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- (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, IE, IT, LU, MC, NL, PT, SE, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

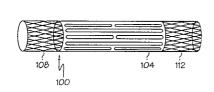
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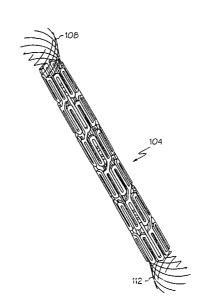
with international search report

(88) Date of publication of the international search report: 22 January 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: STENT WITH DIFFERENTIAL LENGTHENING/SHORTENING MEMBERS







(57) Abstract: A stent comprises a first portion which does not substantially lengthen axially upon radial contraction of the first portion and as second portion which lengthens axially upon radial contraction of the second portion. The second portion extends from the first portion and constitutes a free end portion of the stent.

A. CLASSIFICATION OF SUBJECT MATTER IPC 7 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) $I\,PC\,\,7\,\,\,\,A61\,F$

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

| Category ° | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
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| X | WO 01 35864 A (FALKOVICH MARGARITA; HAVERKOST PATRICK A (US); SCIMED LIFE SYSTEMS) 25 May 2001 (2001-05-25) page 13, line 11 -page 34, line 30 | 1-22, 28-33 |
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| Α | | 1-22 |
| Υ | US 6 290 720 B1 (SPIRIDIGLIOZZI JOHN ET AL) 18 September 2001 (2001-09-18) column 4, line 4 -column 6, line 26 | 1-22 |
| Α | | 28-33 |
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| χ Further documents are listed in the continuation of box C. | χ Patent family members are listed in annex. | | |
|---|---|--|--|
| "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. "8" document member of the same patent family | | |
| Date of the actual completion of the international search 4 February 2003 | Date of mailing of the international search report O 2. 07. 2003 | | |
| 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 Mary, C | | |

International Application No
PCT/US 02/34486

| | | PC1/03 02/34460 |
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| | ation) DOCUMENTS CONSIDERED TO BE RELEVANT | |
| Category ° | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
| Υ | US 5 383 892 A (ANSEL DENIS ET AL) 24 January 1995 (1995-01-24) column 5, line 4 -column 6, line 14 | 1-22 |
| Α | | 28-33 |
| E | US 2002/198588 A1 (GALLEGOS MARGARET L ET AL) 26 December 2002 (2002-12-26) paragraph [0082] - paragraph [0095] | 1,13 |
| A | WO 98 47447 A (DUBRUL WILLIAM R) 29 October 1998 (1998-10-29) figure 4A page 9, line 24 -page 15, line 24 | 1-22, 28-33 |
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International Application No
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| Patent document cited in search report | | Publication date | | Patent family member(s) | Publication date |
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| US 5817126 | Α | 06-10-1998 | NONI | | |
| US 6290720 | B1 | 18-09-2001 | US US AT CA DE EP ES JP WO US | 6325820 B1 2001051823 A1 223181 T 2351542 A1 69902805 D1 1131018 A2 2185416 T3 2002529192 T 0028921 A2 6322585 B1 2002038142 A1 | 04-12-2001 13-12-2001 15-09-2002 25-05-2000 10-10-2002 12-09-2001 16-04-2003 10-09-2002 25-05-2000 27-11-2001 28-03-2002 |
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| WO 9847447 | Α | 29-10-1998 | EP JP US WO | 1011532 A1 2002510220 T 6258115 B1 9847447 A1 | 28-06-2000 02-04-2002 10-07-2001 29-10-1998 |
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| 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. X Claims Nos.: 34 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 |
| 2. X Claims Nos.: 1-12 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: see FURTHER INFORMATION sheet PCT/ISA/210 |
| 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: |
| see additional sheet |
| 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. X 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.: 1-22, 28-33 |
| 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

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1-22,28-33

A stent having a braided first free end portion and a non-braided portion adjacent thereto; and method to produce such a stent.

2. Claims: 23-27

A non-braided outer stent having at least one braided inner portion joined thereto.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box I.2

Claims Nos.: 1-12

Present claim 1 relate to a product defined by reference to a desirable characteristic or property, namely a first portion of the stent which does not substancially lenghten axially upon radial contraction of the first portion and a second portion which lenghtens axially upon radial contraction of the second portion.

The claims cover all products having this characteristic or property, whereas the application provides support within the meaning of Article 6 PCT and/or disclosure within the meaning of Article 5 PCT for only a very limited number of such products. In the present case, the claims so lack support, and the application so lacks disclosure, that a meaningful search over the whole of the claimed scope is impossible. Independent of the above reasoning, the claims also lack clarity (Article 6 PCT). An attempt is made to define the product by reference to a result to be achieved. Again, this lack of clarity in the present case is such as to render a meaningful search over the whole of the claimed scope impossible. Consequently, the search has been carried out for those parts of the claims which appear to be clear, supported and disclosed, namely those parts relating to the products disclosed by claim 1, in the light of claims 5 and 7, namely that the second portion of the stent is braided and that the first portion of the stent is in the form of a tube with openings therein.

The applicant's attention is drawn to the fact that claims, or parts of claims, relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure.