

L. A. GOULD.
Fruit-Drier.

No. 160,587.

Patented March 9, 1875.

Fig. 1.

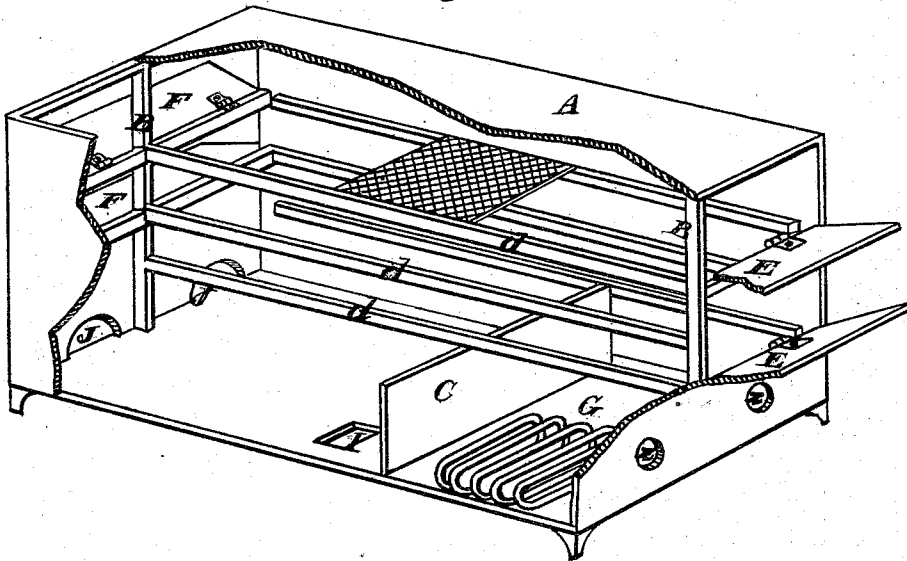
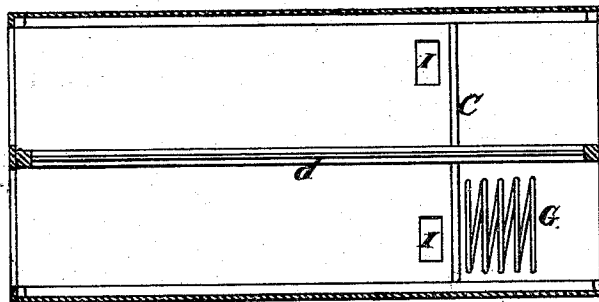


Fig. 2.



Witnesses

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UNITED STATES PATENT OFFICE

LEVI A. GOULD, OF SANTA CLARA, CALIFORNIA.

IMPROVEMENT IN FRUIT-DRIERS.

Specification forming part of Letters Patent No. **160,587**, dated March 9, 1875; application filed November 27, 1874.

To all whom it may concern:

Be it known that I, LEVI A. GOULD, of Santa Clara town and county, State of California, have invented an Improved Fruit-Drier; and I do hereby declare the following description and accompanying drawings are sufficient to enable any person skilled in the art or science to which it most nearly appertains to make and use my said invention or improvement without further invention or experiment.

My invention relates to an improved apparatus for drying fruits, vegetables, and other substances from which it may be desired to remove a portion of their moisture for the purpose of preserving them.

In order to describe my improved apparatus so that others will be able to understand its construction and operation, reference is had to the accompanying drawing forming a part of this specification, in which—

Figure 1 is a perspective view of my apparatus with a part of the wall broken. Fig. 2 is a horizontal section.

A represents a closed room, box, or tank, which is especially constructed for the purpose of providing a drying-chamber. This box or tank I either provide with short legs or otherwise support it above the ground or floor, so that a clear space will be left below it for the purpose hereinafter described. The interior of this room or box forms a single chamber, but, in order to permit the use of frames or trays of small size, I frequently construct two or more parallel tracks inside of the chamber by securing upright posts or studding B B at intervals through its middle, and to these posts I secure one rail, *d*, of each track, while the opposite rails are secured to the walls of the chamber. As many tracks can be arranged, one above another, as the height of the chamber will permit. The lowermost track or tracks in the chamber are at least three feet above the bottom or floor of the chamber, thus providing a space between the floor and the lowermost tracks, across which a transverse partition, C, extends about six feet from the front end of the room or box in the manner of a bridge-wall of a furnace. This partition extends from the floor up to the lowermost track. E E are doors in the front

end of the room or box, through which the trays are introduced into the chamber, and F F are doors at the rear end, through which they are removed after they have passed through the chamber upon the tracks. Below the tracks in front of the partition or bridge-wall C I coil steam or hot-air pipes G for the purpose of providing the necessary heat for drying. I then force air through the opening *z z* in the front of the box or room into this space in which the steam or hot-air pipes are coiled by means of any suitable apparatus. The fruit to be dried having been properly placed upon the trays, and the trays arranged upon the tracks, the air which is forced into the front end of the box, after becoming heated by the hot-air pipes, will be forced upward by the partition or bridge-wall C through the fruit which was last introduced through the doors E E. In its passage upward the hot air will become saturated with the moisture abstracted from the fruit, so that by the time it has arrived at the top of the chamber it will be so heavy with moisture that it will begin to descend toward the rear of the chamber. A short distance back of the partition or bridge-wall C I make one or more openings, I, in the floor of the chamber, and in the rear end of the box or room I make other openings, J, near the floor. The hot air, which has become heavily saturated with the moisture from the fruit, will settle directly down through the openings I in the floor, and pass away underneath the apparatus, while that portion which is less saturated with moisture will pass out at the openings J in the rear end.

It will thus be seen that the dry hot air is compelled to pass directly upward through the green or freshly-introduced fruit so as to rapidly take away its moisture. It then descends at an angle through the portion of fruit which has been previously passed through the front portion of the chamber, that portion of air which is very heavily saturated with moisture, passing out through the openings I, and that portion which is less saturated traveling toward J in the rear end of the chamber. This mode of applying the hot air to the fruit or other substance will take away the excess of moisture which it contains,

and at the same time leave it in a thoroughly-preserved condition without cooking or burning it.

The tracks upon which the trays move should descend slightly from the front to the rear in order to allow the trays to move easily.

In constructing small portable drying apparatus, a stove can be used for supplying the heated air.

It will be noticed that the chief feature of my invention is the bridge-wall or partition for directing the current of heated air up through the fruit, and the openings I and J through which I discharge the moist atmosphere.

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

The drying room or box A with its tracks *d d* arranged above one another, and provided with the partition or bridge-wall C and discharge-openings I and J, and the opposite doors E E and F F, substantially as and for the purpose described.

In witness whereof I hereunto set my hand and seal.

LEVI A. GOULD. [L. S.]

Witnesses:

JNO. L. BOONE,

C. M. RICHARDSON.