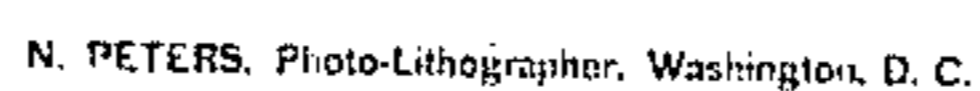


Patented Dec. 31, 1889.



ATTORNEY

UNITED STATES PATENT OFFICE.

FRANK H. GILBERT, OF UNION RIDGE, WASHINGTON.

FRUIT-DRIER.

SPECIFICATION forming part of Letters Patent No. 418,407, dated December 31, 1889.

Application filed April 20, 1889. Serial No. 307,930. (No model.)

To all whom it may concern:

Be it known that I, FRANK H. GILBERT, of Union Ridge, in the county of Clarke and Territory of Washington, have invented a
5 new and Improved Fruit-Drier, of which the following is a full, clear, and exact description.

This invention relates to fruit-driers, the object of the invention being to provide a
10 simple, convenient, and durable fruit-drier that is applicable for use in the drying of small amounts of fruit over an ordinary kitchen-stove; and to the end named the invention consists in the construction and arrangement
15 of parts, and a means for raising the central racks, all as will be hereinafter fully explained, and specifically pointed out in the claims.

Reference is to be had to the accompanying
20 drawings, forming a part of this specification, in which similar figures and letters of reference indicate corresponding parts in all the views.

Figure 1 is a front view of my improved
25 fruit-drier, parts being broken away. Fig. 2 is an end view of the drier. Fig. 3 is a plan view thereof. Fig. 4 is an enlarged end view, the parts being represented as they appear when the central racks are raised. Fig. 5 is
30 a sectional detail view representing the arrangement of the springs. Fig. 6 is a detail view representing the construction of one of the vertically-swinging stops. Fig. 7 is a cross-sectional view on line *xx* of Fig. 4. Fig.
35 8 is a top view of one of the racks. Fig. 9 is a cross-sectional view on line *yy* of Fig. 4, and Fig. 10 is a view of the outer face of one of the central racks. Fig. 11 is a detail perspective to better show the operation of the
40 stops or latches for preventing the inward movement of the racks.

In constructing such a drier as the one forming the subject-matter of this application I provide a rectangular frame 10, to which
45 there is secured a downwardly-extending metallic shield 11, the lower edge of the front and back walls of this shield being cut away, as shown at 12, to provide for the entrance of a current of air. To each corner of the frame
50 10, I secure a post, as 13, the upper ends of of said posts being connected by a frame 14

and braced by diagonal wires 15. The back 10^a of the frame is formed by a piece of sheet metal.

The posts carry transverse strips 16, 17, 55 and 18, and the frames 10 and 14 are provided with flanges 2 and 3, respectively, said flanges serving as stops to support racks 19 and 20, which racks are formed with a number of supporting-shoulders 4. In practice I
60 prefer to make the racks 19 and 20 from sheet metal, bent as shown, sufficient rigidity being imparted to the stepped section of the rack by a corrugated back 5. The racks are held
65 in yielding contact with the flanges 2 and 3 by springs 22, which springs are secured to the cross-bars 17. The racks 19 20 form the sides of the structure, and the fronts of the drawers form the front of the structure. The frame
70 14 is apertured at *a a* just above the central racks 20, these apertures being provided in order that the racks may be raised, as will be hereinafter explained.

To the frame 10, I pivotally connect two
75 bell-crank levers 23, the short arms of the levers riding in apertures *b*, that are formed near the lower ends of the racks 20. The levers 23 are connected by a rod 24, and to this rod there is secured a stem 25, which extends
80 through an aperture *c*, formed in the front wall of the shield 11.

In order that the racks may be held against accidental displacement, I provide vertically-swinging stops 26, said stops being hinged to the bars 16 and 18 and provided with projec-
85 tions 7, which enter the recesses *d*, (see Fig. 10,) formed in the outer corrugated surface of the racks 20. These stops or latches 26 are formed of flat plates, the free edges of which, when the racks are in the position shown in
90 Figs. 1 and 2, rest against the rear sides of the racks and prevent them from being pushed inwardly against the action of their springs and allowing the drawers to become disengaged and fall; but when the middle
95 racks 20 are raised they press on the projections 7 and raise the stops or latches to an inclined position, which allows the racks 19 to yield as the drawers are raised. When the racks 20 are again lowered, the projections 7
100 will again enter the apertures *d* and the stops or latches will lie flatwise horizontally,

with their free edges against all of the racks.

The fruit to be dried is placed in drawers 30, made up of rectangular frames, which support wire-cloth screens 8, on which the fruit rests, and the ends of these drawers are inclined to fit against the inner walls of the racks. The fruit being disposed within the drawers and the drawers adjusted as represented in Fig. 1, a current of heated air will rise from the stove, passing out through the open top of the drier. Then as the fruit in the upper drawer becomes dry such drawer may be removed and the other drawers moved upward one step by drawing out the stem 25, thus throwing the levers 23 and raising the central racks 20, which said racks in rising will carry up the trays arranged within the drier, the racks moving back against the tension of the springs 22. By this arrangement I provide for easy attention to the fruit within the drier, and I am enabled at any time to see what progress is being made in the drying of the fruit held by any particular drawer without disturbing the other drawers.

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

1. The combination, with the frame and the drawers, of the drawer-racks formed of transversely-stepped sheet-metal strips and longitudinally-corrugated strips secured to the rear sides thereof, substantially as set forth.

2. The combination, with the frame and the drawers or trays, of the opposite series of yielding drawer-supporting racks, one rack of each series being vertically movable to

raise the drawers or trays, and transverse vertically-swinging stops hinged to the frame, and with their free edges resting against the rear edges of the said racks to prevent yielding thereof, said stops being adapted to be raised by the upward movement of the vertically-movable racks, and means, substantially as described, for operating said vertically-movable racks, substantially as set forth.

3. In a fruit-drier, the combination, with a supporting-frame, of a metallic shield 11, secured thereto, racks 19 and 20, carried by the frame, springs arranged in connection with the racks, gravity-stops also arranged in connection with the racks, flanges against which the racks abut, and drawers arranged to be supported by the racks, substantially as described.

4. The combination, with the frame and the drawers or trays, of the opposite series of yielding drawer-supporting racks, one rack of each series being vertically movable and provided with an apertured or recessed rear face, and the transverse vertically-swinging hinged stops having projections on their free edges to enter said apertures or recesses when the racks are in their normal position, said free edges resting against the rear faces of said racks to prevent accidental yielding movement, substantially as set forth.

FRANK H. GILBERT.

Witnesses:

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