A. H. JONES.

REVOLVING STORAGE DEVICE.

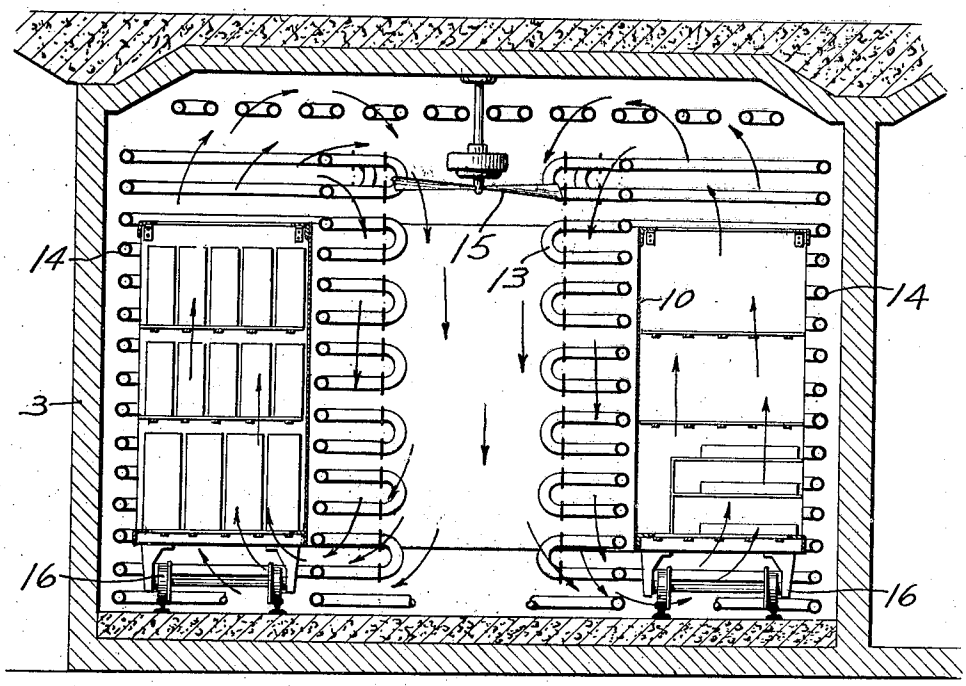
APPLICATION FILED APR. 16, 1921.

1,429,435.

Patented Sept. 19, 1922.

2 SHEETS—SHEET 1.

Fig. 1.




INVENTOR.

Alexander Houston Jones

BY Westall and Wallace

ATTORNEYS.

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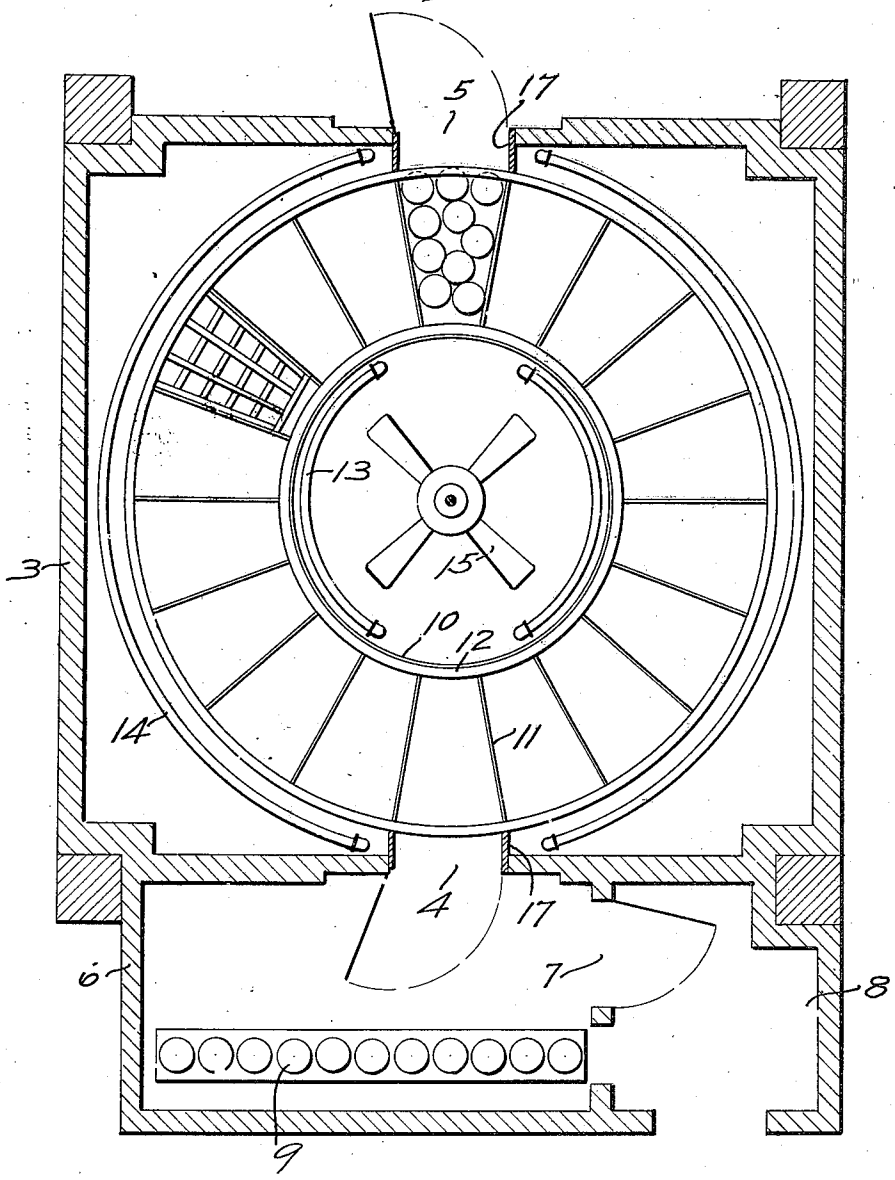
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2 SHEETS—SHEET 2.

Fig. 2.




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# UNITED STATES PATENT OFFICE.

ALEXANDER HOUSTON JONES, OF GLENDALE, CALIFORNIA.

## REVOLVING STORAGE DEVICE.

Application filed April 16, 1921. Serial No. 461,953.

*To all whom it may concern:*

Be it known that I, ALEXANDER HOUSTON JONES, a citizen of the United States, and resident of Glendale, in the county of Los Angeles, State of California, have invented new and useful Improvements in a Revolving Storage Device, of which the following is a specification.

This invention relates to a structure for storage and treatment while stored of various articles. It appertains particularly to storage of articles in an atmosphere having fixed qualities differing from the ambient atmosphere and having provision for loading and discharge with a minimum change of the atmosphere within the storage compartment. The particular embodiment of the invention disclosed herein is that applicable to storage of ice cream, ices, confectionery, foods and the like.

It is the primary object of this invention to provide a storage chamber having a loading and discharge opening and a container therein for the articles so arranged as to occlude the ingress of the ambient atmosphere to the articles therein not being loaded or unloaded, and the egress of the atmosphere within the container immediately surrounding the articles being loaded or unloaded.

These objects are obtained by means of an embodiment of my invention illustrated in the accompanying drawings, in which:

Fig. 1 is a section in elevation showing somewhat diagrammatically the elements of a cooler suitable for the storage of ices and ice cream; and Fig. 2 is a horizontal section through the structure shown in Fig. 1.

Referring more particularly to the drawing, 3 indicates a walled chamber having a door 4 for loading and a door 5 for unloading the articles to be stored. In the present embodiment the walls of the compartment are heat insulated. The door 4 opens into an anteroom 6 and the latter has a door 7 communicating with a vestibule 8. The anteroom and vestibule are auxiliary to coolers for convenience in hindering the entrance into the exit from the cooler air. Cans of ice cream indicated by 9 may be loaded into the anteroom which may then be closed off from the vestibule 8 while the cans are being loaded into the storage chamber.

Disposed within the storage chamber is a revolving container 10. This container is preferably annular in form and divided by vertical partitions into compartments. For further convenience these compartments are divided by horizontal shelves, the shelves being perforate to permit the circulation of air, while the vertical walls 11 are imperforate. The inner wall of the container indicated by 12 is imperforate, while the periphery of the container is open. By this construction a cylindrical stack for the circulation of air is formed at the center of the container, and disposed therein are refrigerating pipes 13. Disposed about the periphery of the container are refrigerating pipes 14. At the center of the stack is a fan 15 to circulate the air which flows in the direction of the arrows shown in Fig. 1. The container is mounted upon trucks 16 having wheels riding upon a circular track so that the container may be revolved. The compartments in the container are preferably of the same width as the loading and discharge doors, and wipers 17 are disposed so as to cut off the communication of the anteroom and chamber at the edges of the door. To further seal the chamber a closure plate may be secured to the chamber at the top of the door so as to register with the top of a compartment if desired.

Assume that it is desired to load the container and that the articles to be loaded are cans of ice cream 9 which have been placed in the anteroom. Normally doors 4 and 5 are closed. Door 4 is now opened, and the container revolved so that an empty compartment registers with the door. The ice cream cans are then loaded into the compartment. During the time that door 4 is open, fan 15 should not operate. The only opportunity for the cold air to pass from the storage chamber into the anteroom is through the compartment in registration with the open door. Likewise, when unloading, the door 5 is opened and the container revolved so that the compartment from which goods are to be taken registers with the door opening. At this time the fan 15 should not be operating. It is obvious that the opportunity for air to move to or from the storage chamber is a minimum by reason of one compartment only registering with the open door.

To keep the chamber closed from the ambient atmosphere is important in a cooler of this character. It is usual to store ice cream for twenty-four hours after it has been removed from the freezer in order to

harden it. Opening and closing of the doors to the cooling chamber necessary for loading and unloading permits warm and moist air to enter the compartment and the cool air to flow therefrom. The moisture in the air will condense and freeze upon the refrigerating pipes forming an effective insulation so that the efficiency of the refrigerating system is appreciably decreased. Even the moisture contained within the exhalations of the workers within the cooling chamber will cause an appreciable deposit of frozen moisture upon the refrigerating pipes. It is also obvious that the flow of cool air from the storage chamber and the inflow of hot air decreases the efficiency of the chamber. A structure of the character just described also has the advantage of permitting a system of manifests to be used in loading and discharging. It is also obvious that the invention is applicable to storage structures wherein a different degree of humidity is to be maintained within the chamber from that without. Thus it may serve as a drying room in a laundry or a chamber for dehydrating foods.

What I claim is:

1. A structure of the character described comprising in combination a closed chamber having an opening for access thereto, a revoluble container spaced from the top and bottom of said chamber to permit circulation of the atmosphere, said container being provided with vertical walls dividing it into compartments for registration of said opening and a stack at the center thereof for the circulation of atmosphere from top to bottom, said compartments being so arranged that a compartment may be moved so as to permit access thereto through said opening and substantially close off the remainder of the chamber.

2. A structure of the character described comprising in combination a closed heat insulated chamber having a loading opening in one wall thereof and a discharge opening spaced therefrom, a revoluble container spaced from the top and bottom of said chamber to permit the circulation of atmosphere, said container being provided with vertical imperforate walls dividing it into compartments arranged to permit atmosphere to circulate vertically therethrough and for registration with said openings so that when compartments are in registration therewith they will be substantially closed off from the remainder of the chamber, said container having a stack at its center whereby atmosphere may be circulated through said compartments, refrigerating means in said chamber and means to circulate the atmosphere within said chamber.

In witness that I claim the foregoing I have hereunto subscribed my name this 8th day of April, 1921.

ALEXANDER HOUSTON JONES.