

Jan. 28, 1941.

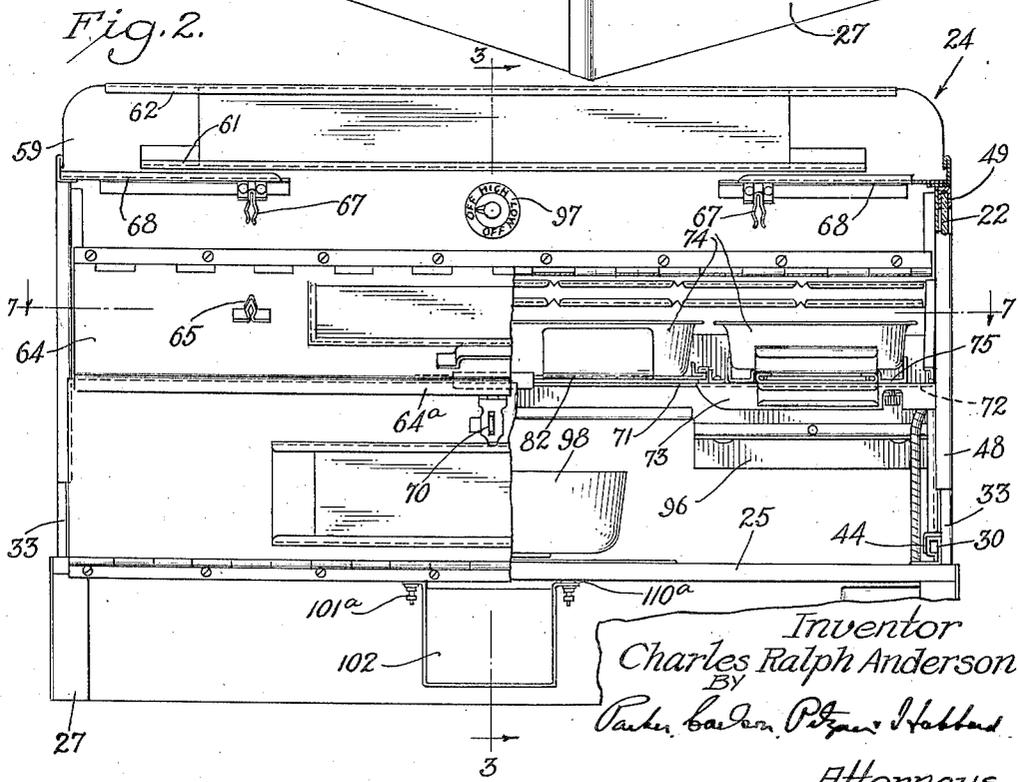
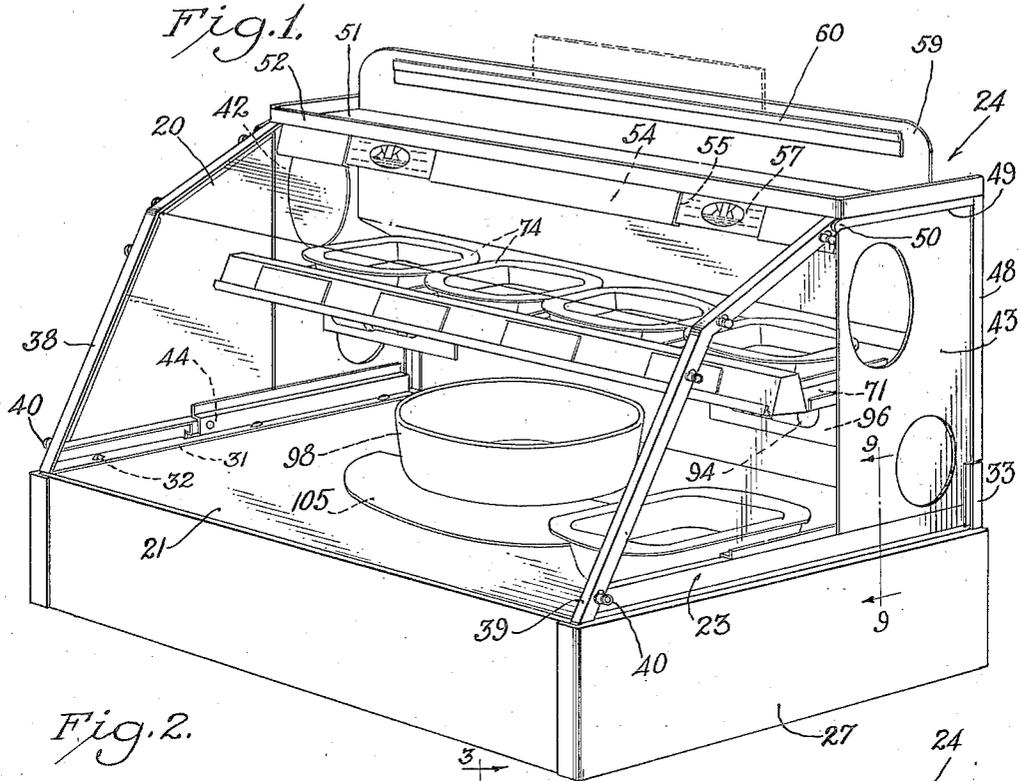
C. R. ANDERSON

2,229,911

MERCHANDISING AND DISPLAY CASE

Filed Jan. 15, 1937

4 Sheets-Sheet 1



Inventor
Charles Ralph Anderson
By
Parker, Gardner, Peterson & Hubbard
Attorneys.

Jan. 28, 1941.

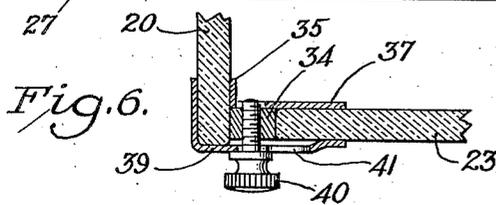
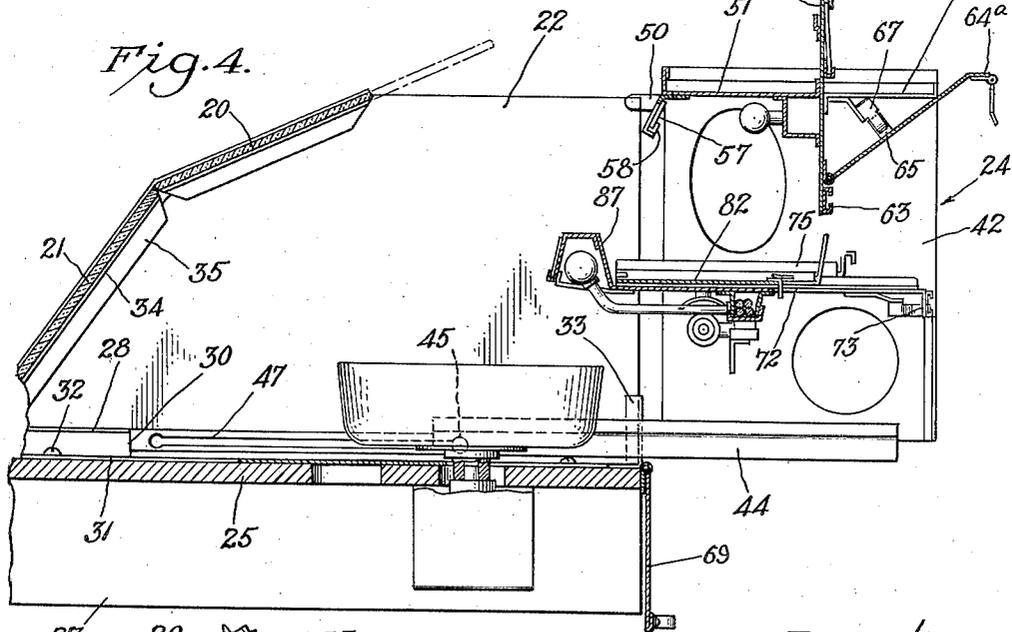
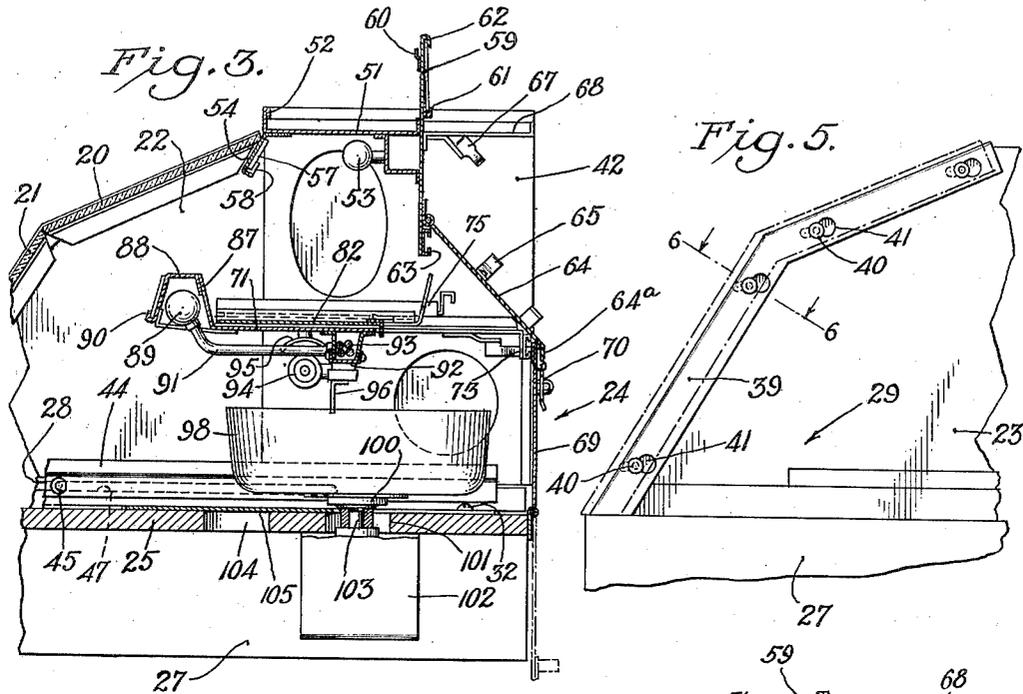
C. R. ANDERSON

2,229,911

MERCHANDISING AND DISPLAY CASE

Filed Jan. 15, 1937

4 Sheets-Sheet 2



Inventor
Charles Ralph Anderson
BY
Parker, Sadon, Pitman & Hullard
Attorneys.

Jan. 28, 1941.

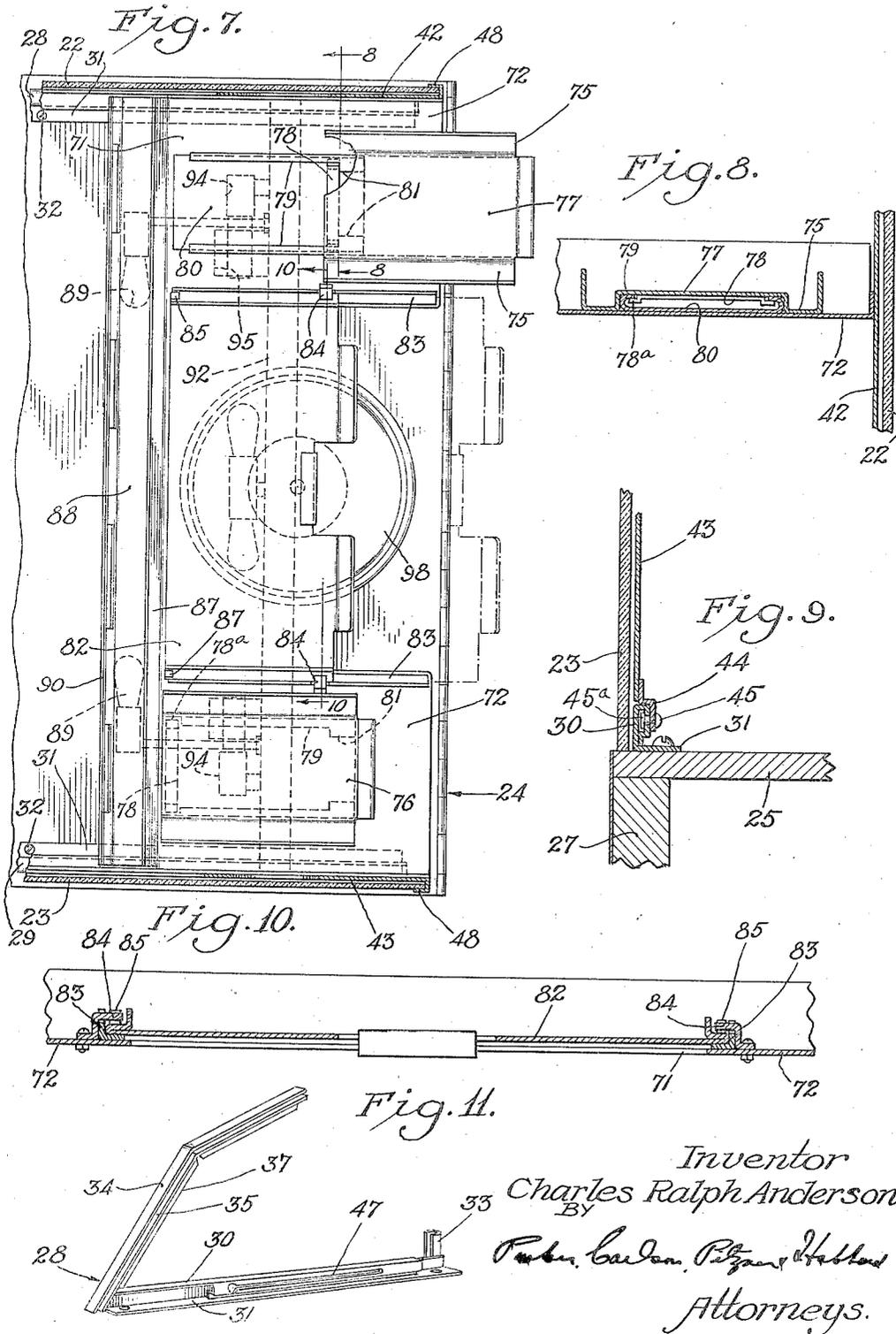
C. R. ANDERSON

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MERCHANDISING AND DISPLAY CASE

Filed Jan. 15, 1937

4 Sheets-Sheet 3



Inventor
Charles Ralph Anderson
BY
Robert Gordon, Eugene H. Hubbard
Attorneys.

Jan. 28, 1941.

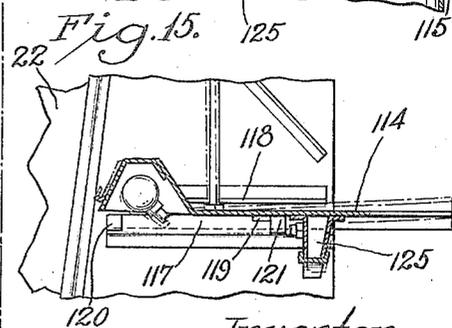
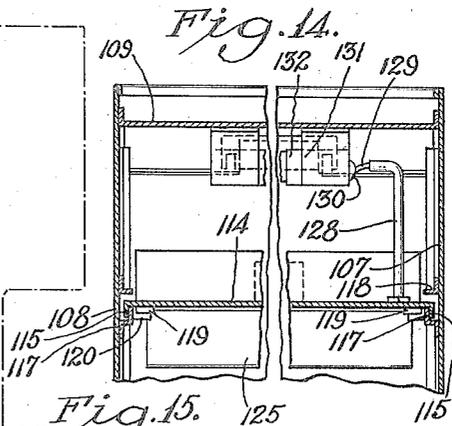
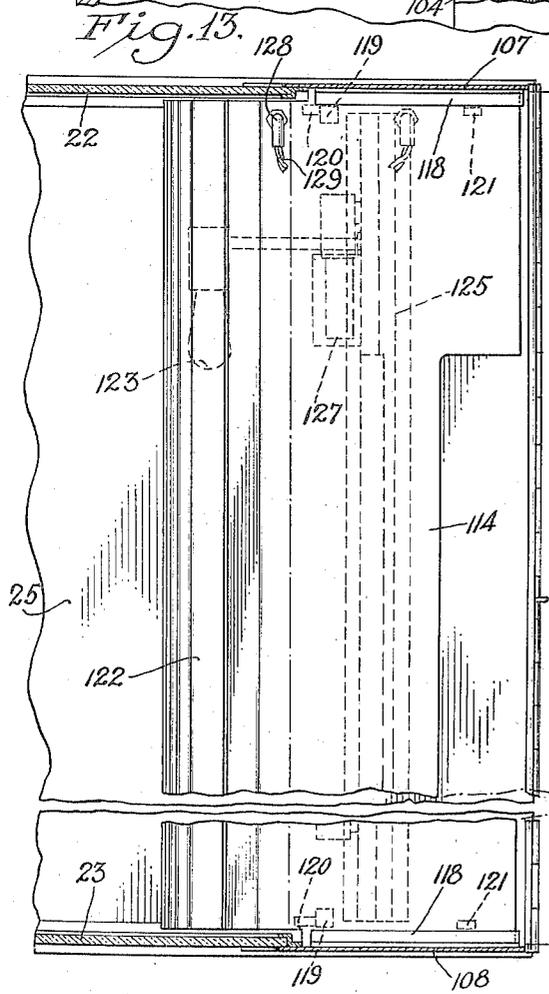
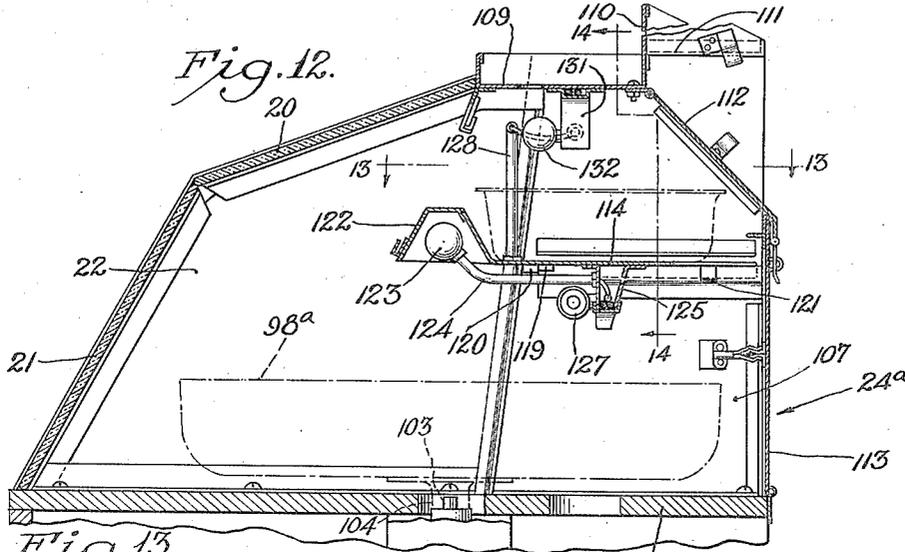
C. R. ANDERSON

2,229,911

MERCHANDISING AND DISPLAY CASE

Filed Jan. 15, 1937

4 Sheets-Sheet 4



Inventor
 Charles Ralph Anderson
 BY
 Parker, Gordon,
 Peterson & Hubbard,
 Attorneys.

UNITED STATES PATENT OFFICE

2,229,911

MERCHANDISING AND DISPLAY CASE

Charles Ralph Anderson, Rock Island, Ill.

Application January 15, 1937, Serial No. 120,776

15 Claims. (Cl. 312—131)

This invention relates to improvements in merchandising and display cases and more particularly concerns a case adapted for displaying and vending edible merchandise.

5 The sale of certain types of prepared edibles is largely influenced by eye appeal. Accordingly, the merchandise must be attractively displayed, and where there are several varieties they should be conveniently grouped and labeled to facilitate selection. Taste appeal is also of
10 importance with some merchandise of this type, as, for example, nut meats which should be conditioned to reach the consumer fresh and warm in order to be possessed of the utmost delicacy
15 of flavor and aroma. Moreover, the vending facilities should enable the exercise of prompt and efficient sales service.

A general object of the invention is to embody the foregoing merchandising features in a novel display and vending case of simple, compact construction and large capacity.

Another object is to provide a merchandising case which may be packed and shipped in a knock-down condition and which may be easily
25 assembled by unskilled persons from a few factory assembled units.

Another object is to provide an improved sectional glass panel wall arrangement and supporting framework therefor including quickly
30 releasable means enabling removal of the panels for cleaning the interior of the case.

Another object resides in the provision of an enclosed display case embodying an improved arrangement of transparent wall panels enabling
35 a clear view from different angles of the contents on display.

Still another object is to provide a display case embodying merchandise shelf means constructed as a unitary rack which may be mounted for
40 movement bodily in a front to rear direction relative to the base of the case.

Another object is to provide in a display and vending case a shelf rack structure having merchandise supporting means mounted thereon
45 adapted to be moved rearwardly relative thereto for vending or refilling purposes.

Other objects and advantages of the invention will become apparent from the following detailed description of the preferred embodiments
50 disclosed in the accompanying drawings, in which:

Figure 1 is a perspective view of one form of merchandising case having the features of the invention.

55 Fig. 2 is a rear elevational view of the case

with parts broken away to show more clearly various details of construction.

Fig. 3 is a sectional elevation through the case taken substantially along the line 3—3 of Fig. 2.

Fig. 4 is a view similar to Fig. 3 but showing the rack in a retracted position. 5

Fig. 5 is a fragmental side elevational view of one front corner of the case.

Fig. 6 is an enlarged fragmental sectional view taken along the plane of line 6—6 of Fig. 5. 10

Fig. 7 is a sectional plan view taken along line 7—7 of Fig. 2.

Fig. 8 is an enlarged sectional view taken on line 8—8 of Fig. 7.

Fig. 9 is an enlarged sectional view taken along line 9—9 of Fig. 1. 15

Fig. 10 is a sectional view on a slightly enlarged scale taken along line 10—10 of Fig. 7.

Fig. 11 is a perspective view of one of the frame units of the device. 20

Fig. 12 is a sectional side elevational view of a modified form of case.

Fig. 13 is a sectional plan view taken along the line 13—13 of Fig. 12.

Fig. 14 is a fragmentary sectional view taken along the line 14—14 of Fig. 12. 25

Fig. 15 is a fragmental sectional view of a portion of the device taken in substantially the same plane as Fig. 12 but showing the parts in different relative positions. 30

While the invention is susceptible of various modifications and alternative constructions, I have shown in the drawings and will herein describe in detail, the preferred embodiment, but it is to be understood that I do not thereby intend to limit the invention to the specific forms disclosed, but intend to cover all modifications and alternative constructions falling within the spirit and scope of the invention as expressed in the appended claims. 35

Having reference to Figs. 1, 2 and 3 of the drawings, one preferred form of merchandising case embodying the invention includes a transparent front wall including upper and lower panels 20 and 21, respectively. These panels may be disposed in edge-to-edge relationship but at different upwardly and rearwardly slanting angles, herein the upper panel 20 being at a small angle to the horizontal and the lower panel at a small angle to the vertical. In this manner the contents of the case may be readily viewed by a person standing close to the front of the case and looking downwardly, or standing at some distance from the front of the case. Parallel transparent panel side walls 22 and 23 extend back from the 40 45 50 55

front wall and a rack structure 24 completes the enclosure. Plate glass forms a desirable material for the several panels. The necessity for a separate top panel is avoided and a clear view of the display is afforded by the arrangement of the upper front panel 20 so that the top of the case will be enclosed by coaction between the rear edge of said panel 20 and a top portion of the rack 24. Supporting the several walls and the rack 24 is a horizontal base 25 which may include a rigid depending peripheral skirt 27 by which the case rests upon a suitable stand, table or counter (not shown).

According to the present invention, the several walls of the case and the rack 24 may all be connected to the base 25 through the medium of a unitary frame work, herein comprising a pair of frame units 28 and 29 which are mounted upon the upper face of the base in parallel relation adjacent to its left and right edges, respectively. The frame units are preferably substantially identical as to general details of construction and a description of one will therefore suffice for both. Referring particularly to the frame unit 28 (Fig. 11), therefore, it includes a hollow base bar 30 which is of substantially the same length as the front to rear dimension of the base 25 and has a flange 31 arranged to rest flatwise upon and to be secured to the base in any suitable manner such as by means of screws 32 (Figs. 1 and 3).

At its rear end, the base bar 30 carries a short forwardly opening vertical channel 33 which provides a socket for the lower rear edge of the side wall panel 22. Rigid with the forward end of the base bar 30 is an upwardly extending bar or corner post 34 which is preferably formed with two angularly related slanting sections conforming to the desired compound slope of the front wall of the case. Respectively laterally and rearwardly extending longitudinal flanges 35 and 37 are arranged with the body of the post 34 to provide seats for the ends of the front wall panels 20 and 21 and the forward end of the side wall panel 22.

To facilitate assembly and to render the interior of the display case easily and quickly accessible for cleaning and the like the front wall panels 20 and 21 are mounted to be readily removed. For this purpose there is provided a pair of similar left and right hand removable clips 38 and 39 (Figs. 1, 5 and 6) which are of angular cross section and dog leg form conforming to the angular sections of the corner posts 34 and which coact with the flanges 35 and 37 to hold the several wall panels in place. Each of the clips 38 and 39 is held in place by manually releasable means such as a series of headed thumb screws 40 which extend through apertures 41 therein into threaded engagement with the respective corner posts 34. The apertures 41 are of keyhole form to permit passage of the heads of the screws 40 through the enlarged rear sections thereof. Thus, removal of either clip may be effected merely by loosening the thumb screws 40 which hold the same, moving the clip bodily forwardly until the heads of the screws register with the enlarged portions of the apertures 41 (as suggested in the broken line position of Fig. 5), and then moving the clip laterally away from the corner post past the screws. To replace the clip the foregoing steps may be performed in the reverse order.

The base bars 30 of the frame units 28 and 29 may serve as tracks upon which the shelf rack 24 may be movably mounted. To this end the shelf rack structure 24 is preferably constructed as a

preformed rigid sheet metal assembly including spaced parallel vertical side plates 42 and 43 having on their lower ends elongated angularly shaped bars 44 serving as bearings to coact slidably with the base bars 30 (Figs. 1, 2 and 9). Each of the bearing bars 44 extends a substantial distance forwardly from the front edge of its respective side panel 42, 43 and carries a laterally extending pin 45. The pin has a head 45^a at its free end and is of such length and is so located that by slightly flexing the extended part of its bearing bar 44 during the operation of assembling the case, the head 45^a will enter a reception enlargement at the forward end of a longitudinal slot 47 provided for this purpose in the associated rail 30. The slot 47 is of a predetermined length designed to stop the rack in a given position retracted from the merchandise case (Fig. 4) when the pin 45 engages the rear end thereof. In the rearwardly extended or retracted position of the rack the pin serves to hold the bearing bars 44 substantially in the plane of the rails 30 and avoids downward tilting of the rack. While the rack is thus retracted, the side wall panels 22 and 23 may be assembled with the case. Upon returning the shelf rack 24 into the case, forward movement will be limited by engagement with the rearward portions of the side panels to a position wherein the pins 45 remain rearwardly out of register with the forward ends of the slots 47 (Fig. 3). As a result, removal of the shelf rack will depend upon removal of the side wall panels.

When the rack 24 is in its inward position, the rear edges of the side wall panels 22 and 23 above the sockets 33 are received within vertical channel shaped sockets 48 which may be formed by return bending the rear edges of the rack side plates 42 and 43 (Figs. 1 and 7). To receive the top edges of said side wall panels slidably the side plates 42 and 43 carry near their upper ends downwardly facing channels 49 (Fig. 2) which have guide fingers 50 projecting from the outer sides of their forward ends to maintain the wall panels 22, 23 in alinement when the rack is retracted beyond the rear edges thereof (Fig. 4).

Bridging the upper ends of the side plates 42, 43 of the shelf rack 24 is an elongated top shelf 51 which is provided with an upstanding peripheral flange or retaining rim 52 and is adapted to receive packaged merchandise for display. The top shelf may be substantially narrower than said side plates and have its front edge disposed substantially in the plane of their forward edges. On the underside of the top shelf is mounted illuminating means such as a series of electric lamps 53 for directing light downwardly into the case, and a depending anti-glare flange or shield 54 is provided along the forward margin of the shelf. At spaced intervals the shield may be provided with suitable apertures or slots 55 (Fig. 1) which are traversed by suitable transparent signs 57 formed of glass or the like. To support the signs removably the lower edge of the shield adjacent to the slots 55 may be provided with upturned flanges 58 (Figs. 3 and 4).

When the rack is in its innermost position, the forward edge of said top shelf 51 coacts with the upper edge of the upper front wall panel 20 to form the top enclosure for the case (Figs. 1 and 3). When the interior of the case is to be cleaned, the rack 24 may be retracted and the upper front panel 20 removed by sliding the same from position as suggested in broken outline in Fig. 4. The interior of the case will then be readily accessible without the necessity of removing

the lower front wall panel 21. After the upper panel 20 has been replaced and the rack 24 returned, the top of the case will again be closed.

Secured to the rear edge of the top shelf 51 and extending above and below the plane thereof is a vertical back plate 59. The front and rear faces of the upper part of the back plate 59 may have thereon advertising and instruction card holding strips 60 and 61 respectively, the latter coating with an opposed retrovert flange 62 along the top of the back plate. Secured along the lower edge of the rear face of the back plate is a conventional card holding strip 63, and hingedly mounted on a horizontal axis slightly above this strip is an upwardly swingable door 64 arranged when open to expose the strip to view (Fig. 4). To hold the door open, it is provided near opposite ends of its outer face with projecting catches 65 arranged to be engaged by resilient grippers 67 which may be mounted below short auxiliary shelves 68 secured in a plane with the top shelf 51 near opposite ends of the back plate 59 (Figs. 2, 3 and 4). As will be clear, the offset mounting of the door 64 on the back plate substantially minimizes the clearance necessary in back of the merchandise case for the swinging movement of the door in opening or closing the same.

In its closed position the door 64 is adapted to extend downwardly and rearwardly toward the rear edges of the side plates 42, 43 and it is provided with a marginal flange 64^a arranged to coact flatwise with the upper edge of a second or lower vertical door 66. The latter door may be slightly narrower than the door 64 and is hinged to the rear edge of the base 25 for vertical swinging opening and closing movement. A hasp and eye connection 70 enables the doors to be locked against unauthorized opening. When the doors are closed, the rack is held against retraction and the display within the case is protected from dust and dirt.

Extending in a horizontal plane rigidly between the side plates 42, 43 and below the lower edge of back plate 59 of the shelf rack 24 is an intermediate horizontal merchandise shelf 71. The major area of this shelf lies forwardly of the back plate 59 but it has a pair of similar narrow extension portions 72 which project rearwardly along the side plates 42, 43 into proximity with the coating edges of the closed doors. Each extension 72 may have a downturned flange 73, equipped with a conventional card holding strip for identification of the merchandise supported below the shelf 71, similarly as merchandise upon the shelf may be identified by price cards in the holding strip 63 thereabove.

Merchandise may be supported by the shelf 71 in a plurality of trays 74 (Fig. 1) forwardly of the back plate 59. To facilitate access into the trays for vending or refilling purposes, suitable means may be provided for sliding the trays individually rearwardly without moving the rack. As shown herein, a pair of narrow, substantially identical manually engageable slides 75 and 76 are mounted upon the respective opposite extension portions 72 of the shelf (Fig. 7). The construction of both slides will be understood from a detailed description of the slide 75 which comprises an upwardly opening channel-shaped sheet metal body (Fig. 8) having the center portion thereof slightly offset as shown at 77. Near the lower front margin of the offset portion is a transverse bar 78 having downwardly offset, angular end flanges 78^a interengageable with op-

posed retrovert side flanges 79 of a track plate 80. The flanges 79 are provided at their rear ends with abutment projections 81 (Fig. 7) which are adapted to engage the flanged ends 78^a of the guide bar 78 to stop rearward movement of the slide after it has substantially cleared the depending portion of the back plate 59. To remove the slide from the shelf it may be moved forwardly until the guide bar ends 87^a clear the forward ends of the track plate flanges 79, whereupon the slide may be lifted away.

Between the end slides 75 and 76 is a narrow central slide 82 of substantially the same width as the central portion of the shelf 71 and dimensioned to bridge the extensions 72. To guide the central slide 82 for movement in a front to rear direction to clear the overhanging back plate 59, parallel channel-shaped tracks 83 are secured along the opposed inner margins of the extensions 72 (Fig. 10). Laterally projecting stops 84 near the rear ends of the tracks 83 are adapted to coact with upstanding stops 85 provided near the forward corners of the slide 82 to limit retraction thereof.

Forward movement of the several tray slides or the trays 74 carried thereby is limited by an upstanding front marginal flange 87 on the shelf 71 (Figs. 3 and 7). Herein this front flange 87 serves also as the rear wall of a hood 88 within which is concealed means such as a series of electric lights 89 for illuminating the merchandise within the case below the intermediate shelf 71. The front of the hood may be provided along its lower edge with a price card holding flange 90.

The lights 89 may be supported by rigid conduit arms 91 which extend rearwardly under the shelf 71 and are connected to an elongated, narrow, hollow housing 92 mounted longitudinally upon the lower face of the shelf 71 and supporting electrical wires 93 through which electrical energy is supplied to the lights. Heating means, herein comprising a series of electrical resistance units 94, is mounted upon the housing 92. Overlying the resistance units 94 are reflectors 95 which are adapted to direct heat therefrom toward the merchandise therebelow. Guard plates 96 may be provided behind the heaters (Figs. 1, 2 and 3). Suitable means manually controllable as at 97 (Fig. 2) at the rear of the back plate 59 may be provided to control operation of the heaters 94. Thus, it will be apparent that the merchandise within the case will be brightly illuminated and maintained in a warm condition. Nut meats will remain warm and especially palatable, and the natural or roasting fat which coats the meats will be fluid and effect a glistening attractive appearance. Since the case is fully enclosed except when the rear doors are opened to reach the merchandise, the temperature within the case remains substantially uniform.

A valuable device for attracting attention to the display and for facilitating vending resides in the provision of a continuously moving body of merchandise. In the present instance there is provided below the shelf 71 a round merchandise tray or bowl 98. Secured axially to the bottom of the bowl 98 is a thimble 100 adapted to project downwardly through an aperture 101 in the base 25. Removably secured to bolts 101^a depending from the lower face of the base 25 is a power unit 102 (Fig. 2) which has a rotatable spindle 103 (Figs. 3, 4 and 12) that projects upwardly through the aperture 101 and fits into the thimble 100 to impart rotary motion to the bowl 98. Thus,

as the bowl revolves, the contents in the several compartments thereof will be successively carried forwardly for inspection from the front of the case and toward the rear for ready access in vending or refilling. In the course of the rotary motion of the bowl, the contents will, moreover, be uniformly heated by the overlying heating units 94.

To accommodate a bowl 98^a (Fig. 12) of greater diameter (herein twice the diameter of the bowl 98) with its rear periphery in substantially the same vertical plane as the smaller bowl, the power unit 102 may be shifted forwardly so that the spindle 103 will project through a second aperture 104 which is provided in the base 25 on a line forwardly of the aperture 101. When the aperture 104 is not in use, it may be covered by a semi-circular mirror finish plate 105 (Fig. 1) which may at least partially underlie the bowl 98 and by its reflective properties will enhance the attractiveness of the display.

In its general shape, the modified form of the invention shown in Figs. 12 to 15, inclusive, is substantially the same as that thus far described. In the modified form, however, the shelf rack identified generally at 24^a, has spaced side plates 107 and 108 which are formed to replace substantial rear portions of the respective glass side wall panels 22 and 23, respectively. The side plates 107 and 108 are, moreover, secured in fixed parallel relation upon the base 25. A top shelf 109 rigidly connects the edges of the side plates 107 and 108 and projects slightly forwardly therefrom to coact with the upper front panel 20 for enclosing the top of the case. The rear edge of the top shelf 109 may be provided with an up-standing flange 110 forming a back plate which carries one or more short rearwardly extending auxiliary shelves 111. A pair of doors 112 and 113 which are secured respectively to the rear of the top shelf 109 and to the rear edge of the base 25, coact to close the back of the case.

The modified form of the invention is provided intermediate the top shelf 109 and base 25 with an auxiliary merchandise shelf 114 which is bodily movable relative to the shelf rack in a front to rear direction to facilitate the vending or replacement of the merchandise. With this in view, the intermediate shelf 114 may be constructed of flat sheet metal and has downturned flanges 115 along its opposite side edges which coact with appropriate slideways 117 mounted upon the respective side plates 107, 108. Overlying the slideways 117 in spaced relation are rigid retaining strips 118 which serve to avoid tipping of the shelf by upward pressure thereon and to maintain the same substantially horizontal when pulled back as seen in Fig. 15. To define the forward and rearward limits of movement of the shelf 114 alined abutments 119 are provided on its lower face adjacent to the flanges 115 to coact with front and rear stops 120 and 121, respectively, on each of the slideways 117 (Figs. 12 and 15). For removing the shelf 114 rearwardly from the slideways 117, it may be raised bodily as suggested in broken outline in Fig. 15 to lift the abutments 119 over the stops 121, and it may be returned in a similar manner.

Along its front margin the intermediate shelf 114 may be provided with a shield or downwardly facing hood 122 for concealing electric lights 123 which are carried by rigid pipes 124. These pipes 124 are secured at their rear ends to an electric wire duct or housing 125 which is secured to the lower face of the shelf 114. Heaters 127 are also

connected to the housing 125. Extending rigidly upwardly from the shelf 114 is a duct 123 from the upper end of which projects a flexible electric cable 129 carrying a conventional electrical plug 130. This plug is adapted to be connected in a suitable outlet in an electric wire housing 131 which is supported below the top shelf 109 and carries electric lights 132 for illuminating the top of the shelf 114. The flexible cable 129 permits free movement of the shelf 114 relative to the lights 132 without disrupting the supply of electrical energy thereto.

From the foregoing it will be apparent that the improved merchandise case of this invention will require very little space for shipment in a knock-down condition and it may be easily and quickly assembled without the exercise of special skill to provide an enclosure of compact structure and large capacity which is attractive in appearance and easy to keep clean. Edible merchandise is displayed therein in an attractive, appealing manner in an environment that improves both the appearance and the flavor thereof, and the merchandising operations are greatly facilitated by the convenient arrangement and accessibility of the merchandise carrying means. The light weight, compact and fully enclosed arrangement of the case affords a portable display which may be moved easily into any strategic position where it will be most effective in attracting trade.

I claim as my invention:

1. In combination in a merchandising and display case of the character described, a base having a substantially flat upper surface, a pair of elongated frame units secured in spaced parallel relation upon said upper surface and having corner posts extending upwardly from the forward ends thereof, side wall panels secured at their forward edges to said corner posts, transparent front wall panels extending between said corner posts, a shelf rack unit having side plates extending upwardly adjacent said frame units and carrying means coactive with the upper part of said front wall to enclose the top of the case, a shelf mounted between said side plates intermediate said top shelf and said base, and means for closing the rear of said rack including a pair of oppositely opening doors mounted upon respectively said rack and said base and cooperating in closing relation near the rear edge of said intermediate shelf.

2. In combination in a merchandising case of the character described, a base having frame means thereon, spaced side walls and a front wall held in position by said frame means, a rack having side plates mounted parallel to said side walls at the rear of said base, said rack including a top shelf having its forward edge located adjacent the upper edge of said front wall and its rear edge offset forwardly relative to the rear edges of said plates, a vertical back plate secured to said rear edge of said top shelf and having a portion extending downwardly below the plane of said top shelf, a door hingedly mounted on a horizontal axis on said downwardly extending portion, an intermediate shelf extending between said side plates and having its rear edge located adjacent to the lower edge of said door when closed, and a second door carried by the rear edge of said base and adapted to coact with said first mentioned door to complete the rear enclosure of said shelf rack.

3. In combination, in a merchandising case including a base having frame means thereon and front and side walls connected to said frame

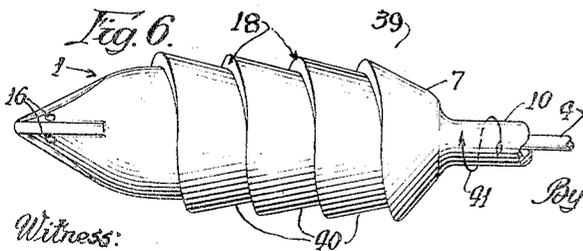
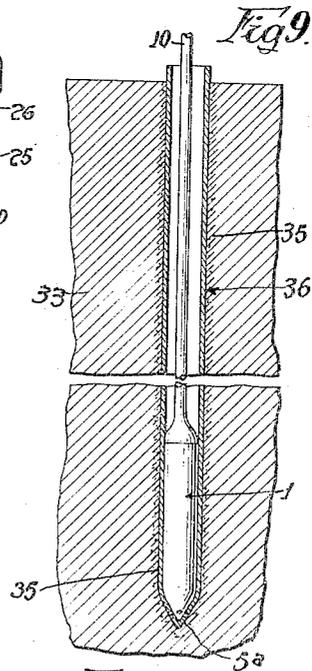
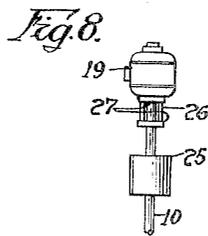
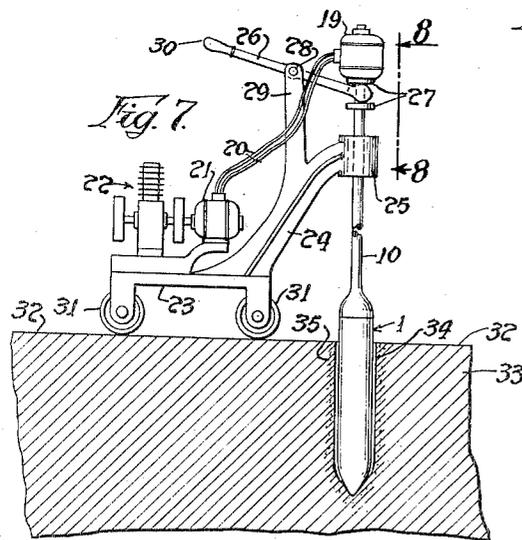
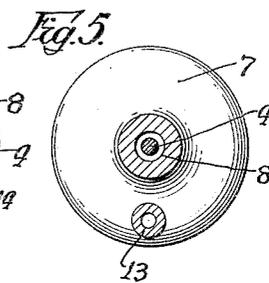
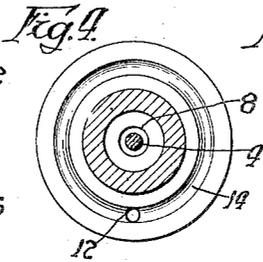
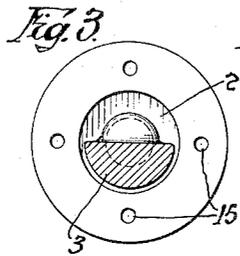
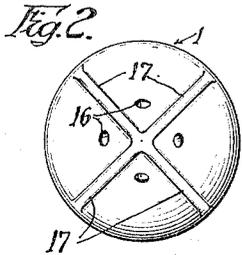
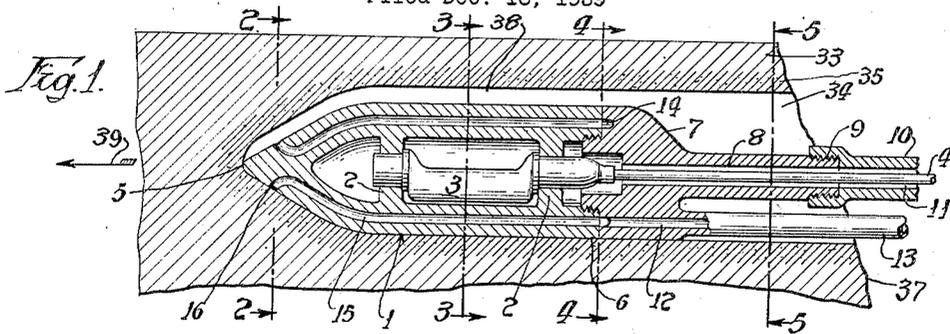
Jan. 28, 1941.

R. W. BAILY

2,229,912

METHOD AND APPARATUS FOR DISPLACING PENETRABLE MATERIAL

Filed Dec. 18, 1939



Witness:
E. Campouris

Inventor:
Robert William Baily,
By: Baily & Freeman

Attorneys

