

May 29, 1951

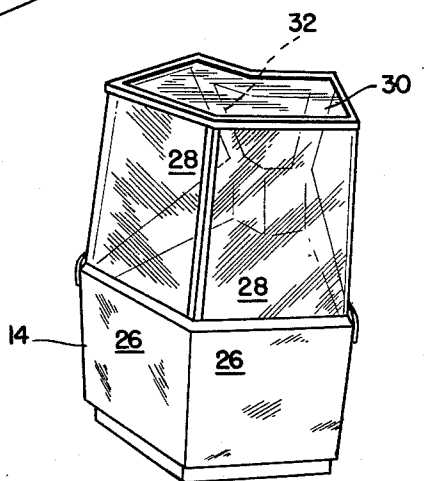
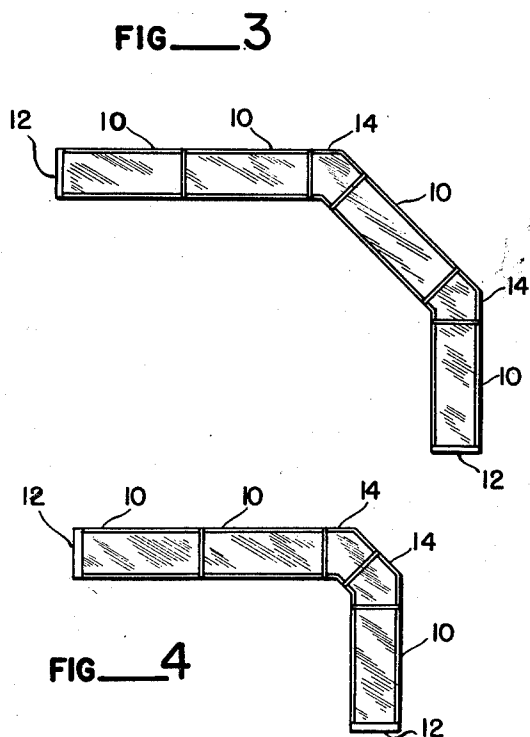
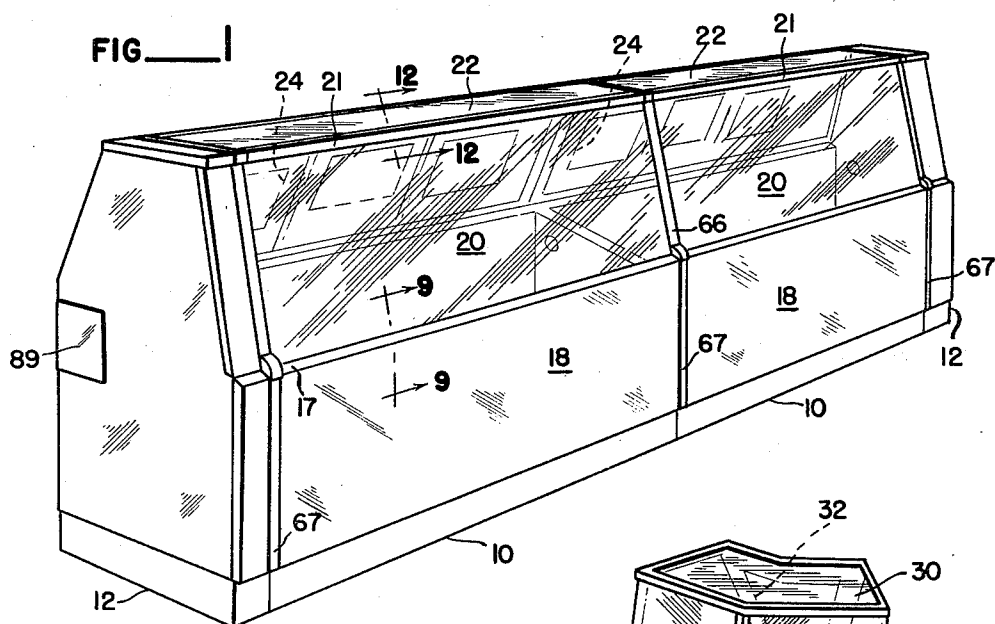
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2,554,610

SECTIONAL REFRIGERATED DISPLAY CABINET

Filed April 15, 1949

4 Sheets-Sheet 1



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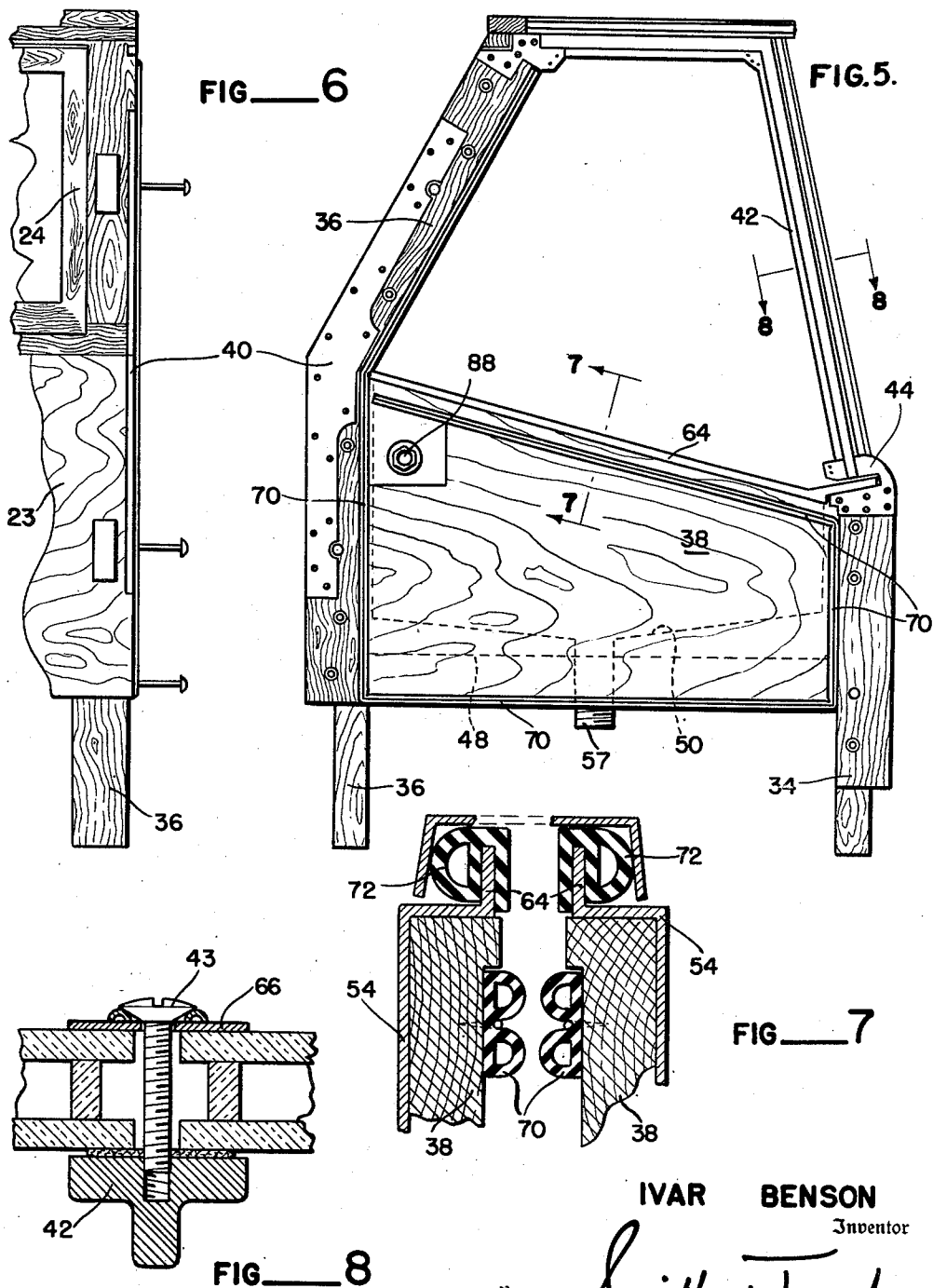
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SECTIONAL REFRIGERATED DISPLAY CABINET

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4 Sheets-Sheet 2



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Filed April 15, 1949

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FIG. 12

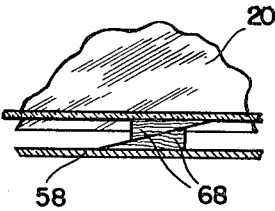
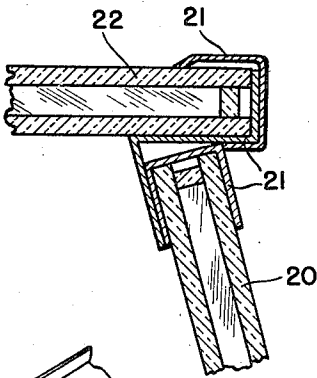


FIG. 13

FIG. 11

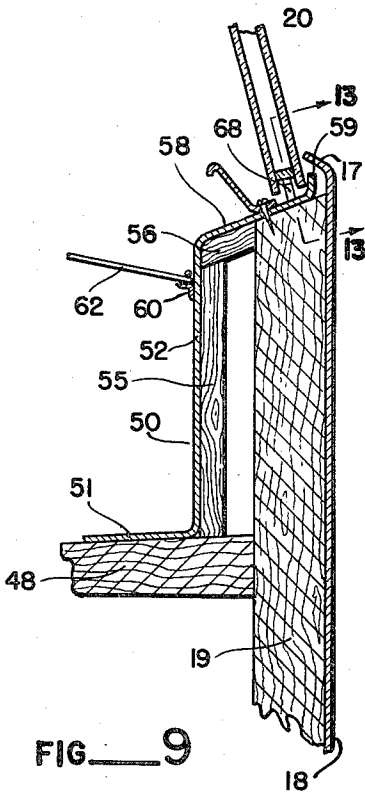
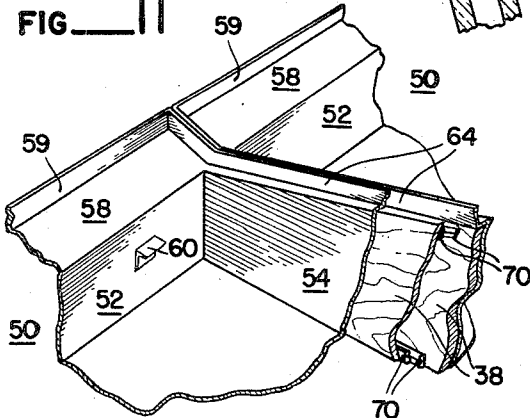
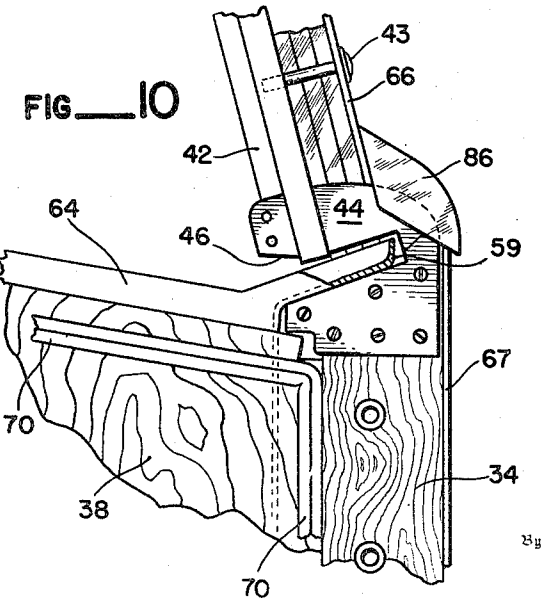


FIG. 9

FIG. 10



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SECTIONAL REFRIGERATED DISPLAY CABINET

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4 Sheets-Sheet 4

FIG. 15

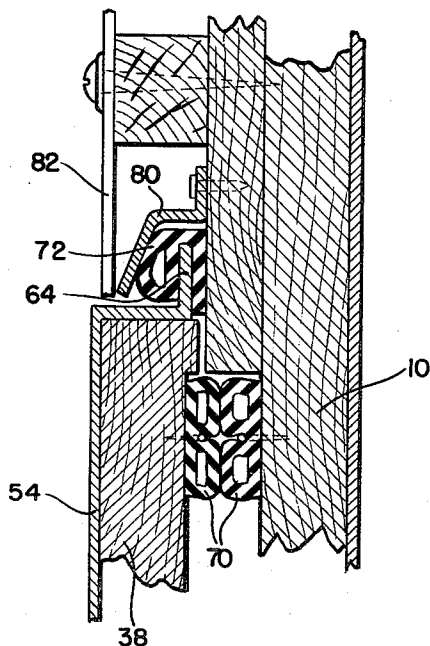
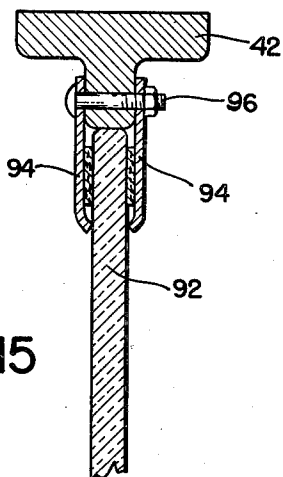


FIG. 14

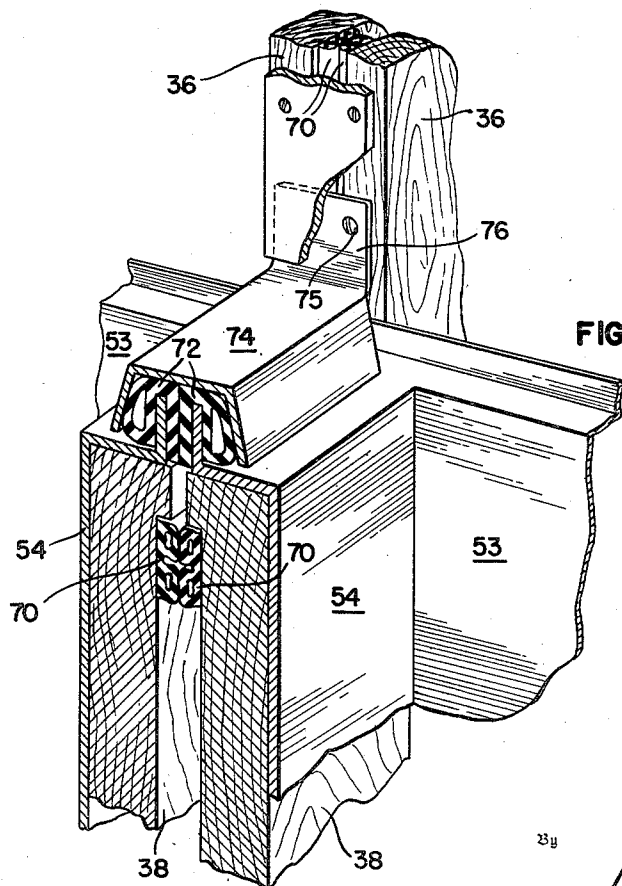


FIG. 16

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UNITED STATES PATENT OFFICE

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SECTIONAL REFRIGERATED DISPLAY
CABINET

Ivar Benson, Seattle, Wash.

Application April 15, 1949, Serial No. 87,590

3 Claims. (Cl. 312-107)

1

This invention relates to a sectional refrigerated display cabinet and, more particularly, to a refrigerated sectional display cabinet such as is used in markets for the display of foodstuffs to customers who are served by attendants who dispense from the cabinet on a side opposite that to which the customer presents himself.

Among the important objects of this invention have been the provision of a cabinet which can be assembled from a stock of prefabricated units or sections; that when assembled will be substantially air and water tight so that they can be refrigerated; that are adapted to collect window sweat and wash water and prevent leakage to the floor in an unsightly or unsanitary manner; that will avoid undesirable cracks and crevices that would lead to lack of sanitation when used in connection with spoilable foodstuffs; that is simple to construct with uniform interlocking and inter-tying parts throughout the units so a wide variety of arrangements can be accommodated; that are easy to assemble or disassemble; and that avoid the heretofore practice of constructing each cabinet in a custom manner without permissible variations after construction.

These and other objects of the invention are attained in the manner more fully described in the following specification in which like reference numbers refer to like parts shown throughout the accompanying drawings in which:

Figure 1 is a perspective view of pair of cabinet sections and end closing sections in assembled relation;

Figure 2 is a front perspective view of a corner section which may be incorporated in the cabinet of Figure 1;

Figure 3 and Figure 4 are plan views of sectional cabinets arranged to show the variety of assembly that is permissible with cabinets according to my invention;

Figure 5 is an enlarged end view of a typical cabinet section showing the details of construction;

Figure 6 is a fragmentary view of an end of a cabinet section as though viewed in elevation from the rear;

Figure 7 is an enlarged exploded detail sectional view taken on line 7-7 of Figure 5;

Figure 8 is an enlarged detail sectional view through end abutting windows of the cabinets as though taken in the plane 8-8 of Figure 5;

Figure 9 is an enlarged sectional detail view of a lower window and cabinet portion taken on line 9-9 of Figure 1;

Figure 10 is an enlarged detail view of the

2

front corner of the cabinet end shown in Figure 5;

Figure 11 is a perspective view from the rear of front corners of end abutting cabinet sections;

Figure 12 is a fragmentary sectional view of the upper window and front top edge of my cabinet as taken on line 12-12 of Figure 1;

Figure 13 is a sectional view of the lower edge of the window taken in the plane of line 13-13 of Figure 9;

Figure 14 is an enlarged detail sectional view showing the joint between the pan of a display section and an end closing wall;

Figure 15 is a detail view showing how a dividing pan may be mounted between a pair of end abutting sections; and

Figure 16 is a fragmentary perspective view of a rear end of the joint between adjacent sections and their bottom pans.

In its preferred form, my invention is embodied in cabinet sections such as are shown in Figures 1 and 2, which may be variously assembled as suggested in Figures 3 and 4. The main element of my sectional cabinet is the straight section 10, that with a pair of end wall sections 12, will provide a complete cabinet. Or, by the addition of a second section 10, as in Figure 1, a pair of end abutting and intercommunicating display chambers of substantial length, will be assembled. The corner section 14 of Figure 2 is open on each end to join with a straight section and makes a 45° turn which, when combined with straight sections and end walls, as in Figure 3, will produce a blunt cornered L-shaped assembly. Two corner sections joined together in end abutting relation to each other with wings formed of straight sections terminated by end wall section, produce the less blunt corner L-shaped assembly of Figure 4.

Each straight section 10 includes a front wall 18 surmounted by a window pane 20, a top pane 22, and a back wall 23 which is ported and closed by sliding doors 24. Similarly, each corner section 14 has angularly disposed front walls 26, front windows 28, the top 30 and the back wall 32.

The cabinet is formed of structural members joined together to form a suitable frame that includes front legs 34 and rear legs 36 that are partially joined at the ends of the cabinet by the end panel wall 38. Above the end wall panel 38, the rear leg is bent and reinforced by a knee plate 40 which is smoothly set into the wooden material from which the main structural members of the cabinet are formed. The front leg 34

terminates about half way to the top of the cabinet and is joined by an inverted L-shaped, narrow frame member 42, that joins with the upper end of rear leg 36. At each end of a section, as 10, I provide one of the frame members 42, and each such member has at its lower end, a jaw-like attaching plate 44 that provides the rearwardly open mouth 46 for a purpose later to be described.

As shown in Figure 9, the front wall 18 comprises a facing of thin material such as porcelain coated metal or the equivalent, which is backed up by a heavier and more insulative structural wall 19, preferably of wood. The rear wall below the doors is substantially identical and the front and rear walls are joined by lateral beams 48 that support the pan 50 which forms such an important part of my cabinets.

Pan 50 includes the bottom 51, front wall 52, rear wall 53, and end walls 54, all of which are suitably stiffened and supported by framing such as members 55 and 56 in Figure 9. The upper face of front wall 19 slopes rearward and filler member 56 is mounted in the same inclination. The front wall 52 of pan 50 is provided with a forwardly extending lip 58 that has upright flange 59 on its front edge. The upper edge 17 of facing 18 overhangs the flange 59 as can best be seen in Figure 9. The pan bottom has a downward nipple 57 that carries off drain water in the cabinet.

The front and rear walls 52, 53 of pan 50 support angle clips 60 on which reticulated display racks 62, or display pans, are rested within the cabinet.

The end walls of pan 50 have offset fins 64 that rise above the partial end walls 38 of the cabinet and extend across the cabinet from the rear forward to the flange 59 on lip 58, as best shown in Figures 10 and 11. Fin 64 lies under the upper jaw of frame plate 44 in the mouth thereof. When a pair of sections are brought together in end abutting relation, as shown in Figure 16, the fins 64 on the two pans of the sections, lie closely juxtaposed to each other and both extend forward under the frame 42.

The front windows 20 are preferably formed of marginally spaced-apart panes of glass that are internally evacuated and sealed to provide both clear vision and an insulative effect to permit the holding of low temperatures within the cabinet. The window top 22 is of similar construction.

Window 20 is mounted in the cabinet with its ends clamped to frame member 42 by screws 43 that pass through batten strip 66 that covers the gap between end abutting panes. Similarly the top 22 is mounted in place on the upper horizontal leg of frame member 42. The adjacent edges of window 20 and top 22 are joined and sealed by thin metallic channeled molding strips 21, assembled in the manner disclosed in Figure 12.

The bottom edge of window 20 overlies in spaced relation the lip 58 of pan 50 inside the upright flange 59. This spaced relation of the bottom of the window pane to the lip is obtained by the use of wedges 68 as best seen in Figure 13. With such an arrangement, when the windows are washed on either side, the wash water drains down and on to the lip 58 and thence into the pan 50. The same is true of accumulated condensate that may get on the windows under unusual conditions of humidity or the like.

When two similar chambered sections are brought together in end-to-end relation, as in

Figures 7, 11 and 16, compressible molding and sealing strips 70, press against each other and effectively seal the gap between end walls 38 to prevent leakage of air from the cabinet and to preclude moisture getting into the wood frame of the cabinet and causing it to deteriorate.

The flanges 64 of aligned pans 50 are each provided with a compressible gasket 72 that has a thin groove along one edge to slip over the metal of the flange as shown in Figures 7 and 16. An inverted U-shaped channel member or capping trough 74 is disposed over the flanges 64 and their gaskets and pressed firmly downward to compress the gaskets and seal off access to between the flanges. The channel or trough 74 is held down in place by a flange 76 at the rear end (see Figure 16) through which is passed screw 75 into the rear leg 36 of the cabinet. On the forward end, channel 74 extends into the mouth 46 under the upper jaw of member 44, which keeps it pressed down on the gaskets. The walls of trough 74 are flared to produce a wedging action on the gaskets.

When an end wall section 12 is positioned to close the cabinet chamber, a depending flange strip 80 mounted on the inner wall slides over gasket 72 and compresses it to seal the joint along that structure. Usually the inner face of the end wall is covered with a sheet of enameled metal 82 that overlies the sealed joint and smoothly finishes the interior of the cabinet.

Because the jaw-like plate 44 must extend forward of the pane 20 and to the plane of the front wall of the cabinet, I allow the batten 66 to extend down and contact member 44. A lower batten 67 covers the gap between front wall panels 18, 18, or 18, 26 and a knee-cap 86 covers the batten ends and the exposed portion of member 44.

For the convenience of introducing refrigeration conduits, I form aligned ports in the ends of the cabinet sections and into the end wall sections and insert therein nipples 88, access being had to such nipples in the end walls through door 89.

Occasionally it is desired that two cabinets be divided from each other and this I accomplish as shown in Figure 15, where in a glass divider wall 92 is held in place by framing plates 94 that are in turn clamped to the rear of the T-shaped frame member 42 by bolts 96.

For the purpose of providing a reach-in display cabinet, as for cheeses, margarine, and similar foods that require but a slight degree of refrigeration and which are usually packaged for customer self-service, the disclosed construction is very adaptable with but a minimum of alteration. In such instances, the cabinet is normally placed with its back wall close to a building wall and the rear face of the cabinet would preferably have a mirror to reflect to the front goods displayed in the lower part of the cabinet. The chamber display window in such case is of less than full height to make a transparent front wall that rises to a level that a customer may easily reach over to get the goods from the cabinet. Such a front wall would preferably be mounted over the lip 58 of pan 50 in the manner that has been described, and supported at its ends as shown in Figure 8.

Having thus described my invention, I claim:

1. A refrigerated sectional display cabinet, comprising: a plurality of open-ended cabinet sections forming display chambers arranged together in end abutting relation and having display windows in the front, the lower edge of which win-

5

dows are unframed, cooling means in said chambers, means for aligning and for securely drawing said sections tightly together, each said section having a bottom pan therein to contain fluids draining from above and from the windows, a lip on said pan extending forward in spaced relation beneath the chamber display window and arranged in fluid draining relation to said pan, an upstanding fin on each end of said pan and extending across said chamber at its ends from the rear forwardly to the front edge of said lip, the fins of end abutting sections being closely juxtaposed to each other, and an inverted capping trough overlying the upper edges of such juxtaposed fins and depending downward along oppositely directed sides to deflect fluids into said pans, wall means for closing the open ends of said sections and their chambers, and means carried by the wall means to overlie the pan fin on that end and to depend into the pan for fluid deflecting purposes.

2. A refrigerated sectional display cabinet, comprising: a plurality of open-ended cabinet sections forming display chambers arranged together in end abutting relation and having display windows in the front, the lower edges of which windows are unframed, cooling means in said chambers, each said section having a bottom pan therein to contain fluids draining from above and from the windows, a lip on said pan extending forward in spaced relation beneath the chamber display window and arranged in fluid draining relation to said pan, an upstanding fin on each end of said pan, the fins of end abutting sections being closely juxtaposed to each other, an inverted capping trough overlying the upper edges of such juxtaposed

6

posed fins and depending downward along oppositely directed sides to deflect fluids into said pans, there being a compressible strip gasket between said juxtaposed fins and said inverted capping trough, wall means for closing the open ends of said sections and their chambers, and a flange carried by the wall means to overlie the pan fin on that end and to depend downward for fluid deflecting purposes.

3. A refrigerated sectional display cabinet, comprising: a plurality of cabinet sections forming display chambers arranged together in end abutting relation and having display windows in the front, the lower edges of which windows are unframed, cooling means in said chambers, means for aligning and for securely drawing said sections tightly together, each said section having a bottom pan therein to contain fluids draining from above and from the windows, a lip on said pan extending forward in spaced relation beneath the chamber display window and arranged in fluid draining relation to said pan, and an upstanding flange on said lip in front of the lower edge of said display windows.

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