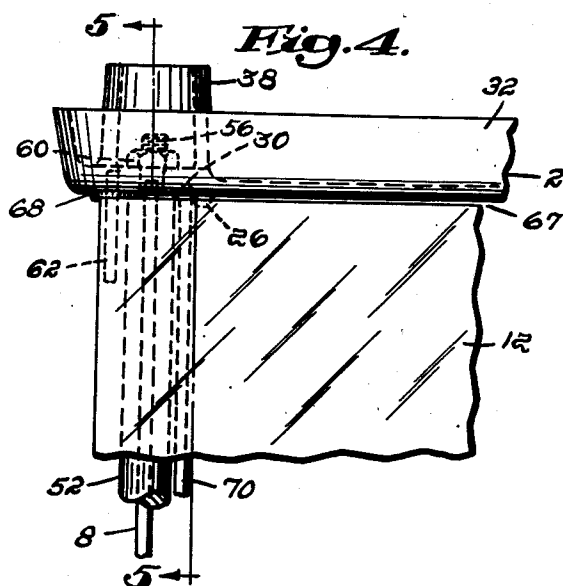
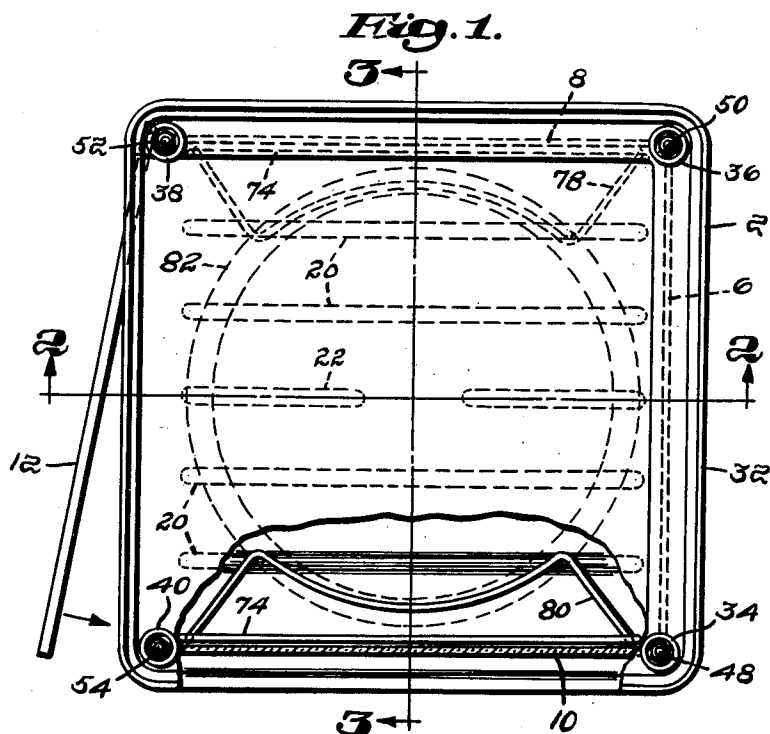


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Fig. 1.

2 SHEETS—SHEET 1



Inventor:
Henry Adam Alheit,
by *Cypriellus Chittick*
Attorney

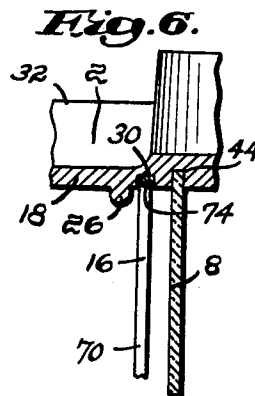
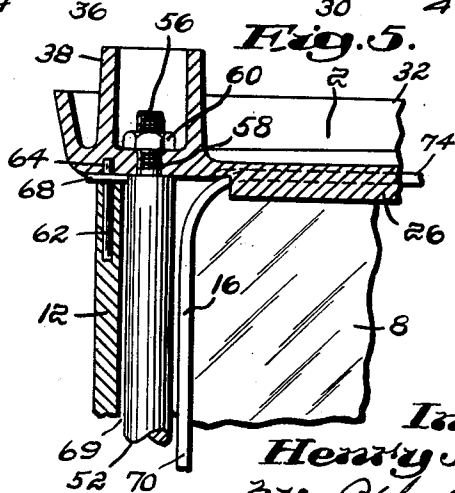
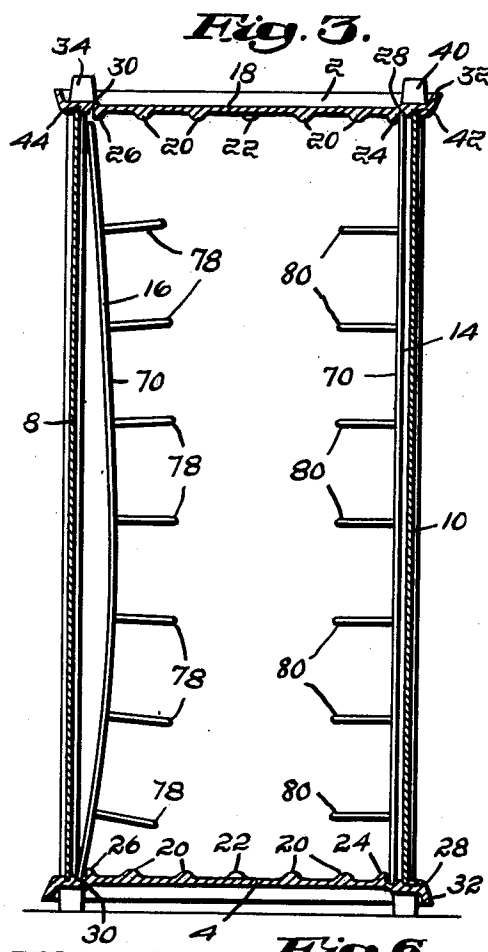
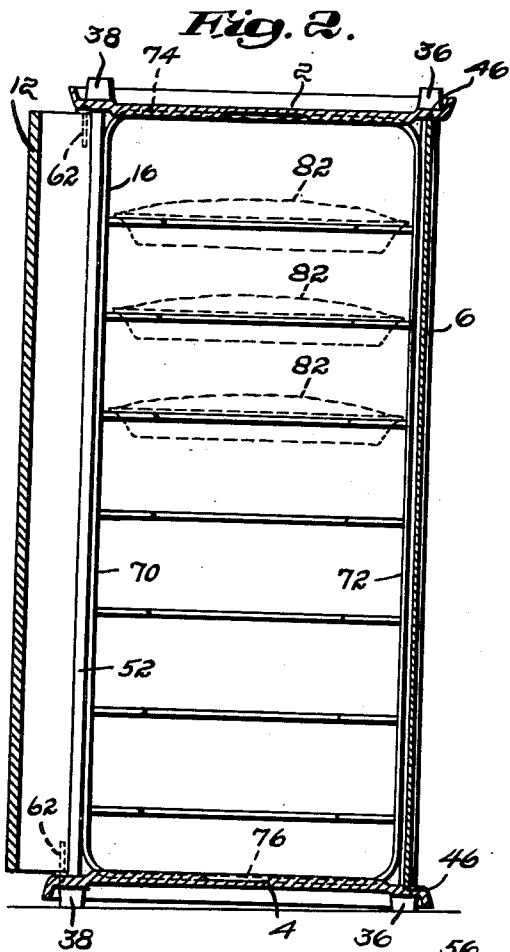
April 28, 1953

H. A. ALHEIT
DISPLAY CASE

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2 SHEETS—SHEET 2



Inventor:
Henry Adam Alheit
by Clifford Clittick
Attorney

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DISPLAY CASE

Henry Adam Alheit, Stoughton, Mass.

Application February 3, 1951, Serial No. 209,284

3 Claims. (Cl. 312-128)

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This invention relates to display cases and is particularly concerned with the provision of a case which will have a number of characteristics tending to display the wares most advantageously and at the same time maintain them in suitable condition until the time of sale.

The invention is particularly concerned with the provision of a case for displaying pies of the type commonly baked in commercial quantities on individual pie plates whether metal, paper or otherwise. In the commercial display and sale of pies at retail, it has been found that the pies keep better and, when eaten, taste better if prior to sale they are kept in cabinets which are not sealed from the surrounding air. It is preferred that there be leakage in the case so that there may be some small continuous circulation of air even while the door is closed. This circulation plus the addition of such fresh air as may enter the cabinet whenever the door is open, helps to keep the pastry in its best condition.

Accordingly, an object of the invention is to provide a cabinet which, in its general appearance, appears to be substantially sealed when closed but which on the contrary will actually have sufficient openings to permit some entrance of the surrounding atmosphere.

Another defect heretofore found in pie cases of the prior art has been the difficulty of keeping the door closed. Doors heretofore have ordinarily been provided with latches of one type or another which are more or less difficult to operate. If the latch fails to function properly, the door might swing open to a position where it could be struck by the counterman and would offer no protection for the pies.

Therefore, it is another object of my invention to provide a door for the display case or cabinet which will automatically maintain itself in closed position except when manually opened, without the use of springs or other door closing mechanisms. The motivating force in maintaining the door of my cabinet closed is gravity. While the door and case both appear to be substantially vertical so that at first glance it would seem that gravity would be ineffective, nevertheless, the tilting of the case is enough to cause the door to close of its own accord. Easy turning hinges assist in this action.

Another object of the invention is to provide a display cabinet in which those sides of the cabinet that present themselves to the public will be made of glass so that the unit will be inexpensive to construct but at the same time

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relatively immune to defacement by scratching. The door of the cabinet, however, is preferably made of a substantially unbreakable transparent plastic such as Lucite. In this way, that part of the case which is handled repeatedly will not be readily broken.

Still another object of the invention is to provide an invertible cabinet in which the top and bottom members are identical, permitting economy in manufacture. The tops and bottoms will preferably be molded from plastic and these elements contain portions integral therewith which produce sufficient deviation of the case from the vertical to enable the door to be gravity operated. As the tops and bottoms are identical, the cabinet may stand on either end. In either case the tilt of the door to the rear will be the same. In one case, the door will swing open to the left as shown in the drawings, whereas, upon reversal, it will swing open to the right. Since the cabinet is reversible, it permits the user to make maximum use of the unit as it may be positioned to have the door swing in either direction as may be more convenient, depending upon other equipment that may be present.

Still another object of the invention is the provision of removable pie supporting racks which may be very easily taken out of the case to be cleaned and to facilitate cleaning of the interior of the cabinet. The racks are so constructed that they may be snapped into place where they will maintain themselves securely without the need of any other attaching elements.

These and other objects of the invention will become more apparent as the description proceeds with the aid of the accompanying drawings in which

Fig. 1 is a plan view looking down at the top of the case with the top broken away in part.

Fig. 2 is a vertical section on the line 2-2 of Fig. 1.

Fig. 3 is a vertical section on the line 3-3 of Fig. 1.

Fig. 4 is an enlarged detailed elevation of the upper left corner showing a fragmentary portion of the top and door.

Fig. 5 is a vertical section approximately on the line 5-5 of Fig. 4 showing further details of the door hinge, the supporting frame and the tie bar connecting the top and bottom.

Fig. 6 is a view looking from the right of Fig. 5.

Referring to Figs. 1, 2 and 3, the casing comprises end walls identified as a top 2 and a bottom 4, a rear wall 6, side walls 8 and 10 and a front door 12. The casing thus generally referred to

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has mounted along the interior of its two side walls, pie supporting frames indicated generally at 14 and 16 and which will be more particularly described hereinafter. These frames are readily removable from their normal positions against the side walls. Frame 16 in Fig. 3 is not shown in normal position. It is, instead, about to be either removed or inserted and this operation will also be described hereinafter.

Attention is called at this time to Figs. 2 and 3 in which it will be observed that the casing in Fig. 2 slants somewhat to the right while the casing as viewed in Fig. 3 is vertical. It is this rearward tilt of the casing which causes the door to swing closed when unattended.

Again referring to Figs. 1, 2 and 3 and the details shown in Figs. 4, 5 and 6, it will be seen that the end walls, i. e. top 2 and the bottom 4 are of identical structure but mounted in reverse position. Accordingly, it will only be necessary to describe the one of the end walls as such description will suffice for the other end wall as well. The top comprises a horizontal sheet member 18 preferably of transparent moldable material. Across this sheet extend a plurality of ribs 20. The centre rib 22 is divided into two portions. Near the sides of the top are two ribs 24 and 26, immediately behind which are slots 28 and 30 extending substantially the length of the side edges of the top 2. It is in these depressions or grooves 28 and 30 that are positioned the end cross bars of the supporting frames.

The outer edge of the top 2 has an upwardly turned flange 32 which extends about all four sides. Thus there is provided a suitable area on which may be placed advertising material or other articles. The flange prevents objects from sliding off the top even though the casing is tilted as indicated in Fig. 2.

Additionally, at the four corners of the top and bottom are tubular bosses indicated in Fig. 1 at 34, 36, 38 and 40. These bosses act as legs for the bottom, provide protection for the threaded tie bar ends and, on the top, serve as means for mounting additional display material. For example, a cork may be inserted in one of the top bosses with the cork having mounted thereon a display stating the type of pie for sale and the price.

It will also be observed that the front bosses 38 and 40 are taller than the rear bosses 34 and 36. Since the top 2 and bottom 4 are identical but in inverted position with respect to each other, it follows that the different lengths of the bosses will cause the bottom to be tilted slightly to the rear as is shown in Fig. 2 and when the cabinet is reversed so that the bosses on the top now support the cabinet, it will still tilt slightly to the rear, the same as shown in Fig. 2, but with the door hinge on the opposite side. Since all of the case is otherwise a parallelopiped, it is apparent that the entire case will thus be caused to lean slightly to the rear. In practice, the amount of this tilt is modest and merely enough to insure that the door will swing itself closed. Further explanation on this point will follow shortly.

The top and bottom also include side grooves 42 and 44 in which fit the upper edges of the glass side walls 10 and 8. Similarly at the rear of the top and bottom are grooves 46 in which fit the top and bottom edges of the rear wall 6.

In order to maintain the top and bottom, the rear wall and the two side walls in secured position, there are provided four tie bars, one at each corner, and numbered 48, 50, 52 and 54. Each of

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these tie bars has a reduced threaded section 56, each end of which is adapted to pass through a suitable hole 58 at the bottom center of each of the bosses 34, 36, 38 and 40. The nuts 60 applied to each of the threaded ends 56 firmly secure the top and bottom together with the two side walls and rear wall, held therebetween.

The door structure is hung independently of the remainder of the case and may be made preferably of transparent plastic. This material is particularly suitable since it cannot be broken in ordinary use and while softer than glass and more easily scratched, still it is on that side of the case that will normally be away from the customers and hence not as subject to abusive action. The door in the construction shown is pivoted at its top and bottom to the corresponding corners of the top 2 and the bottom 4. The door is drilled at top and bottom to receive pins 62 which extend upwardly and downwardly, as at 64, into corresponding holes in the top and bottom and constitute hinges, the axes of which are substantially parallel to rear wall 6. Washers 68 are employed to minimize the frictional resistance to opening and closing.

The angle of the tilt of the case to the rear as shown in Fig. 2 is sufficient to cause the door 12 to swing to closed position if it has not been opened more than 90°. The door once closed will remain closed without the need of a latch or spring device.

It will also be observed that, while the door is closed, it is not tightly closed and there will always be a certain amount of opening between the four sides of the door and the corresponding adjacent portions of the top and bottom and two sides of the case, as shown at 67 and 69. In this way there is continuous opportunity for the circulation of air within the cabinet which serves to keep the pies in better condition.

The pie racks themselves that support the pie plates and their contents are simply constructed but have adequate strength to maintain the loads to which they are subjected without danger of bending or breakage. Furthermore, the supports may be quickly and easily removed from the case for cleaning, and then may be restored to supporting position in a few seconds time.

Each of the supporting frames which heretofore have been generally referred to at 14 and 16 consists of a wire framework generally rectangular having vertical sides 70 and 72 and horizontal top and bottom sides 74 and 76. The vertical sides lie along the corners of the case adjacent the corresponding tie rods. The top and bottom sides fit within the grooves 28 and 30 of the top and the similar grooves in the bottom.

Each of the two supporting frames have affixed to the vertical sides 70 and 72 a plurality of horizontally arranged curved plate supporting wires which are numbered 78 and 80. In plan view these wires are shaped as shown in Fig. 1 and by their curvature and spacing when frames 14 and 16 are in proper location may receive and hold in position pie plates 82 of conventional size. Since the supporting frames 14 and 16 cannot slide out of the case when the door is open and the pie plates are securely held by the wires 78 and 80, it follows that the case can be tipped in any direction through a substantial angle before the plates could be dislodged even if the door were open. Thus the cabinet provides a very secure and sanitary display for the pies.

The grooves 28 and 30 terminate near the door

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so that the supporting frames cannot be removed by sliding them forwardly through the door. On the contrary, to remove each supporting frame, it must be bowed inwardly in the manner shown by the lefthand frame 16 in Fig. 3. When the frame has been arched sufficiently, the upper end will clear the bottom of the rib 26 so that the upper end of the frame may be swung to the right to permit removal of the bottom bar 76 from groove 30. Then the entire unit may be removed from the case. Similar procedure will be followed with supporting frame 14. The door 12 is, of course, open during the frame removing operation.

The wires 78 and 80, formed as they are, eliminate the need for shelves. The pie plates act as their own shelves with the opposite edges supported by the wires. Since the grooves 28 and 30 are identical in both the top and bottom, it is apparent that the supporting frames do not need to be inverted but may be re-installed in the position shown in the drawings.

From the foregoing, it will be seen that I have produced a pie case or display unit, light in weight, simple in construction, easy to clean and able to store and display pies in an optimum manner.

It is my invention to cover all changes and modifications of the example of the invention herein chosen for purposes of the disclosure which do not constitute departures from the spirit and scope of the invention.

I claim:

1. An invertible display case comprising end walls, a rear wall, side walls, and a door forming the front side and hinges connecting said door to said end walls, the axes of said hinges being parallel to said rear wall, said door when closed being positioned parallel to said rear wall, projecting elements integral with each of said

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end walls and positioned adjacent to the front side thereof for causing said case to tilt slightly to the rear when the case rests with either end wall on a level surface, whereby said door will close itself under the influence of gravity.

2. A display case as defined in claim 1 wherein said end walls are molded members identical in form and affixed to said case in reversed positions.

3. A display case as defined in claim 1 wherein said end walls are provided with oppositely located grooves along the rear and sides thereof, which grooves receive the ends of said rear and side walls, four tie rods extending between the corners of said end walls and secured thereto to maintain said walls in position in said grooves, the longitudinal edges of said walls abutting against said tie rods and said door, when closed, lying against the two tie rods at the front of said case.

HENRY ADAM ALHEIT.

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