

United States Patent

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[54] **ONE-PIECE NIPPLE, PACIFIER AND THE LIKE**

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699,757	5/1902	Howell.....	128/360
1,518,823	12/1924	Schmidt et al.	128/252

FOREIGN PATENTS OR APPLICATIONS

130,747	8/1919	Great Britain.....	128/359
618,250	2/1949	Great Britain.....	128/360
641,314	8/1950	Great Britain.....	128/360

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[56] **References Cited**

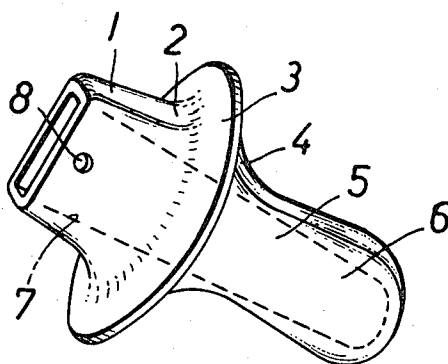
UNITED STATES PATENTS

615,095 11/1898 McTernan.....128/252

[57] **ABSTRACT**

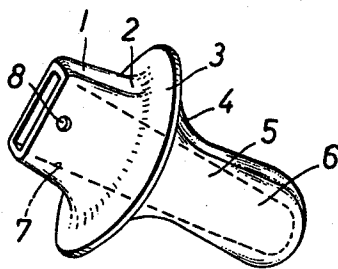
A one-piece nipple, pacifier and the like has a bag-shaped sucking portion, a disc-shaped part engaging the lips, a part located between the two and forming a base of the bag-shaped portion, and an outer part located upon the other side of the disc. The device is particularly characterized in that the base part has a lesser wall thickness than the other parts.

2 Claims, 1 Drawing Figure



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ONE-PIECE NIPPLE, PACIFIER AND THE LIKE

This invention relates to a nipple, pacifier or similar article.

Existing nipples, pacifiers or the like are usually made of one piece for the sake of cleanliness by means of a dipping process or a similar process, such as a dumping casting process. The nipple consists of a sucking piece which is introduced into the mouth of a baby and through which milk can be withdrawn, the sucking piece being followed by a piece contacting the lips. Between these two pieces there is a base part having a smaller circumference than the sucking piece, so that the sucking piece has sliding surfaces going over into the base part, whereby the gums of the baby slide automatically thereon when the sucking piece is introduced further into the mouth with the lips striking the lip-contacting piece. The sucking usually takes place in that the gums squeeze the base part and thus during suction the return flow of milk into the bottle is prevented. Then the tongue produces a discharge of the sucking piece through one or several suitable openings provided at its end.

Similar conditions prevail in pacifiers. However, the sucking part of the pacifier usually made of rubber, is connected with a disc-shaped piece for the lips, which prevents swallowing, by a toggle which at the same time is used to receive a ring or a holder. This connection has the drawback that due to the effects of suction and particularly due to extensive moistening with saliva which then takes place, the various parts can become separated and now there is the danger that the user will swallow the smaller parts. A further drawback is that the toggle projects into the sucking part and provides a hard resistance at the biting location, which can affect the shaping of the gums in case of lengthy use.

An orthopedic device for gums is known wherein the sizes and locations of the sliding surfaces, the biting surface and the lip engaging surfaces are adapted to orthopedic requirements for gums. It has also been suggested that the device should have different wall strengths at certain locations, the purpose being to provide greater resistance to the parts and the sliding surfaces and so that, for example, it will be easier to compress thin rubber at the surface of the sucking part directed toward the throat. However, a change of wall thickness within an effective range can not be effected in a dipping process for one piece nipples and for that reason the existing orthopedic device for gums has been made of several parts consisting of different materials of different degrees of hardness. It was always considered important that the base should be made harder than the sucking piece.

An object of the present invention is to improve prior art constructions.

Other objects will become apparent in the course of the following specification.

The present invention is based on the consideration that in order to provide a normal formation of the gums of a sucking it is of great importance to avoid form changes, particularly in a pacifier which is used by a baby for very long time periods. Such changes are less dangerous in case of nipples which are used only a few times per day for short sucking periods.

Consequently the present invention provides a one-piece nipple, pacifier or the like having a sucking part, a disc-shaped part engaging the lips, and a portion located between these two parts and constituting a base for the sucking part, the base extending to the other side of the disc-shaped part, whereby the wall thickness of the base is less than that of the other parts. Due to this construction the base which in use is located between the soft shapable gums of a baby, has a particularly great resiliency, so that changes in shape of the gums are avoided.

It is difficult to make a nipple of this construction by the

usual dipping and dumping process, particularly since special devices are required. Therefore, the present invention provides that the nipple of this invention is to be made by spraying, pressing or transfer processes, namely, in a closed mould subjected to pressure and including a negative mould and a core.

In accordance with a further feature of the present invention the hollow space formed by the core has a cross-section which diminishes from the free end of the base extension to the front of the sucking portion to facilitate the shaping.

Thus the front end of the pacifier is provided with a base extension which takes over the function of the handle or the ring and which can have any desired shape or wall thickness. It is advantageous, however, to provide a round transition portion upon the surface of the base extension toward the lip-engaging disc. When this construction is used there is the possibility that the baby can place the base extension into the mouth, but then due to the strongly curved closing surfaces the pacifier will slide practically automatically out of the lips. On the other hand the lip-engaging disc consists of a full piece of material. While it is yieldable, it is sufficiently rigid to be able to carry out its lip engaging function. In accordance with the present invention the base extension located in front of the disc has the thinnest wall and is yieldable, while in the sucking portion the wall thickness is increased due to the diminution of the cross-section of the hollow space. Thus the sucking portion provides a good and pleasant workout for the tongue action of the baby.

The invention will appear more clearly from the following detailed description when taken in connection with the accompanying drawing the sole FIGURE of which shows by way of example only, in side view a pacifier constituting a preferred embodiment of the inventive idea.

The illustrated pacifier has an outer portion 1 having rounded surfaces 2 extending into the lip-engaging portion 3. Further rounded surfaces 4 connect the lip-engaging portion 3 with the base 5 which extends into the sucking portion 6. Within the nipple is a hollow space 7 shown by broken lines, the cross-section of which uniformly diminishes from the open end of the outer portion 1 to the end of the sucking portion 6.

In the example illustrated, the outer portion 1 is provided with bore holes 8 which can be used for attaching a string, a ring or the like.

The pacifier shown in the drawing has a flat tongue-like shape. However, it can also have the shape of a rotation body. The outer portion can have a different shape. If the device is used as a nipple the outer portion along with the disc 3 can serve as a joint for a bottle. Other changes can be made in the illustrated and described embodiment within the scope of the present invention. Specifically, the device can be made of a large number of materials, such as elastomers, natural rubber, artificial rubber, silicon rubber or other plastic substances. The shaping process can be replaced by a confectioning process, although the latter is less advantageous.

We claim:

1. An integral infant nursing device comprising a lower portion, and upper portion and an outwardly projecting intermediate portion, said lower portion and said upper portion being formed with a pair of spaced opposed substantially flat sides and said intermediate portion having a substantially circular rim, said device being also provided with an opening therethrough extending from said lower portion to said upper portion, said opening being continuously tapered inwardly from said lower portion to said upper portion.

2. An integral infant nursing device as described in claim 1 the lateral junction between said intermediate portion and said upper and lower portions being arcuate.

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