March 18, 1969 T. F. SCHWARTZ 3,432,866

DISPOSABLE URINAL

Filed Dec. 29, 1967

fig. 2

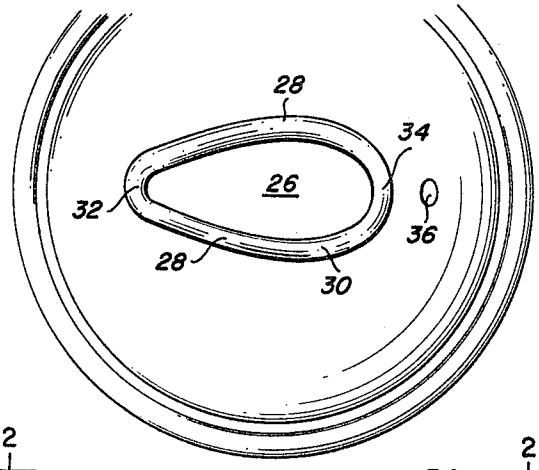
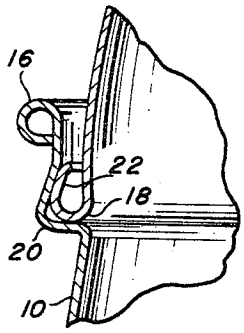


fig. 3



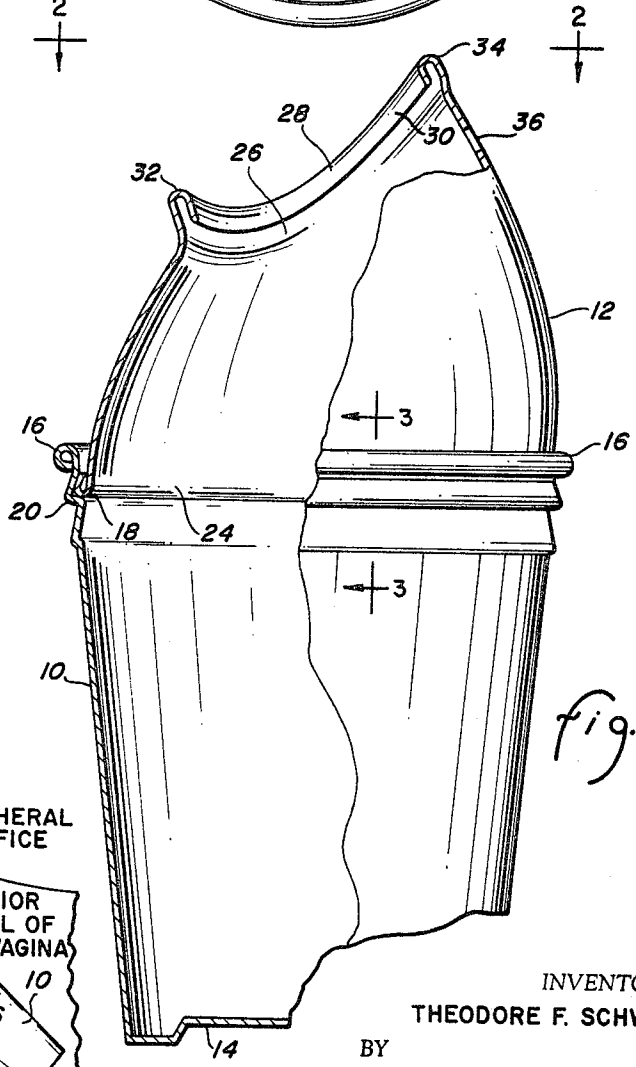
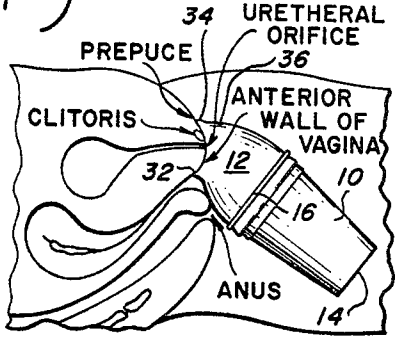


fig. 1

fig. 4



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DISPOSABLE URINAL

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ABSTRACT OF THE DISCLOSURE

A disposable urinal having a generally cup-shaped hollow body provided with an enclosed end and an open end, and a hollow neck having opposite open ends, one of which is compressively and sealingly engaged with the open end of the body, and provided with a genitalia engaging opposite end having a rim adapted to conform with the female genitals for facilitating urination when a female is in supine position; the body and neck structure of the urinal of the present invention being made of reasonably thin polystyrene or equivalent material.

This invention relates to a disposable urinal, and more particularly, to improvements over inventions disclosed in my copending applications, Ser. No. 619,535 and 644,386, and also my copending patent application, Ser. No. 560,426, filed June 27, 1966.

This invention further relates to a urinal, and more particularly, to a disposable urinal which may be used in hospitals, or in other areas to alleviate the cost of maintaining conventional urinals. The present invention further relates to very specific and economical structure capable of being produced by modern methods.

Background of the invention

In hospitals, conventional urinals and bedpans must be stored, transported, sterilized and thus are not only bulky, but generally costly to maintain. Additionally, due to the maintenance problem, it has been necessary to employ conventional urinals and bedpans, which of necessity, cannot conform closely to the genitals of humans, especially females when in supine position. The conventional urinals must have an opening of sufficient size to permit proper cleaning maintenance. Additionally, it has been difficult properly to place such conventional urinals, with respect to male or female patients, in a supine position, and to thereby maintain the patient in a comfortable and clean condition during and after urination.

Additionally, various prior art urinals have been unsuccessful, from a disposable standpoint, due to the economy of producing suitable structural features in a disposable urinal which may be used by human males or females during urination, when said male or females are in supine position. Some prior art urinals have been engagable with the genitals of the human female, but have not properly fitted such genitals in an area extending from the anterior wall of the vagina and intersecting the labia and so as to spread the labia to an area slightly above the clitoris, when a human female is in supine position. Furthermore, prior art urinals have not included an economically producible structure which may readily be utilized and economically disposed of.

Summary of the invention

The disposable urinal, in accordance with the present invention, is composed of two parts of very thin flexible and resilient material, one part being a substantially cup-shaped container body having a peripheral rim compressively and resiliently and frictionally engaged with a complemental peripheral portion of a neck structure of the urinal which is provided with opposite open ends. The one end being compressively engaged with peripheral portion of the container body while the urine receiving end is provided with a urine receiving opening which, in the female variety, is provided with a genitals engaging rim structure adapted to provide for very sanitary urination by a female when in supine position.

Accordingly, it is an object of the present invention to provide a very practical and economical disposable urinal made of thin resilient and flexible plastic, such as high impact polystyrene, and such that a hollow neck may be produced separately from a generally cup-shaped container body, such that these parts may be frictionally and sealingly forced together to provide a very practical, useful, and extremely economically produced disposable urinal.

Another object of the invention is to provide a very simple and economical urinal which greatly alleviates the maintenance cost of urinals in hospitals, and further provides for additional comfort of patients, and particularly female patients when urinating in a supine position.

Another object of the invention is to provide a disposable urinal which may be made of very cheap plastic material, and which is so designed that the parts thereof may be nested when transported or packaged to thereby greatly alleviate the overall cost of storage and maintenance of urinals in hospitals or in other establishments.

Another object of the invention is to provide a disposable urinal of novel construction which also employs a human female genitalia engaging rim which extends generally from the anterior wall of the human vagina to a position slightly above the clitoris so as to comfortably fit the human female during urination, and to prevent undue spillage of urine during urination of the human female, when in supine position.

Another object of the invention is to provide a novel disposable urinal comprising a pair of very economically produced parts, namely, a hollow container body part and a neck part, both subject to being nested in large numbers, and wherein the neck part may be frictionally and compressively and sealingly engaged with the body part to form a complete urinal when being readied for use.

Further objects and advantages of the invention may be apparent from the following specification, appended claims, and accompanying drawings.

Brief description of the drawings

FIG. 1 is a side elevational view of a disposable urinal in accordance with the present invention, and showing portions thereof broken away and in section to amplify the illustration;

FIG. 2 is a fragmentary view of the disposable urinal of the invention taken from the line 2—2 of FIG. 1;

FIG. 3 is an enlarged fragmentary sectional view taken from the line 3—3 of FIG. 1; and

FIG. 4 is a diagrammatic longitudinal sectional view of the anatomy of a human female showing a disposable urinal of the invention in position for accommodating urination of the female in supine position.

Description of the preferred embodiments

The disposable urinal of the invention comprises a generally hollow cup-shaped body **10** and a neck **12**. These two parts of the disposable urinal of the invention may, for example, be very economically made of high impact polystyrene or equivalent material, this material being as thin or less than 30 thousandths of an inch, as

desired. Accordingly, these parts may be very economically manufactured.

The hollow-cup-shaped body **10** is generally annular, as indicated in FIGS. 1 and 2, and of a tapered body design, such that large numbers of these hollow cup-shaped container bodies may be transported or stored in nested condition.

Likewise, a plurality of the necks **12** may also be stored in nested condition since they are generally frusto conical in shape.

The container body **10** is provided with a normally enclosed lower end **14** and a peripheral portion **16** within which a peripheral portion **18** of the neck **12** is compressively, sealingly, and frictionally disposed.

Referring to FIG. 3 of the drawings, details of the peripheral portions **16** and **18** may be observed. The container body **10** is provided with a generally annular internal groove portion **20** in which the peripheral portion **18** of the neck **12** is compressively, sealingly, and frictionally held. This peripheral portion **18** is provided with a rolled edge portion **22** which is slightly larger in diameter than the internal groove portion **20**, but due to the resilient compressive character of the material of both the body **10** and neck **12**, the peripheral portion **18** of the neck **12** may be forced internally of the peripheral portion **16** of the container body **10**, and brought to a compressive locking position in the groove **20**. The rolled edge **22** is normally of slightly larger diameter than the groove **20**, and thus provides for a very tight seal and frictional fit of the peripheral portion **18** in the groove **20** of the peripheral portion **16**.

It will be understood that these parts may be manually assembled by pressing the peripheral portion **18** of the neck **12** into the peripheral portion **16** of the container body **10**.

The neck **12** is provided with a first open end **24** surrounded by the peripheral portion **18**, and a second open end **26** having a genital engaging rim **28** which is generally pear-shaped, as shown in FIG. 2 of the drawings. The rim **28** is provided with an inwardly directed flange **30** forming a substantially U-shaped in cross-section genitals engaging ledge, and the ledge **30** is disposed in a plane at an angle to the open end of the container body **10** about which the peripheral portion **16** is disposed. The angle of the ledge **30** can be seen to have a proper relation to urination of a human female when a supine position, as indicated in FIG. 4 of the drawings.

The ledge **30** at the rim **28** is provided with a slightly hooked portion **32** adapted to engage the anterior wall of the vagina, as shown in FIG. 4 of the drawings, while an opposed rim portion **34** is adapted to engage the female genitalia at a location above the clitoris and in the area of the prepuce, as shown in FIG. 4 of the drawings.

As shown in FIG. 4 of the drawings, the walls of the neck **12** and the body **10** are disposed in a downward declining attitude below the urethral orifice of the patient, when said rim **28** is properly engaged with the genitals of a human female in supine position.

It will be seen that the portion **32** is opposed to the portion **34**, and that the portion of the rim **28** at **34** is on a long radius, while the portion **32** is on a relatively shorter radius causing the opening **26** and the rim **28** to be generally pear-shaped, as indicated best in FIG. 2 of the drawings.

Adjacent to the larger radius portion **34** is a vent opening **36** which is adapted to be located uppermost and closely adjacent the area of the rim **28** which normally engages the area of the prepuce of the female, when in supine position, as shown in FIG. 4 of the drawings.

It will be seen that the thickness of the material, as shown in the drawings, is exaggerated, and it will therefore be appreciated by those skilled in the art that the actual wall thicknesses of the parts are much thinner and consequently very economical to produce in terms of the amount of material utilized to produce each disposable urinal, in accordance with the present invention.

Due to the high impact polystyrene characteristics, the parts may be resiliently and frictionally forced together at their peripheral portions, as shown in FIG. 3, and as hereinbefore described, and that the neck parts may be nested as well as the body parts, and that the individual neck parts and body parts may be readily and easily assembled immediately prior to use, as indicated in FIG. 4 of the drawings.

It will be obvious to those skilled in the art that various modifications of the present invention may be resorted to in a manner limited only by a just interpretation of the following claims.

I claim:

1. In a disposable urinal, the combination of: a hollow resilient cup-shaped container body having a closed bottom and an open normally upper end, said open end provided with an annular portion; a resilient hollow neck having first and second open ends; said first open end of said hollow neck resiliently and sealingly and frictionally engaged with said open end annular portion of said container body, whereby said neck and body may be manually press fitted together, said second open end of said neck adapted to receive urine therethrough.

2. The invention, as defined in claim **1**, wherein: said second open end of said neck having a genitalia engaging peripheral rim, said genitalia engaging rim shaped to fit the genitalia of a human female, such as to surround the female urethral orifice and to bear against the prepuce above or forward relative to the clitoris, and to engagingly seal at the anterior wall of the female vagina, the walls of the neck and body of said disposable urinal being disposed in a downwardly declining attitude below the urethral orifice of a human female, when said rim is properly engaged with the genitals of a human female in supine position.

3. The invention, as defined in claim **13**, wherein: said genitalia engaging rim being substantially pear-shaped and having a short radius portion and an opposed relatively long radius portion, said short radius portion being adapted to fit said anterior wall of said vagina.

4. The invention, as defined in claim **13**, wherein: said neck is made of thin plastic and comprises a wall structure provided with an integral genitalia engaging generally V-shaped in cross-section ledge forming a peripheral portion of said genitalia engaging rim.

5. The invention, as defined in claim **1**, wherein said genitalia engaging rim being in a plane generally inclined relative to said annular rim of said container body.

6. The invention, as defined in claim **3**, wherein: said relatively long radius portion being adapted to bear on the female genitalia in the area of the prepuce when said short radius portion is brought to bear on said anterior wall of the vagina.

7. The invention, as defined in claim **4**, wherein: said relatively long radius portion is adapted to bear on the female genitalia in the area of the prepuce when said short radius portion is brought to bear on said anterior wall of the vagina.

8. The invention, as defined in claim **1**, wherein: said container body is annular and provided with an internal annular groove portion, said first open end of said neck being annular and of a slightly larger diameter than said groove portion, and compressively engaged in said groove portion, such that said annular groove portion compressively surrounds said first open end of said neck.

9. The invention, as defined in claim **2**, wherein said peripheral portion of said container body is annular and provided with an annular groove portion, said first open end of said neck being annular and of a slightly different diameter than said groove portion, and compressively engaged in said groove portion.

10. The invention, as defined in claim **7**, wherein: said peripheral portion of said container body is annular and

provided with an internally disposed groove portion, said first open end of said neck being annular and of a slightly larger diameter than said groove portion and compressively engaged in said groove portion, such that said annular peripheral portion of said container body compressively surrounds said first open end of said neck.

11. The invention, as defined in claim **2**, where: said neck is provided with a vent opening therein, said vent opening disposed near said genitalia engaging rim and near a portion thereof which is adapted to bear against said prepuce.

12. The invention, as defined in claim **6**, wherein: said neck is provided with a vent opening therein, said vent opening disposed near said genitalia engaging rim and near said relatively long radius portion thereof.

13. In a urinal, the combination of: a urine containing structure; a hollow cylindrical neck structure for said urine containing structure; said neck structure having an open end, and an opposite end connected to said urine containing structure; said neck structure having an open end rim surrounding said open end, said rim shaped and adapted to fit the genitalia of a human female, such as to surround the urethral orifice of said female and to bear against the prepuce above or forward relative to the clitoris and to engagingly seal against the labia minora at opposite sides of said orifice, and to sealingly engage the anterior wall of the vagina.

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