

# United States Patent

[11] 3,593,713

[72] Inventors **Stanley A. Bogoff**  
 20 Doctor Frank Rd., Spring Valley, N.Y.  
 10977;  
**Sheldon Rothenberg, 114 Monterey Drive,**  
**Manhasset Hills, N.Y. 11040**

[21] Appl. No. **744,380**  
 [22] Filed **July 12, 1968**  
 [45] Patented **July 20, 1971**

3,394,705 7/1968 Abramson ..... 128/246 X  
 3,435,827 4/1969 Ericson ..... 128/276 X  
 3,477,438 11/1969 Allen et al. .... 128/349

*Primary Examiner*—Richard A. Gaudet  
*Attorney*—Alexander Mencher

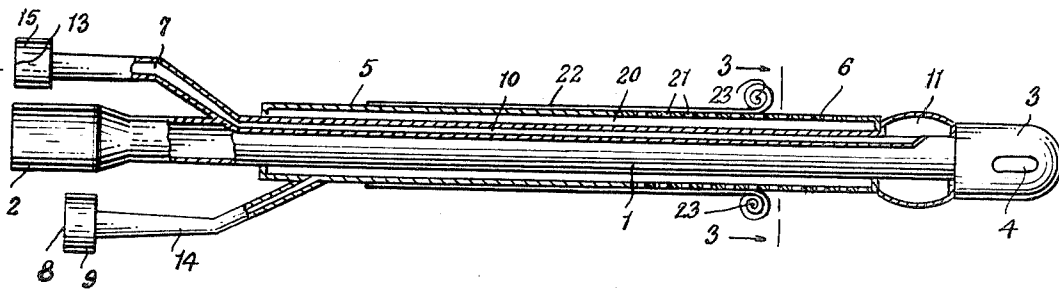
[54] **CATHETER COMBINATION**  
 3 Claims, 3 Drawing Figs.

[52] U.S. Cl. .... 128/246,  
 128/349  
 [51] Int. Cl. .... A61m 25/00  
 [50] Field of Search ..... 128/239,  
 349, 240, 350, 344, 348, 350, 246, 245, 276, 351,  
 241, 242, 243, 247, 239

[56] **References Cited**  
 UNITED STATES PATENTS

2,854,982 10/1958 Pagano ..... 128/348  
 3,375,828 4/1968 Sheriden ..... 128/276 X

**ABSTRACT:** The improved catheter has a tubular body or stem that is apertured at its forward end or tip and is surrounded by an encircling jacket for a substantial portion of its length. A fluid feed tube leads into the jacket for the supply of a fluid thereto, the jacket having a foraminous area, controllable in size situated adjacent to its forward end and through which area the fluid is emitted for direct treatment at the walls of a body orifice, or any cavity or opening in which the catheter is inserted. A tube for transmission of liquid or air extends longitudinally of the catheter body under the jacket and is in communication with an inflatable chamber located beyond the foraminous area of the jacket and rearwardly of the forward tip of the catheter body, said inflatable body, when filled with liquid furnished by said transmission tube, acting to retain the catheter in place in the body orifice or opening.



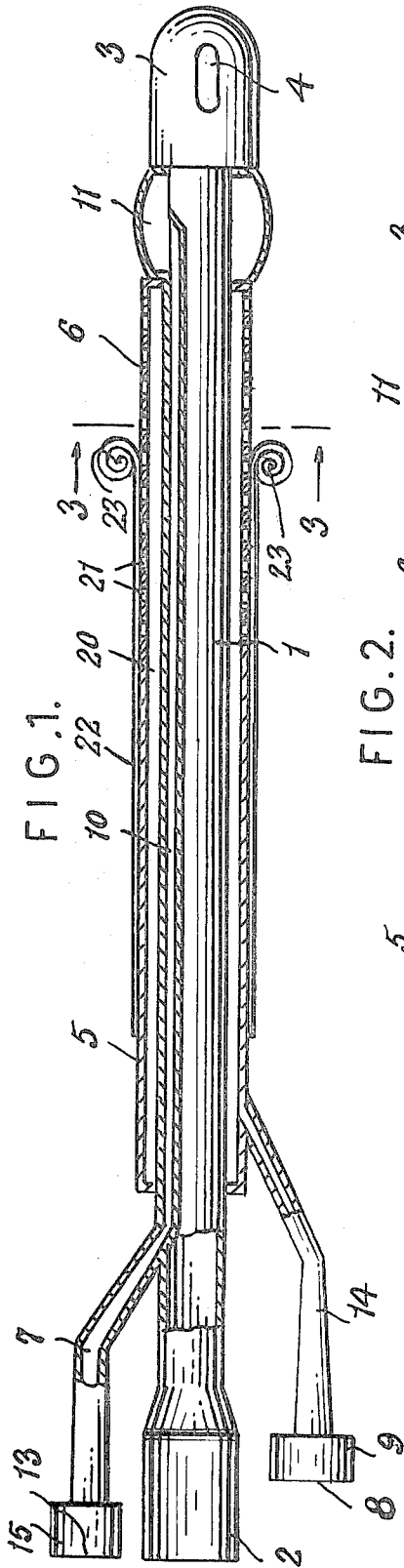


FIG. 1.

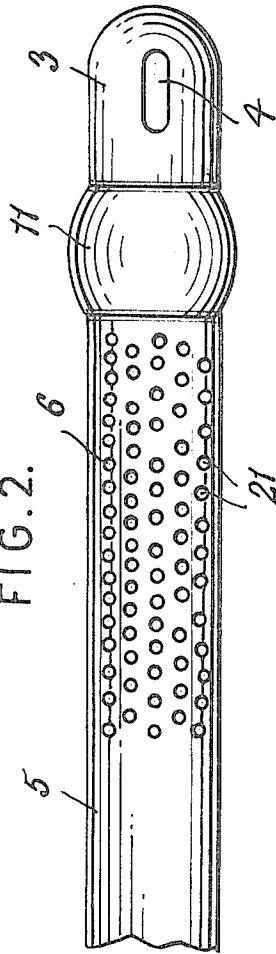


FIG. 2.

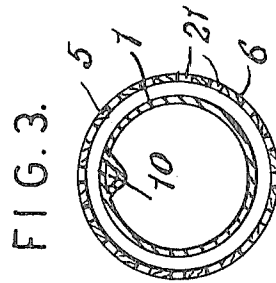


FIG. 3.

STANLEY A. BOGOFF  
SHELDON ROTHENBERG

INVENTORS

BY *Sheldon Rothenberg*  
Attorney

## CATHETER COMBINATION

The present invention relates to catheters for insertion in a body orifice or any cavity or opening when required for medical treatments and has for its primary object the provision of an article of this character which will have numerous advantages apparent to those skilled in this art. For example, the device is provided with a catheter body encircled by a jacket provided at one end with a foraminous area through which fluid medicaments and anesthetics can be dispersed within the body orifice by means of a fluid-supply entering into the jacket and supplying the fluid thereto and forcing it out through the foraminous area and along the walls of and into the body orifice, cavity or opening. This provides for the effective disposition of the fluid within the body orifice, cavity or opening. The improved catheter is also provided with an inflatable body arranged around it adjacent to its forward end for the purpose of retaining the catheter in position within the body orifice. A transmission tube extending longitudinally of the catheter body supplies liquid or air under pressure into the inflatable body and distends the same in a manner to cause it to press against the walls of the body orifice, cavity or opening with a pressure sufficient to insure the retention of the catheter therein.

With these and other objects to be hereinafter set forth in view, we have devised the arrangement of parts to be described and more particularly defined by the claims appended hereto.

In the accompanying drawing, wherein an illustrative embodiment of the invention is disclosed,

FIG. 1 is a longitudinal sectional view of a catheter constructed in accordance with the invention;

FIG. 2 is an enlarged view of the forward end portion of the catheter with means for area control of the foraminous part omitted, and

FIG. 3 is a sectional view, taken substantially on the line 3-3 of FIG. 1, looking in the direction of the arrows.

Referring to the drawing, 1 indicates the body or tube of the catheter, the same being provided at its rear end with a coupling nipple 2 and formed at its opposite end with a rounded tip 3 provided with the apertures 4.

Encircling the body of the tube 1, for the greater part of its length, is an elongated tubular jacket 5 which, adjacent to its forward end, and for a portion of its length, is provided with a perforated or foraminous area 6 through which a fluid, such as a liquid medicament including antibiotics and anesthetic, directed through the annular space 20 between the jacket 5 and tube 1, will pass out and be dispersed within and along the walls of the body orifice, cavity or opening in which the catheter is inserted at the time. The size of the perforations 21 in the area 6 may be varied or such area might be in the form of a pervious material through which the fluid can pass to reach the interior of the body orifice. The length of perforated area 6 may be controlled to suit requirements such as differences in the length of the urethra as will hereinafter appear.

A fluid-supply tube is shown at 14, the same communicating at one end with the space 20 in the interior of the jacket 5. The tube 14 has its opposite end 8 connected to a suitable source of supply of the liquid medicament. A fluid check valve 9 of any known form may be provided for the fluid-supply tube and

valve means for shutoff purposes might also, if necessary, be included in said tube.

Encircling the body 1 of the catheter tube, and adjacent to the forward end of the same and located rearwardly of the tip portion 3 thereof, is an annular inflatable body or bag 11 which encircles the tube 1 and is disposed in front of the foraminous area 6 of the jacket 5. A fluid or air transmission passage 10 extends longitudinally in the tube 1 and communicates at one end with the interior of the inflatable body 11 and is connected at its opposite end with a liquid or air supply tube 7 which can be coupled at 13 to a source of liquid or air under pressure which, upon being forced into the inflatable body of bag 11, will dilate or distend the same causing it to exert pressure against the wall of the body orifice in which the catheter is inserted, to thereby prevent the inadvertent displacement of the catheter out of the body orifice. A check valve 15 can be employed in the liquid or air line as well as one or more shutoff valves, if desired or required.

The length of the perforated area 6 may be controlled to accommodate for different depths of introduction into the body opening as by utilizing an elastic casing 22 fluid tightly engaging the outer walls of jacket 5 and rolling same back as at 23 shown in FIG. 1 to expose the desired length of perforations 6.

From the foregoing, the construction and operation of the improved catheter will be readily apparent. When the device is inserted in a body orifice, the disposition of liquid or air through the passage 10 will dilate or distend the inflatable body or bag 11, causing the same to engage against the walls of the body orifice and thus retain the catheter in position therein. The forcing of a liquid medicament or other preparation within the jacket 5 will force the fluid out through the exposed foraminous or pervious area 6 of the jacket and will cause the liquid to thus reach the area of desired application within the body orifice, cavity or opening.

Having thus described an embodiment of the invention, it is obvious that the same is not to be restricted thereto, but is broad enough to cover all structures coming within the scope of the annexed claims.

What we claim is:

1. A catheter having a body or stem of tubular form provided with a tip at its forward end, an inflatable body encircling the tube adjacent to the tip end thereof, a fluid-supply passage for liquid or air entering into and extending along the tube in communication with the inflatable body to inflate the same within a body opening, a jacket encircling the tube and provided with a pervious portion through which liquid-carrying medicaments may pass out from within the jacket, said jacket having a tight-fitting elastic sleeve rollable from the outer toward the inner end of the pervious portion to control the area of medicament flow through said pervious portion, and fluid-supply means for carrying said medicaments connected to the interior of the jacket.

2. A catheter according to claim 1, wherein the inflatable body is located forwardly of the pervious part of the jacket and rearwardly of the tip of the catheter body, and a check valve provided for each of said fluid-supply passage and fluid-supply means.

3. A catheter according to claim 2, wherein the inflatable body is of annular form and the pervious portion of the jacket extends for a substantial portion of the length of the same and terminates at the inflatable body.