

No. 860,495.

PATENTED JULY 16, 1907.

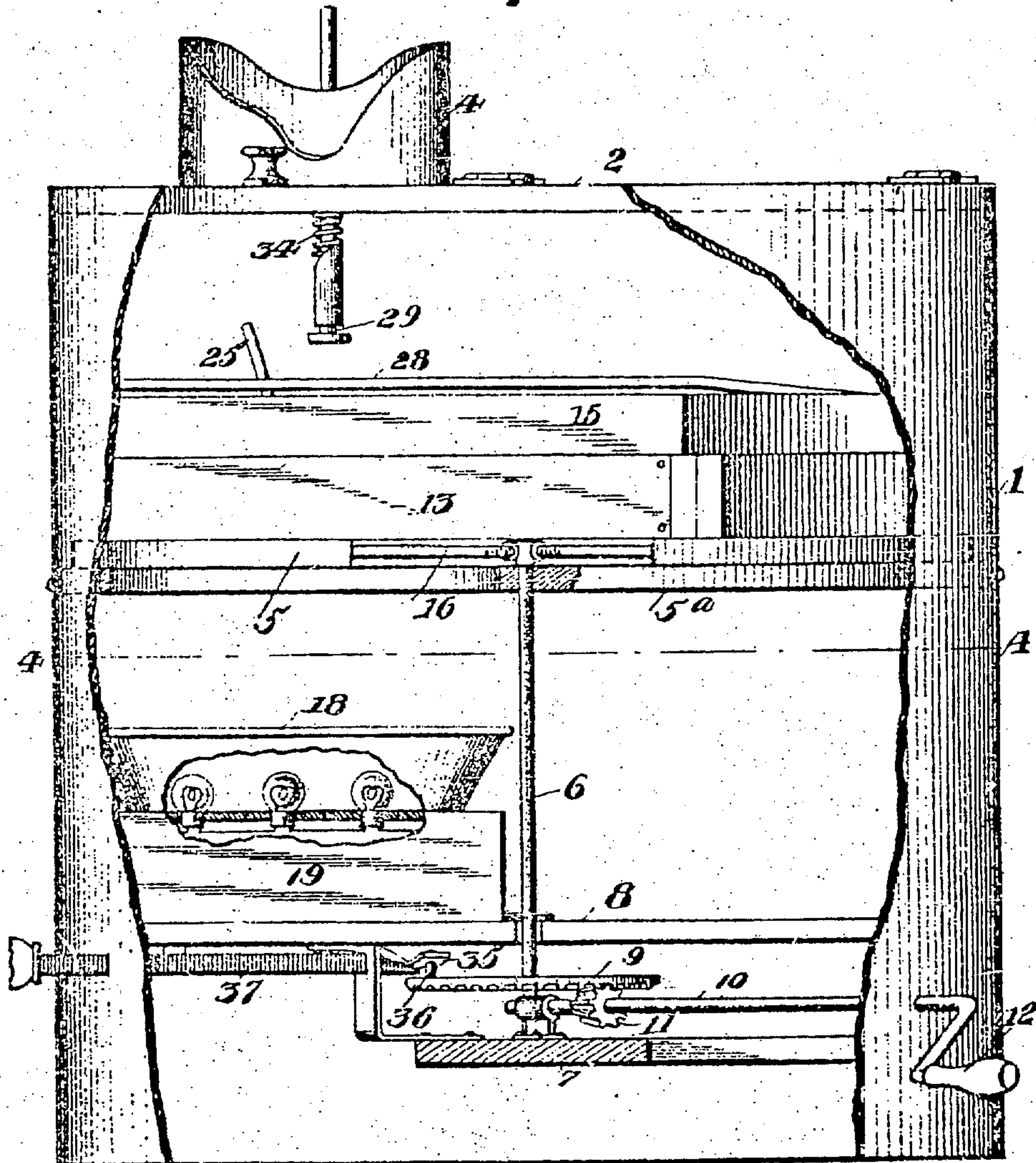
G. M. REED.

EGG TESTER.

APPLICATION FILED MAY 21, 1906.

SHEET-SHEET 1.

Fig. 1



WITNESSES

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INVENTOR

Charles Milton Reed

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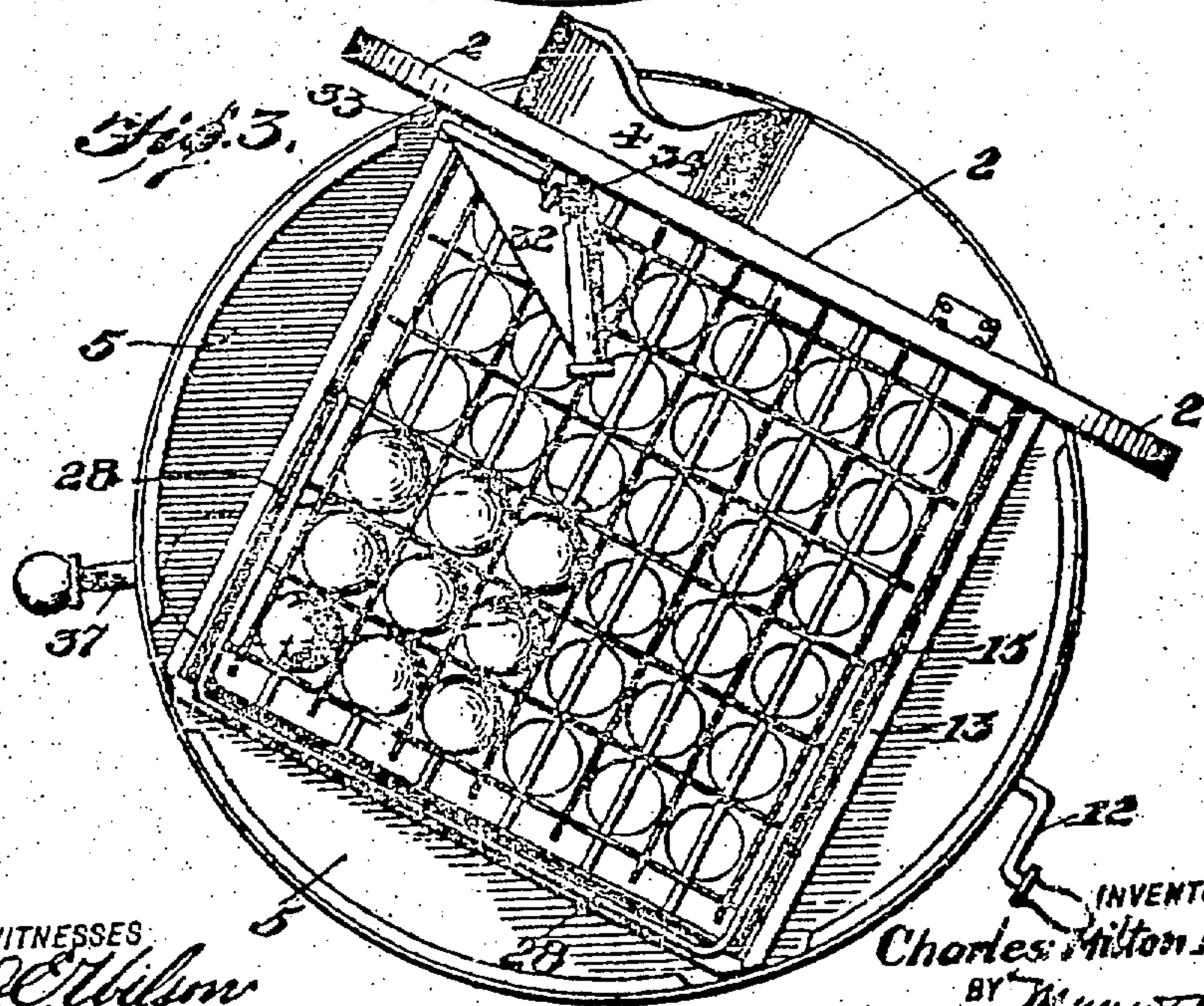
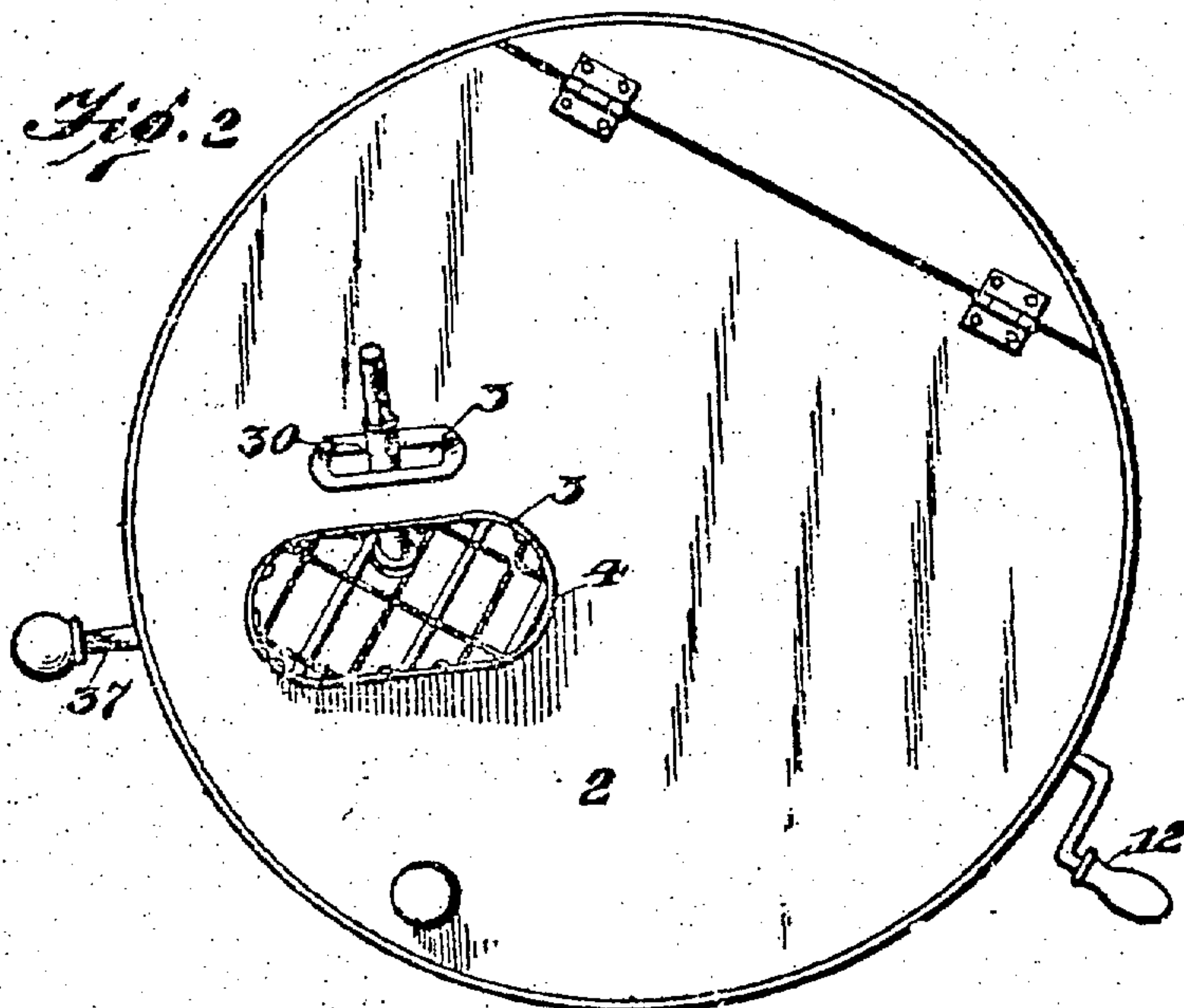
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3 SHEETS—SHEET 1.



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3 SHEETS—SHEET 2.

Fig. 4.

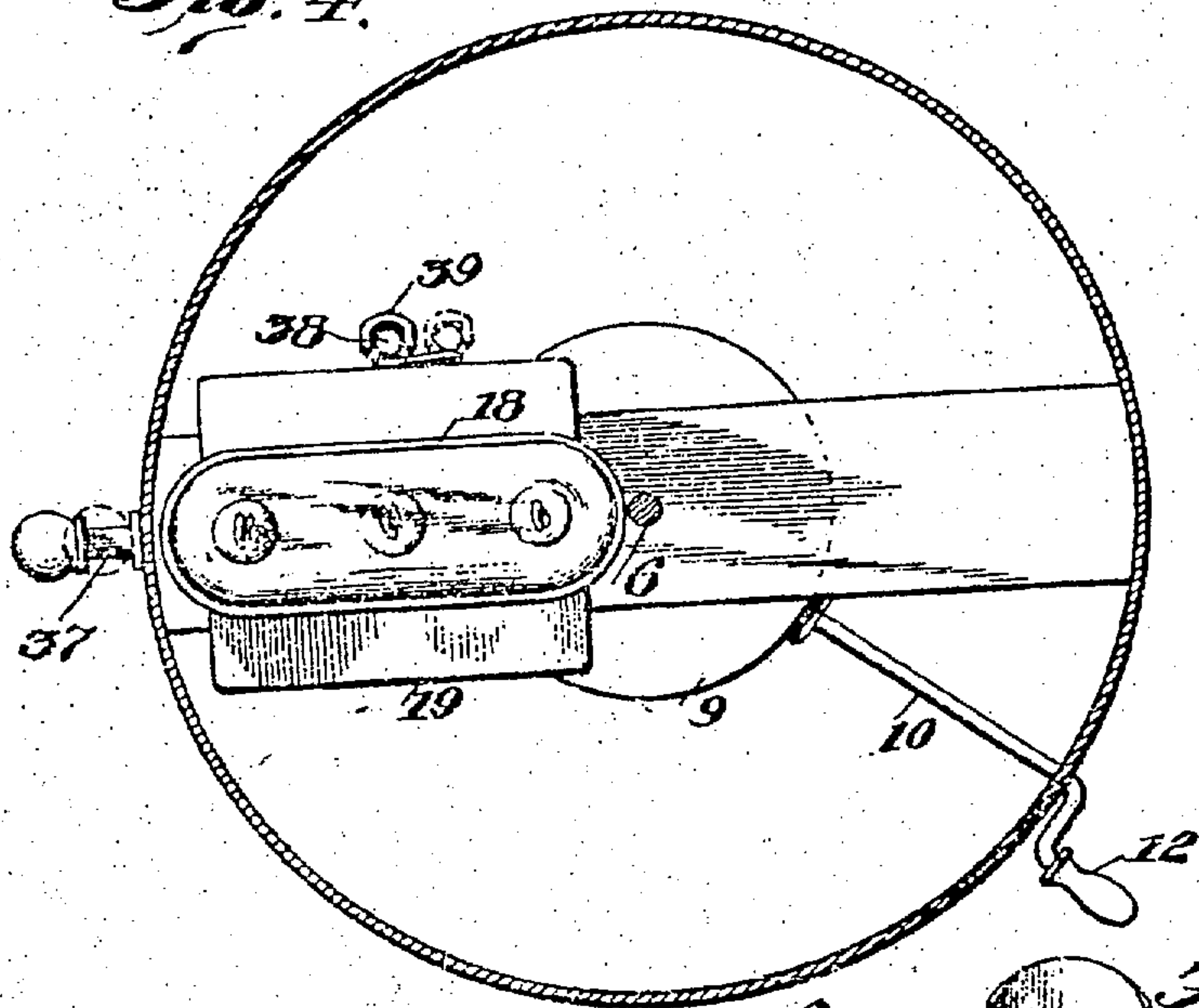


Fig. 5.

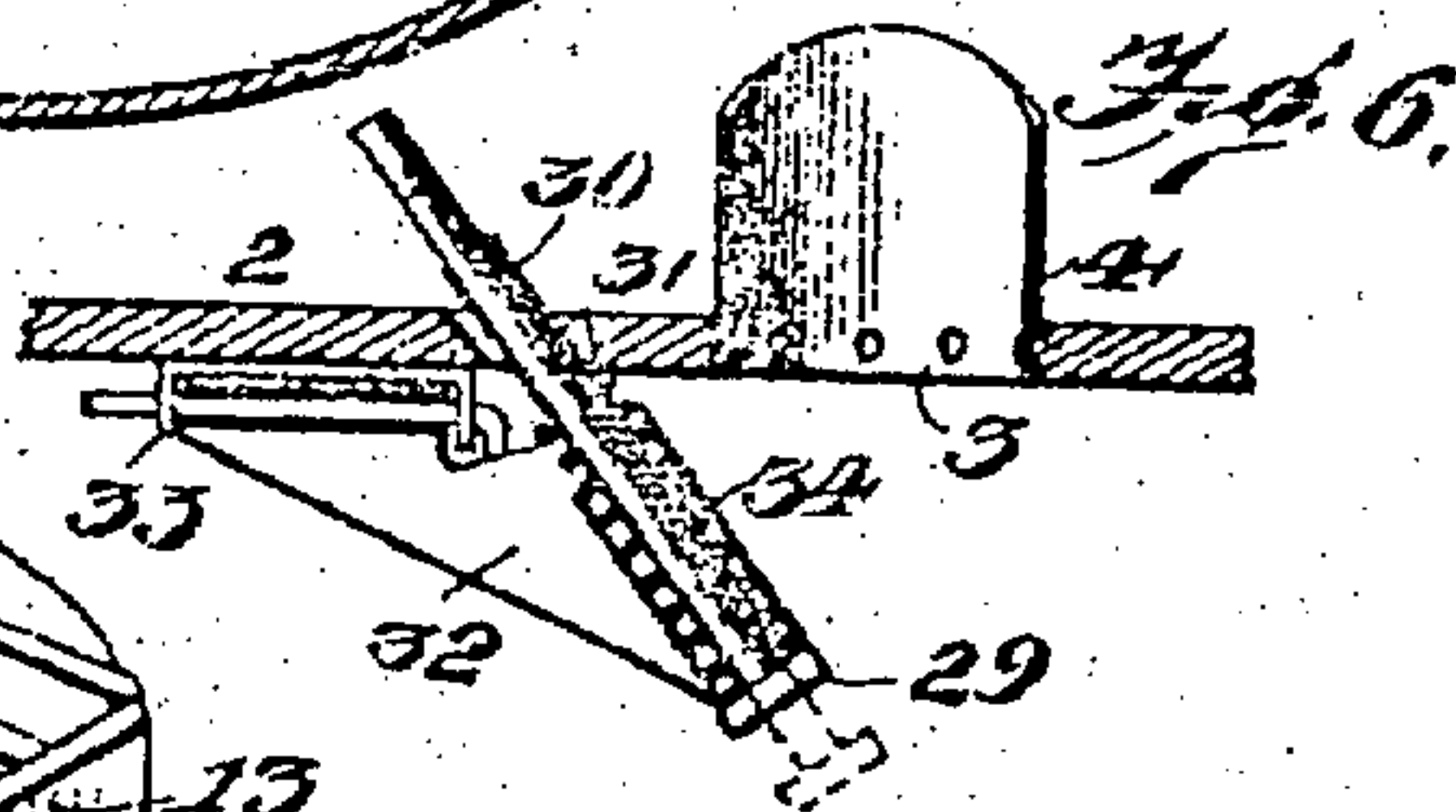
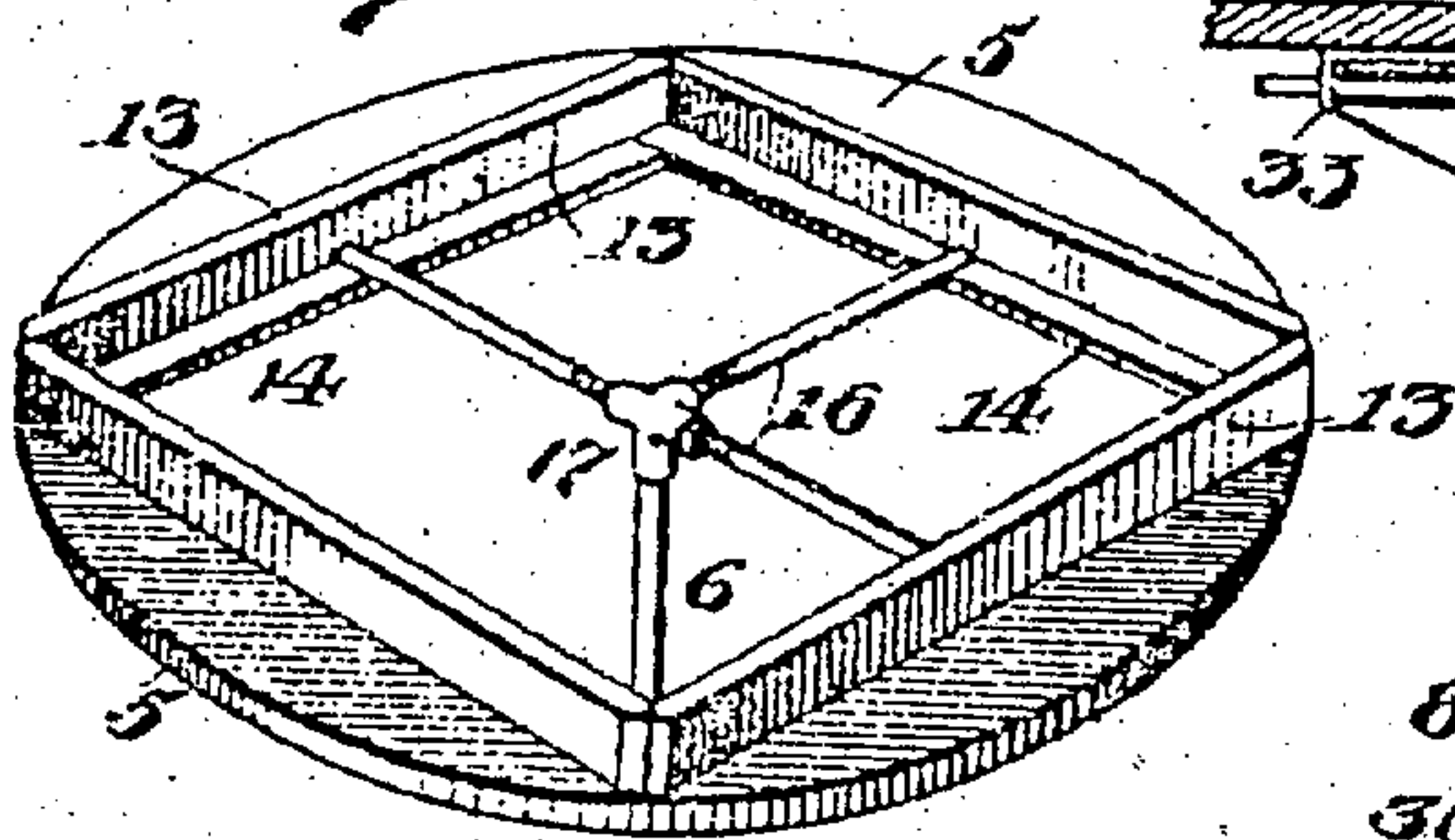
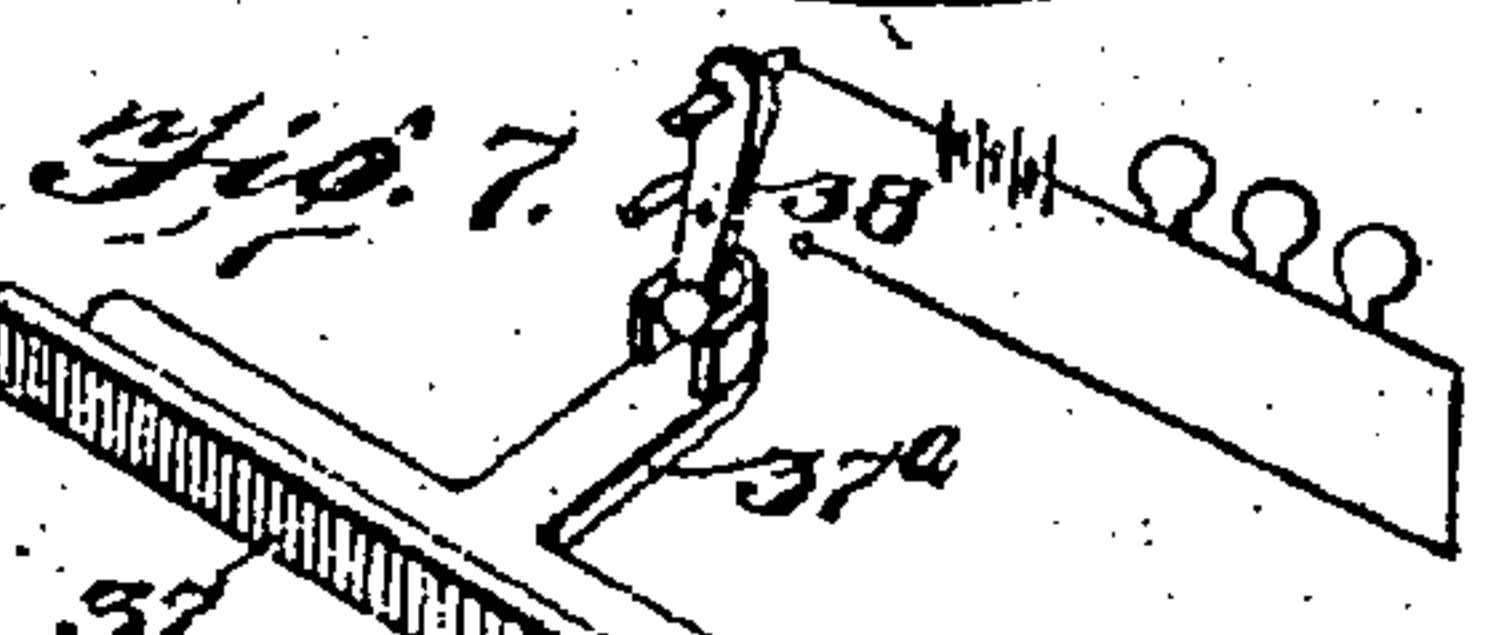
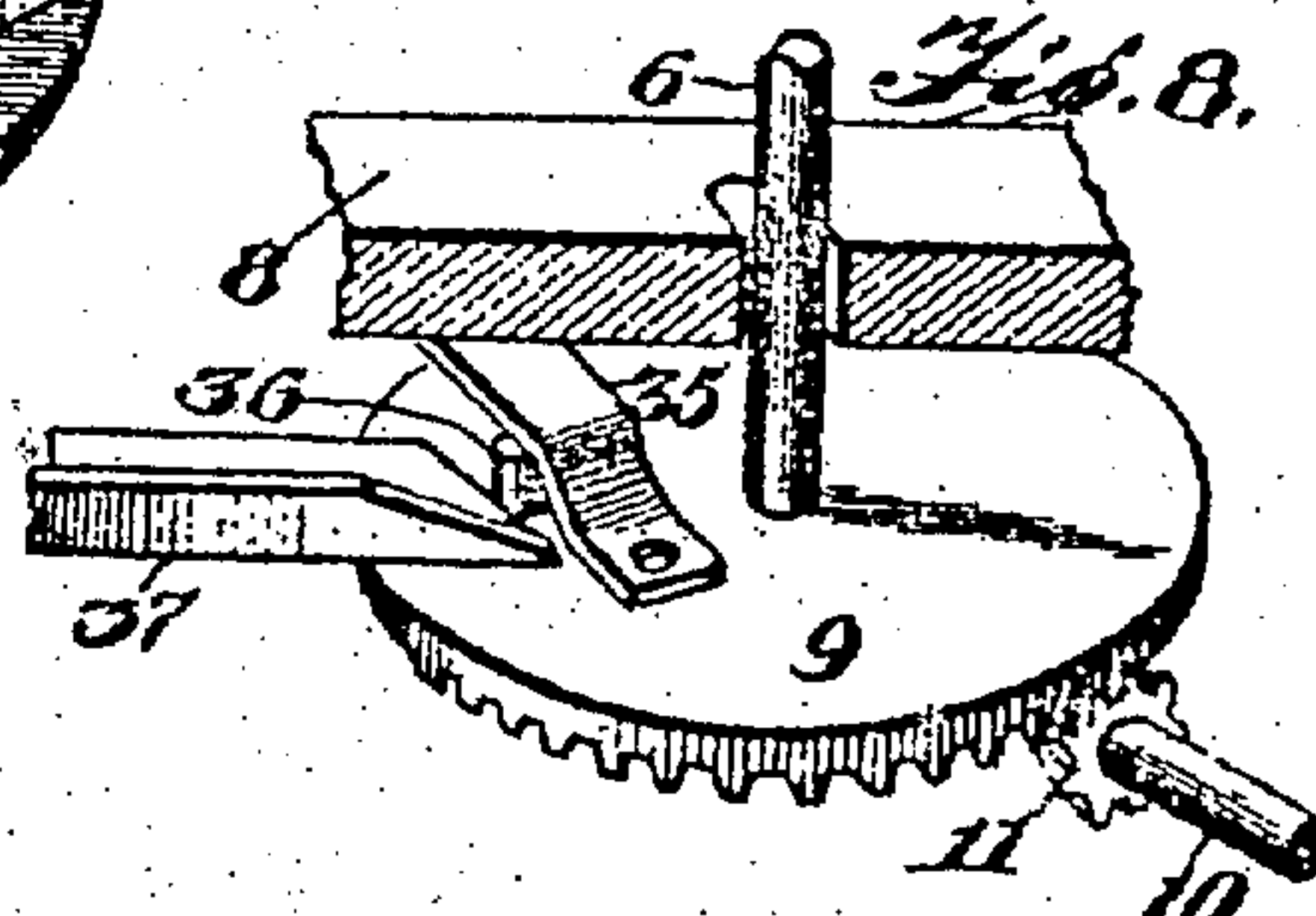


Fig. 8.



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UNITED STATES PATENT OFFICE.

CHARLES MILTON REED, OF MOUNTAIN VIEW, OKLAHOMA TERRITORY.

EGG-TESTER.

No. 880,495.

Specification of Letters Patent.

Patented July 16, 1907. -

Application filed May 21, 1906. Serial No. 917,980.

To all whom it may concern:

Be it known that I, CHARLES MILTON REED, a citizen of the United States, and a resident of Mountain View, in the county of Kiowa and Territory of Oklahoma, have invented an Improvement in Egg-Testers, of which the following is a specification.

My invention is an improved apparatus for testing eggs and handling them during the testing operation so that the latter may be effected with great rapidity.

The details of construction, arrangement, and combination of parts are as hereinafter described, and illustrated in the accompanying drawings, in which—

Figure 1 is in part a side view and in part a vertical section of my improved egg-tester. Fig. 2 is a plan view of the same. Fig. 3 is a plan view with the hinged cover of the casing, or cylindrical body, of the tester raised to vertical position. Fig. 4 is a horizontal section on the line 4—4 of Fig. 1. Fig. 5 is a perspective view of the rotary frame, or support, upon which the egg-holder proper is to be placed when eggs are tested. Fig. 6 is a sectional detail view illustrating the egg-marking device. Fig. 7 is a perspective view illustrating the electric switch by which the lights are turned on or shut off. Fig. 8 is a perspective and in part sectional view illustrating the means for locking the revolving support for an egg-holder and releasing the same.

As shown in Fig. 1, the vertical casing or body 1 of the egg-tester is cylindrical, and in practice it is constructed of sheet metal, preferably galvanized iron. The top 2 of the casing, see also Fig. 2, is hinged at one side and thus adapted to be raised to vertical position as shown in Fig. 3, or thrown further back, as required for introduction and removal of the eggs. A sight-hole 3, provided with a guard 4, is arranged in the cover 2 for inspection of the eggs. A horizontal circular support 5—see Fig. 5—is provided in the casing 1 for an egg holder. The part 5 is in turn supported upon a vertical shaft 6, which is stepped on a bracket or other suitable support 7, the same passing immediately through a bearing provided by a cross bar 8 and partition 5*. The latter is fixed in the center of the casing 1 and provided with an oval slot which is in line with the inspection opening 3 and the lamps arranged below. Thus the partition cuts off the upward passage of light rays, save through the said slot. The table 5 revolves on its partition and thus carries the eggs successively over the slot therein. A bevel gear 9 is fixed on the lower portion of the shaft 6 and is rotated by a crank shaft 10 having a bevel pinion 11 that engages the wheel 9. The crank 12 is exterior to the casing, so that it may be conveniently operated. Upon the table 5 is supported a rectangular frame 13, and, as shown in Fig. 5, a ledge 14 is provided within the said frame for supporting the egg-holder 15, shown in Fig. 3. The sides of the frame 13 are connected by

rods 16 that screw into a central bearing 17, and the latter is fixed on the vertical shaft 6. It will be seen that the space between the edges of the ledge 14 serve for the upward passage of light from electric lamps 60 located below in a box 19 containing a battery. The box with battery and lamps attached is one sold by dealers in electrical goods and may be set in place in my apparatus without change of any of its parts. It is provided on the side with a switch lever which is connected with other switching apparatus that will be presently described.

I employ in connection with this invention an egg holder and lifter for which I propose to make a separate application for patent. It comprises a frame 15 that is open on one side and provided with a series of crank shaped bars and a lifting handle or bail 28. This device is adapted to be inserted beneath a layer of eggs and then to be lifted and set on the support 5 within the rectangular frame 13. When eggs have been thus placed in this testing apparatus, the hinged top 2 of the casing is closed, and the apparatus is ready for operation. Upon revolving the crank 12, the support 5 with the eggs held on the skeleton lifter, will be rotated also, and thus all the eggs will come successively between the eye of the observer at the hole 23 in the cover and the lights below. The rays from the latter are prevented from scattering too much, by a sheet metal guide 18 attached to the top of the box 19 and flaring outward therefrom. An unsound egg will be instantly recognized by its obstruction of the light, and in such case it will be marked for selection and removal. For this purpose, I employ a marking device 29 whose arrangement is shown in Figs. 1, 2, 3 and 6, it being slidable in a holder 30, both of which project through an opening 31 in the cover 2. A swinging support 32 is provided for these, the same consisting of a sheet metal holder hinged to the under side of the cover at 33. A spiral spring 34 is also provided within the cylindrical portion of the holder 32, and is so applied as to normally retract the pencil or other marker 29; but, upon applying pressure to the upper end of the latter, the tension of the spring is overcome and the marker proper is projected downward as required to bring it into contact with that one of the eggs which is in its range. When all the eggs have been inspected, the cover 2 is opened and swung back, and the unsound eggs, indicated by the marks, are removed by a wire forceps, or other preferred means. The lifter is then removed by means of its bail 28. By this means the tested and sound eggs may be quickly removed from the tester proper and transferred to an empty filler and thus the lifter is left free for renewing the testing operation above described.

I provide an automatic stop for indicating when a complete rotation of the support 5 has been effected and the same consist of a plate spring 35 (see Figs. 1

and 8) having a hole in its free end which is adapted to receive and thus engage a pin 36 set in the upper side of the bevel wheel 9. The spring is attached to the under side of the cross bar 8 and its free end projects downward and practically bears upon the upper surface of the gear 9 and in the path of the pin 36. It will be understood that this engagement and locking of the gear 9, take place at every complete revolution of the latter. The gear 9 and therefore the revolving support 5 are locked at the time the eggs are deposited in the tester. Therefore, before the rotation of the said support can begin, the lock must be released, and for this purpose I provide a sliding bar 37, see especially Fig. 1, whose inner end is beveled and adapted to pass underneath the spring 35 so as to raise it far enough to disengage it from the stud or pin 36, which being done the gear and support may be rotated as required. The same bar 37 also serves as a means for operating the switch lever 38 controlling the circuit of the battery, by which the electric lights arranged within the box or casing 19 are lighted or turned off. The switch lever 38 is pivoted on one side of the box 19 and suitably connected with the battery and its lower or free end is loosely connected with an arm 37^a of the bar 37 so that the switch lever will be shifted according as the bar is pushed in or drawn out. When pushed in to raise and unlock the spring catch, the switch lever is so operated as to close the circuit through the battery and thereby turn on the lamps. The electric circuit is indicated diagrammatically in Fig. 7. By this means, that is to say, by a single sliding bar, I release the lock of the rotatable table and at the same time turn on the light required for the inspection.

35 What I claim is—

1. The improved egg-tester comprising a casing provided with an inspection opening, a revolving part or frame arranged therein and adapted for supporting an egg holder, means for rotating said frame, the latter having an open central portion, an apertured horizontal partition fixed in the casing electric lights arranged below the said partition, a battery connected therewith and provided with a switch for opening and closing the circuit, and means for operating said switch, substantially as described.

2. The improved egg-tester comprising a casing having an inspection opening in its top portion, a rotatable support, means adapted for rotating said support, a spring lock by which the rotation is automatically arrested, a horizontal apertured partition arranged in the casing, an electric light located below the partition, a battery con-

nected therewith and provided with a switch for opening and closing the circuit, and a device adapted for manual control, for operating said switch and releasing the afore-said lock, substantially as described.

3. The improved egg-tester comprising a casing having an inspection opening in the top portion, a horizontal apertured partition arranged within the casing, a rotatable egg-carrier arranged above the said partition, means for illuminating the chamber below the partition, and a marking device supported from the top of the casing and adapted to be operated for marking unsound eggs as they pass under the inspection opening, substantially as described.

4. The improved egg-tester comprising a casing having an inspection opening in the top portion, a horizontal apertured partition arranged within the casing, a rotatable egg-carrier arranged above the partition, means for illuminating the chamber below the said partition, and a marking device suspended from the top of the casing, the same comprising a holder which is hinged and adapted to swing, and a guide and marking device proper arranged therein and projecting above the top of the casing so that it may be conveniently operated in the manner described.

5. In an egg-tester, the combination with a casing having a top portion provided with an inspection opening and a rotatable frame for supporting an egg carrier, a horizontal apertured partition arranged beneath the egg-carrier of a marking device which is hinged to the top and thus adapted to swing laterally below the same, the marker proper being spring-supported in the body of the device and thus normally held retracted, substantially as described.

6. An improved egg-tester comprising a casing having an inspection opening in the top, a rotatable egg-support comprising a rectangular frame, the space enclosed by it being open, a horizontal apertured partition arranged in the casing below such support, and lights for illuminating the eggs, said lights being arranged below the support.

7. In an egg-tester, the combination with the casing having a top inspection opening, a rotatable egg support having an open central portion, a horizontal apertured partition arranged below said support, a vertical shaft supporting the same, gearing for rotating said shaft, an illuminating device located below the apertured partition, and a movable device for turning on and shutting off the light, as described.

8. In an egg-tester, the combination, with the casing having a top inspection opening, a rotatable support having an open central portion and a horizontal apertured partition arranged below said support, of a shaft on which the said support is mounted and gearing for rotating the shaft, an electric light located below the support and the lamps proper arranged below the table but visible through the same, means for turning on and off the said lamps, and means for locking and releasing the support, substantially as described.

CHARLES MILTON REED.

Witnesses:

HORACE CRIDER,
CLAUDE MILLER.