

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
22 April 2004 (22.04.2004)

PCT

(10) International Publication Number
WO 2004/032799 A3

(51) International Patent Classification⁷: **A61L 31/14**,
29/04, A61F 2/06

(21) International Application Number:
PCT/US2003/032308

(22) International Filing Date: 10 October 2003 (10.10.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/418,023 11 October 2002 (11.10.2002) US
60/419,506 18 October 2002 (18.10.2002) US
60/466,401 29 April 2003 (29.04.2003) US
60/488,323 18 July 2003 (18.07.2003) US
60/488,590 18 July 2003 (18.07.2003) US

(71) Applicant: **SCIMED LIFE SYSTEMS, INC.** [US/US];
One SciMed Place, Maple Grove, MN 55311-1565 (US).

(72) Inventors: **SAHATJIAN, Ronald, A.**; 29 Saddle Club
Road, Lexington, MA 02420 (US). **MATHER, Patrick**; 5
Thomas Drive, Storrs, CT 06268 (US). **LIU, Changdeng**; 1
Northwood Road, Apartment 114, Storrs, CT 06268 (US).
TAN, Francisca; 104 Quennsberry Street, Apartment 12A,
Boston, MA 02215 (US).

(74) Agent: **GAGEL, John, J.**; Fish & Richardson P.C., 225
Franklin Street, Boston, MA 02110-2804 (US).

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU,
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,
CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE,
GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR,
KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK,
MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT,
RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR,
TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (*regional*): ARIPO patent (GH, GM,
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,
ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO,
SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM,
GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

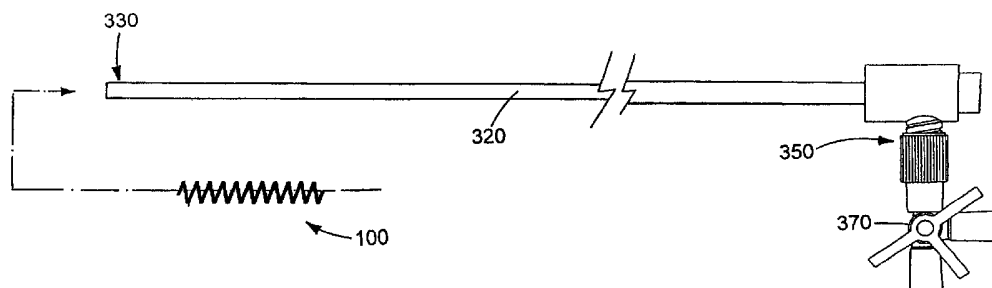
Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

(88) Date of publication of the international search report:
29 July 2004

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: IMPLANTABLE MEDICAL DEVICES



(57) Abstract: A medical device includes a balloon catheter having an expandable member, e.g., an inflatable balloon, at its distal end and a stent or other endoprosthesis. The stent is, for example, an apertured tubular member formed of a polymer and is assembled about the balloon. The stent has an initial diameter for delivery into the body and can be expanded to a larger diameter by inflating the balloon.

WO 2004/032799 A3

INTERNATIONAL SEARCH REPORT

ational Application No

US 03/32308

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 A61L31/14 A61L29/04 A61F2/06

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 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. |
|------------|---|-----------------------|
| A | WO 00/33770 A (GORE ENTERPRISE HOLDINGS INC) 15 June 2000 (2000-06-15) claims | 1,21, 34-105 |
| A | WO 01/56641 A (BARD INC C R ; JACQUES STEVEN L (US)) 9 August 2001 (2001-08-09) claims | 1,21, 34-105 |
| A | US 5 954 744 A (FROIX MICHAEL ET AL) 21 September 1999 (1999-09-21) claims | 1,21, 34-105 |
| A | US 5 163 952 A (FROIX MICHAEL) 17 November 1992 (1992-11-17) claims | 1 |
| A | WO 00/10485 A (UNSWORTH JOHN ; WARAM THOMAS (CA)) 2 March 2000 (2000-03-02) claims | 1 |

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 May 2004

Date of mailing of the international search report

03/06/2004

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

Deraedt, G

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 03/32308

| Patent document cited in search report | | Publication date | Patent family member(s) | Publication date |
|--|------------|------------------|-------------------------|------------------|
| WO 0033770 | A | 15-06-2000 | US 2001053929 A1 | 20-12-2001 |
| | | | AU 2353100 A | 26-06-2000 |
| | | | CA 2354526 A1 | 15-06-2000 |
| | | | EP 1137374 A2 | 04-10-2001 |
| | | | JP 2002531219 T | 24-09-2002 |
| | | | WO 0033770 A2 | 15-06-2000 |
| | | | WO 0156641 | A |
| | | | JP 2003521352 T | 15-07-2003 |
| | | | WO 0156641 A1 | 09-08-2001 |
| | | | US 2003014008 A1 | 16-01-2003 |
| US 5954744 | A | 21-09-1999 | US 5674242 A | 07-10-1997 |
| | | | US 5603722 A | 18-02-1997 |
| | | | AU 5590098 A | 03-06-1998 |
| | | | WO 9820928 A1 | 22-05-1998 |
| | | | AT 247434 T | 15-09-2003 |
| | | | AU 697779 B2 | 15-10-1998 |
| | | | AU 5978396 A | 24-12-1996 |
| | | | CA 2222892 A1 | 12-12-1996 |
| | | | CN 1192668 A | 09-09-1998 |
| | | | DE 69629565 D1 | 25-09-2003 |
| | | | DE 69629565 T2 | 26-02-2004 |
| | | | EP 0831754 A1 | 01-04-1998 |
| | | | JP 10510201 T | 06-10-1998 |
| | | | JP 3188275 B2 | 16-07-2001 |
| | | | WO 9639103 A1 | 12-12-1996 |
| | | | US 5163952 | A |
| US 5607467 A | 04-03-1997 | | | |
| US 5258020 A | 02-11-1993 | | | |
| WO 0010485 | A | 02-03-2000 | US 6312461 B1 | 06-11-2001 |
| | | | AU 762546 B2 | 26-06-2003 |
| | | | AU 5366199 A | 14-03-2000 |
| | | | CA 2340651 A1 | 02-03-2000 |
| | | | WO 0010485 A1 | 02-03-2000 |
| | | | EP 1105068 A1 | 13-06-2001 |
| | | | US 2002198584 A1 | 26-12-2002 |