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I. J. BLAKE ET AL

1,635,811

BOTTLE

Filed Jan. 13, 1925

FIG. 1.

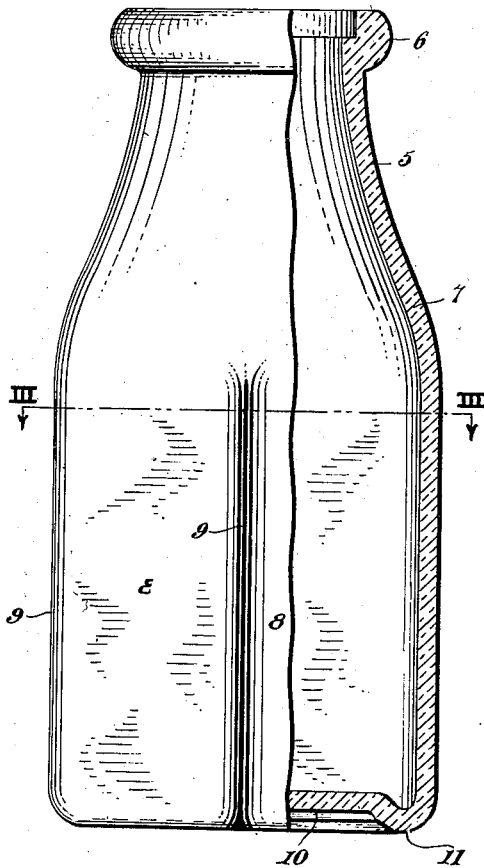


FIG. 3.

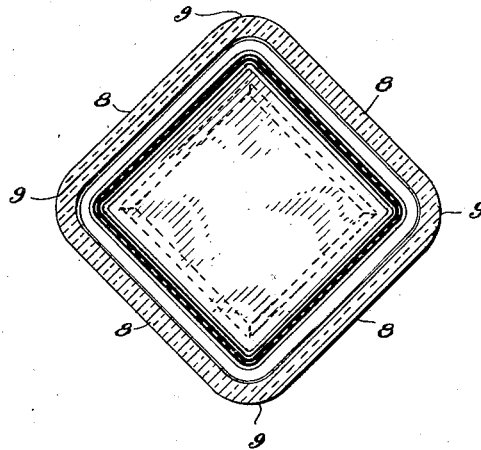


FIG. 4.

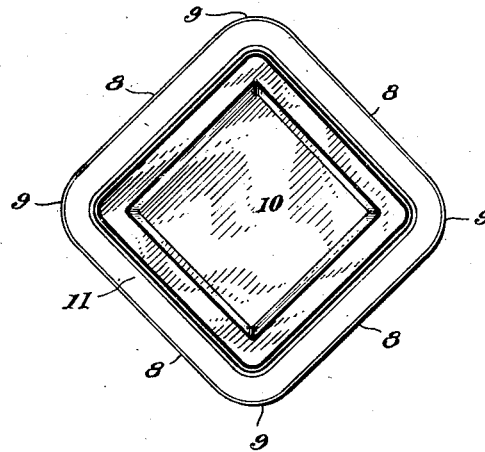
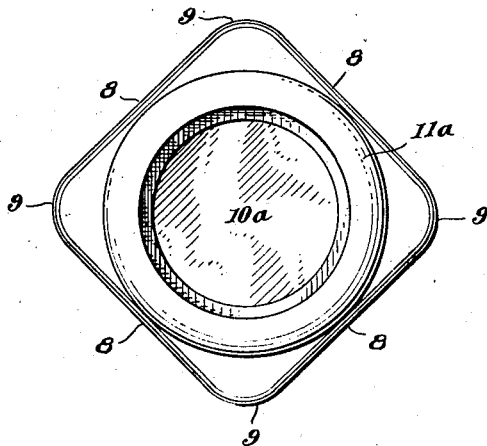


FIG. 2.



Inventors
Irvin J. Blake
Harry H. Hart

By

Bryant & Lowry
Attorneys

UNITED STATES PATENT OFFICE.

IRVA J. BLAKE AND HARRY H. HART, OF SACRAMENTO, CALIFORNIA.

BOTTLE.

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The present invention relates to improvements in bottles.

The primary object of this invention is to provide a bottle, especially adapted for use in dispensing milk, or the like, and is so formed that it will fit all types and makes of automatic bottling machines.

A further object of the invention is to provide a milk bottle having flat sides and a cavity or vacuum cup in its bottom which is formed with a surrounding bead or flange.

Other objects and advantages of the invention will be apparent during the course of the following description.

In the accompanying drawing forming a part of this specification and in which like numerals are employed to designate like parts throughout the same,

Figure 1 is an elevational view, partly broken away, of the bottle embodying this invention,

Figure 2 is a bottom plan view of a bottle of the type shown in Fig. 1 and having a cavity or vacuum cup formed in its bottom and surrounded by a circular bead or flange,

Figure 3 is a transverse sectional view taken upon line III—III of Fig. 1, and

Figure 4 is a bottom plan view of a bottle of the type shown in Figs. 1 and 3 with a square cavity or vacuum cup formed in its bottom and surrounded by a square bead or flange.

In the drawing, wherein for the purpose of illustration is shown a preferred embodiment of this invention, the numeral 5 designates the conical neck portion of the bottle having the rounded bead 6 formed at its open end, as best illustrated in Fig. 1. The body portion of the bottle is joined to the conical neck portion 5 by the gradual curved portion 7 and is formed with the four or more flat side walls 8. By inspecting Fig. 3, it will be seen that the cylindrical portions 9 join or unite the flat side walls 8 and that these cylindrical portions 9 are of the same thickness as the said side walls.

In Figs. 1, 3 and 4, the bottom of the bottle is illustrated as having the square cavity or vacuum cup 10 formed therein and surrounded by the square bead 11 having the curved or cylindrical outer face of a less radius than the radii of the cylindrical edges 9. The inner wall of the bead 11 that depends from the bottom wall of the bottle abruptly

merges into the bottom wall to define the vacuum cup 10.

In Fig. 2 the bottle is illustrated as having the circular cavity or vacuum cup 10^a which is surrounded by the circular bead 11^a.

As will be understood from the drawings, the body portion of the bottle presents a cross-section of polygonal form with sets of opposing plane walls and with the walls of one set extending at substantially right angles to the walls of an adjacent set, the walls meeting on curved lines which merge into the plane surfaces; hence, a plurality of bottles can be stowed in a minimum amount of space, with adjacent bottles offering a large surface to provide contact therebetween and thus restrain them from movement. In addition to this, however, the bottom of the bottle is provided with an annular wall, symmetrical in contour, and curved in cross-section to provide a seating plane for the bottle that is spaced a material distance from the outer plane of the main bottom portion, the annular wall having substantially uniform dimensions throughout the annular length of the wall, that portion of such annular wall which extends from the seating plane to the plane of the bottom wall, joining the latter wall at a sharply defined angle, thus providing a space at the bottom of the bottle, within the annular wall, of considerable capacity, being generally of uniform depth, with such depth extending into proximity to such annular wall.

This latter also tends to prevent shifting and upsetting of bottles, especially when the latter are being filled in filling machines, and after being filled. If the filling machine be provided with a vacuum holding means, the seated bottle is more firmly held to its seat owing to the fact that the volume of air capable of being withdrawn from this bottom space is considerable, thus increasing the effective difference of pressure on opposite sides of the seating face. And although the effect is greatly reduced when the bottle is away from the machine, there is a tendency to produce a variation in pressure on the opposite sides of the seating face where the temperature of the contents of the bottle is materially less than that of the atmosphere, the cooling effect of the contents on the considerable volume of air within the seating face provided by the annular wall, permit-

ting a reduction of the temperature of such air and its resultant effect in reducing the pressure within such space.

It is to be understood that the forms of this invention herewith shown and described are to be taken as preferred examples of the same, and that various changes in the shape, size, and arrangement of parts may be resorted to without departing from the spirit of the invention or the scope of the sub-joined claims.

Having thus described the invention, we claim:—

1. A milk bottle comprising a neck portion and a body portion, said body portion being rectangular in cross section with the flat side walls merging into curved corner edges, a continuous bead depending from the bottom of the body portion with the upper end of the inner side wall of the bead abruptly merging into the bottom of the body portion at an angle to the plane thereof to define an inner cavity forming a vacuum cup, said bead being curved in cross

section with the radius thereof less than the radii of the curved corner edges of the body portion.

2. A milk bottle comprising a neck portion and a body portion, said body portion being rectangular in cross-section with the flat side walls merging into curved corner edges, a continuous annular bead depending from the bottom of the body portion with the upper ends of the inner and outer side walls of the bead abruptly merging into the bottom of the body portion at an angle to the plane thereof to define an inner cavity forming a vacuum cup, said bead being curved in cross section with the radius thereof less than the radii of the curved corner edges of the body portion, with the curved corner edges of the body portion set outwardly of the bead for protecting the same.

In testimony whereof we affix our signatures.

IRVA J. BLAKE.
HARRY H. HART.