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R. J. MILLER ET AL

2,140,242

BUTTER DISPENSER

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3 Sheets-Sheet 1

Fig. 1

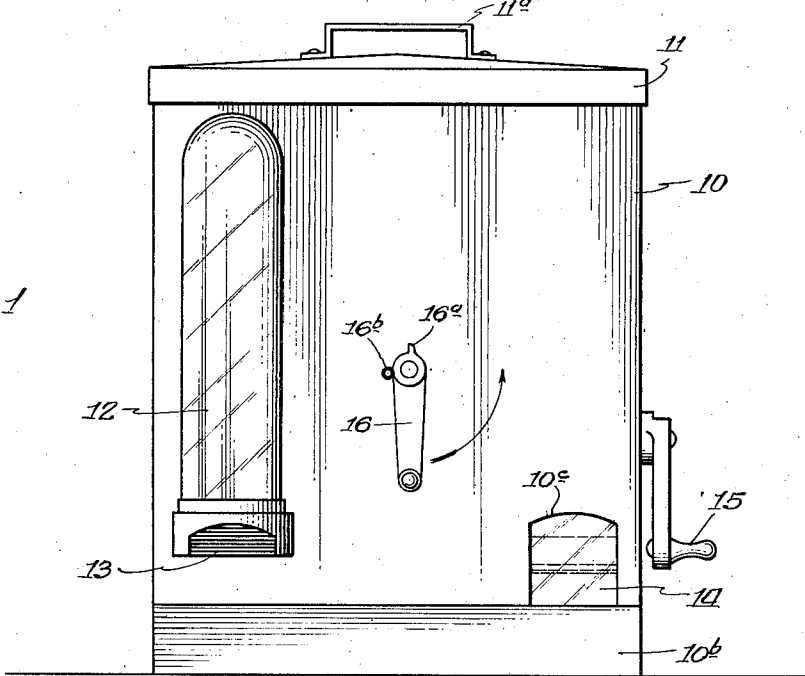
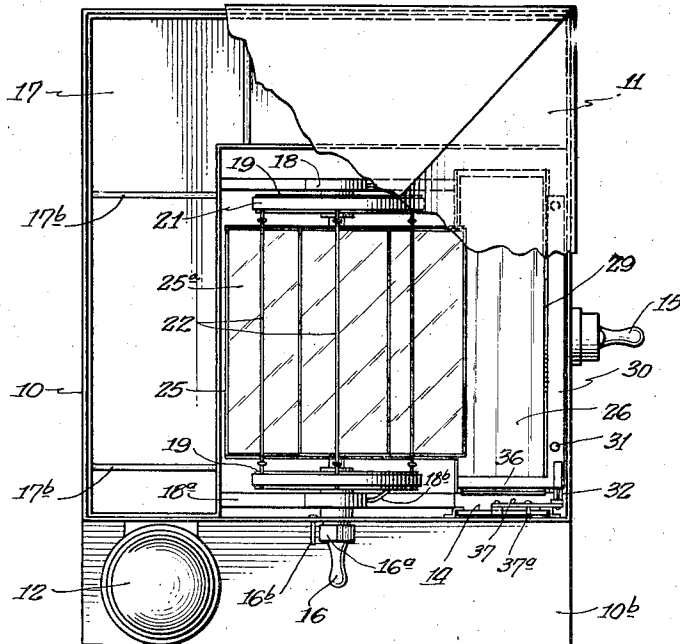


Fig. 2



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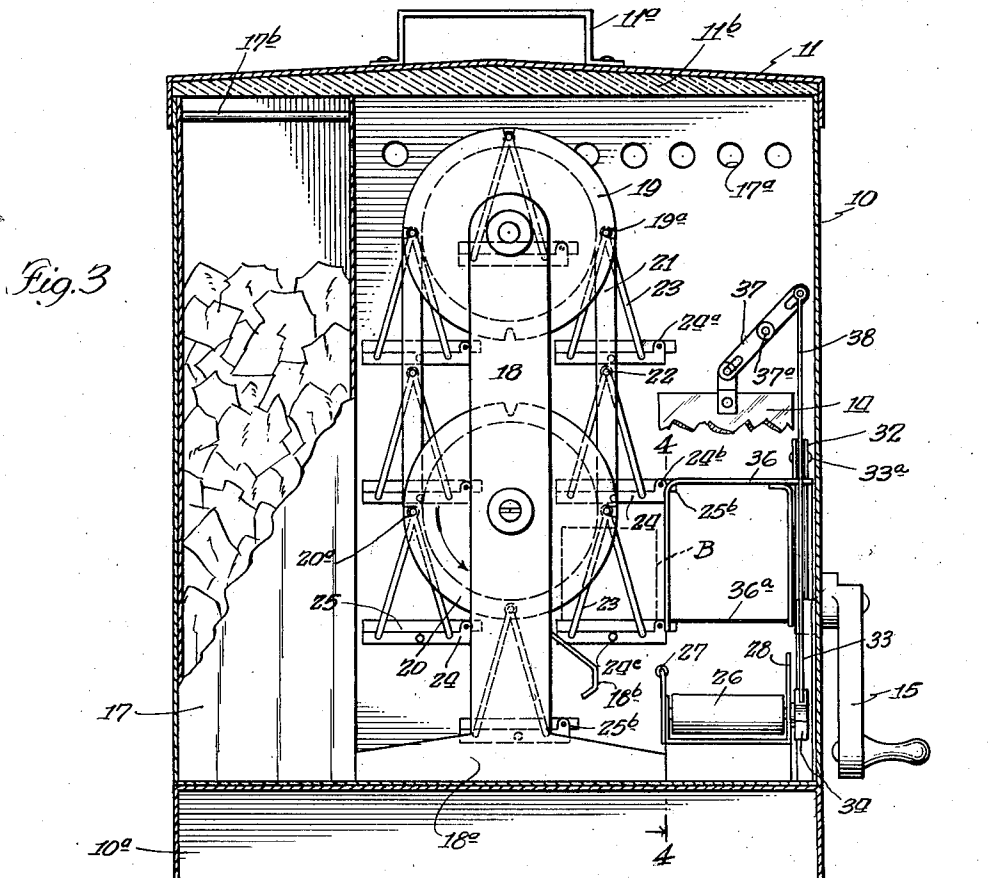
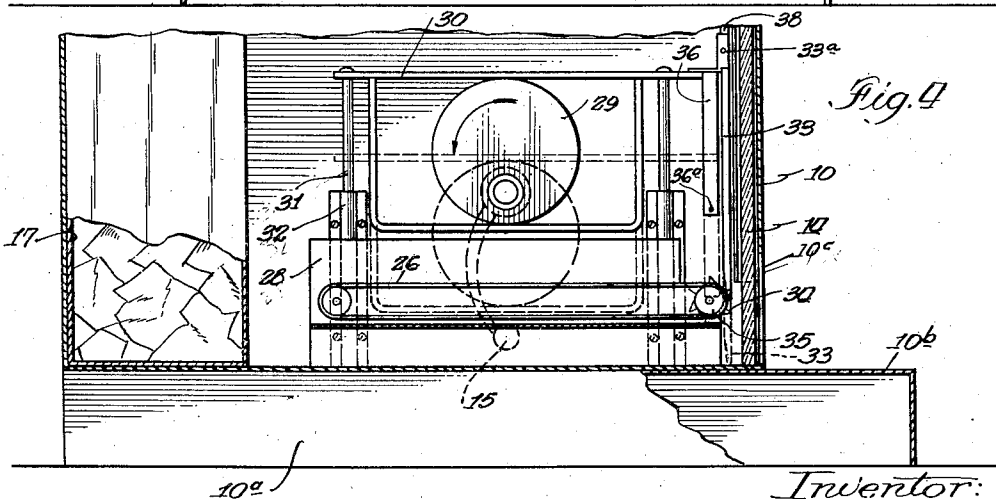
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3 Sheets-Sheet 2



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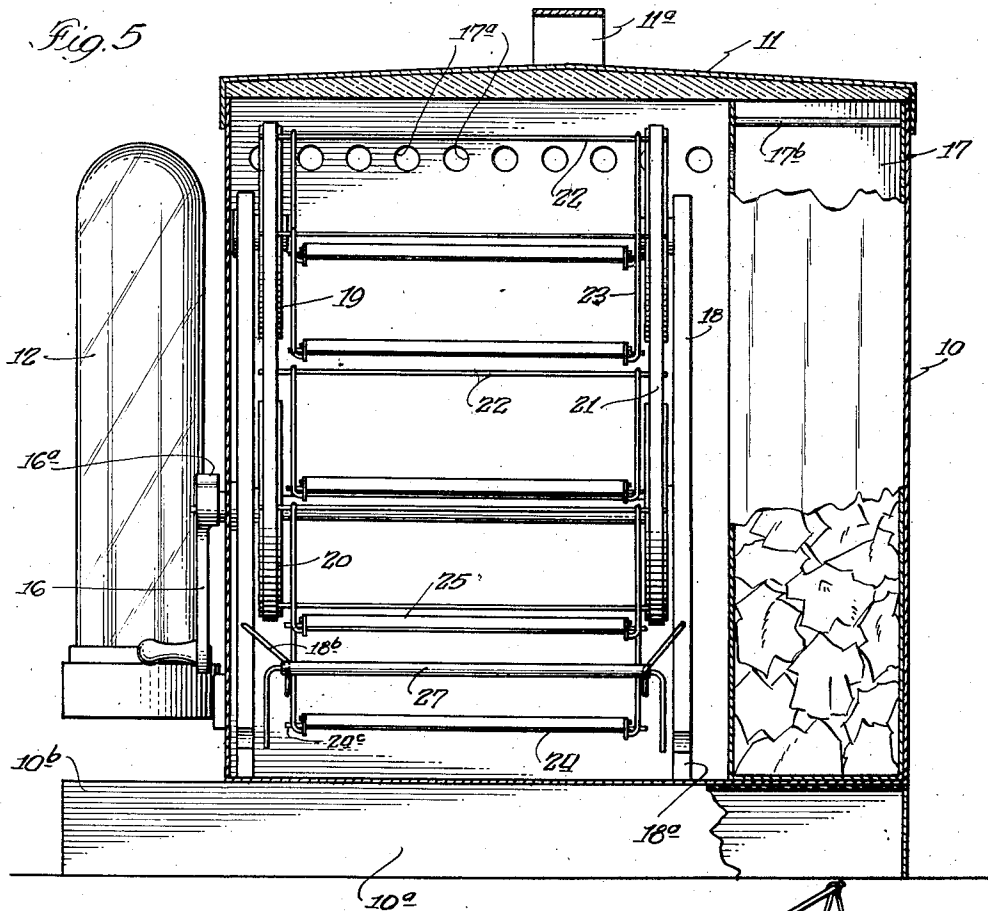
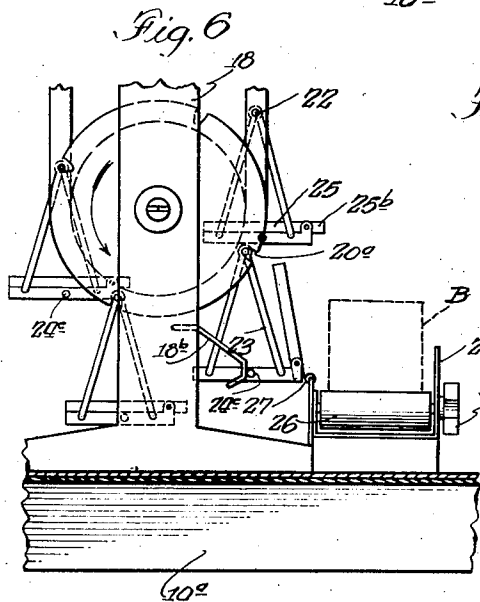
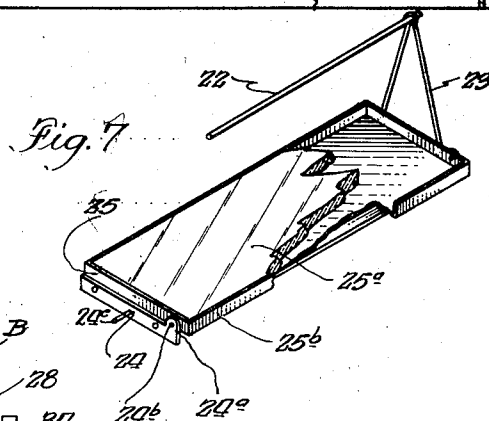
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BUTTER DISPENSER

Filed Dec. 12, 1936

3 Sheets-Sheet 3



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## UNITED STATES PATENT OFFICE

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## BUTTER DISPENSER

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Application December 12, 1936, Serial No. 115,596

9 Claims. (Cl. 31—20)

Our invention relates to service equipment for restaurants, drug stores, lunch rooms, and the like, and more particularly to devices for furnishing butter in the form of the usual square served to customers, and our main object is to provide a device of this kind which may serve efficiently and require a minimum amount of attention.

A further object of the invention is to design the novel butter dispenser in the form of a neat, portable cabinet which may be kept on a shelf or other support behind the restaurant counter, where it may be readily accessible to the waiters or other attendants.

A still further object of the invention is to design the novel dispenser as a self-contained butter magazine and ice-box.

Another object of the invention is to so construct the novel dispenser as to most compactly house its mechanism and the cooling unit, enabling the dispenser to be built as a cabinet of relatively small size.

An additional object of the invention is to incorporate in the novel dispenser simple and efficient means for delivering and cutting the butter to the proper size, all without the need of any power supply or special instrumentalities.

An important object of the invention is to so design and calculate the values entering into the novel dispenser that it may be manufactured at minimum cost and maintained in a highly sanitary condition without special effort or attention.

With the above objects in view, and any others which may suggest themselves from the description to follow, a better understanding of the invention may be had by reference to the accompanying drawings in which—

Fig. 1 is a front elevation of the novel butter dispenser;

Fig. 2 is a top plan view, with the cover of the dispenser partly broken away;

Fig. 3 is an interior view of the dispenser with the front wall removed, and showing some parts broken away;

Fig. 4 is a section on the line 4—4 of Fig. 3;

Fig. 5 is an interior view of the dispenser from the right hand side, showing some parts broken away;

Fig. 6 is a partial detail of a mechanism shown in Fig. 3, but changed in position; and

Fig. 7 is a perspective view, partly broken away, of a butter unit support.

It is a familiar fact that the handling and serving of butter in lunch rooms and restaurants is

a task which requires effort, care and cleanliness, consuming a considerable amount of time and often proving an inconvenience. Without enumerating the disadvantages involved in the above respect, expediency dictates that a device which will store butter cleanly, maintain it in chilled condition, and render it easy to dispense as required would constitute an important advancement. The present dispenser has been designed to accomplish this purpose and thus modernize the service of butter to restaurant patrons.

In accordance with the foregoing, specific reference to the drawings indicates the butter dispenser in the form of a cabinet 10, preferably of the square form indicated, although any other suitable form may be employed. The material of the cabinet is preferably metal suitably plated or coated to withstand corrosion; or, the cabinet may be made of vitreous material, such as earthenware. In either case, the exterior of the cabinet would be glazed or enameled in white to present a sanitary appearance.

The cabinet is made with a lid 11, formed with a handle 11a. Since the cabinet is intended to contain a cooling or chilling unit, the lid 11 is formed with internal insulation 11b; and it follows that the balance of the cabinet will be suitably lined for purposes of insulation.

The base 10a of the cabinet is extended in front, as indicated at 10b in order to form a shelf for service purposes. Thus, the front of the cabinet receives a magazine 12 from which the small paper plates 13 usually employed for butter squares may be removed in single order. A plate so removed is then deposited in an opening 10c made in the front wall of the cabinet to receive a square of butter there dispensed. In order that warm air or insects may not enter the cabinet by way of the opening 10c, the same is provided on the inside with a glass closure 14 which is removed only when a square of butter is to be dispensed. Primarily, the dispensing of the butter is actuated by a crank handle 15 projecting from the right-hand side of the cabinet, a turn of the handle serving to dispense one butter square. Also, a control for units of butter from which the squares are cut is provided in the form of a crank handle 16 in front of the cabinet. As previously mentioned, the device is intended to store butter as well as dispense it, and the manner of storage is to dispose a number of butter units such as the familiar quarter-pound bar or piece for successive transfer as needed to the square cutting zone. Thus, the swing of the

crank handle 16 in the direction of the arrow in Fig. 1 accomplishes the transfer referred to.

The interior of the cabinet is so designed that it may contain a number of mechanical units which may be individually lifted out when the cabinet lid has been removed and the crank handles 15 and 16 disconnected, in order that such mechanical units may be fully accessible for filling, cleaning and other attention.

Thus, one of the mechanical units mentioned is an ice container 17. As noted in Fig. 2, this container is L-shaped in plan view and seats within two adjacent walls of the cabinet. The container is made with perforations 17a for the communication of chilled air with the interior of the cabinet; also it has bars 17b or other suitable means near the top to facilitate the lifting and lowering of the container.

The next mechanical unit to be considered is a carrier for the storage of butter. For the present we find two pounds of butter a sufficient amount to store. It will be understood that the design of the dispenser will be so calculated as to adapt it to the convenience of the particular place of business. Thus, a given dispenser may be filled or loaded with butter and ice before breakfast time to last until mid-afternoon, and again filled to last until closing time at night.

The storage carrier is preferably a stand 18 erected on a base 18a and adapted to journal upper spools 19 and lower spools 20 in pairs. The spools carry a belt 21 at each end, and the belts are connected across at equally-spaced intervals by rods 22. The rods project endwise into notches 19a and 20a cut in the peripheries of the spools in order to fix the traveling relation of the belt with the spools.

From each rod 22 is freely suspended a swing 23 having a base frame 24. The latter seats a long tray 25 containing a glass filler plate 25a, the frame 24 having ears 24a for the pivoting of the tray 25 at an outer point to the frame, as indicated at 24b. The eight trays shown are intended to carry the quarter pound sections of the butter supply, as indicated by finely dotted lines at B in Fig. 3.

In order that the squares may be cut from a cake or unit of butter, we provide a support therefor in the form of a conveyor 26 extending and operating from the rear to the front in the lower part of the cabinet. As seen in Fig. 3, the conveyor is located adjacent to the sides of the trays as they are carried when the spools are rotated in the direction of the arrow. Thus, a forwardly projecting portion 25b of the lowermost tray is adapted to meet an abutment 27 extending along the inner side of the conveyor 26. As the affected tray continues to rise, it may be swung as indicated in Fig. 6 to unload its cake of butter onto the conveyor. It will be understood that this mechanism in actual practice will be so designed as to confine the movement of the butter cake to the immediate rotary path through a quarter-turn, whereby to assure the deposit of the cake in proper place on the conveyor. The outer side of the latter is preferably formed with a guard 28 to check the possible displacement of the butter during transfer.

A pair of backing guides 18b are carried by the stand 18 for engaging a pair of projections 24c formed on the ends of the base frames 24. Such engagement occurs when the forwardly projecting portion 25b of a tray 25 engages the abutment 27 and guides 18b thereby preventing rearward

movement of the swings 23 during the tilting operation.

It is preferable that the crank handle 16 be made with a simple clutch (not shown) for one-way operation. Thus, the handle would be swung in the direction indicated in Fig. 1 until a projecting lug 16a thereof would strike a stop 16b, this movement inducing the travel of the butter carrier within to procure the transfer of a cake of butter to the conveyor. Now, when the handle 16 is released, it should drop back to the original position without affecting the travel of the carrier. This simple expedient precludes improper or extended operation of the carrier and also prevents tampering with its action.

It is the function of the conveyor 26 to feed the butter cake in forward direction in order that the square of butter may be cut from the front end of the cake whenever desired. For this purpose, a mechanism is provided for the advancement of the carrier a given distance—governed by the thickness of the butter square—each time the crank handle 15 is given a turn. The mechanism referred to originates with an eccentric cam 29 mounted on the spindle of the crank handle 15. The cam receives a rectangular follower 30 whose motion is intended to be vertical. This motion is assured by simply disposing extension rods 31 of the follower in guide bearings 32 secured to the right-hand side wall of the cabinet. The follower carries a pawl 33 above a ratchet wheel 34 carried by the frontal conveyor roller 35. The pawl 33 is pivoted to the follower 30 at 33a and is designed on its descent, as indicated by dotted lines in Fig. 4 to engage one of the ratchet wheel's teeth and advance the conveyor a corresponding distance in a forward direction.

The follower 30 also carries a frame 36 having a wire 36a across its bottom. The wire engages the frontal end portion of the butter cake on the descent of the follower soon after the pawl 33 has acted to advance the conveyor, so that the balance of the stroke of the wire 36a accomplishes the cutting and severing of a square from the cake of butter.

The butter square having no support after it is cut will fall into the plate placed in the opening 10c, as previously mentioned. However, the window closure 14 must be open in order for this to occur. The closure is therefore suspended from a rocker arm 37 which is medially pivoted at 37a in the front wall of the cabinet. The remote end of the rocker arm is connected to an extension 38 of the pawl 33. It follows, therefore, that the descent of the pawl 33 and cutting wire 36a occasions the rise of the window closure 14, so that when the butter square has been cut, there is nothing to prevent its falling into the paper plate or dish in which it is to be served. While we have not shown any expedient for varying the feed of the conveyor in accordance with different thicknesses desired for the resultant butter square, it is obvious that a variable feed for this purpose may be adopted from any number of feeds from similarly constituted mechanical devices. For practical purposes, a variable feed is unnecessary because the thickness of a butter square usually is standard.

It will be evident from the above description that we have provided a butter dispenser which has all the advantages anticipated in the foregoing objects. It is of simple construction, and its internal mechanical units are of a nature to be individually lifted out for cleaning purposes

and other attention. Further, the device is compactly assembled by the L-shaped design of the ice container, since this permits a maximum capacity for ice while allowing ample room for the butter storage carrier and the assembly of the conveyor and its associated parts. The design of the butter storage carrier is such as to hold a relatively large capacity of butter in the unit form suitable for the cutting of squares; yet, each unit is carried separately and openly exposed to the chilling atmosphere. The relation between the butter carrier and the conveyor is such as to avoid the throwing of the butter cake and the resultant fall thereof in the wrong direction or place, the motion being purely rotary to a limited degree and with the assurance that the butter cake will come to rest in the immediate zone prescribed for it. The instrumentalities for feeding the butter cake and cutting squares from the same are quite simple and reliable in operation. It is evident, therefore, that a device of the type described is of a character to be manufactured economically, handled without the requirement of skill, and easily kept in a highly sanitary condition.

While we have described the invention along specific lines, the same is susceptible to various minor changes and refinements, and we consider all such changes and refinements as coming within the scope and spirit of the appended claims.

We claim:—

1. A butter transfer device comprising a carrier, a set of supports mounted at points along the same, plates carried by the supports and each adapted to seat an elongated section of butter, each plate being pivoted to its support and having a projecting element, a receiving surface alongside the path of the supports, and an abutment between the said element and surface and effective to rotate the plate when the element meets the abutment so as to deposit the butter section on the said surface.

2. A butter transfer device comprising a movable carrier for an elongated section of butter, a receiving surface alongside the path of the carrier, and means effective on the approach of the carrier toward said surface to rotate the butter section sidewise with one of the base corner edges thereof as a pivot and through a quarter turn

to deposit the section with the advancing side upon said surface.

3. The structure of claim 1, said supports being swingably suspended from the carrier.

4. The structure of claim 1, the carrier comprising pairs of vertically-spaced spools, a belt connecting each pair of spools, and the supports comprising swings extending between the belts and suspended from points along the same.

5. A butter dispenser comprising a conveyor adapted to receive a section of butter, means partially operable to move the conveyor in forward direction a space equal to the thickness of a square of butter, said means comprising a crank handle, said conveyor being actuated by a quarter-turn of said handle, and a knife operable by a further quarter turn of said handle to sever such butter square from the section.

6. The structure of claim 5, an eccentric cam carried by the crank shaft, a follower receiving vertical reciprocatory motion from the cam, and said knife being carried by said follower.

7. A butter dispenser comprising a cabinet having a frontal opening, a support inside the latter for a piece of butter, a vertically sliding shutter for the opening, means operable to raise the shutter and simultaneously cut a unit of butter from said piece, and means to dispense said unit of butter outwardly through the opening when the shutter is open.

8. A butter dispenser comprising a cabinet having a frontal opening, a butter support inside the latter, a shutter for the opening, means movable upon the butter to cut a frontal unit from the butter, means to open the shutter, and a connection between both of said means to open the shutter when the cutting means moves in the operative direction and to close the same when the cutting means moves away from the butter.

9. A butter dispenser comprising a cabinet having a frontal opening, a butter support inside the latter, a shutter for the opening, means movable in one direction to cut a frontal unit from the butter, means to open the shutter, and a connection between both of said means to open the shutter when the cutting means moves in said direction and to close the same when the cutting means moves in the opposite direction.

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