(No Model.) 2 Sheets—Sheet 1.

A. B. SHEARER.

FRUIT DRIER.

No. 572,224. Patented Dec. 1, 1896.

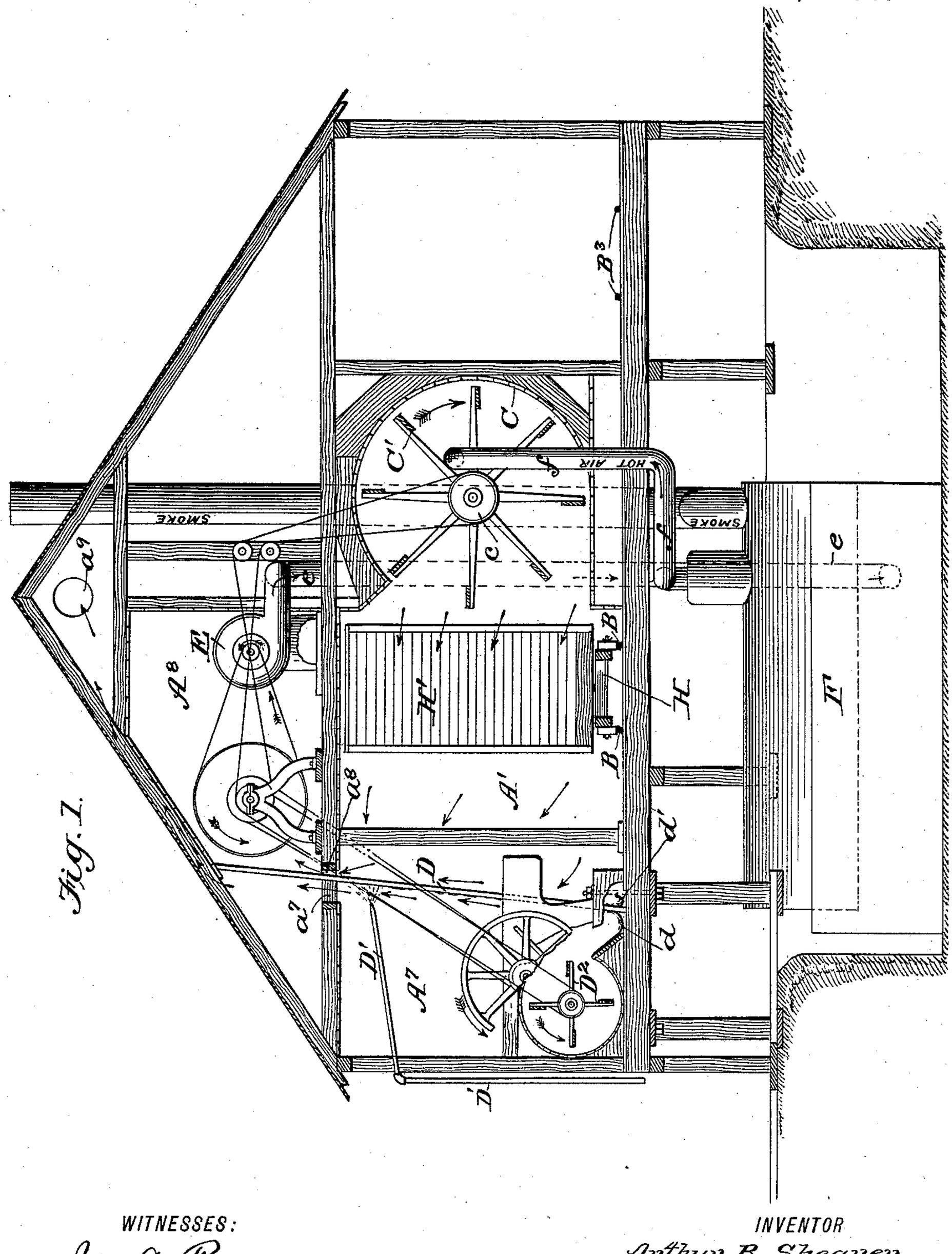

Fig. 1.

WITNESSES:

Jos. A. Ryan

W. D. Blondell

INVENTOR

Arthur B. Shearer

BY Munn & Co.

ATTORNEYS.

(No Model.) 2 Sheets—Sheet 2.

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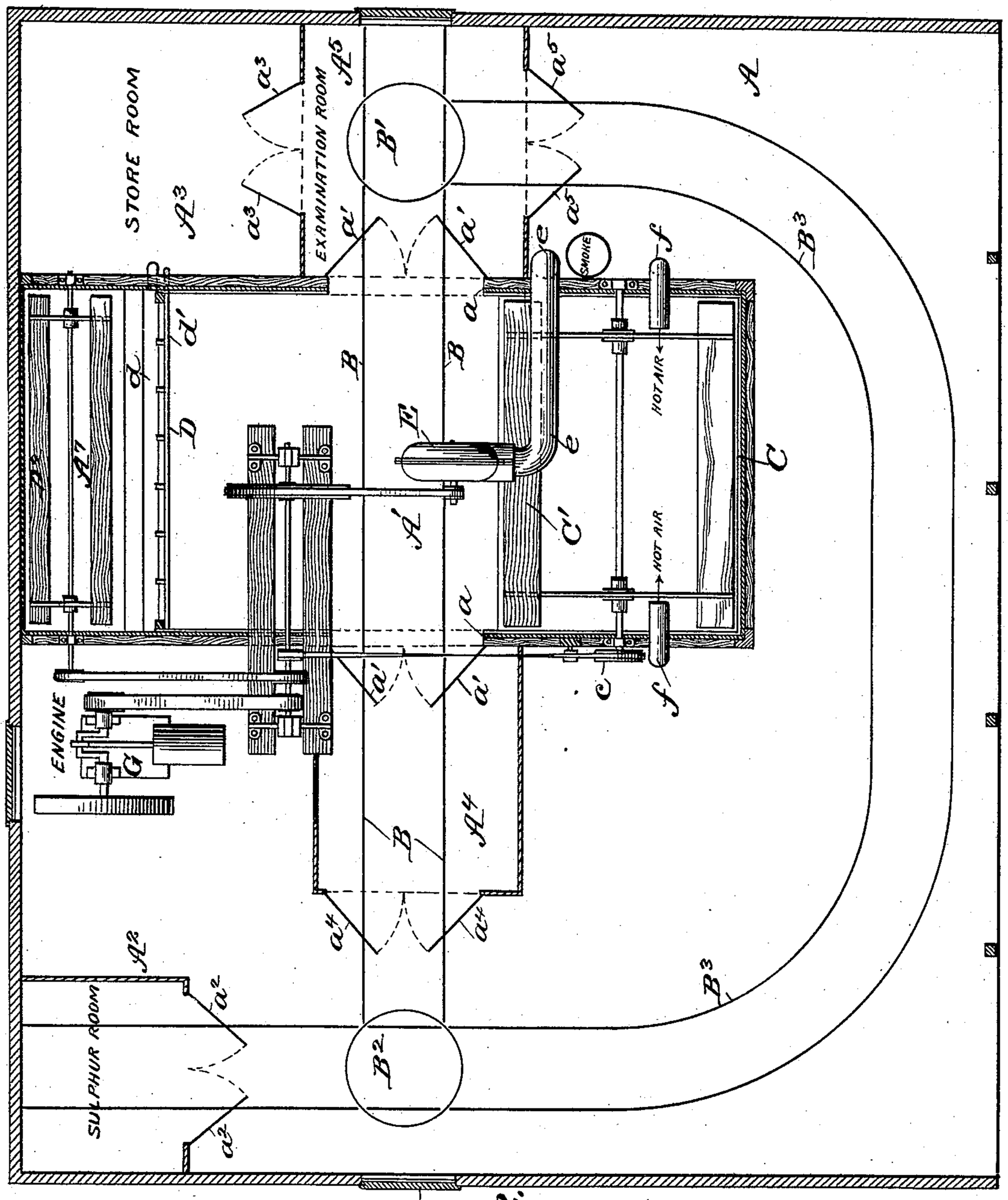

Fig. 2.

WITNESSES:
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INVENTOR
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UNITED STATES PATENT OFFICE.

ARTHUR B. SHEARER, OF ARROYO GRANDE, CALIFORNIA.

FRUIT-DRIER.

SPECIFICATION forming part of Letters Patent No. 572,224, dated December 1, 1896.

Application filed November 22, 1895. Serial No. 569,813. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR B. SHEARER, a citizen of the United States, residing at Arroyo Grande, in the county of San Luis Obispo and State of California, have invented certain new and useful Improvements in Fruit-Driers, of which the following specification contains a full, clear, and exact description, reference being had to the accompanying drawings, in which—

Figure 1 is a sectional view of my improved drier, parts of the construction being shown in elevation. Fig. 2 is a plan view of same, parts being broken away and others in section.

A represents a suitable building, within which the drying-chamber A′ is located. In two corners of the said building A are constructed the sulfur-room A^2 and the store-room A^3, while between the sides of the drying-chamber and the ends of the building are located the storm-room A^4 and the examination-room A^5, respectively. The door-openings *a a* at the sides of the drying-chamber A′ are provided with swinging doors *a′ a′*, which close communication between the storm and examination rooms, and the storm-room has similar doors a^4 at its end, while the examination-room has such doors a^5 in its side. The store-room is provided with swinging doors a^3, which close communication with the examination-room A^5, and the sulfur-room A^2 has similar doors a^2, which close communication with that portion of the building A. Longitudinal tracks B extend through the storm-room, drying-chamber, and examination-room A^5, where a turn-table B′ is provided, a similar turn-table B^2 being provided at the opposite ends of the tracks between the side of the main building and the doors a^4 of the storm-room. The two turn-tables B′ B^2 are connected by a track B^3, exterior to the drying-chamber, and this track also leads into the sulfur-room A^2. This system of tracks and turn-tables enables the cars containing the fruit to be readily shifted from place to place or room to room, as may be desired. The turn-table B^2 comes opposite the door A^6 of the building A.

The drying-chamber A at one side of the tracks B is formed as a circular casing C, which is open at its side next to the tracks, and within this casing is the large fan-wheel C′, the shaft of which, exterior to the said chamber, is provided with a pulley *c*, said fan forcing a blast of hot air across the chamber. At the opposite side of the tracks B from the fan the drying-chamber is divided by a transverse condenser-partition D, which is preferably formed of a glass plate set at an incline, as shown.

Within the chamber A^7, behind the glass plate or partition, are the sprayers D′, which spray cold water on the upper end of the condenser-plate to constantly cool it, and this action is supplemented by a fan D^2, which forces cold air against the plate and descending stream of water. It will be seen, therefore, that the blast of hot air from the fan C′ will, after passing the fruit, strike the condenser D and deposit thereon any moisture absorbed from the fruit. The moisture thus deposited will run down the condenser D and be carried away by the trough or gutter *d*. The chamber A^7 has an opening a^7, connected with a ventilator a^9 in the top of the main building. The water running down the inner side of the condenser D will be carried off by gutter *d′*.

In the upper part of the building is a chamber A^8, having an opening a^8 adjacent to the glass condenser D, and within the chamber A^8 is a steel pressure-blower E, which draws the air up from the drying-chamber past the glass condenser D and forces it down through a pipe *e* to the bottom of the furnace or heater F, from the top of which it is drawn through the pipes *f* back to the fan-casing C to be again discharged across the trays of fruit.

The furnace or heater F is arranged below the floor-line, as shown in the drawings, and may be formed of any old worn-out steam-boiler, the water and steam space being used for heating the air. This reuse of the heated air will effect a considerable saving of fuel, as less heat is required than would be necessary if the heater was supplied with cold air.

The drying-chamber will be constantly supplied with thoroughly dried heated air and the drying of the fruit will be efficiently and expeditiously effected, and that by very simple and inexpensive means.

The fans C′ D^2 and blower E are driven from the engine G by suitable shafting and belting, the engine being located in the building A between the storm and sulfur rooms.

H represents a car provided with a hori-

zontally-turning rack H′, centrally pivoted thereto, said rack being adapted to receive any desired number of fruit-trays. When the loaded car is run from the storm-room A^4 into the drying-chamber and the hot-air blast from fan C′ directed thereacross, the fruit will be quickly dried, when the car may be run into the examination-room A^5, from which it may be returned to the drying-chamber, if necessary, to further dry the fruit, or the loaded car may be run over tracks B^3 to the sulfur-room, or the trays of fruit may be removed and placed in the store-room. As the rack H′ is centrally pivoted to the car H, it may be reversed end for end for examination or to bring either side next to the fan C′.

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

1. The fruit-drier, comprising a drying-chamber, having a glass partition at one side, a water-spraying pipe behind said partition, a fan also located within the chamber behind said partition and discharging cold air thereagainst, and means for directing a hot-air blast over the fruit to be dried, and against said partition, substantially as set forth.

2. The fruit-drier, consisting in the main compartment, having a condensing-partition at one side of its drying-space, a fruit-carrier adapted to pass through said drying-space, a fan opposite the condensing-partition to force hot air over the substance to be dried and against said partition, a heater or furnace for heating the air supplied to said fan, and a blower for withdrawing the air from the drying-chamber and returning it to the heater or furnace substantially as set forth.

3. The improved fruit-drier, consisting of the main compartment, having end doors and a track between them, for the tray-cars; a condensing wall, or partition, set at one side of and parallel to the track; means for spraying water and directing a blast of cool air upon said wall, for cooling it; a heater or furnace for heating the air; a fan for forcing the hot air across the track-space and the fruit-laden car and against condenser-wall; and a blower for withdrawing the air from the drying-chamber and returning it to said furnace or heater, for reheating and drying, substantially as set forth.

ARTHUR B. SHEARER.

Witnesses:
J. M. EMMERT,
J. L. EDDY.