

Dec. 27, 1938.

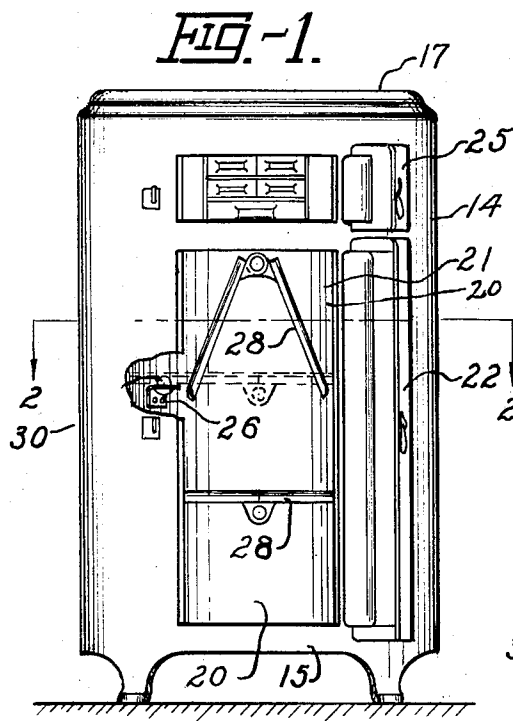
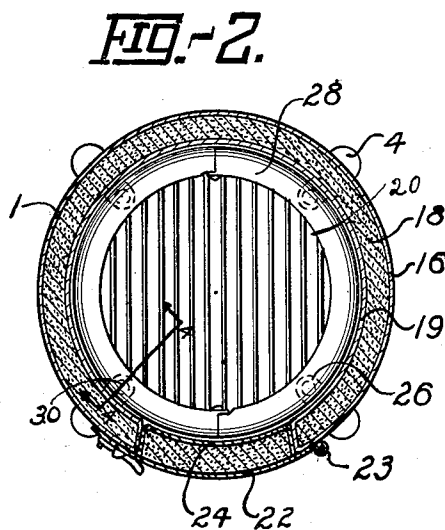
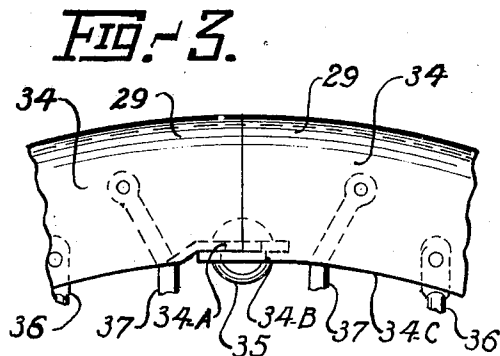
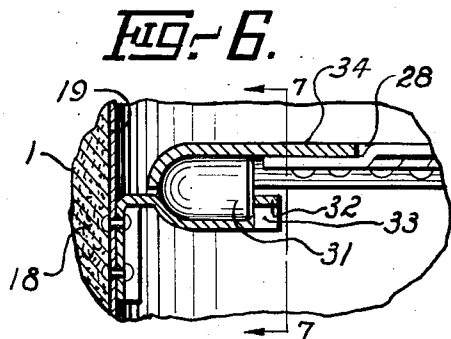
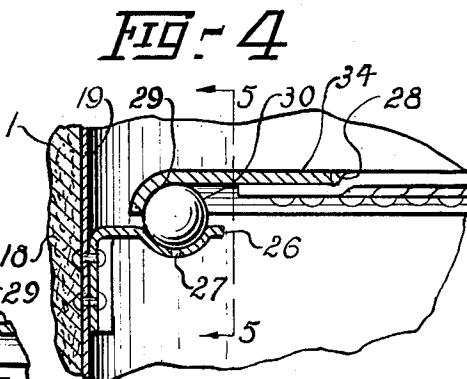
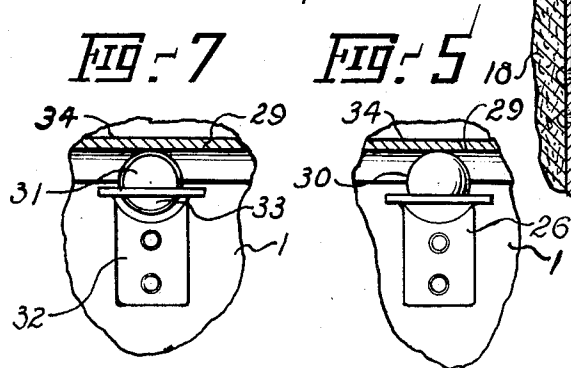
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2,142,008

ELECTRICAL REFRIGERATOR SHELF

Filed May 21, 1937

2 Sheets-Sheet 1



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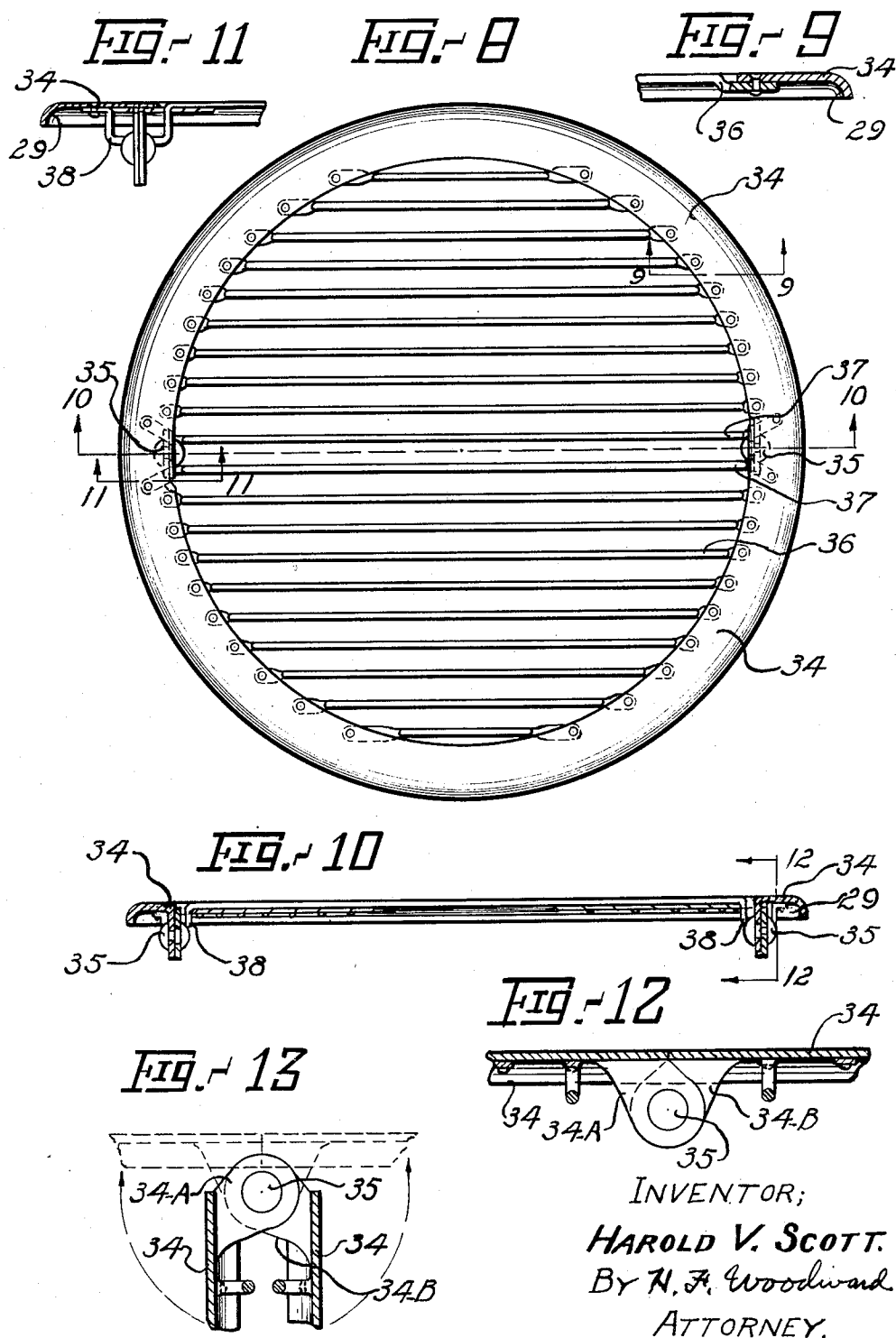
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ELECTRICAL REFRIGERATOR SHELF

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2 Sheets-Sheet 2



UNITED STATES PATENT OFFICE

2,142,008

ELECTRICAL REFRIGERATOR SHELF

Harold V. Scott, Detroit, Mich.

Application May 21, 1937, Serial No. 144,059

3 Claims. (Cl. 312-183)

My invention relates to refrigerators and more particularly to cooling chambers and the accessories thereof.

An object of my invention is to utilize the anti-friction tray supporting balls or rollers for performing the additional function of spacing the tray from the cooling chamber wall.

Another object is to enable the removal of a tray from the chamber through a relatively narrow door, thus tending to prevent a positive increase of the temperature of the chamber incident to a relatively larger door opening.

Further objects are to facilitate the removal of the trays; facilitate the manipulation of the trays; and to prevent accidental tilting of the trays when the chamber door is open.

Still another object of my invention is to have the ice cube container on top with a separate door, this also tending to conserve the frigid temperature due to the fact that the large door is left closed when taking out the cubes.

And still another object is to be able to build a round refrigerator in order to fit round trays and at the same time saving material and labor in the manufacturing over the ordinary square refrigerator as well as having a uniform wall on the inside.

An additional object is to secure the above ends in a simple and inexpensive construction.

To the above ends primarily my invention consists in such parts and in such combinations of parts as falls within the scope of the appended claims.

In the accompanying drawings which form a part of this specification,

Figure 1 is a perspective view of a refrigerator of the electric type embodying my invention, the door being shown open, also showing the ice cube chamber with the door open, and showing a tray folded ready to be removed.

Figure 2 is a cross sectional view taken at 2-2 Figure 1 with door closed.

Figure 3 is enlarged fragmentary top view of tray hinge as at Figure 2.

Figure 4 is a section taken at 4-4, Figure 2 showing on an enlarged scale the ball, ball bracket and tray in place.

Figure 5 is a section taken at 5-5 Figure 4 with tray in position as shown in Figure 4.

Figure 6 is modified form of construction using a roller instead of a ball.

Figure 7 is a section taken at 7-7 Figure 6 with tray in position as shown at Figure 6.

Figure 8 is a top elevation on an enlarged scale of the tray only.

Figure 9 is a partial sectional view taken at 9-9 Figure 8.

Figure 10 is a section taken at 10-10 Figure 8.

Figure 11 is a partial sectional view taken at 11-11 Figure 8.

Figure 12 is a section taken at 12-12 Figure 10 showing hinge.

Figure 13 is the same as Figure 12 only in a folded position.

Similar characters of reference indicate similar parts throughout the views.

As stated above the refrigerator is round and has a plurality of trays which may rotate in order to eliminate the ordinary method of finding what is wanted, for instance, after shopping and when all perishable foods are in the refrigerator, it is necessary, when looking for an article, to take out most foods that are placed on the trays in order to find the article wanted, but with this invention all that is necessary is to turn the said trays in either direction until found without molesting anything else.

Referring to Figure 1, 14 is the casing of an electric refrigerator of the cylindrical form, of which 15 is the floor, 16 is the cylindrical outer shell and 17 the top, all provided with suitable insulation 18 and including an internal cylindrical wall 19 constituting the side of a cooling chamber 20. The side 16 is provided with a rectangular opening 21 for the reception of a transversely curved insulated door 22 supported by hinges 23 and whose inner wall 24 is continuous with the wall 19 when the door is closed, and another door 25 of the same character as door 22 only smaller in height is provided for the cube container compartment over door 22.

Integral with or attached to the wall 19 are ball retainer brackets 26 equally spaced, in this instance 4 in number located as shown in Figure 2. These ball retainer brackets are cup shaped or having semi-circular impressions embossed downward in order to accommodate balls 30 as shown in Figure 4. Said cup having a drain hole 27 for the purpose of draining water, moisture etc. from the ball seat. It will be noted that tray 28 at Figure 4 has a radial formed portion 29 on outer members 34 of tray, said radial portion following the contour of ball 30 down to its centerline and providing means of eliminating the possibilities of having said tray 28 hitting or touching the circular refrigerator wall while being turned or rotated. In other words, this curved portion acts as a guide when placed over balls 30.

In Figures 6 and 7, a modified form of con-

struction is shown using substantially semi-elliptical rollers 31 instead of balls, said rollers being held in a retainer 32 somewhat similar to ball retainer 28 except that the depression is made to conform with the shape of the roller, and said bracket having on the inner end an open space 33 used as a drain as shown at Figure 7.

Figure 3 is an enlarged partial view of tray 28 shown in Figure 2 disclosing the hinge construction of both outer members 34 of said tray 28. One end of member 34 has a turned over ear 34-A and the adjacent end of the other member also has a turned over ear 34-B. Ear 34-A being formed inwardly the distance of the metal thickness of ear 34-B in order that the inside surface of said ear 34-B is flush with circular line 34-C of the inside of said member 34. It will be noted that if both members 34 have opposite ears as shown at 34-B and 34-A, they will be symmetrical and that when both half tray assemblies, which are exactly the same in construction, are riveted together at both ends by shoulder rivet 35 the results will give a folding tray which will be uniform of contour as shown at Figure 8. The shape of ears 34-A and 34-B are clearly shown at Figures 12 and 13.

Figure 8 shows the tray 28 in rotating or turning position as installed in the refrigerator as shown in broken lines at Figure 1. The tray assembly is made up of a plurality of rods 36 of different lengths to conform to the attaching location distance, said rods having flat ends as shown in order that they may be riveted, welded or attached by other means to members 34 as shown also at Figures 9 and 10. Rods 37 are slightly different in construction, the rods instead of being straight as rods 36, are shaped as shown at 38 Figure 11 in order to clear the ears when folding the tray and are bent to one side where they are attached to member 34 as shown at Figure 8. These rods are shown as a preferable construction but other material may be used such as screen and the like.

It is evident that these trays will rotate freely and that when it is necessary to remove them, and said trays being of larger diameter than the opening of the door, all that is necessary is to push the

tray upward at the center and it will fold ready to be removed through the small opening of the refrigerator.

While I have illustrated and described the preferred form of construction of my invention, I do not wish to be limited to the precise details of the structure shown but desire to avail myself of such variations and modifications as may come within the scope of the appended claims.

What I claim as new is:

1. In a refrigerating chamber, a cylindrical wall, spaced brackets attached to the said cylindrical wall and the brackets having cups carrying anti-friction balls, a circular detachable tray comprising spaced rods, the said rods secured to a downwardly curved peripheral member and the said downwardly curved peripheral member engaging the said anti-friction balls so that the circular tray can be rotated at will.

2. In a refrigerating chamber, a cylindrical wall, spaced brackets attached to the said cylindrical wall and the said brackets having cups carrying anti-friction balls, a foldable tray comprising two semi-circular sections having flanged peripheral portions, the said flanged peripheral portions having turned under ears at each end and the said ears being secured together by means forming therewith a hinge, and the said foldable tray engaging the anti-friction balls so that the tray can be revolved at will.

3. In a refrigerating chamber, a cylindrical wall, spaced brackets attached to the said cylindrical wall and the brackets having cups carrying anti-friction balls, a foldable tray comprising two semi-circular sections having flanged peripheral portions, the said flanged peripheral portions having depending ear members at each end, and the said ear members being secured together by means forming therewith a hinge, the said foldable tray being composed of a plurality of rods secured to the peripheral portions, a rod on each side of the ear members being bent so that the said tray can be folded, and the outer peripheral member of the foldable tray adapted to engage the anti-friction balls.

HAROLD V. SCOTT.