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NURSING BOTTLE HOLDER

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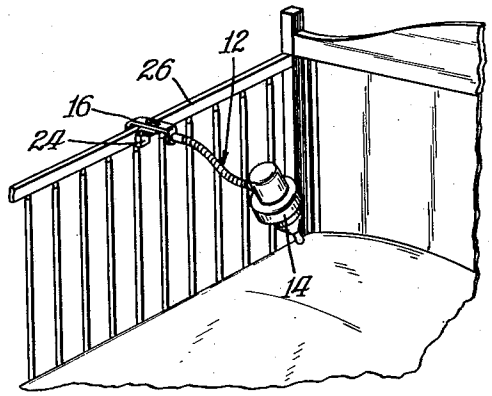
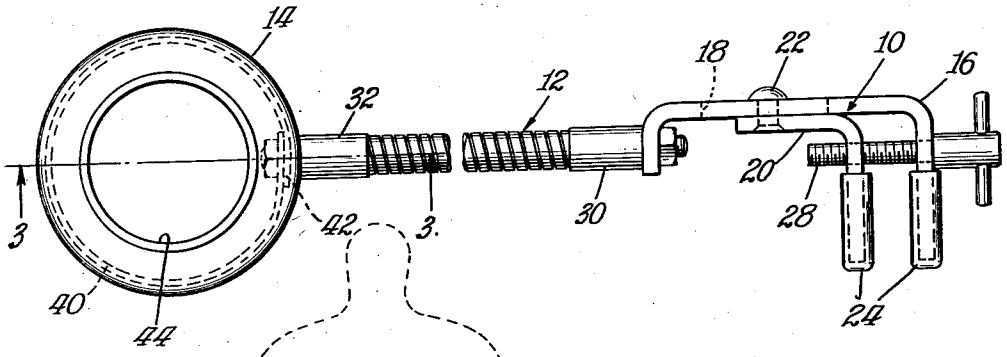


Fig. 1.

Fig. 2.



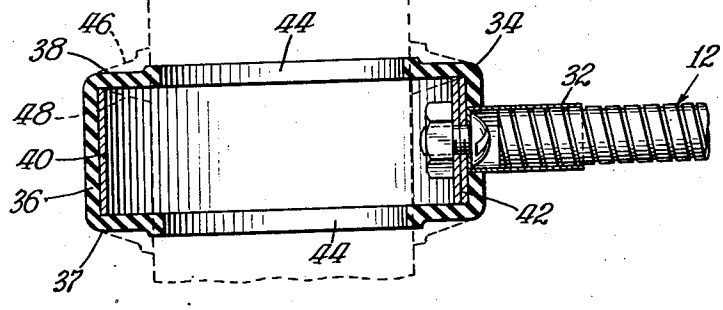


Fig. 3.

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NURSING BOTTLE HOLDER

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8 Claims. (Cl. 248—104)

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This invention relates to a new and useful bottle holder which is particularly adapted for use as a nursing bottle holder.

In accordance with the present invention I have provided a bottle holder which is simple in construction and is especially advantageous due to the fact that it is capable of accommodating bottles within a wide range of different sizes and shapes.

A suitable embodiment of the invention is illustrated in the accompanying drawing in which:

Fig. 1 is a diagrammatic fragmentary isometric view of a bottle holder constructed in accordance with the invention, illustrating the holder applied to the rail of a crib;

Fig. 2 is a diagrammatic plan view partially in section of the holder; and

Fig. 3 is a diagrammatic sectional view taken on line 3—3 of Fig. 2.

The embodiment illustrated in the drawing comprises a clamp 10, a flexible arm 12 and the holder 14. The clamp may be of any convenient structure and, as illustrated herein, comprises a U-shaped support 16 of metal or other rigid material which is provided with a slot 18. Angle 20 of metal or other rigid material is slidably mounted upon the support 16 by the bolt 22 which extends through the slot 18. The outer ends of the angle 20 and support 16 are enclosed with resilient rubber sleeves 24 suitable for establishment of a flexible grip upon a piece of furniture such as a crib 26. The clamp is made operative by means of a thumb screw 28 threadedly mounted in the laterally extending webs of the angle and support.

The clamp is suitably connected to the bottle holder by means of the flexible arm 12 of conventional design. This arm terminates in a pair of caps 30, 32 which in turn are bolted to the support 16 and the bottle holder respectively.

The bottle holder (Fig. 3) comprises a ring having an extensible inner periphery. In the embodiment shown herein the holder comprises an annular channel having inwardly projecting sides 38 of rubber or other resilient, yieldable material capable of substantial elastic deformation under stress, and having a base 36 which possesses sufficient rigidity to be capable of holding a bottle in place. This structure comprises an annular rubber channel 37 in which the sides 38 of the channel extend inward, and a base which is reenforced by a metal or other rigid sleeve or ring 40. This ring is bolted to cap 32 as shown in the drawing.

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For convenience in manufacture of the holder herein contemplated it has been found especially advantageous to utilize a sleeve formed by bending a metal or other strip to form an overlap as indicated at 42. Using such a sleeve or ring, it is possible to collapse the ring and decrease its diameter by increasing the degree of overlap. This affords easy introduction of the ring into the channel through channel apertures 44. It will be apparent that the diameters of the apertures 44 are substantially less than the diameter of the sleeve since it reenforces the channel at its base. Consequently the use of a ring which is capable of being decreased in diameter simplifies manufacture and also avoids undue distortion of the rubber or other channel during assembly of the holder.

The channel, or at least the sides 38 thereof, should be elastic and yieldable to an extent such that they can be readily extended or otherwise deformed under stress and so that the edges thereof will engage and hold the bottle firmly. For example, the channel may be constructed of thin, highly elastic rubber having a thickness of the order of 0.01 to 0.1 inches and therefore is capable of being stretched to a very considerable degree. However heavier channels may be used if desired. The sides of the channel preferably should have substantial width, for example of the order of one-tenth to one-third of the external diameter of the annular channel. By use of such wide channels it is possible to accommodate a wide variety of bottles of different sizes and shapes.

In the use of the present device, a bottle such as a nursing bottle is pushed through the aperture 44 of the annular channel so that the edges of the channel sides 38 are extended and firmly engage and support the bottle. Where the diameter of the bottle is substantially larger than that of the apertures, the sides 38 merely extend laterally and are stretched to accommodate the bottle. It will thus be apparent that these edges will adapt themselves under the stress created by the insertion of the bottle in the aperture for accommodation of bottles of any convenient size and shape within the particular range of sizes for which the holder has been constructed.

My rubber annulus has an advantage over a clamp-type holder for a bottle in that it permits lengthwise movement of a bottle toward and away from the baby's mouth without any movement of the flexible arm. In nursing, the bottle is not still. Each time the baby collapses the nipple, the bottle moves outwardly, and each time

the baby opens its mouth to fill the nipple, the bottle moves inwardly. The longitudinal movement of the bottle is ordinarily an eighth to a quarter of an inch. This movement, however, is very important because where the bottle is held absolutely still, the baby will try to compensate by moving its own head and will fight the nipple.

As illustrated in Figure 3, the side walls **38** may move upwardly in dotted line position **46** or downwardly to the dotted line position **48**, thus permitting the lengthwise movement of the bottle during nursing.

Although the present invention has been described and claimed with particular reference to the specific details of certain embodiments thereof it is not intended that such details shall be regarded as limitations upon the scope of the invention except insofar as included in the accompanying claims.

What is claimed:

1. A nursing bottle holder which comprises an annular channel having a substantially rigid base and inwardly extending elastic sides bounding a bottle-receiving opening, said sides being deflectable in both axial directions and stretchable to increase the size of such opening to accommodate a bottle of a diameter exceeding that of the opening when said sides are relaxed, and means upon said base for supporting the channel.

2. A nursing bottle holder which comprises an annular resilient rubber channel provided with inwardly extending sides bounding a bottle-receiving opening and capable of stretching about and contracting into clamping relation onto a bottle inserted endwise into such opening, a reenforcing ring in concentric contiguity with the annular base of said channel and so constructed and arranged as to avoid interference with the stretching of said channel sides, and an elongated supporting structure connected with said ring and projecting radially therefrom.

3. A nursing bottle holder comprising axially-spaced and axially deflectable annular flanges bounding a bottle-receiving passage, said flanges possessing elasticity adapting them to expand into clamping relation about a bottle received into said passage, and holder supporting means connected with the holder at a position radially spaced from said opening.

4. A bottle holder which comprises a substantially rigid ring and an elastic bottle-gripping

structure having an outer portion supported by said ring and extending radially inwardly to define and bound a bottle-receiving opening in radially-spaced relation from said ring, and the elasticity of said structure adapting enlargement of said opening pursuant to insertion of a bottle thereinto and causing said structure to be operable for gripping onto the inserted bottle.

5. A nursing bottle holder which comprises a substantially rigid ring having an elastically extensible and axially deflectable inner peripheral portion, and means connected with said holder in spaced relation from said elastic axially deflectable peripheral portion to support said holder in a manner avoiding interference with distortion of said peripheral portion.

6. A nursing bottle holder comprising a bottle-holding element having a portion for gripping onto the sides of a bottle into holding relation therewith, said gripping means being elastically distortable to facilitate limited endwise displacement of the bottle and to impose a restorative endwise force thereto during such displacement, and means supportingly engaging said element in spaced relation from the bottle-engaging portion.

7. In a nursing bottle holder, an elastic planar membrane having a bottle-receiving and gripping opening in radially-spaced relation from the perimeter of said membrane, and reenforcing means for said membrane extending about such perimeter.

8. The combination set forth in claim 7, wherein there are two of said membranes and the openings thereof are in co-axial axially-spaced relation, and wherein the perimeters of said membranes are connected together.

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