J. ZIMMERMAN.

FRUIT-DRIER.

No. 192,043. Patented June 12, 1877.

Fig. 1.

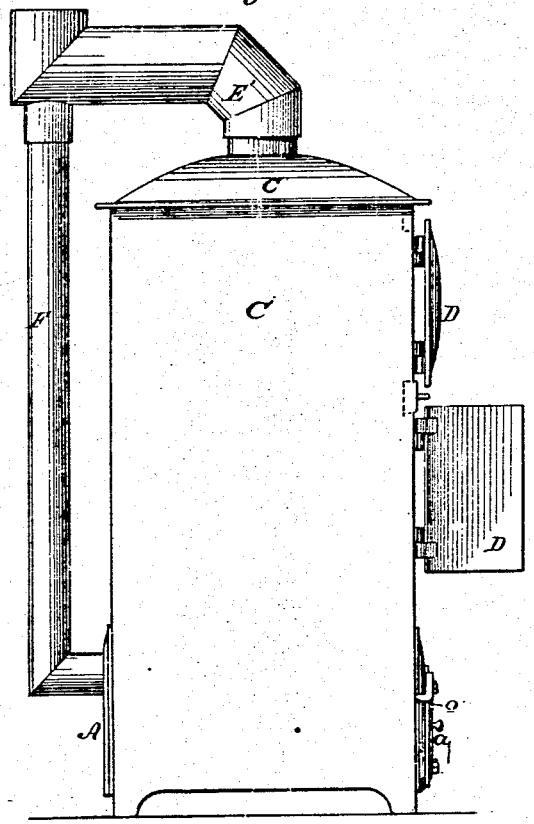


Fig. 2.

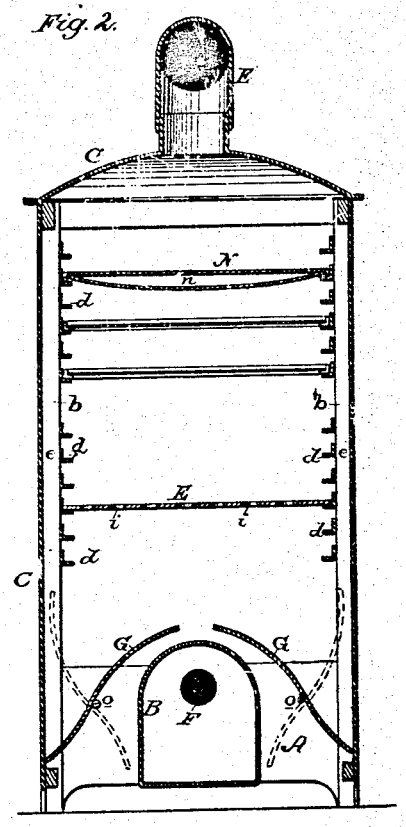


Fig. 3.

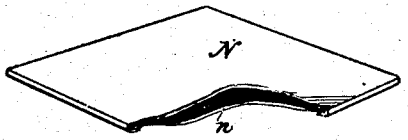
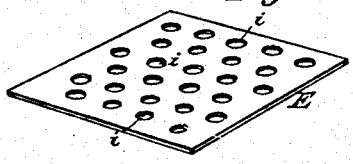


Fig. 4.



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UNITED STATES PATENT OFFICE.

JOHN ZIMMERMAN, OF MANSFIELD, OHIO.

IMPROVEMENT IN FRUIT-DRIERS.

Specification forming part of Letters Patent No. **192,043**, dated June 12, 1877; application filed May 12, 1877.

To all whom it may concern:

Be it known that I, JOHN ZIMMERMAN, of Mansfield, Richland county, Ohio, have invented a new and Improved Portable Drier and Baker for Fruit and Bread; and I hereby declare the following to be a full, clear, and exact description, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation with the doors open. Fig. 2 is a vertical longitudinal section. Fig. 3 is a view of the movable diaphragm. Fig. 4 is a detail view of the perforated distributing-plate.

The object of my invention is to provide a convertible fruit drier and baker; and it consists in certain details, hereinafter more fully described and claimed.

In order that those skilled in the art may make and use my invention, I will proceed to described the manner in which I have carried it out.

In the said drawings, A is a casting forming the front and back portions of the furnace, and B is a boiler-iron fire-box running from front to rear, and provided with a door, *a*, for the introduction of fuel.

Rising from the casting A are four posts, *b b*, around which is a galvanized sheet-metal cover and roof, C, forming a drying and baking chamber. On the inner side of the posts I run, from front to rear, ledges *d d*, on which rest the trays containing the fruit to be dried. The location of these ledges leaves a space, *e*, between them and the covering of the chamber, and these spaces, one above the other, form a flue, in which there is an uninterrupted current of air.

Access is had to the drying-chamber by means of doors D D, which are constructed of two thickness of sheet metal, having an air-space between them, forming an insulating non-conductor of heat.

On the lowest ledges I place a plate, E, having perforations *i i*, which acts as a distributor of the heated air and breaks up direct currents.

In the center of the roof is a ventilating-pipe, E′, which joins the smoke-pipe F, which rises from the fire-box. The strong draft through F creates a vacuum in E′ and greatly aids the draft.

Located on each side of the furnace and on bearings *o o* in the front and rear of the casting A are two dampers, G G, for controlling the quantity of air passing through the drier. These dampers are curvilinear in cross-sectional form, as seen in Fig. 2, and this form and arrangement is such that, when the dampers are thrown in one direction, they leave quite a space for the cold air to get into the drier, and in its passage it is thrown against the sides of the furnace.

When the device is to be used as a baker, and the dampers are closed with their lower edges against the furnace, there is a large radiating surface exposed.

A movable diaphragm, N, is constructed with an inclosed air-chamber, *n*, to be laid on the ledges, and thereby curtail the space in the chamber to be heated.

I construct the roof C of sheet metal, galvanized, in order to protect the metal against the injurious effects of the acidulated vapor arising from the drying fruit.

I am aware that stoves provided with plates of galvanized sheet metal, arranged to retain the heat within the body of the stove, and particularly in the oven-space, is old, and such I do not claim as my invention; but

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

1. The dampers G G of the curvilinear shape shown, in combination with the furnace A B and drying-chamber, substantially as described.

2. In a fruit drier, the galvanized sheet-metal cover C, substantially as and for the purpose set forth.

JOHN ZIMMERMAN.

Witnesses:
JACOB HADE,
JOHN W. JENNER.