May 11, 1943. J. F. HAMLIN 2,318,687

MEANS FOR DETERMINING THE SEX OF CHICKS

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Fig. 1.

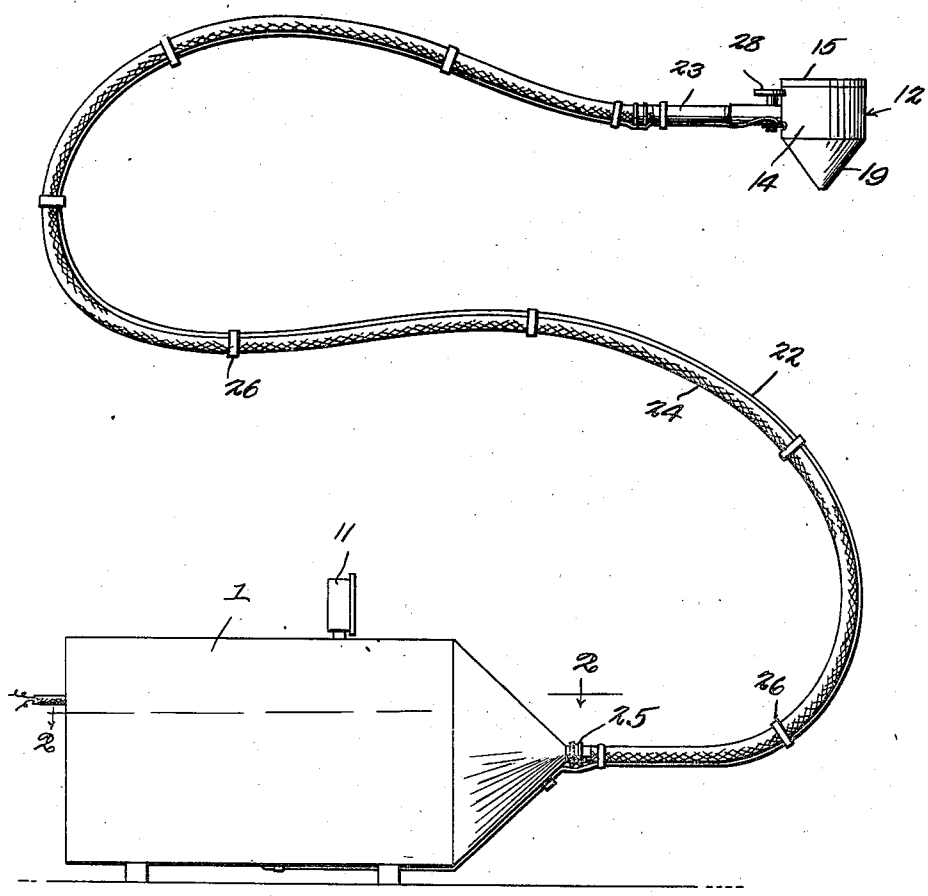
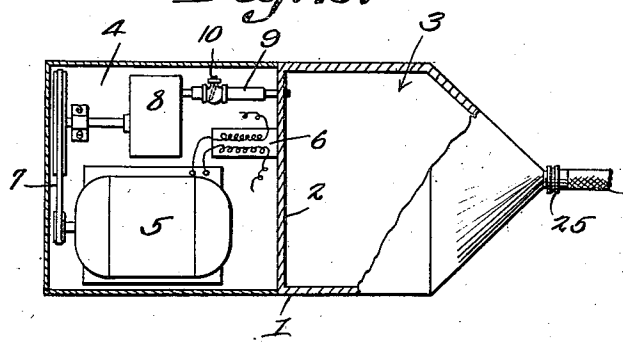


Fig. 2.



J. F. Hamlin

INVENTOR.

BY C. A. Snow & Co.

ATTORNEYS.

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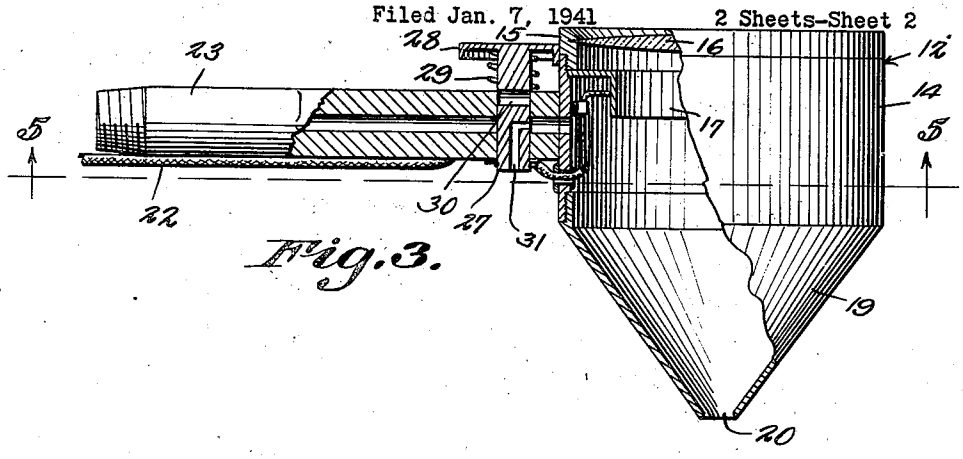


Fig. 3.

Fig. 4.

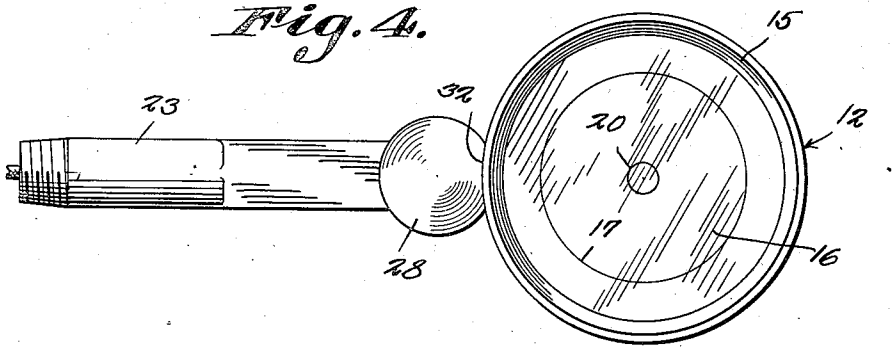
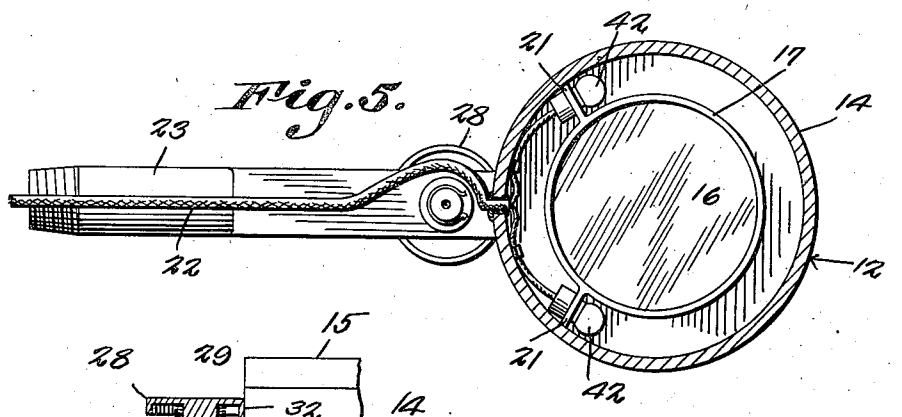


Fig. 5.



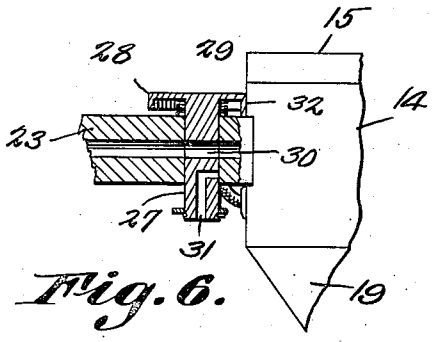


Fig. 6.

J. F. Hamlin

INVENTOR.

BY C. A. Snow & Co.

ATTORNEYS.

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MEANS FOR DETERMINING THE SEX OF CHICKS

Jerry F. Hamlin, Medford, Oreg.

Application January 7, 1941, Serial No. 373,515

3 Claims. (Cl. 128—2)

This invention aims to provide a simple but novel means and a simple but novel method of determining the sex of chickens, a definitive portion of the sex organs being drawn, by suction, to a point of inspection near the anal vent.

It is within the province of the disclosure to improve generally and to enhance the utility of devices of that type to which the present invention appertains.

With the above and other objects in view, which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed, may be made within the scope of what is claimed, without departing from the spirit of the invention.

In the accompanying drawings:

Fig. 1 shows, in side elevation, a device constructed in accordance with the invention;

Fig. 2 is a section on the line 2—2 of Fig. 1;

Fig. 3 is a side elevation of the suction head and attendant parts, portions being broken away;

Fig. 4 is a top plan of the structure delineated in Fig. 3;

Fig. 5 is a section on the line 5—5 of Fig. 3;

Fig. 6 is a sectional view (parts remaining in elevation) wherein the valve is shifted from the venting position of Fig. 3 to a suction position.

The device forming the subject matter of this application operates by suction, and the suction producing instrumentality may be of any desired sort. As shown in the drawings, but not of necessity, there is provided a casing 1, divided by a partition 2 into a suction chamber 3 and a machinery compartment 4. An electric motor 5 is located in the machinery compartment 4, and is under the control of a rheostat 6. By means of any desired gearing 7, the motor 5 is connected operatively to a suction pump 8. A suction conduit 9 leads from the pump 8 to the suction chamber 3. A check valve 10 is interposed in the conduit 9 and closes toward the suction chamber 3. The degree of attenuation acquired in the suction chamber 3 can be read from a gage 11 on the casing 1.

The numeral 12 marks a suction head, including an annular body 14, into one end of which is threaded a retaining ring 15, carrying a magnifying lens 16. An annular shield 17 is located in the body 14, in close relation to the lens 16, the shield having an outstanding annular flange 18, engaged by the retaining ring 15, to hold the shield 17 in place. The numeral 19 designates a funnel-shaped extension, mounted by threading or otherwise, on that end of the body 14 which is remote from the lens 16. The extension 19 has a small opening 20.

The shield 17 may have any desired number of outstanding ears 21, carrying electric lamps 42. The lamp circuit is shown at 22, and, if desired, may be a part of the circuit of the motor 5.

The inner end of a nipple 23 is secured to the body 14 of the suction head 12. A flexible conduit 24 is connected to the nipple 23, and is coupled, as shown at 25, to the casing 1, the conduit being in communication with the suction chamber 3. It may be here noted that the conductors which form the lamp circuit 22, may be extended backwardly along the conduit 24, and may be held thereon by clips 26, or otherwise.

A valve 27 is mounted for sliding movement in the nipple 23, the valve being disposed closely adjacent to the suction head 12. The valve 27 is provided at its upper end with a button 28. A compression spring 29 is interposed between the nipple 23 and the button 28 of the valve. The valve 27 has a transverse port 30 which can be brought into communication with the bore of the nipple 23. The valve 27 has, also, an angular port 31, one end of which communicates with the atmosphere, the other end of the port communicating with the bore of the nipple 23, and consequently with the suction head 12. The button 28 of the valve is provided in its edge with a recess 32 which, receiving a portion of the periphery of the suction head, prevents the valve from rotating, the ports 30 and 31 thus being caused to retain their proper positions. By pressing down the valve 27, the port 30 is brought into registration with the bore of the nipple 23, and, then, suction is created in the head 12. If, however, the valve 27 is permitted to rise, responsive to the spring 29, then the port 31 comes into communication with the suction head 12, and suction within the head is relieved, by way of the port 31.

The opening 20 in the reduced end of the extension 19 of the suction head 12 is placed at the anal vent. By shifting the valve 27 from the position of Fig. 3 to the position of Fig. 6, suction is created in the head 12. A definitive portion of the sex organs is drawn, by suction, to a point of inspection at the anal vent. The inspection is facilitated by the use of the magnifying lens 16. The shield 17 prevents the lamps 42 from shining into the eyes of the operator, the lamps, nevertheless, facilitating an inspection of the sex organs at the opening 20 of the suction head 12. When the pressure on the valve

27 is released, the valve returns to the position of Fig. 3, from the position of Fig. 6, under the impulse of the spring 29, suction in the head 12 is cut off, and the head is vented by way of the port 31.

Having thus described the invention, what is claimed is:

1. In a device for determining the sex of chickens, a head having an opening so dimensioned and shaped as to be applicable, for suction purposes, to the anal vent of a chicken, the head having means for connecting it with a suction source, and means carried by the head for illuminating so much of the anus of a chicken as can be seen within the boundary of the opening.

2. In a device for determining the sex of chickens, a head having an opening so dimensioned and shaped as to be applicable, for suction purposes, to the anal vent of a chicken, the head having means for connecting it with a suction source, and a magnifying device carried by the head, the opening being disposed within the field of vision through the magnifying device.

3. In a device for determining the sex of chickens, a head having an opening so dimensioned and shaped as to be applicable, for suction purposes, to the anal vent of a chicken, the head having means for connecting it with a suction source, means carried by the head for illuminating the opening, a magnifying device carried by the head, the opening being disposed within the field of vision through the magnifying device, and a light guard carried by the head and interposed between the magnifying device and the illuminating means.

JERRY F. HAMLIN.