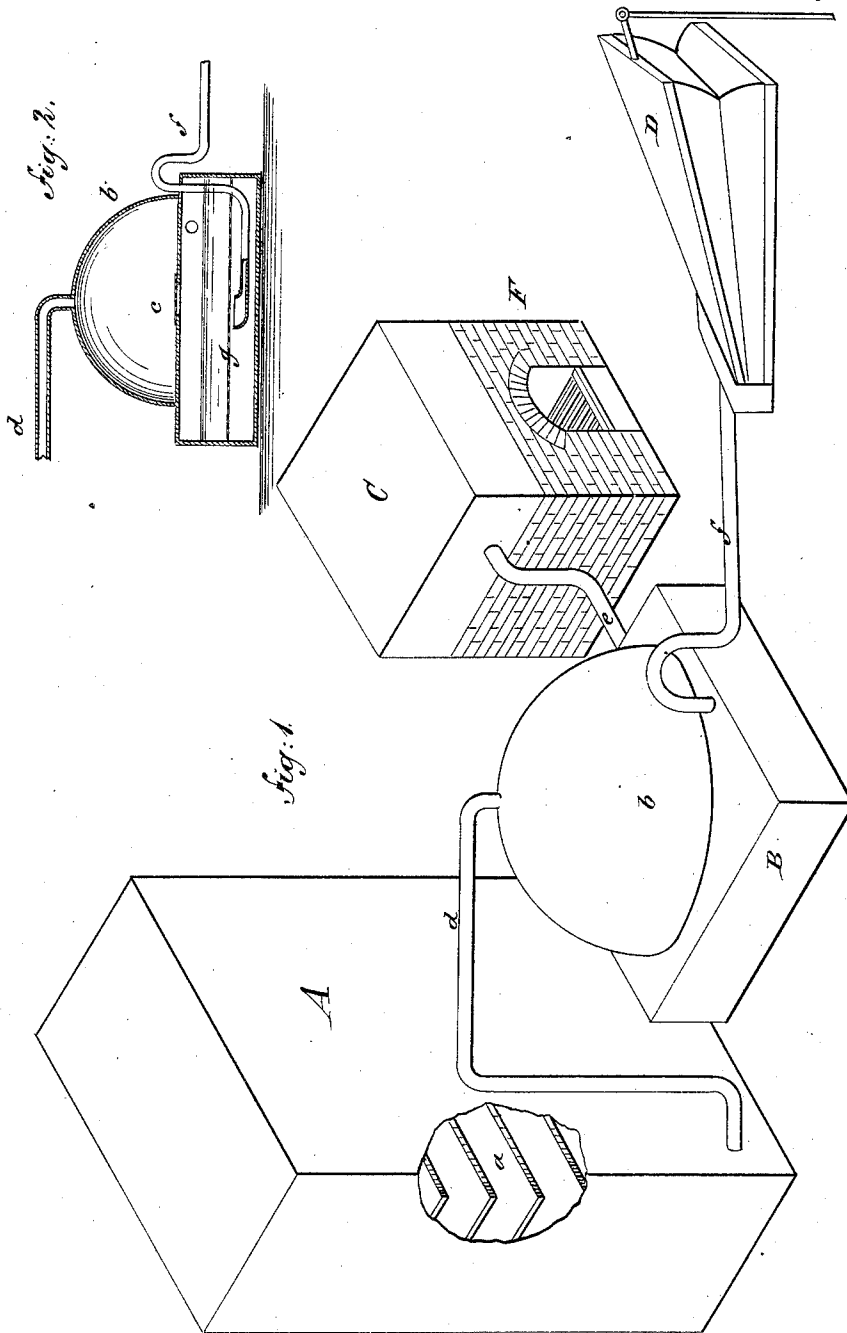


(No Model.)

E. G. BOUGHTON.
Fruit Drying Apparatus.

No. 231,991.

Patented Sept. 7, 1880.



WITNESSES:

Chas. Nida
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INVENTOR:

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UNITED STATES PATENT OFFICE.

ENOS G. BOUGHTON, OF PITTSFORD, NEW YORK.

FRUIT-DRYING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 231,991, dated September 7, 1880.

Application filed March 25, 1880. (No model.)

To all whom it may concern:

Be it known that I, ENOS G. BOUGHTON, of Pittsford, in the county of Monroe and State of New York, have invented a new and useful Improvement in Apparatus for Drying Fruit, Meat, &c., of which the following is a specification.

My invention relates to apparatus for drying substances such as fruits, vegetables, hops, meats, &c., and the object of my invention is to evaporate the moisture from such materials with dry air at ordinary temperature without the application or use of artificial heat, so that the natural flavor of such materials shall be preserved.

In the drawings, Figure 1 is a perspective view of the apparatus. Fig. 2 is a vertical section of the air-chamber.

Similar letters of reference indicate corresponding parts.

A is the drying-chamber, constructed of wood, brick, stone, or other material, and containing shelves or grates *a*, for receiving the material to be dried.

B is a chamber, lined with porcelain or lead, for containing sulphuric acid. Upon this chamber B is fitted a dome or chamber, *b*, communicating therewith by an opening, *c*, and connected with chamber A by a pipe, *d*.

C is a second chamber for containing sulphuric acid, connected by a pipe, *e*, with chamber B, and supported upon a furnace, F, by which heat is to be supplied.

f is a pipe for supplying atmospheric air to chamber B, such air being forced in by bellows D or other forcing apparatus. The pipe *f* passes to the center of chamber B, and terminates beneath a perforated plate, *g*, that is fitted in the chamber, so that the air will be discharged beneath the acid.

The chamber B is to be from one-half to two-thirds full of sulphuric acid of the gravity of 1.60, or stronger. Above, around the opening *c* to dome *b*, caustic lime is to be placed for removing traces of acid and arsenic from the air passing through.

The chamber C is also to contain sulphuric acid, which will be evaporated to the desired gravity by heat from the furnace F, and supplied to chamber B by pipe *e*, as required.

The furnace is fitted for burning sulphur to sulphurous acid, which is to be conducted directly to dome *b* when needed for bleaching purposes.

The air supplied by pipe *f* to chamber B is freed from moisture, and passes to the dome *b* in a thoroughly-dried condition, and at ordinary temperature—say 70° Fahrenheit. From the dome *b* the air passes to the drying-chamber A, throughout which it circulates in direct contact with the material, and is carried off by suitable ventilating-pipes.

By this process of using chemically-dried air all danger of injuring the material by overheating is avoided, and there being no direct application of heat to the material the flavor is not destroyed, and it is possible to restore the dried material to its original form by the application of moisture.

The process is also economical, as no heat is lost except from the evaporating-reservoir of sulphuric acid, which is but little, and may, if necessary, be utilized for forcing the air.

I do not limit myself to the use of sulphuric acid for the purpose of drying the air, as other materials having affinity for moisture may be used, such as caustic lime or fused chloride of calcium.

By passing the air through sulphuric acid it is not only dried, but purified, the acid destroying all forms of zymotic and other minute organic growths. This feature is of great importance in drying meats.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

The combination of the furnace A, having grates or shelves *a*, the lead-lined chamber B, having a hole, *c*, opening into a dome, *b*, connected by a pipe, *d*, with the furnace, the acid-chamber C, connected by a pipe with chamber B and supported on a furnace, F, and the bellows D, connected by a pipe, *f*, with chamber B, as and for the purpose specified.

ENOS GILBERT BOUGHTON.

Witnesses:

JOHN BROWN,
L. S. DOWNING.