

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
10 January 2008 (10.01.2008)

PCT

(10) International Publication Number
WO 2008/005176 A3

(51) International Patent Classification:
A61L 31/18 (2006.01) A61L 29/18 (2006.01)

(21) International Application Number:
PCT/US2007/014248

(22) International Filing Date: 19 June 2007 (19.06.2007)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
11/481,468 6 July 2006 (06.07.2006) US

(71) Applicant: **BOSTON SCIENTIFIC SCIMED, INC.**
[US/US]; One Scimed Place, Maple Grove, Minnesota
55311 (US).

(72) Inventors: **EIDENSCHINK, Tracee**; 2232 Pinto Drive,
Wayzata, Minnesota 55391 (US). **JAGGER, Karl**; 19510
Vine Street, Deephaven, Minnesota 55331 (US). **SUTER-
MEISTER, Derek**; 7320 Scot Terrace, Eden Prairie, Min-
nesota 55436 (US). **VOLK, Angela**; 12531 Elm Parkway,
Rogers, Minnesota 55374 (US). **WISE, Derek**; 561 5th Av-
enue N.W., New Brighton, Minnesota 55112 (US). **HEID-
NER, Matt**; 7835 Lawndale Ln N., Maple Grove, Min-
nesota 55311 (US).

(74) Agent: **VOIGT, Edwin**; 6640 Shady Oak Rd., Suite 400,
Eden Prairie, Minnesota 55344 (US).

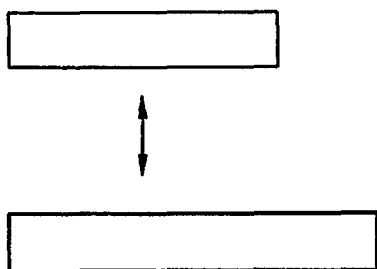
(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH,
CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG,
ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL,
IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK,
LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW,
MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL,
PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY,
TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, ZA, ZM,
ZW.

(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,
FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, PL,
PT, RO, SE, SI, SK, TR), OAPI (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:
11 December 2008

(54) Title: ELECTROACTIVE POLYMER RADIOPAQUE MARKER



(57) Abstract: The invention relates to an expandable marker device having a pre-delivery state, a delivery state and at least one active region. The at least one active region incorporates electroactive polymer material. In addition, the expandable marker includes at least one radiopaque material to enhance observation through a medical imaging device.

FIG. 1A

WO 2008/005176 A3

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2007/014248

A. CLASSIFICATION OF SUBJECT MATTER
INV. A61L31/18 A61L29/18

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)
A61L A61B A61M

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

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2005/165439 A1 (WEBER JAN [US] ET AL) 28 July 2005 (2005-07-28) cited in the application	1-10, 12, 13
Y	paragraphs [0015], [0016], [0060], [0074], [0075], [0077], [0078]; claims 1,50; figure 25	1-13
Y	US 2003/120263 A1 (OURIEL KENNETH [US] ET AL) 26 June 2003 (2003-06-26) paragraphs [0117], [0125]; claim 1	1-13
E	WO 2007/109756 A (BOSTON SCIENT SCIMED INC [US]; WEBER JAN [US]; JAGGER KARL [US]) 27 September 2007 (2007-09-27) paragraph [0067]; claims 1,4,16; figure 15; examples 1-3	1,2, 5-10,13
	----- -/--	

Further documents are listed in the continuation of Box C.

See patent family 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.
- *Z* document member of the same patent family

Date of the actual completion of the international search

16 October 2008

Date of mailing of the international search report

23/10/2008

Name and mailing address of the ISA/

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040,
Fax: (+31-70) 340-3016

Authorized officer

Sierra Gonzalez, M

INTERNATIONAL SEARCH REPORT

International application No

PCT/US2007/014248

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
E	WO 2007/126520 A (BOSTON SCIENT SCIMED INC [US] BOSTON SCIENT LTD [BB]) 8 November 2007 (2007-11-08) claims 1,6,8,12,18,22 -----	1-8,10, 11,13

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2007/014248

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 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.: 14-25
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 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 No. III Observations where unity of invention is lacking (Continuation of item 3 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 allsearchable claims.
2. As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.
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 and, where applicable, the payment of a protest fee.
- The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No PCT/US2007/014248

Patent document cited in search report	Publication date	Publication date	Patent family member(s)	Publication date
US 2005165439	A1	28-07-2005	CA 2554197 A1 EP 1708778 A1 JP 2007521871 T WO 2005072809 A1	11-08-2005 11-10-2006 09-08-2007 11-08-2005
US 2003120263	A1	26-06-2003	AU 2002351392 A1 WO 03053260 A1	09-07-2003 03-07-2003
WO 2007109756	A	27-09-2007	US 2007239256 A1	11-10-2007
WO 2007126520	A	08-11-2007	US 2007247033 A1	25-10-2007