Jan. 21, 1969 C. E. LOWRY 3,422,463

URINAL ASSEMBLY

Filed Oct. 27, 1966

FIG. 1

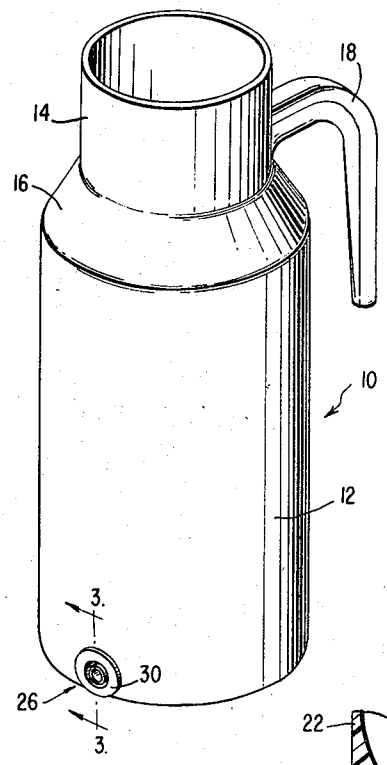


FIG. 2

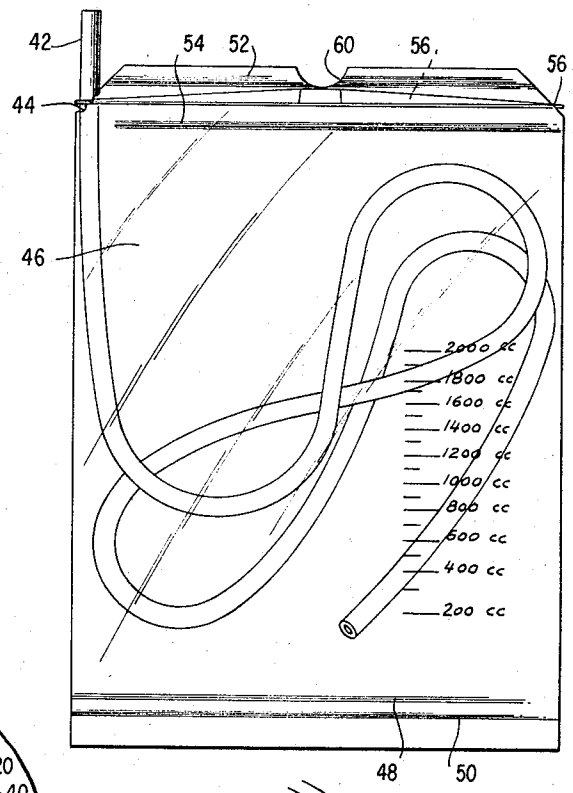


FIG. 3

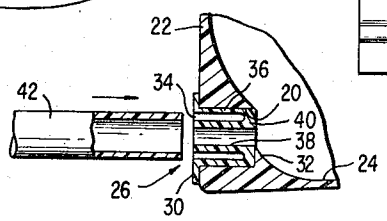


FIG. 4

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URINAL ASSEMBLY

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ABSTRACT OF THE DISCLOSURE

A disposable urinal assembly including a molded plastic receptacle having an opening in the lower side wall thereof supporting a fitment for releasably retaining one end of an elongated flexible tube. The other end of the tube is positioned in a disposable plastic drainage bag, and the entire assembly is adapted to be supported on the rail of a bed.

This invention relates to urinals for use by bedridden persons and more particularly to a disposable self-serving urinal assembly of this general type.

Urinals of the type commonly employed in hospitals for use by bedridden patients are not entirely satisfactory in that they are highly susceptible to spilling, both during and after use, and normally require the attention of the orderly immediately after each use, as well as to bring the utensil to the patient's bed. Further, these prior art devices, which are normally made from a durable material such as stainless steel, normally must be emptied through the open top and require cleaning and sterilization after each use. This cleaning, sterilization, and redistribution of the devices is a time consuming operation and requires installation, operation, and maintenance of expensive cleaning equipment. Thus, the initial relatively high cost of the known devices is greatly increased by the cost of the frequent cleaning, sterilization and distribution of the devices to the patients in a hospital. For home use, the known devices present even greater problems in that the necessary equipment for adequate cleaning and sterilization is not readily available. It is therefore a primary object of the present invention to provide a disposable urinal assembly for use by bedridden patients.

Another object is to provide an improved self-service, disposable urinal assembly which may be used by bedridden patients without requiring the assistance or attention of an orderly and which minimizes the likelihood of spilling both during and after use.

Another object is to provide such a urinal assembly which may be used by one patient for as long as required and then entirely discarded.

Another object is to provide such a urinal which automatically empties into a disposable drainage bag and which may be used more than a single time before emptying of the drainage bag is required.

In the attainment of the foregoing and other objects, an important feature of my invention resides in employing an open-topped receptacle having a drainage opening in the side wall thereof adjacent the bottom of the receptacle, with a fitment secured in fluid tight relation in the opening and releasably retaining one end of an elongated flexible drainage tube in fluid communication with the interior of the receptacle. The other end of the drainage tube extends through an opening in the top of a plastic drainage bag adapted to be suspended from the rail on the side of a bed. The open-topped receptacle is provided with a handle which also serves as a hanger for supporting the receptacle on the side of the bed in position where it is readily accessible for unassisted and unattended, repeated use by the patient.

The open-topped receptacle is preferably formed from

a synthetic resin material which is inert to uric acid and other chemicals, normally present in urine. Numerous relatively inexpensive synthetic resin materials are now commercially available which meet these requirements and which may be readily molded by commercial methods and equipment commonly employed to mold conventional, disposable plastic containers such as those commonly employed to package liquid detergent or the like.

Other objects and advantages of the invention will become apparent from the following detailed description, taken with the drawings, in which:

FIG. 1 is a perspective view of the urinary receptacle employed in the invention;

FIG. 2 is an elevation view of a urinary drainage bag and drainage tube suitable for the use in the invention;

FIG. 3 is a fragmentary sectional view taken on line 3—3 of FIG. 1 and illustrating the manner in which the drainage tube is secured to the receptacle; and

FIG. 4 is a perspective view illustrating the urinal assembly supported on the side rail of a hospital bed continuously accessible for self-service use by the patient.

Referring now to the drawings in detail, the urinary receptacle **10** employed in the present invention is illustrated as a unitary molded plastic container including substantially cylindrical body portion **12**, an open-topped neck portion **14**, and a transition portion **16** connecting the neck and body. A handle **18** is integrally molded with the receptacle and extends outwardly from the neck and transition portion, then downwardly in parallel spaced relation to the body portion. As illustrated in FIG. 4, the handle serves as a hanger to support the receptacle from a bed rail with the container inclined or tilted away from the handle.

An opening **20** is formed in the side wall **22** of the body portion **12**, adjacent the bottom wall **24** thereof, as best seen in FIG. 3. A molded plastic, cylindrical, plug-type fitment **26** having an axial opening formed therethrough is mounted within opening **20**. Preferably, side wall **22** is thickened in the area of opening **20** to support fitment **26** along its entire length and to permit fluid in the receptacle to be completely drained therefrom through the axial opening when the receptacle **10** is tilted toward opening **20**. A radially extending flange **30** integrally formed on the outer end of fitment **26** engages the outer surface of side wall **22** and a shoulder **32** extending upwardly from bottom wall **24** engages the inner end as at **40**. The outer tubular element **36** of fitment **26** has its outer surface in contact with and preferably bonded to the inner surface of the opening **20** and the inner tubular element **38** forms, in effect, an outwardly directed male nipple adapted to be inserted into the open end of an elongated flexible plastic drainage tube **42**. Preferably the outer diameter of the inner tubular element or nipple **38** and the inner diameter of the outer element **36** are substantially equal to the inner and outer diameter, respectively, of the tube **42** so that when the end of the tube is inserted into the recess **34**, it will be frictionally engaged on both its inner and outer surfaces. Thus, with a relatively short nipple **38** inserted into the open end of tube **42**, the tube is firmly but releasably retained on the fitment. Since the nipple **38** is recessed into the receptacle, stresses on the short nipple as a result of bending of the flexible tube during use or other handling of the device are virtually eliminated by the support from the outer tubular element **36** and the relatively rigid side wall **22**.

The other end of the elongated flexible tube **42** is received in an opening **44** at the top of a fluid tight flexible plastic drainage bag **46**. The drainage bag is preferably formed of a relatively thin tubular thermoplastic material heat sealed as at **48**, **50** along its bottom end. Also, a pair of spaced heat seals **52**, **54** are formed across the top

portion of the bag, with the lower seal **54** terminating at a point spaced from one side edge of the bag to permit the tube **42** to be inserted therein. The spaced seals **52**, **54** form a tubular hem for receiving a semi-rigid support member **56** for hanging on a suitable hanger member **58** on the rail of a bed, as illustrated in FIG. 4. An arcuate cut-out portion **60** provides easy access to support member **56**. Markings may be provided on the side surface of the drainage bag to indicate the approximate volume of the contents of the bag.

The plastic drainage bag **46** and drainage tube **42**, per se, are conventional items commonly used in the hospitals in connection with drainage pumps, catheters, or the like, and such drainage bags and tubes may be purchased on the open market, either separately or with the bag containing a drainage tube packaged therein as illustrated in FIG. 2 of the drawings. However, the use of these known drainage tubes and bags in combination with the novel urinary receptacle disclosed herein provides a new and useful urinal assembly which avoids many of the problems accompanying the known devices. For examples, the problem of spillage, either during or after use, is virtually eliminated, and the attention of an orderly is no longer needed except for periodic emptying of the drainage bag.

In practice, one end of the tube **42** is withdrawn from the drainage bag **46**, through opening **44**, and attached to the receptacle **10** by pushing the open end of the tube onto the nipple **38**. The bag is then hung on the rail of the bed, at any convenient place, and the handle **18** of receptacle **10** is hung over the bed rail at a position readily accessible to the patient. The urinal assembly is then self-serving in that it may be repeatedly used at will by the patient wtihout assistance from the orderly. The receptacle **10** automatically empties itself during and/or after each use by draining into the bag **46**. After use, the patient merely hangs the receptacle **10** on the rail of the bed in position where it is readily reached, without assistance, when again needed. The orderly may then, at regular scheduled intervals, check the assembly and, if necessary, empty the drainage bag.

Since the receptacle **10** is drained after each use, it is not necessary to replace this receptacle each time the drainage bag is emptied. Indeed, for hospital use, a single assembly may frequently suffice for the entire period which the patient is bedridden, at the end of which period the entire assembly is disposed of. Thus, an individual patient in a hospital will always use the same assembly, until it is finally disposed of, so that sterilization and/or replacement of any or all parts of the assembly after each use is not required.

The receptacle **10** provides a reservoir at bed-level to compensate for variance between the rate at which the container is filled and the rate at which it may be emptied through the plastic tubing attached to the drainage opening. Drainage takes place during use and is completed by lifting the receptacle by the handle which is arranged on the side of the receptacle opposite the drainage opening. Thus, the receptacle is always automatically emptied before it is hung on the bed rail.

While I have disclosed a preferred embodiment of my invention, I wish it understood that I do not intend to be restricted solely thereto, but that I do intend to cover all embodiments thereof which would be apparent to one skilled in the art and which come within the spirit and scope of my invention.

I claim:

1. A urinal assembly for use in hospitals by bedridden patients, said assembly comprising, in combination, a one piece plastic receptacle including a body portion and an open neck portion, said body portion having a bottom wall and an integral upwardly extending side wall, a first opening formed in said side wall adjacent said bottom wall, a plug type fitment mounted within said opening in fluid tight relation therewith and having a drainage opening extending longitudinally therethrough, and an annular recess formed in said fitment extending from the outer end thereof coaxially with said first opening and terminating at a point spaced from the inner end of said fitment, said recess and said drainage opening defining an outwardly directed male nipple, an elongated flexible drainage tube having one end mounted on said nipple and releasably retained thereon in fluid tight relation by frictional contact therewith, a drainage bag formed of flexible synthetic resin sheet material, said bag having a closed envelope portion and a tubular supporting hem along the top margin thereof receiving an elongated relatively rigid support member to support said bag from a hanger, and an opening formed in said bag adjacent the top thereof for receiving the other end of said elongated tube to provide an open fluid passage from said receptacle into said drainage bag.

2. The urinal assembly defined in claim **1** further comprising handle means integral with said receptacle on the side at the neck portion thereof opposite said drainage opening, said handle including an outwardly extending portion and a downwardly extending portion spaced outwardly from said side wall, said handle and said side wall cooperating to define a hanger for supporting the receptacle from a bed rail.

3. The urinal assembly defined in claim **1** wherein said outwardly directed nipple terminates at its outer end at a point spaced substantially flush with the outer surface of said side wall.

4. The urinal assembly defined in claim **1** wherein said recess is dimensioned so that said one end of said flexible tube is frictionally engaged around its circumference on the inner and outer surfaces thereof by said fitment.

5. The urinal assembly defined in claim **1** wherein said fitment has a radially extending flange integrally formed on its outer end in position to engage the outer surface of said side wall when said fitment is installed in said first opening, and said side wall at said first opening has a thickness substantially equal to the length of said fitment plug.

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