Dec. 7, 1926. 1,610,136

J. F. KELTY

NONBREAKABLE BOTTLE

Filed July 1, 1925

Fig. 1

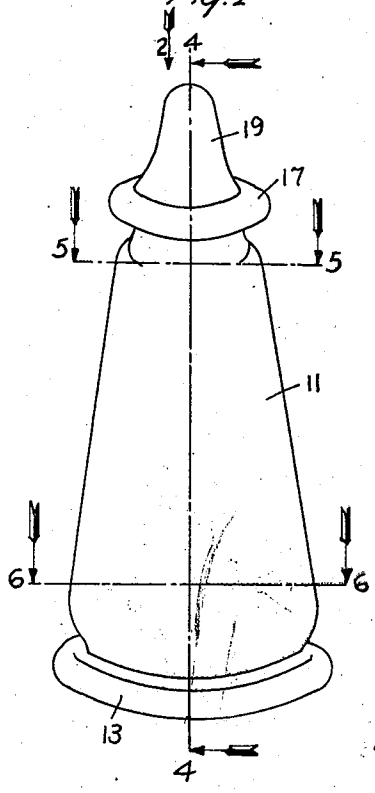


Fig. 3

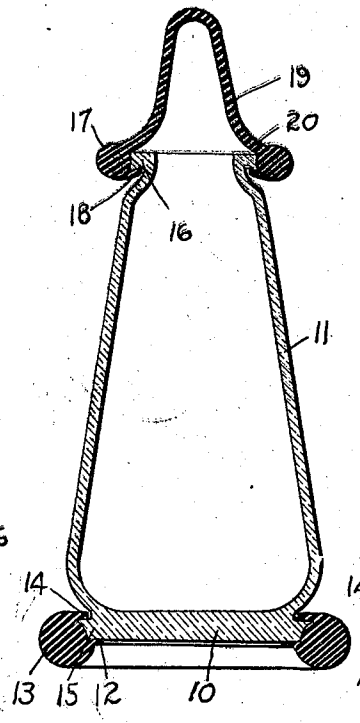


Fig. 4

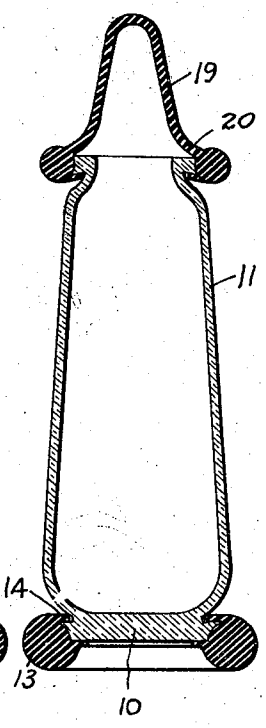


Fig. 2

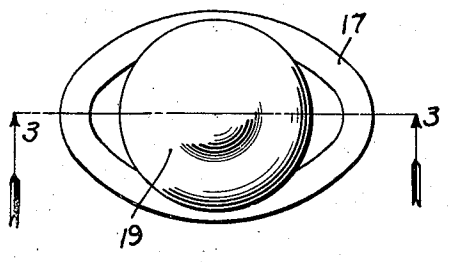


Fig. 5

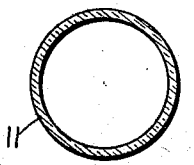
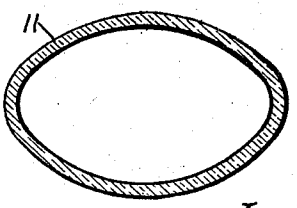


Fig. 6



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UNITED STATES PATENT OFFICE.

JAMES F. KELTY, OF OCEAN PARK, CALIFORNIA.

NONBREAKABLE BOTTLE.

Application filed July 1, 1925. Serial No. 40,840.

This invention relates to improvements in bottles and is especially adapted to be used in connection with nursing bottles for infants, although it may be employed upon bottles for other purposes as well.

An object of this invention is to provide a bottle which may be formed of glass or other breakable material, and to provide means upon the bottle which is so arranged and so constructed that if the bottle is dropped, it will neither break nor roll.

Infants frequently, when they are through with their nursing bottle, throw it or drop it from a baby carriage or cradle or crib, so that it frequently occurs that nursing bottles are broken. Although it is possible to break the bottle of the improved construction by striking it upon a sharp corner, the bottle will not be broken if it falls upon a smooth hard surface; and as the bottles usually fall upon such surfaces, a large percentage of the bottles will not be broken when thrown or dropped, enabling quite a saving in buying nursing bottles. Because of the fact that the bottle is so constructed that it will not roll, it will be appreciated that if the bottle is thrown upon the sidewalk, it will not roll so as to be broken by other objects.

With the foregoing and other objects in view which will be made manifest in the following detailed description and specifically pointed out in the appended claims, reference is had to the accompanying drawings for an illustrative embodiment of the invention, wherein:

Figure 1 is a perspective view of the improved bottle,

Fig. 2 is a top plan view of the same,

Fig. 3 is a vertical section through the bottle taken on the line 3—3 of Fig. 2,

Fig. 4 is a vertical section through the bottle taken on the line 4—4 of Fig. 1,

Figs. 5 and 6 are horizontal sections taken upon the lines 5—5 and 6—6 respectively upon Fig. 1.

Referring to the accompanying drawings wherein similar reference characters designate similar parts throughout, the bottle is illustrated as being formed of glass, having a bottom 10 and upwardly convergent side walls 11, providing a bottle of a somewhat tapered formation. As clearly shown from an inspection of Figs. 5 and 6, the top of the bottle is preferably circular in cross section, whereas the bottom of the bottle is ovate in form. The bottom 10 has an outwardly extending flange 12 formed thereon, which flange has its peripheral surface concaved for the reception of the body 13 of a buffer formed of any suitable resilient material. In the preferred form of construction, the buffer 13 is formed of rubber and preferably sponge rubber, so as to provide a buffer of sufficient resiliency to be capable of compressing and protecting the bottle. The body of the buffer 13 is circular in cross section, and the peripheral surface of the flange 12 is so arranged that when the buffer is positioned thereon, it will project slightly below the bottom of the bottle. The buffer 13 has top and bottom flanges 14 and 15 which extend inwardly. These flanges are adapted to grip upon the top and bottom of the flange 12 on the bottom 10, so as to maintain the buffer in position. It will be understood that the buffer is preferably removable with respect to the bottle, so that it can be removed in washing, sterilizing, or for any other purpose desired.

At the top of the bottle there is formed an outwardly extending flange 16, which has its peripheral surface concaved in a similar manner to the flange 12 for the reception of the buffer 17. The buffer 17 has a lower inwardly extending flange 18 adapted to grip upon the under side of the flange 16 to maintain the buffer 17 in position. In the preferred form of construction, the buffer 17 is formed integral with the nipple 19, which is so formed as to provide portions 20, constituting upper flanges extending inwardly from the buffer 17, which grip on the top of the flange 16. If desired, however, the buffer 17 can be constructed in a similar manner to the buffer 13, and a nipple applied thereover.

As clearly shown in Figs. 3 and 4, the outer edges of both of the buffers 13 and 17 are so arranged as to project beyond the sides 11 of the bottle. In other words, if a straight edge is caused to engage the buffers 13 and 17, it will not contact with any intermediate portion on the bottle. This is true all around the bottle, so that regardless of any position in which the bottle may fall on its side, the buffers 13 and 17 will support it, and prevent the glass body of the bottle from contacting with any surface on which the bottle falls.

By making the bottom of the bottle ovate in form, it will be appreciated that the bot-

tle will not roll, so that it cannot roll and strike an object to break the bottle. As the neck of the bottle is round, although it may also be ovate in form, if desired, the neck permits the bottle to be easily washed out, providing a large mouth through which a swab or other bottle cleaning device can be inserted. It will be readily appreciated that if the bottle falls upon its bottom, the buffer 13 projects a sufficient distance below the bottom as to protect the bottom from being broken; also if the bottle should happen to fall upon its top, the nipple 19 together with the buffer 17 will prevent the bottle from being broken.

This type of bottle construction is to be distinguished from other types of bottles which have large bodies and small tapering necks thereon, for the reason that such bottles because of the small neck are greatly weakened at the juncture between the neck and the body of the bottle, so that the neck is frequently broken off, although the neck as well as the bottom is protected by buffers. The tapering sides of the bottle of the improved construction enable the bottle to be as strong at the top as at the bottom, and in case the bottle does fall upon its top, the neck will not be broken off.

From the above it will be appreciated that an improved bottle is provided, which cannot be readidly broken, regardless of the position in which it may fall upon a hard surface, such as a sidewalk; and, although the bottle can be broken by striking it against a sharp corner at a point intermediate its top and bottom, this manner of breaking the bottle is exceptional, and few bottles will be broken if the bottles fall on a hard, even surface.

It will be understood that various changes in the detail of construction may be made without departing from the spirit or scope of the invention as defined by the appended claims.

I claim:

1. A non-breakable bottle comprising a bottle, flanges provided upon the top and bottom of the bottle, and buffers mounted upon the flanges, said buffers projecting beyond the sides of the bottle.

2. A non-breakable bottle comprising a bottle, flanges provided upon the top and bottom of the bottle, and buffers mounted upon the flanges, said buffers projecting beyond the sides of the bottle, each of the buffers being provided with inwardly extending flanges adapted to grip upon the top and bottom of the flanges upon the bottle on which they are mounted.

3. A bottle having outwardly extending flanges arranged at its top and bottom, each flange having its peripheral surface concaved to provide a peripheral groove, and rubber buffers removably disposed within said grooves, said buffers being so arranged as to project beyond the sides of the body of the bottle.

4. A bottle having outwardly extending flanges arranged at its top and bottom, each flange having its peripheral surface concaved to provide a peripheral groove, and rubber buffers removably disposed within said grooves, said buffers being so arranged as to project beyond the sides of the body of the bottle, and having inwardly extending flanges adapted to grip upon the flanges upon the bottle.

5. A nursing bottle comprising a bottle having upwardly convergent sides, the bottom of the bottle being ovate in form and being provided with an outwardly extending flange, a rubber buffer positioned upon said flange, said buffer having inwardly extending flanges adapted to grip upon the top and bottom of the flange on the bottle, the top of the bottle having an outwardly extending flange, a buffer positioned upon the upper flange, said second buffer having an inwardly extending bottom flange adapted to grip upon the under side of the flange on the top of the bottle, and a nipple formed integral with said upper buffer, said nipple providing engaging portions adapted to engage upon the top of the upper flange.

In testimony whereof I have signed my name to this specification.

JAMES F. KELTY.