

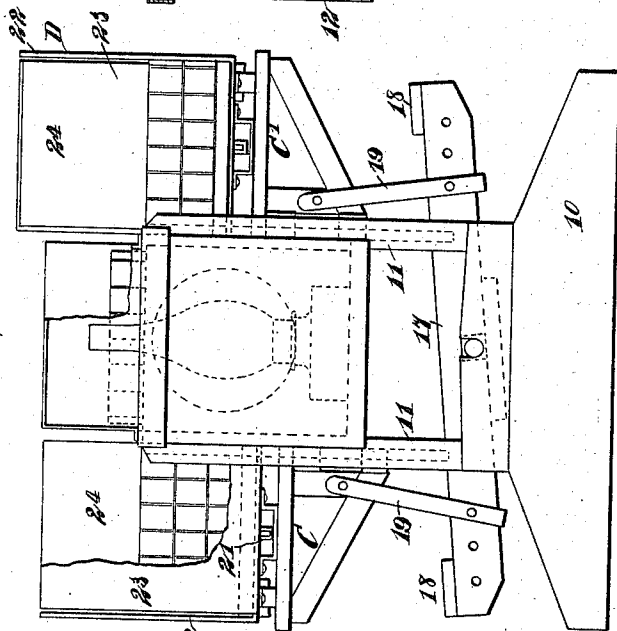
(No Model.)

H. F. WALTON.
EGG TESTER.

No. 577,633.

Patented Feb. 23, 1897.

Fig. 1.



WITNESSES:

Henry A. C. Kelly.
J. A. H. Ker.

Fig. 2.

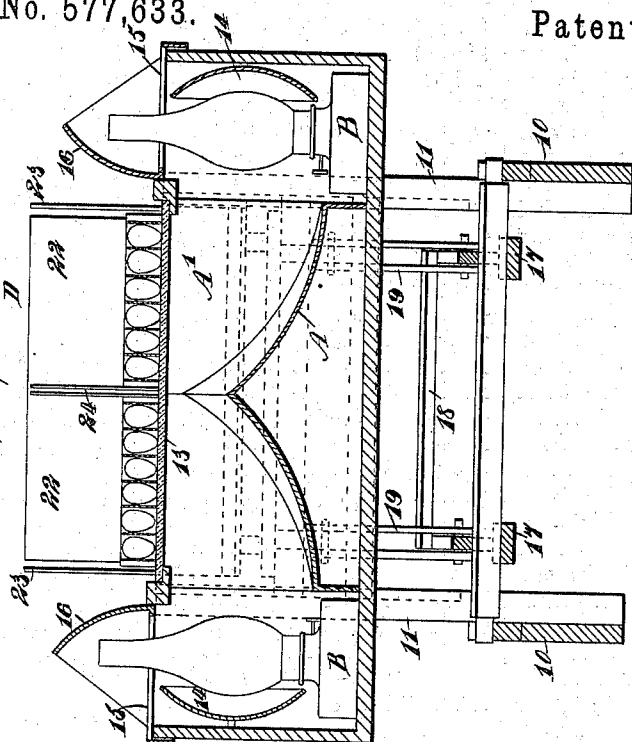
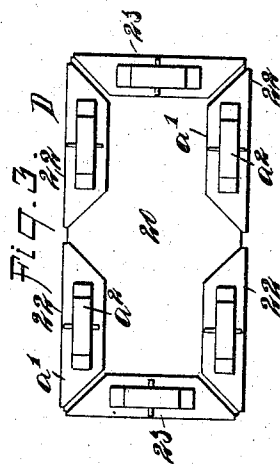


Fig. 3.



BY

INVENTOR
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ATTORNEYS.

Fig. 4.

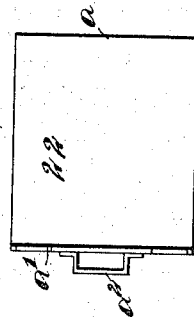


Fig. 5.

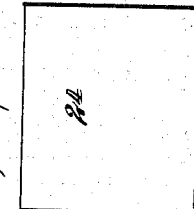


Fig. 6.



UNITED STATES PATENT OFFICE.

HENRY F. WALTON, OF FLANDREAU, SOUTH DAKOTA.

EGG-TESTER.

SPECIFICATION forming part of Letters Patent No. 577,633, dated February 23, 1897.

Application filed April 20, 1896. Serial No. 588,342. (No model.)

To all whom it may concern:

Be it known that I, HENRY F. WALTON, of Flandreau, in the county of Moody and State of South Dakota, have invented a new and Improved Egg-Examining Apparatus, of which the following is a full, clear, and exact description.

My invention relates to machines for examining eggs.

10 The object of the invention is to provide a means whereby the eggs may be transferred in bulk, namely, in their fillers, from the receptacle in which they are packed onto the testing-table, whereby one or more entire layers of eggs may be simultaneously tested, rendering the operation convenient, economic, and expeditious, since it is only necessary to remove the bad eggs from a large number under test and replace them with good eggs.

20 A further object of the invention is to provide for the tested layers of eggs being removed from the table and placed in the same case from which they were taken, the entire operation being accomplished with a minimum of breakage.

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.

30 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 an end view of the machine, parts being broken away. Fig. 2 is a longitudinal vertical section through the machine. Fig. 3 is a bottom plan view of one of the transfer-cases. Fig. 4 is a plan view of one section of the case. Fig. 5 is a side elevation of a partition used in connection with the transfer-case, and Fig. 6 is an edge view of the said partition.

45 In carrying out the invention two base-blocks 10 are employed, from each of which two uprights 11 are projected, and a box 12 is supported by the aforesaid uprights, the latter extending along the outer side faces of the box. The box 12 is preferably of sufficient length to extend beyond the ends of the base, and in the central portion of the box a reflector A is located upon the bottom, the said reflector being concaved from the center

of the box in direction of opposing ends, and at each end portion of the box a lamp B or its equivalent is located, whereby the light from the lamps striking the concaved reflector A will be thrown upward and distributed over the central upper surface of the box, which central upper surface consists of a pane of glass 13 or other transparent material, as shown in Fig. 2. Each lamp has a reflector 14 accompanying it, the lamp-reflectors being so arranged as to throw the light on the box-reflector A. The chimneys of the lamps extend up through suitable openings 15 in the top portion of the box, which is otherwise closed, and the openings are guarded by suitable hoods 16 to prevent the draft from interfering with the light.

Two tables C and C' are used in connection with the said box, one being at each side of the box, and these tables are held to slide in suitable grooves produced in the uprights 11 of the frame, and in each groove a rack is preferably located, the table having suitable pawls to engage with the rack, so that the tables may be raised or lowered a notch at a time.

The tables are mounted to move simultaneously in opposite directions by levers 17, centrally fulcrumed on the base of the frame, the levers extending beyond the uprights 11 and being connected to each other at their ends by cross-bars 18, so that the levers may be operated by foot-power from either end. The levers are connected near their ends with tables C and C' through the medium of links 19.

Two transverse boxes or racks D are used. Each transverse rack or box consists in a bottom 20, having staples 21, (see Fig. 1,) projecting downward from its under face, removable side sections 22, and removable end sections 23. The end and side sections of the rack each consist of a plate a , having a flange a' at one of its ends, which plate is apertured to receive one of the staples 21 of the bottom plate 20. Each flange is provided with a handle a^2 , located over the aperture therein. Fig. 3 shows the handles a^2 in bottom plan, and in this view the handles hide the apertures referred to. In Fig. 1 the handles are shown in elevation, and the staples 21 may be seen in the same position, the staples being passed in this latter view through the respective aper-

tures. In addition to the bottom, side, and end sections the rack is provided with two removable partitions 24. (Shown in Fig. 5.) These partitions may be constructed of sheet metal, and such also may be the construction of the rack.

In the operation of the machine the top is first removed from the case of eggs to be tested, after which two of the side sections 22 are secured to the bottom of a transfer-rack, the flanged portion of the side pieces engaging with the under surface of the bottom 20, and the side sections being held in position by keys passed through the corresponding staples 21 of the bottom plate 20. The side sections of the transfer-rack are then pushed downward into the egg-case between the filling and the side of the case until the bottom 20 of the rack is in close contact with the top layer of eggs. Prior to placing the rack on the egg-case, however, a partition 24 is passed down in the egg-case at each side of its central partition and parallel therewith. The remaining side pieces 22 are then pushed downward in the case of eggs and secured to the bottom, as are likewise the end pieces or sections 23 of the rack. The case and rack are then inverted, the rack standing upon its bottom, as shown in Fig. 1. The egg-case is then lifted from the rack, leaving the eggs and fillers undisturbed within the rack. The side sections of the rack are removed from one side of the rack, and the rack is placed upon the table C, (for example,) the open side of the rack facing the transparent plate 13 of the machine. The table C will at that time have been lowered a sufficient distance to bring the top layer in the rack level with the testing-table 13, and consequently the opposing table C' will have been proportionately elevated, so that the bottom of the rack D, placed on this movable table, will be level with the testing-table 13. The top layers of eggs are now simply slid from the transfer-rack in which they are contained over upon the testing-table, as shown in Fig. 2, and the eggs so placed on the testing-table may be viewed without removing them from the filling, and if any are bad they are removed and their places filled with others, and the layers are then carried over into the empty transfer-rack. The table C is then elevated, for example, one notch, or sufficiently to bring the next layer of eggs level with the testing-table, and the table C' will have been proportionately dropped, bringing the top of the layer of eggs in the rack supported by that table flush with the testing-table in order that the next layer tested may be received. After the contents of one case have been tested the transfer-rack receiving the tested eggs is placed in position, so that the case from which the eggs were removed may be again passed over the tested eggs. The case and the rack are then inverted, leaving the eggs in the position they first occupied in the case, and the transfer-rack is then removed from

the case and may then be placed in any case. Thus it will be understood that the operation may be expeditiously accomplished and without a liability of breaking the eggs. It will also be understood that reflectors A' are also placed in the box-body at each end of the bottom reflector.

When the tester is to be used in retail stores for testing eggs out of a basket or pail brought in by a farmer, for instance, the tester is made about one-half the size of that shown, being provided with a single lamp, adjustable table, and illuminating-surface, and the transfer-rack will be also of about one-half size, two of them when brought together being just received in an ordinary egg-case. In using the reduced size of machine a filler is placed upon a cardboard which is located upon the testing-table, and the eggs are taken from the basket until the filler is filled. The cardboard is then withdrawn and the eggs are candled, after which the filler and eggs are carried to the half transfer-rack. When two of such racks are filled, a case is placed over them and manipulated in the manner heretofore set forth.

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

1. In an egg-examining apparatus, the combination, with a box-body having a reflector in its bottom, the reflector tapering from a central point downwardly and outwardly in opposite directions, the box-body being further provided with spaces for lights at each side of the said reflector, of a transparent pane located over the reflector in the aforesaid box-body, a sliding table located at each side of the transparent testing-surface, a lever centrally fulcrumed, and a link connection between the ends of the lever and the said tables, whereby one table will be moved upwardly when the other table is carried downwardly, as set forth.

2. In an egg-examining apparatus, the combination of a box, a reflector therein, the reflector consisting of two upwardly and inwardly extended surfaces, a transparent plate forming the top of the box, a light-holder at each side of and communicating with the interior of the box, a vertically-movable support at each side of the box, a lever fulcrumed below the box, and links respectively connecting the ends of the lever with the supports, substantially as described.

3. In an egg-examining apparatus, a box having a transparent top and having means for holding a light, a lever fulcrumed beneath the box, a support slidably mounted at each side of the box, and a link pivotally connecting the supports with the respective ends of the lever, substantially as described.

4. In an egg-examining apparatus, a mounted box having two oppositely-arranged openings, a reflector within the box, the reflector having two surfaces curved upwardly and inwardly, a transparent top for the box, a

lamp-holder adjacent to and communicating with each opening in the box, supports located at opposite sides of the box and at a transverse point between the lamp-holders, a lever fulcrumed beneath the box, and links respectively connecting the supports with the ends of the levers, substantially as described.

5. In an egg-examining apparatus a rack consisting of a bottom plate having a series of staples projecting from one surface and side and end plates, each plate having a portion bent to lie against the surface of the bottom plate from which the staples project, each flange having an orifice receiving a staple and the flanges also having handles by which the rack may be manipulated, substantially as described.

6. In an egg-examining apparatus a rack having a bottom plate, side and end plates,

each side and end plate having a flange capable of lying against one surface of the bottom plate, and means for holding the side and end plates in rigid connection with the bottom plate, substantially as described.

7. In an egg-examining apparatus a box having a transparent top, a support at each side of the box, each support being capable of vertical reciprocation from the transparent top of the box to a point below the same, and means connecting the supports by which they may have movement in unison to alternately move level with the top of the box, substantially as described.

HENRY F. WALTON.

Witnesses:

WM. V. DUGGAN,
E. F. TALBOTT.