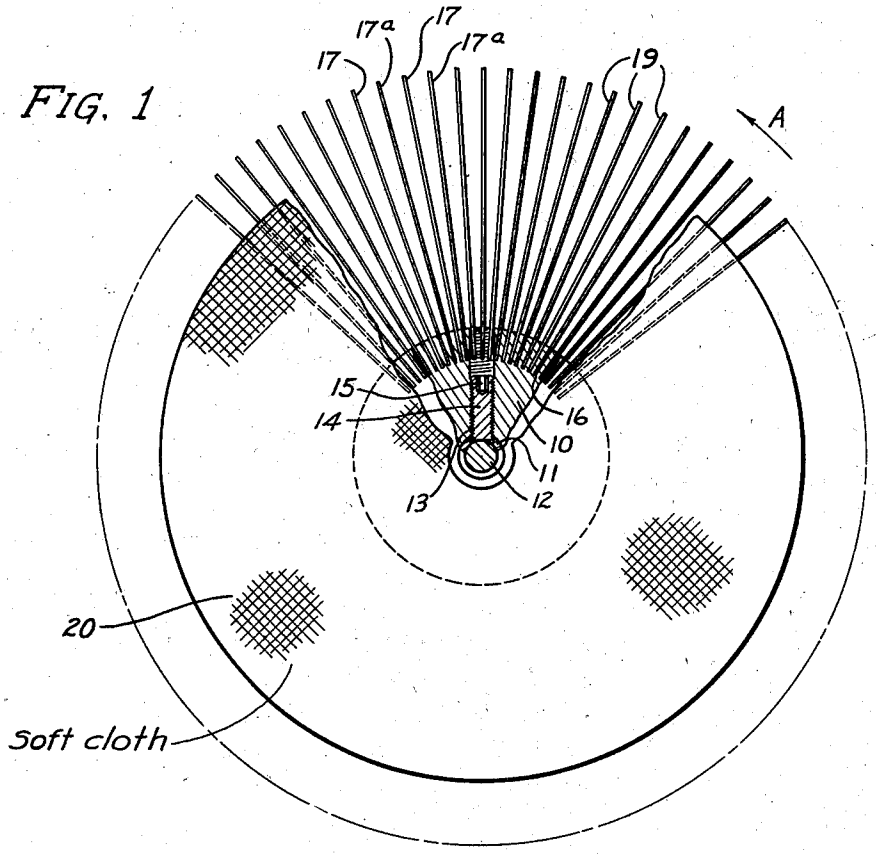
June 29, 1948. E. C. CRUMBLING ET AL 2,444,093

EGG CLEANING DEVICE

Filed March 12, 1947

FIG. 1



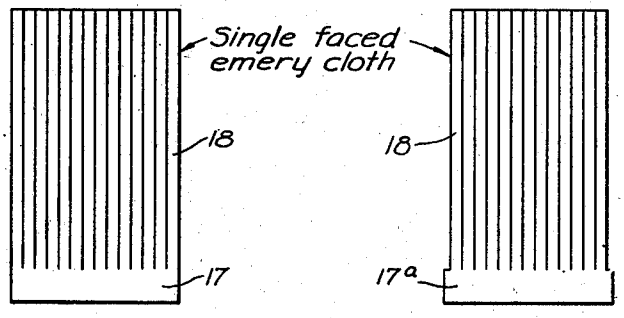




FIG. 2

FIG. 3

INVENTORS
E. C. CRUMBLING
and
D. A. CRUMBLING
BY
Morris & J. Dunbar
Attys

Patented June 29, 1948

2,444,093

# UNITED STATES PATENT OFFICE

2,444,093

## EGG CLEANING DEVICE

Everil C. Crumbling and Donald L. Crumbling,
York, Pa.

Application March 12, 1947, Serial No. 734,270

2 Claims. (Cl. 51—193)

1

This invention relates to egg cleaning apparatus and more particularly to an apparatus of this character which may be conveniently used by the producer.

The ordinary egg cleaning apparatus as heretofore devised is a relatively complicated structure and is so expensive that it is not available to the average producer. It has, therefore, been the custom to deliver the uncleaned eggs to brokers subject to a charge for cleaning or in lieu thereof at a reduced price per dozen. In addition to their high cost, these machines are furthermore objectionable in that they will not properly remove hardened excrements.

An important object of the present invention is the provision of a cheaply producible and a simple apparatus which may form a portion of the normal equipment of the small producer which will efficiently remove hardened excrements and which may be readily restored to operation when through use it has become unoperative.

A more specific and important object of the invention is the production of a buffing wheel which may be utilized in completely removing excrements from eggs without danger of breaking the same.

Another object of the invention is the provision of a buffing wheel of this character which may be cheaply and readily manufactured, which is capable of direct attachment to the shaft of a motor and which may be operated safely by an inexperienced person.

These and other objects we attain by the construction shown in the accompanying drawings wherein for the purpose of illustration we have shown a preferred embodiment of our invention and wherein;

Figure 1 is a side elevation partially in section of an egg cleaning device constructed in accordance with our invention, and

Figures 2 and 3 are comparative front elevations of two of the buffing elements employed in the wheel.

Referring now more particularly to the drawings, the numeral 10 designates a cylindrical core preferably formed of wood and lined as indicated at 11 by a metallic tube having an internal diameter for the reception of the shaft 12 of the motor (not shown) with which the wheel is intended for use. The core 10 and lining tube 11 are threaded as indicated at 13 for the passage of a blind socket-headed set screw 14 of less depth than the distance between the bore of liner 11 and the periphery of core 10 and socketed as at 15 for the reception of a conventional wrench.

2

The periphery of core 10 is axially slotted as at 16 to receive the inner edges of buffing sheets 17, 17A. Slots 16 are uniformly circumferentially spaced and with the use of the wooden core may constitute simple saw kerfs. The buffing sheets 17, 17A are each longitudinally divided to form a plurality of narrow radial strips 18, the strips of adjacent sheets 17, 17A being preferably offset with relation to one another. Division of the sheets is discontinued adjacent the inner edges leaving a margin permitting them to be handled as a unit and to be readily cemented in slots 16. The periphery of the completed wheel thus becomes a multiplicity of narrow flexible abrasive strips projecting in axial rows from core 10. The material employed in formation of the buffing sheet 17 is a single-faced emery cloth, the emery bearing faces 19 of the cloth being disposed in advance as regards the direction of rotation indicated by arrow A of Figure 1. The emery cloth employed is necessarily relatively fine and the individual strips 18 are relatively narrow and stiffly flaccid, so that the structure in its normal form will reveal the strips 18 in a bent or folded condition. When, however, the wheel is operated at its normal speed (approximately 1750 R. P. M.) the strips will assume the radial positions illustrated in Figure 1. Since these strips are of a flexible nature and individually relatively light, they will not impinge upon an egg, even at a relatively high rate of speed, with sufficient force to fracture the shell thereof. Their abrasive action will however rapidly and efficiently remove all foreign matter from engaged portions of the egg.

To prevent the blower action which would normally occur when the buffing wheel is operating at high speed, the sides of the wheel have applied thereto discs of soft cloth, indicated at 20, having a diameter slightly less than that of the wheel. This material will serve to prevent the entry of air between adjacent sheets 17, 17A at or near the periphery of core 10 and will at the same time present a peripheral edge which will not be injurious to the hands upon contact.

Since the construction illustrated is obviously capable of modification without departing from the spirit of our invention, we do not wish to be understood as limiting ourselves thereto except as hereinafter claimed.

We claim:

1. In egg cleaning apparatus a core having an axially slotted periphery and adapted to be rotated in one direction, and fabric sheets each having one face thereof coated with a finely divided abrasive, each of said sheets being split from a

point adjacent one edge thereof to the opposite edge to form a plurality of narrow stiffly flaccid strips and having the first named edge thereof cemented in a slot of said core and discs of soft textile material concentrically secured to the ends of said core and having a diameter less than the effective diameter of said apparatus when rotating at operating speeds.

2. In egg cleaning apparatus, a rotor consisting of a core having its periphery axially slotted and adapted to be rotated in one direction, the slots being circumferentially spaced, pliable fabric sheets each having the advance face thereof coated with finely divided abrasive, each of said sheets being split from a point adjacent one edge thereof to the opposite edge to form a plurality of narrow stiffly flaccid strips and having the first named edge thereof cemented in a slot of said core, said slots being so spaced that the peripheries of said sheets comprise axially-sectional, radial buffing elements the radial positions and operative stiffness of which depend solely upon the speed of rotation of the core.



EVERIL C. CRUMBLING.
DONALD L. CRUMBLING.


## REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

| Number | Name | Date |
|---|---|---|
| 624,160 | Black | May 2, 1899 |
| 648,890 | Williams | May 1, 1900 |
| 963,523 | Crismore | July 5, 1910 |
| 1,023,807 | Brinkman | Apr. 23, 1912 |
| 2,015,646 | Hillix | Sept. 24, 1935 |
| 2,090,814 | Seybert | Aug. 24, 1937 |