

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
27 November 2008 (27.11.2008)

PCT

(10) International Publication Number  
**WO 2008/142629 A3**

- (51) International Patent Classification:  
A61B 19/00 (2006.01)
- (21) International Application Number:  
PCT/IB2008/051951
- (22) International Filing Date: 19 May 2008 (19.05.2008)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:  
60/939,897 24 May 2007 (24.05.2007) US
- (71) Applicant (for all designated States except US): **KONINKLIJKE PHILIPS ELECTRONICS N.V.** [NL/NL];  
Groenewoudseweg 1, NL-5621 BA Eindhoven (NL).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **ELGORT, Daniel, R.** [US/US]; c/o High Tech Campus Building 44, NL-5656 AE Eindhoven (NL). **SHECHTER, Guy** [US/US]; c/o

High Tech Campus Building 44, NL-5656 AE Eindhoven (NL).

(74) Agents: **SCHOUTEN, Marcus, M.** et al.; High Tech Campus Building 44, NL-5656 AE Eindhoven (NL).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, 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, 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,

[Continued on next page]

(54) Title: MULTIFUNCTIONAL MARKER

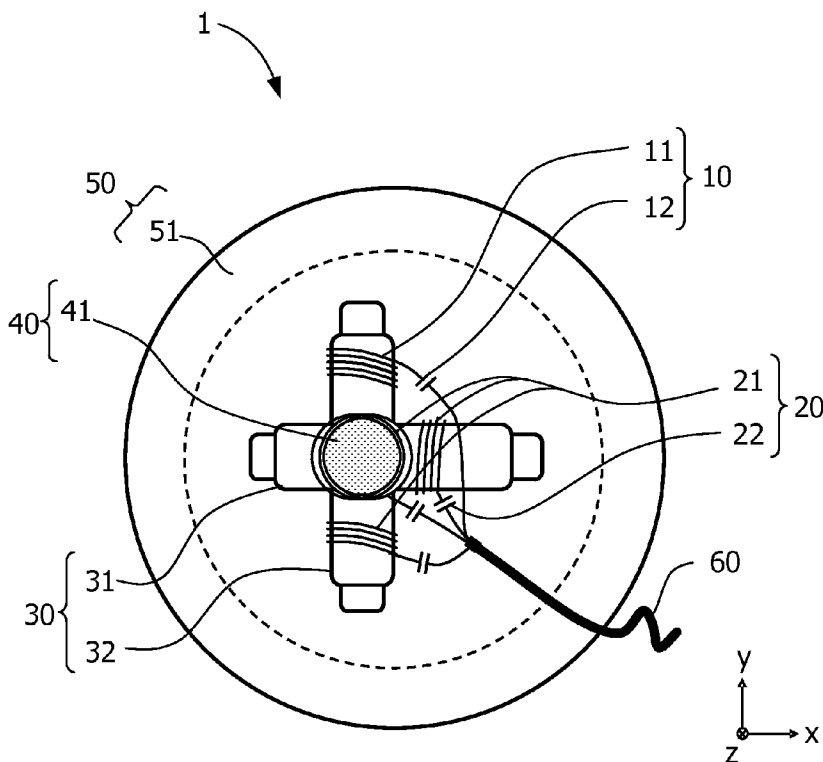


Fig. 1

(57) Abstract: The invention relates to a multifunctional marker (1) that comprises a plurality of marking components which can be localized by different methods. In particular, the marker may comprise at least three of the following marking components: an MRI-component (10), an X-ray-component (30), an EM-component (20), an optical-component (40).

WO 2008/142629 A3



FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL,  
NO, 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*

**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))*

**(88) Date of publication of the international search report:**  
15 January 2009

**INTERNATIONAL SEARCH REPORT**

International application No  
PCT/IB2008/051951

<b>A. CLASSIFICATION OF SUBJECT MATTER</b> INV. A61B19/00		
According to International Patent Classification (IPC) or to both national classification and IPC		
<b>B. FIELDS SEARCHED</b> 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		
<b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b>		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DE 199 08 903 A1 (DEUTSCHES KREBSFORSCH [DE]) 14 September 2000 (2000-09-14) column 2, line 13 - column 4, line 35; figures	1-12
X	EP 0 591 712 A (LEIBINGER GMBH [DE]) 13 April 1994 (1994-04-13) column 4, line 26 - column 8, line 30; claim 2	1-6, 9-12
X	WO 2004/075768 A (IMAGE GUIDED NEUROLOGICS INC [US]; SOLAR MATTHEW S [US]; BRIDGES THOMA) 10 September 2004 (2004-09-10) page 9, line 3 - page 14, line 6 page 21, line 1 - line 13 page 41, line 6 - line 17; figures	1-12
----- -/--		
<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C.		
<input checked="" type="checkbox"/> 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  <p align="center">28 October 2008</p>		Date of mailing of the international search report  <p align="center">05/11/2008</p>
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  <p align="center">Nistor, Loredana</p>

## INTERNATIONAL SEARCH REPORT

International application No

PCT/IB2008/051951

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DE 20 2005 014582 U1 (CAS INNOVATIONS AG [DE]) 1 February 2007 (2007-02-01) paragraph [0097] - paragraph [0106]; figure 9 -----	1-12
X	US 2006/058604 A1 (AVINASH GOPAL B [US] ET AL) 16 March 2006 (2006-03-16) paragraph [0020] - paragraph [0058] -----	1,2,5-9, 11,12
A	WO 2006/094156 A (CALYPSO MEDICAL TECHNOLOGIES I [US]; MATE TIMOTHY P [US]; DIMMER STEVE) 8 September 2006 (2006-09-08) paragraph [0058] - paragraph [0083] paragraph [0090] - paragraph [0093] paragraph [0108] - paragraph [0140]; figures -----	1-12

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No <b>PCT/IB2008/051951</b>
--

Patent document cited in search report	Publication date	Publication date	Patent family member(s)	Publication date
DE 19908903	A1	14-09-2000	AU 3417900 A WO 0051493 A1	21-09-2000 08-09-2000
EP 0591712	A	13-04-1994	DE 4233978 C1 US 5394457 A	21-04-1994 28-02-1995
WO 2004075768	A	10-09-2004	CA 2516388 A1 EP 1599148 A2 JP 2006518655 T	10-09-2004 30-11-2005 17-08-2006
DE 202005014582	U1	01-02-2007	NONE	
US 2006058604	A1	16-03-2006	NONE	
WO 2006094156	A	08-09-2006	NONE	