

1,049,608.

Patented Jan. 7, 1913.

2 SHEETS-SHEET 1.

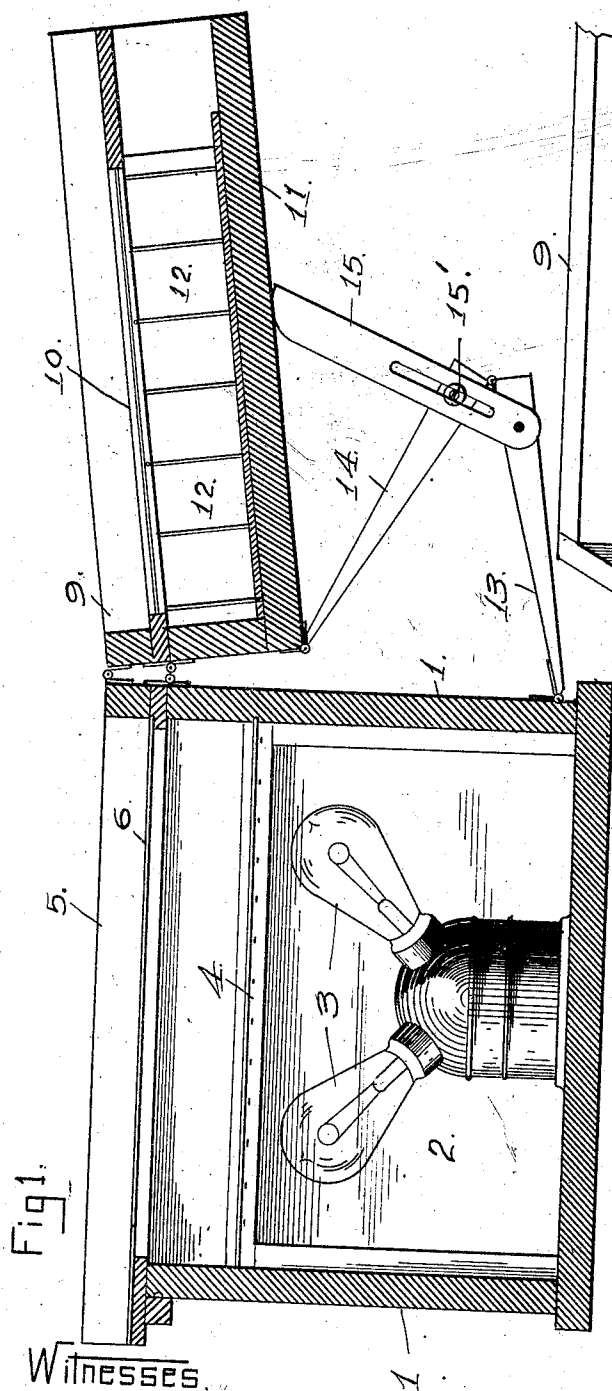


Fig. 1.

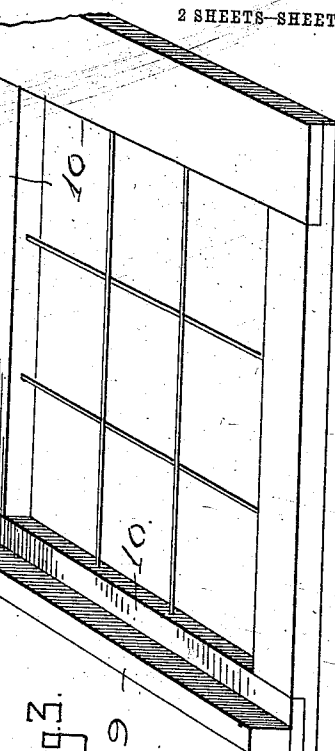


Fig. 3.

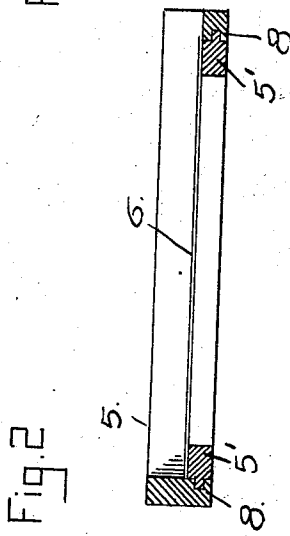


Fig. 2.

Witnesses.  
*Cuthbert L. Slee.*  
*S. Constance*

Inventor  
*Thomas H. Ryan*  
 by *W. A. Coker*  
*his atty.*

T. H. RYAN.

APPARATUS FOR HANDLING EGGS.

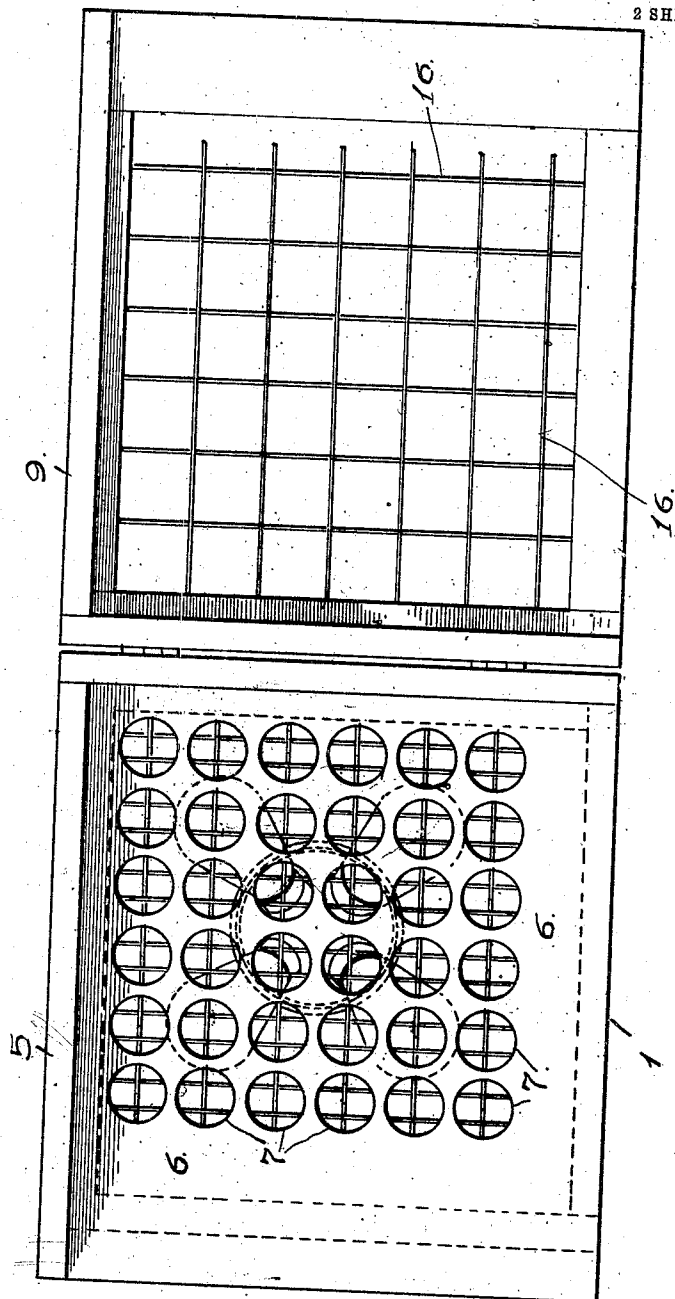
APPLICATION FILED AUG. 22, 1911. RENEWED APR. 29, 1912.

1,049,608.

Patented Jan. 7, 1913

2 SHEETS-SHEET 2.

Fig. 4



Witnesses

Arthur L. Lee  
S. Converse

Inventor

Thomas H. Ryan  
by *W. A. Adams*  
his atty.

# UNITED STATES PATENT OFFICE.

THOMAS H. RYAN, OF SAN FRANCISCO, CALIFORNIA.

APPARATUS FOR HANDLING EGGS.

1,049,608.

Specification of Letters Patent.

Patented Jan. 7, 1913.

Application filed August 22, 1911, Serial No. 645,381. Renewed April 29, 1912. Serial No. 693,942.

*To all whom it may concern:*

Be it known that I, THOMAS H. RYAN, a citizen of the United States, residing in the city and county of San Francisco and State of California, have invented certain new and useful Improvements in Apparatus for Handling Eggs, of which the following is a specification.

The hereinafter described invention relates to an apparatus for candling, sizing and packing eggs, the object being the production of a simple, inexpensive, compact, and practical device for successfully carrying out the purposes desired.

To comprehend the invention reference should be had to the accompanying sheets of drawings, wherein—

Figure 1 is a longitudinal sectional view of the improved device with certain of its hinged supports in an open position, illustrating a series of cartons positioned to receive the tested eggs, and the adjustable bracket for the hinged supports. Fig. 2 is a cross sectional view of the swinging support carrying the tray for sizing the eggs to be candled and supporting the same during the candling operation. Fig. 3 is a perspective view of the hinged support for guiding the eggs for packing into the cartons situated on the carton support, and hinged to the said guide or distributing support. Fig. 4 is a plan view of the parts disclosed by Fig. 1 of the drawings.

In the drawings, the numeral 1 is used to designate any suitable form of a casing or housing for the testing apparatus, the interior of which serves as a light well 2 for the illuminating means for the candling of the eggs, which means, in the present case, comprise electric bulbs 3. Within the said well 2, a short distance from its upper end, is secured a metallic wire support, platform or diaphragm 4, the purpose of which is to receive such of the smaller eggs as may pass through the egg openings of the sizing tray, to prevent the same falling to the bottom of the well and being broken.

To one wall of the casing 1, preferably the rear wall thereof is hinged a swinging frame 5, which, when closed, rests on and is supported by the upper end of the casing 1, and the said frame carries a grading or sizing tray 6 for the eggs to be sized and candled. This grading and sizing tray is preferably constructed of metal and in the

same a series of egg-seats or openings 7 are framed, the number of such seats or openings conforming to that of the eggs held within an ordinary card-board filler employed in connection with the shipment of eggs, and the diameter of each of the egg-seats or openings is such as to prevent an egg of a given size passing therethrough. The grading and sizing tray 6 is slidably mounted in the swinging frame 5, the frame pieces 5' of which slide within the guide-ways 8 formed in said frame 5, Fig. 2 of the drawings, so that one tray may be removed and replaced by a tray having seats or openings therein for eggs of a different size.

To the frame 5 is hinged for swinging movement, a distributing frame 9, which is partly closed by an open supporting plate 10, in the present case consisting of longitudinally and transversely disposed wires, Figs. 3 and 4 of the drawings. Where, as hereinafter explained, the candled eggs are to be packed in cartons, say, one dozen to a carton for retail distribution, the said swinging frame serves as a distributor for separating a number of eggs held within an egg filler into a series of smaller number of eggs and guiding the eggs into the cartons for retail distribution; while, in case the candled eggs are to be maintained within the egg-filler for repacking into a shipping crate, the said swinging frame acts as a support for the filler for the candled eggs as the frame 5 is swung over to remove the eggs from within the supporting seats 4.

To the swinging frame 9 is hinged a supporting frame 11 for holding a series of cartons 12, into which the eggs are delivered from the frame 9 and packed for retail distribution, one dozen eggs being packed into each carton, there being provided, in the present case, two cartons for each longitudinal division of the supporting plate or bed 10 carried by the swinging frame 9.

To the casing 1 there is hinged, adjacent the lower end of its rear wall, an outwardly extended arm 13, and to the free end thereof is hinged the lower end of an arm 14, the upper end of said arm 14 in turn being hinged to the swinging frame 11, thus forming a double joint connection between the casing 1 and the swinging frame 11. The arm 13 supports an upwardly extended bracket arm 15 pivoted thereto at its lower

end, the upper or free end thereof resting against the under face of the swinging frame 11 and acting as a support for the same and the frames 9 and 5 when swung outwardly into horizontal position. The bracket arm is slotted for a portion of its length, within which slotted portion works a securing bolt 15' screwed into the arm 14. Fig. 1 of the drawings. By this form of hinged connections, the arms 13 and 14 move toward and from each other, in accordance with the swinging movement of the said frames 11, 9 and 5, the bracket arm 14 varying its position of contact with the swinging movement of the mentioned frames so as to permit each of the frames being swung into substantially a horizontal position relative to the casing 1, thus enabling one supporting bracket to answer as a common support for all of the said frames.

In the use of the apparatus an egg filler 16, filled with eggs to be candled, is placed onto the grading or sizing tray 6 and the card-board bottom for the filler withdrawn, when the eggs contained in the filler will partly seat themselves into the egg-seats 7 of the said tray 6, such of the eggs as are of a diameter too small to be retained therein passing through onto the open meshed support 4, and the space for such eggs replaced by an egg of the proper size to seat therein. The illuminating means or electric lights within the well 2 being placed into commission, the operator is enabled to easily determine the character of the eggs under inspection. After the candling of the eggs, in case they are to be packed in the shipping crate for transportation, the bottom removed from the filler 16 is placed onto the supporting plate or tray 10 of the frame 9 and the said frame swung over onto the frame 5, after which the frame 5 with the frame 9 resting thereon is swung over into the position of the frames 9 and 11, Fig. 1 of the drawings, during which movement of the frames the candled eggs move from within the seats 7 into the seats of the filler 16. On the frame 5 being swung over onto the casing 1, the filler with the eggs therein are left supported within the frame 9, the filler so supported being illustrated by Fig. 4 of the drawings, from whence the said filler is removed for packing within the shipping crate. In case the eggs after sizing and candling are to be packed in cartons for retail purposes, the frame 9 is swung over onto the frame 5 without the filler bottom resting thereon, and frame 11, swung over onto the frame 9, a series of cartons 12 to be filled with eggs being interposed between the frames 11 and 9. The three hinged frames are then swung outwardly into a horizontal position as one frame, with the result that the candled sized

eggs move from within their seats 7 into the egg seats or compartments of the filler 16 held clamped between the frames 5 and 9, and pass from said filler through the openings of the supporting plate 10 of the frame 9 into the respective cartons 12 held between the frames 9 and 11, which filled cartons are removed by swinging the hinged frames 5 and 9 back onto the casing 1. For convenience of properly placing the filler of eggs within the frame 5 and the withdrawal therefrom when filled with candled eggs from the frame 9, also for the ready insertion and removal of the cartons relative to the frame 11, each of the said frames have their front and one side wall removed, Fig. 3 of the drawings.

It will be understood that as the frame 5 is swung outwardly into a horizontal position, the casing 1 is opened, when such of the eggs as may, by reason of the size thereof, have passed through the seats 7 of the sizing tray 6 and onto the support 4, can be removed.

By having a series of trays 6 containing egg-openings or seats of different diameters, the apparatus can be adapted for candling, sizing, and packing of eggs generally.

The described apparatus is capable of successfully handling a large number of eggs per day, and inasmuch as the candled and sized eggs may be packed in fillers for crate shipping and likewise in cartons for retail selling, the device is equally as well adapted for the use of the egg shipper, the wholesale merchant, and the retail dealer.

Having thus described the invention what is claimed as new and desired to protect by Letters Patent is—

1. In an egg handling apparatus, the combination with a casing provided with an interior light well, of illuminating means secured within the said light well, a frame hinged to the casing for swinging movement, an egg tray provided with a series of egg-seats carried by said frame, and a supporting platform arranged within the casing a slight distance from its upper end.

2. In an egg handling apparatus, the combination with a casing provided with an interior light well, of illuminating means for said well, a frame hinged to the casing for swinging movement, an egg holding tray provided with a series of egg-seats carried by said frame, a supporting platform arranged within the casing adjacent the upper end thereof, and a distributing frame hinged to the tray carrying frame.

3. In an egg handling apparatus, the combination with a casing provided with an interior light well, of means for illuminating the said well, a frame carrying an egg-tray hinged to the casing for swinging movement, a supporting platform or diaphragm located within the casing adjacent its upper

end, an egg distributing frame hinged to the tray carrying frame, a carton supporting frame hinged to the swinging distributing frame, and means for supporting the swinging frames when in an open position relative to the casing.

In testimony whereof I have signed my

name to this specification in the presence of two subscribing witnesses.

THOMAS H. RYAN.

Witnesses:

N. A. ACKER,

D. B. RICHARDS.