

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
15 February 2007 (15.02.2007)

PCT

(10) International Publication Number  
**WO 2007/018745 A3**

(51) International Patent Classification:  
A61B 6/00 (2006.01)

(21) International Application Number:  
PCT/US2006/023466

(22) International Filing Date: 15 June 2006 (15.06.2006)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
11/195,463 2 August 2005 (02.08.2005) US

(71) Applicant (for all designated States except US): **THE GENERAL HOSPITAL CORPORATION** [US/US]; 55 Fruit Street, Boston, Massachusetts 02114 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **MOORE, Richard, H.** [US/US]; 151 Annursnac Road, Concord, Massachusetts 01742 (US). **KOPANS, Daniel, B.** [US/US]; 20 Manitoba Road, Waban, MA 02468 (US).

(74) Agent: **DALY, Christopher, S.**; Daly, Crowley, Mofford & Durkee, LLP, Suite 301a, 354a Turnpike Street, Canton, Massachusetts 02021, (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, 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, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, 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, 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).

**Declarations under Rule 4.17:**

- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))

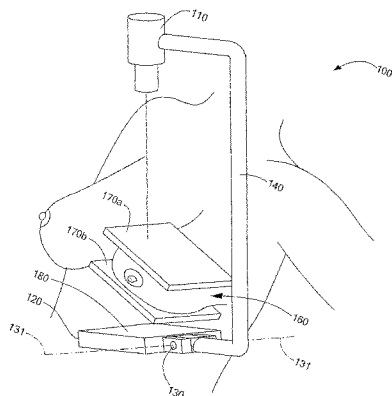
**Published:**

- with international search report

(88) Date of publication of the international search report:  
26 April 2007

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: TOMOGRAPHY SYSTEM



(57) Abstract: A measurement system is presented. The measurement system includes a source and a detector located a selected distance from the source with the source and the detector movable about a point, an axis or about a plane located proximate the detector.

WO 2007/018745 A3

INTERNATIONAL SEARCH REPORT

International application No  
PCT/US2006/023466

A. CLASSIFICATION OF SUBJECT MATTER  
INV. A61B6/00

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)  
A61B

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

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2005/129172 A1 (MERTELMEIER THOMAS [DE]) 16 June 2005 (2005-06-16) paragraphs [0028] - [0030]; figures 1,3	1-14
X	US 2005/113681 A1 (DEFREITAS KENNETH F [US] ET AL) 26 May 2005 (2005-05-26) paragraph [0027]; figures 7,8	1-5,7-14
X	EP 0 224 886 A (SIEMENS AG [DE]) 10 June 1987 (1987-06-10) figure 1	1-4,7-9, 11-14
X	EP 0 368 067 A (MUTHMANN KARL DIETER) 16 May 1990 (1990-05-16) column 2, line 20 - column 3, line 14; figure 1	1-4,7-9, 11-14
	----- -/--	

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.
- "&" document member of the same patent family

Date of the actual completion of the international search

26 January 2007

Date of mailing of the international search report

02/02/2007

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

Lommel, André

INTERNATIONAL SEARCH REPORT

International application No  
PCT/US2006/023466

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 4 922 512 A (LAJUS PIERRE [FR] ET AL) 1 May 1990 (1990-05-01) figures 3,4  -----	1-4, 7-9, 11-14

## INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2006/023466

Patent document cited in search report	Publication date	Patent family member(s)	Publication date	
US 2005129172	A1	16-06-2005	DE 10353611 A1 JP 2005144181 A	23-06-2005 09-06-2005
US 2005113681	A1	26-05-2005	NONE	
EP 0224886	A	10-06-1987	DE 3542333 A1 JP 62148649 A	04-06-1987 02-07-1987
EP 0368067	A	16-05-1990	DE 8814203 U1	15-03-1990
US 4922512	A	01-05-1990	EP 0345138 A1 FR 2632177 A1 JP 2029238 A JP 2855195 B2	06-12-1989 08-12-1989 31-01-1990 10-02-1999