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C. J. SCHMID

2,238,828

VENTED NIPPLE

Filed April 30, 1938

Fig. 1.

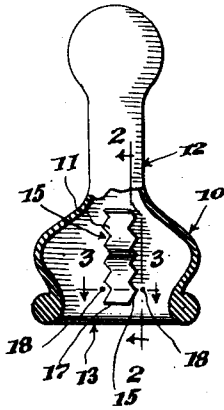


Fig. 2.

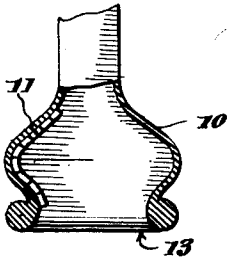


Fig. 3.



Fig. 4.

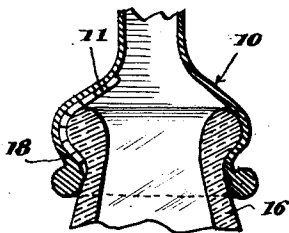


Fig. 5.

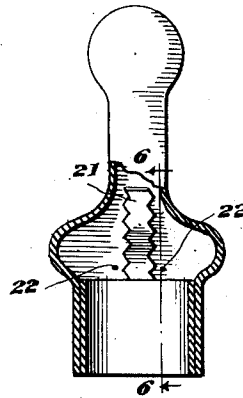


Fig. 8.

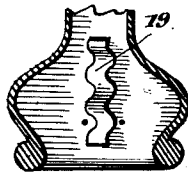


Fig. 6.

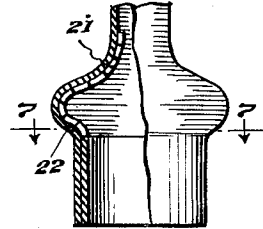


Fig. 7.

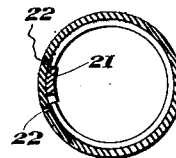
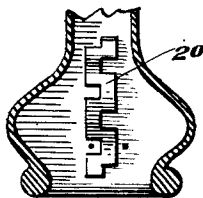


Fig. 9.



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UNITED STATES PATENT OFFICE

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VENTED NIPPLE

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Application April 30, 1938, Serial No. 205,313

3 Claims. (Cl. 128—252)

This invention relates to nursing nipple venting means, and has for one of its objects the production of a simple and efficient venting means for permitting the entrance of air into a nipple after the nipple is placed upon a bottle and the like to facilitate the even flow of liquid through the nipple from the bottle.

A further object of this invention is the production of a simple and efficient nipple having special air entrance openings formed adjacent the air vent passages, wherein the air enters the passages through the side walls and then passes along the passages into the bottle upon which the nipple is placed for facilitating the venting of the bottle and nipple when assembled.

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

In the drawing:

Figure 1 is a side elevational view partly in section of the nipple showing the spacing strip mounted upon the inner face of the nipple;

Figure 2 is a vertical sectional view of the nipple taken on line 2—2 of Figure 1;

Figure 3 is an enlarged horizontal sectional view taken on line 3—3 of Figure 1;

Figure 4 is an enlarged vertical sectional view through a portion of the nipple and bottle neck showing the nipple mounted thereon;

Figure 5 is a side elevational view partly in section showing the spacing strip applied to a modified type of nipple known as the Black Band type;

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

Figure 7 is a horizontal sectional view taken on line 7—7 of Figure 6;

Figure 8 is a vertical sectional view through a nipple showing a modified type of spacing strip;

Figure 9 is a vertical sectional view through a nipple showing a spacing strip of a still further modified design.

By referring to the drawing, it will be seen that 10 designates a conventional type of nipple, upon the inner face of which is secured or formed a flat spacing strip 11, which strip 11 extends vertically of the nipple or longitudinally thereof to a point adjacent the neck portion 12 of the nipple and terminates short of the lower edge 13 of the nipple. This strip 11 is provided with irregularly shaped side edges 15 upon its opposite sides preferably in the form of a saw-tooth structure, such as is illustrated in Figure 1, to provide an irregularly shaped zig-zag passage upon either side of the strip 11 when the nipple is placed

upon a bottle in a manner as is shown in Figure 4 to provide venting passages upon either side of the strip 11 between the elastic nipple 10 and the bottle 16. The end 17 of the strip 11 terminates short of the lower edge 13 of the nipple 10, as shown in Figure 1 and Figure 4, so that the nipple 10 may grip the neck of the bottle 16 around the lower edge of the nipple and completely seal the nipple around its lower edge. Perforated vents 18 in the nature of punctured apertures are formed through the wall of the nipple, as is shown in the drawing in close proximity to the irregularly shaped sides 15 of the strip 11 to provide air entrance openings through the side wall of the nipple in communication with the channels formed upon either side of the strip 11 when the nipple is placed upon a bottle in the manner as shown in Figure 4.

The inherent characteristics of the elastic nipple will cause the elastic nipple to adhere closely to the flat spacing strip 11 and follow closely the contour and path of the irregularly shaped side edges. In this way, a comparatively long circuitous passage is provided whereby the elastic nipple will follow closely the tooth-like edge formation of the strip throughout a major portion of its length and will adhere very closely to the strip, particularly at the pointed prong-like projections at the side of the strip. Because of the elastic characteristics of the nipple the circuitous air passage will be substantially closed adjacent the pointed prong-like projections of the tooth-like edge or the size of the passage will be reduced to a minimum, thereby providing a valve-like medium or a plurality of spaced minute valves throughout the length and upon either side of the strip 11. The elastic nipple will stretch away from the edges of the strip when a suction is created within the nipple, and as a volume of air is drawn through the circuitous passage, thereby enlarging the valve-like portions adjacent the tapering points of the saw-tooth edge and the elastic nipple will automatically retract to substantially close the circuitous passage at these points when suction within the nipple is discontinued. It is a well-known fact that an elastic nipple must be stretched when placed upon the neck of a bottle and the elasticity of the nipple will cause the same to snugly fit around the neck of the bottle and substantially conform to the contour of any protruding parts located between the nipple and the bottle neck. Because of this fact the valve-like action is provided by applicant's device and in fact, a plurality of spaced minute valves are provided, one

adjacent each of the projecting prongs of the saw-tooth edges of the strip 11.

The strip 11 may be of various forms or designs, and may be applied to various types of nipples. Different types of designs are illustrated in Figures 8 and 9, as are indicated by the numerals 19 and 20, respectively, and the irregularly shaped side edges may be varied without departing from the spirit of the invention. The spacing strip may be applied to either the dipped form of nipple, or to any type such for instance as the Black Band nipple, shown in Figures 5 to 7, wherein the spacing strip is indicated by the numeral 21 and the side wall venting apertures are indicated by the numeral 22.

Certain detail changes may be employed without departing from the spirit of this invention as long as such changes fall within the scope of the appended claims.

Having described the invention what I claim is:

1. As an article of manufacture, an elastic nipple having a strip formed and fixed in position upon its inner face and adapted to contact with the neck of a bottle for slightly spacing the nipple from the neck of a bottle, the strip having irregularly-shaped side edges to provide circuitous air passages upon either side of the strip between the elastic nipple and the neck of a bottle, said irregularly-shaped side edges comprising protruding portions and receding portions, the elastic nipple in conjunction with the protruding portions constituting a plurality of valve-like means within the length of the strip to check the outflow of liquid through the air passages when suction within the nipple is discontinued, the elastic nipple comprising a thin-walled body and a thickened lower bead portion, and said thin-walled body having air vent apertures formed therein in close proximity with the edges of said strip and connecting with the air vent passages adjacent the side edges of the strip.

2. As an article of manufacture, an elastic

nipple, a spacing strip fixed in a set position upon the inner face of the nipple and being adapted to define vent passages between the elastic nipple and the neck of a bottle over which the nipple is placed and upon either side of the strip, said elastic nipple having an air vent aperture formed through the wall of the nipple in close proximity to the edge of the spacing strip to provide an air entrance port, the elastic characteristics of the nipple causing the air vent aperture to normally remain substantially closed, suction upon the nipple being adapted to expand the aperture to admit air into the passages and into the nipple, the aperture being adapted to automatically substantially close when suction within the nipple is discontinued thereby providing an automatic air entrance valve for the vent passages.

3. As an article of manufacture, an elastic nipple, a spacing strip fixed to the inner face of the nipple and being adapted to define vent passages between the elastic nipple and the neck of a bottle over which the nipple is placed and upon either side of the strip, said elastic nipple having a punched air vent aperture formed through the wall of the nipple in close proximity to the edge of the spacing strip to provide an air entrance port for the air vent passages, the elastic characteristics of the nipple causing the punched air vent aperture to normally remain substantially closed, the close proximity of the punched air vent aperture with respect to the spacing strip causing suction upon the nipple to expand the aperture to admit air into the passages and into the nipple, the aperture being adapted to automatically substantially close when suction within the nipple is discontinued thereby providing an automatic air entrance valve for the vent passages, said strip having irregularly shaped side edges, and the elastic nipple being adapted to follow closely the contour of the edges to provide circuitous air vent passages.

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