March 22, 1960 R. L. SMITH 2,929,290

MULTIPLE-PURPOSE HOLDER FOR INFANT-FEEDING RECEPTACLES

Filed March 4, 1957

Fig. 1

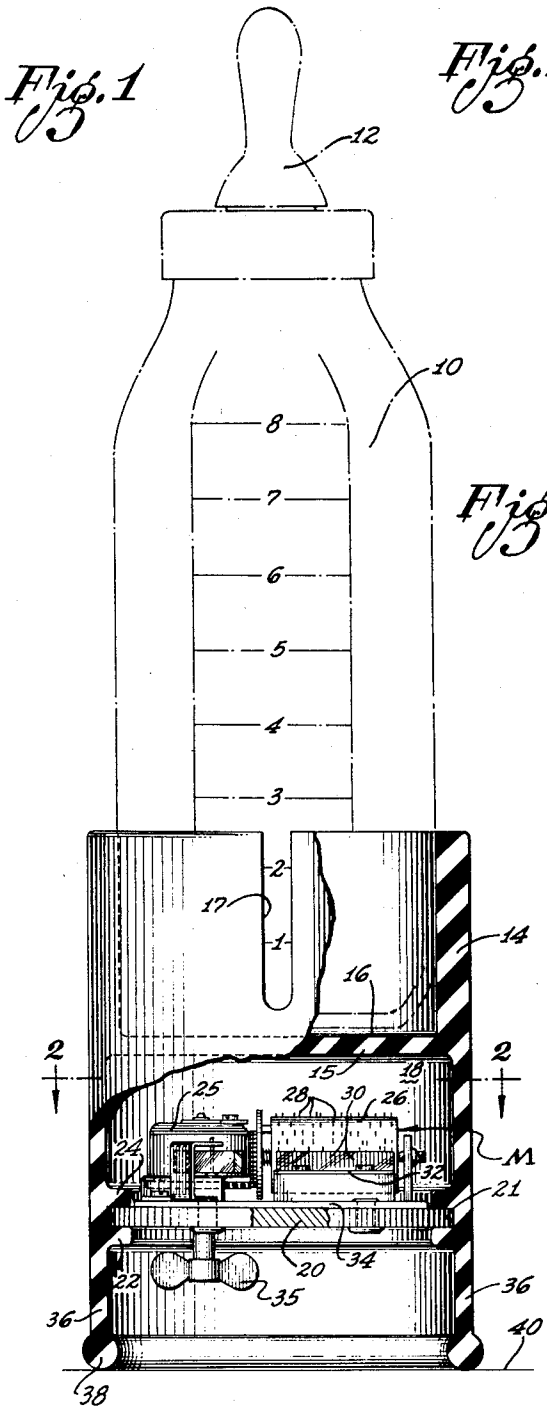


Fig. 2

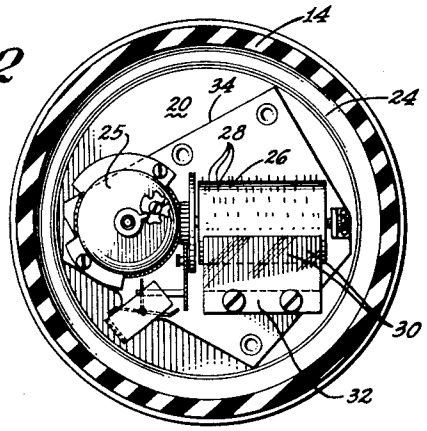
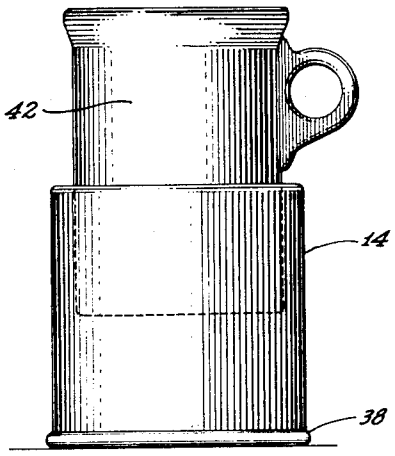


Fig. 3



INVENTOR,
Robert Lee Smith

By Smyth & Roston

Attorneys

United States Patent Office 2,929,290 Patented Mar. 22, 1960

2,929,290

MULTIPLE-PURPOSE HOLDER FOR INFANT-FEEDING RECEPTACLES

Robert L. Smith, Torrance, Calif.

Application March 4, 1957, Serial No. 643,731

3 Claims. (Cl. 84—95)

This invention relates to a multiple-purpose structure for use with receptacles for feeding infants.

The primary use of the invention is for releasable attachment to the bottom end of such a receptacle to serve as base structure extension therefor and to combine therewith a suitable spring-actuated music mechanism, such as the mechanism of a conventional music box. Thus, the base structure may be attahced to a nursing bottle to play soothing music while the baby feeds, and, if desired, to continue to play the soothing music to induce sleep after the bottle is emptied.

The second purpose of the base structure is to serve as a holder for the receptacle. Thus, when the receptacle is in use, the holder serves as a convenient extension for facilitating the handling of the receptacle. When the receptacle is out of use or is being prepared for use, the holder serves as means to support the receptacle upright on a support surface in a stable manner.

Another function of the holder is to protect the bottom end of the receptacle. In the preferred embodiment of the invention, the holder is of yielding character to absorb shocks and is more likely than not to strike the floor first if the receptacle is inadvertently dropped.

The invention is further directed to certain problems that arise in the incorporation of a music playing mechanism, such as a spring-actuated music box mechanism, in such a base structure. One of these problems is to fully enclose the music playing mechanism for its protection. Another of the problems is to provide a winding key for the enclosed music playing mechanism in a suitable manner. Such a winding key must be accessible for winding by an adult, but must not exposed hard or sharpe edges in any manner hazardous to the infant. A further consideration is that the winding key must be free from interference by clothing or bedding so that the key can unwind freely as required for the music-playing operation. It is also to be borne in mind that the winding key should be protected in the event the receptacle with the base structure thereon is inadvertently dropped.

These problems are solved by making the support structure hollow to provide a chamber enclosing the music playing mechanism with the winding key extending downward from the bottom wall of the chamber. The problems are further solved by forming the support structure with a bottom skirt that surrounds and protects the downwardly extending winding key.

The invention is further directed to the problem of providing a base structure or holder of the character described that may be readily cleaned and sterilized to make the combined receptacle and holder sanitary as required for infant feeding. The difficulty, of course, is that the application of water and/or heat will damage the music playing mechanism. This problem is met by providing a separable bottom wall for the chamber that confines the music playing mechanism and by mounting the mechanism on this wall for separation therewith from the base structure proper.

A further feature of the invention is that these various purposes are served by a relatively simple one piece molded body of rubber-like material. Such a body is inexpensive to manufacture and is easily assembled. In addition, such a body makes it an extremely simple matter to mount and dismount the music playing mechanism.

The molded body has a cylindrical wall with a transverse wall integral therewith to form a cylindrical seat to receive and embrace the bottom end of the receptacle. The cylindrical wall extends downwardly from the integral transverse wall, thereby to form the top and sides of a chamber to house the music mechanism.

The cylindrical wall is formed with at least one inner circumferential shoulder to engage the rim of a separate transverse wall member that completes the chamber and serves as the bottom wall of the chamber. Preferably, the cylindrical wall is formed with an inner groove for this purpose.

The separable wall is in the form of a rigid disk on which the music playing mechanism is mounted, with the winding key for the mechanism extending downwardly from the disk. At the normal assembled position of the rigid disk, the surrounding cylindrical wall extends downwardly below the winding key to form the previously mentioned bottom skirt that serves as an effective guard for the key.

It is a simple matter to peel the yieldable cylindrical wall away from the rim of the rigid disk for separation of the disk and the music playing mechanism from the holder proper. With the rigid disk removed, the hollow body is ready for exposure of all its inner surfaces for cleaning and sterilizing operations. The rubber-like body may be sterilized in the same manner as the receptacle and along with the receptacle, without requiring a separate sterilizing operation. In this regard, a further feature of the preferred practice of the invention is that the open rubber-like body is free from crevices in which foreign material may be trapped.

The various features and advantages of the invention may be understood from the following detailed description considered with the accompanying drawings.

In the drawings, which are to be regarded as merely illustrative:

Figure 1 is a side elevation of the presently preferred embodiment of the invention as used to hold a nursing bottle, the view being partly in section;

Figure 2 is a transverse sectional view taken as indicated by the line 2—2 of Figure 1; and

Figure 3 is a side elevation on a reduced scale showing the device as used to hold a drinking cup.

Figure 1, illustrating the presently preferred embodiment of the invention, shows how the base structure may be used with a conventional nursing bottle **10** having a rubber nipple member **12**. The base structure comprises a one-piece hollow body of rubber-like material, such as natural rubber or neoprene, and is formed with a cylindrical wall **14** and an integral transverse wall **15**. The transverse wall **15** is set inwardly from the upper end of the cylindrical wall **14** to form therewith a cylindrical seat **16** for the bottom end of the nursing bottle **10**.

The seat **16** is dimensioned to embrace the bottom end of the nursing bottle **10** in a snug manner. Thus, the base structure is in firm engagement with the nursing bottle, not only because it embraces the nursing bottle frictionally, but also because it serves to some extent as a suction cup for the bottom end of the nursing bottle. Preferably, the cylindrical wall **14** of the seat **16** is formed with a vertical slot **17** whereby the liquid level in the lower region of the bottle may be observed.

The transverse wall **15** and the cylindrical wall **14** form the top and bottom sides of a chamber **18** that

serves to enclose a music playing mechanism, the music playing mechanism being generally designated by the letter M. The bottom wall of the chamber 18 is a separable wall member 20 that preferably is in the form of a rigid disk, the rigid disk being in releasable engagement with the cylindrical wall 14.

For the purpose of engaging and supporting the rigid disk 20, the cylindrical wall 14 is formed with at least one inner shoulder to grip the rim of the disk and preferably is formed with two shoulders to engage the rim of the disk from opposite sides. These two shoulders may be provided simply by forming the cylindrical wall 14 with an inner circumferential groove 21. In the construction shown, the groove 21 is formed by a lower circumferential rib 22 and an upper circumferential rib 24, these two ribs forming the pair of shoulders to engage the rim of the rigid disk from opposite sides.

The music box mechanism M may be of conventional construction. Thus, the mechanism may include a suitable actuating spring (not shown) concealed in a housing 25 to drive the usual drum 26. The drum 26 has the usual radial teeth 28 to pluck the tuned fingers 30 of a resilient music-producing plate 32 in a well known manner. The components of the music mechanism M are mounted on the usual base plate 34, which is of non-circular configuration, and the base plate, in turn, is mounted permanently on the upper side of the rigid disk or separable wall member 20. A feature of this embodiment of the invention is that the rigid disk 20 is made of transparent material so that the movement of the parts of the music-playing mechanism can be observed through the disk. Thus, the base structure enclosing the music-playing mechanism may be used to amuse the baby between feeding periods.

The music mechanism M is wound by the usual manually-operable winding key 35 which extends downwardly from the rigid disk 20. The cylindrical wall 14 of the rubber-like base structure extends downward below the level of the winding key 35 to form a cylindrical skirt 36, the cylindrical skirt serving as a guard for the winding key. Preferably, the lower end of the cylindrical skirt 36 is formed with a rim bead 38.

It is apparent that it is a simple matter to slip the resilient rubber-like base structure onto the bottom end of the nursing bottle 10. If air is trapped in the seat 16 under the nursing bottle 10, it is a simple matter to pull the soft cylindrical wall 15 away from the nursing bottle for the escape of the trapped air and to provide the desirable suction grip.

Figure 1 shows how the base structure may be employed to support the nursing bottle on a horizontal support surface 40, such as the top surface of a table or the like. The support structure or holder holds the nursing bottle 10 in upright position in a stable manner and the slot 17 exposes the full length of the bottle for observation of the liquid level therein. It is to be noted that the skirt 36 keeps the weight of the bottle and the support structure off the winding key 35.

Before placing the nursing bottle 10 with the holder thereon in position to feed the infant, the winding key 35 is wound to energize the music mechanism M for the purpose of producing soothing music during the nursing period. The assembly rests recumbent on the bedding adjacent the baby with the cylindrical skirt 36 fully protecting the baby from the hard edges of the winding key. The skirt also keeps the bedding and the baby's clothing from interfering with the reverse rotation of the winding key as the actuating spring unwinds in operating the drum 26.

After the nursing bottle is emptied by the baby, it is a simple matter to rewind the key as may be necessary for continuation of the music to sooth the baby to sleep.

Although the cylindrical skirt 36 protects the baby from the winding key 35, nevertheless, the winding key is accessible to an adult to make it possible to rewind the music mechanism in an unobstrusive manner without disturbing the baby.

Figure 3 shows how the base structure may be employed with a cup 42 for feeding an infant or a young child. The mental association of music with the cup makes mealtime inviting to a child and thus facilitates the feeding of foods important for the child's welfare.

My description in specific detail of the presently preferred practice of the invention will suggest various changes, substitutions and other departures from my disclosure within the spirit and scope of the appended claims.

1. A base structure for use with a receptacle for feeding liquid to infants by lifting and tilting the receptacle to cause the liquid to flow from the receptacle by gravity, comprising: a member having an upright cylindrical wall and a transverse wall integral therewith, the transverse wall being spaced intermediate the extremities of the cylindrical wall to form therewith a lower compartment open at the bottom and an upper cup-shaped seat to rereceive the bottom end of the receptacle whereby said member may serve as a bottom extension of the receptacle and may further serve as a base to support the receptacle on a support surface when the receptacle is not tilted, said lower compartment being formed with integral internal upwardly directed shoulder means between said transverse wall and the bottom end of the lower compartment; and a spring-actuated music-playing means normally mounted in said lower compartment and supported by said shoulder means, said member being made of resilient rubber-like material to releasably resiliently grip said receptacle and to permit manual distortion of said shoulder means for release of said music-playing means to permit said member to be cleaned apart from said music-playing means.

2. A combination as set forth in claim 1 in which said cylindrical wall has a slot therein in the region of said cup-shaped seat to expose the lower end of the receptacle for observation of the liquid level therein.

3. A base structure for use with a receptacle for feeding liquid to infants by lifting and tilting the receptacle to cause the liquid to flow from the receptacle by gravity, comprising: a member having an upright cylindrical wall and a transverse wall integral therewith, the transverse wall being spaced intermediate the extremities of the cylindrical wall to form therewith a lower compartment open at the bottom and an upper cup-shaped seat to receive the bottom end of the receptacle whereby said member may serve as a bottom extension of the receptacle and may further serve as a base to support the receptacle on a support surface when the receptacle is not tilted, said lower compartment being formed with an internal circumferential groove spaced above the lower end of the compartment; and a spring-actuated music-playing means normally seated in said groove in said lower compartment, said member being made of resilient rubber-like material to releasably resiliently grip said receptacle and to permit manual distortion of said cylindrical wall in the region of said groove for release of said music-playing means from the groove to permit said member to be cleaned apart from the music-playing means.

References Cited in the file of this patent

UNITED STATES PATENTS

465,795	Sueur	Dec. 22, 1891
2,252,289	Kind et al.	Aug. 12, 1941
2,484,411	Kohler	Oct. 11, 1949
2,529,368	Bazelon	Nov. 7, 1950