

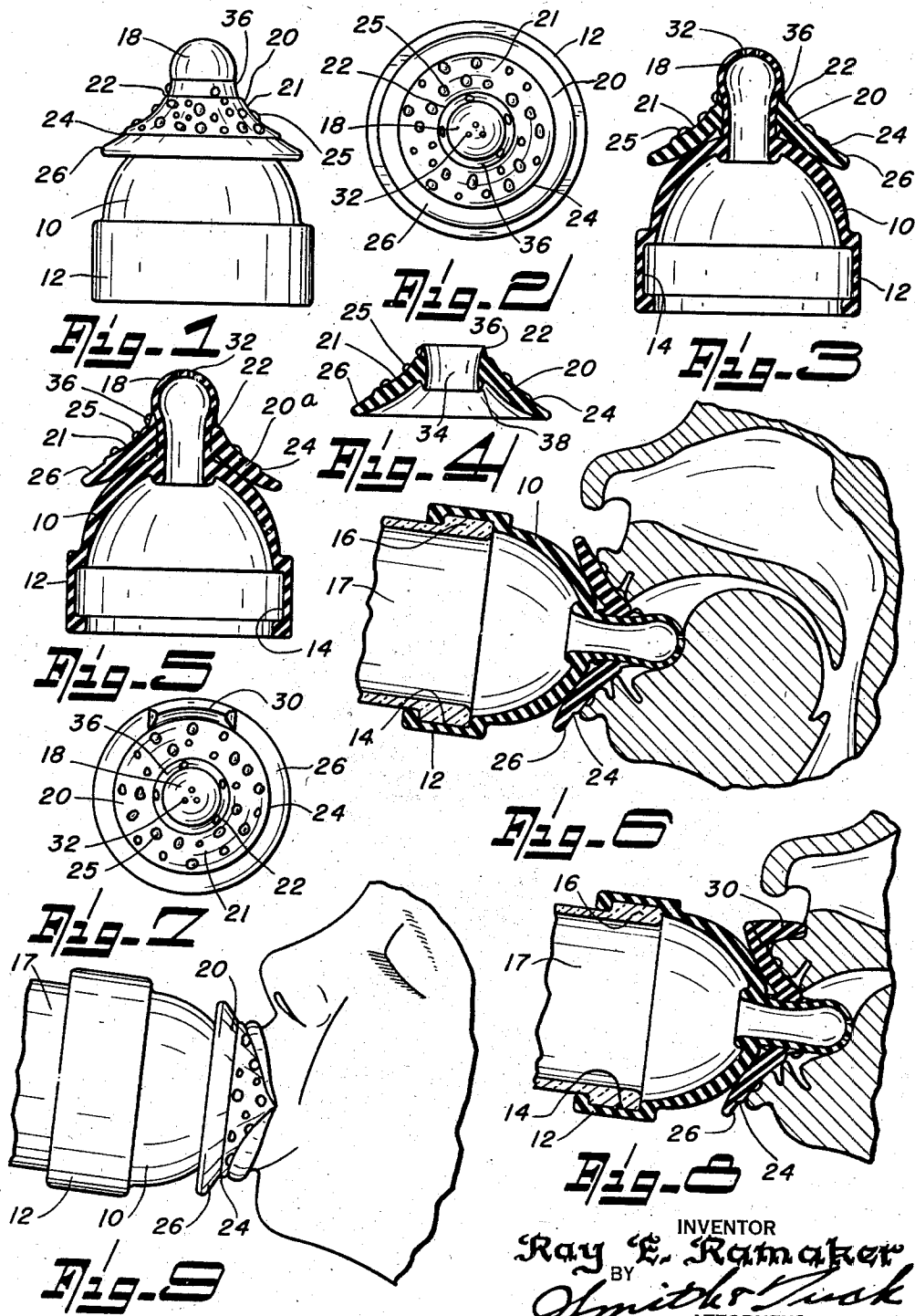
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CORRECTIVE NIPPLE FOR NURSING BOTTLES

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CORRECTIVE NIPPLE FOR NURSING BOTTLES

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My present invention relates to the art of orthopedic devices and more particularly to a corrective nipple for nursing bottles.

My invention consists of a nursing bottle nipple that is so formed as to fairly closely simulate the action of a mother's breast during the nursing of a child. To accomplish this result my nipple is provided with a relatively short teat portion and, immediately adjacent thereto, an areola portion which is shaped and configured to closely represent the mother's breast so that the functioning of the infant's upper and lower jaw will be such as to correct, as nature intended, the plastic changes that have been made in the facial and cranial bones during the period of birth. I find it necessary to apply my principles to a nursing bottle of the wide-mouthed type in order to achieve a sufficiently large nipple body portion so that the normal nursing functioning will be in force, thus preventing the child from developing a sucking action.

The principal object of my present invention, therefore, is to provide a nursing bottle nipple that will be so formed as to insure that a nursing infant will, of necessity, carry out the nursing operation just as nature intended it should nurse when feeding on its mother's breast.

A further object of my invention is to provide a most efficient means for insuring that the infant's lips will seal themselves upon a natural shaped areola so that the proper vacuum will be created within the infant's mouth.

Still another object of my present invention is to provide a nursing nipple which, because of its shape and construction, will closely simulate the mother's breast and will not permit the satisfactory feeding of an infant unless the bottle is held in the hands of an attendant; this insures against aggravating the malformations that may already and, usually do, exist.

A further object of my invention is to provide a nipple structure which assists in the correction of narrow dental arches and deflected septums.

A further object is to provide a nursing nipple which will assist in the proper forming of the nasal passages and the palate and thus aid in preventing adenoids.

Another object of my present invention is to provide means to correct the formation of prominent upper teeth.

A further object of my present invention is to provide a nursing nipple attachment shaped so that the nipple will not collapse thus always maintaining the required even air balance inside the bottle.

Still another object of my invention is to provide a nursing nipple so shaped that a thorough seal is made by the lips so that there is but little, if any, intake of air during nursing, thus preventing colic.

Other and more specific objects will be apparent from the following description taken in connection with the accompanying drawing, wherein Figure 1 is a side elevation of a nursing nipple made after the teachings of my invention.

Figure 2 is a top plan view of my nursing nipple.

Figure 3 is an elevation of my nipple taken in section along a plane passing through its vertical axis.

Figure 4 is a view illustrating the shield portion of my nipple.

Figure 5 is an elevation in section similar to Figure 3, but illustrating my nipple as made in one piece.

Figure 6 illustrates the manner in which my nipple is used, showing an infant nursing, and showing the proper placement of the various features.

Figure 7 is a slightly modified form of my nipple in which an additional corrective feature has been employed; this device is an extension on the shield member that engages the upper lip of a child thus forcing the lower jaw forward so as to correct the receding jaw deformation that so often leads to adenoid growth.

Figure 8 is a sectional view, through my nipple, similar to Figure 6 in that it shows my nipple in use but illustrating the same with the shield extension for the correction of the receding lower jaw condition.

Figure 9 is a side elevation showing my nursing bottle in fragmentary form with the infant's lip positions being quite fully illustrated.

Referring to the drawing, throughout which like reference characters indicate like parts, 10 designates the body of my nipple. This should be made of pliant material such as rubber which will have approximately the same yielding qualities as the breast of a nursing mother. At the lower portion of body 10 is provided the bottle engaging band 12. This is preferably formed with an annular groove 14 which is adapted to engage the beaded upper margin 16 of the nursing bottle 17. At the upper portion of body 10 is provided the usual teat, or nipple, portion 18; this should be approximately the same size as the teat of the average mother's breast. And in this connection it is desired to point out that this teat portion should be relatively short, as it is in nature, so that it will require accurate position-

ing for the infant which in turn means that the bottle on which my device is used must be hand held. This action in itself then assures, with the rest of the parts properly formed, that normally full advantage will be taken of the same corrective advantages which distinguish breast nursing from bottle feeding. I have found that it is difficult to mold in a single piece, a nipple arrangement that will give the same seal and action as a mother's breast. To this end I have found it desirable to form, either as a separate resilient member as shown at 20 in Figure 3, or made integral with the nipples as illustrated in Figure 5 at 20a—a shield or skirt portion. Thus it is possible to give a surface 21 that produces the same shape and action as the areola of the mother's breast. And to this end it permits the infant's lips to fully engage this surface, after the showing of Figures 6 and 9. The infant's lips and gums come to rest on this surface as will be noted particularly in Figure 6, so that, first, an effective seal is provided at this point so that the proper vacuum and manipulation can be achieved; and, second, in order to create this vacuum the infant's upper and lower jaws—assuming the bottle to be properly held—must be then equally pushed forward and outwardly so as to properly engage this lip or shield.

It is to be noted that the shield portion, which will normally be engaged by the infant's lips normally extends from an upper shoulder indicated at 22 to the lower shoulder indicated at 24 and the surface intermediate these two shoulders are provided with a plurality of raised portions or lobes 25 which simulate quite closely the construction of the areola of a breast in nursing condition. Below shoulder 24 is a further extension of the shield as 26 which is provided to give a diameter in excess of that which a child can take into its mouth and, at the same time, to carry out the effect of the breast both as to configuration and shape.

In Figures 7 and 8 I have carried my corrective features one step further in providing an outwardly extending resilient pad or deflector portion 30 which extends only through a relatively small portion of the total periphery, possibly through forty-five degrees or so. This pad has the function of engaging the upper lip, after the showing of Figure 8, in such a manner that, when the bottle is held—as is the intent with my nursing bottle—the infant, in order to make a seal on the shield portion of the nipple, must of necessity extend outwardly its lower jaw. This corrects one of the most outstanding deficiencies of the long nursing nipples that are so generally used and is a highly corrective means for many disfigurements, which, if not corrected at the early infant age before the cartilage has solidified leaves lasting deformations in the face and teeth.

My nipple may be provided with one, or a plurality, of milk discharging openings as 32 and may be combined with many other types of desirable nipple structure.

The shield or skirt portion 20, as illustrated in Figure 4, is resilient and is provided with a tapered bore 34 whose ends terminate in the outstanding flexible tapered lips 36 and 38.

The lip 36 feathers out onto the nipple 18 so as to provide a smooth juncture between the two, while the lip 38, due to the taper of bore 34, holds member 20 securely to the main body 10 of the nipple.

As the nipple 10 is only secured to member 20

at the lip 38, teat 18 can flex in a normal lifelike manner.

Method of operation

In order to make this present invention more thoroughly usable it is believed that the method of use and the manner in which corrective measures are achieved with my nipple structure should be more fully described and in order to make this description most complete, without undue illustrations which would be mere duplications of those to be found in medical texts, I am including herewith a more detailed description of the use of my device.

The fetal skeleton is almost wholly cartilage with only a few centers of ossification to be found at birth. It is easy to displace and mold (to use the obstetrical nomenclature) the facial and cranial bones. During birth the infant head is subjected to varying forces, during its descent through the birth canal, which vary with the size of the infant head and the size and shape of the parturient canal. This plastic change is further influenced by the obstetrician by the use of the forceps as well as digital manipulation within the infant mouth. The most notable change in the shape of the head is in the region of the parietal, frontal and occipital bones. This abnormality is usually of short duration as the sutures are wide and the connecting tissue of such a resilient nature that the parts are brought back into proper position. Positioning of the head upon the pillow also is a definite influence.

During the birth period, normal as well as instrumental, the bones of the face are squeezed together, the palate is buckled, the pre-maxillary bone brought forward, the nasal cartilage and septum buckled or deflected and the molar bone forced down on the side of the greater pressure. In this instance there is no wide suture or connecting tissues and the parts do not return to their normal position unless the infant nurses upon the mother's breast. Nursing upon the normal breast is a definite act on the part of the infant and must not be confused with sucking. Here the upper lip rests upon the areola of the breast, and the lower jaw is brought forward to meet the base of the areola. A true inter-maxillary force is brought into play as the lower jaw is brought forward and downward during the nursing period. Furthermore a vacuum is created within the infant mouth as the lips seal themselves to the areola. Suckling is not accomplished by the action of the tongue, but is purely mandibular. The downward motion of the mandible draws out the nipple and areola, and at the same time, the milk flows into the lactiferous sinuses, closure of the jaws squeezes the milk out of the ducts and into the lingual fold. At all times the upper lip is in contact with the mother's breast and a pressure is thereby exerted upon the lip that is sufficient to force the malpositioned parts into a normal position. This normal positioning of the pre-maxilla, carries the nasal septum into its rightful position. Throughout this nursing act the tip of the tongue rests beneath the tip of the teat, the teat being of such a structure that it cannot be forced to the roof of the mouth. This is normal nursing and is nature's method of overcoming the malformations that arise during the actual birth period.

The rubber nipples that have been found on the market today are too long and do not resemble the mother's breast nor do they permit the child to nurse in a normal manner. In this

instance the infant actually sucks upon a rubber tube. If the nipple is made shorter the resistance is too great for the child and it cannot feed. It is a well known fact that the mother's teat as well as the areola elongates to some extent during the nursing act, but it must be noted that both elongate and a natural balance is maintained, the lips always in contact with the areola. The rubber nipple is made of such a length that the child cannot rest the upper lip on the body of the nipple, without the nipple extending into the throat thereby causing the child to choke. The child does attempt, at first, to receive the entire nipple but is forced to expel a part of it which breaks the seal and the child must then actually suck to obtain the food. This is accomplished by placing the tongue below the nipple and with each suckle the rubber teat is forced against the roof of the mouth at a pressure that varies from one-quarter of a pound to over a pound in actual pressure. This is a force greater than the bones can withstand and only serves to increase the malformation that is already present. Furthermore, the bottle is usually placed on a pillow or some similar support. The give of the pillow plus the weight of the bottle and its contents causes a fulcrum on the rubber teat at the point where the teat and the body of the nipple are joined. This force again draws the anterior portion of the maxillary bone forward and increases the septal deflection. This force is far greater than any force used by an orthodontist in his work of straightening the teeth and here it is applied to an infant mouth that is most subject to stress influence. This act over a period of days, weeks, and months, is the most disastrous and destructive force that can be enforced upon a child at this early age, and is responsible for over seventy percent of the abnormalities that exist today.

When adapted to the ordinary nipple the lip guard 20 permits the infant to nurse in a manner very similar to the normal. The upper lip and underlying tissues are supported, the mandible is brought forward in a natural manner and a vacuum is created in the infant mouth. The rubber teat is made shorter by its use and the bottle must be held by the mother as there is not sufficient length to the teat to enable the child to grasp it alone. It is corrective to the malformed parts in the same manner as the natural breast.

The foregoing description and the accompanying drawing are believed to clearly disclose a preferred embodiment of my invention but it will be understood that this disclosure is merely illus-

trative and that such changes in the invention may be made as are fairly within the scope and spirit of the following claims.

I claim:

1. A nursing nipple having the usual teat protruding from a nipple body, and a resilient areola shield encircling the teat a distance from the nipple body, means spacing the outer face of the body from the adjacent face of the shield to form an annular ring cavity between the nipple body and shield to permit the partial collapse of the shield around the teat under pressure applied during nursing.

2. A device for use with a nursing nipple having the usual teat, comprising a resilient lip-shield having an axial bore for encircling the teat a distance from the body, said lip-shield having a wholly convex areola face between its peripheral edge and the teat, and a spacer flange adjacent the inner end of said bore to separate the encircling shield from the nipple body.

3. A device for use with a nursing nipple having the usual teat, comprising an annular resilient removable lip-shield having an axial bore for encircling the teat a distance from its junction with the nipple body, said lip-shield having an areola face between its peripheral edge and the teat, lobes spaced apart on the areola face, and spacer means adjacent the inner end of said bore to separate the encircling shield from the nipple body.

4. A nursing nipple having the usual teat, a resilient areola shield encircling the teat a distance from the body of the nipple, means between said shield and the nipple body to provide an annular cavity between the nipple body and shield, and a resilient pad extending forwardly from the peripheral edge of the shield and transversely of the longitudinal axis of the teat to engage the upper lip only of a nursing infant and encourage the lower jaw being thrust forward during the nursing.

5. A device for use with a nursing nipple having the usual teat, comprising a removable resilient areola shield having an opening for encircling the teat, spacing means on said shield for determining its positioning on said teat in spaced relation to said nipple body, and a resilient lip pad on said shield concentric with the axis of the teat opening and extending forwardly from the shield wholly on one side of the teat and adapted to be positioned during the nursing interval against the upper lip only of an infant to encourage the lower jaw being thrust forward during nursing.

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