No. 881,250. PATENTED MAR. 10, 1908.

L. S. LINDER.

HEN'S NEST.

APPLICATION FILED OCT. 12, 1906.

2 SHEETS—SHEET 1.

Fig. 1.

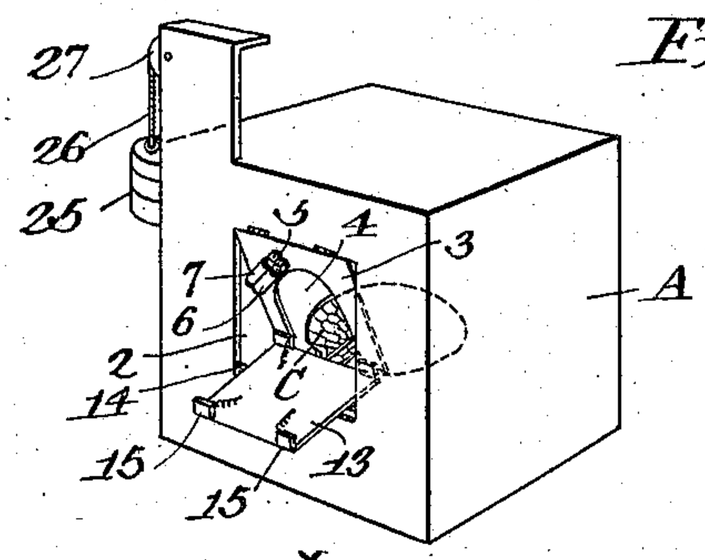
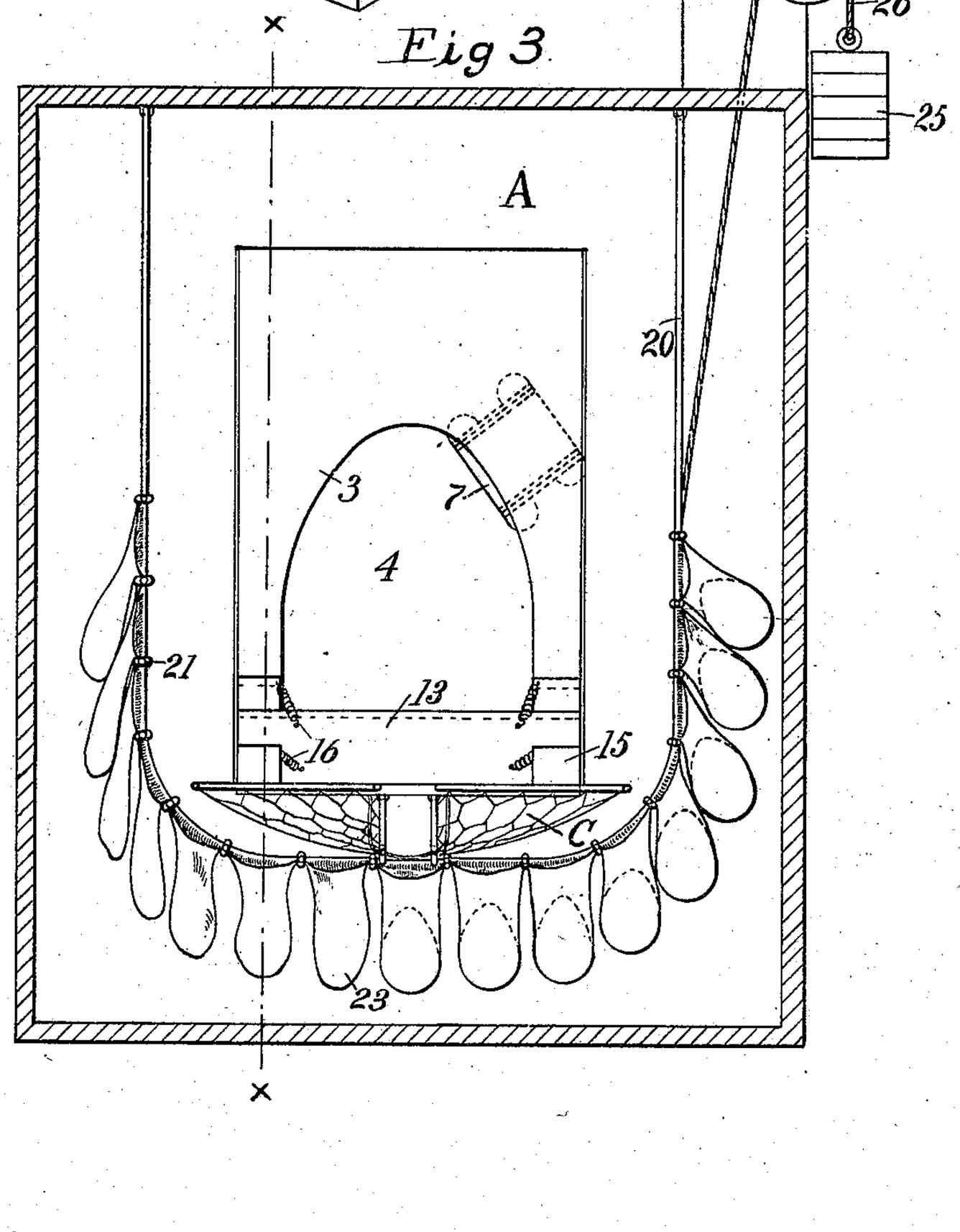


Fig 3



Witnesses,
George Voelker
Hattie Smith

Inventor,
Leopold S. Linder
by Cothrop & Johnson
his Attorneys.

No. 881,250. PATENTED MAR. 10, 1908.

L. S. LINDER.

HEN'S NEST.

APPLICATION FILED OCT. 12, 1906.

2 SHEETS—SHEET 2.

Fig. 6.

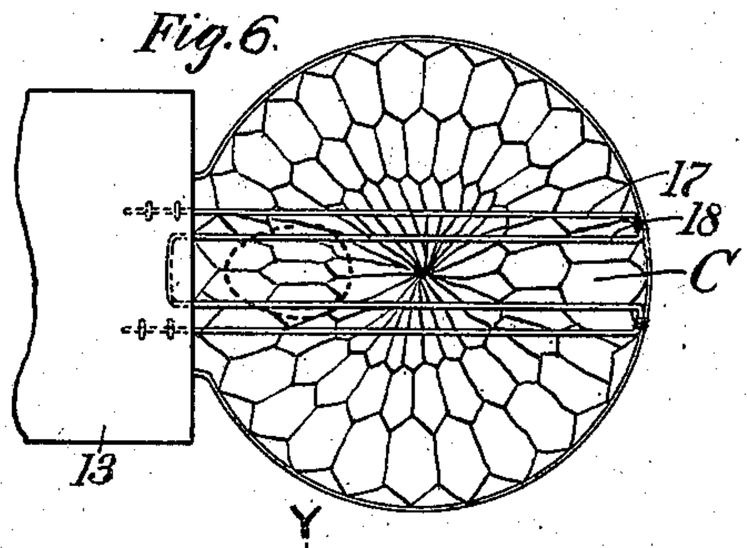


Fig. 2

Fig. 7.

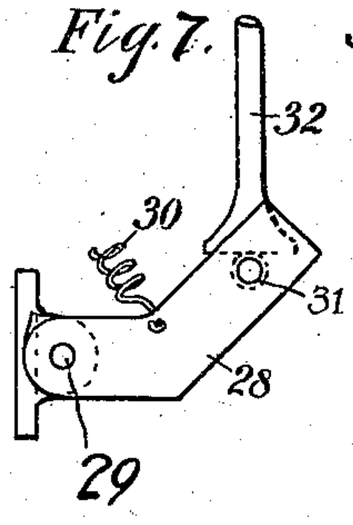
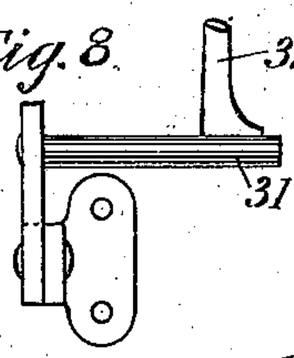


Fig. 8.



Y

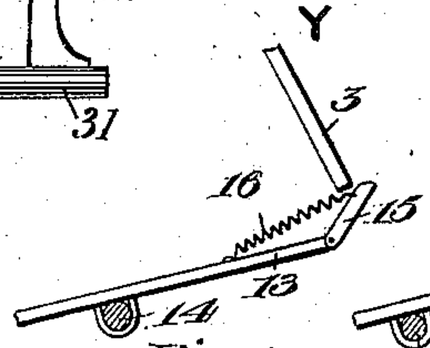
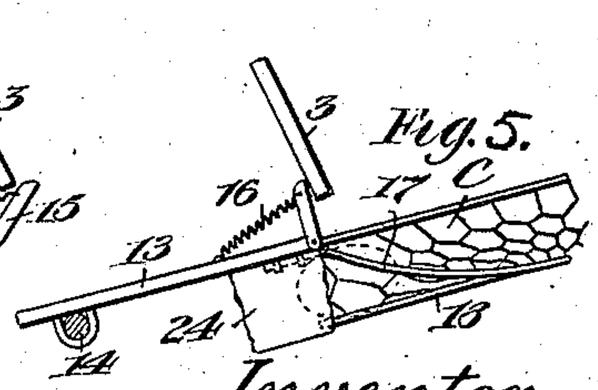


Fig. 4.

Fig. 5.



Witnesses,
George Voelker
Hattie Smith

Inventor,
Leopold S. Linder
by Lothrop & Johnson
his Attorneys.

UNITED STATES PATENT OFFICE.

LEOPOLD S. LINDER, OF MANKATO, MINNESOTA.

HEN'S NEST.

No. 881,250. Specification of Letters Patent. Patented March 10, 1908.

Application filed October 12, 1906. Serial No. 338,558.

To all whom it may concern:

Be it known that I, LEOPOLD S. LINDER, a citizen of the United States, residing at Mankato, in the county of Blue Earth and State of Minnesota, have invented certain new and useful Improvements in Hens' Nests, of which the following is a specification.

My invention relates to improvements in hens' nests, its object being to provide improved means for determining which and how many eggs have been laid by each hen having access to a nest.

To this end the invention consists in the construction, combination and arrangement of parts hereinafter described and claimed.

In the accompanying drawings forming part of this specification, Figure 1 is a perspective view of the outside of a nest-box fitted with my improvements, showing the door swung inwards. Fig. 2 is a vertical section of the same on line *x*—*x* of Fig. 3, showing the door swung out; Fig. 3 is a vertical section on line *y*—*y* of Fig. 2; Figs. 4 and 5 are details of the swinging door and tilting board, partly broken away; Fig. 6 is a plan view of the nest frame, and Figs. 7 and 8 are details of the stop mechanism for the sack carrier.

As shown in the drawings, A is a nest box having a front opening 2 from the top wall of which is pivotally hung a door 3 which is free to swing in or out. This door is formed with an entrance opening 4 just large enough for a hen to squeeze through.

Secured to the door just above the opening, and preferably a little to one side, is a frame 5 within which are rotatably mounted a pair of rollers 6 and 7 upon which is wound an impression receiving strip having a surface which will preserve the impression of a marker carried by the hen.

To prevent more than one hen from entering the nest box at a time, a tilting board 13 is pivotally supported at the bottom of the opening 2, the point of pivotal support 14 being midway of its length. At each end of the board is an arm 15 hinged to the board so as to swing outwardly only, that is, away from the other arm. The arms are held normally in upright position by means of springs 16, and are of such height that, when in uptilted position, they will be engaged by the door as it swings from the other end of the board and be turned down upon their hinges, as shown in Fig. 4, thus permitting the door to pass them. The moment the door has swung past them, the arms will spring back to upright position, as shown in Fig. 5, intercepting the door in its return swing and holding it in inswung or outswung position, as the case may be.

Secured to the end of the tilting board within the box is a tilting nest-frame C, having, preferably, a pair of guard rails 17 extending from the bottom of the nest-frame up to the tilting board, and a runway 18 arranged below the guard rails and extending from the frame-bottom rearwardly to a point below the end of the tilting board. The guard rails are a sufficient distance apart to permit an egg to pass between them along the runway below, when the nest-frame is tilted up as shown in Fig. 5. When in downtilted position, as shown in Fig. 2, the frame will rest upon an ordinary nest 19 of straw, or other appropriate material.

Arranged in a vertical plane within the box and near its front wall is a track or guide, consisting preferably of a pair of parallel rods or wires 20, as shown in the drawings, extending from the upper part of the box around under the tilting board and up again as shown in Figs. 2 and 3. Runningly supported upon the track are a number of sack-holders consisting, preferably, of bars 21, upon which are supported sacks 23 of cloth or other flexible material in position to pass close to, and slightly below the free inner end of the runway 18, so that the eggs will be discharged from the runway into the sack then registering with it. To insure the more perfect discharge of the eggs and avoid interference between the runway and the sack I prefer to bridge the space between them by an open ended flexible band 24 looped down from the tilting board around the end of the runway.

In the form shown in the drawings the sack holders are flexibly connected together by means of the sacks themselves, the material of each sack being secured to the bar between it and the adjacent sack, and being folded over the adjacent track wire. They are held under tension, and, when free to move, are carried along the track, by means of a weight 25 connected with the end sack-holder by means of a rope 26 passing over a pulley 27. Each sack is halted and stopped, when in position to register with the runway and receive an egg, by means of appropriate stop mechanism actuated by the movement of the tilting board when the hen leaves the nest-box.

This mechanism consists, preferably, of a lever 28 pivoted at 29 upon the inner side of the front wall of the box below the track wires 20 and held by a spring 30 normally in position to project up between the sack-holding bars 21. Upon the upper end of the lever is a lateral arm or lug 31 in position to be engaged and depressed by a stop 32 secured to the tilting board upon the nest side of its supporting pivot. The stop is of such length that it will be plunged down between the sack-holding bars 21 and engage the lever arm 31, as shown in Fig. 2, when the nest end of the board is in down-tilted position, and be raised above the bars when the nest end of the board is tilted up. Thus, when the board is tilted down, as shown in Fig. 2, the stop will be plunged down between two of the bars 21, and will depress the outer end of the lever 28. The rearward of the two bars between which the stop now stands will strike the stop and be held by it in position where one of the sacks will stand in alinement with the runway 18 ready to receive an egg. When the nest-end of the tilting board is raised, the stop will be drawn up from between the sack-holding bars and permit the weight to move the sack-holders along the track. But, as the stop is raised, it will relieve the lever 28 from downward pressure, and permit the lever to follow it up under actuation of its spring 30. As the stop 32 engages the arm 31 a little distance forwardly from the lever, the lever will permit the sack alining with the runway to be drawn along, but will intercept and hold the next succeeding sack holder. When the board is again tilted down within the nest, the stop will again depress the lever and release the intercepted sackholder, which will be drawn along until it is intercepted by the stop and held in position where its sack will aline with the runway. In entering the nest box the hen will step upon the now downtilted end of the tilting board outside the box and will force her way through the opening 4. As the hen passes in, the marking device carried by her will engage the impression receiving strip upon the roller 6 and draw it along to expose a fresh surface, leaving upon the strip the impression of the distinctive symbol carried by her marking device. As she enters the box and walks along the tilting board within it, her weight will tilt down the board and nest-frame, the stop 32 at the same time depressing the lever 28 to permit the sack intercepted by it to move into line with the runway where it is held by the stop. At the same time the door 3, released from its inswung position by the descent of the inner end of the board and its intercepting arm 15, will swing outwardly past the arm upon the outer end of the board, the arm yielding upon its hinge to permit it, and back against the outside of the arm, which will hold the door in outswung position as shown in Fig. 2. After entering the nest-frame and laying her egg, the hen will step back upon the board and pass out through the door. As she walks along the board after passing its point of pivotal support, her weight will tilt down the outer end of the board and cause the inner end to be tilted up. By the descent of the outer arm 15 the door will be released from the arm and will swing back into the inswung position shown in Fig. 1; and by the rise of the inner end of the board the nest-frame will be tilted up so that the egg just laid will slide down the runway and drop into the sack alining with it. The stop 32 will at the same time be raised out of engagement with the sackholder to permit it to be moved on as already described. The stop must be of such length that it will not clear the sack-holder until after the egg has been discharged into the sack.

It will be observed that after a hen has entered the box and the door has swung out into the position shown in Fig. 2 no other hen can enter until the first hen emerges.

To identify the eggs laid by a particular hen it is only necessary to compare the order in which that hen's symbol appears upon the marking roll with the sack corresponding in order. Thus, if the roll shows that hen bearing the symbol "4" was the 6th hen to enter the nest, her egg will be found in the sixth sack, assuming the sacks to have been started with the first sack in position to receive the first laid egg. And, conversely, the egg in the sixth sack can be identified as laid by the hen bearing the symbol which appears sixth in order upon the roll.

The tilting board is, of course, so constructed that its outer portion will just balance its inner portion with attached nest frame. By the term "nest frame" is meant any instrumentality forming or having a runway for the eggs.

It will be evident that various modifications may be made in the details of the structure without departing from the principle of the invention, the scope of which is defined in the claims.

I claim:

1. In a hen's nest of the class described, in combination, a tilting board, a nest frame secured to one end of the board and having a discharge runway for eggs, a plurality of sacks arranged to be carried past the discharge end of the runway, a chute bridging the space between the discharge end of the runway and the sacks, and means controlled by the tilting board for bringing the sacks successively into alinement with the runway.

2. In a hen's nest of the class described, the combination, with a nest-box having an opening, of an apertured door hung from the top of the opening so as to swing in or out, and a tilting board having central pivotal

support at the bottom of the opening, the door being of sufficient length to engage, and be intercepted by, the uptilted end of the tilting board.

3. In a hen's nest of the class described, the combination, with a nest frame having a laterally extending runway for eggs, of a plurality of sacks arranged to be carried past the outer end of the runway in position to receive an egg therefrom, and means controlled by the travel of a hen to and from the nest frame for imparting to the sacks a step by step movement.

4. In a hen's nest of the class described, the combination, with a tilting nest-frame having a discharge runway for eggs, of a plurality of sacks arranged to be carried past the discharge end of the runway, means actuated by a departing hen for tilting the nest-frame and means controlled by the travel of the hen for imparting to the sacks a step by step motion.

5. In a hen's nest of the class described, in combination, a tilting board, a nest frame secured to one end of the board and formed with a runway for eggs, a plurality of spaced sacks runningly supported in a vertical plane about the end of the runway, and means controlled by the tilting board for bringing the sacks in succession into registration with the runway.

6. In a hen's nest of the class described, in combination, a tilting board, a nest frame secured to one end of the board and formed with discharge runway for eggs, a track extending down under the tilting board and up again, a plurality of spaced sack-holders runningly supported upon the track, sacks carried by the sack-holders in position to pass the end of the runway and receive eggs therefrom, and means controlled by the tilting board for moving the sacks successively into registration with the runway.

7. In a hen's nest of the class described, in combination, a nest-box formed with an opening, a tilting board arranged in the opening, a nest-frame secured to the inner end of the board and formed with a runway for eggs, a plurality of runningly supported flexible sacks arranged to be carried past the discharge end of the runway, means for exerting upon the sacks a constant pull, and means controlled by the tilting board for holding the sacks in succession in position to register with the runway and receive an egg therefrom.

8. The combination, with a nest-box having an opening, of an apertured door hung from the top of the opening so as to swing in or out, a tilting board pivotally mounted midway of its length at the bottom of the opening, a hinged arm at each end of the board, the arms being so hinged as to swing away from each other only, and springs to hold the arms in upraised position, the door being of sufficient length to swing against the arm of the uptilted end of the board.

In testimony whereof I affix my signature in presence of two witnesses.

LEOPOLD S. LINDER.

Witnesses:
D. G. WILLARD,
GEO. B. OWEN.