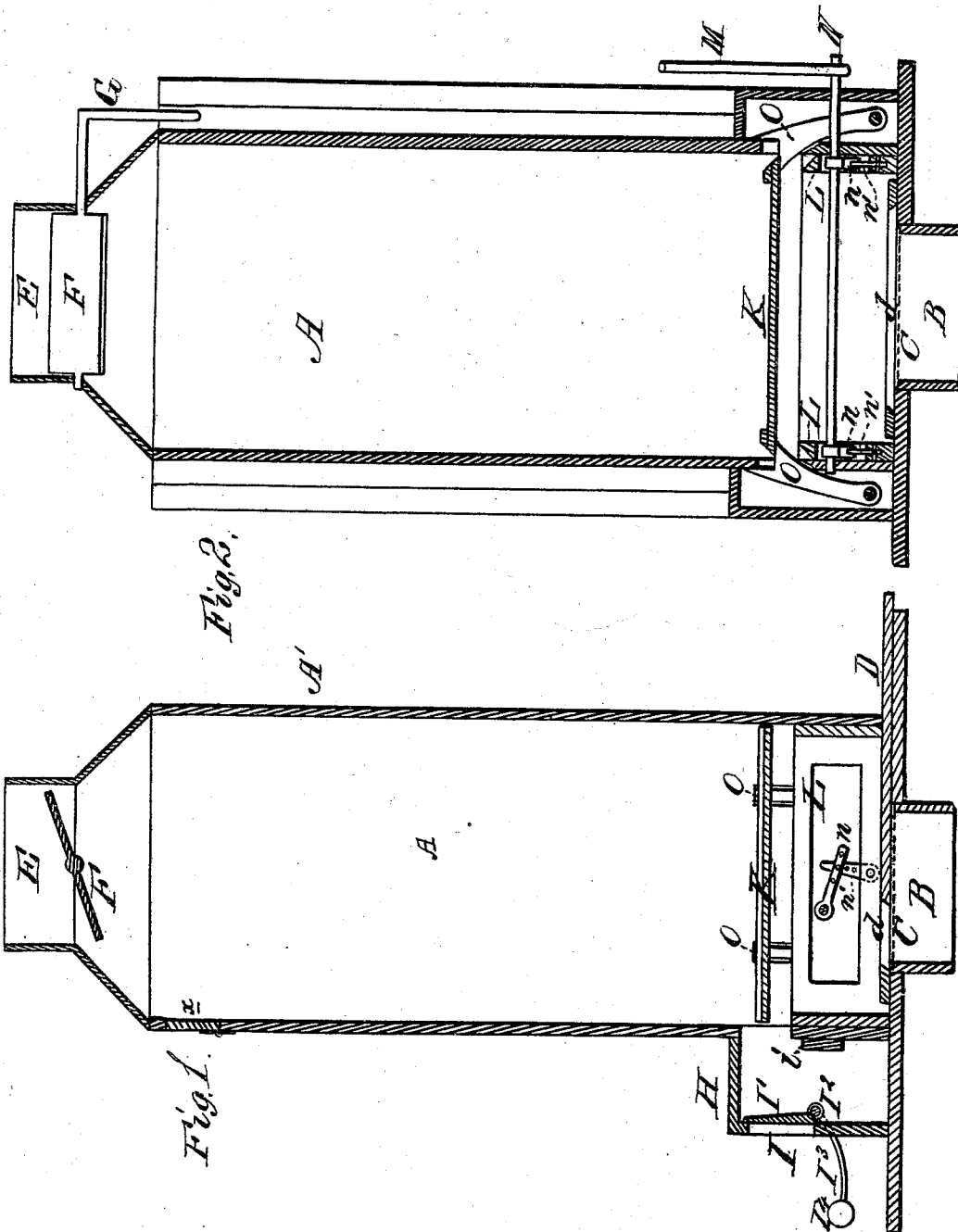


L. & F. WHITTLESEY.
FRUIT-DRIER.

No. 171,202.

Patented Dec. 14, 1875.



WITNESSES
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Fig. 5.

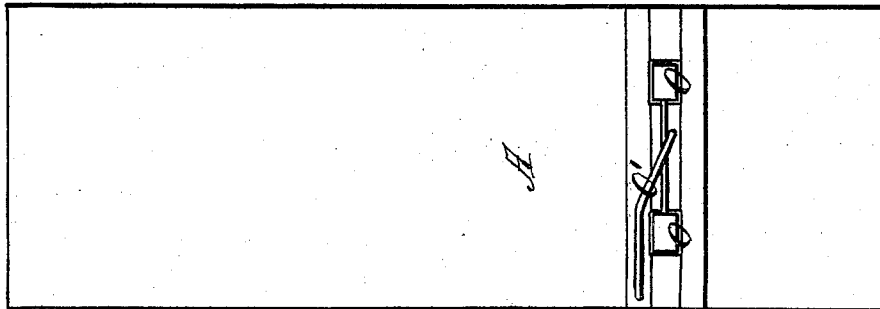


Fig. 4.

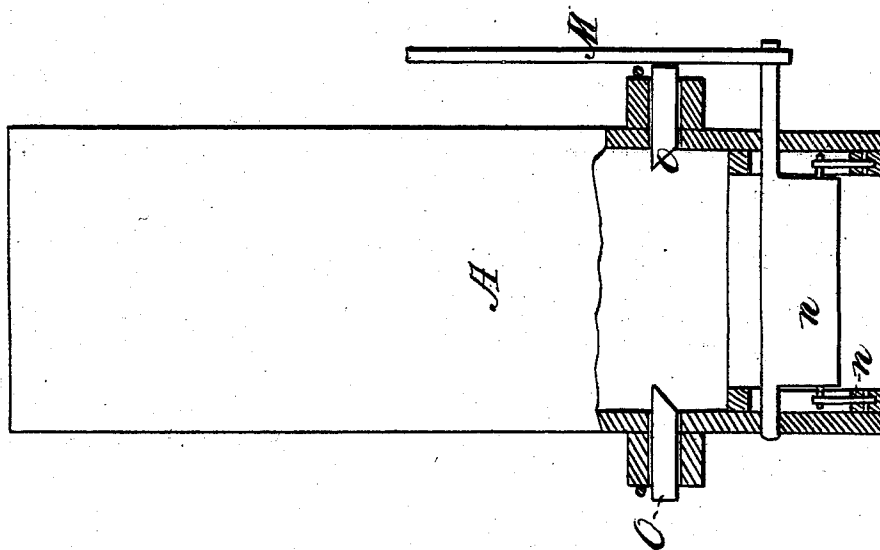
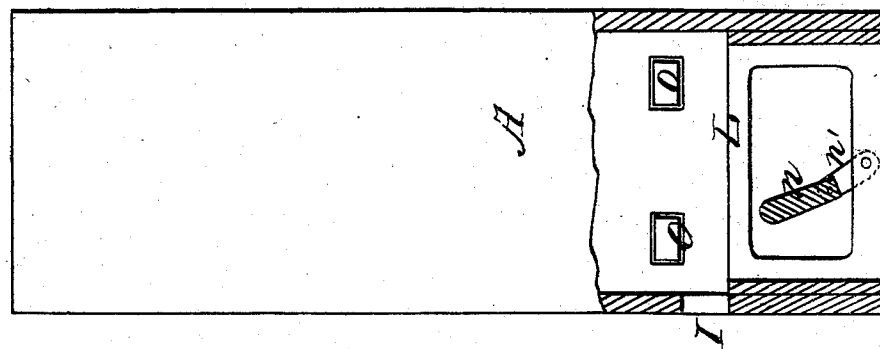


Fig. 3.



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UNITED STATES PATENT OFFICE.

LEE WHITTLESEY, OF STURGIS, MICHIGAN, AND FRANKLIN WHITTLESEY,
OF ROCHESTER, NEW YORK.

IMPROVEMENT IN FRUIT-DRIERS.

Specification forming part of Letters Patent No. **171,202**, dated December 14, 1875; application filed
November 11, 1875.

To all whom it may concern:

Be it known that we, LEE WHITTLESEY, of Sturgis, in the county of St. Joseph, and State of Michigan, and FRANKLIN WHITTLESEY, of Rochester, New York, have invented certain new and useful Improvements in Apparatus for Drying Fruits and other similar substances; and we do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

Our invention relates to apparatus for the desiccation of fruit, grain, oil, glue, or other materials or articles; and consists in a kiln and appliances, constructed and operating, as fully described hereafter, to add trays containing fresh material to the base of a column of perforated trays through which heated air or gas is passed, the trays containing the desiccated material being removed from the top of the column as others are added beneath, the whole constituting a continuous operation.

In the accompanying drawing, Figures 1 and 2 are vertical sections, at right angles to each other, of the improved apparatus; and Figs. 3 and 4 elevations, partly in section; and Fig. 5, a front view, showing a modification.

A' represents a vertical kiln or case, containing the drying-chamber A, which may be square, round, or of any other suitable form, heated air or gases being admitted to the chamber at the bottom through a grated opening, B, provided with a damper, D, and passing out at the top through a flue, E, provided with a damper, F. The material to be dried is deposited on trays K, each of which may consist of a perforated plate, or of a frame having a perforated slat or net bottom. At the base of the kiln is an extension, H, having an opening, I, to which is adapted a door, I', the latter being hinged at its lower edge, and weighted so as to open inwardly, and close automatically. Within the lower part of the chamber A' slides a frame or carrier, L, which is connected by links *n'* to arms *n* on a rock-shaft, N, provided at the outside of the kiln

with an operating-arm, M, the edges of the carrier being recessed so that it can be carried upward close to detents O without moving the latter. The detents may be pawls, falling inward by their own weight, to afford bearings for the trays a short distance above the carrier when the latter is depressed; or, instead of pawls, spring-catches, shown in Figs. 3, 4, and 5, may be used. A tray passed into the opening I depresses the door I', and takes a position upon the top of the carrier L, the door then closing. On the shaft N being turned by its handle the carrier, with its tray, is raised, the latter, by its contact with the inclined edges of the detents O, forcing them back until the tray is in a position above the detents, which will then move inward into the notches in the carrier, and beneath the tray. The carrier is then depressed, leaving the tray resting upon the detents. A second tray, K, is passed through the opening I like the first, and is placed upon the carrier, which is then raised until the bottom tray is above the detents, when the latter will move inward beneath the trays, supporting both. Additional trays are introduced in the same manner until there is a column of trays in the kiln, and when the upper tray is opposite the door X it is withdrawn through the same. As trays are introduced beneath, others are taken from the top with their contents in a dried condition, the operation being thus rendered continuous, and only ceasing when all the material has been dried.

It will be noticed that as the sides of the frame-carrier are notched, and the same can be raised without contact with the pawls O, the latter remain in their forward position until relieved of the weight of the column of trays, which begins to rise, by the contact of the tray upon the carrier, before the said tray begins to bear upon and move the pawls.

We claim—

1. The combination, with the kiln, of detents O, and a reciprocating carrier, having notches or recesses arranged in respect to said detents, substantially as and for the purpose set forth.

2. The combination of the carrier L, rock-shaft N, having arms connected to the carrier, and operating-arm, as specified.

3. The combination of the kiln, its extension H, opening I, and self-closing door I' hung at the lower edge, and opening inward, substantially as and for the purpose set forth.

4. The trays K, constructed, adapted to, and combined with, the carrier L and detents, as described, so as to bear against the lowest tray of the column, and raise the latter before moving the detents, for the purpose set forth.

In testimony that we claim the foregoing as our own, we herewith affix our signatures in presence of two witnesses.

LEE WHITTLESEY.

FRANKLIN WHITTLESEY.

Witnesses:

J. H. BOSTWICK,

FRED C. BOSTWICK.