June 12, 1945. C. C. FULKERSON 2,378,137

VACUUM CAPONIZING INSTRUMENT

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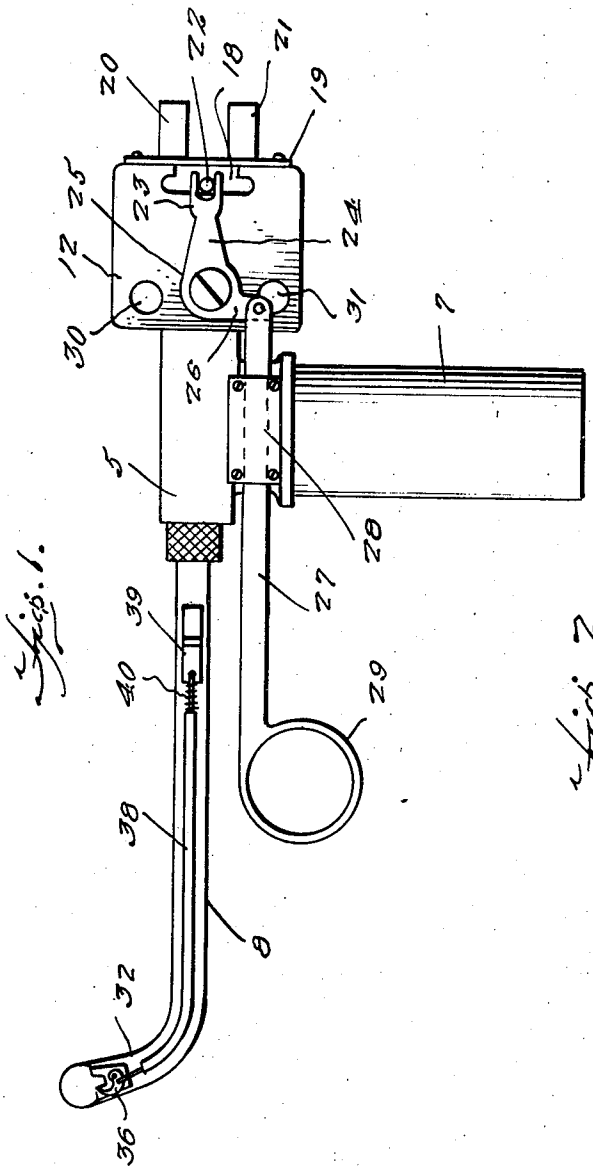


Fig. 1.

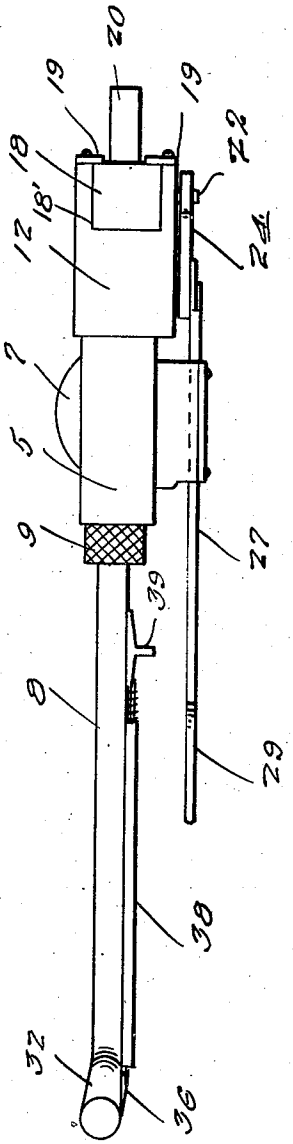


Fig. 2.

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Fig. 3.

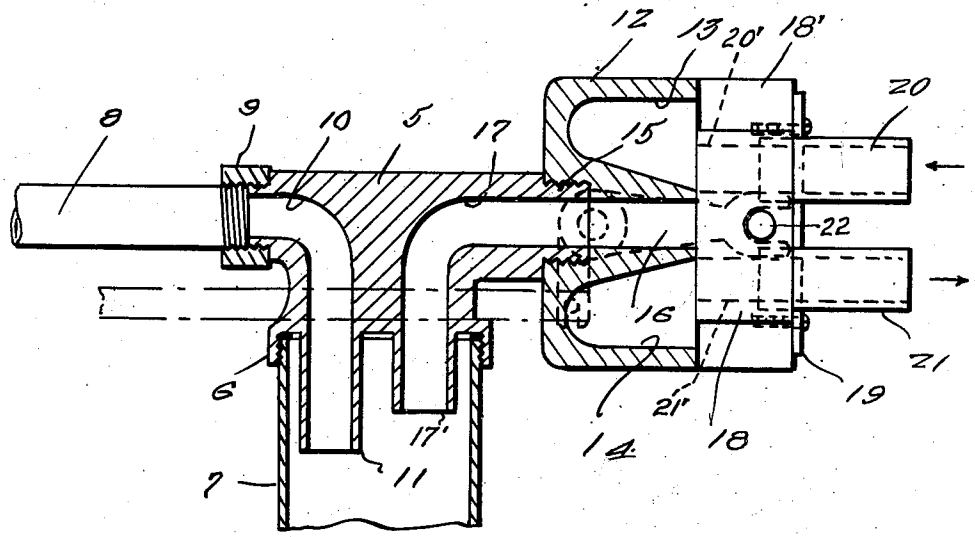
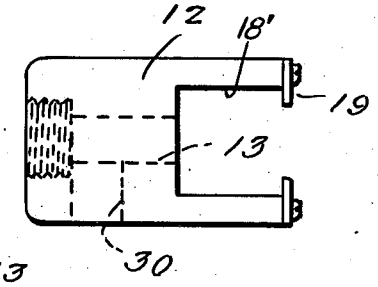
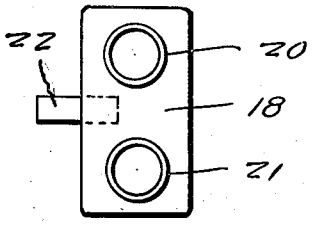


Fig. 5.

Fig. 4.





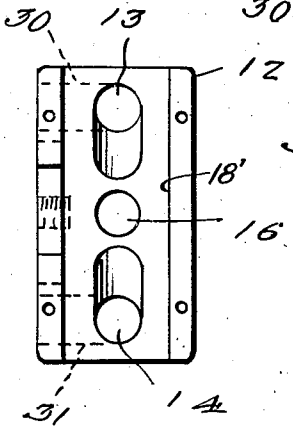


Fig. 6.

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VACUUM CAPONIZING INSTRUMENT

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Fig. 7.

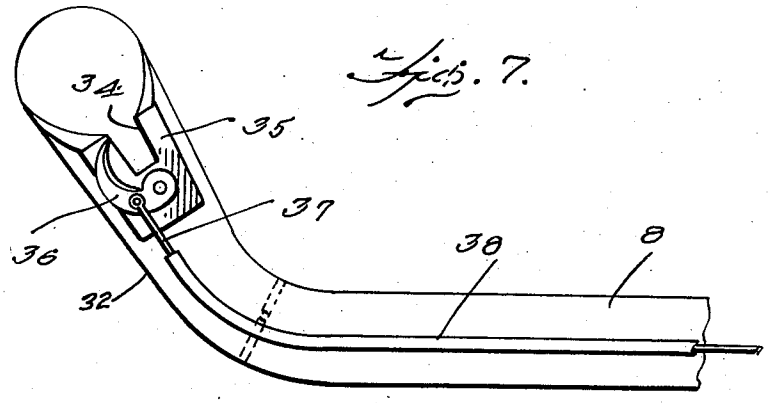


Fig. 8.

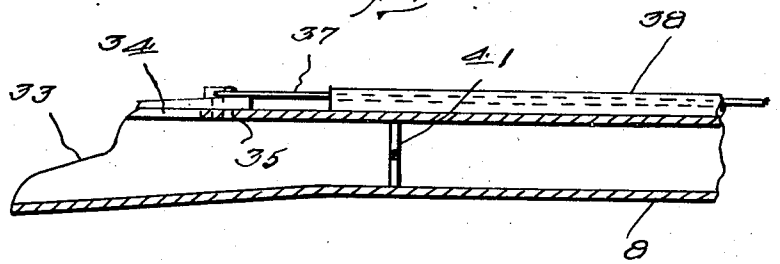


Fig. 9.

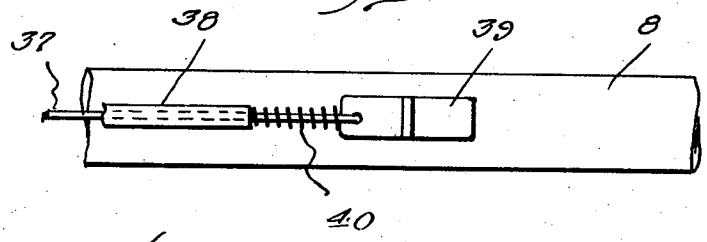
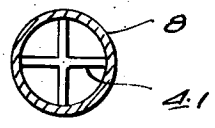


Fig. 10.



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Patented June 12, 1945 2,378,137

UNITED STATES PATENT OFFICE

2,378,137

VACUUM CAPONIZING INSTRUMENT

Charles C. Fulkerson, Lake City, Iowa, assignor of one-third to Bernard L. Willis, Menlo Park, Calif.

Application July 30, 1943, Serial No. 496,772

4 Claims. (Cl. 128—306)

This invention relates to new and useful improvements in instruments for operating on chickens to produce capons.

The principal object of the present invention is to provide a mechanical instrument incorporating the use of both vacuum and air pressure for the purpose of caponizing poultry.

Another important object of the invention is to provide an instrument of the character stated which will permit a clean operation with but a minimum change of causing injury to the fowl.

Other objects and advantages of the invention will become apparent to the reader of the following description.

In the drawings:

Figure 1 represents a side elevational view of the instrument.

Figure 2 is a top plan view.

Figure 3 is a fragmentary detailed sectional view through the control portion of the instrument.

Figure 4 is a top plan view of the valve block.

Figure 5 is a rear elevational view of the slide valve.

Figure 6 is a rear elevational view of the valve block.

Figure 7 is a fragmentary side elevational view showing the head portion of the instrument.

Figure 8 is a fragmentary longitudinal sectional view through the head portion of the instrument.

Figure 9 is a fragmentary side elevational view of the cutter operating means.

Figure 10 is a cross-section showing the barrier.

Referring to the drawings wherein like numerals designate like parts, it can be seen that numeral 5 denotes a body having a depending interior threaded socket 6 into which engages the upper threaded portion of a receptacle 7.

Numeral 8 denotes an elongated tube connected to the forward end of the body 5 by a coupling 9 and this is in communication with a passageway 10 which extends downwardly through the body 5 and through a skirt 11 which depends into the receptacle 7.

Numeral 12 denotes a valve block having upper and lower chambers 13, 14 therein. This valve block 12 has a threaded socket for receiving a threaded nipple 15 on the rear end of the body 5. The block 12 has a central passageway 16 therein which communicates with a passageway 17 which extends inwardly from the rear end of the body 5 and downwardly to pass through a skirt 17' and communicate with the interior of the receptacle 7.

The block 12 has a vertical slideway 18' in which a slide valve 18 is operative. The slideway 18' has suitable removable cleats 19 for holding the slide valve 18 in air-tight position.

The slide valve 18 has a pair of passageways 20', 21' therethrough and registering with these passageways are upper and lower nipples 20, 21 to which conduits connect and extend to the intake and exhaust sides of a suitable compressor (not shown).

Extending laterally from the slide valve 18 is a pintle 22 which protrudes into a fork 23 carried by an arm 24. The arm 24 forms part of a bell crank 25 which is rockably supported on one side of the block 12, the bell crank having a second arm 26 which is pivotally secured to a slide rod 27 slidably disposed through a guide 28 on the body 5, this rod 27 having a finger ring 29 at its forward end.

At this point, let it be understood that the upper and lower chambers 13, 14 have ports 30, 31 to the atmosphere.

The tube 8 has a curved free end portion denoted by numeral 32 and the end 32 is cut off substantially oblique to the longitudinal axis of this end portion, as at 33, and has a spermatic cord-receiving notch 34 in a side portion thereof, that is, at a plane portion 35, over which an arcuate-shaped, pivotal knife 36 operates. The knife 36 is operated by a wire 37 which passes through a tube 38 suitably secured to the tube 8 and this connects to a manually operable slide 39. A spring 40 between the slide 39 and the adjacent end of the tube 38 serves to yieldingly maintain the wire 37, knife 36 and slide 39 in normal position for operation of the knife 36 to be swung past the notch 34 by slight movement of the slide 39 toward the left, as shown in Figure 1.

The throat of the tube 8 has a spider or barrier 41 therein to prevent the testis from being struck through the tube 8.

It can now be seen that the chicken is prepared for caponizing in the usual way by placing it on an operating table with its wings tied down and a weight attached to the feet to stretch the body of the bird. The incision is made in the same place as older methods of caponizing, but in the use of this instrument it is not necessary to make the incision as large as usual, as the operating end of the instrument is small and can be used also as a probe. Spreaders are inserted into the incision and the air pump is turned on with the control trigger at center. That is, the slide valve 18 will be in the position shown in Figure 3, with neither of the ports thereof communicating with the passageway 16. The canula is inserted until

the testis is cradled or started into the mouth of the tube 8, so that by pulling back on the control trigger 29, vacuum created in the tube 8 instantly draws the testis into the tube up to the barrier 41 and slight pressure, by the operator, upon the slide 39 causes the knife 36 to operate to cut off the spermatic cord. This vacuum operation takes place due to the fact that the slide valve 18 has been shifted upwardly and communicates the nipple 21 with the passageway 16, that is, the tube 8 is communicated with the intake side of the compressor (not shown).

The tube 8 is now withdrawn from the body cavity with the severed testis firmly held in the end of the operating tube, by suction and by pushing the control rod 27 forwardly, air is instantly reversed through the instrument and the testis is blown completely out of the end of the tube, this due to the fact that the slide valve 18 is lowered so that the exhaust side of the compressor (not shown) is effecting a force of air through the passageway 16, receptacle 7 and passageway 10 to the tube 8.

The receptacle 7 is intended to catch any body fluids or small particles that may get by the barrier 41.

While the foregoing specification sets forth the invention in specific terms, it is to be understood that numerous changes in the shape, size and materials may be resorted to without departing from the spirit and scope of the invention as claimed hereinafter.

Having described the invention, what is claimed as new is:

1. A caponizing instrument comprising an elongated operating tube having a testis-receiving end and a cutter for cutting off poultry tests, suction and air pressure producing means, and a manual control for either delivering air pressure to the tube or creating a suction therein to hold testes in the mouth end of the tube while cutting, air pressure being employed to blow, out of the tube, the testis cut off therein.

2. A caponizing instrument comprising an operating tube having a testis-receiving front end and a notch at said end for receiving a spermatic cord, a knife pivoted on said tube for swinging over said notch to sever said cord, manipulative means to swing said knife at will, and means to create a vacuum and pressure in said tube alternately to draw the testis into the tube and subsequently expel the same therefrom respectively.

3. A caponizing instrument comprising an operating tube having a testis-receiving front end and a notch at said end for receiving a spermatic cord, a knife pivoted on said tube for swinging over said notch to sever said cord, manipulative means to swing said knife at will, and means to create a vacuum and pressure in said tube alternately to draw the testis into the tube and subsequently expel the same therefrom respectively, and a barrier in said tube for preventing the testis from being drawn therethrough.

4. A caponizing instrument comprising an operating tube having a testis-receiving front end and a notch at said end for receiving a spermatic cord, a knife pivoted on said tube for swinging over said notch to sever said cord, manipulative means to swing said knife at will, and means to create a vacuum and pressure in said tube, alternately to draw the testis into the tube and subsequently expel the same therefrom, respectively comprising a slide valve at the rear end of the tube, a body having the slide valve mounted thereon, a receptacle attached to said body, and a pair of ports in said body one leading from the slide valve to the receptacle and the other leading from the receptacle to said rear end of the tube, said receptacle establishing communication between said ports and serving as trap for body fluid drawn through the tube under suction.

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