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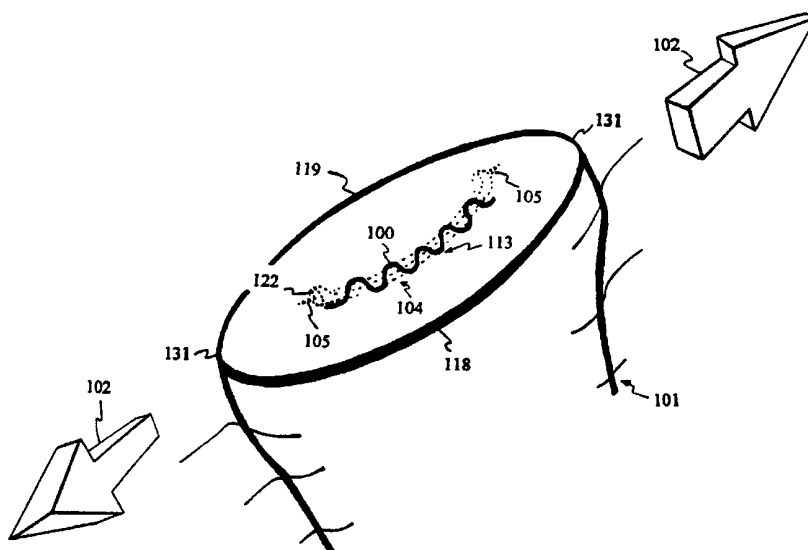
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(54) Title: METHODS AND DEVICES FOR TREATING URINARY INCONTINENCE OR OBSTRUCTION



(57) Abstract: For treating urinary incontinence, an internal urethral support (104) is inserted non-invasively through the opening of a urethra (101) and anchored in the resilient mucosa (113) to improve sphincteric closure during stress, by supporting and strengthening the urethra (101) particularly its posterior wall (119). For open sphincters even at rest, the internal urethral support (104) is also used as an internal urethral anchor, mounting a shape memory element, magnet or extensor, to close the urethral sphincter. In a minimally invasive surgery, the bladder neck and/or urethra are partially ligated to restrict the lumen (100) opening and to improve closure capability. The restricted lumen (100) is reproducibly sized and limited by a spacer inserted through the urethra. For urethral obstruction, similar urethral insertion devices can also be used to stretch and stiffen the urethral wall against an obstruction to widen the lumen opening from within and to promote urine flow.

# INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 00/15650

**A. CLASSIFICATION OF SUBJECT MATTER**  
IPC 7 A61F2/00 A61F2/04

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

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 A61F A63B

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. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 921 995 A (KLESHINSKI STEPHEN J) 13 July 1999 (1999-07-13)  column 1, line 39 -column 2, line 18 column 3, line 14 -column 6, line 29 claims; figures ---	1-3,5-8, 10-18, 24-27, 30,57
X	EP 0 778 011 A (APPLIED VASCULAR ENG INC) 11 June 1997 (1997-06-11)  column 1, line 48 -column 2, line 2 column 3, line 36 - line 42 column 5, line 26 - line 51 claims; figures --- -/--	1-3,5,6, 8,15-18, 24-27

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

\* Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

25 October 2000

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# INTERNATIONAL SEARCH REPORT

International Application No  
PCT/US 00/15650

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 865 715 A (WALLICK H DAVID) 2 February 1999 (1999-02-02) column 5, line 28 - line 42 column 6, line 40 - line 59 claims; figures ---	1,19-21
X	US 4 091 807 A (DICKINSON III BEN WADE OAKES ET AL) 30 May 1978 (1978-05-30) claims; figures ---	1
A	FR 2 297 031 A (RHONE POULENC IND) 6 August 1976 (1976-08-06) claims; figures ---	1
A	US 5 888 188 A (PALACIOS OSWALDO JAVIER ET AL) 30 March 1999 (1999-03-30) the whole document ---	1
A	EP 0 498 912 A (ENHORNING GORAN E) 19 August 1992 (1992-08-19) page 1 & US 5 007 894 A16 April 1991 (1991-04-16) cited in the application ---	1
A	US 5 860 425 A (BENDEREV THEODORE V ET AL) 19 January 1999 (1999-01-19) cited in the application claims ---	1
A	US 4 632 114 A (TODD DONALD A ET AL) 30 December 1986 (1986-12-30) cited in the application the whole document ---	1
A	US 5 895 395 A (YEUNG TERESA T) 20 April 1999 (1999-04-20) cited in the application -----	

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US 00/15650

## Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.: 86-151  
because they relate to subject matter not required to be searched by this Authority, namely:  
Rule 39.1(iv) PCT - Method for treatment of the human or animal body by surgery, and  
Rule 39.1(iv) PCT - Method for treatment of the human or animal body by therapy
2. ☐ Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ 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.:

1-69

### Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

## FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

## 1. Claims: 1-69

An internal lumen support for altering the configuration of a soft hollow, tubular body having a lumen and a wall with a resilient interior surface, said internal lumen support comprising: a body having a first end, a second end and a middle portion, a first projection extending from said end, and a second projection extending from said second end, wherein said internal lumen support has an open position and a closed position, and wherein, when relaxed, said internal lumen support is in said open position.

## 2. Claims: 70-78

An internal lumen support for altering the configuration of a soft hollow, tubular body having a lumen and a wall with a resilient interior surface, said internal lumen support comprising: a generally rigid body having a first end, a second end and a middle portion, a first projection extending from said end, and a second projection extending from said second end, wherein said internal lumen support has a delivery position and a deployed position, and wherein said deployed position position of said internal lumen support is approximately perpendicular to said delivery position of said internal lumen support.

## 3. Claims: 79-85

A spacer for placement within the bladder neck of a patient during a partial ligation procedure, the spacer comprising: an elongated flexible spacer member having a proximal portion and a distal portion, said proximal portion being generally D-shaped and said distal portion being generally round, said spacer member being pinch-resistant, said spacer being sized and configured to reach the bladder neck through the patient's urethra.

# INTERNATIONAL SEARCH REPORT

International Application No  
PCT/US 00/15650

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