Nov. 18, 1952 J. H. SCHARF 2,618,499

SANITARY HOLDER FOR BABY NURSING UNITS

Filed March 10, 1947 2 SHEETS—SHEET 1

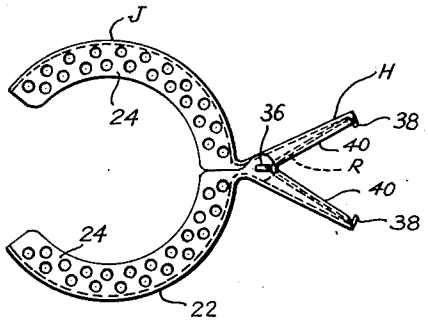


FIG. 1

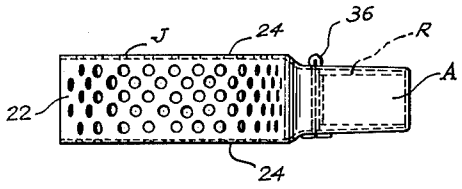


FIG. 2

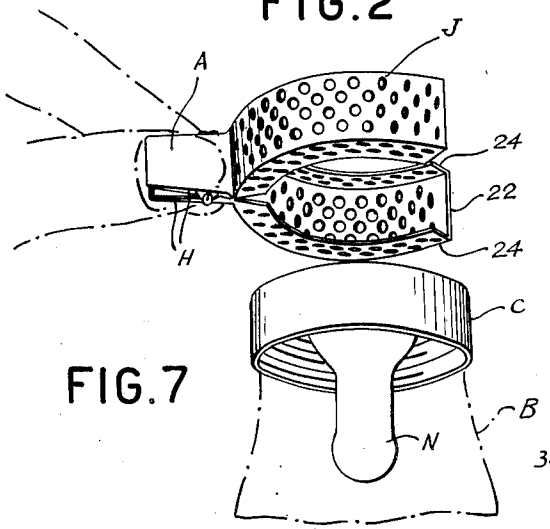


FIG. 7

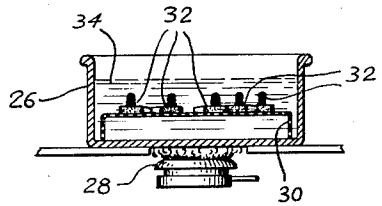


FIG. 6

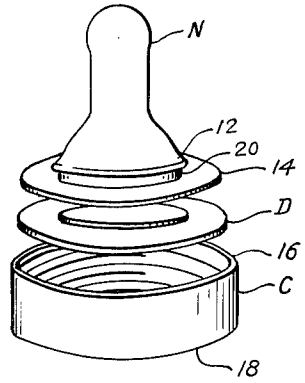


FIG. 3

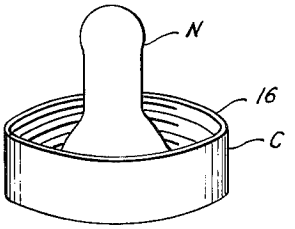


FIG. 4

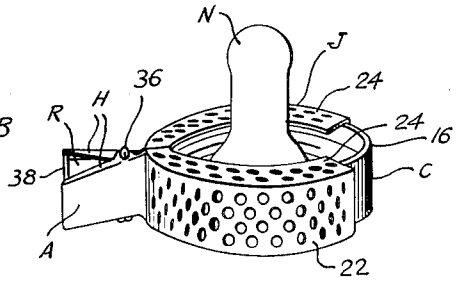


FIG. 5

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SANITARY HOLDER FOR BABY NURSING UNITS

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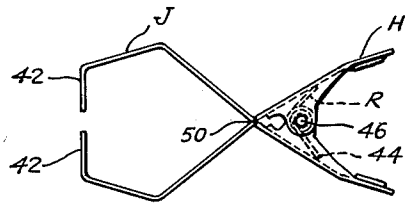


FIG. 8

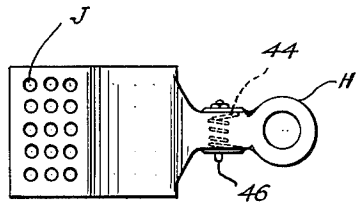


FIG. 9

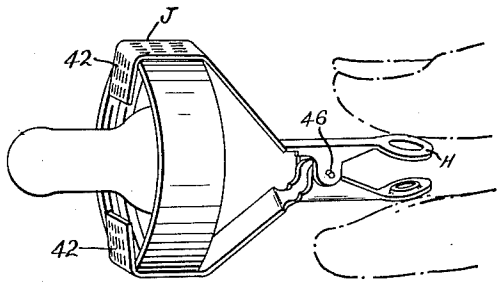


FIG. 10

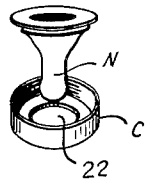


FIG. 12

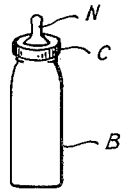


FIG. 13

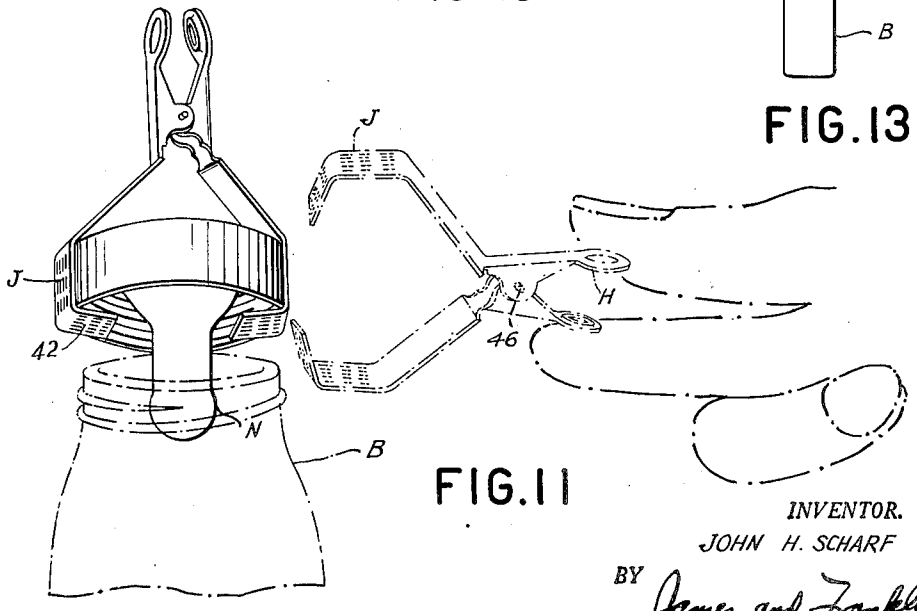


FIG. 11

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UNITED STATES PATENT OFFICE

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SANITARY HOLDER FOR BABY NURSING UNITS

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Application March 10, 1947, Serial No. 733,549

6 Claims. (Cl. 294—28)

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This invention relates to baby bottles or nursing units, and more particularly to a sanitary clamp for use when sterilizing the same.

The invention is shown applied to a baby nursing unit comprising a bottle, a cap, a disc, and a flanged nipple, these parts being so arranged that the nipple may be protectively sealed in inverted position within the bottle during storage, or travel with the baby. A popular commercial form of nursing unit of this character is the so-called "Evenflo" nurser made by the Pyramid Rubber Company of Ravenna, Ohio. The present invention is concerned with the sterilization of the parts of the unit, and the assembly of the sterilized parts as the bottles are filled. The parts for say, seven units, are sterilized, and then must be assembled. It is difficult to do this without touching and contaminating the parts. It is troublesome and inconvenient to carefully handle so many parts. Frequently the parts turn wrong side up in the sterilizing water, thus adding to the difficulty.

The primary object of the present invention is to overcome the foregoing difficulties, and to facilitate handling the sterilized parts.

In accordance with the present invention the parts of each nursing unit, after being cleaned, as for example with soap and water, are assembled together with the nipple in inverted position. The parts are held loosely together by means of a clamp or holder forming a part of the present invention. The required number, say seven, of such assemblies are then sterilized together with the holder for each assembly, following which each sterile assembly is lifted out of the water or sterilizing medium by means of the holder, and is placed loosely on a previously sterilized and filled bottle. The holder is then removed, whereupon the cap of the assembly is screwed or otherwise secured on the bottle.

To accomplish the foregoing general objects, and other more particular objects which will hereinafter appear, my invention resides in the holder, and method steps, and their relation one to the other, as are hereinafter more particularly described in the following specification. The specification is accompanied by drawings, in which:

Fig. 1 is a plan view of one form of holder embodying features of the present invention;

Fig. 2 is a side elevation of the same;

Fig. 3 is a perspective view showing the nipple, disc and cap in disassembled relation;

Fig. 4 is a similar view showing the parts in assembled relation;

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Fig. 5 shows the parts held in assembled relation by the holder of Figs. 1 and 2;

Fig. 6 schematically shows the sterilizing operation;

Fig. 7 illustrates the removal of the clamp after applying the sterilized assembly to a bottle;

Fig. 8 is a side elevation of a modified form of clamp or holder;

Fig. 9 is a plan view of the same;

Fig. 10 is a perspective view showing the application of the clamp to the nipple, disc and cap assembly;

Fig. 11 illustrates removal of the clamp after applying a sterilized assembly to a filled bottle;

Fig. 12 is a perspective view showing how the nipple is passed through the cap preparatory to use; and

Fig. 13 shows the nipple in erect position on the bottle.

Referring to the drawings, the clamp or holder of my invention, in the two forms shown, comprises jaws J so shaped as to hold the nipple N and cap C in assembled relation. If a disc D (Fig. 3) forms a part of the assembly, this too is held in assembled relation by the holder. The holder further includes resilient means R for normally holding the jaws J together, and handles H to spread the jaws apart. It will be understood that the parts are preferably so proportioned that even when the jaws are closed they do not hold the parts of the assembly tightly together, and instead those parts are slightly separable for free access of the water or other sterilizing medium. Moreover, the jaws J are preferably perforated for free passage of the sterilizing medium therethrough.

Referring now more particularly to Fig. 3, the particular nursing unit here involved employs a rubber nipple N which is shouldered at 12, and provided with a flange 14 extensive enough to fit over the top of a wide mouthed baby bottle. The cap C has an internally threaded wall or skirt 16, and a top 18 having a hole large enough to fit the nipple at the neck 20. Thus referring to Fig. 12, the nipple N may be passed through the hole 22, the shoulder 12 (Fig. 3) being forced through the hole, following which the cap and nipple may be applied to a bottle B as shown in Fig. 13.

Reverting to Fig. 3, the nipple is preliminarily assembled with the cap in relatively inverted position, as shown in Figs. 3 and 4, and the assembly may be applied to the bottle B in inverted position as shown in Fig. 7, for storage of a day's supply of bottles, or for travel purposes.

The disc D shown in Fig. 3 is preferably employed to complete the sealing of the bottle when the nipple is in inverted position, and is also useful in handling and manipulating the parts, in a manner already well known.

In accordance with the present invention, the nipple N, disc D, and cap C are assembled as shown in Figs. 3 and 4 prior to the sterilizing operation. The parts are then held loosely together in assembled relation by the jaws of the clamp or holder. The walls **22** of the jaws are curved to fit peripherally around the cap C. These walls have flanges **24** at the top and bottom, said flanges holding the parts against complete disassembly in an axial direction. A suitable supply, say seven of the assemblies shown in Fig. 5, is placed in the sterilizer. This is schematically shown in Fig. 6, in which a sterilizing vessel **26** is placed over a heater, in this case a gas burner **28**. A perforated or mesh support **30** may be provided in the sterilizer, and the assemblies **32** rest on the support **30**. The water **34** is brought to a boil, and kept boiling for several minutes.

After the water cools, the assemblies are lifted out one at a time by means of the handle of the holder. At this time a single handle may be used, or if both are held, they should not be squeezed together. The entire assembly is placed with the nipple in inverted position over the bottle, as shown in Fig. 7, the assembly being held by the holder, so that there is no contact between the hands and the nipple. It will be understood that a suitable number, say seven of the bottles B, have previously been sterilized and filled with milk or with the appropriate formula for the baby. After the assembly has been positioned over the bottle, the handles of the holder are squeezed together to open the jaws, and the holder is removed from the assembly. The cap C is then screwed down, thereby sealing the assembly.

Referring to Figs. 1 and 2, the two sides of the holder are pivoted together by means of a cotter pin **36**. Other forms of pivot may be used, but the cotter pin is relatively inexpensive. The resilient means here shown consists of a spring strip bent to V shape and held between the handles H. The ends of the spring bear against flanges **38**. The spring is held against sideward movement by flanges **40** at the sides of the handles.

A modified form of holder is shown in Figs. 8 and 9 of the drawings. This comprises jaws which are bent toward one another at **42**. This permits the inturned ends **42** to pass around the cap C as shown in Fig. 10, thereby holding the nipple and disc in loosely assembled relation with the cap, much as in the case of the holder already described. The ends of the jaws may be perforated if desired, although this is not essential because of the open nature of the jaws, and the relatively small contact between the jaws and the inner parts of the assembly.

The resilient means R in the present case consists of a piece of spring wire **44** coiled helically about the pivot **46**, one end of the spring wire extending outwardly and bearing against the upper handle, and the other end extending outwardly and bearing against the lower handle. Thus the spring tends to force the handles apart and so urges the jaws together. The pivot **46** in the present case may be a small cotter pin as previously described, or it may be a pin the ends of which are upset or riveted.

After the nipple, disc and cap are assembled as shown in Fig. 10, the holder is applied thereto, following which the entire group of say seven assemblies and holders is placed in the sterilizer and sterilized, as described in connection with Fig. 6. When the water has cooled somewhat, each assembly is lifted out by means of its holder, and is applied in inverted position over one of the filled bottles as shown in Fig. 11. The handles are squeezed together while the assembly is on top of the bottle, and the holder is removed and taken away, as shown by the change from the solid line to the dotted line position in Fig. 11, following which the cap is secured to the bottle by screwing the same home.

It is believed that the method of my invention, and the clamp or holder for practicing the method, as well as the advantages thereof, will be apparent from the foregoing detailed description. The method includes cleaning the cap, disc and nipple, assembling them together, and holding them loosely together by means of a holder. The assembly with the holder is next sterilized, following which the sterile assembly is deposited on a sterile bottle by means of the holder. The holder is then removed with the assembly resting on the bottle, and the cap is then screwed on the bottle. There is a great saving of time in assembling the parts together for they are assembled before sterilization and can be freely handled without concern over contact with the fingers. After the sterilizing operation, the parts need not be touched with the hands at all, except for the outside of the cap when screwing it on. The parts need not be re-assembled because the assembly is kept intact throughout the sterilizing operation and the subsequent application to the bottle.

It will be understood that while I have shown and described the clamp or holder of my invention in several preferred forms, many changes may be made without departing from the spirit of the invention, as sought to be defined in the following claims.

I claim:

1. A holder for use when sterilizing and assembling the parts of a baby nursing unit including a bottle, a nipple having a flange, and a cap open at one end to receive the flange and having a threaded side wall much wider in axial direction than the thickness of the flange, said holder comprising jaws mounted for relative movement, said jaws being dimensioned and shaped to receive and hold the cap at the side wall when the jaws are closed, said jaws having parts which extend in front of the open end of the cap and which thereby hold the flange of the nipple loosely within the cap, resilient means normally holding the said jaws closed, and handles to spread the jaws apart.

2. A holder for use when sterilizing and assembling the parts of a baby nursing unit including a bottle, a disc, a nipple having a flange, and a cap open at one end to receive the disc and flange and having a threaded side wall much wider in axial direction than the thickness of the disc and flange, said holder comprising jaws mounted for relative movement, said jaws being dimensioned and shaped to receive and hold the cap at the side wall when the jaws are closed, said jaws having parts which extend in front of the open end of the cap and which thereby hold the disc and the flange of the nipple loosely within the cap, a pivot connecting said jaws, resilient means normally holding the said jaws closed, and handles to spread the jaws apart,

said jaws being perforated for free passage of the sterilizing medium therethrough.

3. A holder for use when sterilizing and assembling the parts of a baby nursing unit including a bottle, a nipple having a flange, and a cap open at one end to receive the flange and having a threaded side wall much wider in axial direction than the thickness of the flange, said holder comprising jaws mounted for relative movement, said jaws being dimensioned and shaped to receive and hold the cap at the side wall when the jaws are closed, said jaws having parts which extend in front of the open end of the cap and which thereby hold the flange of the nipple loosely within the cap, resilient means normally holding the said jaws closed, and handles to spread the jaws apart, and said jaws being curved to fit peripherally around the cap, and being flanged to provide the said parts which extend in front of the open end of the cap to hold the parts of the nursing unit against disassembly in axial direction.

4. A holder for use when sterilizing and assembling the parts of a baby nursing unit including a bottle, a disc, a nipple having a flange, and a cap open at one end to receive the disc and flange and having a threaded side wall much wider in axial direction than the thickness of the disc and flange, said holder comprising jaws mounted for relative movement, said jaws being dimensioned and shaped to receive and hold the cap at the side wall when the jaws are closed, said jaws having parts which extend in front of the open end of the cap and which thereby hold the disc and the flange of the nipple loosely within the cap, a pivot connecting said jaws, resilient means normally holding the said jaws closed, and handles to spread the jaws apart, said jaws being perforated for free passage of the sterilizing medium therethrough, and said jaws being curved to fit peripherally around the cap, and being flanged to provide the said parts which extend in front of the open end of the cap to hold the parts of the nursing unit against disassembly in axial direction.

5. A holder for use when sterilizing and assembling the parts of a baby nursing unit including a bottle, a nipple having a flange, and a cap open at one end to receive the flange and having a threaded side wall much wider in axial direction than the thickness of the flange, said holder comprising jaws mounted for relative movement, said jaws being dimensioned and shaped to receive and hold the cap at the side wall when the jaws are closed, said jaws having parts which extend in front of the open end of the cap and which thereby hold the flange of the nipple loosely within the cap, resilient means normally holding the said jaws closed, and handles to spread the jaws apart, said jaws having ends which are bent toward one another to provide the said parts which extend in front of the open end of the cap, and said jaws being openable to a spacing between said inturned ends which spacing exceeds the diameter of the cap.

6. A holder for use when sterilizing and assembling the parts of a baby nursing unit including a bottle, a disc, a nipple having a flange, and a cap open at one end to receive the disc and flange and having a threaded side wall much wider in axial direction than the thickness of the disc and flange, said holder comprising jaws mounted for relative movement, said jaws being dimensioned and shaped to receive and hold the cap at the side wall when the jaws are closed, said jaws having parts which extend in front of the open end of the cap and which thereby hold the disc and the flange of the nipple loosely within the cap, a pivot connecting said jaws, resilient means normally holding the said jaws closed, and handles to spread the jaws apart, said jaws being perforated for free passage of the sterilizing medium therethrough, said jaws having ends which are bent toward one another to provide the said parts which extend in front of the open end of the cap, and said jaws being openable to a spacing between said inturned ends which spacing exceeds the diameter of the cap.

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