March 21, 1950 W. J. McKNIGHT 2,501,283

APPARATUS FOR DEBEAKING FOWLS

Filed June 23, 1945

Fig. 1.

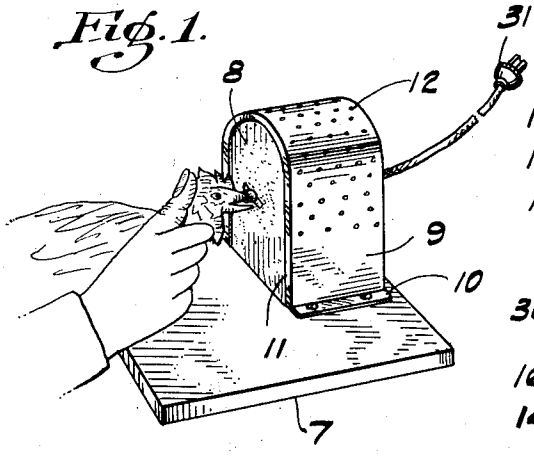


Fig. 4.

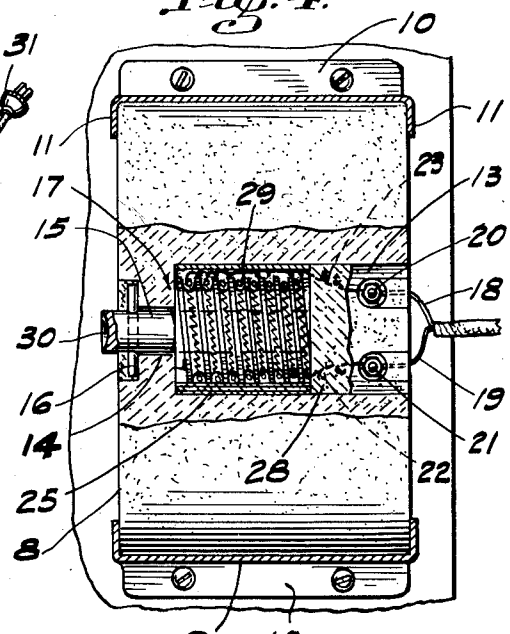


Fig. 2.

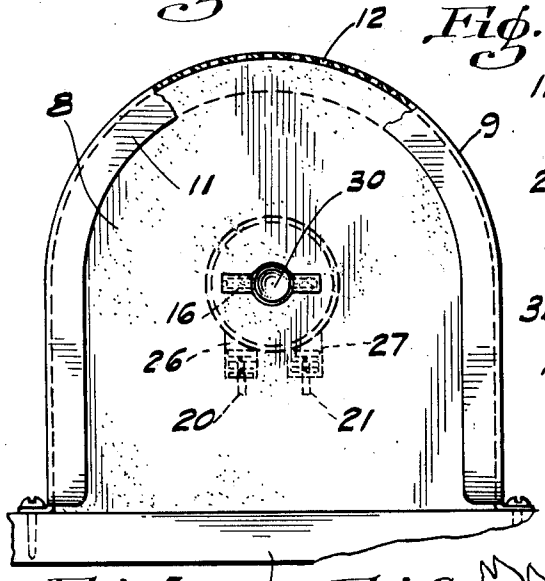


Fig. 3.

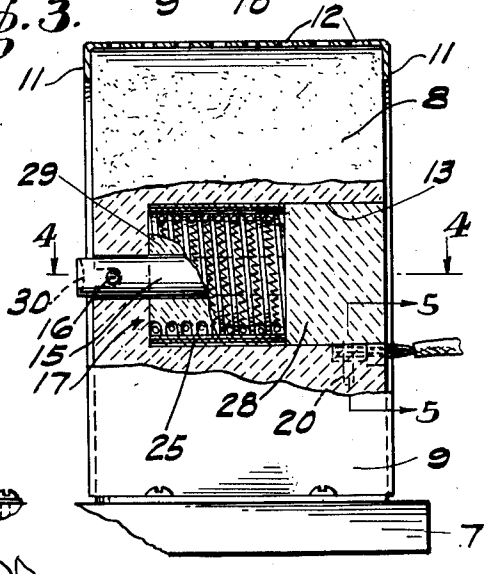


Fig. 5.

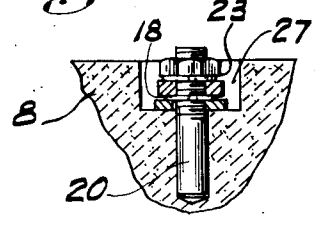


Fig. 6.



William J. McKnight,
INVENTOR.

BY

ATTORNEY.

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APPARATUS FOR DEBEAKING FOWLS

William J. McKnight, Van Nuys, Calif.

Application June 23, 1945, Serial No. 601,297

2 Claims. (Cl. 128—303.1)

1

This invention is a method and apparatus for debeaking fowls by burning away a portion of the upper mandible so as to enable the lower mandible to protrude to prevent the cooperation of the two mandibles for picking, thus resulting in the elimination of cannibalism, egg eating and avoiding the necessity of attaching appliances to the bird to prevent picking.

An important object of the invention is to provide a device for debeaking poultry and the like simply by burning away a tip portion of a fowl's upper beak. In this connection it is an important object to perform the burning operation in such a manner that charred tissue is created which prevents hemorrhage after the bill has been shortened to the desired extent.

Further objects are to provide: a debeaker having no moving parts to operate, maintain and assemble; one requiring no adjustments to be made for different aged birds; one requiring no judging and special skill to operate; one in which the operation can be more quickly performed; and further to provide an improved debeaker which is lower in cost, lower in maintenance; and which retains the heat required for its successful operation irrespective of outside air temperature.

Other objects, advantages and features of invention will hereinafter appear.

Referring to the accompanying drawing which illustrates what is at present deemed to be a preferred embodiment of the invention now reduced to practice and operating successfully.

Fig. 1 is a perspective view of the complete device and illustrating the manner in which the fowl is debeaked. In this view the device is shown on a smaller scale than in the remaining views.

Fig. 2 is an elevational view of the side of the device against which the debeaking operation takes place, some portions being broken away to contract the view and to show underlying structure.

Fig. 3 is a fragmentary side elevation of the device shown in Fig. 2, portions being broken away to disclose interior construction.

Fig. 4 is a section taken on line 4—4 of Fig. 3, parts being in elevation.

Fig. 5 is a fragmentary enlarged view taken on line 5—5 of Fig. 3.

Fig. 6 is a perspective view of the head of a debeaked fowl.

Referring in detail to the drawing, upon a base plate 7 is mounted a body 8 of highly refractory material of a good heat retaining nature, preferably of a composition known in the trade as a "vermiculite" brick. Said body is shown having an arcuate upper portion and being held in place upon the plate-like base 7 by means of a cover member 9. Said cover member is furnished at each side with outwardly projecting attaching foot flanges 10 and also is furnished with internally projecting front and rear flanges 11. Throughout its arcuate portion this cover member has a plurality of heat-dissipating apertures 12, because a considerable portion of the great heat required unavoidably reaches the surface of the body 8, which would be overheated if the ventilating apertures were absent.

2

Into the rear side of the body 8 extends a large central bore 13 which terminates at its front end considerably inwardly of the front side of the body 8, a smaller bore 14 leading centrally from the front end of the main bore 13 to the front side of said body.

Within said smaller bore fits with a working fit a metal core member 15, the front end of said core member projecting slightly from the front side of the body 8 and the opposite end portion of said member extending well into the main bore 13. Diametrically through the front portion of the cylindrical core member 15 extends an anchor pin 16, the projecting end portions of which are embedded within the body 8. Said core member 15 is desirably made of copper duronze a special type of non oxidizing copper.

A heating coil structure 17 is shown within the main bore 13 to heat the core member 15. A current being supplied to this structure through leads 18 and 19 respectively connected to binding posts 20 and 21. From the binding post 20 one end lead 22 of the heating coil leads to the core member and after passing therearound in a coiled manner the required number of times terminates in the lead 23 which is connected with the other binding post 19. Around the heating coil structure 17 is spirally wound an asbestos cover 25 which fills in the annular space around the heating coil within the main bore 13. Downwardly extending pockets 26 and 27 located in the lower part of the main bore 13, contain the binding posts 20 and 21. After the heating coil structure and the core member which it surrounds are placed in the operative position shown and the electrical connections made with the binding posts, the rear portion of the main bore 13 has filled into it a body of grouting 28 which seals in and keeps in place the heating coil structure and its electrical connections.

The coil of the copper core 15 is preferably

heated by a nichrome wire coiled in a 75 watt unit wrapped around the porcelain core **29**.

In order to aid the operator in holding the beak of the fowls being operated upon in the proper position upon the front end of the core member **15**, said member is furnished at its front end with a shallow concave depression **30**.

Preparatory to putting the device into operation the electric current is turned on a sufficient length of time to heat the copper core **15** to a tissue charring temperature which is in the neighborhood of 1600 degrees Fahrenheit, simply by plugging the member **31** into an electrical socket.

In performing a debeaking operation the operator will, by grasping the fowl's neck and head in the manner shown in Fig. 1, draw down the lower mandible and at the same time will momentarily abut the tip of the bill of the upper mandible against the concave front end of the heated core member **15** thereby burning back the tip portion of said bill to the desired extent as indicated at **32** in Fig. 6.

The burning beak operation is impeded by the charred tissue formed thus preventing hemorrhage and aiding the operator in determining when sufficient tissue has been burned away. In actual practice it has been found that two persons working conjointly can debeak 600 fowls in an hour.

In regard to the claimed invention considered as a method, a variety of means may be used to burn and char the bill operated upon to the desired extent, which will preferably be between one-third and one-half the distance from the extremity thereof to the fowl's nostrils.

It should be understood that the present disclosure is for the purpose of illustration only and

that this invention includes all modifications and equivalents which fall within the scope of the subject matter claimed.

I claim:

1. A poultry debeaking device comprising a body of heat resisting material, a heat conducting core fixed in and protruding from said body and having an unbroken face in the protruding end so that the beak of a fowl may be held thereagainst for debeaking, means within said body for heating the conducting element, and means for fixedly securing the body on a support.

2. A poultry debeaking device comprising a body of heat resisting material, a heat conducting core fixed in and protruding from one side of said body and having an unbroken face in the protruding end, said unbroken face of the core being provided with a concavity so that the beak of a fowl may be fitted therein for debeaking, means within said body for heating the conducting core, and means embracing said heat resisting body for fixedly securing the same on a support.

WILLIAM J. McKNIGHT.

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