R. RAYSON.,

REFRIGERATING AND DEFROSTING CHAMBER.

APPLICATION FILED MAR. 19, 1917.

1,319,359. Patented Oct. 21, 1919.

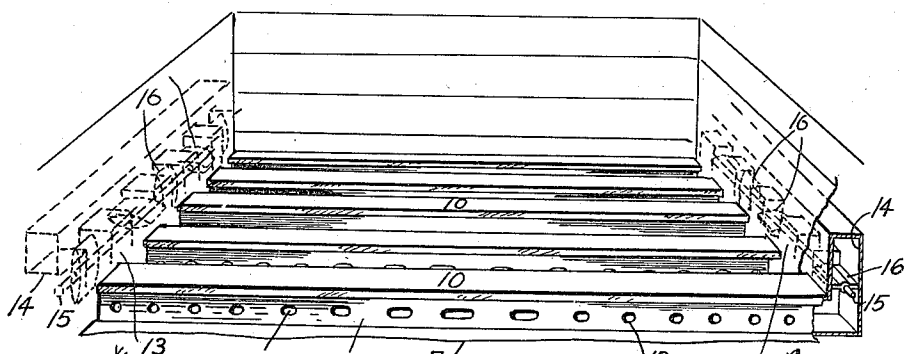


Fig. 1.

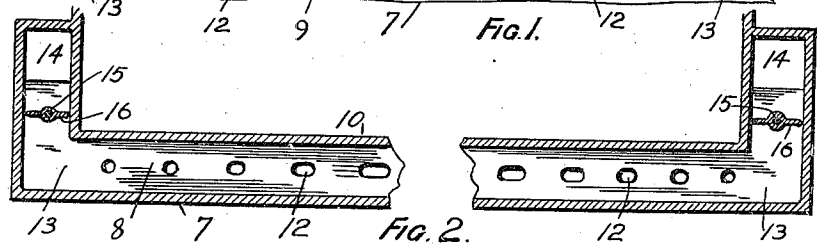


Fig. 2.

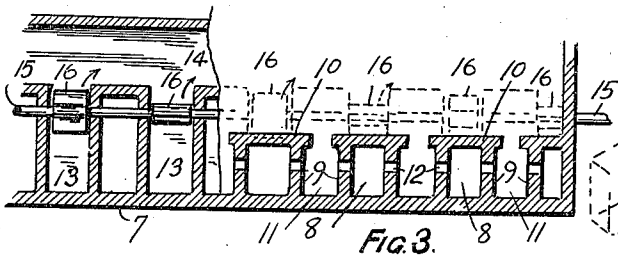


Fig. 3.

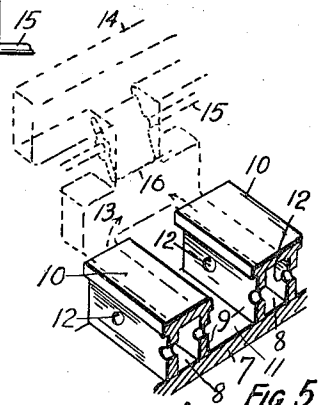


Fig. 5.

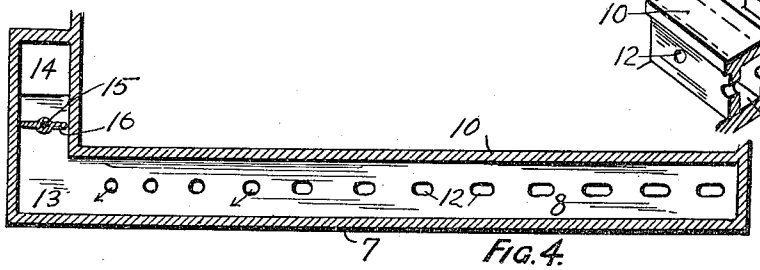


Fig. 4.

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REFRIGERATING AND DEFROSTING CHAMBER.

1,319,359. Specification of Letters Patent. Patented Oct. 21, 1919.

Application filed March 19, 1917. Serial No. 155,932.

To all whom it may concern:

Be it known that I, RUSSELL RAYSON, a subject of the King of Great Britain and Ireland, residing at Arnold House, 14 Queen street, Melbourne, in the State of Victoria, Commonwealth of Australia, have invented certain new and useful Improvements in Refrigerating and Defrosting Chambers, of which the following is a specification.

This invention relates to cold storage systems in which the circulating air either for refrigerating or defrosting introduced to the chamber is drawn off through ducts situated at or about the floor level. In known practice those withdrawal ducts have been formed below the general floor level and covered with gratings which form the floor or constitute part of it. In this construction the interstices in the gratings are liable to become choked by the treading thereinto of matter which ultimately falls through into the ducts.

The object of this invention is to effect certain improvements in the construction and arrangement of the ducts relatively to the floor, and in respect of the valve control and their communication with a main duct leading to the blower intake.

The present invention consists in the construction and arrangement of the air withdrawal ducts, and in the provision of wall boxes and controlling valves therein.

And in accordance with this invention I form on the chamber floor raised ducts, the bottom of same resting upon the floor or being constituted by the floor, the tops being solid and slightly overlapping the sides which are perforated for the admission of air to the ducts. A suitable space is provided between the sides of any two adjacent ducts.

These ducts either singly, in pairs, or in groups, are connected at their ends with wall boxes in each of which is a valve adapted to alternately cut off and open up communication between said floor ducts and a main duct leading to the blower. The wall boxes and valves may be provided at one or both ends of the ducts. The valves at either end are actuated by a rod or shaft common to all of them and rotatable by any suitable known means from a convenient source of power. And the arrangement of the valves is such that each alternate valve is open while the intermediate ones are closed, this resulting in the sucking of the air from alternate ducts or groups of ducts and thus effecting a thorough distribution of air in the chamber.

In the accompanying drawings depicting storage chamber construction in accordance with and in so far as it relates to my invention,

Figure 1 is a perspective view of the interior of a chamber, with the ducts connected at both ends to valved wall boxes.

Fig. 2 is a sectional elevation through one of the ducts and the wall boxes at each end.

Fig. 3 is a part sectional elevation (at right angles to Fig. 2) through the wall boxes and main duct, and a part sectional elevation through the floor ducts.

Fig. 4 is a section through a duct connected at one end only to a wall box, and

Fig. 5 is a perspective view showing two adjacent floor ducts connected to one wall box.

Upon the normal floor 7 of the chamber are built the raised ducts 8 having side members 9, 9, and overlapping tops 10, while between any adjacent pair of ducts are spaces 11. The sides 9 of the ducts have perforations 12, 12, gradually diminishing in size from the center toward the wall as in Figs. 1 to 3, or from one end as in Fig. 4.

The ducts 8 communicate at each end (Figs. 1 to 3) or at one end (Fig. 4) with boxes 13 built in the walls of the chamber and themselves in communication with main suction ducts 14 also built in the walls. A shaft 15 rotatable by appropriate means (not shown) extends through the wall boxes 13 and on said shaft in each box is a plate valve 16 which by its rotation intermittently closes and opens communication between the wall box and the duct 14. Each valve is oppositely disposed on the shaft to its neighbor so that the action is alternating, thus producing a thorough distribution of air in the chamber and avoiding direct currents of air.

In Fig. 5 the wall box 16 is common to two adjacent ducts 8, 8, thus reducing the number of boxes and valves 16 required for the chamber. Otherwise the construction is as before described and the same reference numerals are used to indicate corresponding parts.

What I claim as my invention is:—

A storage structure forming a chamber

and having hollow side walls forming wall boxes connected to a source of suction, said structure also having a floor and air withdrawal ducts above the floor, said ducts communicating at their ends with the wall boxes and having side walls provided with apertures and with laterally overhanging tops.

Signed at Melbourne, in the State of Victoria, this 6th day of Feb., A. D. 1917.

RUSSELL RAYSON.

Witnesses:
LUCY M. GREEN,
W. J. MCCAFFERTY.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents Washington, D. C."