(19) World Intellectual Property Organization

International Bureau



(43) International Publication Date 18 October 2001 (18.10.2001)

PCT

(10) International Publication Number WO 01/76676 A3

(51) International Patent Classification7: A61B 19/00

(21) International Application Number: PCT/US01/40458

(22) International Filing Date: 6 April 2001 (06.04.2001)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data: 60/195,663 7 April 2000 (07.04.2000)

(71) Applicant: IMAGE-GUIDED NEUROLOGICS, INC. [US/US]; 2290 West Eau Gallie Boulevard, Melbourne, FL 32935 (US).

(71) Applicants and

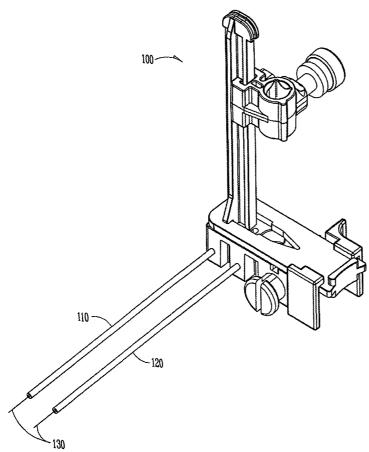
(72) Inventors: SKAKOON, James, G. [US/US]; 1115 Elway Street #404, St Paul, MN 55116 (US). MILLER, Thomas, I. [US/US]; 145 Elfin Street, Palm Bay, FL 32909

(US). SOLAR, Matthew, S. [US/US]; 290 Normandy Drive, Indialantic, FL 32903 (US). MILLS, Gerald, W. [US/US]; 735 Hawser Street NE, Palm Bay, FL 32907 (US). TRUWIT, Charles, L. [US/US]; 378 Ferndale Road West, Wayzata, MN 55391 (US).

- (74) Agent: VIKSNINS, Ann, S.; Schwegman, Lundberg, Woessner & Kluth, P.O. Box 2938, Minneapolis, MN 55402 (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, EE, 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, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian

[Continued on next page]

(54) Title: MEDICAL DEVICE INTRODUCER



(57) Abstract: An introducer is described that is coupled to a patient, specifically a patient's skull. The introducer may include an advancer that is remote from the patient, the advancer communicating with the introducer by means of a cable system. The introducer may also include a local position sensor that indicates the position of the primary medical device being introduced. The introducer may also include a frameless reference system that locates the primary medical device relative to a table that the patient is fixed to.

WO 01/76676 A3



patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published:

with international search report

(88) Date of publication of the international search report: 21 March 2002

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.

INTE VATIONAL SEARCH REPORT

Internat J Application No PCT/US 01/40458

A. CLASSIFICATION OF SUBJECT MATTER IPC 7 A61B19/00

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) $IPC\ 7\ A61B$

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.				
Х	US 5 993 463 A (TRUWIT CHARLES L) 30 November 1999 (1999-11-30) column 14, line 32 -column 18, line 40; figures 30-37	1-29				
Х	DE 31 08 766 A (GMS GES MED SONDENTECH) 23 September 1982 (1982-09-23) abstract claim 5; figure 1	1				
А	WO 97 03609 A (PALTIELI YOAV) 6 February 1997 (1997-02-06) abstract; figure 4	10-12, 20-23				
А	US 5 980 535 A (BARNETT GENE H ET AL) 9 November 1999 (1999-11-09) abstract; figure 7	10-12, 20-23				
	-/					

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	Date of mailing of the international search report		
17 October 2001	24/10/2001		
Name and mailing address of the ISA	Authorized officer		
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	Moers, R		

1

INTF NATIONAL SEARCH REPORT

Internat al Application No
PCT/US 01/40458

C.(Continu	ation) DOCUMENTS CONSIDERED TO BE RELEVANT	A CONTRACT OF THE CONTRACT OF		
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.		
A	US 5 833 627 A (SHMULEWITZ ASCHER ET AL) 10 November 1998 (1998-11-10) column 8, line 7 - line 57; figures 5A,B	18,19, 27-29		
A	US 5 817 106 A (REAL DOUGLAS D) 6 October 1998 (1998-10-06) column 8, line 1 - line 51	18,19, 27-29		

1

INTE' 'IATIONAL SEARCH REPORT

Information on patent family members

Internatic. J Application No
PCT/US 01/40458

Patent document cited in search report		Publication date		Patent family member(s)	Publication date
US 5993463	А	30-11-1999	US AU	6267769 B1 7686998 A	31-07-2001 08-12-1998
			EP WO	1018963 A1 9851229 A1	19-07-2000 19-11-1998
			US	6267770 B1	31-07-2001
			US	6206890 B1	27-03-2001
DE 3108766	Α	23-09-1982	DE	3108766 A1	23-09-1982
WO 9703609	Α	06-02-1997	IL	114610 A	16-07-2000
			AU	722539 B2	03-08-2000
			AU	6367896 A	18-02-1997
			BR CA	9609484 A 2226938 A1	14-12-1999
			EP	0845959 A1	06-02-1997 10-06-1998
			WO	9703609 A1	06-02-1997
			JP	2000500031 T	11-01-2000
			ÜS	6216029 B1	10-04-2001
US 5980535	 А	09-11-1999	EP	0832609 A2	01-04-1998
			EP	0832610 A2	01-04-1998
			US 	5904691 A	18-05-1999
US 5833627	Α	10-11-1998	US	5660185 A	26-08-1997
			AU	3587497 A	09-02-1998
			EP WO	0928160 A1 9802097 A1	14-07-1999 22-01-1998
			AU	694865 B2	30-07-1998
			AU	5390996 A	30-10-1996
			CA	2217976 A1	17-10-1996
			ΕP	0825833 A1	04-03-1998
			JP	11505446 T	21-05-1999
			WO	9632066 A1	17-10-1996
US 5817106	Α	06-10-1998	US	5649936 A	22-07-1997
			US	5928144 A	27-07-1999