

June 11, 1940.

C. J. SCHMID

2,204,448

CONTAINER VENTING MEANS

Filed April 30, 1938

Fig. 1.

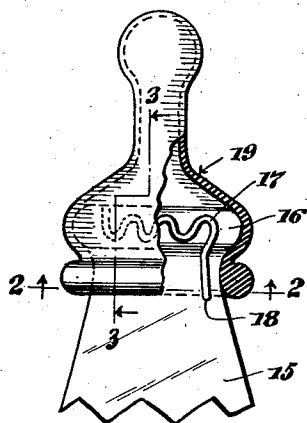


Fig. 8.

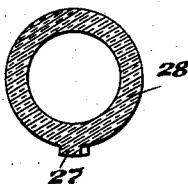


Fig. 5.

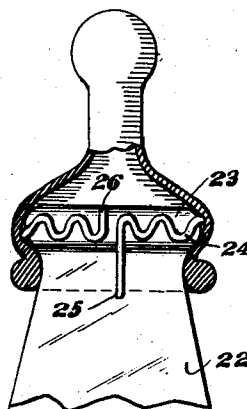


Fig. 2.

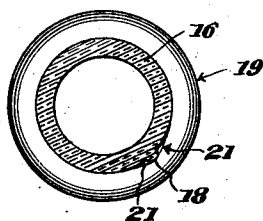


Fig. 9.

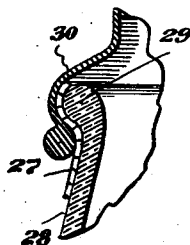


Fig. 6.

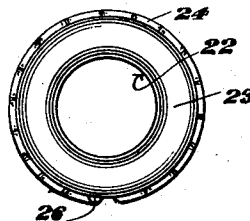


Fig. 3.

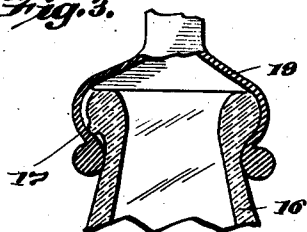


Fig. 10.

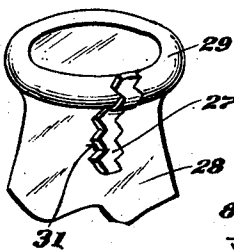


Fig. 7.

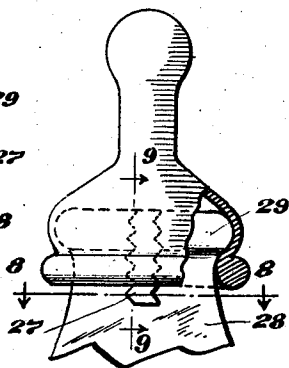
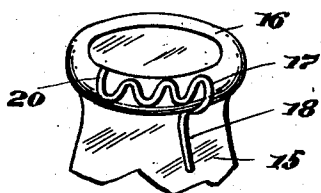


Fig. 4.



Inventor

CARL J. SCHMID

By *Irving R. McCathran*

Attorney

UNITED STATES PATENT OFFICE

2,204,448

CONTAINER VENTING MEANS

Carl J. Schmid, New York, N. Y., assignor to
Julius Schmid, Inc., New York, N. Y., a corpora-
tion of New York

Application April 30, 1938, Serial No. 205,312

3 Claims. (Cl. 215—31)

This invention relates to a venting means for bottles, containers and the like, and has for one of its objects the production of a bottle and the like having a means formed upon the outer face of the neck thereof, over which a flexible or elastic nipple is placed for slightly spacing the nipple from the bottle, thereby providing venting passages between the nipple and the bottle from a point outside of the bottle and nipple to a point inside the bottle to facilitate an even flow of liquid through the nipple.

Another object of this invention is the production of a simple and efficient means formed upon the neck of a bottle and the like for constituting a venting means for a bottle and the like, upon which an elastic nipple is adapted to be placed, the venting means providing an elongated circuitous venting passage or passages between the bottle and the nipple.

Other objects and advantages of this invention will appear throughout the following specification and claims.

In the drawing:

Figure 1 is a fragmentary side elevational view of a bottle neck and nipple, the nipple being shown partly in section;

Figure 2 is a horizontal sectional view taken on line 2—2 of Figure 1;

Figure 3 is a vertical sectional view taken on line 3—3 of Figure 1;

Figure 4 is a perspective view of the upper end of a bottle showing the irregularly shaped venting rib formed thereon;

Figure 5 is a fragmentary side elevational view of the neck of a bottle showing a modified form of venting rib;

Figure 6 is a top plan view of the bottle of the type as illustrated in Figure 5;

Figure 7 is a side elevational view of a portion of a bottle neck and nipple, the nipple being shown partly in section, and the bottle showing a venting rib of a modified type;

Figure 8 is a horizontal sectional view taken on line 8—8 of Figure 7;

Figure 9 is a vertical sectional view taken on line 9—9 of Figure 7;

Figure 10 is a perspective view of a portion of the neck of a bottle, showing the type of rib illustrated in Figure 7.

By referring to the drawing, it will be seen that 15 designates the neck of a bottle and the like, which is provided with the conventional bead 16 at its outer end. An irregularly shaped serpentine rib 17 is carried by the outer face of the bead 16 and is preferably formed integrally

therewith. This rib 17 extends circumferentially of the bead 16 as shown and is provided with a depending end 18 which extends down the outer face of the bottle neck to a point slightly beyond or below the lower edge of the elastic nipple 19, when the nipple 19 is placed upon the bottle neck 15. The rib 17 is also provided with an upwardly extending end 20 which extends to the outer edge of the bead 16 of the bottle neck 15.

The rib 17 with its end portions 18 and 20 will constitute an irregularly shaped serpentine rib or spacing means between the elastic nipple and the neck of the bottle and thereby provide air vent channels 21 upon opposite sides of the rib 17 and its end portions 18 and 20, these vent passages providing a circuitous path which is considerably elongated and preventing a sudden inrush of air under the nipple and contributing toward an even flow of liquid through the nipple into the infant's mouth who may be using the bottle. I have found by experiment that it is important that an elongated passage be provided and one which is circuitous, thereby providing a passage having considerable length in proportion to the space allowed and by having this circuitous passage or passages as described, the passages will be of considerably greater length than if the rib were made on a straight line extending only in one direction.

In Figures 5 and 6 I have shown a modified form of the invention wherein the bottle neck is indicated by the numeral 22 having a conventional bead 23, and upon the outer face of the bead 23 is formed a serpentine rib 24. This rib 24 extends circumferentially around the exterior of the bead 23, preferably extending around approximately the entire circumference as shown in Figure 6, and this serpentine rib 24 is provided with a depending end portion 25 similar to the end portion 18 previously described, and an upwardly extending end portion 26 similar to the end portion 20 previously described.

The serpentine rib portions 17 and 24 in each instance, comprise upwardly and downwardly extending wave-like loop portions, as indicated in the drawing.

In Figures 7 to 10, inclusive, I have shown a further modified form of the invention wherein a rib 27 is formed upon the outer face of the neck 28 of the bottle, and extends over the bead 29, the rib extending vertically of the bottle neck from a point normally beyond the lower edge of the nipple 30 which is adapted to be placed upon the bottle neck 28, as shown in

Figure 9. This rib 27 preferably is formed integrally with the body, or may be secured in any suitable or desired manner, the rib 27 having irregularly shaped side edges 31, one type being of a tapered tooth-like formation, as shown in the drawing, to provide parallel circuitous elongated venting passages upon either side of the rib 27 between the neck of the bottle 28 and the elastic nipple 30 when the nipple is placed over the neck of the bottle.

From the foregoing description, it will be seen that a very simple and efficient means has been provided in the nature of a spacing means formed directly upon the neck of a bottle and carried thereby over which an elastic nipple is adapted to be slipped or placed in a manner whereby the rib will provide elongated circuitous air vent passages upon either side of the rib between the neck of the bottle and the elastic nipple.

It should be understood that an elastic nipple is adapted to fit over the neck of a bottle and because of the inherent elastic characteristics of the nipple, the nipple will adhere closely to the rib and follow the contour of the irregular side edges thereof. The irregularly shaped sides of the rib will produce laterally extending protruding portions and alternate intermediate valley portions. The elastic nature of the nipple will cause the nipple to span the valley portions to define enlarged pockets and will also cause the nipple to fit closely around the protruding portions to provide a plurality of restricted portions constituting spaced valve-like portions within the length of the rib, and thereby retard back-flow of liquid out through the air vent passages. This is true in all of the forms illustrated, that is to say both with respect to the form shown in Figure 1, as well as that shown in Figure 7.

It should be understood that certain detail changes may be employed without departing from the spirit of this invention, so long as such changes fall within the scope of the appended claims.

What I claim is:

1. A device of the class described comprising a container having a neck portion, a rigid rib of a relatively narrow gauge formed upon the outer face of the neck portion and having irregularly shaped side edges providing laterally extending protruding portions and alternate intermediate valley portions, the container neck being adapted to support an elastic nipple in a manner

whereby the rib will fit between the elastic nipple and the neck of the bottle to form air vent passages upon opposite sides of the rib of material length and of circuitous formation, and whereby the elastic characteristics of the nipple will cause the nipple to snugly fit around and follow the course of the rib, the elastic nipple being adapted to span the valley portions to define enlarged pockets and snugly fit around the protruding portions to provide a plurality of restricted portions constituting spaced valve-like portions within the length of the rib and thereby retard back-flow of liquid out through the air vent passages.

2. A device of the class described comprising a container having a neck portion, a rigid rib of a relatively narrow gauge formed upon the outer face of the neck portion and having tooth-like side edges providing laterally extending protruding portions and alternate intermediate valley portions, the container neck being adapted to support an elastic nipple in a manner whereby the rib will fit between the elastic nipple and the neck of the bottle to form air vent passages upon opposite sides of the rib of material length and of circuitous formation, and whereby the elastic characteristics of the nipple will cause the nipple to snugly fit around and follow the course of the rib, the elastic nipple being adapted to span the valley portions to define enlarged pockets and snugly fit around the protruding portions to provide a plurality of restricted portions constituting spaced valve-like portions within the length of the rib and thereby retard back-flow of liquid out through the air vent passages.

3. In combination with an elastic nipple, a container having a neck portion, a rigid rib carried by the neck portion and adapted to fit between the neck portion and elastic nipple defining air vent passages upon opposite sides of the rib of material length, the rib having irregularly shaped sides defining alternate protruding and valley portions the elastic nipple being adapted to snugly fit around the protruding portions and span the valley portions to provide alternate restricted portions and alternate enlarged pockets upon each side of the rib, the nipple and protruding portions providing a plurality of spaced check valves throughout the length of the rib to retard backflow of liquid out through the air vent passages.

CARL J. SCHMID.