

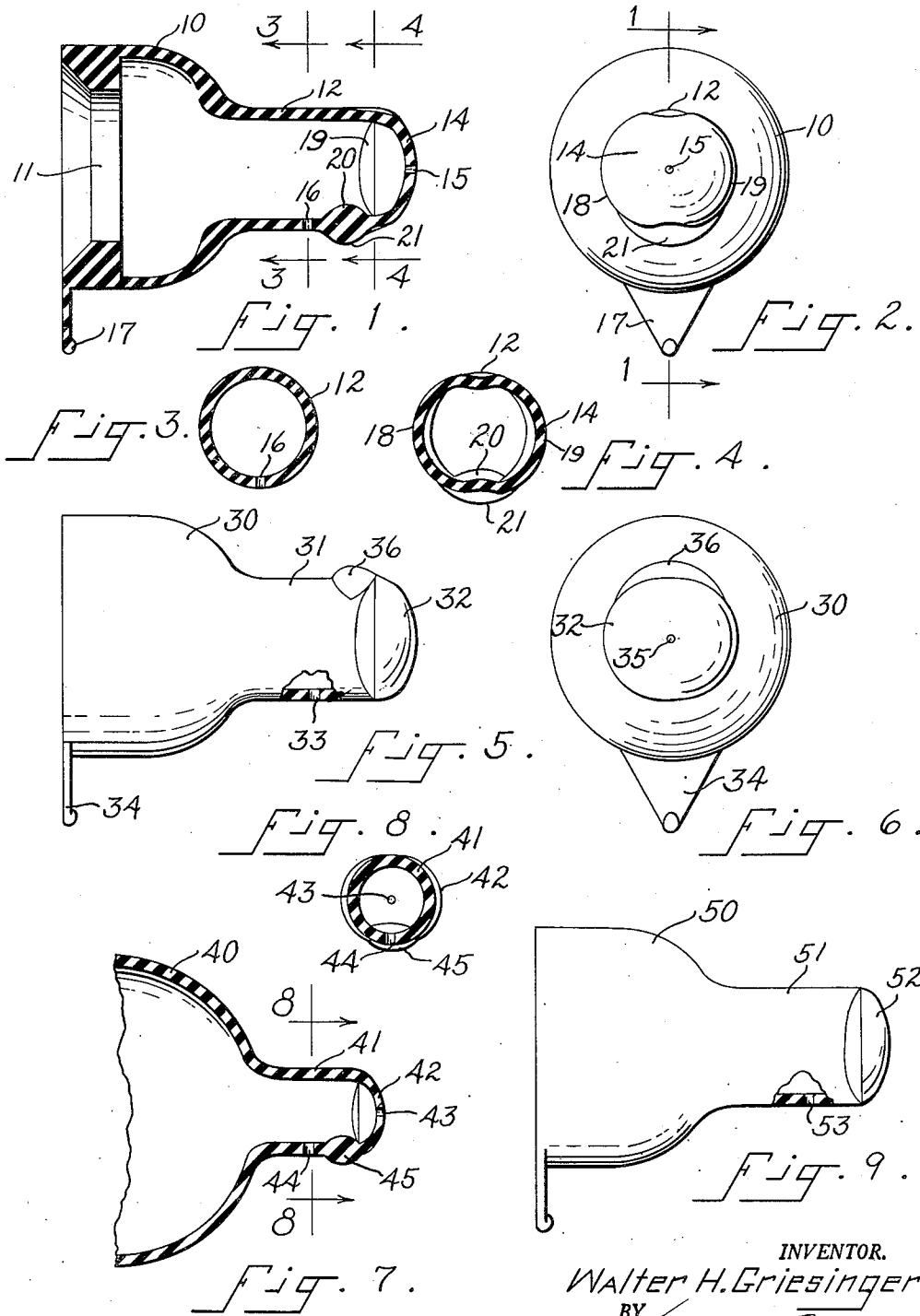
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BABY FEEDING NIPPLE

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BABY FEEDING NIPPLE

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4 Claims. (Cl. 128—252)

1

My present invention relates to baby feeding nipples with particular attention to means for correcting malformation of the jaws of infants.

This application is a continuation in part of my copending application, Serial Number 712,351, filed November 26, 1946, and now abandoned.

The principal object of the invention is to apply orthodontic principles to the construction and arrangement of baby feeding nipples so that correction of maxillary or mandible malformation may be painlessly accomplished during the time when the facial structure includes cartilaginous material which may be molded to correct shape.

An object of the present invention is to provide an oblate tip on the intraoral portion of a nipple, which tip has a lateral width greater than its perpendicular dimension to aid in developing width of the dental arches by causing greater force to be applied at the angles between the dental ridges and the roof of the mouth, and lessening the strain in the median line at the union of the lateral halves of the maxillae.

A further object of the present invention is to provide a nipple having a slightly enlarged, bulbous tip to give slight additional pressure in a direction to aid in the anterior development of the dental ridges of the maxillae.

The foregoing objects may be enhanced by having the upper and lower surfaces of the bulbous tip slightly concave, for use with jaws of certain formation where a great deal of pressure is desired laterally without the application of any pressure vertically.

A further object of the present invention is to provide a nipple having means incorporated therein to cause either dental arch to receive added development due to increased activity of the particular muscles of mastication desired to thus directly affect the maxilla or mandible as the case may be. This object of the invention may be better defined as providing means for correcting abnormalities in the jaw, such as by causing the lower jaw to be developed forwardly in the case of a receding lower jaw or by causing the upper jaw to be developed forwardly in the case of a protruding lower jaw.

A further object of the invention is to provide a vent opening in the teat portion of a nursing nipple. In the action of sucking on a nipple, pressure is intimately exerted by the lips which tend to force a swallow into the mouth. The intermediate portion of the intraoral part of the nipple is adapted to lie between the premaxillary surfaces. In the act of swallowing, the soft palate and its appendage, the uvula, is forced

2

rearwardly and upwardly to close the syrinx so that food or liquid will not be forced into the Eustachian tube, and the nasal passages and the epiglottis are forced to close the entrance to the larynx so that food or liquid cannot pass into the trachea and is caused to descend the gullet. A nursing bottle is held tip down so that gravity causes liquid to fill the nipple. When the jaws of the infant are closed the uvula and epiglottis function and the infant draws inwardly on the teat portion while drawing the tongue back along the underside thereof to force the liquid through the discharge opening, this discharge being aided by the creation of a partial vacuum in the mouth. A harmful result in the use of some nipples is that a vacuum is created in the bottle which causes the teat portion to collapse. In order to prevent this I provide a vent opening which is preferably located in position for engagement by the tongue. As the infant begins to swallow, the tongue is extended and covers the vent opening and as he sucks inwardly the tongue slides away from the vent opening and permits the ingress of air from the mouth as soon as vacuum is released in the mouth. This also functions to relieve gas pressure, hence another object of the present invention is to permit gas from the stomach of the infant to escape through the bottle, thus avoiding to a large degree, and in some cases entirely, the accumulation of gas which makes it necessary to stop feeding and to relieve the infant of accumulated gas. With my nipple the parent or pediatrician is better able to prescribe correct formulae for infant feeding, since there is a distinct absence of colic caused by gas. The gas which would normally be drawn into the stomach of the infant escapes into the bottle.

The objects and advantages of my invention may be more fully appreciated from inspection of the following specification taken in connection with the accompanying drawings wherein like numerals refer to like parts throughout, while the features of novelty will be more distinctly pointed out in the appended claims.

In the drawings Fig. 1 is a vertical section through a nipple of preferred form, the nipple being drawn substantially twice natural size, and illustrating a nipple adapted to develop the mandible;

Fig. 2 is a front view of the nipple illustrated in Fig. 1;

Fig. 3 is a vertical section taken substantially along line 3—3 of Fig. 1;

Fig. 4 is a vertical section taken substantially along line 4—4 of Fig. 1;

Fig. 5 is a side elevation, with a part broken away, of a nipple similar to the nipple illustrated in Fig. 1 with the nipple being adapted for development of maxillary portions of the mouth;

Fig. 6 is a front view of the nipple illustrated in Fig. 5;

Fig. 7 is a partial vertical section through a nipple drawn in natural size and illustrating a modified breast portion;

Fig. 8 is a vertical section taken substantially along line 8—8 of Fig. 7; and

Fig. 9 is a side view, with a part broken away, of a nipple similar to that illustrated in Fig. 1 and adapted for the use by an infant having correct maxilla, and mandible development.

Referring to Figs. 1 to 4 inclusive, there is illustrated a nursing device or nipple comprising a breast portion 10 having an open end provided with a bottle-engaging internal flange 11 whereby the nipple may be removably disposed upon the open mouth of a container. The nipple also comprises an integral teat portion including a substantially cylindrical portion 12 extending from said breast portion 10, said teat portion comprising a thin wall of resilient material of substantially uniform thickness throughout and terminating in a rounded end wall 14 in which is located a liquid escape opening 15. The teat portion comprises a thin wall of resilient material of substantially uniform thickness throughout and includes a pair of generally rounded bulges 18 and 19 extending laterally from opposite sides thereof and merging into the end wall of the teat portion to form therewith a bulbous tip of elliptical section at right angles to the longitudinal axis of the teat portion, said bulges being identical and each having substantially the same radius as the radius of the extension 12, and the top and bottom portions of which are defined by slightly concave portions which relieve pressure against the upper and lower surfaces of the interior of the mouth and cause pressure to be exerted laterally against the dental arches for correct development of the muscles thereof or for molding of the facial structure. The tip is so arranged as to have its major axis lying horizontally when the nipple is in use. The vertical dimension of the tip normal to the longitudinal axis of the extension is substantially the same as the vertical dimension of the extension, and the lateral dimension of the tip is greater than the lateral dimension of the extension. The bulbous tip is provided with a liquid escape opening 15, and the intraoral portion of the teat is provided with a vent opening 16 in position to be engaged by the tongue of the infant. In order that the opening 16 may be located in use the nipple is preferably provided with a locating means such as the tab 17 aligned therewith, the tab also functioning as means to facilitate removal from or placing of the nipple upon a bottle.

The lingual side of the teat portion, in addition to carrying the vent opening 16, is provided with a transverse bar or thickened portion comprising a ridge 20 extending across the inner surface and a ridge 21 extending across the outer surface between the bulbous portion and the vent opening 16. The transverse bar is located to the rear of one of the spaces between said bulges and is preferably rounded with the surfaces thereof tapering both laterally and longitudinally, with the dimension of the bar transversely of the longitudinal axis of the nipple portion being substantially greater than the dimension thereof

parallel to the longitudinal axis of the nipple portion. This bar exerts pressure outwardly against the inner surface of the mandible and tends to develop the mandible forwardly to match the maxilla.

Figs. 5 and 6 illustrate a modification wherein the breast portion 30 is connected with a teat portion 31 having a bulbous tip 32 substantially as previously described. As seen in Fig. 6, a slight difference exists in that the tip of the teat portion is formed as a true oblate bulb rather than having depressions on the upper and lower surfaces thereof. The depressions are really only necessary in certain extreme cases of desirability of developing lateral pressure against the premaxillary surfaces. The teat portion is provided with a vent opening 33 in the lingual surface of the intraoral portion which is aligned with a locating tab 34, and the tip is provided with a liquid emitting opening 35. At the base of the oblate tip there is provided a transverse bar 36 formed as previously described, the outer ridge thereof blending smoothly into the base of the oblate tip. This ridge is located on the upper surface of the teat portion to exert pressure against the maxilla to cause it to be developed forwardly to match a protruding lower jaw.

Figs. 7 and 8 illustrate a nipple comprising a large breast portion 40 from which a teat portion 41 protrudes and terminates in an oblate tip 42 as previously described. The tip is provided with a liquid emitting opening 43 and the intraoral portion of the teat portion is provided with a vent opening 44 adapted to be engaged by the tongue of the infant. A transverse bar 45 is illustrated as located between the bulbous tip and the vent opening 44. It is obvious that the transverse bar could be located on the upper surface when the opposite type of jaw is to be corrected.

Fig. 9 illustrates a nipple including a breast portion 50 and a teat portion 51 terminating in an oblate tip 52 and having a vent opening 53 as previously described. This figure illustrates a nipple adapted for use by an infant having aligned jaws, therefore the transverse bar is omitted. The nipple therefore serves only to develop the facial muscles by exerting pressure laterally against the premaxillary surfaces, and to permit correct feeding due to the action of the vent opening 53.

Having illustrated and described various forms which my invention may assume, it should be readily apparent to those skilled in the art that the invention may assume various other forms. All such modifications in detail and arrangement as come within the true spirit and scope of the appended claims are considered to be a part of my invention.

I claim:

1. A nursing device comprising a breast portion having an open end adapted to be removably disposed upon the open mouth of a container, and an integral teat portion extending from said breast portion, said teat portion comprising a substantially cylindrical portion terminating in an end wall in which is located a liquid escape opening, said teat portion comprising a thin wall of resilient material of substantially uniform thickness throughout and including a pair of generally rounded bulges extending laterally from opposite sides thereof closely adjacent the end wall of the teat portion to form therewith a bulbous tip of elliptical section at right angles to the longitudinal axis of the teat portion, and a small

5

area of said teat portion being thickened to provide a rounded transverse bar protruding outwardly from the teat portion, said small area being located immediately to the rear of one of the spaces between said rounded bulges and forming a laterally extending ridge of substantial thickness which may fit into a jaw of the using infant behind the front portion of the jaw.

2. A nursing device comprising a breast portion having an open end adapted to be removably disposed upon the open mouth of a container, and an integral teat portion extending from said breast portion, said teat portion comprising a substantially cylindrical portion terminating in an end wall in which is located a liquid escape opening, said teat portion comprising a thin wall of resilient material of substantially uniform thickness throughout and including a pair of generally rounded bulges extending laterally from opposite sides thereof closely adjacent the end wall of the teat portion to form therewith a bulbous tip of elliptical section at right angles to the longitudinal axis of the teat portion, a small area of the cylindrical wall of said teat portion to the rear of one of the spaces between said bulges and immediately adjacent the rear edge of said bulbous tip being thickened to provide a rounded, laterally tapering, outwardly protruding bar extending transversely of the teat portion.

3. A nursing device comprising a breast portion having an open end adapted to be removably disposed upon the open mouth of a container, and an integral teat portion extending from said breast portion, said teat portion comprising a substantially cylindrical portion terminating in an end wall in which is located a liquid escape opening, said teat portion comprising a thin wall of resilient material of substantially uniform thickness throughout and including a pair of generally rounded bulges extending laterally from opposite sides thereof closely adjacent the end wall of the teat portion to form a bulbous tip of elliptical section at right angles to the longitudinal axis of the teat portion, a small area of the cylindrical wall of said teat portion being thickened to provide a rounded, laterally and longitudinally tapering bar extending transversely of the teat portion immediately adjacent the

6

rear edge of said bulbous tip, said bar being of greatest thickness at a point along an element of said cylindrical portion intermediate said bulges and said bar protruding both inwardly and outwardly from the adjacent surfaces of the teat portion.

4. A nursing device comprising a breast portion having an open end adapted to be removably disposed upon the open mouth of a container, and an integral teat portion extending from said breast portion, said teat portion comprising a substantially cylindrical portion terminating in an end wall in which is located a liquid escape opening, said teat portion comprising a thin wall of resilient material of substantially uniform thickness throughout, a small area of the cylindrical wall of said teat portion closely adjacent said end wall being thickened to provide a relatively small bar extending transversely of the teat portion for less than half the circumference of the teat portion, said bar being rounded with the surfaces thereof tapering both laterally and longitudinally of the cylindrical portion and the dimension of said bar transversely of the longitudinal axis of the teat portion being substantially greater than the dimension thereof parallel to the longitudinal axis of the teat portion, and said bar protruding both inwardly and outwardly from the adjacent surfaces of the teat portion.

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