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ADAPTOR FOR HANDLING A NURSING NIPPLE

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Fig. 1

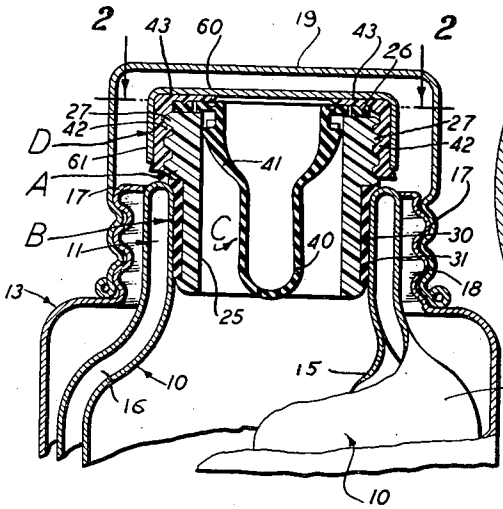


Fig. 2

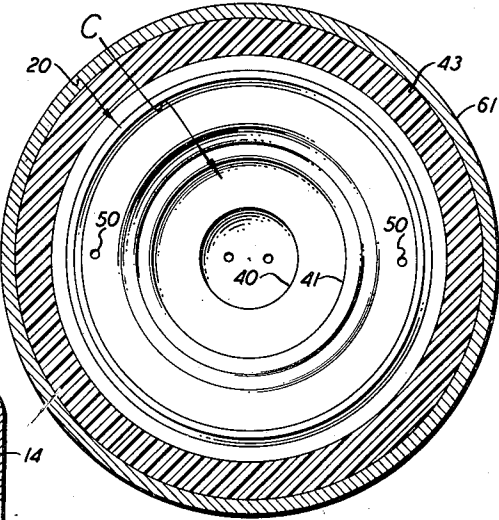


Fig. 3

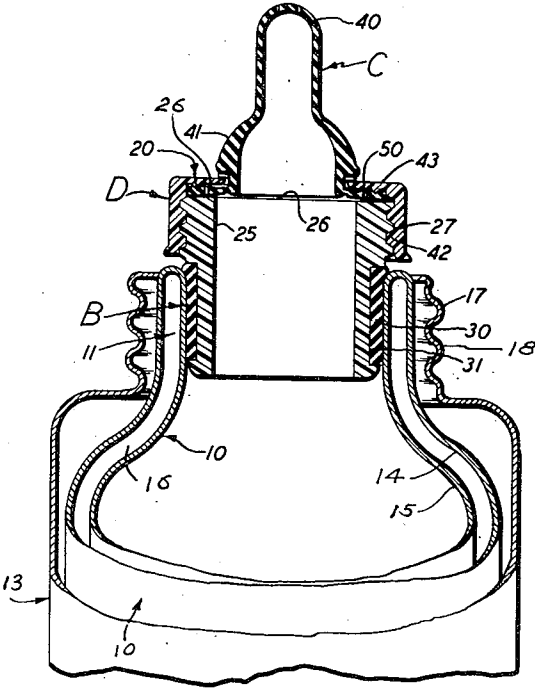


Fig. 4

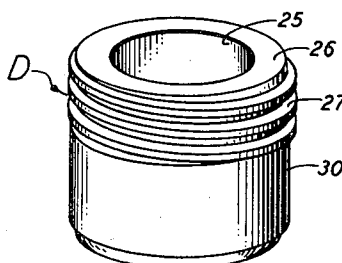
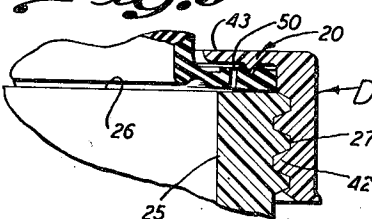


Fig. 5



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2,771,073

ADAPTOR FOR HANDLING A NURSING NIPPLE

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2 Claims. (Cl. 128—252)

This invention has to do with an adaptor for handling a nursing nipple, and it is a general object of the invention to provide a simple, practical, effective structure applicable to a "Thermos bottle," or the like, and which is such as to accommodate or carry a nursing nipple.

Nursing bottles equipped with or adapted to receive nipples are in common use and are such that immediately before use it is necessary to heat the contents of the bottles.

Thermally insulated, liquid carriers of the type ordinarily referred to as "Thermos bottles" are in common use for various purposes and their construction and operation is well understood. The ordinary Thermos bottle has a body with an open neck, the body and neck being formed with spaced impervious walls that define a space, from which, air has been withdrawn. A case or jacket surrounds the body and is connected thereto at or through the neck. In the course of ordinary use, a cork closes the neck and a cap is threaded to the upper end portion of the case and encloses both the neck and the cork.

It is a general object of this invention to provide an adaptor of simple, practical form and construction, applicable to the neck of a Thermos bottle, and which is such as to effectively receive or carry an ordinary or conventional nursing nipple, thus making it possible to store warm food, such as milk for a substantial period of time and to have it available for use at the desired temperature by simply removing the cap of the Thermos bottle and by exercising a simple adjustment of the adaptor and the nursing nipple carried thereby.

It is another object of this invention to provide an adaptor of the general character referred to which is of simple unitary form or construction and which in practice may be formed of a strong durable material that can be readily cleaned and sterilized, if necessary, and which can be very easily applied to and removed from a Thermos bottle.

Another object of the invention is to provide an adaptor of the general character referred to which is characterized by a substantially rigid plug-like unit and a sealing means, preferably in the form of a ring or band of sealing material retained on the rigid unit and adapted to engage and seal with the neck of the Thermos bottle that the adaptor is applied to.

Another object of the present invention is to provide an adaptor of the general character referred to, including the plug-like unit engageable with the Thermos bottle and a retainer threaded to the plug-like unit and adapted to releasably secure the nipple to the plug-like unit.

Another object of the present invention is to provide an adaptor of the general character referred to, wherein the nipple may be supported or carried wholly within the confines of the plug-like body when not in use.

The adaptor, as provided by the present invention, is intended for use on or in connection with the ordinary or conventional Thermos bottle and it involves essentially a plug-like unit having a lower end portion carry-

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ing a sealing means and adapted to be entered into the neck of the Thermos bottle and to be sealed therewith by the said means. The upper end of the plug-like unit is preferably in the form of a flat seat, and the upper end portion of the unit is externally threaded. In a preferred carrying out of the invention the nipple handled by the adaptor has a flange that seats on the upper end of the plug-like unit and a retainer is provided and has a collar threaded on the plug-like unit and provided with the lip that overlies the flange of the nipple and holds it in place relative to the plug-like unit. The plug is further provided with a longitudinal part or opening adapted to pass liquid from the bottle to the nipple, when in use, and adapted to receive and house the nipple when not in use.

The various objects and features of my invention will be fully understood from the following detailed description of a typical preferred form and application of my invention, throughout which description reference is made to the accompanying drawings, in which:

Fig. 1 is a vertical sectional view of the upper end portion of a typical or conventional Thermos bottle showing an adaptor embodying the present invention applied to and corking or closing the bottle, the adaptor carrying a nipple in an inverted relationship and provided with a cap and closure. Fig. 2 is an enlarged detailed planned section being a view taken as indicated by line 2—2 on Fig. 1. Fig. 3 is a view similar to Fig. 1 showing the cap and closure removed, the nipple converted and the structure in condition for operation. Fig. 4 is a perspective view of the plug-like unit provided by the present invention, and Fig. 5 is an enlarged detailed sectional view of a portion of the structure shown in Fig. 3, illustrating the manner in which the plug-like unit, flange of the nipple and the retainer are cooperatively related.

In the drawings, I have illustrated the upper end portion of an ordinary or conventional Thermos bottle and have illustrated the body 10 of the Thermos bottle and the neck portion 11 thereof combined with the usual protective case 13. The body 10 and the neck 11 are combined as a continuous unitary construction formed of spaced walls 14 and 15 defining a space 16 from which air has been exhausted. The case 13 of the Thermos bottle has an upper end portion 17 joined to the upper end of neck 11, at which point the body and neck unit is combined with or connected to the case 13. In accordance with conventional Thermos bottle construction, the upper end portion 17 is provided with a thread 18 adapted to receive a suitable cap 19, when the Thermos bottle is in use as a carrier or storage device; the neck is shown corked or closed by means of the adaptor and the cap 19 screwthreaded to the portion 17, being held in place by means of the thread 18.

The construction or adaptor, as provided by the present invention, includes essentially an elongate plug-like unit A, and sealing means B combined with the plug A and engageable with the neck of the Thermos bottle, an elongate nipple C having a head, a base and a flange 20 projecting radially from the base and engageable with the plug, and a retainer D, releasably securing the flange of the nipple to the plug so that the nipple can be selectively applied to the adaptor to project therefrom, or to occur therein.

The plug, or plug-like unit A is preferably a rigid durable part formed of a material that can be readily cleaned and which can be effectively sterilized as circumstances require. In practice, the plug A can be advantageously molded or cast by any one of a wide variety of materials, and from a practicable standpoint it can be formed of practically any so-called plastic material that is substantially rigid or solid at normal temperatures, and which will withstand boiling in water or other comparable op-

erations that may be required for cleaning or sterilization.

The plug A in its preferred form is provided with a central longitudinal port or passageway 25. In a typical form of the invention, the port 25 is of uniform size from one end of the plug to the other and is preferably a round bore of substantial size, as illustrated in Figs. 1 and 3 of the drawings. The port 25 is shown as being of such size or extent as to pass and receive the head and base of the nipple C when the adaptor is employed as a cork or closure for the Thermos bottle.

The plug, as provided by the present invention, has a flat, smooth upper end 26, forming a seat adapted to receive a flange 20 of nipple C. The upper end portion of the plug is formed so that the exterior thereof is round and has a thread 27 thereon.

The sealing means B is preferably carried by or confined to the lower end portion of the plug A and in the preferred form of the invention the sealing means involves, or includes an annular ring or band 30 of a suitable sealing material carried in an annular recess, or channel 31 provided in the exterior of the lower end portion of the plug. In practice it is preferred that the channel 31 be of substantial extent longitudinally of the plug and that the ring 30 of the sealing material be such as to completely occupy the channel 31 and to project radially outward somewhat from the lower end portion of the plug so that when the plug is applied to the neck of the Thermos bottle the neck is engaged by the sealing ring.

In practice the sealing ring 30 may be formed of any suitable material that will establish the desired seal between the plug and the neck of the Thermos bottle. Rubber or rubber-like material can be used to advantage in the formation of the sealing ring, as such a material will, if suitable quality, withstand treatment such as will be necessary to clean the plug and the sealing ring combined therewith. Further, by forming the ring 30 of rubber, or a rubber-like material, it can be sprung on the plug and related thereto so that it remains tight on the plug.

The nipple C may in practice vary widely in form and construction. For purpose of example, the nipple is illustrated as a simple or conventional nipple having an apertured head 40, and it is shown as having an enlarged base portion 41, from which the substantially flat flange 20 projects. The flange 20 is adapted to be engaged with or arranged over the seat 26 at the upper end of the plug with the port 25 of the plug in connection with the interior of the nipple.

The retainer D is preferably a simple rigid unitary element and it preferably includes an annular part or collar 42, internally threaded and adapted to be screw threaded on the upper end portion of the plug A, as by means of thread 27. The retainer D includes a lip 43, which is annular in form and which projects radially inward from the upper end of the collar 42 to overlie the flange 20 of the nipple. It is to be noted that the base portion 41 of the nipple is engageable through or is adapted to project upwardly through the lip 43 so the head 40 of the nipple is carried well above the retainer when in working position. The lip 43 of the retainer is spaced over and opposes the seat 26 so that the flange 20 of the nipple is accommodated between these parts.

In the particular case illustrated the flange 20 of the nipple is of such construction as to admit some air into the combined bottle and nipple when the retainer D is suitably adjusted. When the retainer D is tight, or in fully engaged position as would be desired when the adapter is used as a stopper or cork, as shown in Fig. 1 of the drawing, the lip 43 of the retainer tightly clamps and seals the flange 20 of the nipple to the seat 26 so that no liquid can escape by the flange and so that no air is admitted into the bottle therethrough. When the retainer is partially released, as shown in Figs. 3 and 5 of the drawings, and when the nipple is to be used, the

peripheral portion of the flange 20 is held sealed to the seat 26, while the portion of the flange inward thereof and which is provided with one or more ports 50 is released, providing a suitable air passage. Under the latter condition, air enters between the lip and flange, flows through one or more of the ports 50 provided in the flange and enters the combined nipple and bottle to replace liquid drawn from or discharged through the head 40 of the nipple.

From the foregoing description, it will be immediately apparent that the plug A with the sealing means B, as provided by the invention, is a simple, practicable unit that can be readily applied to a Thermos bottle, and is a unit which will advantageously handle or accommodate a nipple C. The combined structure, that is, the assembly made up of the plug A, nipple C and retainer D is a very simple, practical structure. The several parts are all simple in form, are simple and convenient to operate, and they are such that they can be readily taken apart for purposes of cleaning or replacement, as circumstances may require.

With the adaptor provided by the present invention, liquid food such as milk can be advantageously handled in the Thermos bottle, that is, stored or transported with the Thermos bottle, corked in the usual manner by means of the adaptor with the nipple carried thereby in an inverted relationship as shown in Fig. 1. When the liquid is desired for use, the retainer D of the adaptor can be removed, the nipple C converted to working position where it projects outwardly from the adaptor and the retainer D replaced in the manner illustrated in Fig. 3.

In practice, the plug A, with the nipple C retained thereon, or therein by means of the retainer D, may be handled as a unit and during handling or storage, that is, when the nipple is inverted and within the plug, the exposed interior of the nipple can be guarded or shielded by a suitable closure 60 adapted to fit over the nipple and retained on the retainer D. In the case illustrated, the closure 20 is a cup-like element having an imperforate disc shaped body and a neck or rim portion 61 depending from the body and frictionally engaged over the exterior of the collar 42 of the retainer D.

Having described only a typical preferred form and application of my invention, I do not wish to be limited, or restricted to the specific claims herein set forth, but wish to reserve to myself any variations or modifications that may appear to those skilled in the art and fall within the scope of the following claims:

Having described my invention, I claim:

1. A device applicable to the neck of a thermally insulated bottle, including, an elongate vertically disposed tubular plug insertable into the neck of the bottle and having a passageway extending longitudinally through it, a nipple having a mounting flange overlying and engageable with the upper end of the plug, a fastener releasably retaining the flange engaged with the plug and including an annular collar threadedly engaged around the upper portion of the plug and having a radially inwardly projecting lip overlying the upper end of the plug and the mounting flange, and a closure releasably carried by the fastener and closing the passageway, the nipple being inverted and located in the passageway.

2. A device applicable to the neck of a thermally insulated bottle including, an elongate vertically disposed tubular plug insertable into the neck of the bottle and having a passageway extending longitudinally through it, sealing means carried by the plug adapted to seal between the plug and the neck, a nipple having a mounting flange overlying and engageable with the upper end of the plug, and depending into said passageway, a retainer releasably holding the nipple on the plug, the plug having a channel extending around its lower end portion and said sealing means including a ring of rubber-like material carried in the channel and projecting from the exterior of the plug, to be engageable with a neck, the fastener including a collar threaded onto the plug at the upper end thereof and

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a lip carried by the collar and overlying the flange, and an inverted cup-shaped disc closure releasably carried by the fastener to overlie the upper end of the device and enclosing the nipple in the passageway.

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