

Nov. 20, 1923.

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A. Y. PHILLIPS ET AL

REFRIGERATOR

Filed Aug. 7, 1922

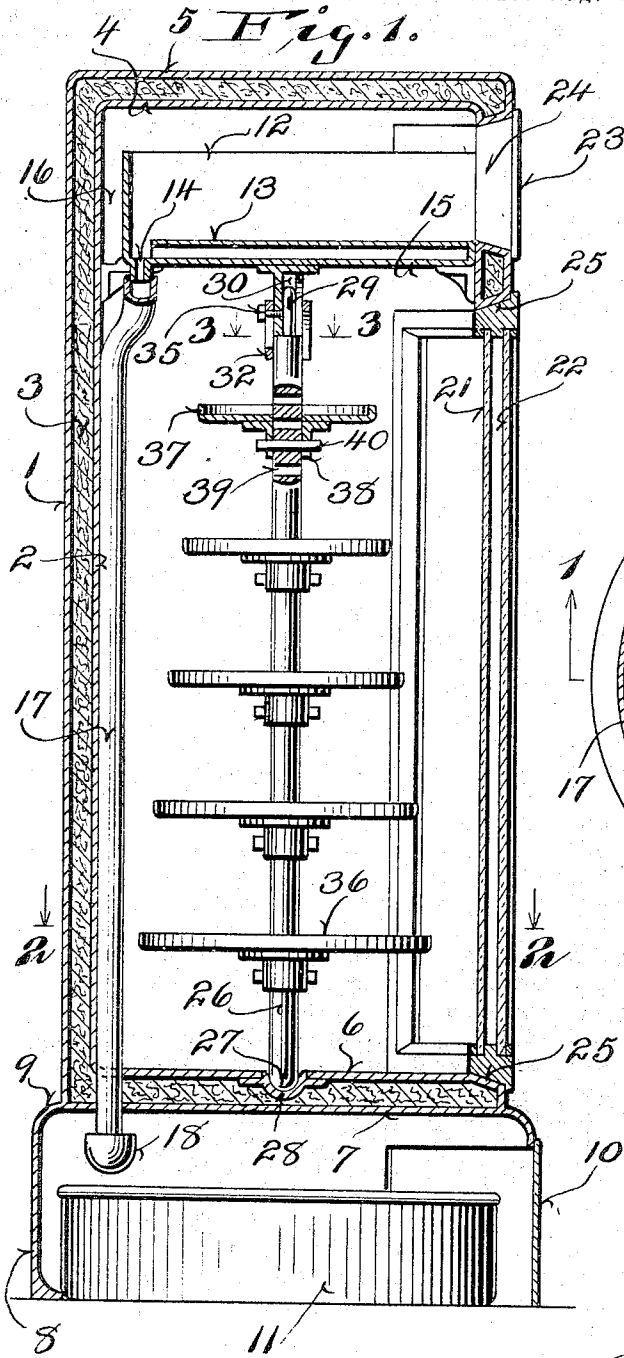


Fig. 2.

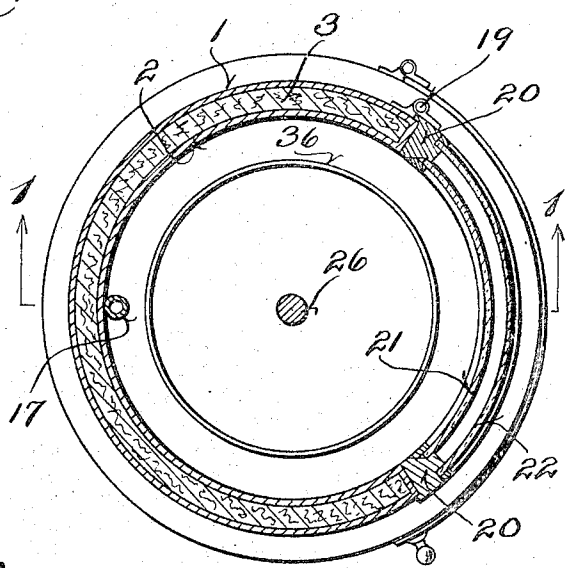
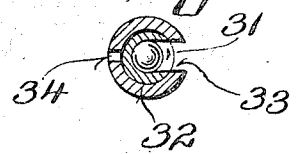


Fig. 3.



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UNITED STATES PATENT OFFICE.

ARCHIE Y. PHILLIPS AND CLARENCE THOMPSON, OF LA CROSSE, WISCONSIN.

REFRIGERATOR.

Application filed August 7, 1922. Serial No. 590,113.

To all whom it may concern:

Be it known that we, ARCHIE Y. PHILLIPS and CLARENCE THOMPSON, both citizens of the United States, and residents of La Crosse, in the county of La Crosse and State of Wisconsin, have invented certain new and useful Improvements in Refrigerators; and we do hereby declare that the following is a full, clear, and exact description thereof.

This invention relates to refrigerators, and is particularly directed to a refrigerator adapted to be used in a restaurant or other public place, although it may be embodied in a refrigerator adapted for home use.

In refrigerators as ordinarily constructed, considerable difficulty has been experienced in removing the desired article from the rear of a fully filled shelf. It is practically impossible to reach over all of the articles in front of the rear one without upsetting or otherwise disturbing some of the articles arranged adjacent the front of the shelf. The other alternative is to remove the articles in front of the ones desired and this, as is obvious, is very wasteful of time and patience. A further difficulty is due to the fact that the illumination adjacent the rear portion of the shelf of the refrigerator is usually extremely poor, and it is difficult to select the desired article.

It is therefore an object of this invention to overcome the above difficulties and to provide a refrigerator in which any article mounted upon any portion of the shelves is readily accessible from the front of the refrigerator, and in which such articles may be readily seen.

Further objects are to provide a refrigerator of a sturdy and pleasing construction; to provide a refrigerator in which the articles carried therein, are displayed in a pleasing manner; and to provide a refrigerator in which all of the shelves may be simultaneously removed as a unit when it is desired to clean such refrigerator.

Further objects are to provide a refrigerator having a minimum of waste space; to provide a refrigerator in which a series of shelves are rotatably carried by a central spindle so that articles placed upon the rear of the shelves may be brought to the front of the refrigerator without disturbing the arrangement of other articles upon such shelves, and in which a structurally strong,

transparent, thermally insulated door is provided.

An embodiment of the invention is shown in the accompanying drawing, in which—

Figure 1 is a longitudinal sectional view thru the refrigerator, such section corresponding to that taken on the line 1—1 of Figure 2.

Figure 2 is a horizontal sectional view on the line 2—2 of Figure 1.

Figure 3 is a section on the line 3—3 of Figure 1, showing a detail of the construction.

The refrigerator is substantially cylindrical throughout, and may be formed of any suitable material, such, for example, as porcelain, sheet metal or other material which may be readily shaped either by working or casting. It comprises an elongated cylindrical body portion composed of an outer wall 1 and an inner wall 2, between which is interposed the thermal insulation, or packing 3. The top and bottom are similarly formed of double wall portions, the inner and outer walls being respectively indicated by the reference characters 4—5 and 6—7. The bottom portion of the refrigerator may be of a slightly larger diameter and comprises an outer wall 8 which merges into the outer wall 1 of the body portion in a gradual manner so as to provide a pleasing, curved, contracted portion 9, and thereby avoid abrupt changes in contour. This bottom portion is open and is provided with a cylindrically curved door 10, through which a drip pan 11 may be inserted. If desired, this bottom portion may be provided with a floor, or may be opened, as shown in the drawing. The upper portion of the refrigerator is provided with an ice-box 12 which is equipped with the usual support 13 for the ice, and is provided with a drain 14 which passes thru the upper wall 15 of the food compartment. It is to be noted that an opening 16 is left between the ice-box 12 and the inner wall 2 of the refrigerator, and that such opening extends thru the upper wall 15 of the food compartment, so as to allow the chilled air to descend into such food compartment. If desired, a plurality of such openings may be provided to facilitate the circulation of air. A cylindrical door 23 is suitably hinged and fitted to the wall of the ice-box, and closes the entrance opening 24 thereto. The drain 14 communicates with a drip pipe 17 which extends thru

the food compartment and terminates in a trap 18 located immediately above the drip pan 11.

Access is had to the food compartment 5 by means of a cylindrical door hinged at 19 to the side wall of the refrigerator. This door comprises a frame, or casing 20, to which is secured, in an air tight manner, inner and outer cylindrically curved plate 10 glass members 21 and 22 respectively. It is to be noted that a dead air space is left between the glass portions, and, as is well known, such a dead air space forms an efficient insulator. The frame members 20 at 15 the top, bottom and sides of the door are tapered and fit correspondingly tapered portions 25 formed in the body portion of the refrigerators. It is of course understood that all of the doors are provided with suitable fastening means to retain them in 20 closed position.

A supporting spindle 26 is positioned centrally of the food compartment, and has its lower end spherically shaped, as indicated at 25 27. This lower end is seated within a bearing socket 28, either formed in, or carried by the bottom wall 6 of the food compartment. The upper end of the spindle has a reduced portion 29 which fits within a socket 30 30 formed in a bracket carried by the upper wall 15 of the food compartment. This socket is provided with a forwardly extending slot 31, and is further provided with a 35 slidably mounted collar 32, such collar being correspondingly slotted, as indicated at 33. The rear portion of the collar has a closed slot 34 formed therein, thru which a retaining screw 35 loosely passes to thereby retain the collar in position, while permitting a 40 free sliding motion to be imparted thereto. It will be seen, therefore, that the collar 32 may be raised, thereby disengaging the main portion of the spindle and allowing the reduced portion 29 to be moved outwardly thru 45 the slots 31 and 33. When this has been accomplished, by a slight tilting motion of the spindle, the entire spindle may be bodily removed from the refrigerator.

A series of shelves 36 are adjustably carried by the spindle and may be provided with upturned flanges 37, if desired. These shelves are circular in contour, and are each provided with an apertured hub 38, such apertures adapted to align with any one of a 55 plurality of corresponding apertures 39 formed in the spindle 26, and to thereby permit the adjustable retention of the shelves in any desired position by means of a pin 40. If desired, these shelves may be 60 of progressively decreasing diameter as the

top shelf is approached, in order to enhance the appearance and to facilitate the handling of the apparatus. They may, however, be of uniform size, if desired.

It will be seen that any article placed 65 upon any of the shelves may be readily reached by rotating the shelves to bring the article to the front of the refrigerator, and that such article, therefore, may be readily viewed or removed if desired. It will also be 70 seen that a transparent, structurally strong thermally insulating door has been provided thru which the contents of the refrigerator may be displayed. If it is further desirable, 75 the spindle 26 may be power driven to slowly rotate the shelves and display successively all of the articles placed thereon.

It will be seen that a very easily cleaned refrigerator has been provided, in which no 80 abrupt corners are formed in the food chamber, and that such food chamber is provided with a bottom floor 6 which tapers, as indicated at 25, towards the front of the device, so that any matter that has been spilt upon the bottom may be readily wiped outwardly 85 from the refrigerator. It will also be seen that by a simple manipulation, the entire set of shelves may be readily removed from the refrigerator to permit ready cleaning. It will also be seen that a refrigerator of efficient design and pleasing appearance has 90 been provided in which the maximum of convenience is attained.

Although a specific embodiment of the invention has been described in considerable 95 detail, it is to be understood that the invention may be embodied in other forms of refrigerators, and such invention, therefore, is to be limited only as defined in the appended claim. 100

We claim:

A refrigerator comprising substantially a cylindrical body portion having a cylindrical food compartment, said compartment having a socket formed in its lower portion, 105 a spindle mounted axially of said compartment and resting in said socket, a projection extending downwardly from the upper portion of said compartment and alining with said spindle, a slidable collar carried by said 110 projection and adapted to be slid downwardly over the upper portion of said spindle to detachably retain said spindle, and a plurality of circular shelves carried by said spindle.

In testimony that we claim the foregoing 115 we have hereunto set our hands at La Crosse, in the county of La Crosse and State of Wisconsin.

A. Y. PHILLIPS,
CLARENCE THOMPSON,