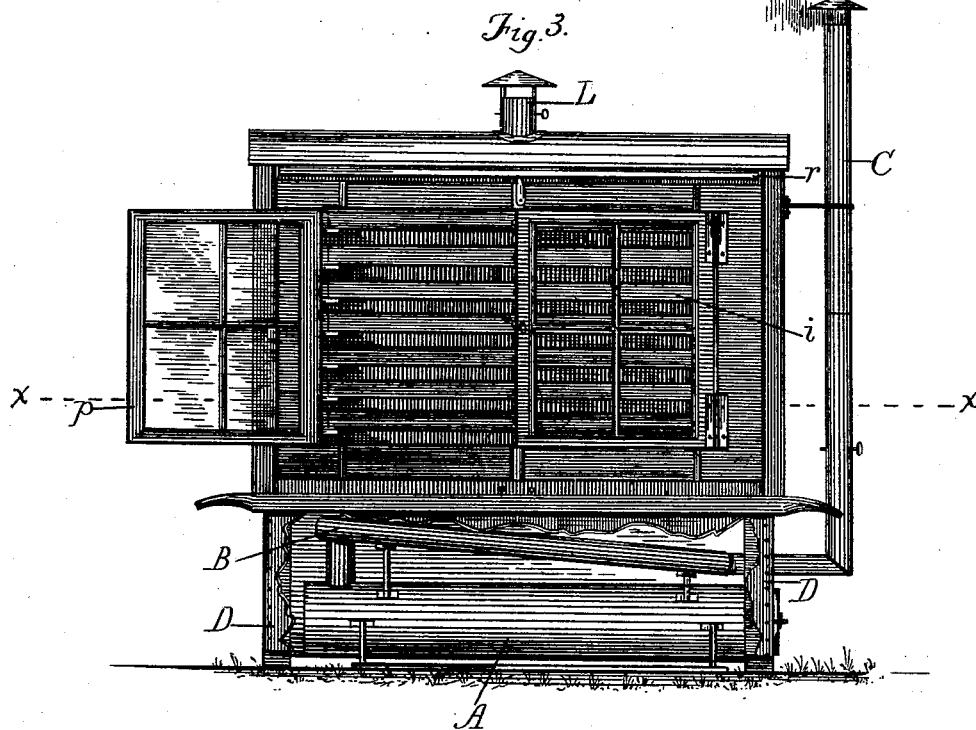
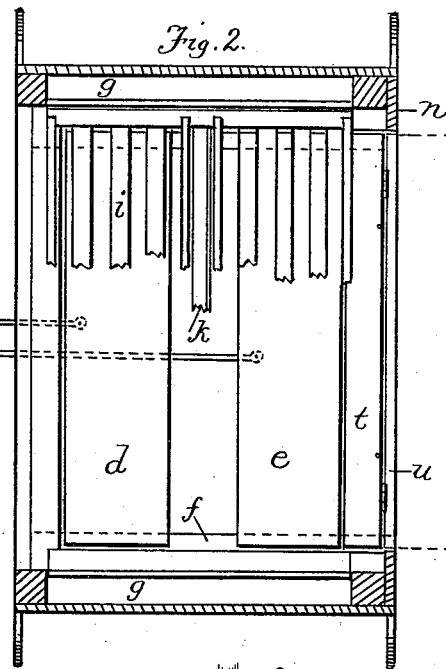
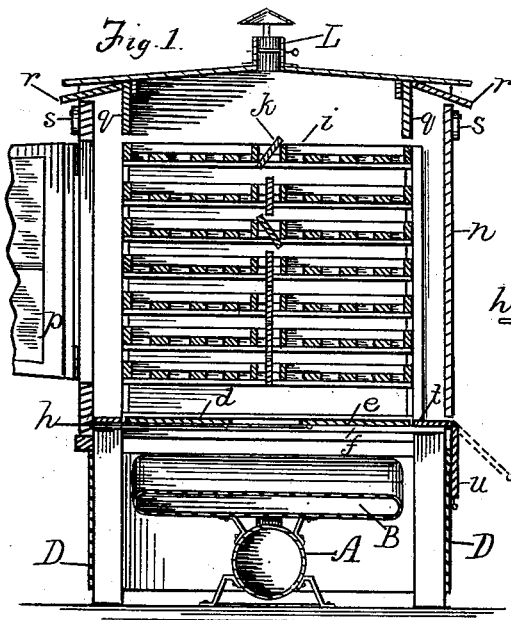


T. B. HAMMOND & W. H. H. STEVENSON.
Fruit-Drier.

No. 215,608.

Patented May 20, 1879.



WITNESSES
Chas. E. Lewis
A. C. Eader

INVENTORS:
Wm H. H. Stevenson
Thos B. Hammond
By *Chas B. Mann Atty.*

UNITED STATES PATENT OFFICE.

THOMAS B. HAMMOND AND WILLIAM H. H. STEVENSON, OF BALTIMORE, MD.

IMPROVEMENT IN FRUIT-DRIERS.

Specification forming part of Letters Patent No. **215,608**, dated May 20, 1879; application filed April 9, 1879.

To all whom it may concern:

Be it known that we, THOMAS B. HAMMOND and WILLIAM H. H. STEVENSON, of Baltimore, in the county of Baltimore and State of Maryland, have invented a new and useful Improvement in Fruit-Driers, of which the following is a specification.

Our invention relates to certain improvements in the construction of fruit-driers, the object being to provide an efficient and yet inexpensive apparatus for the use of fruit-growers.

Our improvement will first be described in connection with the accompanying drawings, and then designated in the claims.

Figure 1 is a vertical section of the drier. Fig. 2 is a horizontal cross-section taken through line *xx* in Fig. 3. Fig. 3 is a front elevation.

The letter A represents the furnace, which is in the form of a horizontal cylinder, (having the door in the end supported above the furnace,) and connecting with its rear end is a broad smoke-drum, B, the width of which is much greater than the furnace, and nearly as great as the drying-house, while in the vertical direction the drum is quite shallow, as shown, this shape effecting a distribution of the heat from side to side of the house. This effect is produced by the broad surfaces exposed in the horizontal direction and by the fact that the heat radiated directly from the furnace must pass laterally beyond the sides of the drum before it can ascend to the drying-house.

The smoke-pipe C is attached to the drum and sustained in any suitable manner. The furnace and drum are entirely inclosed by a sheet-iron casing, D, at the bottom of which provision is made for the entrance of cold air. The upper part of this casing, on the rear side, is cut away, and the cut-away part is covered, as hereinafter described.

Above the smoke-drum are two wooden division-boards, *d e*, which are of such width that a space is left not covered. The ends of the boards rest on a cross-strip, *f*, at each end of the house, which serve as a way on which to slide the boards. The lower sides of these boards are covered with sheet metal, while the upper side is uncovered. This arrange-

ment protects the fruit on the lower drying-trays from the too great direct heat of the furnace, and also by the uncovered upper side the reflection of the heat on said trays is lessened.

Near the center of each of the boards *d e* a rod, *h*, is attached, which projects through holes in the front of the casing, and serves as means whereby to move or adjust the boards, by which arrangement all the heat of the furnace may be directed up the center between the division-boards *d e* and through the central opening in each drying-tray, or part may be allowed to pass up the center and part up either one or both of the side spaces, or the center may be closed and the heat directed up either side.

The construction is such that while there is a vertical space, *g*, at each end of the house between the wall and trays, there is no direct connection from the furnace to said end spaces.

On the same plane with the two division-boards before described, and at the rear side of the house, is a third division-board, *t*, which prevents the direct escape of the heated air from the furnace to the rear side space. This division-board is also adapted to slide on the strip *f*, and to its outer edge is hinged a board, *u*, which latter ordinarily hangs by its hinges down the rear outer side in a vertical position, and serves to cover the opening caused by the cut-away part in the rear side of the sheet-metal casing. By this construction, if it should be found that the heat is so excessive as to be detrimental to the fruit, the temperature can be almost instantly lowered by raising the board *u* and pushing it and board *t* inward to entirely cut off communication from the furnace, and at the same time permit the heat to escape from the inclosed space around the furnace.

As already indicated, each tray *i* has a longitudinal central opening, and may be provided or not with a damper or valve, *k*. The trays are of such width as to leave, when in position, a vertical side space next to the wall *n* and a similar side space between the trays and doors *p*. The tops of the walls of the house are surmounted by a suitable roof, which is provided with an outlet covered by a damper

and cowl, *L*, to permit the heated air to escape when there is found to be an excessive degree of heat.

A partition-board, *q*, is placed on each side edgewise to the roof, and depends as low down as will permit the top drying-tray to slide in and out. This board is located from the wall *n* a distance equal to the vertical side space before described.

A damper or valve, *r*, is provided on each side wall next to the roof. This damper consists of a board the length of the house, hinged on its innermost edge and resting on the wall, so as to be opened or closed from the outside being retained open or raised more or less by the button *s*. It will be seen that the board, *q* serve to prevent the direct escape through the side valves, *r*, of the heated air, which passes up the center, and requires that such air should be deflected from the roof to pass under the board and then escape.

We claim—

1. In a fruit-drier, the combination, substantially as described, of the horizontal cylindrical furnace *A* and the smoke-drum *B*, very shallow in the vertical direction, but much broader than the furnace above which it is supported, and the adjustable division-boards *d e t*, together of less width than the house.

2. In a fruit-drier, the combination, substantially as described, of the drying-trays *i*, each provided with a longitudinal central opening, the vertical side spaces between the trays and walls, and the division-boards *d e t*, together of less width than the house, the boards *d e* being each provided with a rod, *h*, projecting from the front.

3. In a fruit-drier, the combination, substantially as set forth, of the division-boards *d e t*, together of less width than the house, the board *u*, hinged to the outer edge of the board *t*, and adapted to cover either the opening in the side of the casing or to entirely cut off the heat of the furnace from the fruit-trays.

4. In a fruit-drier, the combination, as set forth, of the fruit-trays having a longitudinal central opening, the partition-board *q* on each side of the house, and a damper or valve, *r*, on each side wall next to the roof.

In witness whereof we hereunto set our hands this 5th day of April, 1879.

THOMAS B. HAMMOND.
WILLIAM H. H. STEVENSON.

Witnesses:

CHAS. E. LEWIS,
CHAS. B. MANN.