May 11, 1954 W. RASKIN 2,677,940

ROTATABLE REFRIGERATED DISPLAY STAND

Filed April 22, 1952

2 Sheets-Sheet 1

FIG. 1.

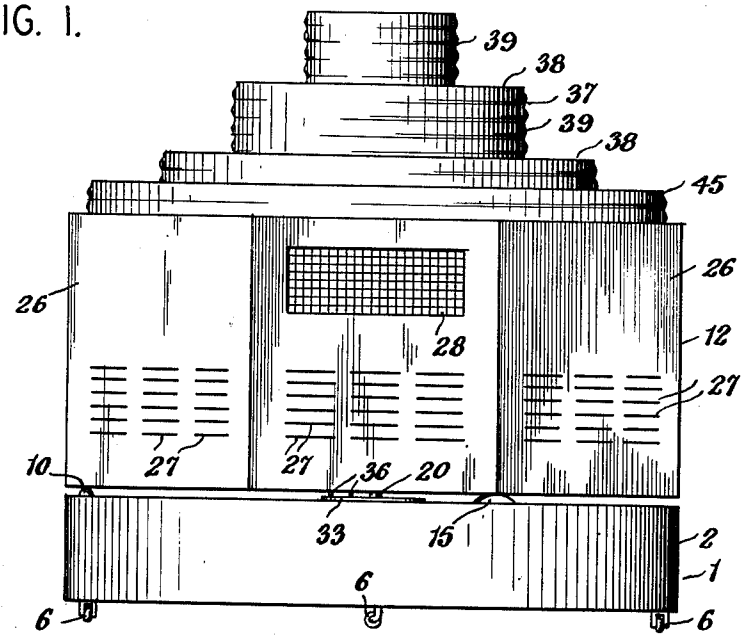
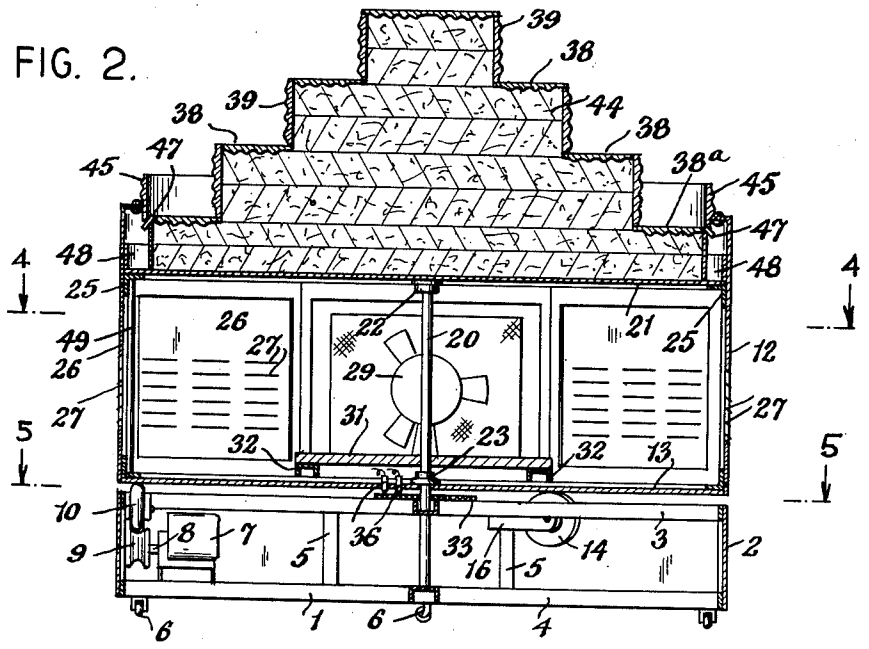


FIG. 2.



INVENTOR.
WALTER RASKIN
BY Eric J. Freeman
ATTORNEY

May 11, 1954 W. RASKIN 2,677,940

ROTATABLE REFRIGERATED DISPLAY STAND

Filed April 22, 1952

2 Sheets-Sheet 2

FIG. 3.

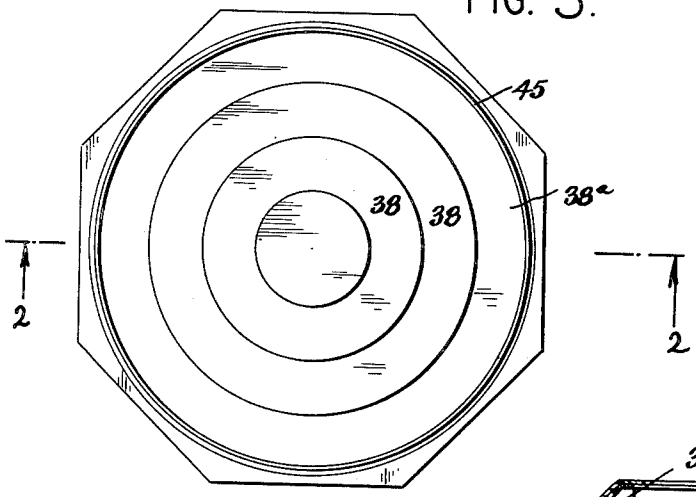
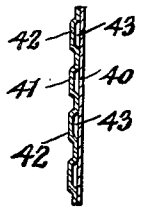


FIG. 6.



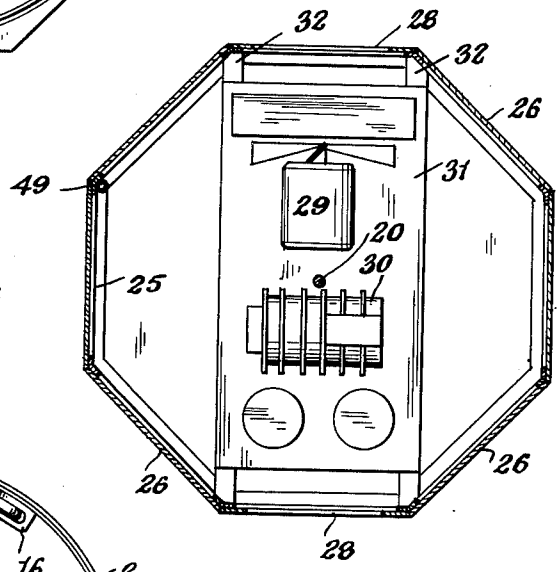


FIG. 4.

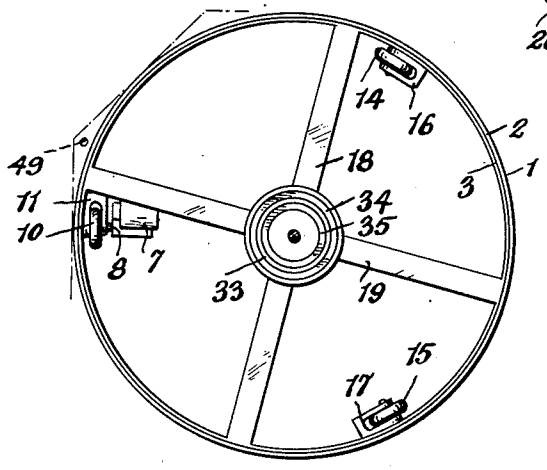


FIG. 5.

INVENTOR.
WALTER RASKIN
BY
ATTORNEY

Patented May 11, 1954

2,677,940

UNITED STATES PATENT OFFICE

2,677,940

ROTATABLE REFRIGERATED DISPLAY STAND

Walter Raskin, Brooklyn, N. Y.

Application April 22, 1952, Serial No. 283,560

2 Claims. (Cl. 62—89.5)

1

This invention relates to refrigerated display stands of the type particularly adapted for use in restaurants, hotels, food stores and other places wherein it is desired to display, in an attractive and appetizing manner, various articles of food or other products which must be maintained under refrigeration while being displayed.

It is an object of the invention to provide a stand of the character described in which the refrigerating and display portion of the structure will be rotated while displaying and refrigerating the goods, to thereby add to the attractiveness and effectiveness of the display.

It is another object of the invention to provide, in a display stand of this kind, an exposed refrigerated area, arranged in a series of steps to constitute supporting surfaces for the goods, rendering the same easily accessible for placement and removal, and which, while supported, will be refrigerated and nicely displayed.

More particularly, the invention contemplates the provision of a supporting base and a rotative housing mounted therein, the base carrying means for slowly rotating the housing, and the housing carrying the refrigerating unit and the supporting shelves or steps at the top of the same on which the goods are displayed and which supporting elements become frosted or coated with "snow" in the known manner of refrigerating units.

With these and other objects to be hereinafter set forth in view, I have devised the particular arrangement of parts to be described and be set forth in detail in the claims appended hereto.

In the accompanying drawings, wherein an illustrative embodiment of the invention is disclosed, Fig. 1 is a front elevational view of a refrigerated display stand, constructed in accordance with the invention;

Fig. 2 is a vertical sectional view, taken substantially on the line 2—2 of Fig. 3, looking in the direction of the arrows;

Fig. 3 is a top plan view of the structure;

Fig. 4 is a sectional view, taken substantially on the line 4—4 of Fig. 2, looking in the direction of the arrows;

Fig. 5 is a sectional view, taken substantially on the line 5—5 of Fig. 2, looking in the direction of the arrows; and

Fig. 6 is a sectional view through the wall of the upper portion of the stand, showing the passages for the coolant.

The improved refrigerated display stand is provided with a supporting base generally indicated at 1, and which may be substantially cylindrical or of other shape and provided with an enclosing wall 2, secured around a frame including upper and lower members 3 and 4 and upright struts 5. The frame may be supported upon the casters 6 by which the base 1 may be readily moved from place to place. Suitably mounted upon the frame of the base 1 is an electric motor 7 having a shaft 8 carrying a grooved roller 9 maintained in peripheral contact with a drive roller 10 rotatively supported in the bracket 11. The drive roller 10 projects above the top of the base 1 so that it constitutes one of the supports for the housing 12 of the display stand, and by its frictional engagement with the under surface of the bottom 13 of the housing 12, will cause the housing to be slowly rotated. The motor 7 may be of the slow-speed type or suitable reduction gearing driven by the motor may be employed to cause rotation of the housing 12 at a desired, relatively slow, rate of speed.

2

In addition to resting on the drive roller 10, the housing 12 also rests upon two idle rollers, shown respectively at 14 and 15. The roller shown at 14 is rotatively mounted in the bracket 16, while that shown at 15 is rotative in a bracket 17. Both brackets 16 and 17 are secured to the frame portion of the supporting base 1.

Included in the framework of the base 1 are cross bars 18 and 19 through their central junction of which extends a vertical shaft 20. The top plate 21 of the housing 12 carries a centrally located bearing 22 which is rotative on the shaft 20, and a similar bearing 23 is carried on the bottom 13 of housing 12. This arrangement is such that the central shaft 20 is stationary and the housing 12 rotates around the shaft. As an alternative for such an arrangement, the shaft 20 might be fixed to the housing 12 and can rotate in suitable bearings provided in the frame portion of the base member 1.

The housing 12 may be composed of a frame made up of angle-iron 25, and in the form shown, the frame and the housing which it forms, are octagonal in shape, but it will be apparent that the housing might be made in various other shapes. The sides of the housing are made up of or else include a plurality of panels 26, provided with ventilating slits or louvers 27 and any or all of these panels may be made removable for access to the refrigerating mechanism contained within the housing 12. For additional ventilation one or more screened openings 28 might be provided in one or more of the panels 26.

Contained within the housing 12 is the con-

ventional refrigerating apparatus, including the motor 29, compressor 30 and the other elements generally employed in refrigerators, and this mechanism is mounted upon a supporting shelf 31 secured on the cross bars 32 extending across the housing 12 on the bottom 13 thereof. To carry electric current to the refrigerating mechanism within the housing 12, I provide a disk 33 of insulating material at the top center of the base 1, and said disk carries a pair of collector rings 34, 35 to which current is supplied and against which brushes 36, carried by the bottom 13 of the housing 12 operate. Said brushes 36 convey the current to the electrically-operated elements forming part of the refrigerating mechanism and supported on the shelf 31.

The upper portion of the display stand is that upon which the food or other products to be displayed and refrigerated are carried. Such supporting portion is generally indicated at 37 and in the form shown is of stepped or "turret" formation. It thus provides a plurality of steps or shelves 38 which have horizontally disposed supporting surfaces and the goods to be displayed are rested upon such surfaces. This arranges the goods in tiers so that all of the goods thus displayed will be plainly visible and, in fact, any articles can be readily taken from any one of the shelves or supporting surfaces 38 without disturbing the articles borne by the remaining shelves.

The entire upper portion 37 of the display stand has its walls, including the horizontal portions 38 as well as the risers 39, made substantially as shown in Fig. 6, wherein it will be seen that these walls are composed of two facially united plates 40, 41. One of the plates, or that indicated at 41 is channelled as shown at 42 to thereby provide passages 43 between it and the plate 40 through which a coolant is caused to flow, thereby cooling the entire top portion 37 of the stand. The entire top of the stand when refrigerated in the air, will gather frosting or so-called "snow" and thus the entire top 37 of the stand will soon become so covered, not only providing a well-refrigerated area on which the goods can be supported, but presenting an attractive and appetizing display of the goods, especially when the same are tasty foods.

Located between the inner side of the turret top 37 and the top plate 21 of the housing 12 is suitable installation, such as fibre glass 44. The lower shelf, indicated at 38a is provided with an enclosing vertical wall 45, resulting in the trapping of cold air descending from the upper steps of the display. As a result this lower step or shelf 38a will be of lower temperature than the upper steps 38, and the lower step may well be used for the display of commodities such as ice cream, frozen foods and the like, requiring greater refrigeration.

When defrosting the display stand, it is desirable to collect the drip and for this purpose is provided drains 47 in the lower shelf or step

38a which drains communicate with a gutter 48 having a drain outlet pipe 49 leading down and out of the housing 12 in position to permit a pail or other receptacle to be placed below its lower end when the device is defrosting.

From the foregoing, the operation of the device will be readily apparent. The entire upper portion or turret of the stand becomes frosted or coated with snow in the manner of exposed refrigerating elements and when the goods are placed upon the steps or shelves of the device in tiers, an attractive display is provided, especially when the device is slowly rotated by the rotating mechanism described.

Having described one embodiment of the invention, it is obvious that the same is not to be restricted thereto, but is broad enough to cover all structures coming within the scope of the annexed claims.

What I claim is:

1. A refrigerating display stand comprising, a base, a motor carried thereby, a roller driven by the motor, a roller carried by the base and driven by the first-mentioned roller, the driven roller projecting above the top of the base, additional rollers carried by the base and projecting above the top of the same, a housing having a bottom resting on said rollers and caused to rotate by its frictional engagement with the driven roller, refrigerating mechanism carried by the housing and rotative with the housing, a supporting display stand at the top of the housing and rotative with the same, and coolant passages through said stand to cause frost-coating of the same.

2. A refrigerating display stand comprising, a substantially circular base open at the top, a motor located in the base, said motor having a shaft carrying a drive roller, a bracket carried by the base, a driven roller rotative in said bracket and maintained in peripheral contact with the drive roller, the driven roller having its edge projecting above the top of the base, idle rollers carried by the base and having their edges located above the top of the base, a housing having a bottom adapted to be rested upon the idle rollers and on the driven roller, whereby said housing will be rotated by its contact with the driven roller, said housing containing refrigerating means and provided at the top with a plurality of stepped shelves adapted to be maintained at low temperature by said refrigerating means and to receive merchandise for display.

References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
2,030,780	Bicknell	Feb. 11, 1936
2,078,612	Shisler	Apr. 27, 1937
2,115,048	Stewart	Apr. 26, 1938
2,209,690	Fraser	July 30, 1940
2,279,558	Clerc	Apr. 14, 1942
2,428,243	Raskin	Sept. 30, 1947
2,627,445	Lyon	Feb. 3, 1953