W. O. STODDARD.

APPARATUS FOR DESICCATING EGGS.

No. 184,187. Patented Nov. 7, 1876.

Fig 1

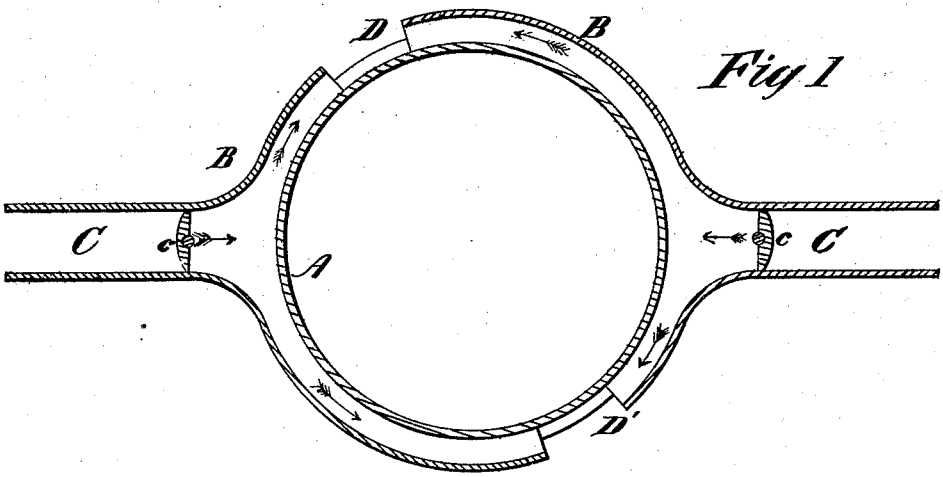
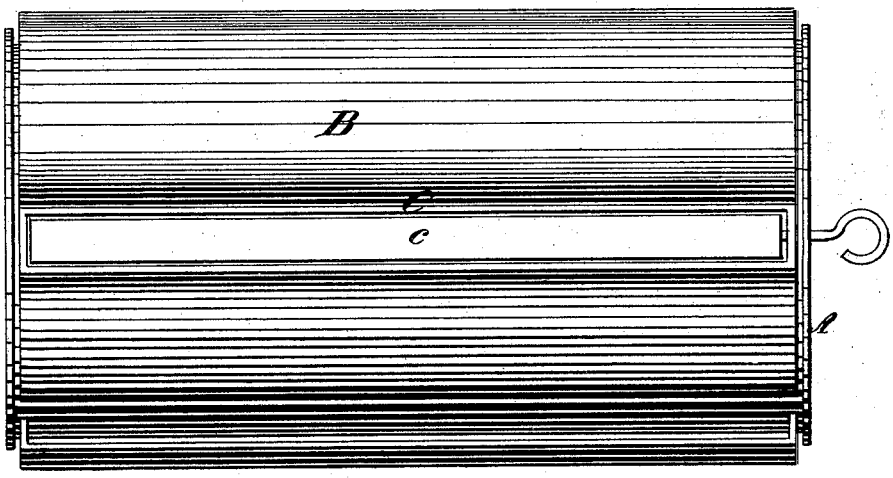


Fig 2



Witnesses

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UNITED STATES PATENT OFFICE.

WILLIAM O. STODDARD, OF NEW YORK, N. Y., ASSIGNOR TO AMERICAN EGG COMPANY, OF SAME PLACE.

IMPROVEMENT IN APPARATUS FOR DESICCATING EGGS.

Specification forming part of Letters Patent No. **184,187**, dated November 7, 1876; application filed March 31, 1876.

To all whom it may concern:

Be it known that I, WILLIAM O. STODDARD, of the city of New York, in the county of New York and State of New York, have invented a certain new and useful Improvement in Machinery Used for the Desiccation of Eggs or similar material; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification, in which—

Figure 1 is a vertical transverse section of the portion of apparatus embracing my improvements. Fig. 2 is a side elevation of devices shown in Fig. 1.

Whenever, for the purpose of drying or desiccating eggs or similar material, the drying or desiccating surface is presented in the form of a rotating cylinder or cone, or frustum of a cone, or any modification of either of these forms, whereon, while in rotation, said material is to be desiccated by the action of a blast or current or moving column of atmospheric air, it is desirable that the entire capacity, as nearly as may be, of such air for absorbing the moisture contained in the said material should be rapidly utilized, and that then the air charged with the moisture so absorbed should be immediately driven off to give place to air not so charged. The object of my invention is to accomplish this result.

When a rotating cylinder or similar device is employed for the purposes indicated, I wholly or partly inclose the same in a shell, or a section or sections of a shell, overlapping at the ends, as represented in Fig. 1, wherein A represents such a cylinder; B, such a section of such a shell; C, the longitudinal slots or apertures required for the admission of the desiccating blast or blasts of air; D, the opening at the top of the shell for the supply of the material to be desiccated, and for the escape of air; and D′, an opening at the bottom of the shell, adjusted as to locality to the centrifugal action of the rotating cylinder in throwing off superfluous material or drip.

Where but one blast is used, applied through an opening in a shell or section of a shell, as indicated on one side of the cylinder or other device, the result obtained is necessarily imperfect, though notably superior to that secured by the use of a simple closed chamber, not specially designed for the purposes herein indicated. A better result with the same expenditure of force in the production of the desiccating blast, current, or moving column of air is obtained by dividing or doubling the same and applying it simultaneously through opposite or nearly opposite apertures in the inclosing-shell. By this means the opposing currents of air, meeting at the openings D and D′, as indicated in the drawing, Fig. 1, are at once expelled from the retaining-shell and cut off from all further contact with the material to be desiccated.

The volume and force of the desiccating blast of air are regulated and controlled by a simple valve or cut-off in the feed-pipe C, as at *c*. In actual work—in the desiccation of eggs, for instance—I have found that, with cylinders three feet in diameter and of proportionate length, the best results were obtained by making the distance between the inner face of the shell, or section of a shell, and the surface of the cylinder about two and one-half inches. With a larger cylinder this might require to be somewhat increased; but care should be taken not to defeat the specific use of the close shell in utilizing to the utmost the absorbing capacity of the drying-blast.

I have used and fully tested the "close chamber" mentioned in the patent granted to C. A. La Mont, October 10, 1865, on machinery which, with its inclosing-chambers, was expressly designed and constructed by said La Mont. The effect secured by the use of the close retaining-shell or section of a shell, employed as herein indicated, cannot, to any considerable extent, be produced by such a chamber.

In my invention the walls of the shell or section of a shell operate as continuations or prolongations of the lips of the orifice of the blast-pipe or feeder, as shown at *a*, and the effect produced is that of continuing and conveying the full drying power of the blast to almost, if not quite, the entire surface of the cylinder or other device employed.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a machine for the desiccation of egg substance or other material by a blast or current of air, the combination, with the blast-pipe C and cylinder or desiccating-body A, of a shell or a section of a shell, B, for confining the blast or current of air and forcing it into close contact with the material undergoing desiccation, substantially as described.

2. In a machine for desiccating eggs or other material by a blast of air, the combination, with the desiccating cylinder or body and blast-conduit, of a confining-shell having one or more openings, substantially as and for the purpose described.

In testimony that I claim the foregoing I have hereunto set my hand this 20th day of March, 1876.

WILLIAM O. STODDARD.

Witnesses:

LUCIEN BIRDSEYE,

BENJ. H. BAYLISS.