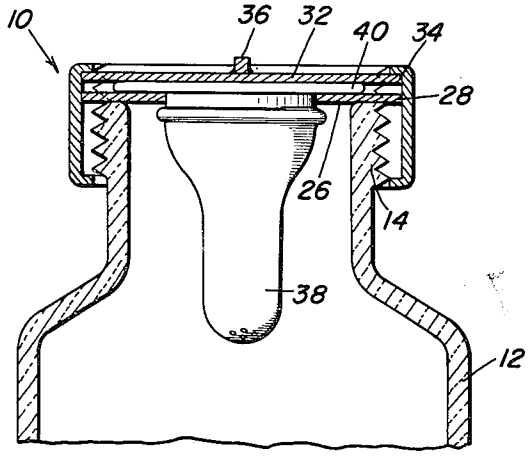
Aug. 28, 1956 R. O. ZENKER 2,760,665

REVERSIBLE CONTAINER CAP

Filed May 6, 1955

Fig. 1



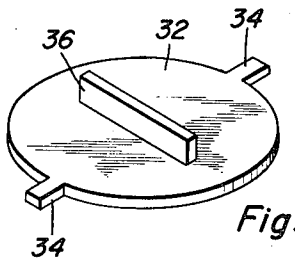


Fig. 4

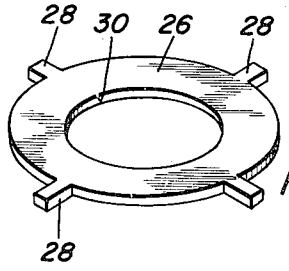


Fig. 5

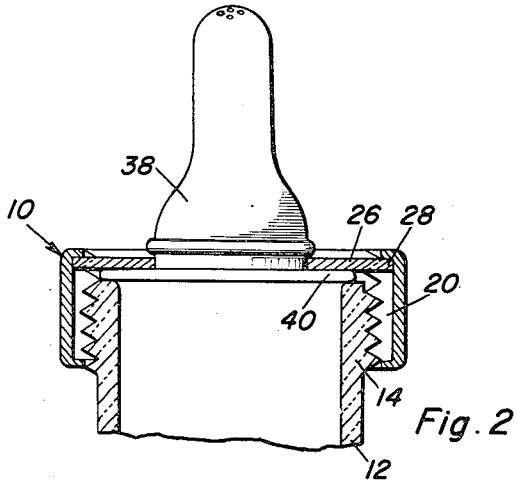


Fig. 2

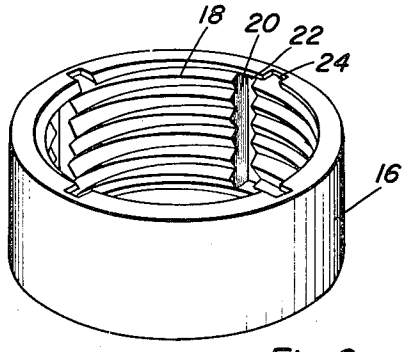


Fig. 6

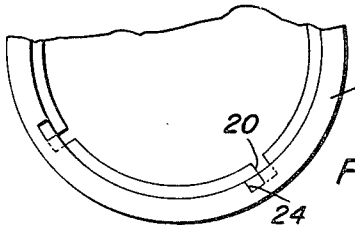


Fig. 3

Raymond O. Zenker
INVENTOR.

BY Clarence A. O'Brien and Harvey B. Jackson
Attorneys

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2,760,665

REVERSIBLE CONTAINER CAP

Raymond O. Zenker, Methuen, Mass.

Application May 6, 1955, Serial No. 506,491

5 Claims. (Cl. 215—11)

This invention generally relates to a container cap, and more specifically provides improved and novel construction in a container cap that may be reversible and is especially useful for performing its functions in connection with a nursing bottle having a nipple thereon wherein the nipple may be moved from an inverted position to an operative position on the threaded neck of the nursing bottle.

The use of large mouth nursing bottles employing flanged nipples which are held in place by a centrally apertured cap threaded onto the bottle has now become widespread. In its operative position, the nipple extends through the aperture in the cap, and the base flange of the nipple is clamped by the cap between the cap and the top of the bottle. When not in use, the nipple may be inverted so that it extends into the bottle, and the cap will again hold it in such a position. A sealing member or disk is normally employed due to the central aperture in the cap, and this sealing disk is disposed between the nipple and the cap and closes the aperture in the cap to protect the interior of the nipple from contamination while in its inverted position. Heretofore, when it was desired to change the nipple from its inverted position in the bottle to its operative position on the bottle, the cap and disk were removed and the nipple was changed by grasping it in the fingers of the hand. Similar handling of the nipple by human hands was required in placing the nipple in inverted position in the bottle. This use of human hands in handling the nipple causes unsanitary conditions and eliminates some of the advantages obtained by sterilization thereof. Therefore, it is a primary object of the present invention to provide a reversible container cap which may be utilized in positioning the nipple within and inverting the nipple from its inverted position to its operative position without utilizing human hands.

Another object of the present invention is to provide a reversible container cap which will permit a nipple to be moved from its inverted position to operative position in an easy and efficient manner, which will eliminate contact of the human hands and which is relatively inexpensive to manufacture.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

Figure 1 is a vertical sectional view of the container cap of the present invention positioned on the threaded neck of a nursing bottle with a nipple positioned in inverted position;

Figure 2 is a sectional view similar to Figure 1 illustrating the construction of the present invention with the nipple in operative position and the sealing member removed;

Figure 3 is a partial top plan view of the body member;

Figure 4 is a perspective view of the flexible sealing member;

Figure 5 is a perspective view of the disk movably positioned within the body; and

Figure 6 is a perspective view of the cylindrical annular body having the vertical grooves on the inner surface thereof.

Referring now specifically to the drawings, it will be seen that the numeral **10** generally designates the container cap of the present invention for use in conjunction with a nursing bottle **12** having an externally threaded neck **14**. The container cap **10** generally includes a cylindrical annular body member **16** having internal threads **18** extending from one end to the other thereof to permit the body **16** to be positioned on the threaded neck **14** from either end of the body **16**. A plurality of vertical longitudinal grooves **20** are positioned in intersecting relation to the threads **18** and terminate at the edge of the outermost thread at each end of the body **16**, as designated by the numeral **22**. Secondary grooves **24** extending through the outermost thread on the body **16** is positioned in offset relation to the grooves **20** and are in communication therewith in a manner described hereinafter.

An annular disk **26** having a plurality of radial projecting lugs **28** and a central enlarged opening **30** is slidably mounted within the body **16** with the lugs **28** engaged in the grooves **20** for longitudinal movement therein. A flexible sealing member **32** having diametrically opposed lugs **34** and an upstanding handle **36** is positioned within the body member **16** with the lugs **34** disposed in opposite grooves **20** in a manner described hereinafter.

A nipple **38** having a base flange **40** is positioned in the body **16** with the nipple **38** extending through the opening **30** and the flange **40** being positioned against the upper surface of the disk **26** when the nipple **38** is positioned in inverted position, as illustrated in Figure 1. The sealing member **32** engages the open end of the nipple **38** forming a closure therefor wherein the nursing bottle **12** may be transported or moved in any desired manner. When it is desired to utilize the nursing bottle **12**, it is only necessary to loosen the body **16**, remove the flexible sealing member **32** and completely remove the body **16** and invert the body **16** together with the nipple **38** and then screw the body **16** back onto the threaded neck **14** of the bottle **12**, thereby positioning the nipple **38** as illustrated in Figure 2 for use in the usual manner. It will be understood that the device of the present invention may be constructed of any suitable material which may be easily sterilized and may be employed in conjunction with any type of nipple and may also be employed in conjunction with any type of container other than the nursing bottle, as illustrated.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly, all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed.

What is claimed as new is as follows:

1. A reversible container cap comprising a tubular body having internal threads extending throughout the inner surface thereof, said body having a plurality of longitudinal grooves in the inner surface, a circumferential disk mounted in said body, a plurality of projecting lugs on said disk slidably received in said grooves, said grooves having their outer ends closed thereby captively retaining said disk within said body thereby permitting the body to be screw threaded onto a container from either end of the cap.

2. A reversible container cap comprising a tubular body having internal threads extending throughout the inner surface thereof, said body having a plurality of longitudi-

nal grooves in the inner surface, a circumferential disk mounted in said body, a plurality of projecting lugs on said disk slidably received in said grooves, said grooves having their outer ends closed thereby captively retaining said disk within said body thereby permitting the body to be screw threaded onto a container from either end of the cap, said disk having a central opening for removably receiving a nipple therethrough, and a removable flexible sealing member positioned in one end of said body for closing said opening in the disk.

3. A reversible container cap comprising a tubular body having internal threads extending throughout the inner surface thereof, said body having a plurality of longitudinal grooves in the inner surface, a circumferential disk mounted in said body, a plurality of projecting lugs on said disk slidably received in said grooves, said grooves having their outer ends closed thereby captively retaining said disk within said body thereby permitting the body to be screw threaded onto a container from either end of the cap, said body having secondary grooves in offset communicating relation with the longitudinal grooves to permit removal and assembly of said disk.

4. A reversible container cap comprising a tubular body having internal threads extending throughout the inner surface thereof, said body having a plurality of longitudinal grooves in the inner surface, a circumferential disk mounted in said body, a plurality of projecting lugs on said disk slidably received in said grooves, said grooves having their outer ends closed thereby captively retaining said disk within said body thereby permitting the body to be screw threaded onto a container from either end of the

cap, said disk having a central opening for removably receiving a nipple therethrough, and a removable flexible sealing member positioned in one end of said body for closing said opening in the disk, said body having secondary grooves in offset communicating relation with the longitudinal grooves to permit removal and assembly of said disk.

5. A reversible cap for nursing bottles having threaded necks for supporting a nipple in operative and inverted position, said cap comprising an annular body having internal threads extending therethrough for engagement with the threaded neck of a nursing bottle from either end of the body, said body having a plurality of longitudinal grooves intersecting the internal threads and terminating inwardly of the ends of the body, a plurality of secondary grooves extending through the outermost thread at one end of said body, said secondary grooves being offset from and in communication with the longitudinal grooves, a disk having a plurality of projecting lugs slidably received in said longitudinal grooves, said disk having an opening for receiving a nipple therein with the base flange of the nipple engaging the disk adjacent the opening, a sealing member removably mounted in said body for engagement with the open end of the nipple when the body and nipple are in inverted tightened position, said sealing being flexible and provided with projecting lugs for engagement in said longitudinal grooves, and a handle on said flexible member for manipulating the same, said secondary grooves permitting assembly of said disk and sealing member with said body.

No references cited.