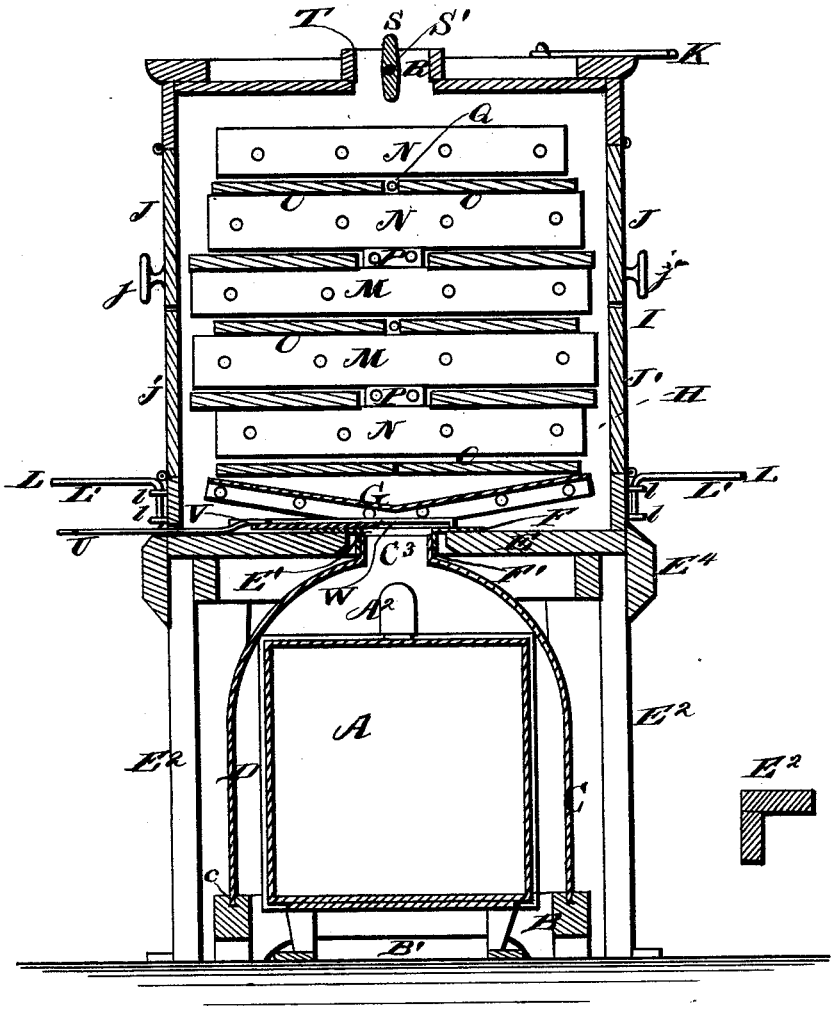
2 Sheets—Sheet 1.

T. R. KENDALL.

FRUIT-DRIER.

No. 189,746. Patented April 17, 1877.

Fig. 1.



WITNESSES

Robt Everett

George C. Upham

INVENTOR.

Thomas R. Kendall.

Gilmore, Smith & Co.

ATTORNEYS.

2 Sheets—Sheet 2.

T. R. KENDALL.

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Fig. 2.

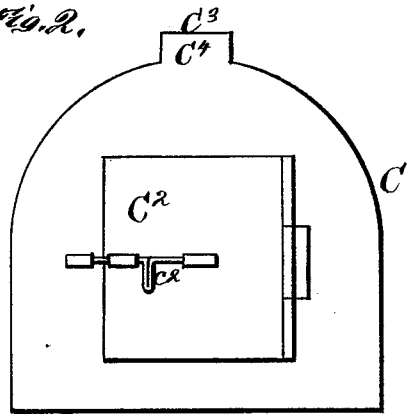


Fig. 3.

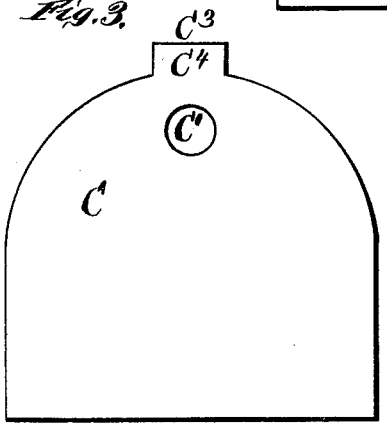


Fig. 4.

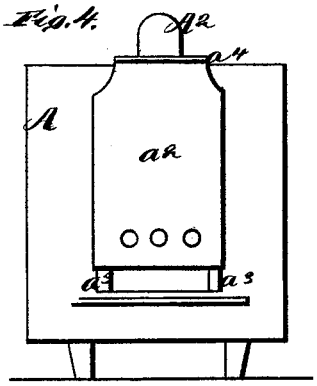
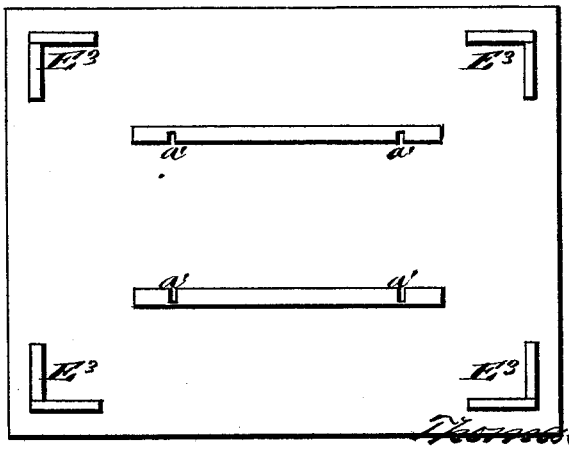


Fig. 5.



WITNESSES

Robert Everett

George E. Upham

INVENTOR,

Thomas R. Kendall.

Gilmore, Smith & Co.

ATTORNEYS.

UNITED STATES PATENT OFFICE.

THOMAS R. KENDALL, OF PALMYRA, MISSOURI.

IMPROVEMENT IN FRUIT-DRIERS.

Specification forming part of Letters Patent No. **189,746**, dated April 17, 1877; application filed February 10, 1877.

To all whom it may concern:

Be it known that I, THOMAS R. KENDALL, of Palmyra, in the county of Marion and State of Missouri, have invented a new and valuable Improvement in Hot-Air Fruit and Clothes Drier; and do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a central vertical section of my hot-air fruit and clothes drier; and Figs. 2, 3, 4, and 5 are detail views thereof.

This invention relates to apparatus for drying fruit, clothes, and other articles by the agency of hot air.

The nature of said invention consists in certain improvements in said apparatus, as will be hereinafter more fully set forth.

In the accompanying drawings, A designates an ordinary stove or heater, the legs of which set into slots or recesses a^1 of base-blocks A′, secured to the floor of the apartment, as shown in Fig. 5. Said stove is held by said blocks firmly enough to prevent casual displacement, but may be conveniently raised and removed therefrom. B designates a rectangular supporting-frame, which rests upon said floor outside of said heater A, and supports a dome-shape or arched casing, C, that incloses a hot-air chamber, D, surrounding said heater. Said casing C may be of sheet metal, in which case its lower edges set into a recess or groove, *c*, running around the top of said supporting-frame B. Said casing may, however, be constructed of wood, masonry, or any other suitable material. In any case it is made removable from its base-frame B, though held thereby against casual detachment. Said casing is provided at one end with an opening, C^1, Fig. 3, through which passes the outlet-flue A^2, Fig. 1, of stove or heater A, and at the other end with a hinged door, C^2, which is locked by means of a sliding bolt or rod, c^2, as shown in Fig. 2. Said stove or heater A is also provided with a vertically-sliding door, a^2, working on vertical guide-flanges a^3 a^3, as shown in Fig. 4, and provided with a lifting-piece, a^4, at its upper end.

The top of said casing C is provided with a longitudinal opening or upward passage, C^3, surrounded by a raised rim, C^4, formed upon or attached to said casing C. Said rim and passage extend upward through a larger opening, E^1, in a table, E, which is supported on four legs, E^2. Each of these legs is triangular in cross-section, and their lower ends set, respectively, into the inner angles of four triangular blocks, E^3, which are secured to the floor of the apartment, as shown in Fig. 5. These blocks secure said table against casual displacement, but allow it to be removed at will. To the top of said table is secured a metal plate or shield, F, which covers the outer parts of opening F, and is provided with a downwardly-extending sleeve or casing, F′, which joins with the rim C^4 of upward passage C^3, forming a continuation of said passage. By means of said parts C^4 F F′ the ascending current of hot air is directed in an unbroken stream against the vertex of a **V**-shaped deflecting-plate, G, so as to be divided thereby into two diverging streams of equal volume, which are thrown off toward the opposite sides of drying-chamber H.

The casing I of said drying-chamber rests upon table E and within a peripheral ridge or rim, E^4, formed upon the top of said table. Said rim prevents said casing from being casually displaced, but allows it to be removed at will. Two opposite sides of said casing are each provided with two folding doors, J and J′, hinged, respectively, above and below. Each upwardly-turning door J is provided with a knob, *j*, for raising it, and adapted to be held open by a hook, K, pivoted to the top of said casing I. Each lower door J′ is adapted when open to be held in a horizontal position by an angular prop or supporting-rod, L, the vertical part of which is pivoted, by staples *l* *l*, to the side of said casing I. The upper horizontal arm L′ of said prop may be turned outward, so as to support door J′, as shown, or inward against the side of said casing, so as to allow said door J′ to fall down parallel therewith. The arrangement of said parts J, J′, K, and L is the same on each side of casing I. When said lower doors J′ are secured in

their outward horizontal positions, above described, they serve as tables or platforms for the support of the detachable shelves of the drying-chamber while the latter are being supplied with articles to be dried before placing or replacing them in said drying-chamber.

The sides or ends of said casing I, which are at right angles to said doors J J′, are provided on the inside with long shelf-supporting blocks M, and shorter self-supporting blocks N, alternating in vertical series. On these supporting-blocks rest the shelves O, which hold the fruit, clothes, or other articles during the operation of drying. Said shelves are arranged in pairs, those composing each pair being supported by a single supporting-block, M or N, and introduced from the opposite sides of casing I through the doors already described. The two lower shelves are allowed to come together, being retained in position only by an interposed pin or stud at each end, which sets into their opposite edges flush with the same. Thus none of the rising hot air can pass up between the said pair of shelves. The pair of shelves immediately above them may be separated in any convenient manner, but preferably by intervening separating-blocks secured to the inside of the casing I between the respective ends of said pair of shelves. Each successive pair of shelves is thus alternately separated or closed together, compelling the hot air to follow a tortuous course alternately around the outer edges and between the inner edges of said shelves, whereby the articles thereon are very effectually subjected to the drying action of said hot air, and the same is retained within said drying-chamber until it has thoroughly performed its work. One of each pair of the separating-blocks above described is shown in Fig. 1, and marked P. The alternating pins or studs are designated by Q.

The hot air enters my apparatus through draft-openings B′ in base-frame B, and escapes therefrom through opening R in the top of casing I. Said opening R may be partly or wholly closed by a long butterfly-valve, S, turning, with a shaft, S′, within a long box or casing, T, on the top of casing I. Said shaft is operated by a handle. Any other suitable form of valve may be substituted therefor.

The supply of hot air to said drying-chamber H from hot-air chamber D may be regulated or entirely shut off by means of a rod, U, extending through casing I, and attached at its inner end to a slide or cut-off, V, which works across the upper end of passage C^3 on shield F, and in end guideways secured to the upper side of table E. One of said guideways, marked W, is shown in drawing. The supply of hot air is regulated or entirely cut off by moving said rod and slide in or out, as required.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination of shelves O with separating-blocks P, supporting-blocks M and N, pins or studs Q, and casing I, substantially as and for the purpose set forth.

2. The combination of deflector F, rim C^3, shield F′ F′, and a cut-off slide, substantially as and for the purpose set forth.

3. The combination, with heater A, of hot-air chamber C, recessed supporting-frame B, drying-chamber H, and a valve at the top thereof, substantially as and for the purpose set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

THOMAS R. KENDALL.

Witnesses:

LANDON O. GORE,

Rev. A. M. KIERGAN.