(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization

International Bureau





(43) International Publication Date 27 December 2002 (27.12.2002)

PCT

(10) International Publication Number WO 2002/102224 A3

 $(51) \ \ International \ Patent \ Classification ^7:$

G06K 9/00

(21) International Application Number:

PCT/IL2002/000480

(22) International Filing Date: 18 June 2002 (18.06.2002)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

60/298,387 18 June 2001 (18.06.2001) U

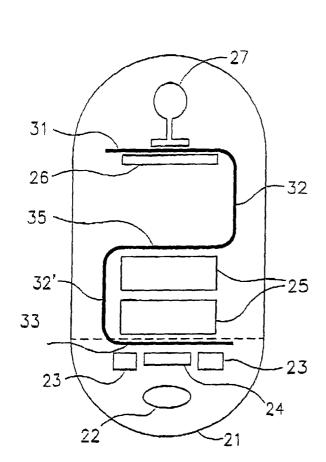
(71) Applicant (for all designated States except US): GIVEN IMAGING LTD. [IL/IL]; HaCarmel St. 2, Industrial Park, 20692 Yoqneam (IL).

- (72) Inventor; and
- (75) Inventor/Applicant (for US only): AVNI, Dov [IL/IL]; Succot Street 7, 34525 Haifa (IL).

- (74) Agents: PEARL, Zeev et al.; Eitan, Pearl, Latzer & Cohen-Zedek, Gav Yam Center 2, Shenkar Street 7, 46725 Herzlia (IL).
- (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, EC, 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, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW.
- (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, 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, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: IN VIVO SENSING DEVICE WITH A CIRCUIT BOARD HAVING RIGID SECTIONS AND FLEXIBLE SECTIONS



10

(57) Abstract: A device including at least one image sensor and a circuit board (Fig. 1) having a plurality of rigid sections and a plurality of flexible sections. The image sensor is disposed on a rigid section of the circuit board. The circuit board may be folded into a housing configured for in vivo sensing.

WO 2002/102224 A3



Published:

with international search report

(88) Date of publication of the international search report: $$11\ \mathrm{March}\ 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.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/IL02/00480

A. CLASSIFICATION OF SUBJECT MATTER			
IPC(7) :G06K 9/00 US CL : 348/65			
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)			
U.S. : \$48/65			
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 practicable, search terms used)			
C. DOCUMENTS CONSIDERED TO BE RELEVANT			
Category*	Citation of document, with indication, where ap	propriate, of the relevant passages	Relevant to claim No.
X	US 6,313,456 B1 (MIYASHITA et al) 06 NOVEMBER 2001, see figure 3		1-23
X	US 4,742,817 A (KAWASHIMA et al) 10 May 1988 see figure for flexable member		1-23
X	US 5,725,474 A (YASUI et al) 10 March 1998 see figure 3 note flexable member 2.		1-23
Further documents are listed in the continuation of Box C. See patent family annex.			
* Special categories of cited documents: "IT" later document published after the international filing date or priority date and not in conflict with the application but cited to understand			
"A" document defining the general state of the art which is not considered the principle or theory underlying the invention to be of particular relevance			
"E" earlier document published on or after the international filing date "X" document of particular relevance; the claimed invention considered novel or cannot be considered to involve an in		ed to invention cannot be	
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other		when the document is taken alone	
special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means		"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	
"P" document published prior to the international filing date but later "&" than the priority date claimed		•	family
Date of the actual completion of the international search Date of mailing of the international search			arch report
28 AUGUST 2003		17 SEP 2003	
Name and mailing address of the ISA/US Commissioner of Patents and Trademarks		Authorized officer CHRIS KELLEY KUGENIA ZOGAN	
Box PCT Washington, D.C. 20231			and In In
racsimile N	Io. (703) 305-3230	Telephone No. (703) 305-48 6	//