Sept. 12, 1939. E. HORNSBY 2,173,017

MILK BOTTLE HOLDER

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Fig. 1.

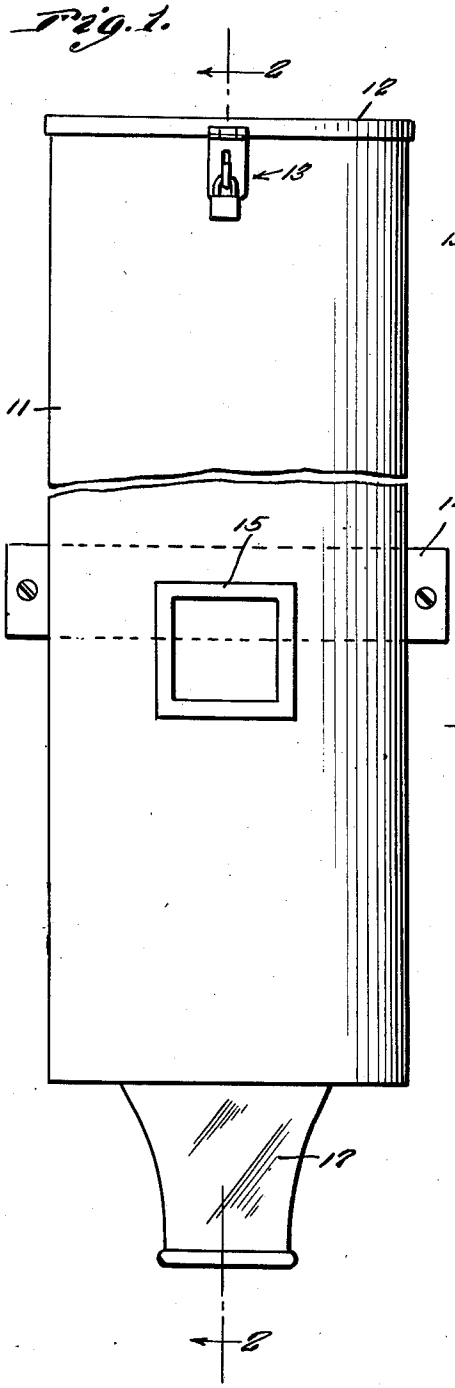
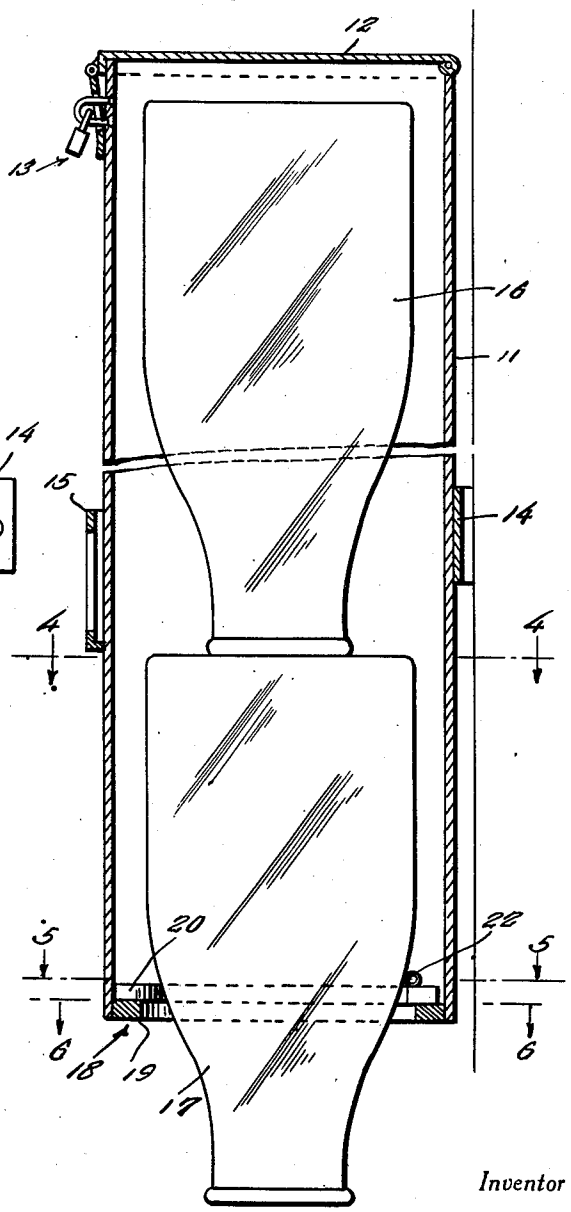


Fig. 2.



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Fig. 3.

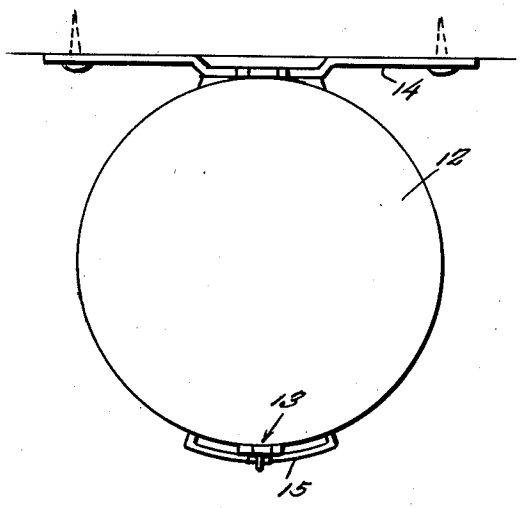


Fig. 4.

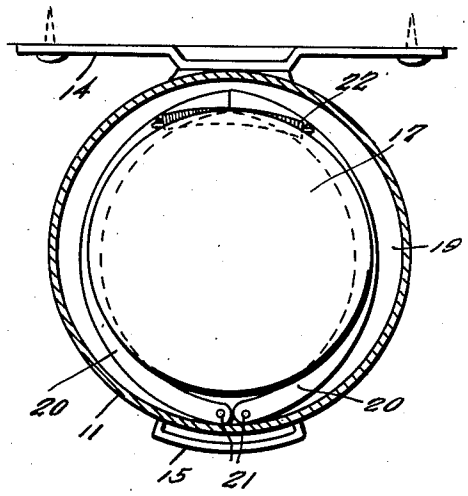


Fig. 6.

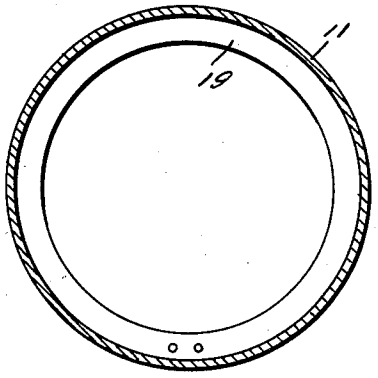
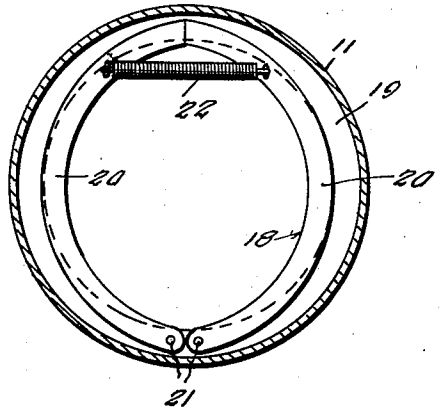


Fig. 5.



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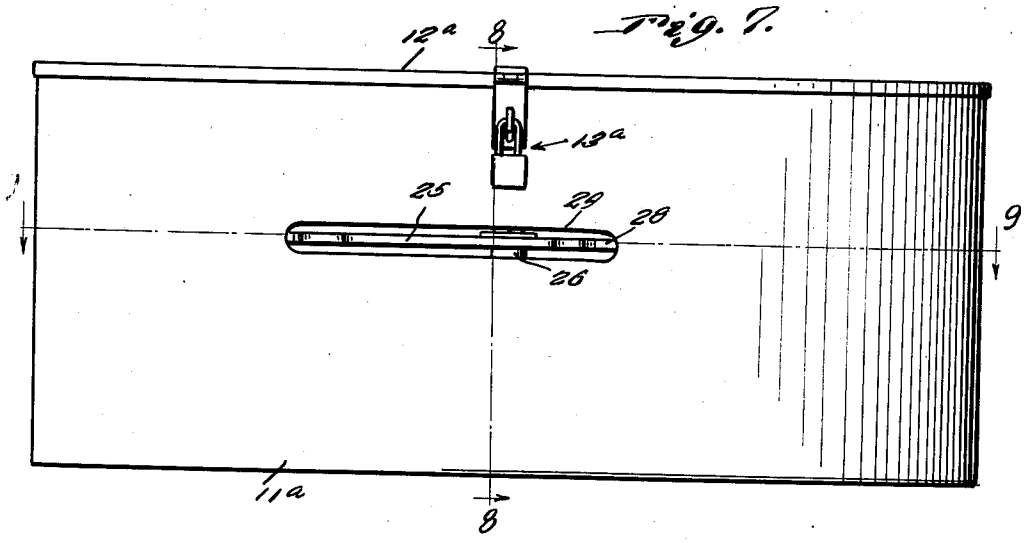
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Fig. 7.



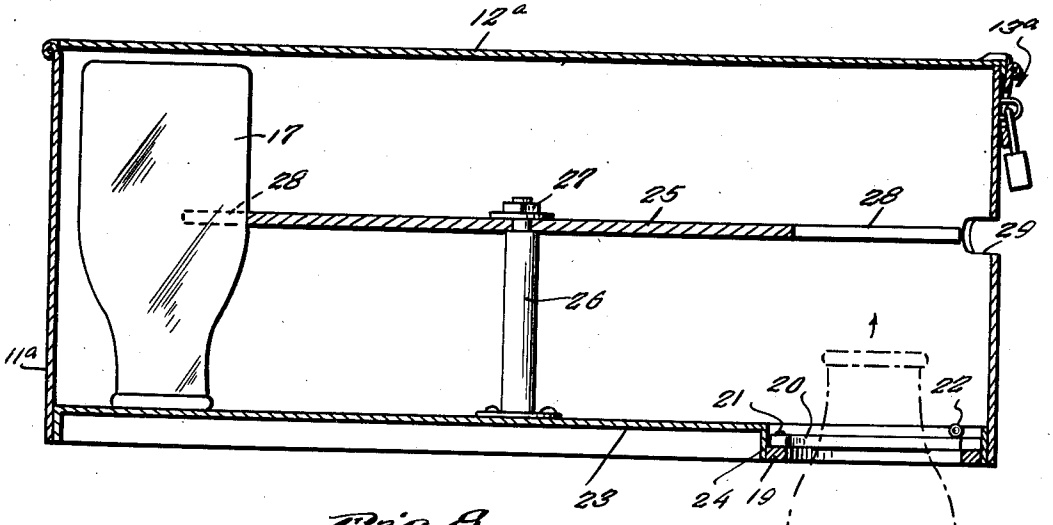


Fig. 8.

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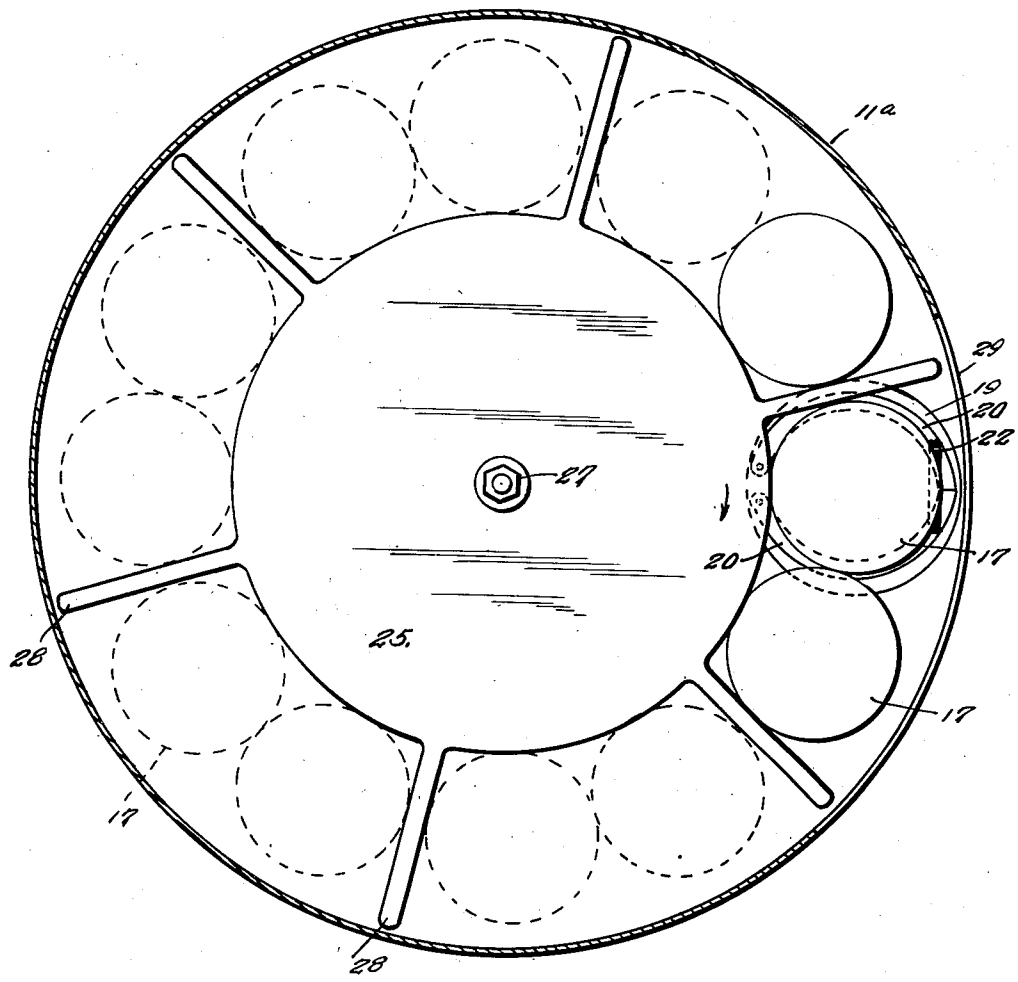
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Fig. 9.



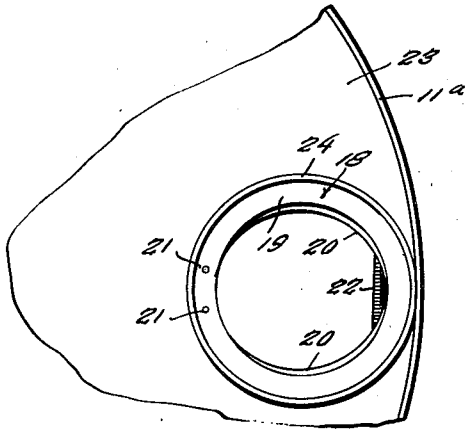


Fig. 10.

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Patented Sept. 12, 1939

2,173,017

UNITED STATES PATENT OFFICE

2,173,017

MILK BOTTLE HOLDER

Earnest Hornsby, Red Dragon, W. Va.

Application June 29, 1937, Serial No. 151,047

3 Claims. (Cl. 232—41.3)

The present invention relates to certain improvements, revisions, and structural refinements in milk bottle holders of the so-called theft-proof type, and the primary purpose of the invention is to generally improve upon known patented and marketed bottle holders of a similar type.

As will be hereinafter more effectively disclosed, the present conception comprehends two embodiments of the invention having common structural characteristics, one form constituting a domestic or household style, and the other one being in the nature of a multiple-bottle magazine form for lunch rooms, stores, and similar establishments.

Briefly, and generically speaking, the invention is characterized by a casing or inclosure having a lock-equipped lid at one end, and unique bottle retention means at the opposite end, the arrangement being such that the empty bottles may be conveniently placed therein for collection by the milkman, and the filled bottles conveniently inserted by the milkman for authorized removal by the property owner.

An outstanding objective is to incorporate in a structure of the aforementioned general character adequately designed, tamper-proof means so constructed and arranged as to virtually render impossible the removal of a full bottle of milk by an unauthorized person.

It will also be evident from the succeeding disclosure that the indispensable features of simplicity, durability, and efficiency in construction find their bases in the efficient choice and orderly arrangement of mechanical parts selected as the preferred physical embodiment of the invention.

Other features and advantages may become apparent from the following description and accompanying drawings.

In the drawings, wherein like numerals are employed to designate corresponding elements throughout the various views:

Figure 1 is a side elevational view of the simple two-bottle household or domestic accessory as constructed in accordance with my present ideas.

Figure 2 is a vertical sectional view taken centrally on the plane of the line 2—2 of Figure 1, looking in the direction of the arrow.

Figure 3 is a top plan view of Figure 1.

Figures 4, 5, and 6 are transverse or horizontal sectional views taken on the planes of the lines 4—4, 5—5, and 6—6, respectively, of Figure 2.

Figure 7 is a peripheral or edge elevational view of the drum or magazine-type bottle holder, this being of the enlarged capacity for multiple-bottle store and restaurant use.

Figure 8 is a section at right angles on the plane of the line 8—8 of Figure 7.

Figure 9 is a horizontal section through Figures 7 and 8.

Figure 10 is a fragmentary bottom plan view of the bottle insertion and removal means.

As a matter of convenience of illustration of the principles of the invention, it is deemed advisable to devote the detailed description, at this stage, to the simple household type bottle holder whose features are depicted in Figures 1 to 6, inclusive. In these views we see the cylindrical container denoted by the numeral 11. This is open at opposite upper and lower ends. At the upper end, however, is a hingedly mounted lid or cover 12 having hasp and padlock fastener means, as at 13. Obviously, any suitable key-controlled means may be employed at this point. The numeral 14 designates an attaching and supporting bracket, while the feature 15 is a simple card or name plate holding frame. The empty milk bottles, disposed one on the other, are conveniently distinguished by the numerals 16 and 17.

The bottle insertion, removal and retention means is unitarily denoted at 18, is located at the bottom of the cylindrical container, and is of the construction seen to advantage in Figures 2, 4, 5, and 6. Reference being had first to Figure 6, it will be observed that the means comprises an annulus or ring 19 rigidly secured in the bottom of the cylinder flush with the lower end thereof. This ring is of a diameter to permit ready insertion and removal of the bottles 16 and 17. It constitutes a supporting ledge for the cam actuated safety retention fingers 20. I utilize two fingers, these being of duplicate form, as seen in Figure 5. They are longitudinally bowed or of segmental configuration and their corresponding ends are pivotally mounted as at 21 on the supporting ring 19. The opposite free ends converge in abutting relationship. These abutting ends are drawn together and maintained in retention relationship through the instrumentality of a coiled spring 22. Hence, these cam fingers 20 may be referred to as radially spreadable and contractible. When contracted or closed, they maintain the bottle in a proper position.

The advantage of this assembly may be better illustrated by making reference to Figure 2. In Figure 2 it is to be assumed that the empty bottles 16 and 17 have been placed in the container by the housewife. Thus, the bottles are supported one upon the other. The neck of the lowermost bottle 17 protrudes through and beyond

the fingers 20, as well as beyond the supporting ring 19. Thus, the bottle neck is in a convenient position to allow it to be grasped and bodily withdrawn by the milk delivery man. It follows that when the delivery is made the attendant or milkman simply catches hold of the bottle 17 and pulls it downwardly. In so doing the natural tapered formation of the neck produces a cam expanding action against the spring retracted fingers 20. Consequently, the fingers are spread radially to an open position allowing the bottle to be pulled downwardly therebetween and readily released. As this is done, the bottle 16 follows and is extracted in a similar manner. With the container empty, the milkman inserts the bottle upright. That is to say, the neck of the first bottle (not shown) is shoved up through the ring 19 and the fingers 20 are spread apart. Then the next bottle is placed against the bottom of the one already inserted and the operation is repeated so that the two bottles, one upon the other, are in upright position in the container or box 11. When in this position they obviously cannot be removed until the lid 12 is opened. Consequently, the device is substantially foolproof and theft-proof, and is calculated to frustrate stealing milk.

As before pointed out, the device so far described is of the household variety. Manifestly, the cylinder may be made sufficiently long to accommodate more bottles, or there may be two cylinders, the principle of the construction being the same.

Where it is necessary to protect a plurality of milk bottles, it is advisable to employ the magazine-type bottle holder illustrated in Figures 7, 8, and 9.

In these figures the drum-like container, of appropriate capacity, is denoted by the numeral 11*a*, the same having a suitably rimmed, hingedly mounted lid or cover 12*a* associated with key-controlled fastening means 13*a*.

The bottom of the container indicated by the numeral 23 is provided with an entrance opening defined by a depending annular lip or collar 24. This provides an entrance opening similar to that seen in Figure 2. As a matter of fact, the bottle retention means is identical here, and consequently the same numbers are utilized to designate corresponding parts.

In this arrangement it is advisable to employ a bottle locating and feeding reel within the confines of the drum. This reel, in the form of a disk or plate 25, is mounted for rotation on the upper end of a centrally disposed fixed standard 26, the parts being maintained in proper relation by a retention nut 27. The outer perimeter of the disk is provided with radial turning and bottle separating fingers 28 aligned with a segmental slot 29 in the rim of the casing or drum.

In this arrangement the empty bottles are placed in the container and racked around the edge portion of the reel in pairs between the dividing fingers 28. This is done at an opportune time, at which time it is necessary to open the lid 12*a* to permit access to be had to the reel. The reel is hand rotated and obviously feeds the bottles around so that they can be conveniently racked. Likewise, the full bottles are inserted upwardly through the intake and discharge collar 24, as denoted in dotted lines in Figure 3. The cam fingers act as already described. Naturally, in this arrangement, when the box or drum is locked, it is necessary to reach in through slot 29 and turn the reel 28 to feed the empty bottles and to take them out one by one. Then when the full bottles are put in, it is necessary to insert these upwardly and again feed the reel around to carry the bottles in pairs away from the insertion means until the rack is completely filled.

While the preferred embodiment of the invention has been shown and described, it is to be understood that minor changes coming within the field of invention claimed may be resorted to if desired.

I claim:

1. A milk bottle holder comprising a drum having an apertured bottom through which empty bottles may be withdrawn, and full bottles inserted, means in said aperture to hinder withdrawal and insertion of said bottles, and a bottle shifting and placement reel pivotally mounted in said drum and cooperable with said aperture.

2. A multiple-type milk bottle holder of the class described comprising a circular drum having a bottom, a rim and a hinged top provided with fastening means, said bottom having an aperture to accommodate the bottles, retention means in said aperture to hinder withdrawal and insertion of bottles, said rim being provided with a segmental slot, a post mounted in said drum, a reel mounted for idling on said post, said reel including a plate having radial marginal fingers registerable with the slot and bottle accommodation aperture.

3. A milk bottle holder of the class described comprising a cylindrical casing having a bottle opening in its bottom and provided at its top with a hinged fastener equipped casing closing lid, a horizontally disposed ring fastened in said opening and adapted to aid in supporting a milk bottle, a pair of duplicate opposed longitudinally bowed fingers pivotally connected at corresponding ends to the inner face of said ring and located within the confines of the casing to aid in further supporting said bottles, said fingers being adapted to be spread apart by the cam action of the passing bottle neck, a coiled spring securing together the free swingable ends of said fingers, and a bottle shifting and placement reel pivotally mounted in said casing and disposed in parallelism with respect to said bottom ring and fingers.

EARNEST HORNSBY.