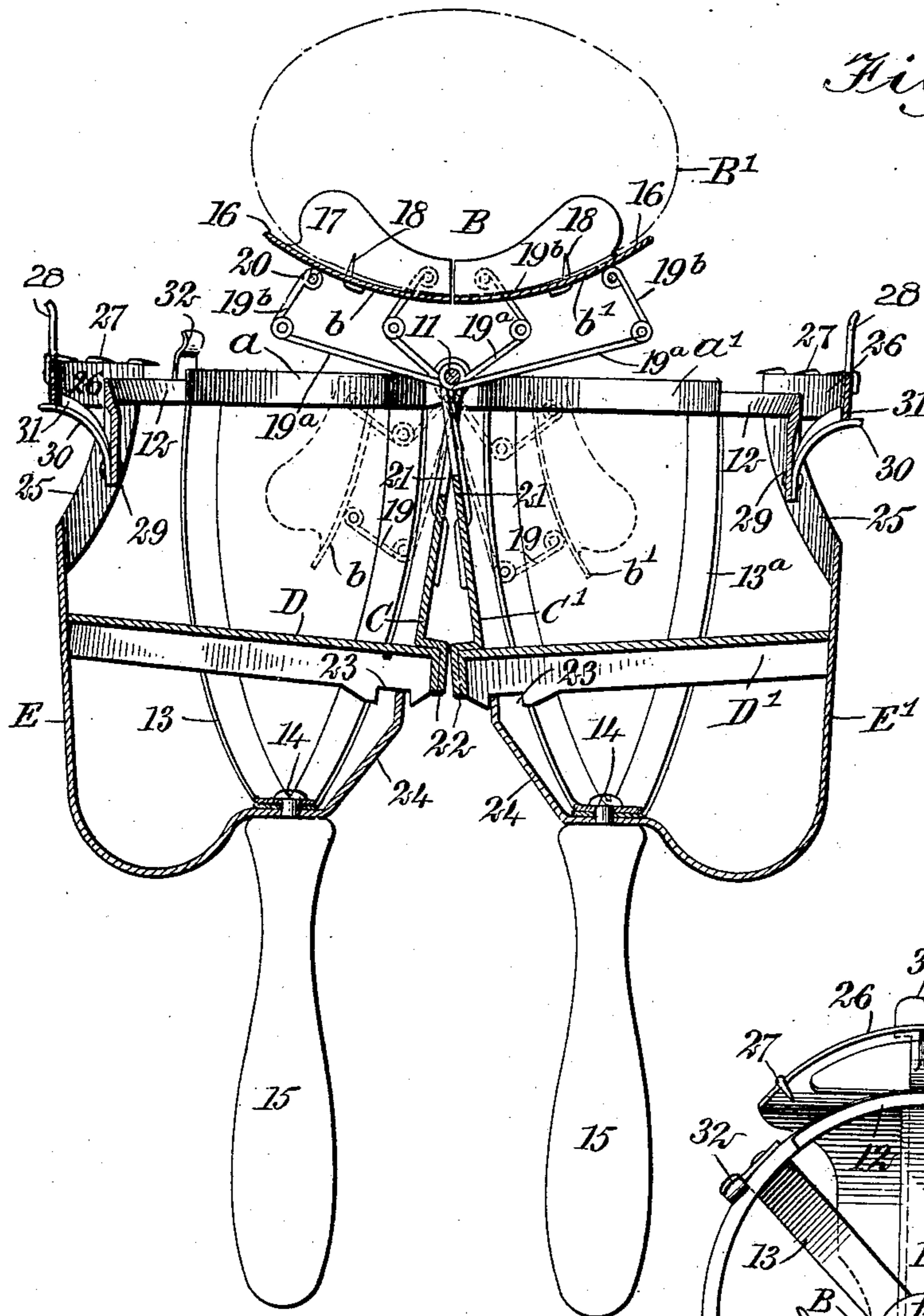


Fig. 1.

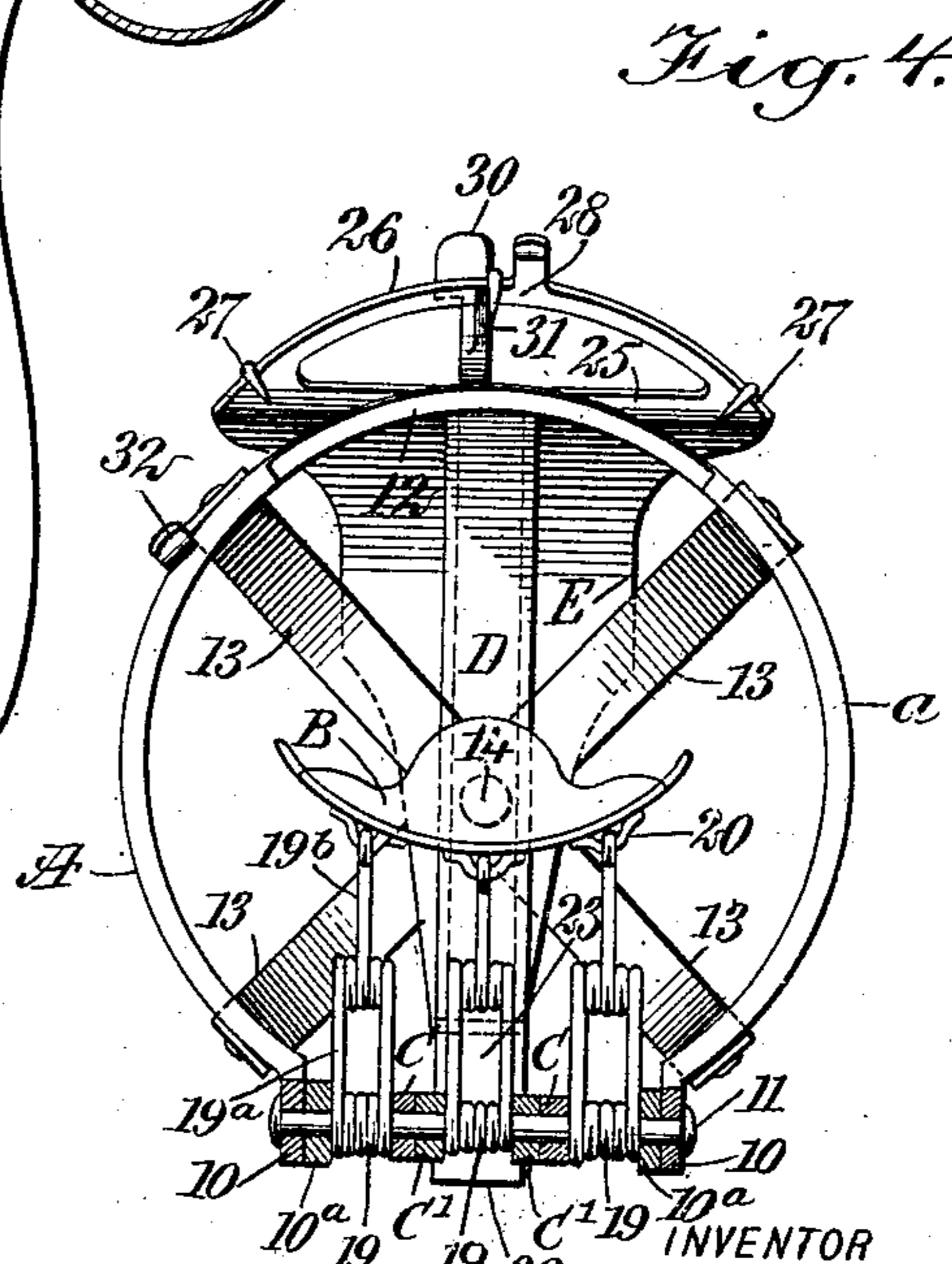


Fig. 4.

WITNESSES

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2 SHEETS—SHEET 2.

Fig. 2.

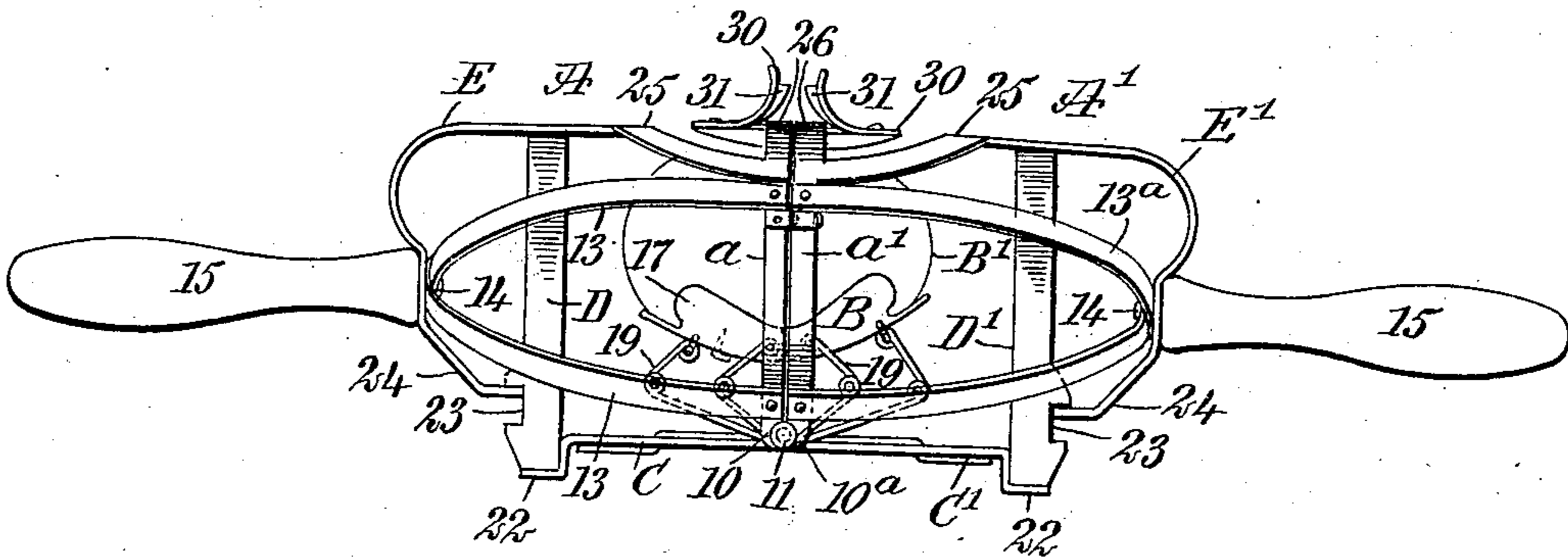
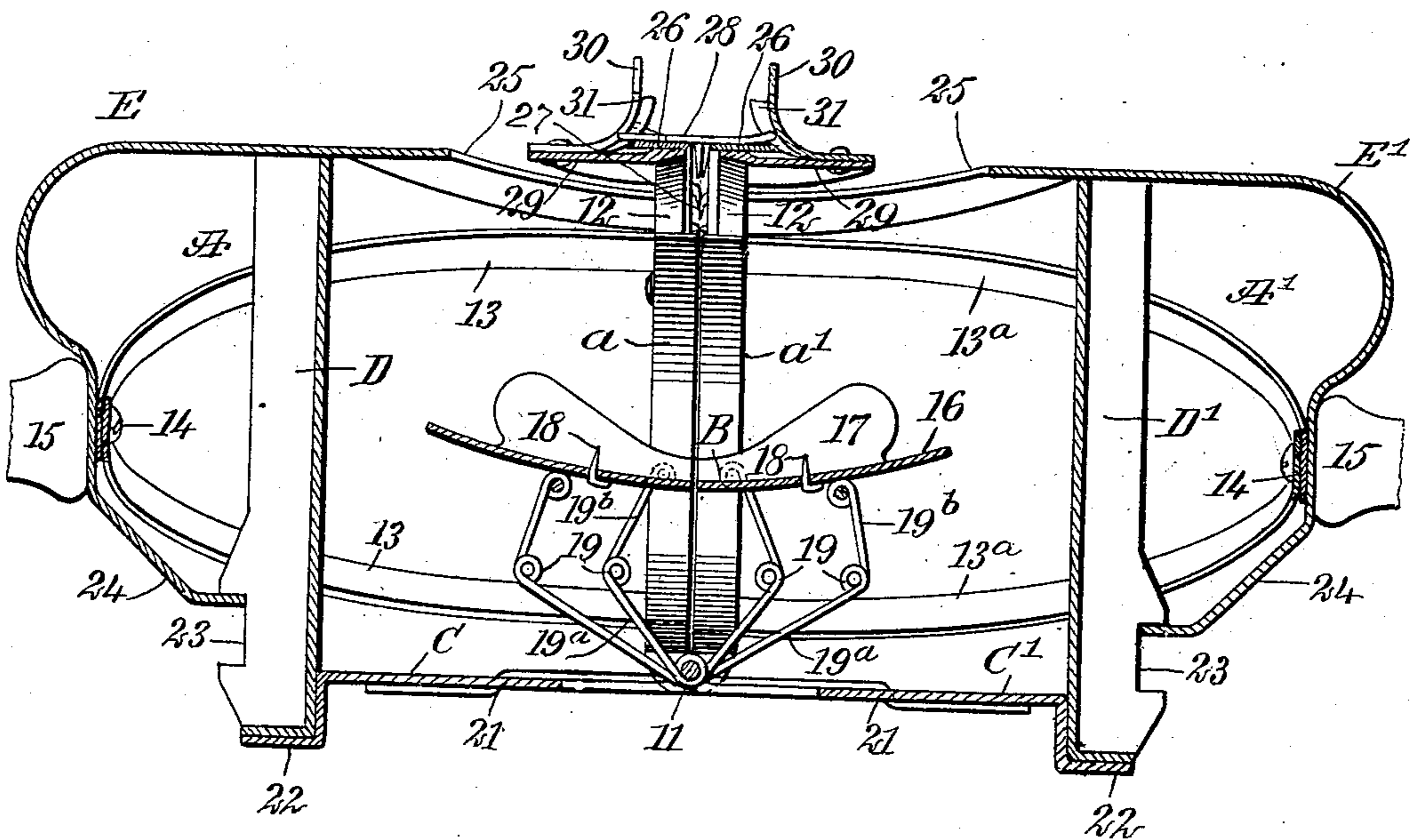


Fig. 3.



WITNESSES

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DONALD PERCY STEVENS, OF RIO, WISCONSIN.

EGG-OPENER.

No. 886,266.

Specification of Letters Patent.

Patented April 28, 1908.

Application filed August 19, 1907. Serial No. 389,201.

To all whom it may concern:

Be it known that I, DONALD PERCY STEVENS, a citizen of the United States, and a resident of Rio, in the county of Columbia and State of Wisconsin, have invented a new and useful Improvement in Egg-Openers, of which the following is a full, clear, and exact description.

The purpose of the invention is to provide a very simple and economic device for opening eggs, so constructed that it can be expeditiously and conveniently operated, and wherein the egg is broken and its contents discharged in a cleanly manner, free from particles of shell.

It is also a purpose of the invention to provide an egg opener from which the empty shells are automatically discharged.

The invention consists in the novel construction and combination of the several parts as will be hereinafter fully set forth and pointed out in the claims.

Reference is to be had to the accompanying drawings forming a part of this specification in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a central longitudinal section through the improved device, the parts being shown in position to receive an egg to be broken; Fig. 2 is a side elevation drawn upon a smaller scale, showing the parts in closed position; Fig. 3 is a longitudinal central section through the device with the parts in closed position; and Fig. 4 is a central transverse section through the opener, the parts being also in their closed position.

The body of the device is made in two hemispherical sections A and A'; the sections are of like construction and comprise an inner ring member, which members are designated as *a* and *a'*, and in the closed position of the said body sections, these ring members are brought together, as is shown in Fig. 2. Each ring member *a* and *a'* is open at its lower portion, and at said lower portion is provided with downwardly extending lugs, the lugs of the section *a* being designated as 10, and those of the opposing section *a'* as 10^a, and a hinge connection is effected between the two sections of the body by passing a pivot pin 11 through the lugs of the said ring members *a* and *a'*, as is shown in Fig. 4.

Each ring member is provided with a recess in its inner edge at the top, as is shown in

Figs. 1 and 4, and the under face of the ring members where they are recessed is inclined upward, as is shown at 12 in Fig. 3 in order to accommodate the upper portion of the ring sections to the ovate form of the egg, and likewise to provide spaces between the said ring sections for the reception of piercing devices for the egg, to be hereinafter described. Straps are connected with the ring sections *a* and *a'*, and these straps in each body section are usually four in number, two of them being at each side of a section, and the straps of the body section A are designated as 13 and those of the body section A' as 13^a. These straps are attached to the side portions of the members *a* and *a'* adjacent their upper and their lower portions, and the straps of each body section are brought together at the rear ends of said sections and are secured to handles 15 by screws 14, or their equivalents, and in the closed position of the device the handles 15 are horizontally located, as is shown in Fig. 2, while in the open position of the device the handles extend vertically downward in the parallel position shown in Fig. 1.

Above the pivot pin 11 a cradle B is located, adapted to support the egg B' to be opened. This cradle is in two sections *b* and *b'*, a section of the cradle being provided for each section of the body, as is shown particularly in Fig. 1. The upper face 16 of the cradle B is concaved so as to conform to the shape of that portion of the egg that will rest upon it, and the cradle is furthermore provided with side wings 17, and each section of the cradle is provided also at its bottom portion with one or more sharp spurs 18 that extend upward and are adapted to pierce the shell of the egg laid on the cradle, so as to hold it in position. The cradle B is supported by springs 19, and these springs are preferably of angular formation, comprising lower members 19^a and upper members 19^b. The lower members 19^a are double and the upper members 19^b are single, and are pivotally attached to the bottom portion of the cradle by means of staples 20. The members of the springs are coiled where they connect, and the lower members 19^a of the springs are coiled around the pivot pin 11, as is especially shown in Fig. 4. Ordinarily three springs are employed for each section of the cradle, one being attached at each side portion of the cradle and the other at its outer end portion. The ends of the central

spring support for the cradle are carried downward and are made to engage with supporting arms C and C', one of said arms being provided for each body section; these
 5 arms are bifurcated at their inner ends and are pivotally mounted on the pin 11 connecting the body sections, as is indicated particularly in Figs. 3 and 4. Each supporting arm C and C' is provided with a step 22 at its
 10 outer end, and on each step 22 an expanding bar is secured, the bar for the section A being designated as D and that for the section A' as D'. These bars are usually angle bars, and in the closed position of the body sections they extend vertically upward, as is
 15 shown in Figs. 2, 3, and 4, and in the open position of the body they are horizontally located, as is illustrated in Fig. 1. Each expanding bar D and D' is provided with a recess in its outer edge adjacent its point of attachment to the supporting arms C and C',
 20 said recesses being designated as 23.

A spring arm is employed in connection with each body section A and A', and the
 25 said arms are designated respectively as E and E'. Each arm is attached near its lower end to the handle 15, being between the handle and the end of the body section of the frame to which the handle is secured. The
 30 lower ends 24 of these spring arms E and E' are carried downward and inward and are made to enter the recesses 23 in the expanding bars D and D' in order to limit the movement of the body section in opening and in closing.
 35 When the body sections are closed the lower ends of the spring arms engage with the upper walls of the said recesses 23, as is shown in Fig. 3, and when the body sections are open the said spring arms at their lower ends
 40 engage with the lower walls of the said recesses, as is illustrated in Fig. 1. Each spring arm E and E' is carried over the upper portion of the hemispherical or body section and terminates in a segmental skeleton jaw
 45 25. The inner arched members 26 of the said jaws lie over the upper portion of the ring members *a* and *a'*, the said body sections being removed a predetermined distance therefrom, as is especially shown in Fig. 1, and the
 50 said arched members 26 of each jaw 25 are provided with a series of downwardly extending sharp teeth or prongs 27 and the said arched members 26 are provided with tongues 28 that extend over the arched members of
 55 the opposing jaw when the body sections are closed, as is shown in Fig. 3, and at such times the tongues serve to release latches to be hereinafter described. It may be here
 60 remarked that the upper ends of the expanding bars D and D' engage with the arms E and E', at a point adjacent to the jaws 25. When said body sections are nearly closed the arched members of the jaws are a slight
 65 distance apart, as is illustrated in Fig. 3, but when the prongs enter the egg, the opposing

arched members 26 of the jaws are practically in close contact, as is shown in Fig. 2.

In the closed position of the device the prongs or teeth 27 extend down into the spaces provided by recessing the upper portions of the rings, as has been described and as illustrated in Fig. 3. Normally the spring
 70 jaws 25 are held outwardly expanded. This is accomplished in the following manner: A bracket 29 is carried from the upper portion
 75 of each ring member *a* and *a'* in direction of the outer ends of the body sections A and A', as is especially shown in Fig. 3, and each of said brackets at its outer end carries a spring
 80 latch 30 that extends up through a jaw 25 at the rear of its inner arched member 26, and the said latches have bearing against the outer edges of said members 26, and each
 85 latch is provided upon its inner face with a shoulder 31 adapted when the jaws are expanded to drop beneath the said inner arched members 26 and retain said members in expanded position, as is shown in Fig. 1. This
 90 is brought about as follows: Supposing the body sections to have been closed, as the said body sections are separated by carrying the
 95 handles 15 downward to the position shown in Fig. 1 the expanding bars D and D' will be brought in engagement where they are supported by the arms C and C', and in assuming
 100 this position they will force the spring arms E and E' outward to such an extent that the spring latches then idly bearing against the outer edges of the members 26 of the jaws,
 105 will spring forward and the shoulders of the latches will engage with the under faces of said members 26, holding them in their extended position. At this time the cradle B is fully exposed, a handle is gripped with one
 110 hand and the other hand is utilized to place an egg on the cradle B, and the egg is pressed down with sufficient force to cause the spurs 18 carried by the cradle to penetrate the shell. The body sections are then carried upward to the closed position illustrated in Fig.
 115 2, which will bring the teeth or spurs 27 of the jaws 25 in a position between the recessed portions of the ring members *a* and *a'*, and immediately over the upper central portion of the shell. When this position
 120 is assumed the tongues 28 on the jaws 25 will have forced the latches backward, and the jaws being released from their extended position will spring downward and cause the teeth or spurs 27 to penetrate the upper portion of
 125 the shell on the segment of a circle.

It will be observed that at this time one portion of the egg will be held by the jaws over the body section A and by the spur on the section *b* of the cradle B, and the other
 130 portion of the egg will be similarly held in the other section of the body, thus by again opening the sections of the body and carrying them to the position shown in Fig. 1, the sections of the egg are carried in the sections of

the body, enabling the contents of the egg to be emptied out, and when the expanding bars D and D' meet they will engage with the spring arms E and E' and force the said arms outward a sufficient distance to be automatically engaged by the latches 30 and held thereby in their outer position, which withdraws the teeth 27 of the jaws from the shell of the egg, and as the sections of the cradle are carried to the dotted position shown in Fig. 1, as the sections of the egg were carried with the sections of the body, the springs of the cradle sections will at this time expand to restore the cradle to its normal position and in so doing will throw off the empty shell. When the sections of the body are closed they may be locked by means of a spring latch 32 on one of the ring members *a* engaging with the opposite ring member *a'*.

It is only necessary to grasp the handle when the jaws are opened, since the downward extensions from the spring member 19^a have no power to propel the handle upward; they only serve to balance the cradle.

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

1. In an egg opener, hemispherical hinge connected sections, a spring-supported egg cradle located at the connection of the sections, exposed in one position of the sections and inclosed in the other position, a toothed spring jaw carried by each section, and means for locking the jaws in position to operate, and for releasing the said jaws for operation.

2. In an egg opener, hemispherical hinge connected sections, a sectional, spring-supported egg-cradle located at the hinge connection of the sections, the sections of the cradle corresponding to the said hemispherical sections, said cradle being exposed at the open position of the hemispherical sections, and inclosed at their closed position, spring-controlled toothed jaws carried at the inner end portion of each hemispherical section, means for expanding the jaws, and devices for locking the jaws in expanded position.

3. In an egg opener, hemispherical hinge connected sections, a sectional, spring-supported egg-cradle located at the hinge connection of the sections, the sections of the cradle corresponding to the said hemispherical sections, said cradle being exposed at the open position of the hemispherical sections,

and inclosed at their closed position, spring-controlled toothed jaws carried at the inner end portion of said hemispherical sections, means for expanding the jaws, and devices for automatically locking the jaws in expanded position, and means for tripping the locking devices.

4. In an egg opener, the combination with hemispherical body sections having a hinge connection, handles for the sections, an egg cradle located over the hinge connection between the body sections, which cradle is constructed in sections corresponding to those of the body, and spring supports for the cradle sections, of spring arms carried by the body sections, extending over the same and terminating in jaws located over the body sections at their inner ends, teeth for the said jaws, oppositely extending hinged supporting arms pivoted at the hinge connection between the body sections, expanding bars carried by the said arms, and adapted in one position of the body sections to force the jaws outward, and means for locking the jaws in their expanded position.

5. In an egg opener, the combination with hemispherical body sections, each consisting of an inner ring member, and straps attached to said ring member and to each other, said ring members having a space between them when closed, a hinge connection between the body sections, and a spring supported cradle located above said hinge connection, of spring arms secured at the ends of the body sections, extending over them, segmental jaws at the inner ends of the arms, teeth extending down from the said jaws into the space between the ring members, spring latch devices carried by the ring members adapted for automatic engagement with the under faces of the jaws, oppositely extending supporting arms pivoted at the hinge connection between the body sections, expanding bars secured to the supporting arms and adapted in one position of the body sections to force said jaws outward for engagement by the locking devices, and means for limiting the movement of the expanding bars.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

DON. PERCY STEVENS.

Witnesses:

KENNEDY SCOTT,
MARGARET SCOTT.