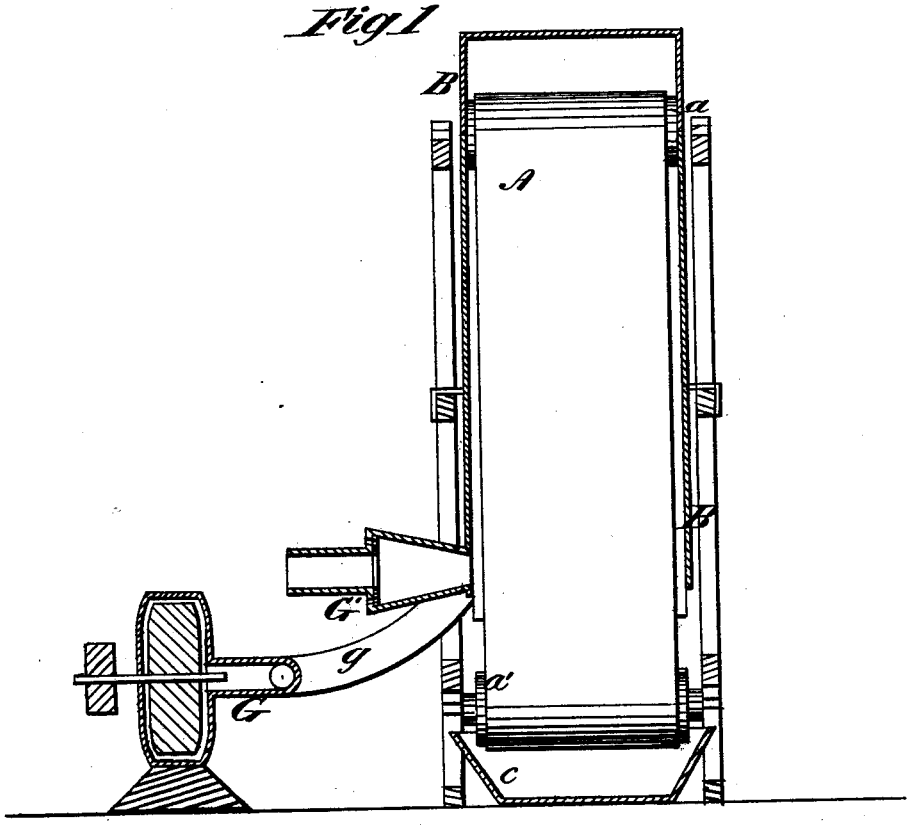
2 Sheets—Sheet 1.

W. O. STODDARD & H. FLINT.

APPARATUS FOR DESICCATING EGGS.

No. 190,927. Patented May 15, 1877.

Fig 1



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2 Sheets—Sheet 2.

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Fig. 2

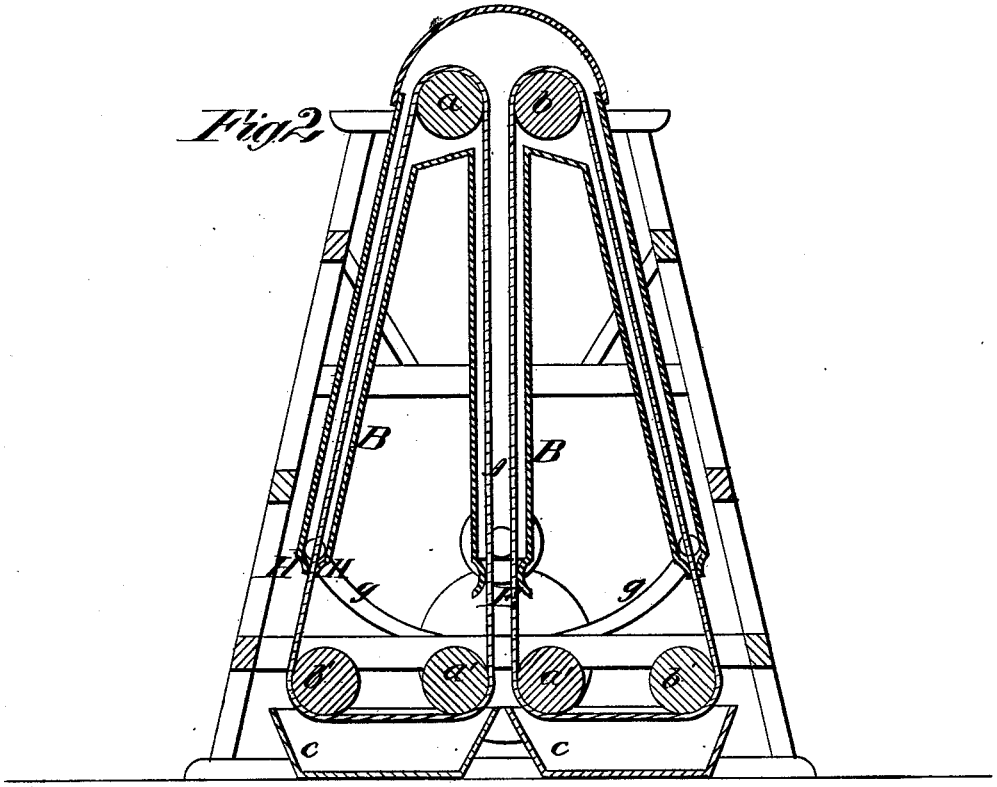
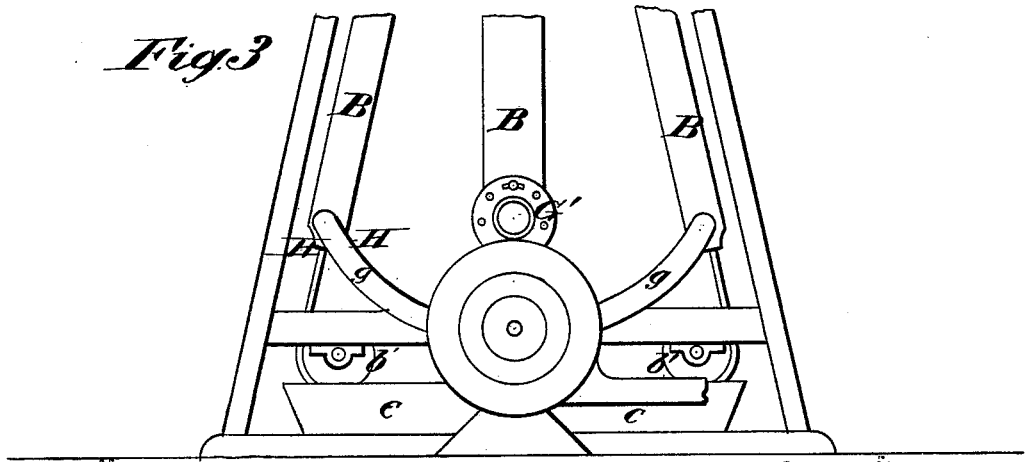


Fig. 3



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UNITED STATES PATENT OFFICE.

WILLIAM O. STODDARD, OF NEW YORK, N. Y., AND HENRY FLINT, OF ST. LOUIS, MISSOURI.

IMPROVEMENT IN APPARATUS FOR DESICCATING EGGS.

Specification forming part of Letters Patent No. **190,927**, dated May 15, 1877; application filed January 4, 1877.

To all whom it may concern:

Be it known that we, WILLIAM O. STODDARD, of the city of New York, in the county of New York and State of New York, and HENRY FLINT, of the city of St. Louis, in the county of St. Louis and State of Missouri, have invented a certain new and useful Improvement in Machinery for the Desiccation of Eggs, and similar material; and we 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 an apparatus constructed in accordance with our invention. Fig. 2 is a longitudinal section. Fig. 3 is a front elevation of a portion of the machine.

In the desiccation of eggs or similar material, by means of a drying-blast or current of air, heated or otherwise, it is desirable to obtain and combine the largest practicable superficies of drying surface or exposure, a thin film of the substance undergoing desiccation, and complete employment or utilization of such drying-blast or current of air.

It is the object of our present invention to secure these results with economy of space and power, and a saving of manual labor, and to deliver the manufactured product in proper form and condition for subsequent use.

Our invention consists in the novel construction, combination, and arrangement of parts, whereby the desiccated material is withdrawn and discharged through and by means of the suction-blast; and in the combination, with the endless belt or apron and drying-chamber, of scraping-jaws attached to the casing of said chamber, all as hereinafter described and claimed.

The letter A of the accompanying drawing is an endless belt or moving apron, composed of cotton duck or web, metallic-wire web, or other suitable material, passing over and upon, and moved by means of, the revolving drums or pulleys *a* and *b* at top, and *a′ b′* at bottom. The endless belt or moving apron A is inclosed, in whole or for the greater part, in the atmospheric retaining shell or case B, which retains the drying-blast or current of air in close and continuous contact with such endless belt or apron, and with the material thereon to be desiccated, as hereinafter indicated.

Letters Patent of the United States have already been granted to William O. Stoddard, one of the present petitioners, for an atmospheric retaining case or shell, similar in principle to the one herein described, in connection with rotating cylinders employed for a similar purpose; and our present invention is intended to extend the use and application of such atmospheric retaining shell or case to the contrivances herein set forth and described.

The eggs, or other material to be desiccated, may be supplied to the endless belt or moving apron A, at any point thereof, through openings in the atmospheric retaining case or shell, or otherwise. The precise method or point of supply of such material is of minor importance, and we have chosen to exhibit, as one of several feasible methods, that of setting the lower drums or pulleys *a′* and *b′*, with the endless belt or moving apron passing over them, in vats or pans *c*, to which such eggs, or other material to be desiccated, can be supplied at pleasure. A sufficient film of such material would in this case adhere to the endless belt or moving apron, and be drawn up thereon through the narrow slot or opening E into the atmospheric retaining case or shell. G is a continuation of the suction or air-supply pipe of a powerful blower, of any of the patterns now in common use, through which pipe, and by means of such blower, a sufficient blast or current of air would be created and caused to suck or draw through the retaining shell or case B, in close contact with the eggs or other material to be desiccated. Such air would be supplied, in the instance given in part, through the narrow slot or opening E. It is designed, however, that the greater part of such supply of air, if not, in practical use, the whole of it, should be drawn and supplied through a proper supply-pipe, as G′, by means of which either hot or cold air could be sup-

plied, as desired, from any of the many contrivances for such purposes now in common use.

It is well known that the heat of such a supply of air can, by means of such contrivances, be regulated to any required degree of temperature.

H H is a pair of close jaws, constituting scrapers for the removal of desiccated material from the endless belt or moving apron A as it is drawn through between them. Such removed material falls into the channel or gutter *g*, in the direct path, and subject to the expelling force, of the blast or current of air passing out through the suction-pipe G. The force of such suction, or blast or current of air, is amply sufficient to carry with it all such desiccated material out through the pipe G, to be delivered, through the blower employed, into a proper receptacle, as is now commonly done in other applications of such blowers.

The required length and speed of movement of the endless belt or apron A will vary, necessarily, with the nature of the material to be desiccated, and the force and drying power of the blast or current of air employed.

The space or distance between the face or surface of the endless belt or moving apron A and the inner surface of the retaining shell or case B should be proportioned to the general dimensions of said case and belt, and to the power of the blower employed. Under ordinary circumstances it should be about two inches, that the compression of the suction-blast or air-current may be sufficient to spread thinly the film of material to be desiccated, and to insure entire utilization of the desiccating power of the air-current.

Owing to the great velocity with which the drying-blast or current of air can be sucked or drawn through the retaining case or shell B, and the forced close contact thereby maintained of such blast or current of air with the film of material on the endless belt or moving apron A, such film of material is rapidly treated and deprived of its watery particles, so that the manufactured product is shaken off by the movement of the belt, aided by the action of the blast, or is scraped or brushed off at H.

We claim as our invention, and desire to secure by Letters Patent—

1. In an apparatus for desiccating egg or other substance, the combination, with the drying-chamber, of a suction-blast, said chamber and blast apparatus being constructed and arranged substantially as described, whereby the desiccated material is withdrawn and discharged through and by means of the suction-blast.

2. In an apparatus for desiccating egg or other substance, the combination, with the drying-case and endless belt or moving apron, of the jaws H H, constituting scrapers to remove the material from the apron, as described.

In testimony that we claim the foregoing we have hereunto set our hands this 7th day of October, 1876.

WILLIAM O. STODDARD.
HENRY FLINT.

Witnesses as to Wm. O. Stoddard:
BENJ. H. BAYLISS,
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Witnesses as to Henry Flint:
JOHN MCGAFFEY,
W. H. COOPER.