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**WO 02/038197 A3**

(54) Title: DEVICES THAT CHANGE SIZE/SHAPE VIA OSMOTIC PRESSURE

(57) Abstract: Devices implantable in animal bodies, possibly configured as self-inflating spinal disc prostheses. Alternatively, non-implantable water-desalination and/or purification devices. The devices include specified types of water-absorbing solute encapsulated by non-porous, water-permeable polymer membranes having specified properties. Also, methods of using the devices in biomedical applications or water treatment.

## INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 01/43036

**A. CLASSIFICATION OF SUBJECT MATTER**  
 IPC 7 A61L27/14 A61L27/50 C02F1/44

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 A61L C02F A61F

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)

EPO-Internal, WPI Data, PAJ

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 96 01598 A (PIGG WILLIAM ; SMITH & NEPHEW (GB); CASSIDY JAMES JOSEPH (US)) 25 January 1996 (1996-01-25) page 2, line 13 - line 26 page 3, line 22 - page 4, line 11 page 6, line 30 - page 7, line 26 claims 1-15	1-4, 8-14, 16-20
X	US 5 428 123 A (WARD ROBERT S ET AL) 27 June 1995 (1995-06-27) cited in the application column 6, line 5 - line 37 column 6, line 66 - column 7, line 28 column 16, line 12 - line 60 column 42, line 27 - line 57	1-4,7, 16-20
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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\*

- \*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

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## INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 01/43036

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

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 353 936 A (CEDAR SURGICAL INC) 7 February 1990 (1990-02-07)  column 4, line 57 -column 5, line 10 column 7, line 1 - line 12 column 6, line 2 - line 21 ----	1,2,7, 9-14, 16-18
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A	US 5 047 055 A (HIGHAM PAUL A ET AL) 10 September 1991 (1991-09-10) column 6, line 19 - line 61 column 7, line 27 -column 8, line 4 ----	1-14, 16-18
P,X	WO 01 22902 A (STOY VLADIMIR A) 5 April 2001 (2001-04-05) page 22, line 4 - line 13 page 27, line 1 -page 28, line 15 examples 1-4 claims 1-38 -----	1-14, 16-18

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US 01/43036

## 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.: 15  
because they relate to subject matter not required to be searched by this Authority, namely:  
see FURTHER INFORMATION sheet PCT/ISA/210
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.:

### 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**

Continuation of Box I.1

Although claim 15 is directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.

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Continuation of Box I.1

Claims Nos.: 15

Rule 39.1(iv) PCT - Method for treatment of the human or animal body by surgery

## INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 01/43036

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