

Sept. 9, 1952

E. M. NAVARRO
MILK BOTTLE HOLDER

2,609,987

Filed Feb. 25, 1947

2 SHEETS—SHEET 1

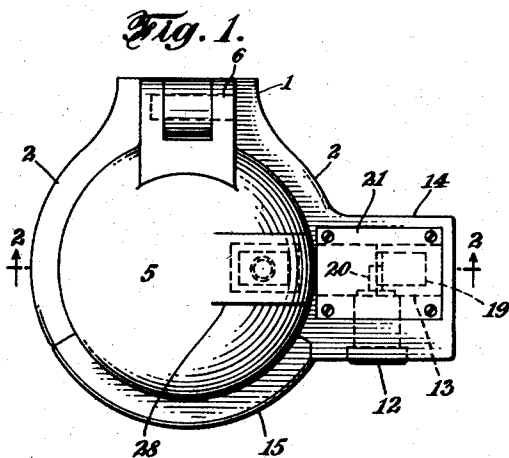
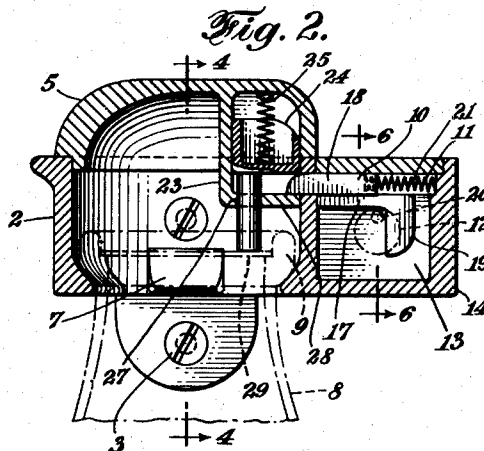


Fig. 5.

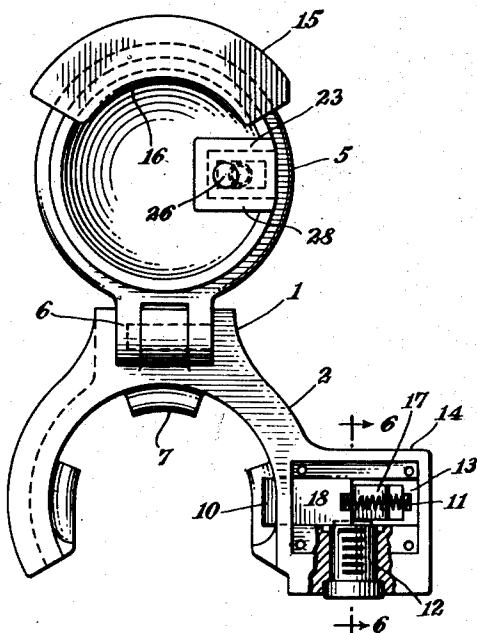


Fig. 3.

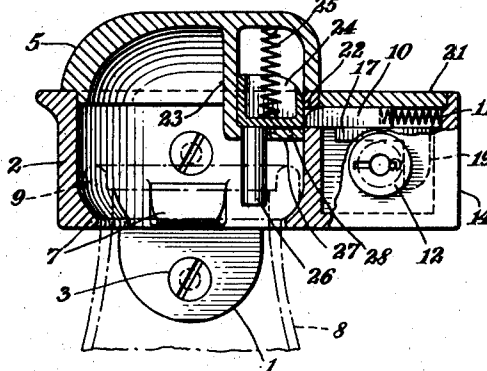


Fig. 4.

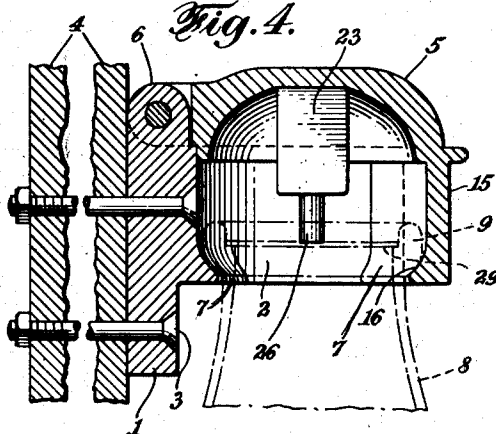


Fig. 6.

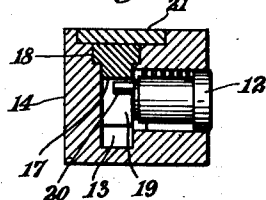
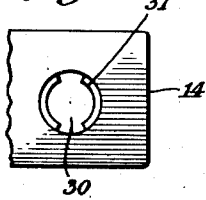


Fig. 7.



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2 SHEETS—SHEET 2

Fig. 8.

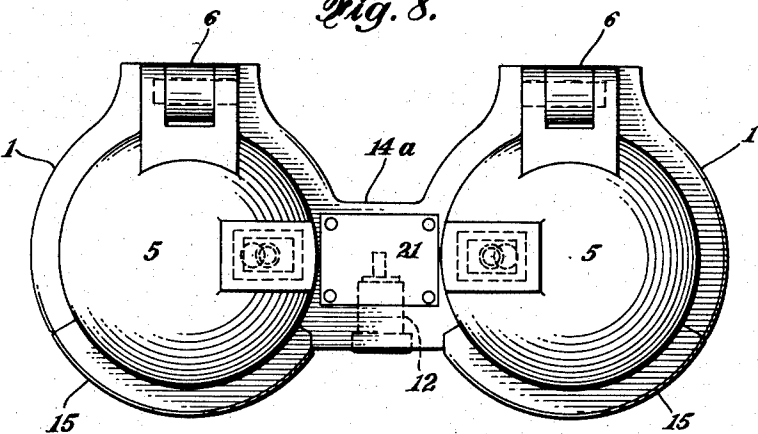


Fig. 9.

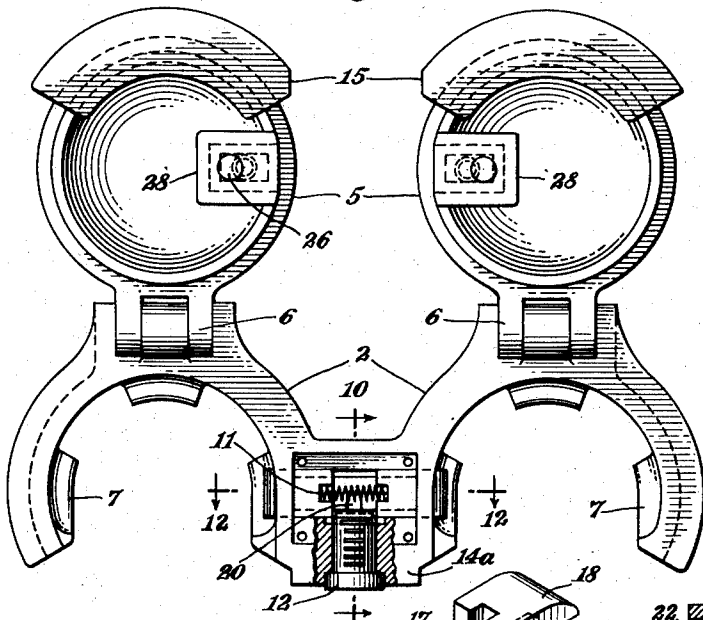


Fig. 10.

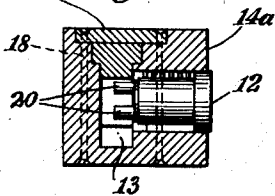


Fig. 11.

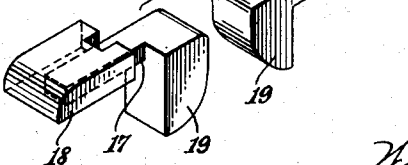
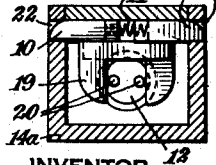


Fig. 12.



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2,609,987

MILK BOTTLE HOLDER

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Application February 25, 1947, Serial No. 730,762

1 Claim. (Cl. 232—41.5)

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My invention is an improvement in holders, and particularly a holder intended chiefly for milk bottles, with a lock for same.

An important object of the invention is to provide a milk bottle holder which may be mounted on the exterior of a dwelling or apartment to receive a bottle of milk delivered by the distributor; and adapted to prevent theft of the bottle before the occupant of the premises takes possession of it; by means of a construction embracing a movable part which engages the bottle securely, and comprises a lock which automatically throws a bolt to make the parts of the holder fast whenever the milkman deposits a full bottle with a closure or seal and moves the parts of the holder to operative position, in which the proper key is required to open the holder before the bottle can be released.

In the preferred form of the invention, the holder is so designed that the locking can be effected only when a full sealed bottle is placed therein. At other times locking is impossible, so that an empty bottle can be freely supported in the holder to be removed by the milkman without a key whenever the customer has an empty bottle to be returned to the producer.

Other objects and advantages are explained in the following specification, which shows and describes a preferred combination and arrangement of parts, the essential features of which are pointed out in the appended claim.

On the drawings,

Figure 1 is a top plan view of my improved milk bottle holder and lock, the holder being closed;

Figure 2 is a section on line 2—2 of Figure 1, showing a sealed bottle therein;

Figure 3 is a similar view with the parts in position permitted by an empty bottle;

Figure 4 is a section on line 4—4 of Figure 2;

Figure 5 is a top plan view showing the holder open;

Figure 6 is a sectional view on the line 6—6 of Figure 5;

Figure 7 shows a detail;

Figures 8 and 9 are top plan views showing a holder for two bottles in closed and open position respectively;

Figure 10 is a section on line 10—10 of Figure 9;

Figure 11 is a detail of the locking bolts therefor, and

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Figure 12 is a section on line 12—12 of Figure 9.

With reference first to Figures 1 to 7 inclusive, the numeral 1 indicates the body of the holder, with a part to serve as a bracket having a rear flat face adapted to fit against the outer flat side of a door, wall or the like; and a pair of outspread supporting arms 2, curved to fit a milk bottle around the top thereof. The body 1 is secured by bolts or other fastening devices 3 to the door or wall shown at 4. The holder includes a top 5 connected to the body by a hinge 6. The body is open at the front between ends of the arms 2, and on the inner sides of the arms are several lugs 7, from which a milk bottle 8 can be suspended in the holder by engagement of these lugs with the lower side of the expanded rim 9. The bottle is secured by elements comprehending a bolt 10, projected by a spring 11 and controlled by a lock barrel 12 in the chamber 13 of a hollow extension 14 on one of the arms 2. The top or lid 5 has a downward extending, arc-shaped projection 15 on its front edge to enter the space between the ends of the arms 2. This tension is shaped inside on its lower edge 16 like the lugs 7. When the top 5 is down, the rim 9 of the bottle 8 is completely encircled and the retention of the bottle fully assured.

The bolt 10 has a rib on the lower face 17 of less width than the top 18, which abuts the spring 11, and on the lower side of the rib at one end is a projection 19. The latter is engaged by a stud 20 on the inner end of the key barrel of the lock 12, and when the latter is rotated by a key, the bolt 10 is withdrawn. The chamber 13 has a closure 21, and the bolt 10, when free, is projected by the spring 11 to force the part 18 through an opening 22 in the arm 2 which bears the extension 14.

Carried by the cap 5, on the under face, in line with the extension 14 when the cap is closed, is a hollow projection 23, containing a hollow plunger 24. In this chamber also is a compression spring 25, which is between the plunger and the cap 5. The plunger bears at one end a stud 26 that is thinner than the plunger and projects toward the bottle 8 through a relatively small hole 27, which is in the closed end 28 of the projection 23 adjacent the rim 9 of the bottle when the cover or cap 5 is shut. This end has its inner face flush with the lower edge of the opening 22, so that it can be cleared by the end of the bolt 10.

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The projection or abutment 23 extends below the rim of the cap and is open on the side adjacent the bolt 10.

With the parts in the position shown in Figure 5, suppose an empty milk bottle is to be placed in the holder to be picked up by the milkman and replaced by the full sealed bottle of milk. The cover or cap 5 is raised and the neck of the empty bottle is inserted between the arms 2, whereupon the exterior bead of the rim 9 of the bottle rests upon the lugs 7. The cap 5 is now lowered and the side of the plunger 24 will press on the end of the latch bolt 10 and will force it back to retracted position in the extension 14. The plunger 24 is held against the end 28 of the hollow abutment 23, and the stud 26 enters the mouth of the bottle 8, as indicated in Figure 3. The space between the outer ends of the arms 2 is closed by the depending flange 15 of the cap 5 and the edge 16 of this flange co-operates with the lugs 7; but the empty bottle can be removed because the cap is free to be lifted while the plunger 24 obstructs the bolt 10 and prevents it from projecting and overlapping the inside face of the end 28 of the abutment 23.

After the removal of the empty bottle by the milkman, and the substitution of a full and sealed bottle of milk therefor, a different result is obtained. The bottle 8 is shown in Figure 2 with a disk closure 29 resting on a shoulder in the mouth of the bottle, but a similar action follows if a bonnet closure for the full bottle of milk is utilized.

The neck of the bottle 8 is inserted between the arms 2 after the cap 5 has been raised, and the bottle is suspended as before from the lugs 7 on which the rim of the bottle rests. Upon the closing of the cap 5, the pin or stud 26 strikes the closure 29 of the bottle as shown in Figure 2, and a further downward movement of the cap 5 pushes up the stud 26 and plunger 24, compressing the spring 25 and clearing the opening 22, whereupon the end of the latch bolt 10 is projected into the hollow abutment 23 by the spring 11 to overlie the end 28. The end of the bolt is rounded from the upper to the lower face thereof. The cap 22 is thus secured against upward movement and the bottle of milk cannot be removed except by the use of a key in the lock 12 to withdraw the bolt 10.

The closure cap 5 is dome-shaped and hollow to accommodate the upward displacement of the cap 29 should the contents of the bottle expand by reason of becoming frozen during cold weather.

Figures 8 and 9 show the same construction, with two holders, side by side, and the members 1 of each joined to the other by a connecting member 14a, which houses the bolts and the locking mechanism for both holders. In this form the end of the lock barrel has two studs 20 to operate the bolts and release the covers or caps 5 when the bottles are to be taken out. The member 14a contains two bolts 10 of the same design as the bolt above described. The ribs 17 are a bit narrower and offset to one side beneath the top parts 18. The two bolts are disposed in the member 14a by laying each top 18 of one bolt on the projection 19 of the other, with the ribs 17 side by side, as in Figure 12. The spring 11 is put in between the upper wide parts 18, and the studs 20 of the lock lie between the projections 19. The spring projects both bolts, and when the lock barrel is turned with a key to force the

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projections 19 apart, the two bolts are withdrawn and the caps 5 can be lifted.

The lock indicated is a lock comprising a barrel containing tumblers, and it fits into an opening 30 in one side of the compartment 14. This opening contains two or more grooved ribs 31 separated by spaces into which the tumblers, carried by the barrel, are projected when the barrel is to be held against turning. Upon insertion of the key, which pulls back the tumblers from the spaces between the ends of the ribs, the barrel can be rotated sufficiently to make the stud or studs 20 withdraw the bolt, which each of these studs engages, to release the bottle.

The invention set forth as above is similar to the improvement shown in my copending applications Nos. 730,763 and 730,764, for patents on Milk Bottle Holders, filed on the same date as this case, now Patents No. 2,575,971, issued November 20, 1951, and No. 2,549,510, issued April 17, 1951, respectively. The claim in this application do not recite any of the features of the improvements which the aforesaid copending cases disclose.

While I have shown and described what I consider to be the most practical embodiment of my invention, I wish it to be understood that such changes as come within the scope of the appended claim may be resorted to when desired.

Having thus described the invention, what I claim as new and desire to secure by Letters Patent, is:

A holder comprising a pair of brackets arranged side by side, each having a pair of outspread arms with separated ends, lugs on the inner sides of said arms to engage the expanded rim of the neck of a bottle, a member attached to two of said arms and connecting said brackets, said connecting member having a chamber with an opening at one end thereof in each of said last-named arms, lock mechanism comprising a pair of bolts in said chamber, each bolt having a relatively short wide top with a relatively narrow rib on the lower side projecting beyond the rear end of the top, the sides of the chamber maintaining said tops in alinement therein, said ribs being offset towards opposite lateral edges of said respective tops and overlapping at their ends remote from the tops, a projection on the lower side of each rib at said end remote from the top, said bolts being disposed with the tops at opposite ends of said connecting member and the ribs side by side therein, said projections each being flush with the outer side of the respective rib, but widened beyond the opposite side of said rib, said projections having their adjacent sides flush with one another when the bolts are assembled; a single compression spring between the tops tending to move the projections toward each other, a rotatable lock barrel having a key slot in said member, the outer end of said barrel and said slot being exposed at the front of said holder, the inner end of said lock barrel having relatively short studs extending into said chamber between said projections, so that upon rotation of the barrel the studs each retract one of said bolts against the force of said compression spring, the openings in said chamber being in line with said bolts, each bracket having a hinged cover, a hollow abutment in each cover in line with the adjacent opening when the cover is down, the covers having flanges to cover the spaces between the ends of each pair of arms, a hollow piston in each abutment, a stud on each piston projecting from

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the end of the abutment, a compression spring engaging each plunger to project said stud, each abutment having an opening in line with the adjacent bolt, the stud thereof being engageable by a sealed bottle in the holder to force the piston to uncover the opening to free the adjacent bolt for movement into position to secure the cover.

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