

July 1, 1969

D. D. GOSS

3,453,033

BEVERAGE DISPENSER CABINET

Filed Jan. 12, 1968

Sheet 1 of 2

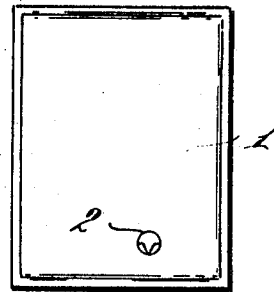
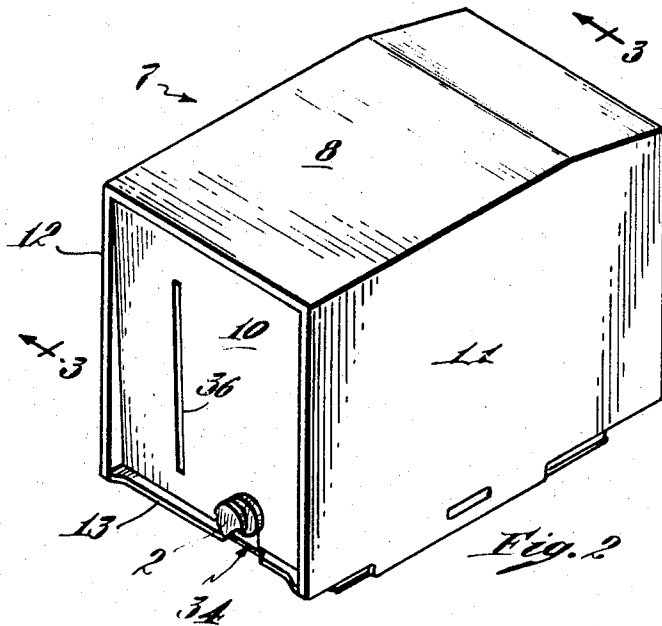


Fig. 1

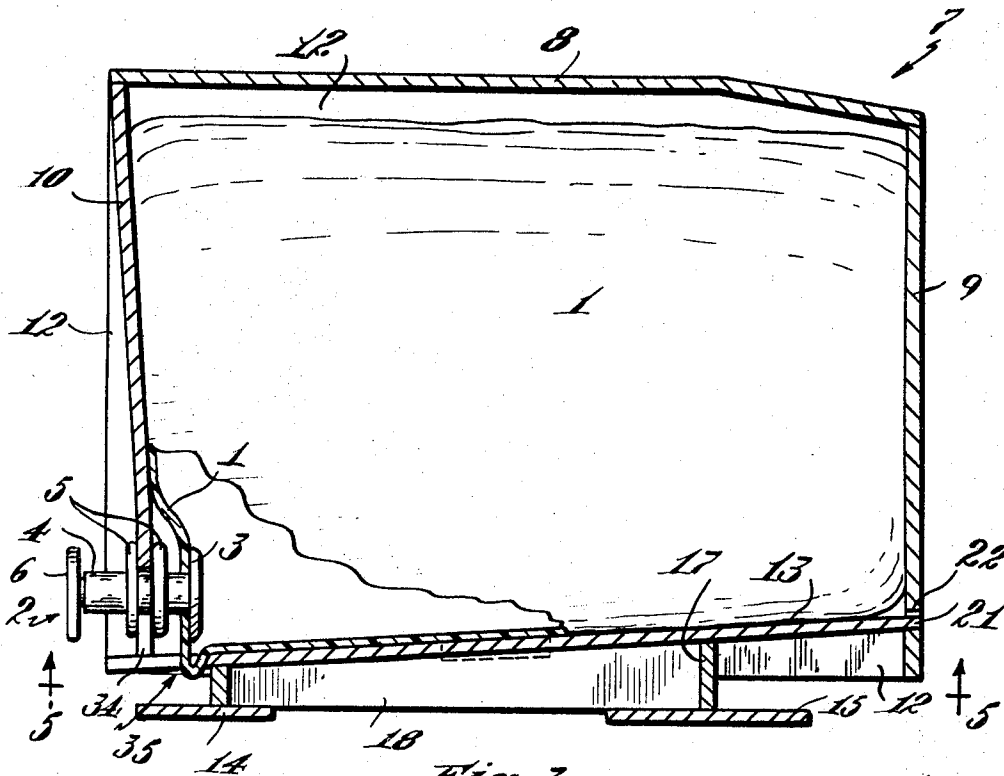


Fig. 3

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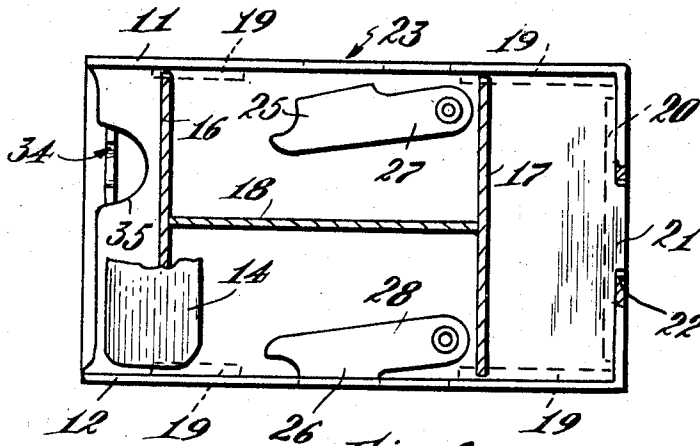


Fig. 5

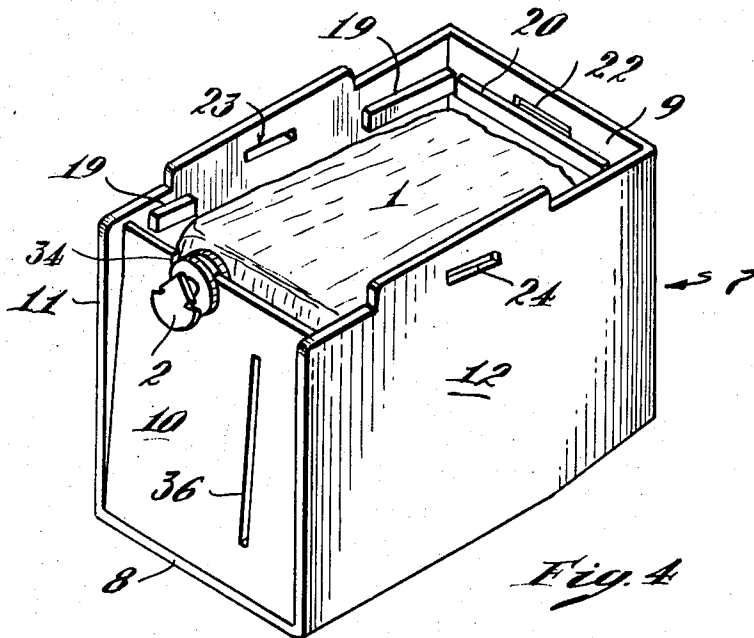


Fig. 4

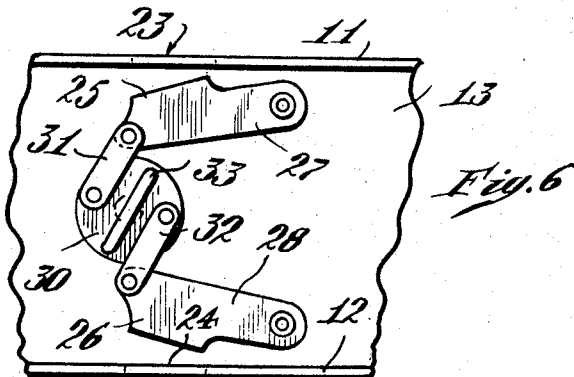


Fig. 6

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3,453,033

BEVERAGE DISPENSER CABINET

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Filed Jan. 12, 1968, Ser. No. 697,446

Int. Cl. B65g 1/04; A47f 3/02

U.S. Cl. 312—35

5 Claims

ABSTRACT OF THE DISCLOSURE

A beverage dispenser cabinet for storing and dispensing liquids of the type which are bulk packaged in flexible plastic bags includes a body member with a front wall having a bottom opening receptive of the bag spout, a bottom wall, removable for loading the flexible bag, and interfitting means removably locking the bottom wall to the body member, the interfitting means being designed to be substantially inaccessible and therefore tamperproof when the cabinet is righted for use.

BACKGROUND OF THE INVENTION

The field of this invention relates to devices for the storage and dispensing of liquids, particularly beverages such as milk, which are bulk packaged in flexible plastic bags.

Liquids such as milk can be hygienically and economically packaged in bulk by means of plastic bags. The largest manufacturing economies can be realized when the bags are sold and handled without conventional supporting containers made of paperboard or plastic, and then dispensed from a reusable cabinet which supports the plastic bags in proper position for dispensing. A number of cabinets with this purpose have been designed, but prior proposals are largely impractical. Difficulty in placing and securing the bag's valve or spout leads to ruptured or torn bags, and complicated or slow procedures for loading discourage consumers, who are often housewives with little mechanical aptitude or interest in overcoming such obstacles. Loading or locking systems also are often easily tampered with, and inviting to youngsters, leading them to play with the device with occasionally messy results. Structural weaknesses furthermore lead to short life, expensive manufacturing compensations, and limited utility. These impractical features prevent the cost saving inherent in the use of bags as containers from being realized.

SUMMARY OF THE INVENTION

Objects of the present invention are to provide a cabinet with a convenient and simple loading procedure, a cabinet which is substantially tamperproof when in use, and which is strong, durable, easy to make, and practical for use with beverages such as milk.

In accordance with the present invention, the reusable dispenser cabinet for liquids packaged in flexible plastic bags having attached spout means comprises a body member with front, rear, two side, and top walls, and a removable bottom wall, said front wall having an opening at its bottom receptive of said bag spout means, said bottom wall and body member having interfitting means removably locking them in assembled relation, said interfitting means being substantially tamperproof when the cabinet is righted for use. Preferably said bottom wall rests against a shoulder formed on said body portion, said interfitting means comprise tongue means on said bottom wall and slot means receptive thereof on said body member, and said front wall has a vertical slot therethrough for visually indicating the quantity of liquid remaining in the bag.

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Other and further novel features and advantages will be apparent from the following description of specific embodiments shown in the accompanying drawings.

DESCRIPTION OF THE DRAWING

FIG. 1 is a view of a flexible plastic bag of the type having an attached valve spout extending therefrom;

FIG. 2 is an isometric view of an embodiment of the invention adapted for use with this type of bag;

FIG. 3 is a section, to enlarged scale, on line 3—3 of FIG. 2;

FIG. 4 is an isometric view of the embodiment of FIG. 2, inverted for loading and with the bottom wall removed;

FIG. 5 is a section, to reduced scale, on line 5—5 of FIG. 3; and

FIG. 6 is a partial view, similar to FIG. 5, showing an alternative interfitting means.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

FIG. 1 is a view of a flexible plastic bags of the type having spout means comprising an attached valve 2 extending therefrom. The bag is formed from two sheets of plastic material, the edges of the bag being heat-sealed hermetically to enclose the beverage placed therein. As shown in FIG. 3, the valve 2 has a sealing flange 3 which is heat-sealed to the bag 1, a stem 4 upon which are located a pair of parallel mounting flanges 5, and an actuator 6 slidable in the stem to open and close the valve.

The embodiment of the cabinet shown in FIGS. 2 to 5 is adapted for use with bags of the type shown in FIG. 1. This embodiment comprises a body member 7 for the bag 1 having a top wall 8, rear wall 9, front wall 10, and two side walls 11 and 12.

The bottom of the body member 7 is closed by a removable bottom wall 13 inclined downwardly from rear wall 9 to front wall 10. Bottom wall 13 is supported in its inclined position by pad feet 14 and 15 connected to bottom wall 13 by legs 16 and 17 joined to and braced by web 18.

Bottom wall 13 rests in body member 7 against the bottom edge of front wall 10 and against shoulders or stops 19 and 20 on the inner surfaces of rear wall 9 and side walls 11 and 12. Tongue 21 formed on the rear edge of bottom wall 13 fits in a receiving slot 22 provided in rear wall 9 adjacent stop 20. Slots 23 and 24 in side walls 11 and 12 are adapted to receive and confine movable tongues 25 and 26 formed on levers 27 and 28 which are pivotally secured by means of pins (FIG. 5) to pivot on the underneath of bottom wall 13. The three tongue-slot interfitting catches are spaced triangularly to afford stability to bottom wall 13 and to prevent the bottom wall 13 from pivoting as the cabinet is righted for use.

As shown alternatively in FIG. 6, levers 27 and 28 may be interconnected for simultaneous movement of tongues 25 and 26 to and from slots 23 and 24 by means of a linkage 29 comprising a rotary disc 30 and links 31 and 32 each pivotally secured to the disc and to one of the levers 27 and 28. By twisting a handle 33 on the disc, the bottom wall 13 becomes firmly locked to body member 7.

As shown in FIGS. 2, 3 and 4, the front wall 10 is provided with a slot 34 extending vertically from its bottom edge to accommodate the valve 2. The mounting flanges 5 on the valve fit on either side of the wall 10, and thereby hold the valve securely for sliding motion of the actuator 6. To accommodate the generally larger sealing flange 3 on the valve, the bottom wall 13 is preferably provided with a cutout 35 which accommodates the valve flange 3 and permits the valve to be lowered in the slot 34 as the beverage is dispensed, thereby minimizing wastage of the beverage.

To provide a visual indication of the level of liquid remaining in the bag, the front wall 10 is provided with

a narrow vertical slot 36 therethrough which may be calibrated and marked in units of measure if desired. Because of the construction of body member 7, supporting front wall 10 at three edges, a simple indicator slot 36, instead of a transparent panel, can be provided on the front wall without materially weakening this part of the cabinet.

To insert a bag into the cabinet, the cabinet is inverted and the bottom wall 13 is removed so that the body member 7 forms an upwardly opening receptacle for the bag (FIG. 4). The bag is inserted with valve 2 fitting in front wall slot 34. Since the body member is a rigid five-sided structure, liquid pressure of the beverage has little deforming effect on the walls of the cabinet. Since valve and slot are at the top of the inverted cabinet, the valve can be inserted without straining or pulling the walls of the bag. Gravity then holds the bag in inserted position while bottom wall 13 is secured to body member 7 by means of tongues 21, 25 and 26 entering slots 22, 23 and 24. With bottom wall 13 attached, the cabinet is righted for use. When righted, as shown in FIG. 1, means which lock bottom wall to the body member are substantially concealed and inaccessible, not only rendering the cabinet substantially tamperproof, but also improving its appearance by hiding the locking mechanism.

It should be noted that cabinets according to the invention as described can be inexpensively manufactured from plastic materials, for example by molding. The cabinets are easy to make and convenient to use, and their low cost, durability, simplicity of loading, and absence of exposed operative parts to invite the attention of youngsters, make their use by a consumer highly practical and inexpensive.

It will be apparent, moreover, that liquid bags having flexible spout means formed integrally with the bag, such as are disclosed in my U.S. Patent 3,371,824, issued Mar. 5, 1968 on application Ser. No. 569,359 filed Aug. 1, 1966, instead of valves as disclosed herein, can be accommodated by the cabinet with slight modifications.

I claim:

1. A reusable dispenser cabinet for a liquid packaged in

a flexible bag having attached spout means, said cabinet comprising

- (a) a body member with rear, two sides, front and top walls, and
- (b) a removable bottom wall,
- (c) said front wall having an opening at its bottom receptive of said bag spout means,
- (d) said bottom wall and body member having interfitting means removably locking them in assembled relation, said interfitting means comprising tongue means on said bottom wall and slot means on said body member adapted to receive said tongue means,
- (e) said interfitting means being substantially inaccessible when the cabinet is righted for use.

2. A cabinet according to claim 1 wherein said side walls have an inwardly directed shoulder adapted to abut one surface of said removable bottom wall for alignment when assembled.

3. A cabinet according to claim 1 wherein said tongue means comprise at least one tongue mounted for movement into said slot means.

4. A cabinet according to claim 1 wherein said tongue means comprise at least two movable tongues and linkage means for moving them together into said slot means.

5. A cabinet according to claim 1 wherein said front wall has a vertical slot therethrough for indicating the level of liquid remaining in said bag.

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U.S. Cl. X.R.

222—183; 229—14