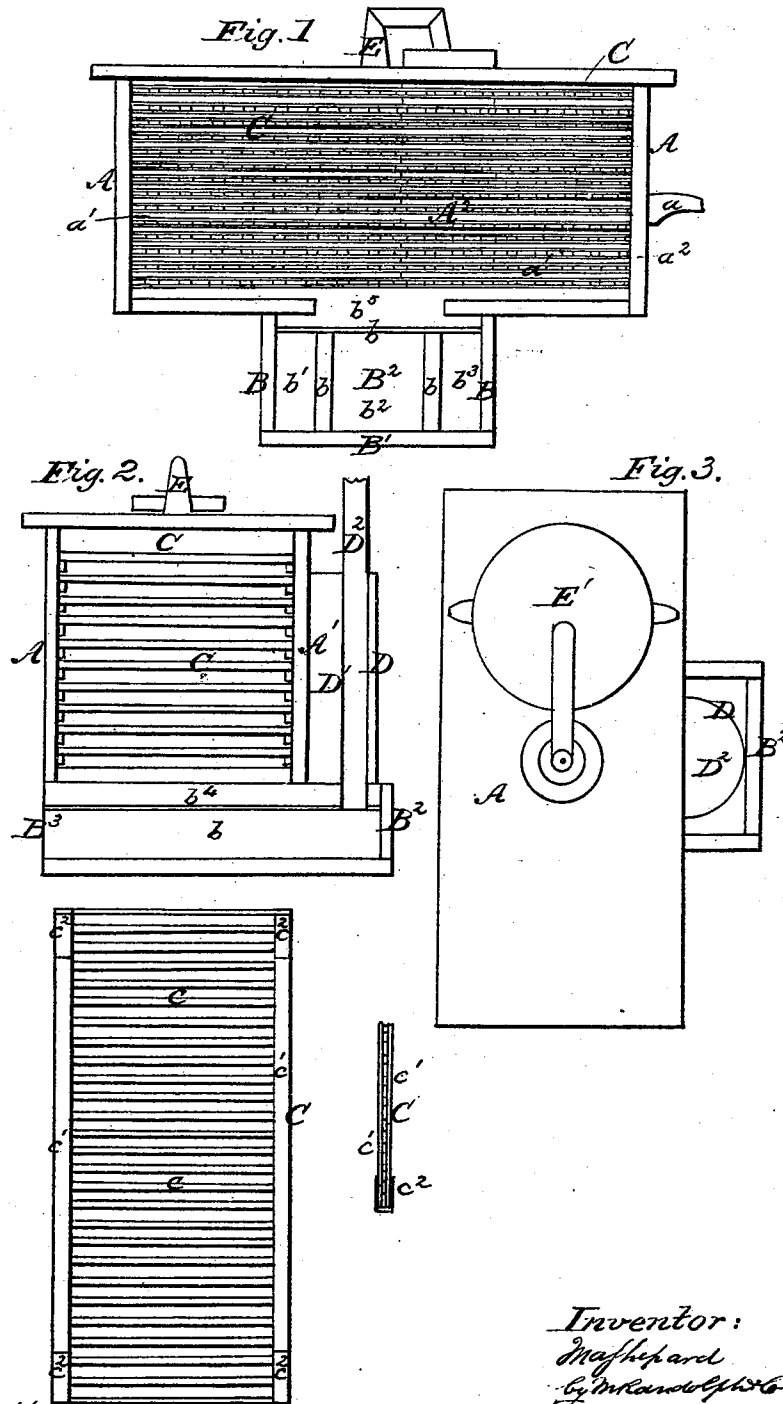


M. A. SHEPARD.
Fruit Drier.

No. 76,532.

Patented April 7, 1868.



Witnesses:
J. C. White
J. W. Herchel.

Inventor:
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his atty.

United States Patent Office.

M. A. SHEPARD, OF BRIDGEPORT, ILLINOIS.

Letters Patent No. 76,532, dated April 7, 1868.

IMPROVEMENT IN FRUIT-DRIERS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, M. A. SHEPARD, of Bridgeport, in the county of Lawrence, and State of Illinois, have made certain new and useful Improvements in Fruit-Driers and Kitchen-Safes combined; and I do hereby declare that the following is a full and clear description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The object of this invention is to produce a portable fruit-drying apparatus in such a simple and economical form as to make it readily adaptable to the wants of the farming community. It consists of a drying-chamber fitted with reversible shelves, in combination with a peculiarly-devised furnace for heating purposes. The drying-chamber is also fitted with a peculiar device for the escape of the steam from the drying-fruit.

To enable those skilled in the art to make and use my improved drying-apparatus, I will proceed to describe its construction and operation.

Figure 1 of the drawings is a longitudinal sectional elevation of the improved apparatus,

Figure 2 is a transverse sectional elevation, and

Figure 3 is a top plan.

The drier itself consists of a portable box, A, provided with handles, *a*, and constructed by nailing, or otherwise fastening, narrow boards upon ribs, *a'*, these ribs also serving as ways, on which the trays or shelves C slide. By using narrow boards, and securing them thoroughly to the ribs *a'*, a light, portable arrangement is secured, and the box is in this manner so constructed as not to be liable to derangement by the warping of the pieces. One end of the box A should be a door, as represented at *a''*. The furnace for heating the interior of the box A, and drying its contents, is placed directly beneath the said box, and is constructed in the following manner: The sides B, bottom B¹, and back end B² are made of wood, so as to be light and portable, while the front, B³, in which is placed the fire-door, is of sheet metal. There are two longitudinal walls, *b*, about three-fourths of the height of the walls B, which divide the furnace-box into three longitudinal compartments, *b'* *b''* *b'''*. The central one of these compartments is the fire-box; while the other two, *b'* *b'''*, are air-chambers, for the purpose of interposing a non-conductor of heat between the fire-box and the outer wooden walls. The walls *b* are to be built of brick or sheet iron, and the bottom and back end of the fire-box are to be protected by some non-conductor of heat. A horizontal sheet of metal, *b'*, is placed on top of the walls *b*, and forms a hot-air chamber, *b''*, on top of the said plate, and between it and the drying-chamber above it. The location of the drying-box is transversely across the top of the furnace-box, and an aperture is made in the bottom of the box A, so as to allow the hot air from chamber *b''* to pass directly into the drying-chamber. An aperture, A', is made in the side of the box A, from bottom to top, and the opening so made is enclosed by an outer wall, D, which it would be well to construct of sheet metal. A hot-air chamber, D¹, directly in communication with the chamber *b''*, is the result of this construction, and the smoke-stack D² is taken up through the chamber so formed, and the heat that would otherwise escape from the chimney, and be lost, is utilized and saved by the construction above described.

The fruit or other article to be dried is to be placed on the trays or shelves C, which are arranged to slide in and out of the box A through the door *a''*. These trays or shelves are of peculiar construction. They are formed of narrow, thin strips of wood, *c*, the ends of which are secured between two ribs, *c'*. A band of sheet metal, *c''*, is placed around the ends of the two ribs, as is clearly shown in the detail drawing of those parts.

When constructed in this manner, the ends of the ribs *c'* cannot become separated from each other, and they will at all times be in such a condition as to readily enter the grooves between the ribs *a'*. Another and a great advantage of the above construction is that the trays or shelves will be reversible, that is, they may be turned upside down, so that a side which has been stained by drying berries may be turned down, and a clean side turned up when a lighter-colored fruit, such as apples or peaches, is to be dried.

In order to provide an exit for the escape of the steam arising from the drying contents of the box A, ventilating-orifices are made in the top of the said box, and a ventilating-pipe or duct, E, arranged to carry off the steam so arising. The discharge-end of this pipe is to be submerged in the vessel E', and the escaping steam will be condensed therein without losing a perceptible quantity of heat from the interior of the apparatus.

Clothes or other articles may be dried in this apparatus as well as fruit, and when not needed as a drying-apparatus, the box A may be removed from the furnace part, and used as a kitchen-safe.

Having described my invention, what I claim is—

The furnace B, when constructed as described, and hot-air chamber D', arranged as described, in combination with the safe, A, the whole being so constructed that the two latter can be readily detached from the furnace when desired, and used for other purposes, as set forth.

M. A. SHEPARD.

Witnesses:

M. RANDOLPH,

J. W. HERTHEL.