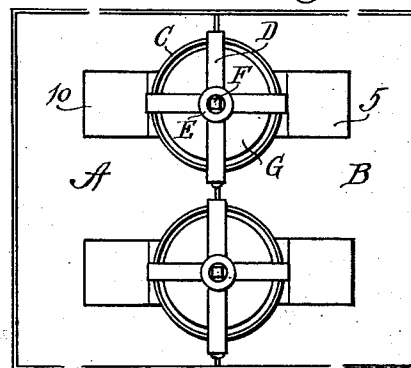
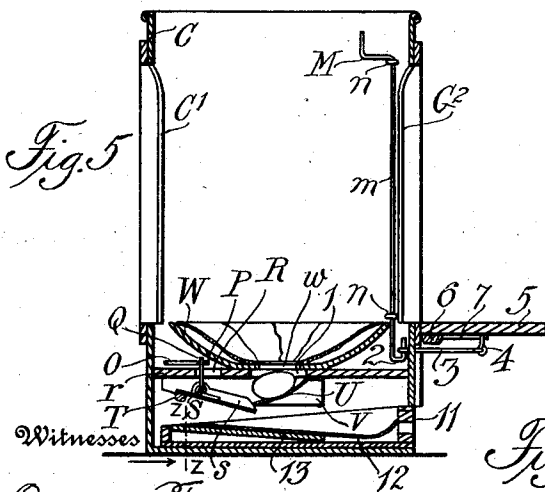
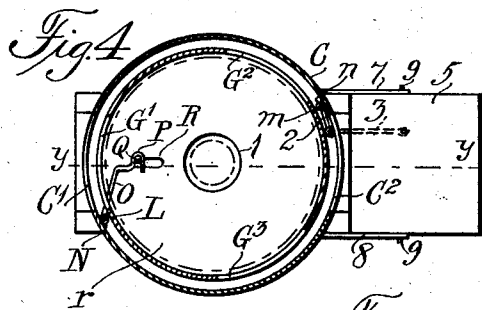
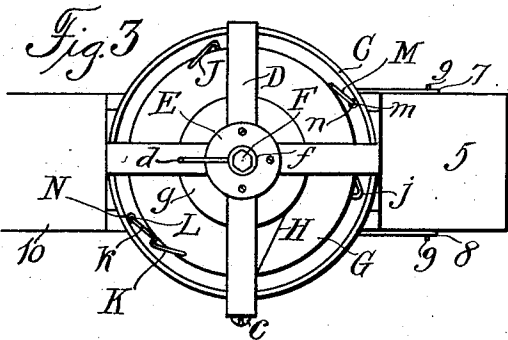
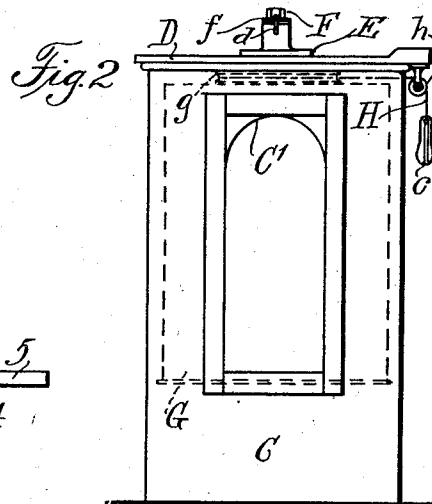
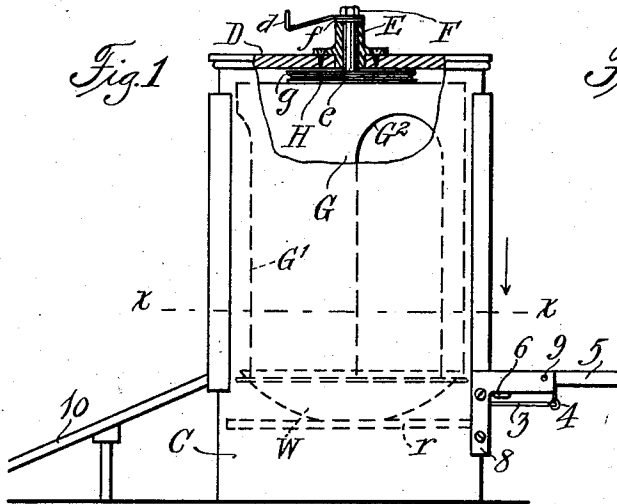


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HEN'S NEST AND YARD.
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HEN'S NEST AND YARD.

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To all whom it may concern:

Be it known that I, CHARLES F. KROEH, citizen of the United States, residing at Orange, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Hens' Nests and Yards, of which the following is a specification.

This invention relates to hens' nests and yards, and belongs particularly to that class or type of nest constructed and arranged to separate those hens that lay eggs, from those that do not, in any flock of chickens.

The object of this invention is the production of a nest of the character stated, provided with a rotary member having suitably disposed apertures corresponding in size and capable of being brought to register with other apertures in a stationary member through which a hen may pass.

This invention requires two yards or inclosures, between which the hen's nest portion of this invention is placed, and through the nest a hen must pass to get from one yard to the other. In one of the yards are all the fowls of the flock, and the apertures of the rotary member and of the stationary member are adapted to be brought together in such manner as to afford openings in communication with the two yards alternately under certain conditions. For example, the normal, or first position of the rotary and stationary members with relation to each other is such that an aperture of one member coincides with that of the other, affording an entrance for a hen from the yard common to the entire flock, and leading to the nest, located within the two apertured members. If the hen does not deposit an egg, the relations of the apertures remain unchanged, and the only exit from the nest is the composite opening through which her entrance was made. When, however, the hen lays an egg, automatic mechanism constituting a part of this invention is set in motion by the weight of the egg, the rotary member is turned, and other apertures of the two members are brought together, affording exit only into the other yard reserved for the laying hens. As the hen leaves the nest by the exit thus afforded, the mechanism is again set in motion, this time by the weight of the hen, and the exit is closed by the rotating member, and the entrance from the common yard again opened.

The construction and arrangement of parts embodying this invention in the preferred form, are set forth in the accompanying drawings, of which—

Figure 1 represents an external side view of all parts assembled. Fig. 2 is also an external side view, but, taken at right angles with the line of view in Fig. 1. Fig. 3 is a top plan view. Fig. 4 is a horizontal section upon the broken line $x-x$ of Fig. 1. Fig. 5 is a vertical section of the outer and stationary member, on line $y-y$ of Fig. 4. In this figure the inner and rotary member is omitted to show the form of the crank end at the top of one of the turning rods. Fig. 6 is a cross-section of the egg-receiving drawer, on line $z-z$ in Fig. 5. Fig. 7 is a plan of the yards and nests.

The same letter is used to refer to the same part in the drawings and description.

Considering the drawings, the common yard or inclosure for the entire flock of chickens is designated by the letter A in Fig. 7, and the layers' yard by the letter B. The stationary member C of the hen's nest, is placed, as shown, between the two yards. A spider D spans the top of the member C, which is ordinarily made in the form of a cylinder as illustrated, and constitutes the exterior of this invention. At the middle of the spider is placed the flanged sleeve E. Passing upwardly through the sleeve E is the gudgeon e , and a nut F engages the upper end of the gudgeon above the sleeve. It is convenient to secure between the nut F and washer f , a crank d , that will be again mentioned. The gudgeon e is attached to the top of the rotary member G of this invention, which is a hollow cylinder as shown. On top of the revoluble cylinder G is a grooved pulley g , and the gudgeon passes centrally through the pulley. A cord H has one end attached in the groove of the pulley, and, the cord passes outwardly and over the small pulley h , shown at the side in Fig. 2, where it is tied to a weight c . The weight is sufficient to turn the cylinder G readily when the cylinder is set free as hereinafter explained. The cylinder G has three openings marked G^1 , G^2 , and G^3 , formed at equal distances apart. The width of those openings is shown in Fig. 4, and their height and shape is indicated in Fig. 1. The exterior cylinder C has two openings substantially like those of the cylinder G. One of those openings is shown in Fig.

1, and both openings C^1 and C^2 are set out in Fig. 4. It is illustrated that the openings C^1 and C^2 are diametrically opposite each other, and that the openings G^1 , G^2 , and G^3 , are at equal distances one from the other. Therefore, it is thought to be now clear that while the rotation of cylinder G may bring each of its openings in turn to coincide fully with either of the openings C^1 or C^2 , no two of the openings of cylinder G can fully coincide with the two openings of the external cylinder C , at the same time.

It will be observed in Fig. 3, that the top of cylinder G is provided with three stops, designated by the reference letters J , j , and K . In Fig. 3, the crank end k , at the top of the vertical turning rod L , is shown against stop K . The crank end M at the top of the turning rod m is also shown in Fig. 3 extending toward the cylinder G . The vertical rods L and m are arranged against the interior of the cylinder C , at the sides of the openings C^1 and C^2 . The rods have the form illustrated in Fig. 5, and they are held rotatively in place by suitable eyes N and n . At its lower end, the vertical turning rod L has a second crank end O , provided with a hook P engaging, as shown in Fig. 4, the end of a pin Q . The pin Q is also shown in Fig. 5, extending upwardly through the slot R in the partition r . The pin Q is attached to the pivotal axis S of the tilting pan s , and, it moves with that pan. One end of the pan s is provided with a weight T , and the office of the weight is to maintain the other end of the pan yieldingly against the incline U , best shown in Fig. 5. The incline U is customarily a piece of sacking, to offer a soft surface for an egg to roll down. The pan s and the incline U , are both supported by sideboards V , extending downwardly from beneath the partition r . One of the sideboards V is shown in Fig. 5.

The function of the partition r is to support the nest W . In Fig. 5 it is illustrated that the nest W has a central orifice w , which corresponds with a central orifice 1 through the partition r , and, that both orifices are directly over the fabric incline U . At its lower end, the turning rod m has a crank end 2 , that is pivotally joined with a connecting rod 3 , which extends outwardly, as shown in Figs. 4 and 5, and is pivotally attached to the pin 4 , that projects downwardly from beneath the pivoted platform 5 . The platform 5 is normally held in a horizontal attitude, with its inner end against the outer cylinder C , by means of the weight 6 secured beneath the platform near its inner end. The platform is supported by suitable brackets 7 and 8 , which appear in Figs. 1, 3, 4 and 5, and the platform 5 has side pins 9 that are passed through the brackets.

The operation of this invention may be

explained as follows: Let it be assumed that a hen walks up the approach 10 , and passes through opening C^1 of the outer and stationary cylinder, and through opening G^1 of the inner and rotary cylinder, and reaches the nest W . If the hen does not lay an egg, the only exit is the way she came in, and she returns to the yard A , common to all the fowls, and from whence she came. Should she deposit an egg in the nest, it will descend by way of central orifices w and 1 , and fall upon the fabric incline U . Rolling down the incline, it will pass upon the long end of the lever or tilting pan s , as best illustrated in Fig. 5, and, as the pan tilts, the pin Q moves correspondingly and by reason of its engagement with the hook P at the end of the bottom crank end O of rod L , it turns the vertical rod and disengages the upper crank end k from stop K . The cylinder G , being now free, is turned by the pull of weight c and cord H about pulley g . The cylinder continues to turn until the stop J encounters the top crank arm or end M of the vertical turning rod m . In Fig. 3 it will be noted that the stop J is distant from the end of the top crank M , approximately one-sixth of the circumferential line of cylinder G . Now, considering Fig. 4, it will be made plain that the portion of the wall between openings G^1 and G^3 has now closed the entrance C^1 in the outer cylinder, and, the opening G^2 registers with the exit opening C^2 of cylinder C . The hen must leave through the openings which coincide, in other words, she must pass over platform 5 into the layers' yard B . When she reaches the platform 5 , it tilts under her weight, and, the pin 4 and connecting rod 3 , turn the vertical rod m , and disengage the crank end M and stop J . The cylinder G is again free, and, this time, the stop j meets the top crank k of vertical turning rod L , and the cylinder is halted with the opening G^3 in register with the entrance opening C^1 of the outer cylinder, ready for the entrance of another fowl.

The crank d at the top of the gudgeon e is employed to wind up the cord H upon the pulley g when the weight c has run down. It will be observed in Fig. 3 that the stops J , j , and K , are made of bent wire in the form of ratchet teeth, and, as the weight is wound up by turning crank d , the inclined sides of the stops meet and pass the pins of the crank ends k and M of the turning rods.

It is advantageous to provide a suitable drawer 11 , beneath the tilting pan s to receive the eggs, and, as illustrated in Fig. 6, the drawer 11 is customarily made with a fabric bottom, usually sacking, 12 , raised along the middle by means of a suitable bar 13 , extending lengthwise of the drawer, and arranged to hold the sacking bottom 12

highest at the back of the drawer. The eggs are removed at any time by taking out the drawer.

Having now described this invention, and explained its mode of operation, what I claim is:—

1. In a hen's nest, the combination with a stationary member having openings, of a revoluble member having openings, means constructed to revolve the revoluble member always in one and the same direction, mutually engaging stopping-and-releasing devices borne by said members and constructed to hold said revoluble member at predetermined points against the force of said revolving means and to release the said member, means constructed to be operated in succession by the weight of an egg and by the weight of a hen and constructed to actuate the said stopping-and-releasing devices.

2. In a hen's nest, the combination with a stationary member having openings, of a revoluble member having openings, means constructed to revolve the revoluble member always in one and the same direction, mutually engaging stopping-and-releasing devices comprising movable portions located at different points on said stationary member and constructed to hold said revoluble member at predetermined points against the force of said revolving means and to release said member, means constructed to be operated by the weight of an egg and to actuate the movable portion of said stopping-and-releasing devices on one side of said stationary member to release the revoluble member, and means constructed to be operated by the weight of a hen and to actuate another movable portion of said stopping-and-releasing devices to release the said revoluble member.

3. In a hen's nest, the combination with a stationary outer member having openings, of a revoluble inner member having openings, means constructed to revolve the revoluble member always in one and the same direction, mutually engaging stopping-and-releasing devices borne by said members and constructed to hold said revoluble member at predetermined points against the force of said revolving means and to release the said member, means constructed to be operated in succession by the weight of an egg and by the weight of a hen and constructed to actuate the said stopping-and-releasing devices.

4. In a hen's nest, the combination with a stationary outer member having openings, of a revoluble inner member having openings, means constructed to revolve the revoluble member always in one and the same direction, mutually engaging stopping-and-releasing devices comprising movable portions located at different points on said stationary member and constructed to hold the said revoluble member at predetermined points against the force of said revolving means and to release said member, means constructed to be operated by the weight of an egg and to actuate the movable portion of said stopping-and-releasing devices on one side of said stationary member to release the revoluble member, and means constructed to be operated by the weight of a hen and to actuate another movable portion of said stopping-and-releasing devices to release the said revoluble member.

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

CHARLES F. KROEH.

Witnesses:

H. F. RAETZ,
PHILIP ORTEL.