(No Model.) 2 Sheets—Sheet 1.

W. R. PHILLIPS.

FRUIT DRIER.

No. 270,695. Patented Jan. 16, 1883.

Fig. 1.

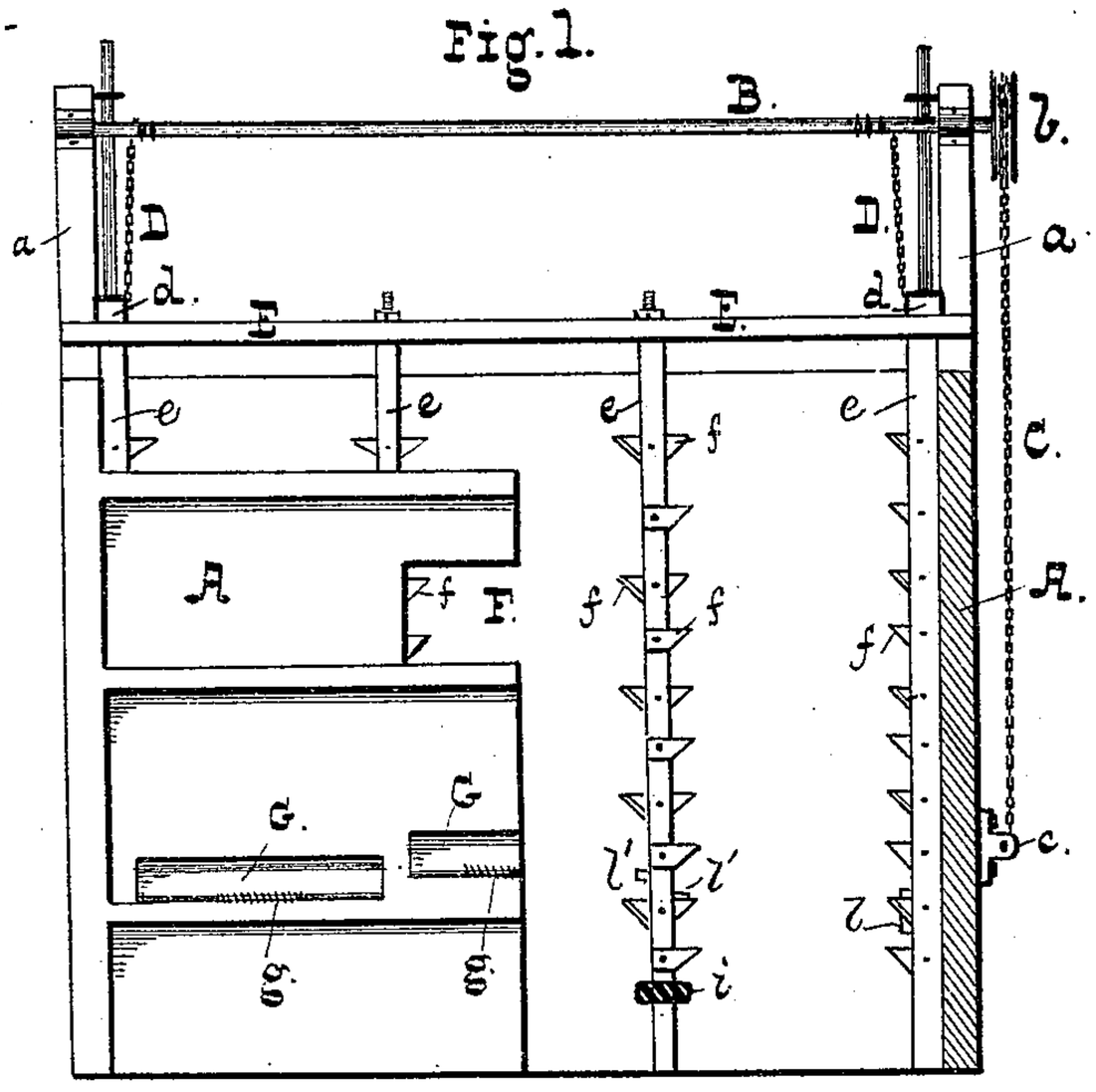
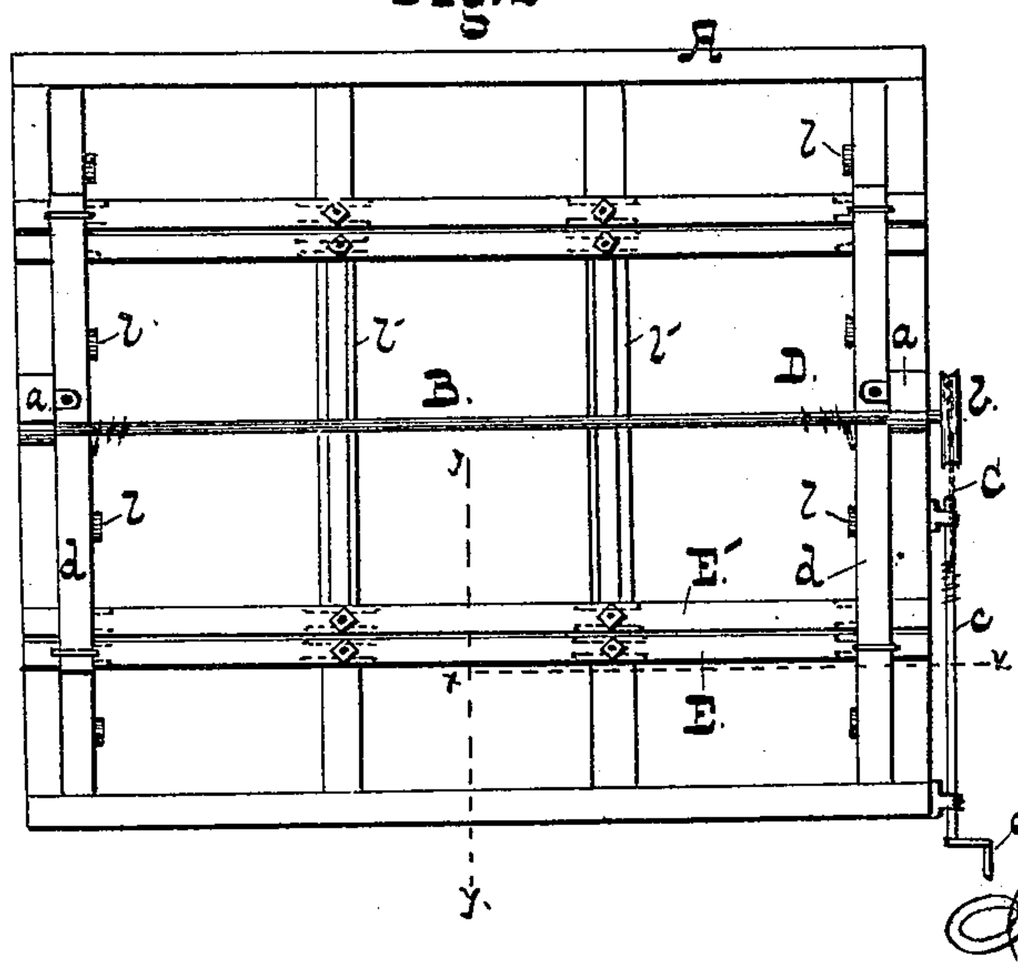


Fig. 2



Witnesses

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(No Model.) 2 Sheets—Sheet 2.

W. R. PHILLIPS.

FRUIT DRIER.

No. 270,695. Patented Jan. 16, 1883.

Fig. 3.

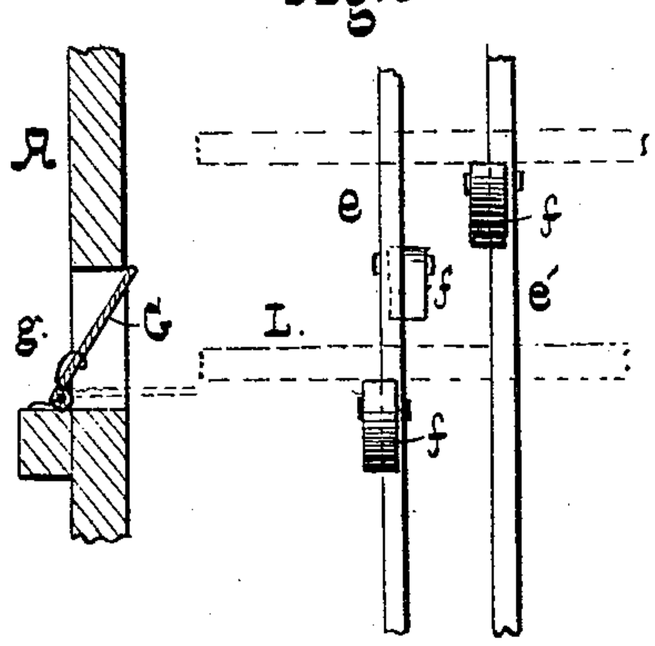


Fig. 4.

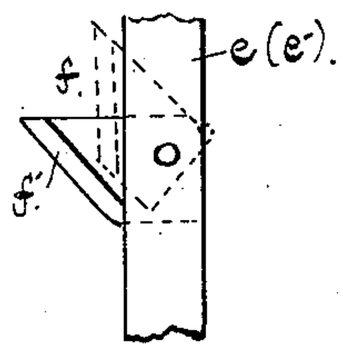


Fig. 5.

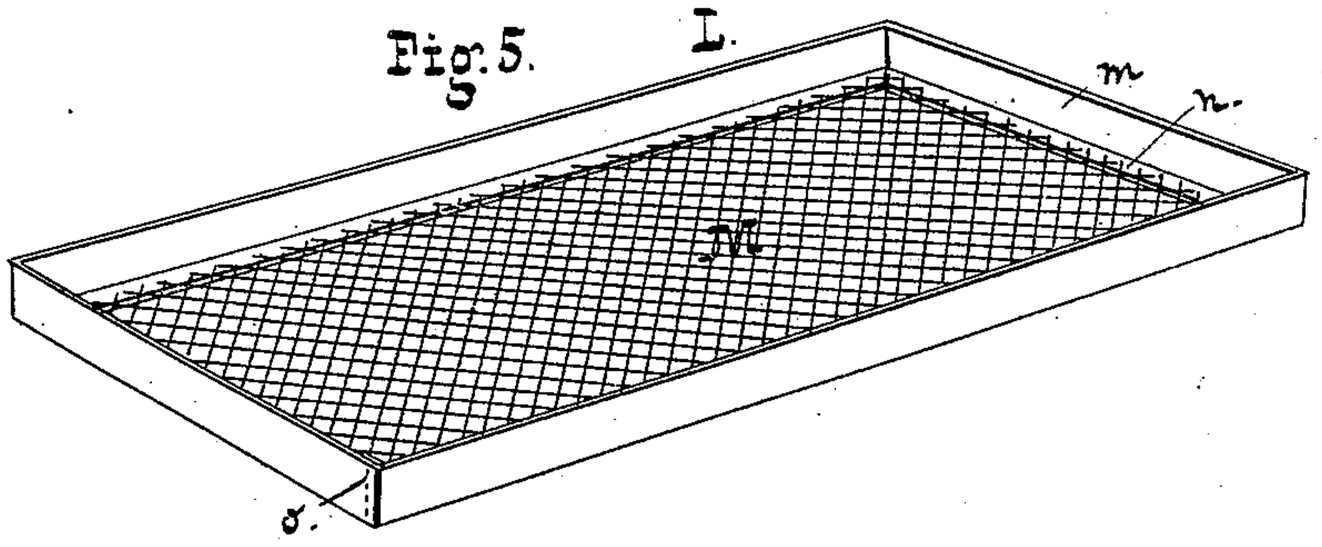


Fig. 6.

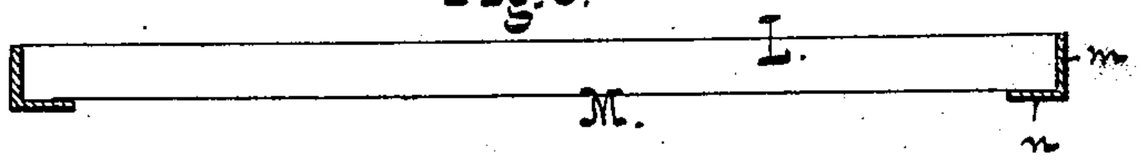
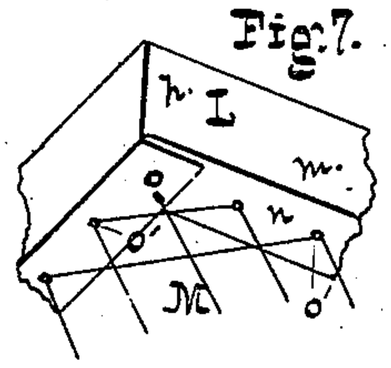


Fig. 7.



Witnesses

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FRUIT-DRIER.

SPECIFICATION forming part of Letters Patent No. 270,695, dated January 16, 1883.

Application filed May 20, 1882. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM R. PHILLIPS, of Milford, Kent county, State of Delaware, have invented certain new and useful Improvements in Fruit-Driers; and I hereby declare the same to be fully, clearly, and exactly described as follows, reference being had to the accompanying drawings, in which—

Figure 1 is a front elevation of the device, partly in section, on the lines *x x*, *y y* of Fig. 2. Fig. 2 is a top plan; Fig. 3, a sectional elevation, showing the spring-door and gravity-catches. Fig. 4 is a side elevation of one of the catches; Fig. 5, a perspective view of the pan or tray; Fig. 6, a longitudinal sectional view of the same; and Fig. 7, a perspective view of one of the corners of the tray, shown from below.

My invention relates to devices for drying apples, peaches, and other fruit; and it has for its object to obviate certain difficulties which have attended the use of existing forms of like apparatus.

The invention will first be described, and then pointed out in the claims.

In the drawings, A is the outer casing or stack, which is placed over a suitable furnace so that the heated air may rise through it. In uprights *a a* at either side is mounted a shaft, B, over which chains D are led to cross-beams *d*. A pulley, *b*, is keyed on the end of the shaft B, and from it a chain, C, is led to a horizontal shaft or drum, *c*, journaled at the side of the casing and having a crank, *c'*. It will be understood that upon turning the crank the beams *d* are raised or lowered, as the case may be.

To the beams *d* are bolted cross-beams E E, from which depend bars *e*, the lower ends of which pass through guides *i*. Beside the beams E are similar stationary beams, E', having corresponding depending bars, *e'*. As shown in the drawings, there are two rows of bars *e e'*, dividing the stack into three vertical compartments; but obviously more or less may be used.

To the bars *e e'*, and in the sides of the stack at proper intervals, are pivoted gravity-catches *f*, having ribs *f'*, which subserve a double end, as hereinafter set forth.

In the front of the casing are doors G, opposite the compartments, between the bars *e e'* and the sides of the stack. These doors are pivoted at their lower edges, and are normally held up by springs *g*, but tilt downward, as shown in dotted lines, Fig. 3, to permit of the insertion of the trays. Rollers *l* on the sides of the casing and guides *l'* on the sides of the bars *e e'* serve to support the trays when inserted through the doors G.

The trays L (see Figs. 5, 6, 7) are of peculiar construction. They are made of continuous strips of angle-iron bent thrice at right angles and lapped at *o*, when the lapped edges are riveted or not, as desired. The base-pieces are either mitered at the corners so as to meet or else (and this by preference) they are lapped and riveted, as shown at *p*, Fig. 7, forming a light and stiff frame. Wires M are attached to the frames, forming reticulated trays, and being inserted through the bottom-flange perforations in the angle-iron, and stretched from side to side and end to end, form binders, as it were, for the sides of the tray, holding them in proper position, whether they are riveted or not. This construction of the trays is of great importance in securing immunity from danger of fire, as the juices and gum from the fruit will soon convert a wooden tray into tinder. The danger of fire is so great with the usual forms of apparatus as to render it almost impossible to effect insurance upon them. Trays made of wood are further objectionable, in that they take up much room in the drying apparatus, while those constructed of angle-iron (which are fire-proof, as before described,) take up very little, the fruit occupying all the space except the thickness of the iron, if so desired. The wooden trays are further objectionable, in that they sometimes impart the flavor of the wood to the fruit. My trays overcome all of these objections. They are light, cheap, durable, fire-proof, and inodorous.

In practice the trays are filled with the pared and sliced fruit and are passed into the stack through the doors G, which tilt inward as the trays pass inward and immediately close behind them, preventing loss of heated air. The trays slide in upon the guides *l'* and rollers *l*. When the trays first introduced have been in the stack long enough to nearly complete the drying of the fruit contained upon them the

crank c' is turned, lifting the bars e. The catches f, encountering the lower edges of the trays, lift them, and in rising the catches f of the stationary bars e' are tilted up, as shown in Fig. 4, and fall again as soon as the trays pass. The bars e are then lowered by reverse rotation of the crank c, and a second tray is inserted below the first. In this manner the stack is gradually filled and the trays are removed *seriatim* as they reach the top. The progress of the operation may be observed from time to time through the window F. The ribs f' on the catches f serve to prevent the catches from being tilted too far, and also assist by their weight to cause the catches to return to their normal positions, in which the ribs rest against the fronts of the bars $e\ e'$ and hold the catches horizontal.

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

1. In combination with the outer casing having doors G, and opposite thereto the tray-supporting rollers l and guides l', the depending stationary bars e and movable bars e', and the gravity-catches f, pivoted in slots in said bars and having ribs f', as set forth.

2. In combination with the stack having depending bars $e\ e'$, the gravity-catches f, having ribs f', adapted to limit the upward and downward movements of the catches by encountering the fronts of the bars, as set forth.

3. The tray herein described, consisting of the angle-iron bent at right angles and having its bottom flange lapped or mitered at said bends, forming the sides of the tray, combined with the wire netting or strands having their ends inserted in perforations in said bottom flanges and fastened therein and stretched, forming thereby a bottom for the tray and binders to hold the sides in proper relation to each other, as set forth.

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Witnesses:

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