

W. M. LININGER.
EGG TRAY FOR INCUBATORS.
APPLICATION FILED DEC. 7, 1909.

989,912.

Patented Apr. 18, 1911

2 SHEETS—SHEET 1.

Fig. 1.

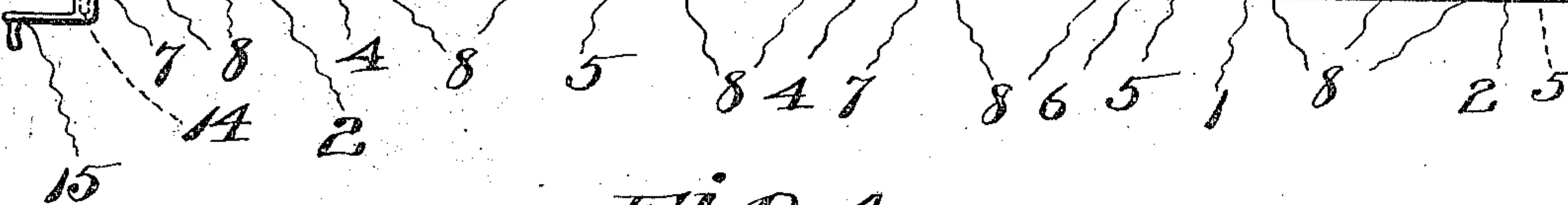
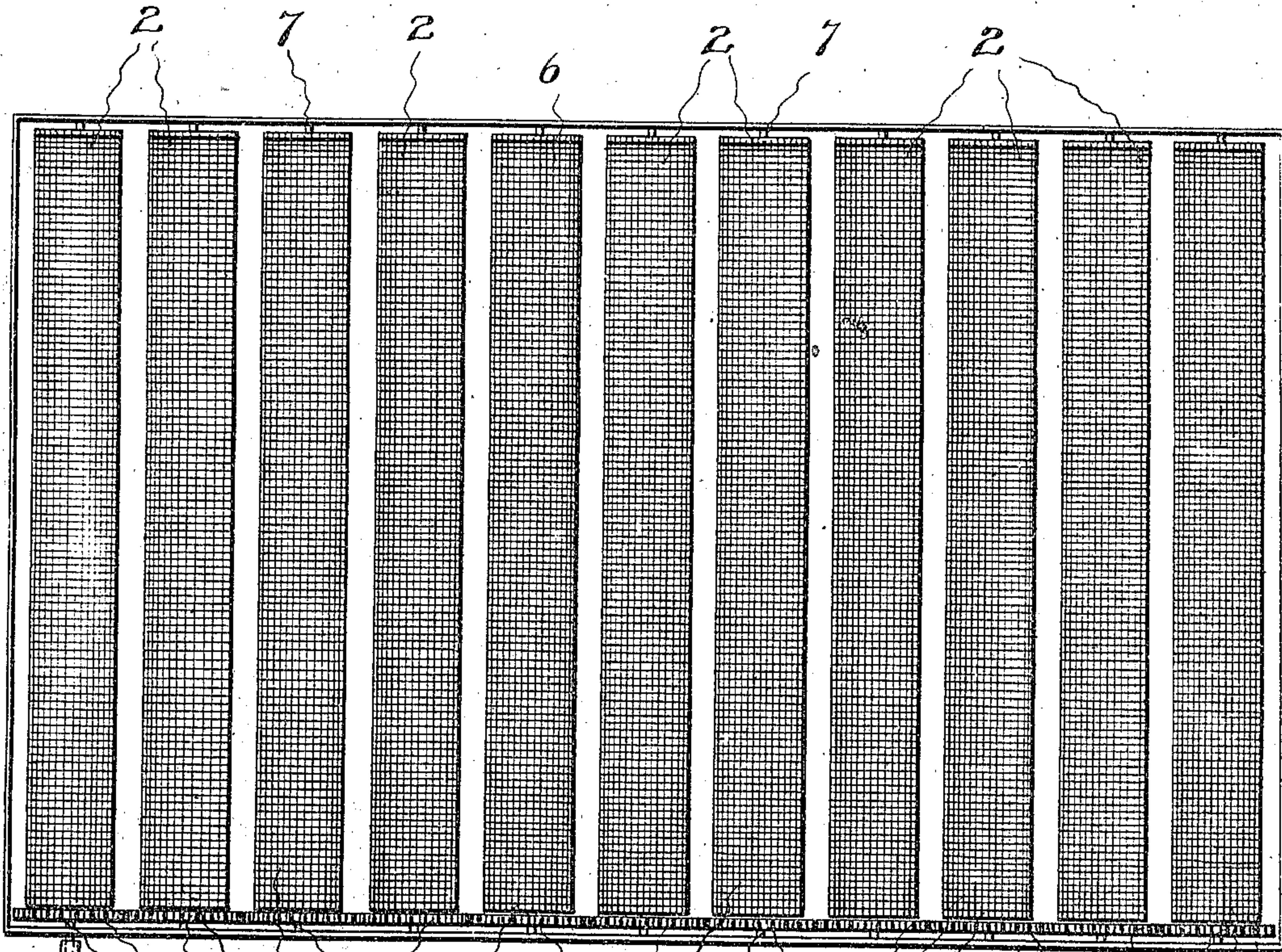
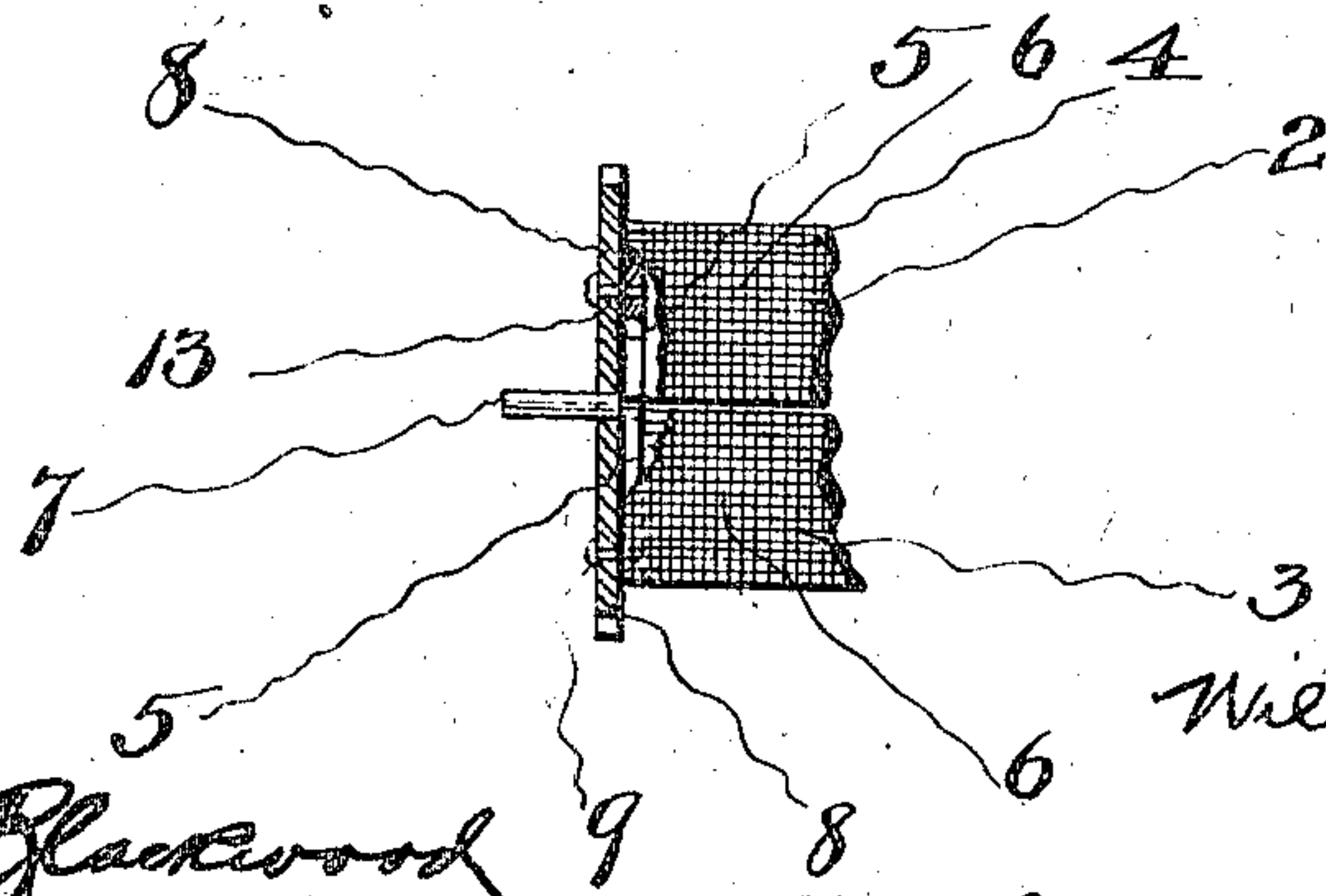


Fig. 4.



Witnesses
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2 SHEETS—SHEET 2.

Fig. 2.

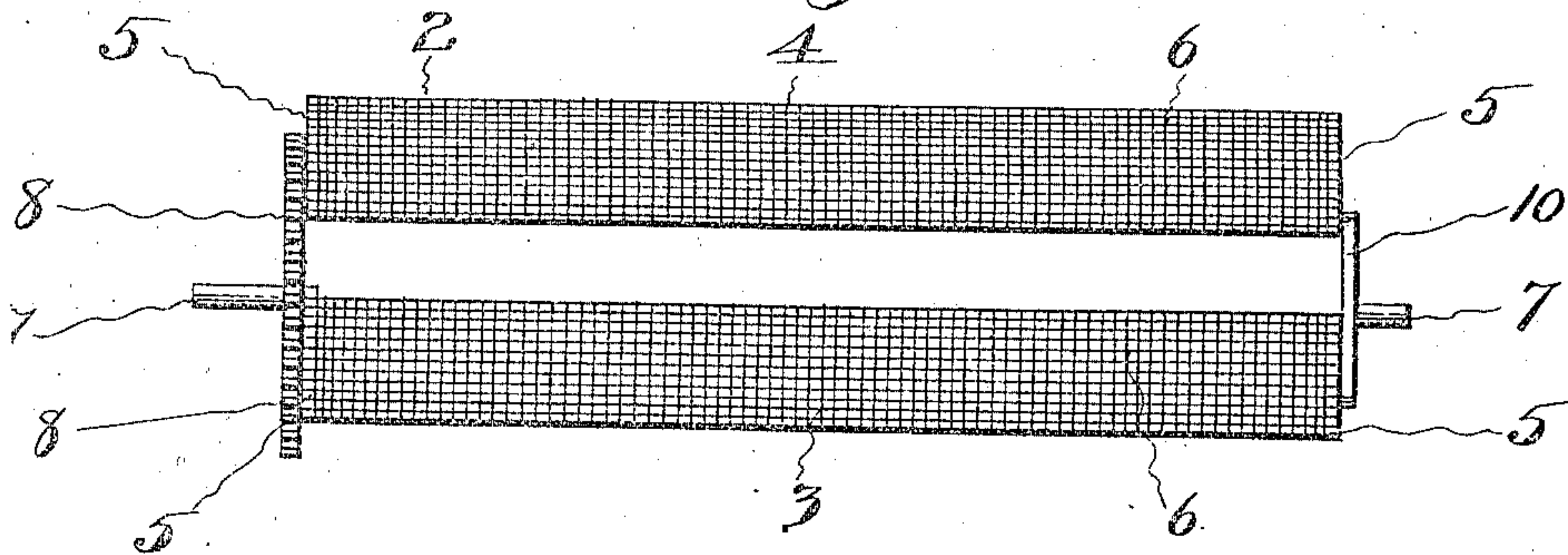


Fig. 3.

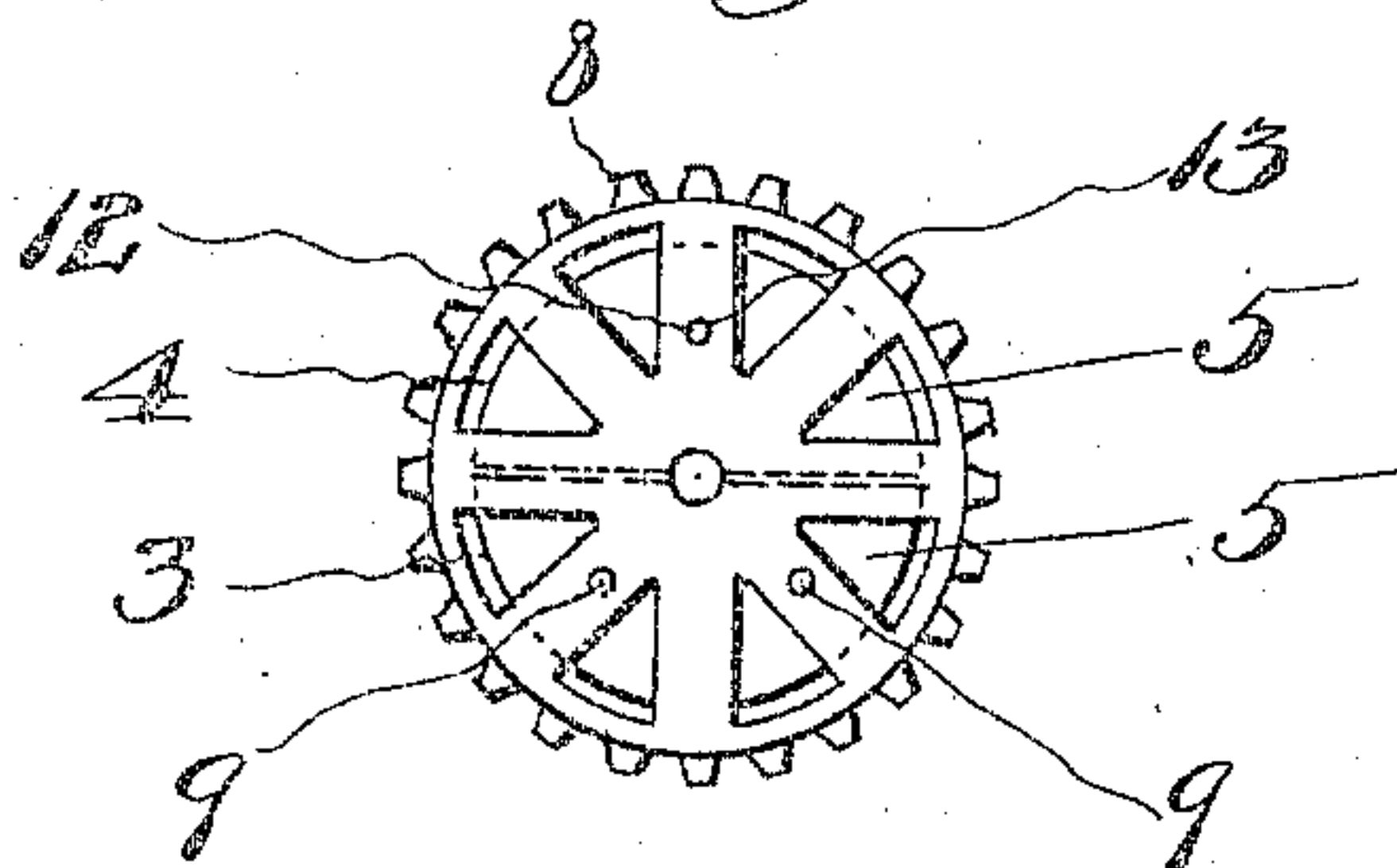


Fig. 5.

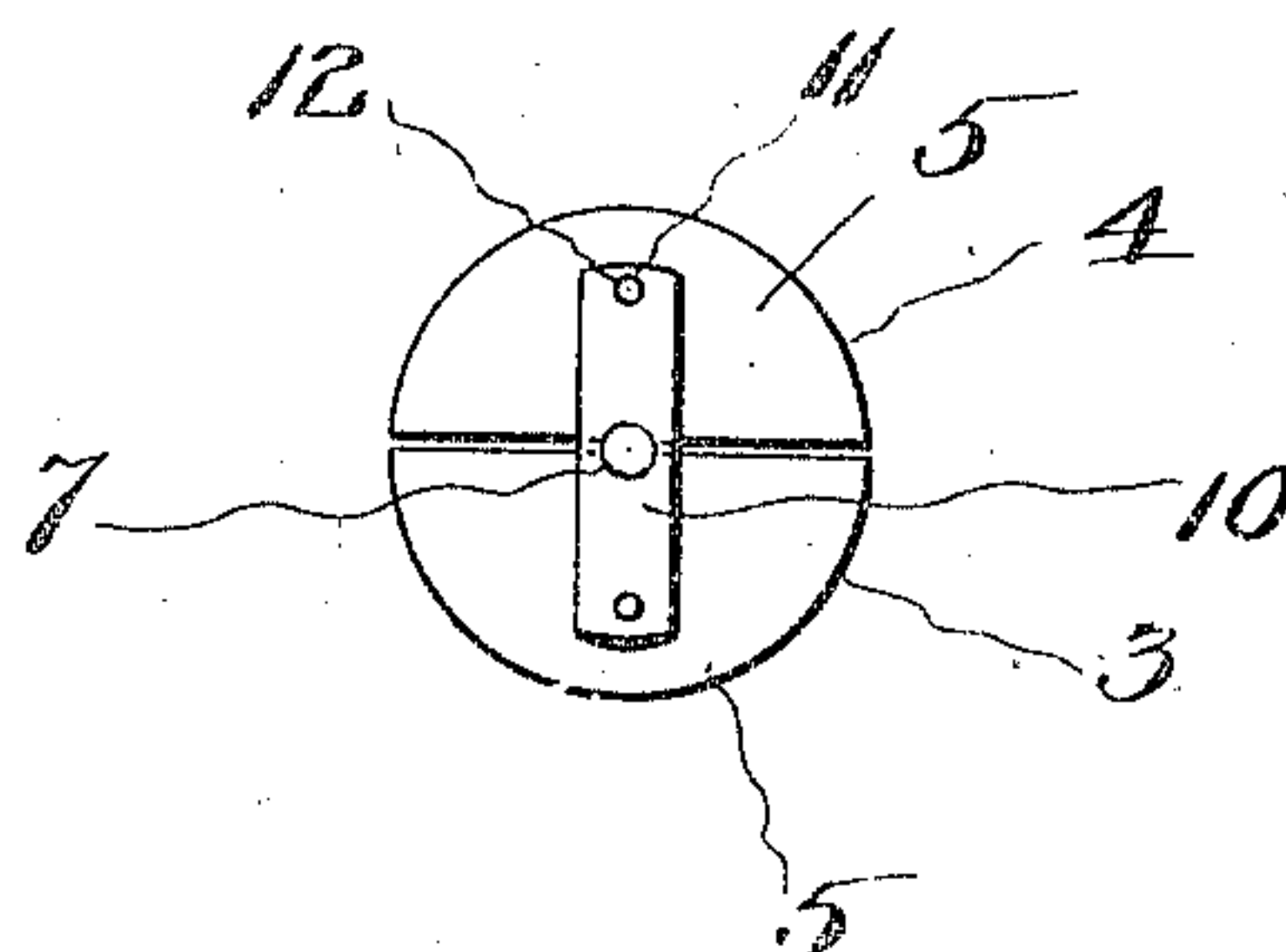
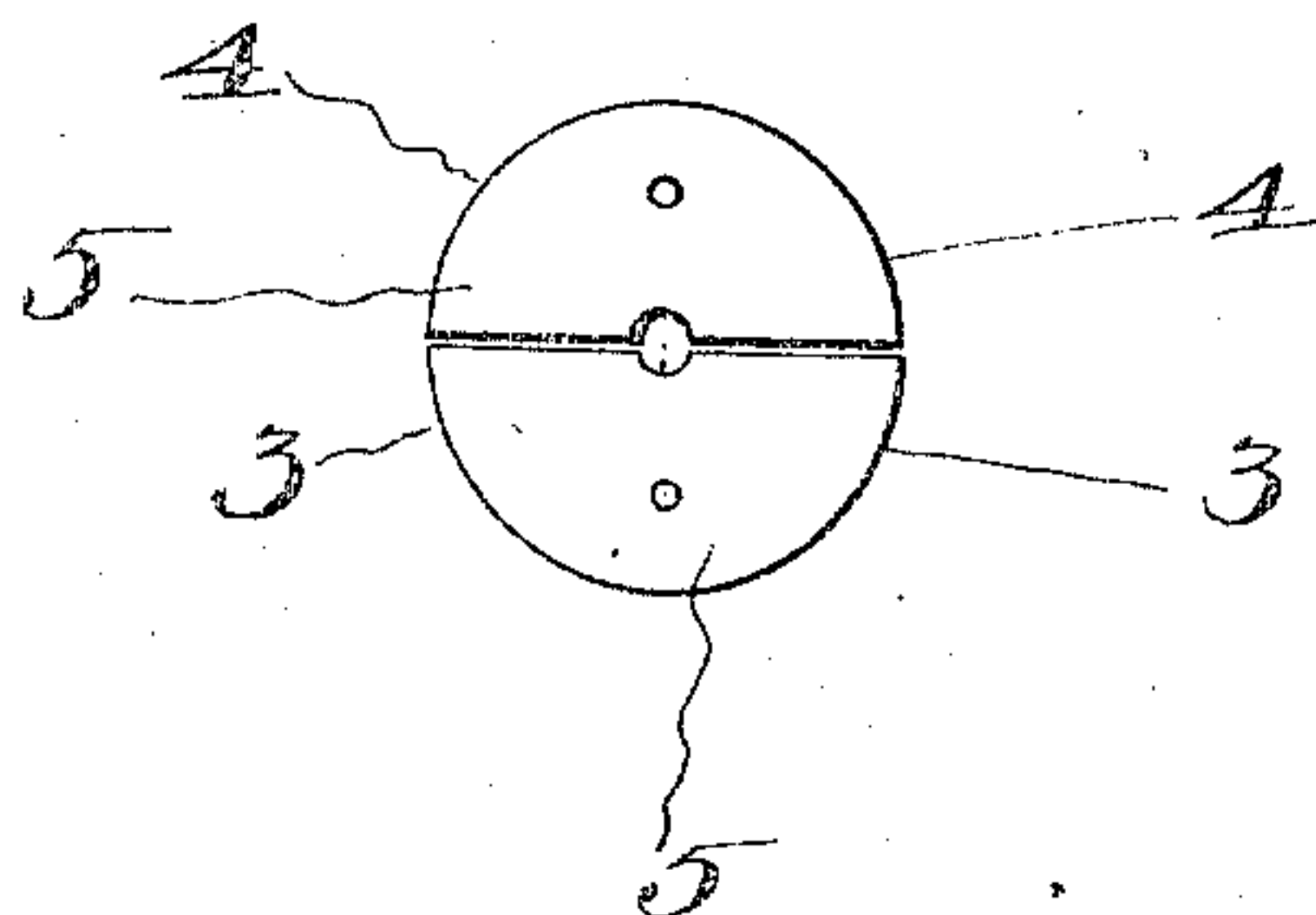


Fig. 6.



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UNITED STATES PATENT OFFICE.

WILBER M. LININGER, OF HINTON, OKLAHOMA.

EGG-TRAY FOR INCUBATORS.

989,912.

Specification of Letters Patent.

Patented Apr. 18, 1911.

Application filed December 7, 1909. Serial No. 531,834.

To all whom it may concern:

Be it known that I, WILBER M. LININGER, a citizen of the United States, and a resident of Hinton, in the county of Caddo and State of Oklahoma, have invented certain new and useful Improvements in Egg-Trays for Incubators, of which the following is a full and complete specification.

My invention relates to egg-trays for incubators, and consists of the construction of a tray having a series of tubes made of foraminous material and rotatably mounted in an open frame adapted to be placed in an incubator, said tubes being made in two separable sections so as to be capable of being opened to receive the eggs and to allow the escape of the hatched chickens; and it is also provided with meshing gear-wheels, so that the several tubes may be simultaneously rotated.

My invention will be described in detail hereinafter, and illustrated in the accompanying drawings, in which—

Figure 1 is a top plan view of an egg-tray embodying my improvements; Fig. 2, a side view of one of the egg-tubes showing the top section lifted so that the tube may be loaded; Fig. 3, a side view of one of the gear-wheels and the end of the secured portion of the egg-tube in position; Fig. 4, a fragmental view of one of the tubes partly broken away and showing the gear-wheel in section; and Fig. 5, a detail view of the rear end of an egg-tube; and Fig. 6, a detail view of the front end of the egg-tube with the gear-wheel removed.

In the drawings similar reference characters indicate corresponding parts throughout the several views.

In artificial incubation of eggs it has been found that the best results are obtained when the eggs are turned occasionally so as to prevent the fetus from settling to one side of the shell and perhaps adhering thereto. This has been done by hand, but it is a tedious proceeding where there are large settings of eggs operated, as well as endangering spoiling the eggs by handling.

In my invention I provide means for simultaneously turning all the eggs contained in a tray; and it consists of an open frame 1, having tubes 2 rotatably mounted therein, each of said tubes consisting of two semi-cylindrical portions 3 and 4, having semi-circular end pieces 5 at their ends, to which

are secured a covering of wire-gauze fabric or other suitable stiff foraminous material 6. The part 3, which for convenience will be called the lower part, has stub-shafts 7 extending from the end pieces 5.

8 indicates gear-wheels secured to the stub-shafts 7 at one end of the tubes 2 and secured to the end pieces 5 of the lower portion of the tube by means of rivets or similar fastenings 9.

10 indicates a strip secured to the end piece of each lower portion 3 at the end of the tube farthest removed from the gear-wheel 8 and projecting above the straight edge of the end piece and provided with a hole 11. The upper portions 4 of the tubes 2 are removably and replaceably secured to the gear-wheels 8 and strips 10 by means of pins 12, engaging holes 13 in the gear-wheels and holes 11 in the strips. One of the stub-shafts 7 is extended outside of frame 1, as shown at 14, and formed to receive a crank-handle 15 for rotating said shaft.

In operation the eggs are placed in the tubes when the upper portions are removed, and after such portions are replaced the eggs may be rotated as often as desired to turn the eggs during the process of incubation. After the eighteenth day the tubes are rotated so that the portions secured to the gear-wheels are in their lowermost position, and the top or removable portions are removed so that the eggs rest in the trays thus formed. Then as fast as the chicks are hatched out they may leave the tray.

By forming the tubes of wire-gauze or other foraminous material the heat in the incubator-chamber containing the tray reaches all parts of the eggs evenly.

Having thus described my invention, what I claim is—

In an incubating device, a frame, a plurality of egg-tubes each consisting of two semi-cylindrical longitudinal sections having semi-circular end pieces and foraminous material secured to said end pieces, the end pieces on one set of sections having stub-shafts projecting therefrom and journaled in the frame, gear-wheels secured to one end of the journaled sections and meshing with one another, strips secured to the other end of the journaled sections, said gear-wheels and strips formed with holes, the ends of the other sections formed with holes that register with the holes in the gear-

wheels and strips, pins to engage said holes
so that the last-mentioned sections may be
removably and replaceably secured to the
journaled sections, one of the stub-shafts ex-
5 tended outside of the frame aforesaid, and a
crank-handle secured to the said extended
shaft, substantially as shown and described.

In witness whereof I have hereunto set my
hand in presence of two subscribing wit-
nesses.

WILBER M. LININGER.

Witnesses:

J. M. MILLER,

CHAS. NOWKA.