United States Patent [19]

Edwards

[11] **3,800,843**

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[54] **DISPOSABLE NURSER**

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[73] Assignee: **Illinois Tool Works Inc.,** Chicago, Ill.

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[52] **U.S. Cl.** ..... **150/0.5,** 215/11 E, 215/10

[51] **Int. Cl.** **A45c 7/00**

[58] **Field of Search** ..... 150/0.5; 206/65 K; 222/105, 527, 533–536; 215/11 R, 11 E

[56] **References Cited**

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Assistant Examiner—Norman L. Stack, Jr.

[57] **ABSTRACT**

A disposable nursing container assembly having an outer support housing of modified generally frusto-conical shape with an intermediate outward peripheral ledge to which the open end of a cup-like bag is secured and initially inverted and housed within the reduced upper portion of the housing permitting nesting of multiple container assemblies one within another as a multi-unit package from which a container unit may be removed and the cup-like bag reversed to depend from the ledge within the lower portion of the housing and provide with the upper portion of the housing a receptacle for fluid which may be dispensed through a nipple to be attached to the upper open end of the housing.

1 Claim, 4 Drawing Figures

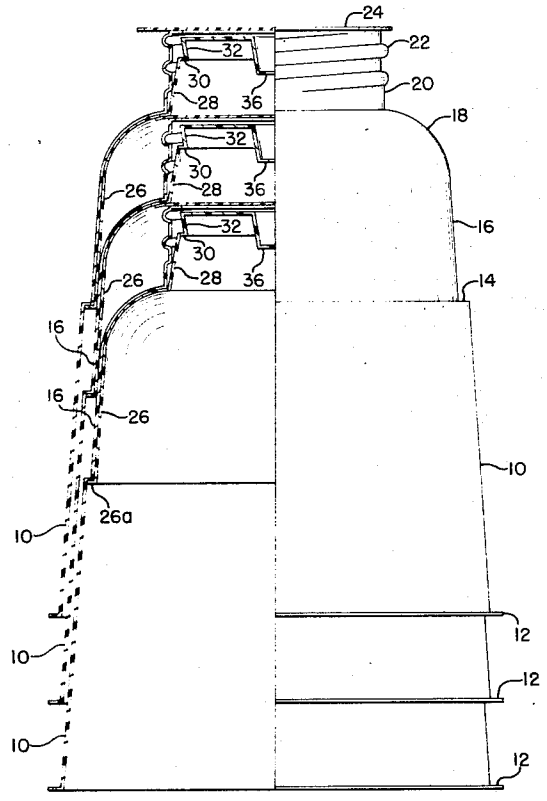


Fig. 1

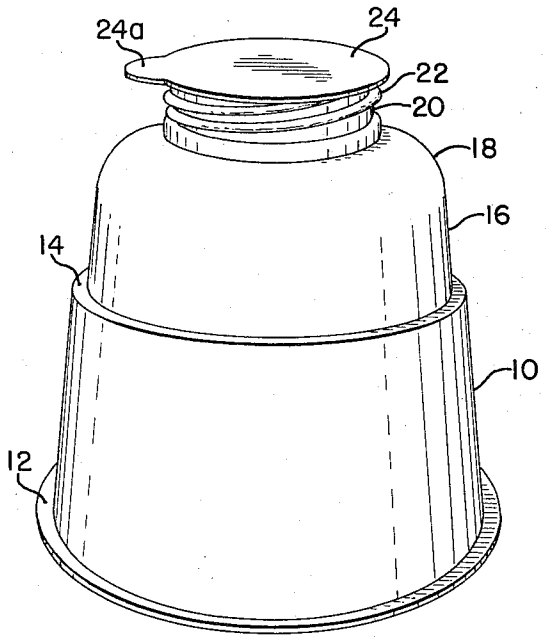

24a
24
22
20
18
16
14
10
12

Fig. 2

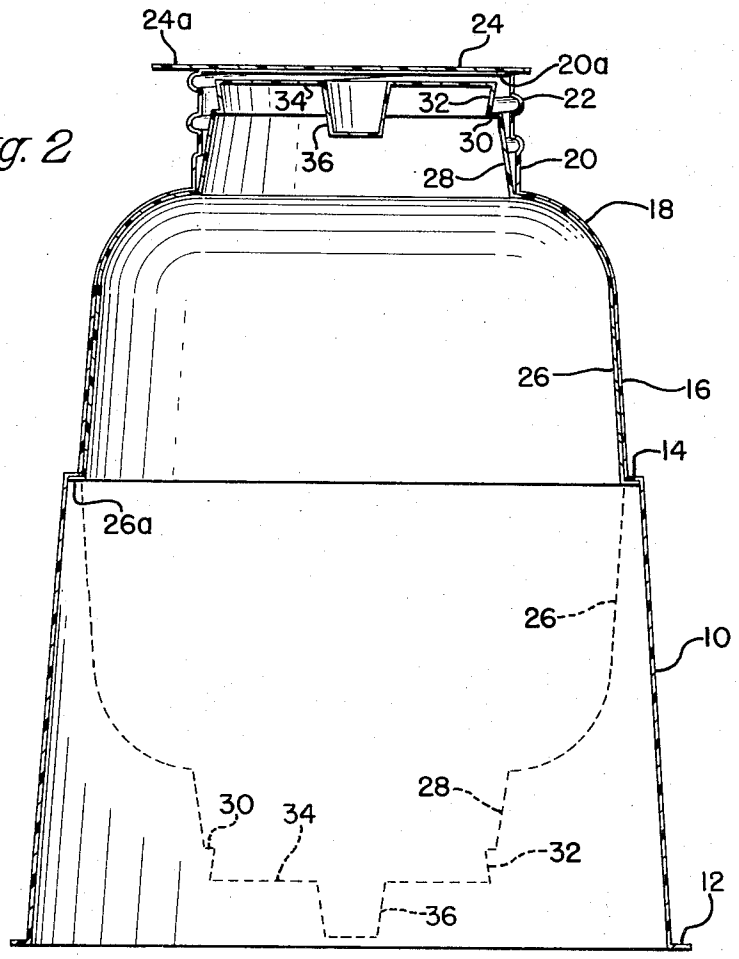

24a
24
20a
34
32
22
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16
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26a
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12
36

Fig. 3

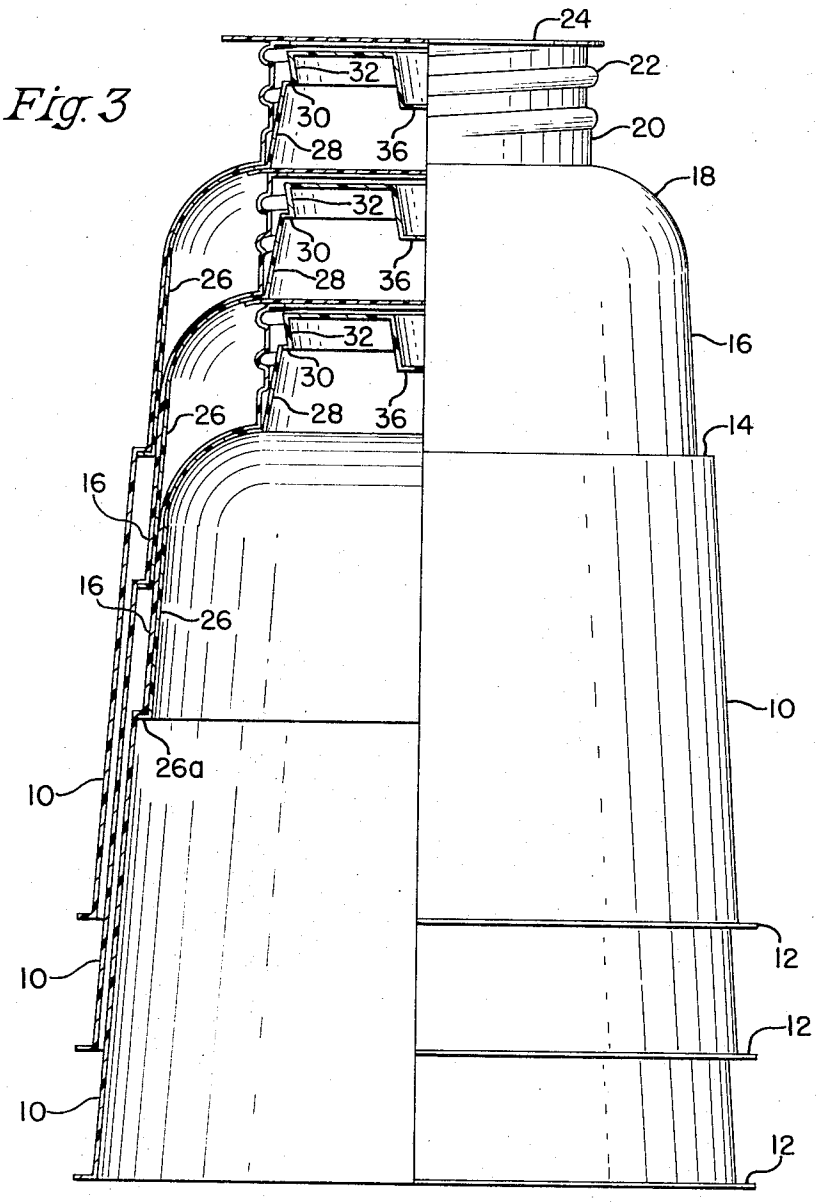
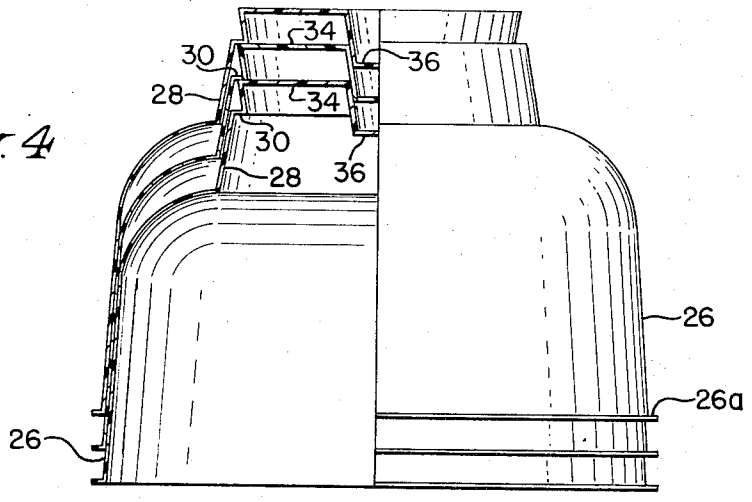

24
22
20
18
16
14
10
12
12
12
32
30
28
36
26
26a

Fig. 4


34
30
36
28
34
30
28
36
26
26a
26

DISPOSABLE NURSER

Disposable nursing containers are now used extensively in the home and for travel and serve the purpose of minimizing sterilization of formula containers and nursing bottles for reuse in that these containers are usually pre-sterilized and formed of relatively inexpensive plastic material and so are disposable after a single use.

According to the present invention, an object is to provide a relatively inexpensive and disposable nursing container assembly including an outer housing supporting substantially around the mid portion thereof a cup-like inner container which is reversible from an inverted position generally conforming to the inner surface of the upper portion of the housing permitting nesting of plural container assemblies in a multi-unit package for distribution, to a dependent use position within the lower portion of the housing upon separation of a container assembly from the package.

Another object of the invention is to provide such a container assembly which is maintained in sterile condition by a closure across the neck of the housing.

A further object of the invention is to provide such a container assembly having an inward ledge on the housing to which the open ends of the cup-like inner container is sealed for permissive movement thereof between the reversed positions.

The invention still further aims to provide a cup-like inner container for use with a container assembly of the above type and wherein the closed end of the cup-like inner container has stacking ring formations permitting releasable nesting of plural inner containers in a multi-unit package for distribution to locations for assembly of individual inner containers with individual outer housings.

In the accompanying drawings:

FIG. 1 is a perspective view of the sealed nursing container assembly;

FIG. 2 is an enlarged vertical section of FIG. 1 showing the inner cup-like containers in full line position for nesting and in dotted line position for fluid reception;

FIG. 3 is a partial vertical section similar to FIG. 2 but showing nursing container assemblies telescoped together as a multi-unit package, and

FIG. 4 is a partial vertical section showing preassembly of cup-like containers in a multi-unit package prior to assembly thereof with housings.

Referring to the accompanying drawings and particularly to FIG. 1 at this time, the outer housing includes a lower frusto-conical portion **10** with an outward base support flange **12** and with an intermediate peripheral ledge portion **14** from the inner edge of which an upper housing portion **16** extends and tapers inwardly to an inwardly domed portion **18.** This domed portion **18** terminates in a neck portion **20** which is provided with screw threads **22,** or other suitable rib and groove means, for ultimate attachment of a nipple. The open end of the neck portion is turned inwardly as at **20***a* to have sealed thereto a flexible plastic closure **24** having a pull tab **24***a* to facilitate removal thereof when it is desired to fill the assembly prior to dispensing of the contents for feeding.

With reference to FIG. **2,** the assembly of the inner cup-like container with the outer housing is shown. This cup-like container or bag includes a body wall **26** with the open end provided with an outward peripheral

flange **26***a* which is sealed to the inner surface of the ledge **14** in fluid tight and weight supporting relation. Though inverted in the full line position of FIG. **2,** the body wall **26** curves inwardly and terminates in a bottom formation including an inwardly and upwardly inclined wall **28** merging with a substantially horizontal flange or ledge portion **30** which, in turn, merges with a relatively short outwardly inclined wall **32** joined to the bottom closing wall **34.** The bottom closing wall **34** is interrupted by a central downwardly and inwardly inclined knob-like dependency **36.**

It is contemplated that the outer housing be formed by molding techniques of suitable plastic material and of a thickness to give support rigidity thereto and polystyrene is one example. On the other hand, the cup-like container is to be formed by molding techniques of a plastic material and of a lesser thickness to which controlled flexibility can be imparted and polyethylene is an example. Thus, as illustrated in FIG. **2,** the wall portion **26** of the cup-like container is sufficiently flexible to permit the container to be reversed within the housing to the dotted line position dependent from the connection between the cup flange **26***a* and the ledge **14.** On the other hand, the plastic material of the cup-like container preferably has sufficient inherent shape integrity to permit nesting of these containers as a multi-unit pre-packaged assembly as shown in FIG. **4** with ledge portions **30** resting on subjacent bottom walls **34** and adjacent wall surfaces **28** telescoped as are the knob-like dependencies **36.** The reverse taper stacking rings, that is, the walls **28, 32** and ledge **30,** permit this nesting and ready removal of one cup-like container at a time from the pre-package during manipulative process and apparatus steps in subsequently sealing individual containers to respective outer housings or holders. After assembly of individual cup-like containers and holders in the position shown in full lines of FIG. **2,** these assemblies can also be nested together as a multi-unit package for distribution and retail sale as shown in FIG. **3.** Thus, the inner surfaces of the dome portions **18** at juncture with the neck portions will rest upon the outer surfaces of next subjacent closures **24** and with inner surface portions of cup-like containers nesting with adjacent outer surfaces of upper housing portions **16** for stability. This may be accomplished with the cup-like containers in the full line position of FIG. **2** or in the dotted line position of that figure in which case telescoping of one nursing container with another will serve to shift or reverse the cup-like container from the dotted line position to the full line position.

It is understood that the interior of the upper portion **16** of each housing and the included adjacent surface of each cup-like container will be rendered sterile and maintained in that condition by the closure or label seal **24.** From the package of FIG. **3,** an individual nursing container assembly will be removed and the closure **24** removed from the neck flange **20***a.* The attendant may then grasp the dependency **36** by access through the open bottom of the housing and pull the cup-like container from the full line position of FIG. **2** to the dotted line position without contaminating the interior of the container, or a sterile instrument may be externally applied through the open neck of the housing for this purpose. Thereafter, the formula or other fluid may be poured into the sterile space provided by the inner surface of the upper housing portion **16** and the depen-

dent cup-like container or bag, and a nipple applied to the neck portion **20, 22** for nursing dispensing. After such use, the relatively inexpensive plastic nursing assembly may be discarded as disposable matter.

I claim:

1. A container assembly for use as a disposable nursing device, and comprising a one piece outer housing including a lower generally frusto-conical portion tapering inwardly toward the upper end thereof and merging with the lower larger end of a peripherally smaller upper generally frusto-conical portion with the upper smaller end thereof merging with an inwardly directed wall portion which terminates in a peripherally reduced upstanding neck portion provided with attachment means for a dispensing unit, a radially extending shoulder between said lower and upper portions, a closure assembly sealed over the open end of said neck portion, said lower and upper portions permitting nesting of said container with a like container with the neck

portions and closures of the nested containers in axial alignment and with the inwardly directed wall portion of an upper container adapted to rest on the closure assembly of a subjacent container, an inner cup-like container formed of a uniform thickness plastic material and having a frusto-conical shape and reduced bottom formation generally conforming to the shape of said upper portion with the open end continuously sealed to said shoulder, the plastic material of said inner cup-like container having sufficient wall flexiblity to permit location thereof within the upper portion of the housing with the bottom formation of maintained shape within the neck portion for nesting and shipment of the containers and reversal to a use position depending from said shoulder within said lower portion to cooperate with said upper portion to form a receptacle for a nursing fluid to be dispensed through said neck portion upon removal of the closure assembly.

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