

J. B. SWEETLAND.
Evaporator and Fruit-Dryer.

No. 209,146.

Patented Oct. 22, 1878.

Fig. 1.

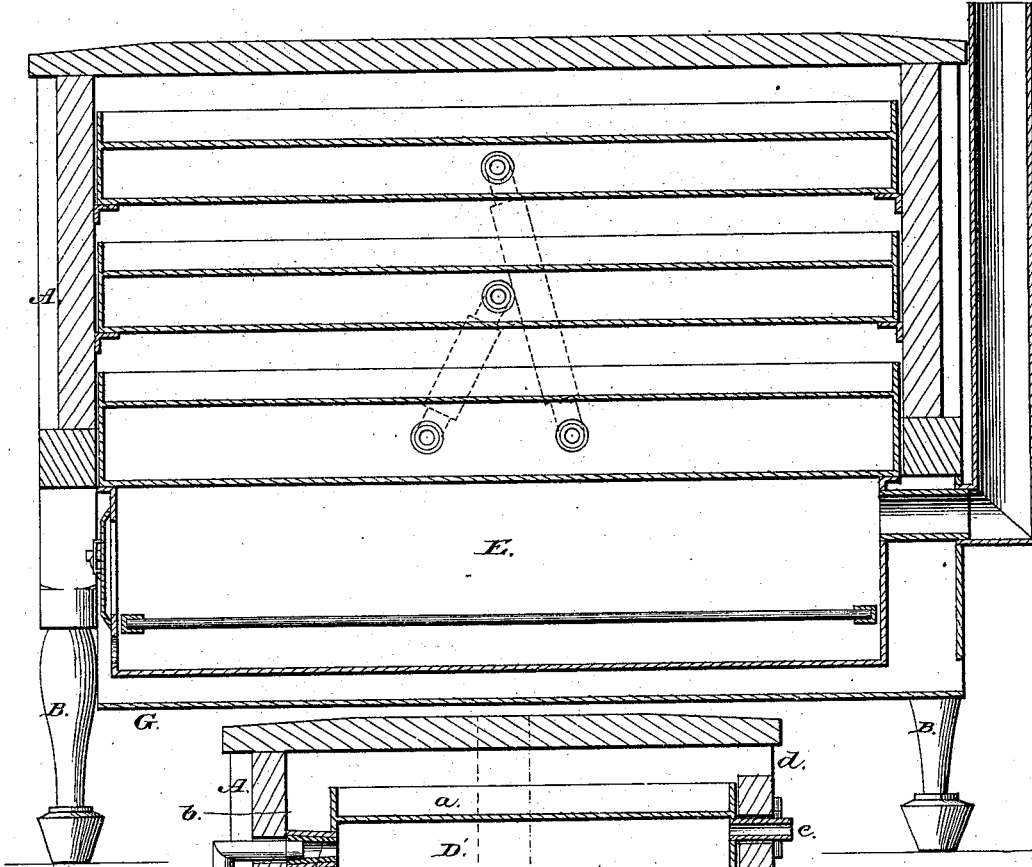
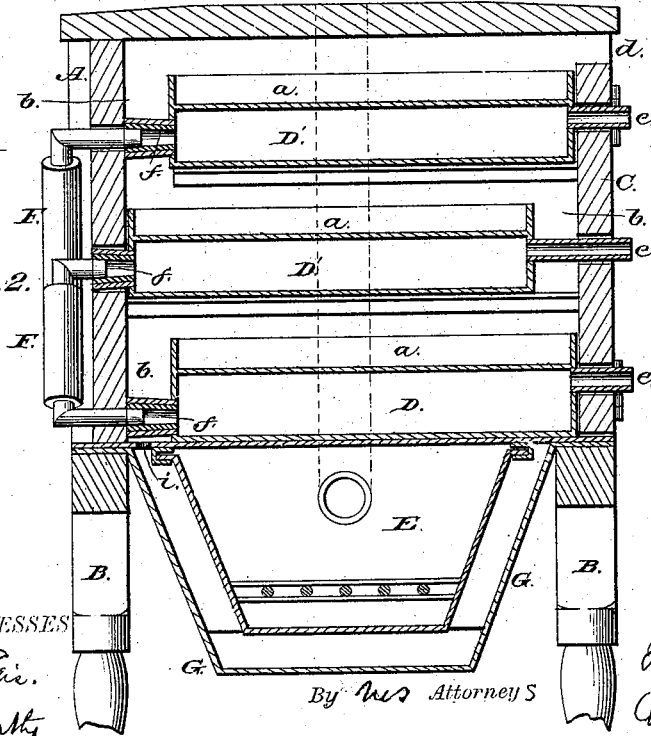


Fig. 2.



WITNESSES

John A. Ellis.
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INVENTOR

J. B. Sweetland
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UNITED STATES PATENT OFFICE.

JEROME B. SWEETLAND, OF PONTIAC, ASSIGNOR OF TWO-THIRDS HIS RIGHT
TO H. N. SWEENEY AND A. McPHERSON, OF DETROIT, MICHIGAN.

IMPROVEMENT IN EVAPORATOR AND FRUIT-DRIER.

Specification forming part of Letters Patent No. 209,146, dated October 22, 1878; application filed
September 12, 1878.

To all whom it may concern:

Be it known that I, JEROME B. SWEETLAND, of Pontiac, in the county of Oakland, and in the State of Michigan, have invented certain new and useful Improvements in Evaporator and Fruit-Drier; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

The nature of my invention consists in the construction and arrangement of an evaporator and fruit-drier, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a longitudinal vertical section of my invention, and Fig. 2 is a transverse vertical section of the same.

A represents the case or box of my drier, supported upon legs B B, and provided at the front with a door, C. Under the drier is the furnace E, the blaze and heat from which strike the bottom of the boiler D. On the top of this boiler or first section is formed a pan, *a*. Above the boiler or first section, D, are any desired number of hollow sections, D', formed with pans *a* at the top.

The sections D D' are placed alternately front and rear, so as to leave a passage alternately between the back of the drier and one section, and between the front of the drier and the next section, and so on. These passages are marked *b*. At the top of the door C is an opening, *d*. *e e* are pipes running from the upper part of each section through the door, as shown.

In the boiler D there are as many openings as there are sections or pans above it, and each of these upper sections or pans has a self-packing opening in the back side, coinciding

with suitable openings in the back of the case. Each pan D' is connected with the boiler D by a separate pipe, F, so that the steam can be shut off from any one or more of the upper sections or pans, D'.

The joint between the pipes F and their respective sections D' may be formed by means of rubber sleeves *f*, or in any other suitable or convenient manner.

The pipes *e* are for the purpose of giving suitable vent, so that the steam will circulate.

Around the furnace E is a shield, G, forming a chamber for heating air. Back of the boiler are perforations *i* in the bottom, so that the heat thrown off from the fire-box passes up through said perforations and past the rear of the boiler, over the bottom pan, *a*, of fruit, and up past the front end of the next section, over the same to the back, and so on, and finally escapes through the opening *d* at the top of the door, or some other opening made for that purpose.

The object of the hot air is twofold: It keeps the trays or pans hot, and it also carries off the vapor and moisture as they rise from the pans, and assists the drying process. The machine thus is actually a combined steam and hot-air drier.

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

The combination of the case A, boiler D, fire-box E, with surrounding shield G, the pans D' D', and connecting-pipes F F, whereby the hot air is caused to pass under and over the pans D', and the steam at the same time caused to circulate through one or more of the pans, substantially as herein set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 13th day of August, 1878.

JEROME B. SWEETLAND.

Witnesses:

JUNIUS TEN EYCK,
WARREN J. COOK.