United States Patent

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[54] **DISPOSABLE BAG FOR MEDICAL USES**

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[51] **Int. Cl.** **A61f 5/44**

[58] **Field of Search** ..... 128/283, 295, 275, DIG. 24

[56] **References Cited**

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[57] **ABSTRACT**

A disposable bag for medical uses includes front and back plastic sheets edge-sealed together. The front sheet has a circular opening and a double-sided adhesive annular disc, with a peelable covering, concentrically disposed about the opening. The diameter of the annulus is smaller than that of the opening in the front sheet so that, in a smaller annular area about the opening, the front and back sheets stick to one another, thereby maintaining a sanitary interior prior to use and, when the bag is not completely filled, enabling the opening to be closed after use. In one embodiment the bag is also provided with a valve to drain the collected contents or to permit the escape of trapped gases.

8 Claims, 2 Drawing Figures

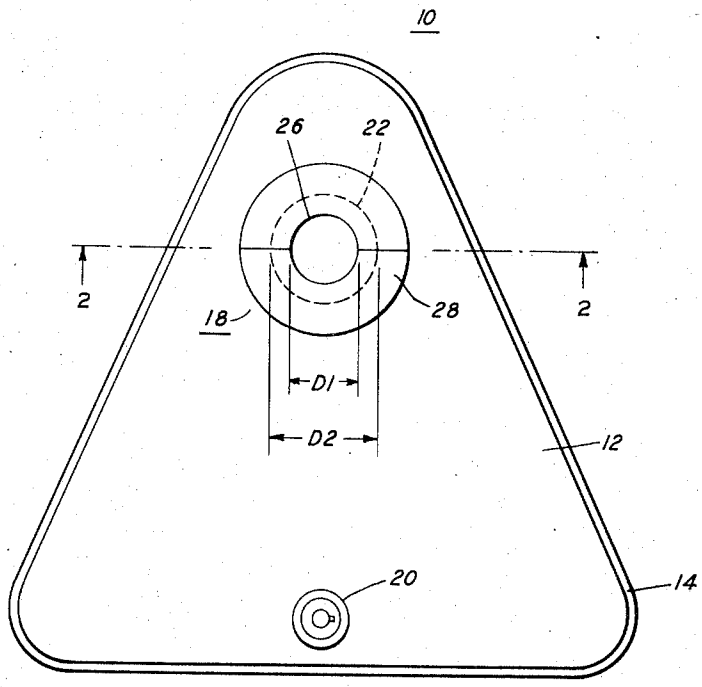


FIG. 1

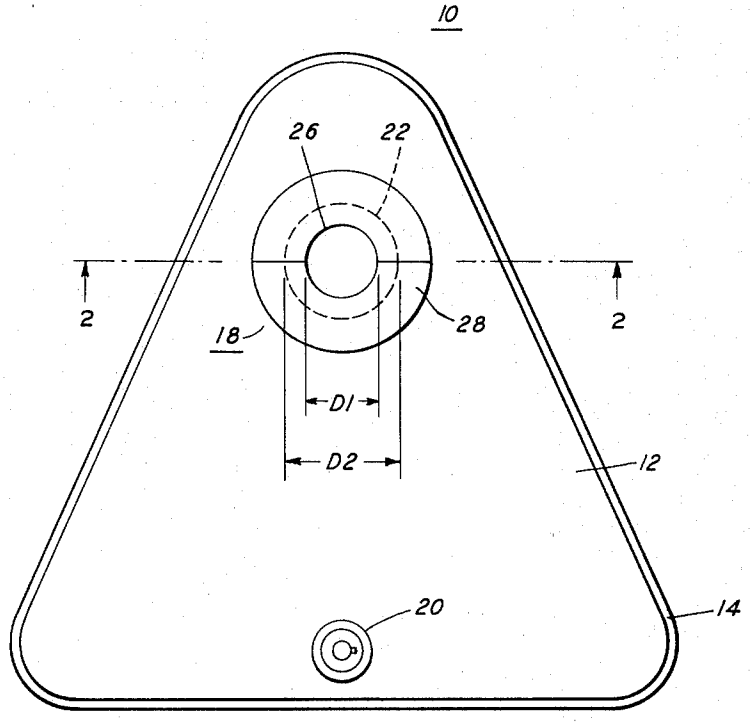
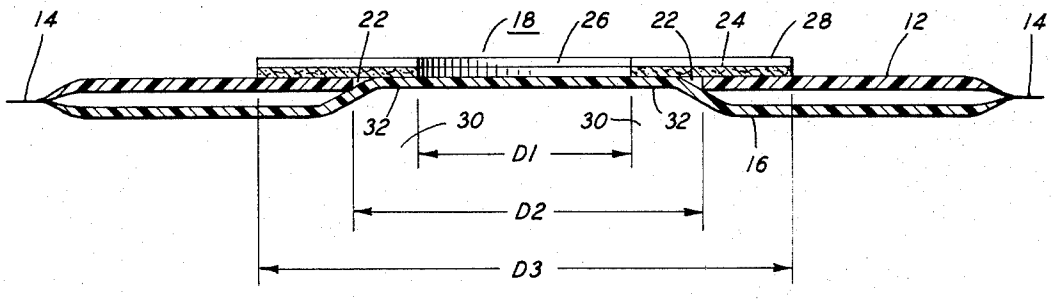


FIG. 2



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DISPOSABLE BAG FOR MEDICAL USES

BACKGROUND OF THE INVENTION

This invention relates to disposable bags for medical uses and, more particularly, to such bags for use in collecting body excretions or for use as an ice bag and the like.

In some medical situations (e.g., fractures or cardiacs) in which a patient is confined to bed, his daily body excretions are generally collected by means of a metallic bed pan. This type of device is used, however, with the patient lying on his back with the bed pan beneath him. For obvious reasons, a bed pan so positioned is cumbersome to handle and control and in addition often creates severe discomfort to the patient. Because of the rigid shape of such bed pans it is generally not possible for a patient to make use of them while reclining in other positions e.g., while lying on his side.

Moreover, the conventional bed pan provides no ready means for storing the excretions for subsequent medical analysis. In order to provide for such analysis, the excretions have to be emptied into a separate container which often is an awkward and time consumming procedure.

Another disadvantage of the prior art bed pan is the requirement that it be cleaned after each use, again a time consumming and hence expensive procedure, especially when one considers that this operation is repeated several times each day for each of the hundreds of patients in a hospital.

Furthermore, being a rigid device, the bed pan occupies considerable storage space, and by their nature have but one function — to collect body excretions.

It is therefore one object of the present invention to provide a bag for collecting body excretions which alternatively may be used in administering enemas, as an ileostomy or colostomy bag, as an ice bag or the like.

It is another object of this invention to provide such a bag which is both disposable and foldable into a relatively small size for ready storage.

It is yet another object of this invention to provide such a bag which permits use by a person while disposed in a variety of physical positions including reclining on his back as well as on his side.

SUMMARY OF THE INVENTION

These and other objects of the invention are accomplished in accordance with an illustrative embodiment of the invention, a disposable bag including front and back flexible (e.g., vinyl or polyethyline) plastic sheets edge-sealed to one another. The front sheet of the bag is provided with both an opening for collecting body excretions, or for the insertion of ice cubes depending on the desired use of the bag, and a valve for draining the liquid excretions or gases after collection.

It is a feature of the invention that the front sheet opening is surrounded by a double-sided annular adhesive disc with a peelable covering thereover. The diameter of the annulus is smaller than that of the front sheet opening so that in a smaller annular area the front and back sheets releasably stick together. The annulus of the disc may optionally be provided with a circular covering in order to maintain the interior sanitary prior to use.

When it is desired to collect body excretions, for example, the peelable covering is removed to expose the adhesive disc. The annulus is then placed over the body opening and the non-irritating adhesive disc pressed against the surrounding skin. Then, or prior to adhering the bag to skin, the front and back sheets are manually pulled apart in the aforementioned smaller annular area to open the bag. In this manner, the bag by adhering to the skin admits to use while the patient is either reclining on his back or on his side, as well as in other positions. When the use of the bag is completed, the front and back sheets may again be sealed and the bag removed from adhesion to the patient's skin by gently pulling it therefrom. In this way, the bag may be stored for subsequent medical analysis of the collected excretions. The valve may be utilized to drain off a portion of the collected contents for analysis and/or to permit trapped gases to escape.

For use as a urine collection bag with incontinent patients or for collecting laboratory specimens, the valve provides a urinary drain to which a drainage tube may be connected. The present invention is also particularly useful in collecting the excretions of fically incontinent patients where the stool is frequent and unpredictable. The versatility of this invention is further demonstrated in its uses as an ice bag or in administering enemas; in the latter case the bag may be perforated for tube entry and taped after use. In addition, the medical bag may be utilized following certain surgical operations such as ileostomies or colostomies, the annulus of the bag being placed over a short section of the ileum or colon which protrudes from the body of the patient into the bag.

BRIEF DESCRIPTION OF THE DRAWING

The above and other objects of the invention, together with its various features and advantages, can be easily understood from the following more detailed discussion, taken in conjunction with the accompanying drawing, in which:

FIG. 1. is a top view of a bag for medical uses in accordance with one embodiment of the invention; and

FIG. 2 is an enlarged crossed-sectional view taken along line 2—2 in FIG. 1.

DETAILED DESCRIPTION

Turning now to FIGS. 1 and 2, there is shown in accordance with one embodiment of the invention a bag **10** for medical uses comprising a flexible front sheet **12** edge-sealed at **14** to a similar back sheet **16**. The sheets are typically fabricated from a thin translucent plastic material. The front sheet includes a main circular aperture **18** for collecting body excretions (or receiving ice cubes, for example, depending on the intended use) and a valve **20** for draining all or a portion of such collected excretions typically through a hose (now shown) into an appropriate receptacle. The valve may be a conventional Roberts valve or a valve of the type described in my copending application Ser. No. 818,705 filed on Apr. 23, 1969.

The aperture **18** is formed by an opening **22** of diameter D2 in the front sheet **12**. Overlapping the opening **22** is a double-sided adhesive annular disc **24** having an annulus **26** of diameter D1 less than D2. A peelable annular covering **28** sticks to and covers adhe-

sive disc **24** to prevent the disc from adhering to unintended surfaces during packaging or storing. Because the diameter D1 is less than D2, there is formed an annular adhesive area **30** to which the annular portion **32** of back sheet **16** sticks, thereby closing the bag and maintaining the hollow interior sanitary prior to use. Alternatively, this feature permits the bag, when not completely filled, to be closed after use as will be described hereinafter.

In order to collect body excretions, peelable covering **28**, which is typically formed in two semicircular annular halves, is removed to expose adhesive disc **24**. The latter is by gentle pressure made to adhere to the skin surrounding the body opening to be drained. Optionally, the bag may also be held in place by a garment or other similar means. Thus, the adhering contact between skin and disc creates a fluid tight seal to insure that body excretions enter the bag interior and do not leak from the main aperture. To this end, the bag is opened by manually separating the front and back sheets by pulling them apart in the adhesive annular area **32**, thereby to permit body excretions to flow from the body opening through the main aperture to the bag interior.

Subsequently, if the bag is not completely filled, it may again be sealed by pressing together the front and back sheets in annular area **32**, and the sealed bag may now be safely removed from contact with the skin. Thus sealed and removed, the filled bag may either be directly disposed of, may be emptied and discarded or may be stored for subsequent laboratory analysis.

The following description of a preferred embodiment of the present invention is intended to be for the purposes of illustration only and is not to be construed as a limitation upon the scope of the invention. For practical purposes it has been found advantageous to fabricate the bag in the approximate form of an isosceles triangle having a base dimension of about 13 inches and a height dimension of about 14 inches. The main aperture is located near one of the apexes of the triangle and the valve is centrally located near the base of the triangle. Typically, the outside diameter D3 of the covering **28** and disc **24** is about 4.0 inches, the diameter D2 of the front sheet opening is about 1.75 inches and the diameter D1 of the annulus of disc **24** (and covering **28**) is about 1.25 inches, thereby defining smaller annular area **30** to be about 0.25 inch wide.

It is to be understood that the abovedescribed arrangements are merely illustrative of the many possible specific embodiments which can be devised to represent application of the principles of the invention. Numerous and varied other arrangements can be devised in accordance with these principles by those skilled in the art without departing from the spirit and scope of the invention.

What is claimed is:

1. A disposable bag comprising

first and second sheets of flexible material edge-sealed together to form a hollow flexible structure,

said first sheet having an opening of a first diameter,

an annular double-sided adhesive member contacting said first member and surrounding said opening, said member having an annulus of diameter less than the diameter of said opening, thereby to define a smaller annular adhesive area between said diameters in which said first and second sheets releaseably adhere to one another, and

a removable covering disposed on said adhesive member.

2. The disposable bag of claim **1** wherein said sheets are substantially triangular in shape, said opening being disposed near to one of the apexes thereof.

3. The disposable bag of claim **2** for medical uses including the collection of human excretions from a body opening wherein

said first and second sheets comprise a flexible plastic translucent material,

upon the removal of said covering said annular adhesive member being adapted to adhere to the skin surrounding the body opening, thereby to provide a fluid tight seal to prevent the leakage of excretions flowing from said body opening through said opening in said front sheet into the hollow interior of said bag,

the hollow interior of said bag being adapted to receive said excretions by pulling apart said first and second sheets in said smaller annular adhesive area, and further being adapted to re-seal said bag by pressing together said sheets in said smaller annular adhesive area.

4. The disposable bag of claim **3** wherein said covering includes a circular central portion covering said annulus to maintain the interior of said bag sanitary prior to use.

5. The disposable bag of claim **3** in combination with a valve in one of said sheets to permit the drainage of the contents collected in said bag or to permit the escape of gases trapped therein.

6. The disposable bag of claim **5** wherein said covering is substantially congruent to said annular member.

7. The disposable bag of claim **6** wherein said annular adhesive member has an outside diameter of about 4.0 inches and an annulus of diameter about 1.25 inches, said opening in said first member being a circle having a diameter of about 1.75 inches, thereby defining said smaller annular area as being about 0.25 inches wide.

8. The disposable bag of claim **7** wherein said bag has the approximate shape of an isosceles triangle having a base dimension of about 13 inches and a height dimension of about 14 inches.

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