W. H. ROGERS.
Fruit-Drying House.

No. 205,683. Patented July 2, 1878.

Fig. 1.

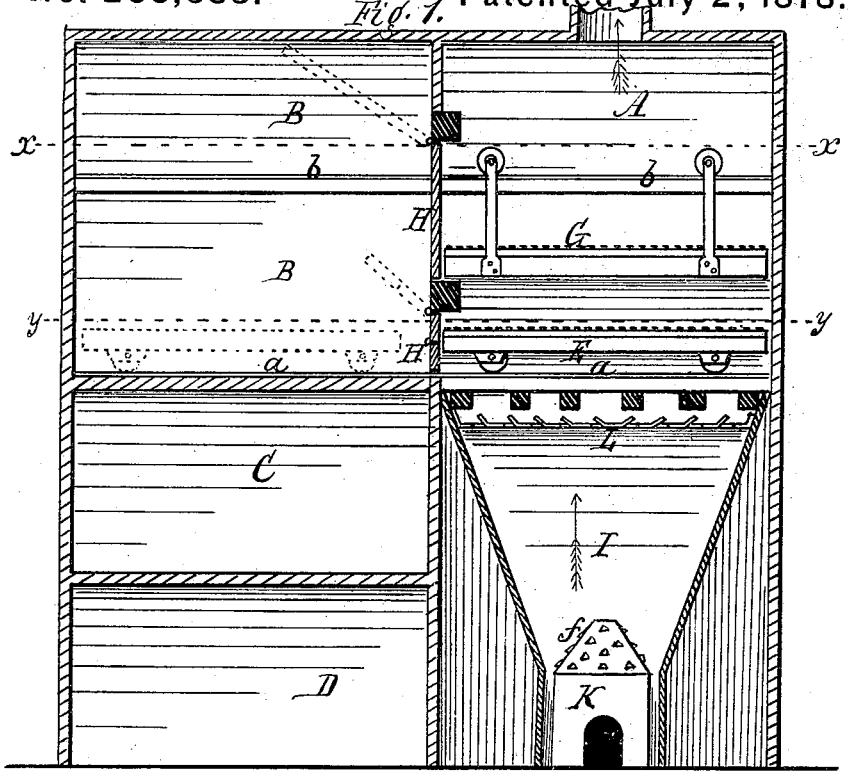

Fig. 2.

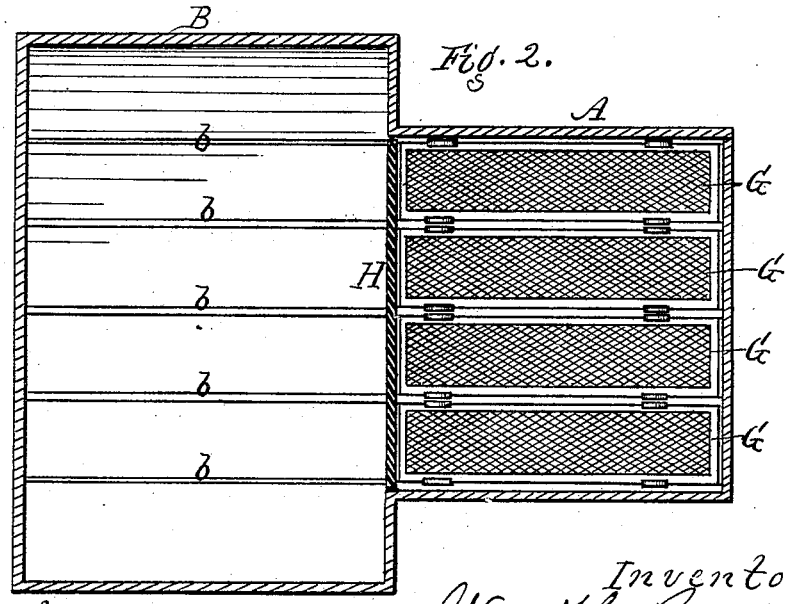

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Fig. 3.

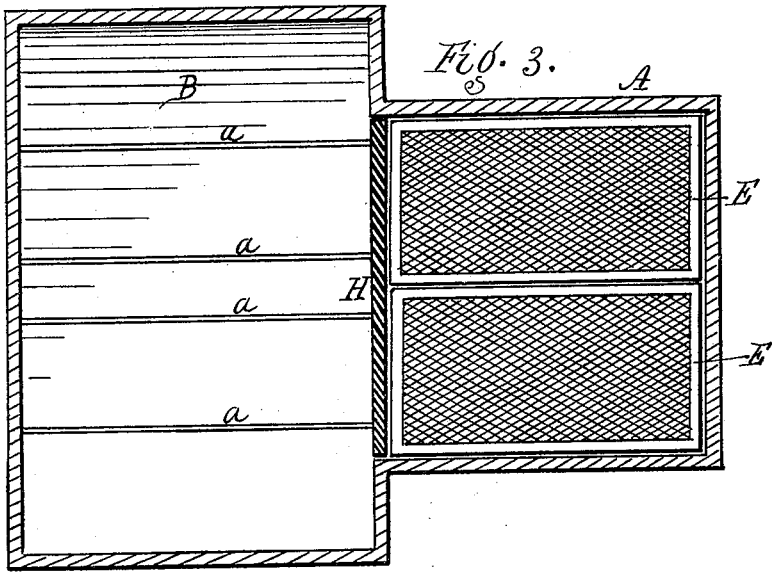

Fig. 4.

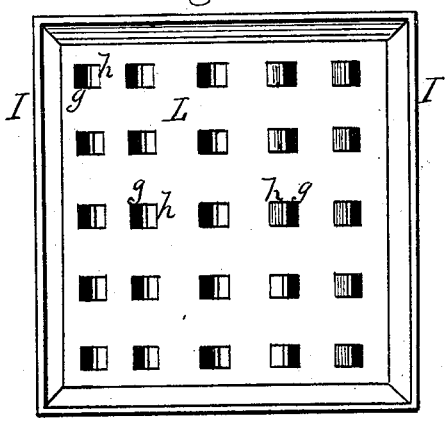

Fig. 5.

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UNITED STATES PATENT OFFICE.

WILLIAM H. ROGERS, OF WILLIAMSON, NEW YORK.

IMPROVEMENT IN FRUIT-DRYING HOUSES.

Specification forming part of Letters Patent No. **205,683**, dated July 2, 1878; application filed May 11, 1878.

To all whom it may concern:

Be it known that I, WILLIAM H. ROGERS, of Williamson, in the county of Wayne and State of New York, have invented a certain new and useful Improvement in Fruit-Drying Houses; and I 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 accompanying drawings, in which—

Figure 1 is a vertical section of a building, showing my improvement. Fig. 2 is a horizontal section in line *x x* of Fig. 1. Fig. 3 is a similar section in line *y y*. Fig. 4 is a plan of the heat-conveying trunk, showing more particularly the perforated or slotted diaphragm therein. Fig. 5 is a detail view, showing one of the slots and its cover in the diaphragm.

My improvement relates to fruit-drying houses in which the cars for containing the fruit are run from the operating-room into the drying-room on tracks which extend through both rooms.

The invention consists in a new and improved arrangement of the parts, whereby two or more sets of the cars may be used, one above the other, thereby securing greater capacity in drying; also, in a diaphragm of peculiar construction interposed between the furnace and the heating-chamber, all as hereinafter described.

The drawing represents a building of considerable size, having, in addition to the drying-room A and operating-room B, (adjoining each other, as before described,) other sub-rooms, C and D, which are used for various purposes in storing and preparing the fruit.

The rooms A and B are provided with bottom tracks *a a* and elevated tracks *b b*, which extend continuously the whole length of the two rooms. On the depressed tracks rest the cars E E, which form the lower perforated floor of the drying-room, while from the elevated tracks are suspended the cars G G, which form the upper perforated floor. When in the drying-room, these two sets of cars are located one above the other, as shown in Fig. 1, and each floor covers the whole cross-area of the drying-chamber, so that the heat which arises from the furnace is forced to pass through both of said floors before it can escape through the ventilator at the top.

The top of the cars are covered by wire-cloth, as shown.

H H are hinged valves, which are suspended between the two rooms A B, and form a part of the partition between the said rooms. They are preferably made to open outward into the operating-room B. They come opposite the ends of the cars, and extend across the whole width of the rooms. If desired, they may be made in sectional form—that is, each valve of such size as to allow the passage of a single car, and enough of them used to correspond with the number of lines of cars. The lower valve may be made in two parts, with double hinges, to facilitate opening and closing, if desired, as shown in Fig. 1. These valves, when opened, allow the passage of the cars from one room to the other, and retain the heat in the drying-room by closing as soon as the car has passed.

I is the heat-conveying trunk, which is in the shape of an inverted frustum of a pyramid, the upper open end resting under the whole surface of the drying-chamber, while the lower contracted end is closed, and has resting therein a furnace or fire-place, K, with a door opening outward, and provided at the top with a perforated dome, *f*, which allows the heat to escape direct into the trunk, whence it passes up through the drying-room, as before described. If desired, the furnace may be entirely closed, and the heat may pass into the trunk simply by radiation.

L is a diaphragm, of sheet metal, resting across the heat-conveying trunk near its top. It is provided with a series of slots, *g*, and covers *h*, formed by slitting the metal and turning the cut portion up, as shown in Fig. 1. In use, the covers or flanges are bent up or down to cover more or less of the slots, thus regulating the heat. This can be easily done by hand at any time.

When once regulated or gaged to the size of building or room employed, these valves require but little change.

This device is simple and cheap, is easily regulated, and allows free and uniform diffusion of the heat from the top of the heating-trunk into the drying-chamber.

I am aware that cars covered with wire-cloth and running upon a track are well known in fruit-driers. They are usually of small size, and are run from the outside into a heat-passage, and discharged in the same manner.

The distinction between my invention and such devices is that the cars are arranged in a series to form a regular drying-floor of large size, and two rooms are so combined, having continuous tracks running through both of them, that the entire floor may be run from one room into the other for the purpose of applying or removing the fruit, and then back again, without trouble.

By means of the valves before described, the heat can be retained in the drying-room while the cars are being loaded or unloaded, and they serve to cut off the heat from the operating-room, preserving the latter in a comfortable condition for the operatives. Furthermore, by the construction described, two or more floors are made available, securing greater capacity in the same space, with all the advantages before set forth.

The apparatus above described is also adapted to drying vegetables and other materials.

Having thus described my invention, I do not claim slotted plates in the heat-conveying trunk for regulating the passage of heat; but

I claim—

1. In combination with the two apartments A B, communicating with each other, as described, the two sets of tracks *a a* and *b b*, one resting on the floor and the other being elevated, and the two sets of cars E E and G G, running respectively on said tracks and forming two separate drying-floors, movable from one apartment to the other, as shown and described, and for the purpose specified.

2. In a fruit-drying house such as described, the diaphragm L, interposed in the trunk I between the furnace and the drying-room, constructed with a series of flanges, *h h*, cut in the body of the same, and arranged to graduate or regulate the passage of heat into the drying-room by the bending of said flanges up or down over the slots *g g*, as shown and described, and for the purpose specified.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

W. H. ROGERS.

Witnesses:

W. S. THROOP,

JOHN M. REYNOLDS.