(No Model.)

O. W. JONES.

DEVICE FOR PRESERVING EGGS.

No. 333,636. **Patented Jan. 5, 1886.**

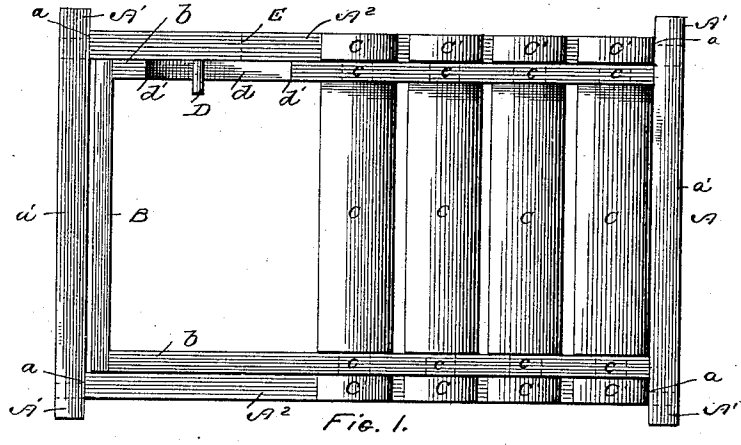


Fig. 1.

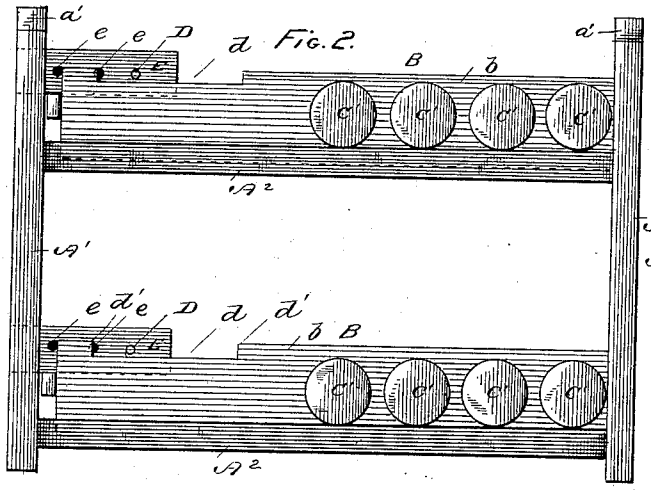


Fig. 2.

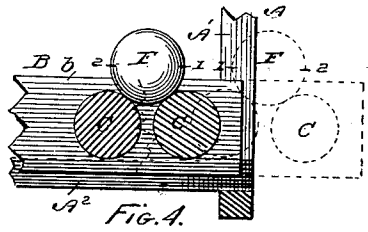


Fig. 4.

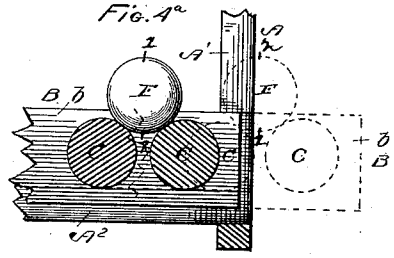
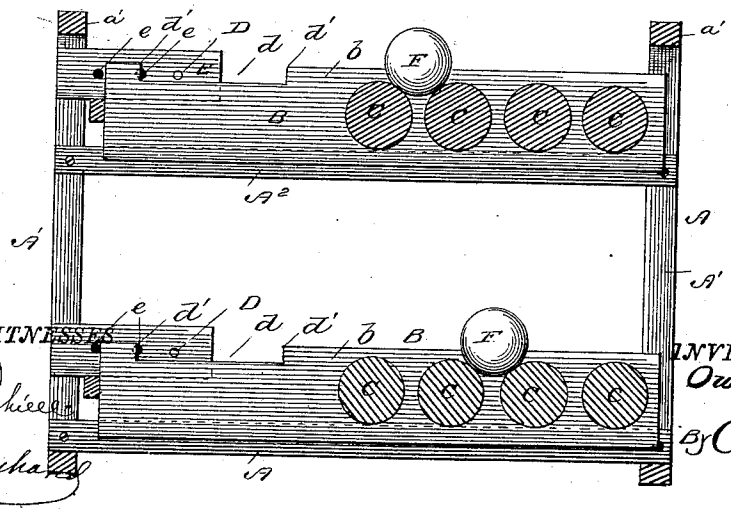


Fig. 4a

Fig. 3.



WITNESSES

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DEVICE FOR PRESERVING EGGS.

SPECIFICATION forming part of Letters Patent No. 333,636, dated January 5, 1886.

Application filed September 19, 1885. Serial No. 177,594. (No model.)

To all whom it may concern:

Be it known that I, OWEN W. JONES, a citizen of the United States, residing at New Cambria, in the county of Macon and State of Missouri, have invented a new and useful Improvement in Apparatus for Preserving Eggs, of which the following is a specification, reference being had to the accompanying drawings.

This invention has relation to improvements in apparatus for preserving eggs; and the novelty consists in the peculiar construction, combination, arrangement, and adaptation of the various parts for service, substantially as hereinafter fully set forth, and specifically pointed out in the claims.

The invention is especially designed as an improvement in that class of egg-preserving apparatus shown in patent to T. Lee, No. 269,866, dated January 2, 1883, in which a main frame having ways, a sliding frame mounted thereon, and a series of independently-journaled rollers rotated by the sliding movement of the frame are employed. The rollers in this frame projected below the lower edges of the sliding frame, and were rotated by frictional contact with the ways. This construction is objectionable, for the reason that considerable material was necessary to properly construct an operative device, and care had to be taken to project the rollers at an equal depth below the plane of the sliding frame to cause an even and steady movement of the sliding frame, which was thus wholly supported by the independently-journaled rollers; and one of the objects of my invention is to provide an open frame which shall be very simple and light and cheap and easy in its construction, and which shall provide a track or bearing for a sliding frame arranged above the first or lower frame, thus making a series of egg-preserving frames or trays.

In this class of devices it is of vital importance that the egg shall be given a rolling or rotating movement very gently for the purpose of preventing the settlement of the yelk through the white of the egg, and the egg is thus preserved.

Another object of my invention is to provide means whereby a semi-revolution can be given to one half of the eggs, and by means of adjusting devices the remaining half can be turned, or only a quarter or an eighth of a revolution given to such eggs, as may be desired or required; and a further object of the invention is to provide means which shall be very simple, strong, and durable in construction, thoroughly effective, easy and positive in operation, and to cheapen the manufacture.

I have shown an embodiment of my invention in the accompanying drawings, which form a part of this specification, in which—

Figure 1 is a plan view of my improved egg-preserving apparatus. Fig. 2 is an elevation thereof showing two sliding trays. Fig. 3 is a longitudinal section on the line *x x* of Fig. 1. Fig. 4 is a diagram showing the manner in which the eggs are rotated to any desired extent, and Fig. 4ª is a similar diagram.

Like letters of reference in the several figures of the accompanying drawings denote corresponding parts.

Referring by letter to the drawings, A designates the main supporting-frame; B, the sliding frames mounted on the main frame and arranged in series one above the other; and C designates a series of rollers independently mounted or journaled in the sliding frames and adapted to receive the eggs which are to be preserved, the particular detailed construction of the several parts of which I will now proceed to describe.

The main frame A comprises vertical supporting-uprights A′, preferably four in number, to form a square or rectangular frame, said uprights connected on their inner faces by longitudinal beams or strips A², notched at their ends, as at *a*, and providing a track or way upon which the sliding frames B are mounted.

For the purpose of adding strength and rigidity to the main frame cross bars or braces *a′* are secured to the uprights by screws, bolts, or other suitable fastening devices.

Each sliding frame B comprises two side pieces, *b*, arranged to bear on the inner surfaces of the trays or ways A², and having their lower edges arranged below the plane of the upper edges thereof, and adapted to serve as guides in the sliding to-and-fro movement of the frame, as will be readily understood. The rollers C are arranged within the plane of the side pieces of the sliding frame, and are jour-

naled therein, independently of each other, at their ends by means of pins or studs *c*, which pass through or project beyond the said side pieces of the sliding frame and receive or have secured upon them bearing or supporting wheels C', which roll or bear upon the track or way A^2, and serve to maintain or support the frame B thereon and keep it in a normally-horizontal position. The rollers C and their bearing-wheels C' are of the same size, and when the wheels are revolved by frictional contact with the track or way they are rotated at the same speed, and thus revolve the rollers C and the eggs placed in the space between two adjacent rollers evenly and uniformly without subjecting said eggs to any injurious jars or shocks.

I attach especial importance to supporting the frame and rollers thereof upon the bearing-wheels C', and to arranging the side pieces, *b*, of the sliding frame below the plane of the upper edge or surface of the track or way, as by such construction the frame serves as a guide in its sliding movements, and the friction-rollers or bearing-wheels serve as an efficient means for producing the rotary movement of the rollers C, and being of the same size they are rotated at the same speed or rate.

Particular care or pains is not required in journaling the rollers and in arranging them in the sliding frame, as the bearing-wheels serve to support the sliding frame, and at the same time to rotate the rollers C and the eggs placed thereon.

In the upper edge of one of the side pieces of the frame B, I cut or form a recessed portion, *d*, to provide two shoulders, *d'*, which serve as limiting-stops to the longitudinal play of the sliding frame. A stop-pin, D, projects across the plane of cut-away portion of the side piece of the sliding frame and comes in contact alternately with one of the shoulders *d'* when the sliding frame is moved back and forth by hand or otherwise. The stop-pin D is detachably connected to or fitted in one of a series of holes, *e*, in a stop block or piece, E, secured in any suitable or preferable manner to one of the supporting-uprights A' of the main frame. The length of the recessed portion *d*, or the distance between the shoulders *d'*, is such that the frame B is permitted to move a sufficient distance to rotate the rollers and bearing-wheels to revolve the eggs a half-revolution, the stop-pin D coming in contact or engagement with the stop-shoulders *d'* alternately, as described above.

I will now proceed to describe the peculiar function of the stop-pin D, which is adjustable so as to fit one of the series of holes *e* in the stop-block E, reference being particularly had to Fig. 4 of the drawings. In such Fig. 4 but two of the rollers C are shown in section, and a dotted diagram, showing the egg in its various positions when the stop-pin is adjusted to the first holes *e* in the stop-block. The diagram of the egg is lettered F, and the figures 1 and 2 indicate diametrically-opposite points in the circumference of the shell thereof. For the sake of illustration I will assume the points 1 and 2 to lie in a horizontal line with each other. When the frame is at one of its strokes or sliding movement, and when it is moved in the opposite direction, as shown or indicated by the arrow in Fig. 4, the rollers C are rotated and the eggs thereon are revolved by frictional contact therewith a half or semi revolution, as shown in the dotted-line position to the left of Fig. 4, the position of the points 1 and 2 being relatively changed or reversed thereby, and when the frame is moved back to its first position the eggs are also moved or revolved to their first position, shown in full lines. To rotate or bring the remaining half of the eggs uppermost, the pin D is adjusted to the second or an intermediate hole, *e'*, in the stop-block, as shown in the diagram of Fig. 4^a, thus changing the position of the points 1 and 2, so that they lie in a vertical plane, as shown, whereby, when the frame is moved back and forth, the remaining half of the eggs is brought uppermost and the eggs are subjected to a change in the position, which is so necessary to the successful operation of their preservation. By having the cross bars or beams A^2 arranged one above the other and the upright posts A' a track or way for the upper sliding frame or tray is provided, and it will be understood that any desired number of tracks or ways and sliding frames may be employed.

The sliding egg-carrying frames are provided with handles of any suitable construction for operating them by hand or otherwise.

In lieu of the recessed portion *d* to provide the stop-shoulders *d'*, removable pins may be secured to the frame to provide the stops, or a slot may be cut therein, and different means for holding the stop-pin may be employed, and the shape or form thereof can be varied.

Various slight changes in the form and proportion of parts and details of construction can be made without departing from the principle or sacrificing the advantages of my invention, the essential features of which will be readily understood from the foregoing description, taken in connection with the drawings.

By adjusting the pin D to the last or third hole in the stop-block the positions of the figures 1 and 2 of the eggs are reversed, and when the frame is operated they successively assume the various positions of each other in the manner shown in Fig. 4, and by increasing the number of apertures in the stop-block E the eggs can be so adjusted as to bring every point in their circumference under action, as will be very readily understood.

I am aware that heretofore it has been proposed to limit the movement of the sliding egg-carrying frame by the same coming in contact with an abutment on a bed-frame, and hence I disclaim such construction; but in my improved apparatus I employ a stop which

can be adjusted to vary the movement or stroke of the sliding frame. By means of this adjustable stop the distance which the egg is turned can be regulated and is under the immediate control of the operator, thus obviating the liability of the yelk settling through the albumen. It is well known that in order to properly preserve eggs they should be turned a semi-revolution once in every twenty-four hours; but in my device I provide means whereby the egg can be turned three-quarters of a revolution, so that the yelk lies at right angles to the plane at which it lies before the frame is operated. This construction is more apparent and readily understood from Figs. 4 and 4ª of the drawings.

Before operating the frame the diametrically-opposite points 1 2 in the shells of the eggs lie in a horizontal plane, as shown in Fig. 4. The stop is then adjusted in one of the apertures *e*, so that when the frame is moved the eggs are given three-fourths revolution, so that when the frame comes in contact with the stop the points 1 2 in the eggs thereon lie in a vertical plane, as shown in Fig. 4ª, and by this peculiar arrangement the yelk is suspended in the albumen at right angles to the position which it occupies before the frame is operated, and the eggs are preserved for a longer period of time.

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

1. In an egg-preserving apparatus, the combination of an open frame, A, a sliding frame, and a series of independently-journaled rollers, C, mounted in the sliding frame and having their bearings projected beyond the sliding frame, and provided with bearing-wheels C′, adapted to bear on the track or way of the main frame and support the sliding frame therein, substantially as described.

2. In an egg-preserving apparatus, the combination of an open main frame having a track or way, a sliding frame arranged between the track of the main frame and the lower edge of the side pieces below the plane of such track, and a series of rollers independently journaled in the sliding frame and having bearing-wheels C′ rigidly secured to the bearings of the rollers and bearing on the track or way of the main frame, whereby the sliding frame is suspended from the track or way, and the rollers are rotated when the frame is operated, substantially as described.

3. In an apparatus for preserving eggs, the combination of a main frame, a sliding frame mounted therein and having a series of independently-journaled rollers having bearing-wheels C′, and a stop-pin adapted to limit the movement of the sliding frame, substantially as described.

4. In an apparatus for preserving eggs, the combination of a main frame, a sliding frame mounted on and suspended from said frame, a series of independently-journaled rollers having bearing-surfaces, and an adjustable stop-pin adapted to vary and limit the movement of the sliding egg-carrying frame, substantially as described.

5. In an apparatus for preserving eggs, the combination of a main frame, an egg-carrying frame having rollers and arranged to slide on the main frame, and a stop adjustably secured to the main frame and adapted to engage the sliding egg-carrrying frame, to limit and vary the movement of the latter frame, as set forth.

6. In an apparatus for preserving eggs, the combination of a main frame, a sliding frame mounted thereon, and an adjustable stop to limit and vary the movement of the sliding frame, as set forth.

7. In an apparatus for preserving eggs, the combination of an open main frame, A, having a series of tracks or ways, A^2, a series of sliding frames, B, mounted on and suspended between the tracks of the main frame, and having limiting-shoulders, *d′*, a series of rollers, C, independently journaled in the frames B, and having bearing-wheels C′ at their ends bearing on the tracks or ways to support the frames B and revolve the rollers, stop-blocks E, having holes *e*, and stop-pins D, removably secured in the holes *e* and adapted to alternately strike the shoulders *d′* to limit the movement of the frames B, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

OWEN W. JONES.

Witnesses:
E. G. SIGGERS,
C. W. DASHIELL.