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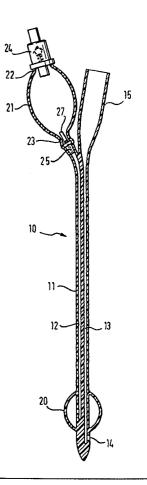
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(54) Title: MEDICAL DEVICE WITH ELASTOMERIC BULB

(57) Abstract

In a pre-filled Foley catheter for urine drainage, the conventional clip for releasing sterile water from a bulb (21) at the proximal end of the catheter, to fill the anchor bulb (20) at the distal end of the device, is replaced by a plug (25) which has an annular portion connected to a thin stem (27) by a circle of weakness. Snapping the stem (27) from the annulus provides a tactile signal through the opaque latex lumen that the catheter has been actuated. There is no separate clip to be disposed of. The interface between the latex and the plug remains undisturbed. Further improvement in the shelf-life and convenience of use of the catheter is delivered by the use of a sleeve, which can be of shrink—wrap material, around the bulb (21) and optionally also around the drain coupling (15) of the catheter. Apparatus for placing the plug and the sleeve is also described.



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International Application No PCT/EP 99/04421

A. CLASSIFICATION OF SUBJECT MATTER IPC 6 A61M25/10 B25B27/10

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

 $\begin{array}{lll} \mbox{Minimum documentation searched} & \mbox{(classification system followed by classification symbols)} \\ \mbox{IPC 6} & \mbox{A61M} & \mbox{B01F} & \mbox{F16L} & \mbox{B25B} & \mbox{A61F} \\ \end{array}$

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUM	ENTS CONSIDERED TO BE RELEVANT	
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Х	US 3 190 291 A (FOLEY) 22 June 1965 (1965-06-22) column 3, line 3 - line 50	1,2,4, 6-8, 34-36
	figures 1,3,6	
Α	• , ,	11-14
		
X	US 4 248 236 A (LINDER) 3 February 1981 (1981-02-03) column 3, line 41 -column 4, line 6 figure 2	9
X	FR 2 386 312 A (THE KENDALL COMAPNY) 3 November 1978 (1978-11-03) page 2, line 24 -page 3, line 23 figures 1,2	9

X Further documents are listed in the continuation of box C.	χ Patent family members are listed in annex.
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Date of the actual completion of the international search 11 January 2000	Date of mailing of the international search report 18.01.00
Name and mailing address of the ISA European Patent Office, P.B. 5818 Patentlaan 2 NL – 2280 HV Rijswijk Tel. (+31–70) 340–2040, Tx. 31 651 epo nl, Fax: (+31–70) 340–3016	Authorized officer Schönleben, J

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International Application No
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	ation) DOCUMENTS CONSIDERED TO BE RELEVANT	Delevent to state No.
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Х	EP 0 177 859 A (MILES LABORATORIES) 16 April 1986 (1986-04-16) page 6, line 29 -page 9, line 4 figures 1-7	36
Α		5,11, 16-18, 20,21
A	US 3 599 620 A (BALIN) 17 August 1971 (1971-08-17) column 2, line 13 -column 3, line 1	42
A	US 3 602 226 A (ERICSON) 31 August 1971 (1971-08-31)	2,3, 6-10, 12-15, 33,39-41
	column 1, line 20 - line 35 column 2, line 7 - line 47 figures 1-3	
А	US 3 675 658 A (TAYLOR) 11 July 1972 (1972-07-11) column 2, line 16 -column 3, line 7 figures 1-6	1,9
X	EP 0 193 406 A (MEDTRONIC INC.) 3 September 1986 (1986-09-03) abstract figures 1,3,10	37
X	US 5 273 542 A (BLAKE) 28 December 1993 (1993-12-28) column 3, line 37 -column 4, line 4 figure 1	37
X	US 4 462 430 A (ANTHONY ET AL.) 31 July 1984 (1984-07-31) abstract	37
Υ	figures 1-5	38
Y	US 5 014 407 A (BOUGHTEN ET AL.) 14 May 1991 (1991-05-14) abstract figures 1,4A,4B	38
P,X	US 5 908 409 A (RINCHART ET AL.) 1 June 1999 (1999-06-01) column 1, line 5 - line 7 column 2, line 49 - line 53 column 3, line 51 - line 62 figures 1,3	37

i. mational application No.

PCT/EP 99/04421

Box I	bservations where certain claims were found unsearchable (Continuation of item 1 of first sheet)
This Intern	national Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:
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	mational Searching Authority found multiple inventions in this international application, as follows:
1. X	As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2.	As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3.	As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4.	No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:
Remari	The additional search fees were accompanied by the applicant's protest. X No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

1. Claims: 1-36, 39-43

1.1 Claims: 1,2-8,12-35,36,40-43

A medical device with proximal and distal ends, a fluid supply element at the proximal end, and a flow control device, the flow control device comprising a plug having a parting line enabling the plug to be separated into two separate parts for fluid communication.

1.2 Claims: 9,10-35,39,41-43

A medical device comprising a drainage lumen with a drain coupling at the proximal end, and an inflation fluid lumen with a fluid supply element at the proximal end, the drain coupling and fluid supply element being arranged side by side and covered by one sleeve element.

2.Claims: 37,38

Method and apparatus for positioning a plug having a stem portion within a lumen.

Information on patent family members

International Application No PCT/EP 99/04421

Patent document cited in search repo	rt	Publication date	Patent family member(s)	Publication date
US 3190291	Α	22-06-1965	NONE	
US 4248236	Α	03-02-1981	NONE	
FR 2386312	A	03-11-1978	US 4140127 A AU 519194 B AU 3487978 A BE 865766 A BR 7802084 A CA 1117836 A DE 2815058 A GB 1561569 A	20-02-1979 19-11-1981 11-10-1979 31-07-1978 13-02-1979 09-02-1982 19-10-1978 27-02-1980
			IT 1102742 B JP 53126788 A MX 143651 A NL 7803469 A NZ 186871 A SE 7803940 A ZA 7801938 A	07-10-1985 06-11-1978 18-06-1981 10-10-1978 21-02-1980 09-10-1978 28-03-1979
EP 177859	A	16-04-1986	US 4586928 A AU 573157 B AU 4799285 A CA 1228278 A DK 169640 B ES 547645 A GR 852419 A IE 58266 B	06-05-1986 26-05-1988 17-04-1986 20-10-1987 02-01-1995 01-09-1986 04-02-1986 25-08-1993
US 3599620	Α	17-08-1971	NONE	
US 3602226	Α	31-08-1971	NONE	
US 3675658	Α	11-07-1972	NONE	
EP 193406	Α	03-09-1986	JP 61247451 A	04-11-1986
US 5273542	Α	28-12-1993	NONE	
US 4462430	Α	31-07-1984	NONE	
US 5014407	Α	14-05-1991	NONE	
US 5908409	 А	01-06-1999	NONE	