

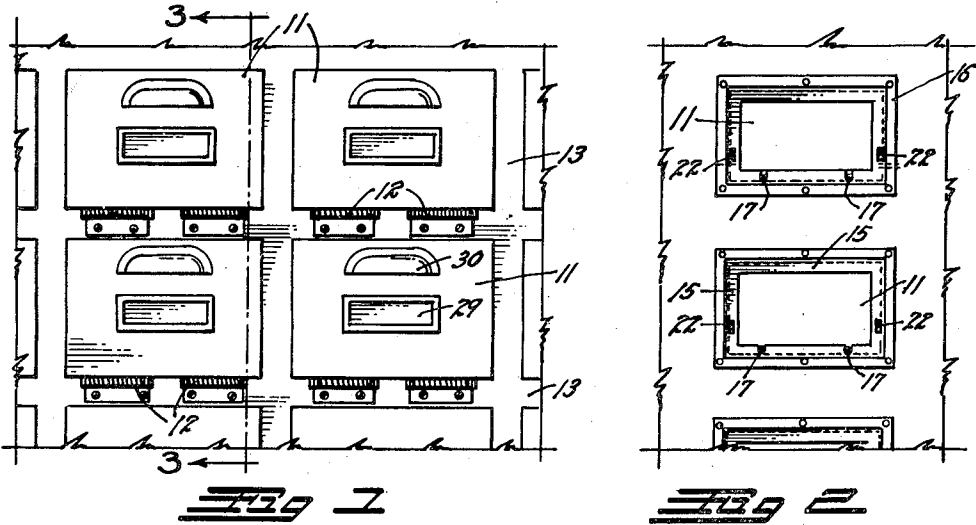
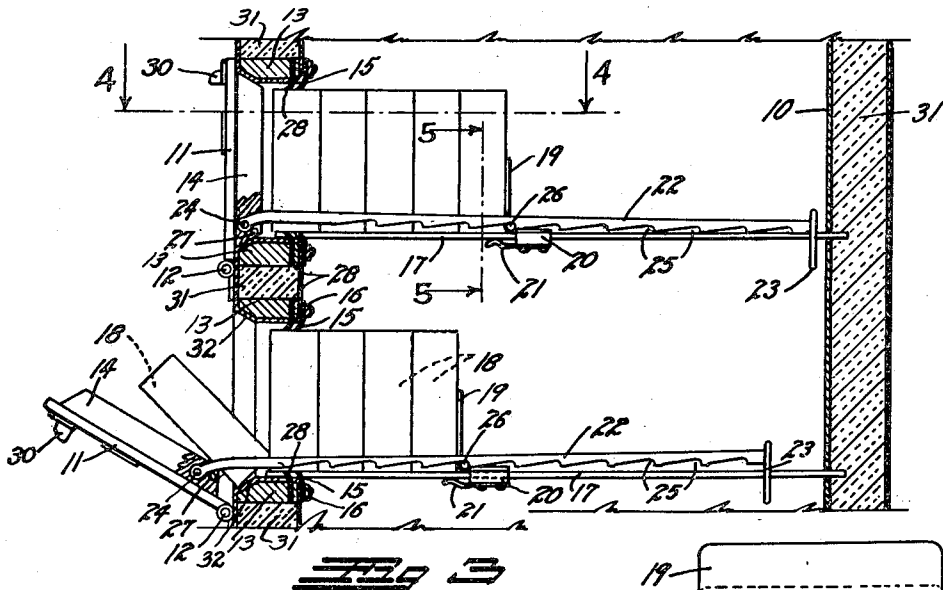
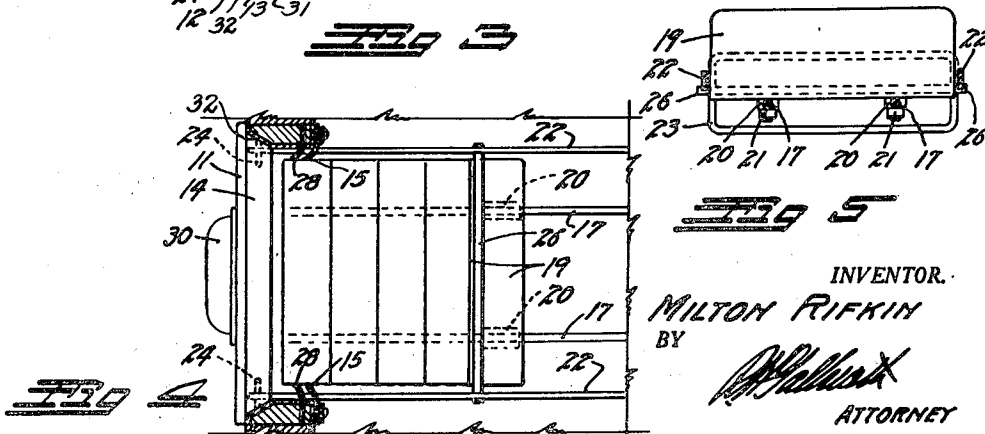
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FROZEN FOOD DISPENSER

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FROZEN FOOD DISPENSER

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The dispensing of frozen foods creates quite a problem. They must be constantly maintained at an exceedingly low temperature well below the freezing point, and if placed in the usual ice boxes or refrigerator chests it is necessary for the customer to open the door to reach the articles. This immediately allows warm air to enter and raise the temperature within the box. In busy stores the door is opened so frequently and allowed to remain open for such long periods while the customer searches out the desired package that spoilage results from the raised temperature of the box.

The principal object of this invention is to provide a frozen food dispensing cabinet which will remain sealed during the removal of or replacement of packages.

Another object of the invention is to provide a frozen food dispenser which will deliver the desired package within convenient reach of the customer; which will immediately place a new package in the position occupied by the removed package, and which will employ the successive packages to seal the delivery opening while the latter is open so that external air cannot enter and cold air cannot escape from the storage chamber.

Other objects and advantages reside in the detail construction of the invention, which is designed for simplicity, economy, and efficiency. These will become more apparent from the following description.

In the following detailed description of the invention, reference is had to the accompanying drawing which forms a part hereof. Like numerals refer to like parts in all views of the drawing and throughout the description.

In the drawing:

Fig. 1 is a fragmentary view illustrating a portion of the front of a food dispenser in which the invention is embodied;

Fig. 2 is a similar inside face view of the dispensing doors of the cabinet of Fig. 1;

Fig. 3 is an enlarged vertical section taken on the line 3—3, Fig. 1, illustrating one of the dispensing doors opened;

Fig. 4 is a horizontal sectional view, looking downwardly, taken on the line 4—4, Fig. 3;

Fig. 5 is a detail view of the package pushing device taken on the line 5—5, Fig. 3.

The improved dispenser employs an air-tight cabinet having suitable walls 10 containing any suitable heat insulation 31. The front of the cabinet is provided with an open framework 13 outlining a plurality of door openings. The

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frame 13 may be formed of wood covered with metal. An insulated door 11 closes each of the door openings, said insulated doors being mounted at their bottom edges on spring hinges 12 which constantly urge the doors to closed position. The heat insulation 31 may be placed between the walls of the framework outlining the openings, as shown in Fig. 3, if desired.

Each of the door openings is preferably formed with a wedge shaped door receiving bevel 32 at the front for receiving and sealing to a wedge shaped back 14 on the door. Each door opening in the framework 13, adjacent the inside of the cabinet, is bordered by means of a flexible sealing gasket 15 projecting inwardly into the door opening at the sides, top and bottom thereof. The gasket 15 is formed of any suitable flexible elastic material such as rubber, and is secured to the inner face of the door frame by means of an attachment strip 16 or in any other desired manner.

A pair of slide rods 17, extend horizontally inward from the bottom of each door opening to the back wall 10 of the cabinet. These slide rods are for supporting a series of frozen food packages 18 behind each door opening. The packages are forced forwardly along the slide rods by means of an L-shaped pusher plate 19, the bottom of which is extended horizontally rearward to rest upon the slide rods 17. The horizontal portion of the pusher plate is attached to sliding sleeves 20 through which the rods 17 pass. Each sleeve 20 carries a friction spring 21 which bears against the slide rods to resist movement of the pusher plate 19.

The pusher plate is moved by means of two notched bars 22, there being one bar on each side of each series of packages 18. The bars terminate at their inner extremities in an open frame 23 surrounding the rods 17. They terminate at their forward extremities on hinge pins 24 which are imbedded in the door backs 14 so that each time a door is swung outwardly and downwardly the rods 22 will be pulled forwardly one package width. The lower edges of the rods 22 are formed with ratchet-like notches 25 which engage the extremities of a cross rod 26 carried by the slide plate 19. The spacing of the notches along the bars 22 corresponds to the thickness of the packages 18.

It can be seen that when a door 14 is opened the series of packages back of the door will be moved forwardly one package width. This allows the foremost package to fall forwardly, as indicated on the lower door of Fig. 3, and pushes the

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next succeeding package into the embrace of the sealing gasket 15. This places the first package within easy reach of the customer, and causes the second package to act as a sealing member to completely seal the cabinet while the door is open.

As the door is swung closed the ratchet-like notches 25 will slide over the extremities of the cross rod 26 so that the latter will be engaged by the next forward notch of the series. The springs 21 prevent the slider from moving rearwardly with the rods 22.

It will be noted that the foremost package does not come directly into contact with the closed door. This allows an air space about the package which will become chilled from the cold interior of the cabinet to maintain cold air around the said foremost package.

Should it be desired to replace the packages 18, the door 10 is forced further downwardly than its normal open position. This brings a stop pin 27 against the bottom of each bar 22 to tilt the latter upwardly at the rear so as to completely release the cross bar 26. With the door in this position new packages can be forced through the gasket opening to push the pusher plate 19 rearwardly along the slide rods. It will be noted that as the new packages are placed in the cabinet, the latter is constantly sealed by the gasket 15.

Additional sealing gaskets, such as indicated at 28, can be inset in peripheral slots in the framework about the door opening, as shown in Fig. 3 to provide a more effective seal against the packages. The bars 22 and the rods 27 pass through snug openings in the flexible gasket 15 so that the latter will form a seal thereabout. Each door is preferably provided with a descriptive label 29, designating the contents behind that particular door.

The cabinet is preferably of the type having means for circulating a flow of cold dry air throughout its interior with a chilling coil arranged externally of the food compartment for chilling and dehydrating the air so as to prevent the formation of frost on the rods and mechanism.

While a specific form of the improvement has been described and illustrated herein, it is desired to be understood that the same may be varied, within the scope of the appended claims, without departing from the spirit of the invention.

Having thus described the invention, what is claimed and desired secured by Letters Patent is:

1. A dispensing device for frozen foods and the like comprising: an insulated cabinet; an opening in a wall of said cabinet; hinge means adjacent said opening; a door supported by said hinge means and closing the outer portion of said opening; a flexible sealing gasket completely surrounding said opening and projecting into the latter to restrict the size of the opening; rigid package supporting means extending into the cabinet from the opening and supporting a row of packages in alignment with said opening; and means operable by said door for sliding the row of packages forwardly along said supporting means into the embrace of said gasket.

2. A dispensing device for frozen foods and the like comprising: an insulated cabinet; an opening in a wall of said cabinet; a hinged door closing the outer portion of said opening; a flexible sealing gasket completely surrounding said open-

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ing and projecting into the latter to restrict the size of the opening; slide rods extending into the cabinet from the bottom of said opening for slidably supporting a row of packages; a pusher member mounted on said slide rods for successively pushing the packages of said row into the embrace of said gasket; a notched bar extending inwardly along the side of said row of packages, the notches in said bar being arranged to successively engage said pusher member; and means operable from the swinging movement of said door for reciprocating said bar for moving said pusher member forwardly so as to successively slide the packages into the embrace of said gasket.

3. A dispensing device for frozen foods and the like comprising: an insulated cabinet; an opening in a wall of said cabinet; a door closing the outer portion of said opening; a flexible sealing gasket completely surrounding said opening and projecting into the latter to restrict the size of the opening; slide rods extending into the cabinet from the bottom of said opening for supporting a row of packages; a pusher member mounted on said slide rods for successively pushing the packages of said row into the embrace of said gasket; and a notched bar extending inwardly along the side of said row of packages, the notches in said bar being arranged to successively engage said pusher member, said notched bar being hingedly connected to the door at its forward extremity so that each opening movement of the door will cause a forward movement of the pusher member.

35 4. A dispensing device for frozen foods and the like comprising: an insulated cabinet; an opening in a wall of said cabinet; a door closing the outer portion of said opening; a flexible sealing gasket completely surrounding said opening and projecting into the latter to restrict the size of the opening; slide rods extending into the cabinet from the bottom of said opening for supporting a row of packages; a pusher member mounted on said slide rods for successively pushing the packages of said row into the embrace of said gasket; a notched bar extending inwardly along the side of said row of packages, the notches in said bar being arranged to successively engage said pusher member, said notched bar being hingedly connected to the door at its forward extremity so that each opening movement of the door will cause a forward movement of the pusher member; and means for lifting said notched bar when desired to release said pusher member.

5. A dispensing device for frozen foods and the like comprising: an insulated cabinet; an opening in a wall of said cabinet; a door closing the outer portion of said opening; a flexible sealing gasket surrounding said opening and projecting into the latter to restrict the size of the opening; slide members extending into the cabinet from the bottom of said opening for supporting a row of packages; a pusher member mounted on said slide members for successively pushing the packages of said row into the embrace of said gasket; a notched bar extending inwardly adjacent said row of packages, the notches in said bar being arranged to successively engage said pusher member, said notched bar being connected to the door so that each opening movement of the door will cause a forward movement of the pusher member toward said door; and means carried by said door for releasing said

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notched bar from said pusher member to allow said pusher member to be forced inwardly.

6. A dispensing device for frozen foods and the like comprising an insulated cabinet, an opening in a wall of said cabinet, a door hinged to said wall and normally closing the outer portion of said opening, a flexible sealing gasket carried by the wall of said cabinet and projecting into the opening in the wall of the cabinet to restrict the size of the opening, package supporting means extending into the cabinet from the opening supporting a row of packages in alignment with said opening, and means for sliding the row of packages forwardly along said supporting means into the embrace of said gasket to seal said cabinet when said door is swung open.

7. A frozen food dispensing device comprising an insulated cabinet having a door opening in a wall thereof, a door hingedly mounted upon said cabinet adjacent said door opening for closing said opening, a package support in said cabinet arranged to support a row of packages in align-

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ment with said opening, a pusher member carried within said cabinet at the rear of said row of packages, means operable from a predetermined degree of movement of said door for engaging said pusher member and moving said pusher member and row of packages forwardly toward said opening, and means operable from additional movement of said door for disengaging said pusher member from said first mentioned means.

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