May 31, 1938. W. E. CRUSE 2,119,422

REFRIGERATOR FOR DELICATESSENS

Filed Jan. 26, 1937 2 Sheets-Sheet 1

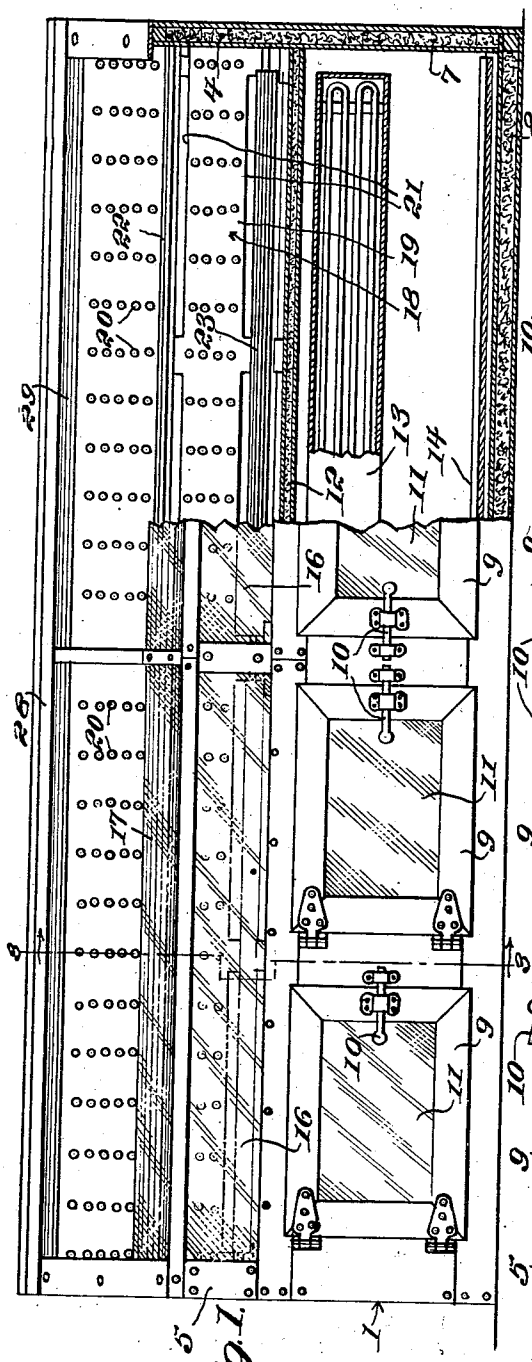


Fig. 1.

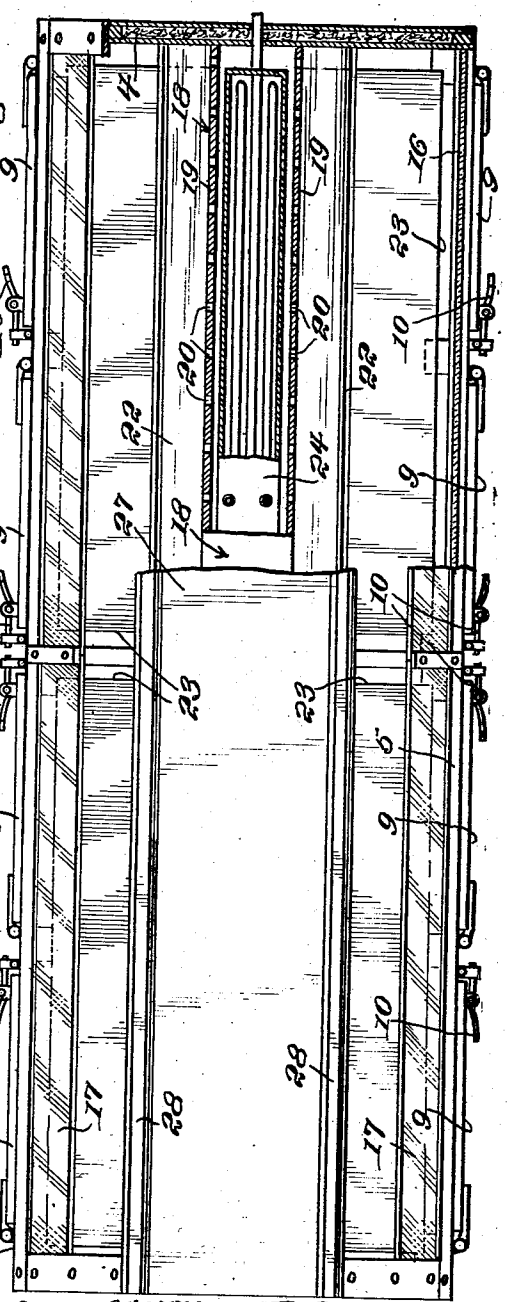


Fig. 2.

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Fig. 4.

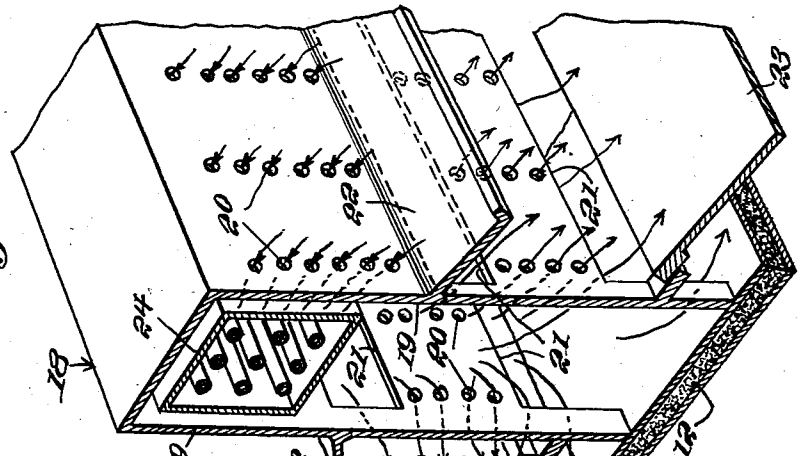
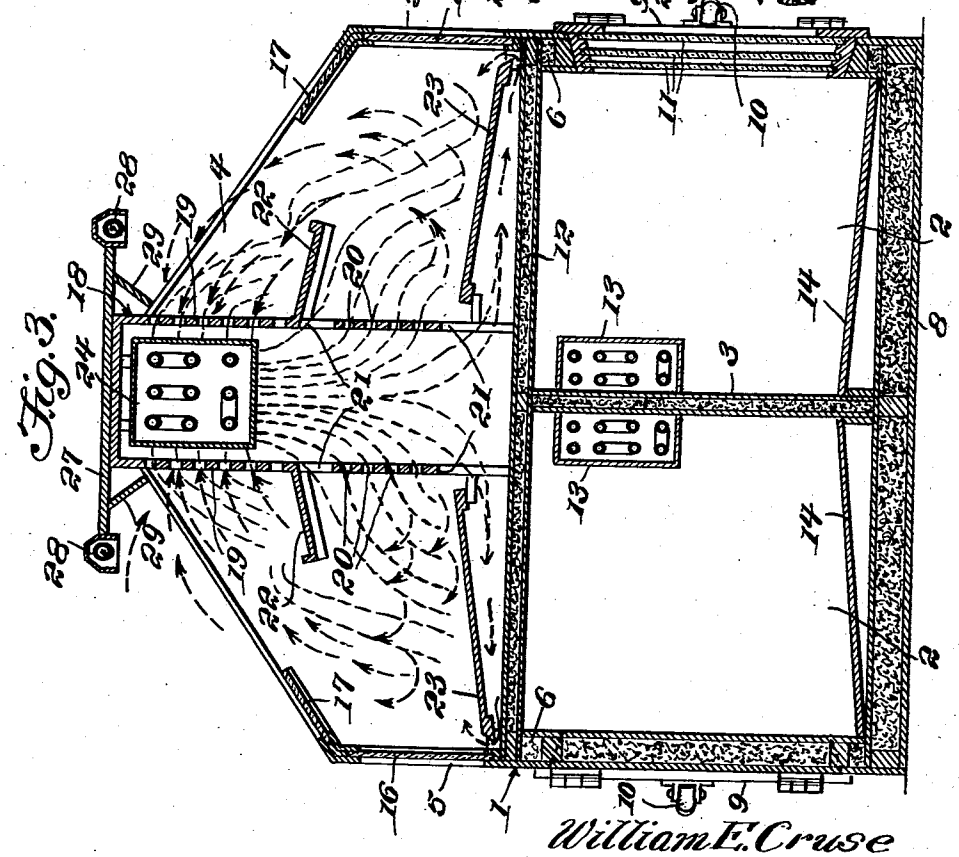


Fig. 3.



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UNITED STATES PATENT OFFICE

2,119,422

REFRIGERATOR FOR DELICATESSENS

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Application January 26, 1937, Serial No. 122,442

3 Claims. (Cl. 62—89.5)

This invention relates to refrigerators for delicatessen and similar stores wherein it is desired to display perishable articles in a temperature which will assure against spoiling of such articles and has for the primary object the provision of an efficient and attractive device of this character which will provide maximum storage space for articles with said articles so arranged that they may be clearly viewed and certain of said articles readily removed by a person or customer without the necessity of opening doors or similar closures, thereby rendering a portion of the device self-serving.

With these and other objects in view, this invention consists in certain novel features of construction, combination and arrangement of parts to be hereinafter more fully described and claimed.

For a complete understanding of my invention, reference is to be had to the following description and accompanying drawings, in which

Figure 1 is a side elevation, partly in section, illustrating a refrigerator for store display and constructed in accordance with my invention.

Figure 2 is a top plan view, partly in view, illustrating the same.

Figure 3 is a transverse sectional view taken on the line 3—3 of Figure 1.

Figure 4 is a fragmentary perspective view illustrating one of the refrigerant units and a housing therefor equipped with display shelves.

Referring in detail to the drawings, the numeral 1 indicates a cabinet including a lower structure in which are formed compartments 2 separated by a vertically arranged partition 3 and further includes an upper structure consisting of end walls 4 and side walls 5. The lower structure has side, end and bottom walls 6, 7 and 8. The walls 6, 7 and 8 are of an insulated construction and the side walls have doorways normally closed by hinged doors 9 equipped with suitable fasteners 10 for securing the doors in closed position. The doors are preferably constructed with spaced transparent panels 11 forming dead air spaces therebetween. The lower structure of the cabinet is separated from the upper structure by an insulated top wall 12. Located in the compartments 2 of the lower structure and adjacent the top wall 12 is a refrigerant unit 13 for the purpose of chilling the air in the compartments 2 to a desired temperature. In the compartments and spaced from the bottom wall 8 are sloping shelves or false bottoms 14 on which may be positioned food articles. Said food articles are readily accessible by opening the doors 9 and may be viewed while in the compartments 2 by way of the transparent panels of the doors.

The side walls 5 of the upper structure carry considerably large transparent panels 16 and the height of the side walls is much less than the height of the end walls and secured to the upper edges of the end walls and sloping upwardly and towards each other are transparent panels 17. The panels 17 extend from one end wall 4 to the other end wall. The upper structure of the cabinet is divided by a casing 18 which is arranged longitudinally of the cabinet between the end walls 4 and extends slightly above the highest point of the end wall, as shown in Figure 3. The casing 18 rests upon the top wall 12 of the lower structure of the cabinet and opposite side walls 19 thereof have a series of perforations 20 and also said side walls adjacent their lower edges are cutaway to define comparatively large slots 21. The casing 18 cooperates with the side walls 5 and 4 of the upper structure in forming chambers readily accessible from either side of the cabinet and supported by the side walls 19 of the casing are upper and lower shelves 22 and 23 arranged in the chambers. The shelves 22 are integral with the casing 18 and are located in a plane slightly below the upper edges of the panels 17. Certain of the perforations 20 are located above the shelves 22, while the other perforations are located below the shelves 22. The slots 21 are arranged in a plane below the shelves 23 and said last-named shelves are partly supported by the top wall 12 of the lower structure of the cabinet. A refrigerant unit 24 is supported in the upper portion of the casing 18 and the air chilled thereby circulates downwardly in the casing 18 passing therefrom by way of the perforations 20 and slots 21 as indicated by the arrows in Figure 3. This chilled air in its downward paths contacts articles positioned on the shelves 22 and 23. The natural tendency of the chilled air is to pass downwardly and only ascends when its temperature rises so that the articles supported by the shelves 22 and 23 will be kept at a temperature to assure against spoiling with said articles readily accessible by a person removing them from said shelves over the upper edges of the panels 17 of the side walls 5 of the cabinet. Carried by the top of the casing 18 is a plate 27 arranged horizontally and of a width greater than the width of the casing so as to protrude over the entrances to the chambers of the upper structure and carries at its longitudinal edges suitable illuminating means

28. Secured to the plate 27 and to the end walls 4 and inclining downwardly and inwardly towards the side walls of the casing are deflector plates 29. The air rising from the chambers of the upper structure will be deflected by the plates 29 towards the cooling unit 24 thereby completing the circulation of air from the cooling unit 24 through the chambers of the upper structure and back to said cooling unit 24.

Any food articles which a merchant desires to be obtainable by a purchaser himself are arranged on the shelves 22 and 23, these food articles being kept at a desired temperature and in clear view of the purchaser. Other food articles which the merchant does not desire to be obtained so readily by the purchaser are positioned in the compartments 2 of the lower structure and preferably such articles require a lower temperature to preserve them, it being understood that the temperature in the compartments 2 of the lower structure is much lower than the temperature in the chambers of the upper structure. However, it is to be understood that the temperatures within the compartments and upper chambers will be such that any food articles placed in the compartments and chambers will be kept from spoiling.

The type of cabinet shown and described provides maximum storage space for articles and is preferably positioned within a storeroom away from the walls of said room so that the customers may readily pass about the entire cabinet. However, without departing from the spirit and scope of this invention the cabinet may be constructed as exactly one-half of that shown in the drawings so that the cabinet can be positioned against a wall within a storeroom.

The most important and novel features of this invention is the arrangement for displaying food articles wherein the articles may be obtained with least effort on the part of the purchaser and still be kept at a temperature which will assure against spoiling of the articles. The location of the chilling unit 24 is extremely important with respect to the chambers of the upper structure so that the chilled air passing from the chilling unit 24 will descend and contact the articles arranged in the chambers of the upper structure.

What is claimed is:

1. A refrigerator including a lower construction having chilling compartments, an upper structure supported by the lower construction and including end and side walls, a casing supported by the lower construction and connecting the end walls and spaced from said side walls to provide chilling chambers, said side walls terminating in a plane below the upper end of the casing and spaced therefrom to provide entrances for said chilling chambers, a chilling unit in said casing and the latter having openings in opposite walls to permit chilled air to circulate from within the casing to said chambers and from the latter back into said casing, article supporting shelves carried by said opposite walls of the casing and arranged in the chilling chambers with some of the openings of the casing arranged in a plane thereabove and other openings arranged in a plane below said shelves, and shelves supported by said opposite walls of the casing and the lower construction and spaced therefrom to provide air passages thereunder opening to said chilling chambers, said opposite walls of the casing having slots to admit from the casing chilled air to said passages.

2. A refrigerator including a lower construction having chilling compartments, an upper structure supported by the lower construction and including end and side walls, a casing supported by the lower construction and connecting the end walls and spaced from said side walls to provide chilling chambers, said side walls terminating in a plane below the upper end of the casing and spaced therefrom to provide entrances for said chilling chambers, a chilling unit in said casing and the latter having openings in opposite walls to permit chilled air to circulate from within the casing to said chambers and from the latter back into said casing, article supporting shelves carried by said opposite walls of the casing and arranged in the chilling chambers with some of the openings of the casing arranged in a plane thereabove and other openings arranged in a plane below said shelves, and shelves supported by said opposite walls of the casing and the lower construction and spaced therefrom to provide air passages thereunder opening to said chilling chambers, said opposite walls of the casing having slots to admit from the casing chilled air to said passages, said side walls including transparent panels and certain of said panels extending upwardly and inwardly towards said opposite walls of the casing.

3. A refrigerator including a lower construction having chilling compartments, an upper structure supported by the lower construction and including end and side walls, a casing supported by the lower construction and connecting the end walls and spaced from said side walls to provide chilling chambers, said side walls terminating in a plane below the upper end of the casing and spaced therefrom to provide entrances for said chilling chambers, a chilling unit in said casing and the latter having openings in opposite walls to permit chilled air to circulate from within the casing to said chambers and from the latter back into said casing, articles supporting shelves carried by said opposite walls of the casing and arranged in the chilling chambers with some of the openings of the casing arranged in a plane thereabove and other openings arranged in a plane below said shelves, and shelves supported by said opposite walls of the casing and the lower construction and spaced therefrom to provide air passages thereunder opening to said chilling chambers, said opposite walls of the casing having slots to admit from the casing chilled air to said passages, said side walls including transparent panels and certain of said panels extending upwardly and inwardly towards said opposite walls of the casing, a horizontally disposed plate supported by the casing and disposed partly over the entrances, and deflectors secured to the plate and inclining downwardly and towards said opposite walls of the casing.

WILLIAM E. CRUSE.