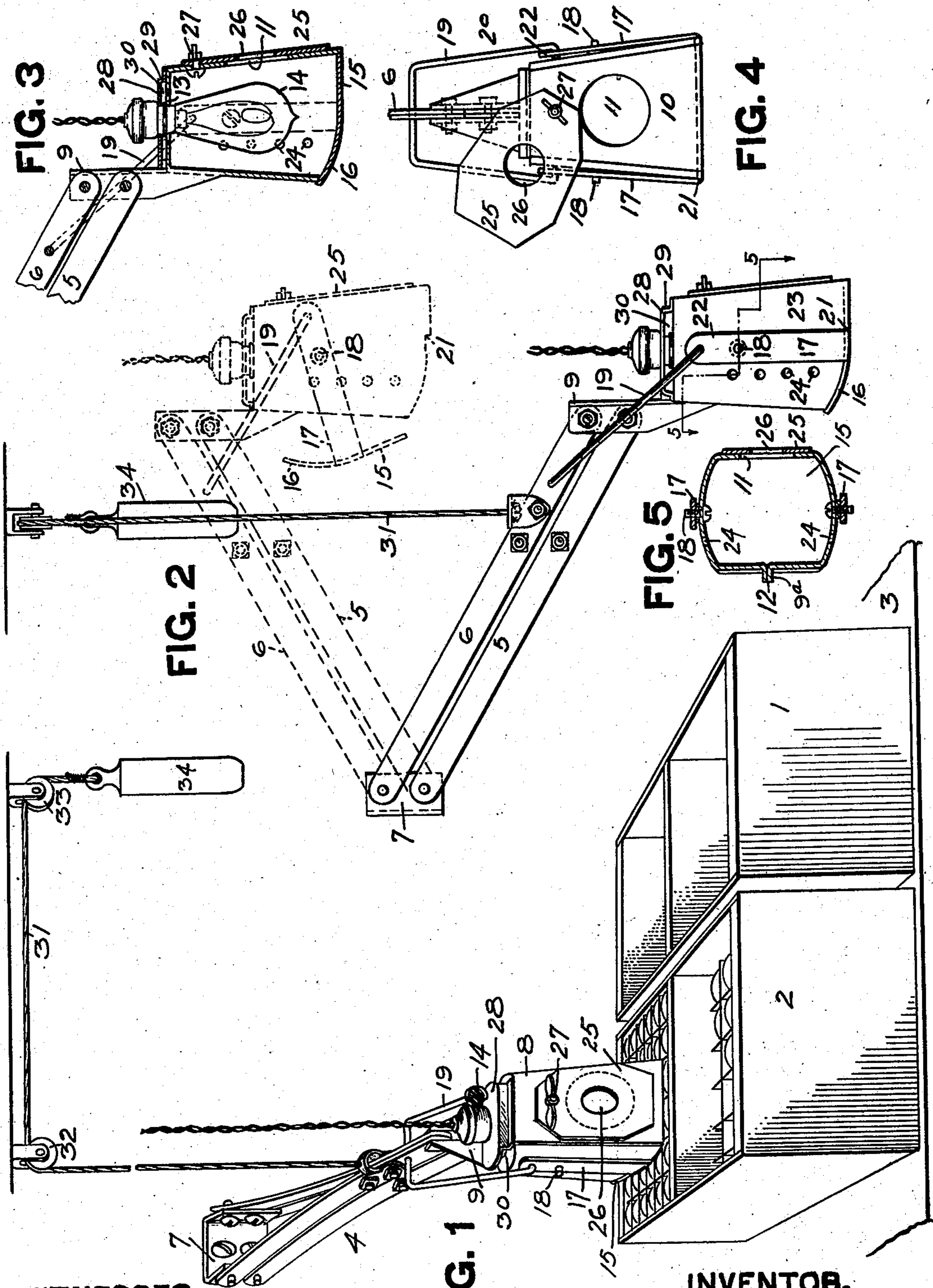


**No. 881,304.**

PATENTED MAR. 10, 1908.

**E. CULVER.**  
**EGG TESTER.**

APPLICATION FILED NOV. 16, 1906.



**WITNESSES.**

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# UNITED STATES PATENT OFFICE.

EUGENE CULVER, OF PITTSBURG, PENNSYLVANIA.

## EGG-TESTER.

No. 881,304.

Specification of Letters Patent.

Patented March 10, 1908.

Application filed November 16, 1906. Serial No. 343,736.

*To all whom it may concern:*

Be it known that I, EUGENE CULVER, a resident of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Egg-Testers; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to egg testers and to the brackets and shades included in the construction of the same and used for like purposes.

The object of testing eggs is to determine as to whether they are fresh, stale or bad, as to whether they have been held in cold storage, or are newly laid. If held in cold storage, as to whether they have been subjected to heat, moisture or other damaging conditions either before or after being stored.

The customary way to test eggs is to hold them before a bright light in a dark room, the egg being in a measure transparent, an experienced operator is thus enabled to determine the quality and character of the egg as the rays of light pass through the egg body.

Eggs are usually shipped and handled in cases. The operator opens the case, takes the eggs out and passes them before the light, sorting out the stale and bad, placing the assorted eggs in other cases, one of which is provided for each grade as selects, firsts, seconds and bad, this process being known as "candling" the eggs. It is desirable in so candling the eggs to have the light so suspended that it may be lowered over the case in proper position for candling and may be raised out of the way to permit the operator to open or to renail the case and for the handling of the case upon the table or stand. During the candling of the eggs it is necessary that the light shall be properly inclosed excepting one port in the front of the shade to permit the concentrated rays of light to pass through the eggs when held in front of the same. It is also desirable that the shade shall be so arranged as to open and give light for the opening or renailing of the cases.

The present invention provides a bracket and shade by which the light can be entirely inclosed during the candling, but by which the base of the shade can be automatically opened to give light for nailing when the lamp is raised out of the way.

To these ends the invention consists in a bracket supporting the lamp and shade, a

bottom shutter and connections between the shutter and the bracket for closing and opening the shutter as the shade with its lamp is lowered or raised. In its preferred form the bracket is connected to the wall and has two parallel hinged arms one above and the other at the end of which the shade is supported. The shutter is pivoted or swung upon the shade and a link arm is connected both to the shutter and to the upper bracket so as to swing the shutter across the bottom of the shade when the shade is lowered and swing it away from the bottom thereof when the shade is raised.

In the accompanying drawings Figure 1 is a perspective view illustrating the egg cases on the stand and showing the shade in its lowered position ready for candling; Fig. 2 is a side view showing the shade and bracket in the two different positions; Fig. 3 is a side view partly broken away, showing the means provided for ventilating the shade so as to prevent over-heating; Fig. 4 is a face view illustrating the adjustable plate for changing the size of the candling port of the shade; and Fig. 5 is a cross section on the line 5—5 Fig. 2.

The egg cases 1, 2, are supported upon a suitable stand or table 3, the custom being to provide two or more such cases, one the case containing the eggs to be examined, and the other the case to receive the fresh eggs. On a suitable support is the bracket 4 which is shown as formed of two vertically parallel arms 5, 6, hinged to a wall support 7 and extending over the table 3, the shade 8 having the upper extension 9 which is pivoted to both arms 5 and 6, so that during the swinging of the bracket, the shade is always held in vertical position. The shade 8 is made of suitable sheet metal, being preferably bent from a single sheet so as to provide the flat front face 10 in which is formed the testing port 11, the shade being bent of suitable size and united by a joint 12, the extension 9 being formed of lips 9<sup>a</sup> bent from the shade body and extending above the same. At the upper end of this shade is formed an opening 13, through which the lamp 14 passes, and the lower end of the shade is open as shown. The shutter 15 is bent to shape to correspond to the base of the shade, the rear portion of it being curved as shown at 16 in order to permit the swinging of the shutter over the base of the shade which is made to correspond to such curved

portion. The shutter has the arms 17 extending up along the side of the shade and pivoted at 18 a short distance below the upper ends of the arms. Connected to the upper ends 22 of these arms 17 and to one of the brackets 5 or 6 are the link arms 19, shown as formed of a bent wire extending through the upper arm 6 of the bracket and connected to each shutter arm 17. The lamp 14 is suspended to a flexible cord and rests within the shade 8, and when the shade is in lowest position, through the connection between the bracket and the arms of the shutter the shutter is drawn across the bottom opening of the shade, closing the same as illustrated in Fig. 1, and in full lines in Fig. 2, the shutter arms 8 striking against stops 21 on the shade body. When the shade is raised, through the upward swinging of the bracket the upper ends 22 of the shutter arms 17 are pushed forward, so drawing the shutter backward and away from the base of the shade and permitting the light to shine downwardly upon the top of the cases, the device thus providing for the closing of the base of the shade when the lamp is in operative position for egg testing, so that there is no light shining from the base of the shade to trouble the eyes of the operator, but automatically providing for the opening of the base of the shade when the shade is raised to give full light for the operations of opening the egg case, renailing and adjusting the same.

To properly balance the bracket and shade and hold it in the different desired positions I provide a cord 31 passing over suitable pulleys 32, 33, and having a suitable weight 34 at the end thereof. In this operation of egg testing, while it is desirable that the shade shall be closed at the bottom, so preventing any strong light interfering with the eyes of the operator, it is also desirable to have sufficient light playing over the cases in which the assorted eggs are placed to enable the operator to place the assorted eggs in said cases, and for that purpose I have formed in the side walls 23 of the case a series of small light ports 24 adapted to throw small streams of light at the side of the shade and so provide sufficient light for placing the assorted eggs in the cases.

In the operation of egg testing where the eggs are being graded, such as into selects, firsts, seconds, and bad, it is necessary to examine each particular egg closely, and therefore to have a smaller testing port, so as to give a stronger and more concentrated light, than where the eggs are being only examined to separate the bad eggs from the good. For this purpose I form the testing port 11 of comparatively large size, so that the operator can hold several eggs in front of it at the same time, the custom being for him to take three eggs in each hand, and I provide an ad-

justable testing plate 25 upon the front of the case having a smaller port 26 of proper size for grading the eggs, say, of proper size for the placing of a single egg in front of the same, this plate 25 being secured to the shade by a set screw 27. During the operation of testing the heat of the lamp within the shade is liable to become excessive unless it is properly ventilated, as the bottom shutter 15 prevents any passage of air up within the shade. To prevent this I provide a top ventilator to the shade, which permits the air to enter within the port 11 and to rise around the lamp and escape at the top thereof. For this purpose I make the top opening of the shade 13 sufficiently large to permit of such ventilation and provide a supplemental shade plate 28 extending over this top opening and forming a rest for the lamp switch, as shown particularly in Fig. 3, this supplemental shade plate being closed at the front as at 29 and having ventilating openings 30 at the sides and rear, so that the air can rise around the lamp and pass out above without any light being reflected forward at the top of the shade to interfere with the eyes of the operator.

What I claim is:

1. An egg tester comprising a lamp and a shade having a testing port and a bottom shutter, said tester being adapted to be raised and lowered, and means for automatically opening and closing the shutter by the raising and lowering of the tester.
2. An egg tester comprising a lamp and shade having a testing port, a hinged arm supporting the tester, means for closing and opening the shade, and connections between the bracket and shade for closing and opening the shade as it is lowered and raised.
3. An egg tester comprising a lamp and a shade having a testing port, a hinged arm supporting the lamp and shade, a bottom shutter, and connections between the hinged arm and shutter for opening and closing the same as the tester is lowered and raised.
4. An egg tester comprising a lamp and shade having a testing port, two parallel hinged arms supporting the tester in vertical position, a bottom shutter pivoted to the shade, and a link connecting the shutter and one of the bracket arms.

5. An egg tester having a lamp and a shade having a testing port, a bracket formed of two hinged arms, the shade of the tester being supported in vertical position thereby, a bottom shutter having one or more arms pivoted on the shade, and a link connected to said shutter arm and to one of the bracket arms.

In testimony whereof, I the said EUGENE CULVER have hereunto set my hand.

EUGENE CULVER.

Witnesses:

ROBERT C. TOTTEN,  
JOHN F. WILL.