

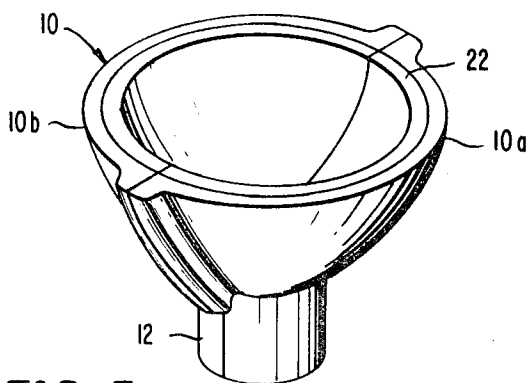
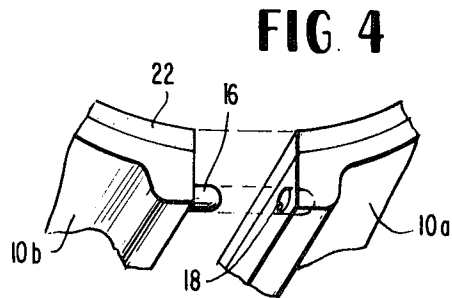
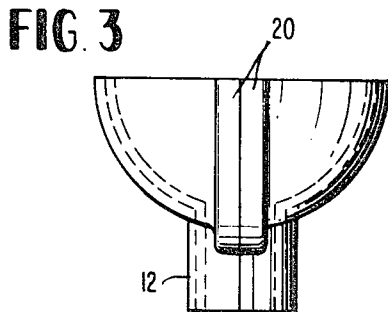
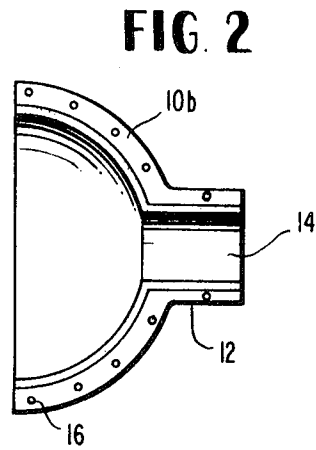
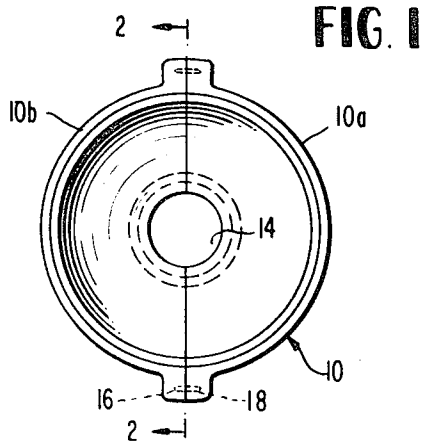
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R. M. SCHLESINGER

3,605,752

CATHETER GUARD

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INVENTOR
ROBERT M. SCHLESINGER

BY *Cesari & McKenna*

ATTORNEYS

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3,605,752

CATHETER GUARD

Robert M. Schlesinger, 650 Huntington Ave.,
Boston, Mass.

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4 Claims

ABSTRACT OF THE DISCLOSURE

A device for retaining an in-dwelling penile catheter is formed from mating hemispherical shell segments having a bore extending through the shell for passing a catheter through it. A liquid-absorbent lining is secured to the inner surfaces of the shell and bore to snugly hold the catheter in place while applying liquid medication to the catheter-body interface. The device is in the form of a cup which is made in two mating segments which are separable from each other. A bore is formed in the cup when the segments are joined together, and the bore receives the catheter.

BACKGROUND OF THE INVENTION

(A) Field of the invention

The invention relates to a device for the prevention of retrograde contamination of body spaces drained by catheters and more particularly relates to a device which serves both as a mechanical and a chemical bacterial blocking device.

(B) Prior art

Medical science dictates that a system of drainage be provided from the interior of a body space to the exterior, and since such means of drainage cannot be accomplished by normal physiologic routes, an artificial conduit (catheter) is employed. The catheter is passed through a pre-existing body orifice or one surgically created to aid in the drainage process. It is common medical practice to pass such artificial conduits into the urinary bladder of patients unable to void spontaneously in the normal manner. Similarly, for the drainage of collections of inflammatory products within the pleural cavity, surgically created pleural-cutaneous fistulae are maintained by in-dwelling catheters.

The inter-face between the catheter and the tissue through which it passes serves as a channel for the passage of bacteria into the body cavity being drained, thus leading to secondary infection of the body cavity. The passage of bacteria in this manner is known as retrograde contamination.

Heretofore, the technique available for the prevention of retrograde contamination, consisted of the application of surgical sponge impregnated with an anti-bacterial agent at the immediate site of external natural body orifices. Catheters passing from surgically created orifices are initially protected by cumbersome surgical dressings consisting of gauze and tape. To prevent contamination or infection of the cavity, while it is being drained, it is common medical practice to continue the application of only dry sterile dressings throughout the course of drainage by the catheter. While this method provides a form of mechanical block, it does not normally contain a long-acting antimicrobial block since, in the case of a urethral catheter, it is necessary to change the dressing three or four times daily.

It is not considered good medical practice for female nurses to apply the impregnated sponge wrapping to male urethral catheters, thus necessitating the patient doing his own dressing, with attendant risks of improper application. Therefore, the principal difficulties encountered are: (1) abundance of antiseptic solutions in the sponge is

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likely to soil the applicator, and the surrounding area; (2) inability to adequately affix sponge (normally consisting of 4 x 4 or 4 x 8 surgical gauze) against the catheter penile interface. The usual technique is thus to tie either the sponge into a four-hand knot or constrain the sponge against the catheter interface with tape. The permanency of such dressings cannot be relied upon.

BRIEF SUMMARY OF THE INVENTION

(A) Objects of the invention

Accordingly, it is an object of the invention to provide an improved device for controlling catheter-induced contamination.

Another object is to provide a more compact and durable means of applying and maintaining anti-bacterial agents to catheters.

A further object is to provide a device which lessens the probability of trauma to the orifice through which the catheter passes due to the rigidity of the dressing.

The invention accordingly comprises the features of construction, combination of elements, and arrangements of parts which will be exemplified in the construction hereinafter set forth, and the scope of the invention will be indicated in the claims.

(B) Brief description of the invention

I have solved the foregoing problems by providing a device in the form of a hemispherical cup for placement over a catheter draining body space at the catheter body interface. This cup is formed from a hemispherical plastic shell completely lined on its inner surface with flexible plastic sponge. The cup is formed from mating left- and right-hand units which part to allow easy insertion of a catheter.

SPECIFIC DESCRIPTION OF THE INVENTION

FIG. 1 is top view of a catheter cup according to my invention;

FIG. 2 is a side sectional view of the cup along the lines 2—2 of FIG. 1;

FIG. 3 is a side view of the cup along the lines 3—3 of FIG. 1;

FIG. 4 is an enlarged portion of the cup showing a connector guide in detail; and

FIG. 5 is a view in perspective of the catheter cup of my invention.

As seen from the drawings, the catheter cup 10 comprises left- and right-hand hemispherical mating sections 10a and 10b converging into a tubular exit port 12 which defines a channel 14 through which a catheter may extend. The left- and right-hand sections are secured to each other by means of protuberances 16 which mate with corresponding apertures 6 to form a press fit. These sections are readily parted from each other when desired to allow the cup to be fitted around a catheter. Strengthening ribs 20 are formed along the parting lines. The entire interior of the cup 10, including the exit port 12, is lined with a flexible sponge-like material 22, preferably a foamed plastic sponge. The sponge 22 is preferably fastened to this cup, such as by adhesive or the like. When the cup is to be fitted around a catheter extending from a patient's body, the sponge 22 is impregnated with an antibacterial agent, the left- and right-hand cup sections are positioned to surround the catheter with the protuberances 16 aligned with the apertures 18, and the sections are then snapped together to lock them in place surrounding the catheter. The concave portion of the cup is placed against that portion of the patient's body from which the catheter protrudes. The antibacterial agent in the sponge then prevents retrograde contamination.

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In addition to retaining the antibacterial agent, the sponge 2 forms a soft bed against which the portion of the patient's body being drained may rest. This helps to prevent trauma of the body tissue. Further, the sponge forms a tight seal around the catheter and allows the use of catheters of different sizes without the necessity of providing a variety of catheter cups, each having exit ports of different sizes to accommodate the various catheters.

Having described my invention, I claim:

1. A catheter-cup for the retention of an in-dwelling catheter against a portion of a living body, said cup comprising first and second mating segments:

- (A) substantially impervious to moisture;
- (B) forming, when joined together, a generally hemispherical cup having a bore extending through a portion thereof for receiving a catheter there-through;
- (C) separable from each other for positioning around said catheter;
- (D) having locking means formed thereon to lock said segments together around said catheter.

2. A catheter cup according to claim 1 in which said

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bore carries on the inner surface thereof a lining comprising a resilient material secured to the inner surface of said segments for snugly securing a catheter therein.

3. A catheter-cup according to claim 2 in which said lining extends over the entire hemispherical surface of the cup and is formed from a liquid-absorbent material for applying an antiseptic at the catheter-body interface.

4. A catheter-cup according to claim 1 in which said locking means comprises a plurality of protuberances on one segment adapted to form a press-fit with a corresponding plurality of apertures on the other segment.

References Cited

UNITED STATES PATENTS

2,547,758	4/1951	Keeling	128—349
2,623,519	12/1952	Cohen	128—245X
3,422,814	1/1969	Lloyd	128—245
3,422,817	1/1969	Mishkin et al.	128—133X

LAWRENCE W. TRAPP, Primary Examiner