(19) World Intellectual Property Organization International Bureau



(43) International Publication Date 16 November 2006 (16.11.2006)

(10) International Publication Number WO 2006/121984 A3

(51) International Patent Classification: A61B 5/02 (2006.01)

(21) International Application Number:

PCT/US2006/017645

(22) International Filing Date: 8 May 2006 (08.05.2006)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

60/678,238

6 May 2005 (06.05.2005) US

(71) Applicant (for all designated States except US): YEDA RESEARCH AND DEVELOPMENT CO., LTD. [IL/IL]; P.o. Box 95, Rehovot 76100 (IL).

(72) Inventors; and

(75) Inventors/Applicants (for US only): NELSON, Darin [US/IL]; 8 Paldi Street, Rehovot (IL). DRORI, Arik [IL/IL]; 34 Daniel Moritz Street, Tel Aviv (IL). GRIN-VALD, Amiram [IL/IL]; 1 Meonot Wix, The Weizmann Institute Of Science, Rehovot (IL).

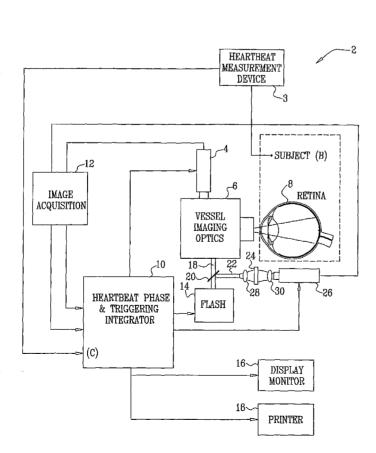
(74) Agent: NATOLI, Anthony J.; Abelman, Frayne and Schwab, 666 Third Avenue, New York, NY 10017-5621 (US).

(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, 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, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, 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,

[Continued on next page]

(54) Title: ERYTHROCYTE MOVEMENT IMAGING AND ANALYSIS



(57) Abstract: Apparatus (2) is provided, including a heartheat measurement device (3), which senses a cardiac parameter of a patient and generates a cardiac parameter signal responsively thereto. An optical measurement device acquires data by emitting towards tissue of the patient 400- 1000 niti light, and receiving light reflected from the tissue. An integrator unit (10) receives the cardiac parameter signal and, in response thereto, actuates the optical measurement device to acquire the data.

WO 2006/121984 A3



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).

Published:

with international search report

(88) Date of publication of the international search report:

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/US06/17645

A. CLASSIFICATION OF SUBJECT MATTER IPC: A61B 5/02(2006.01)			
USPC: 600/508			
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.: 600/331, 508, 561; 607/61			
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) EAST			
C. DOCUMENTS CONSIDERED TO BE RELEVANT			
Category *	Citation of document, with indication, where ap	ppropriate, of the relevant passages	Relevant to claim No.
Y	US 4,621,643 A (NEW, Jr. et al) 11 November 1986	(11.11.1986) see entire document.	1-26
Y US 2004/0015211 A (NURMIKKO et al) 22 January document.		7 2004 (22.01.2004), see entire	1-26
A, P US 2005/0187488 A (WOLF) 25 August 2005 (25.08		8.2005), see entire document.	1-26
	,		
Further	documents are listed in the continuation of Box C.	See patent family annex.	•
Special categories of cited documents:		"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the	
"A" document particular	defining the general state of the art which is not considered to be of relevance	principle or theory underlying the inve	
_	plication or patent published on or after the international filing date	"X" document of particular relevance; the considered novel or cannot be consider when the document is taken alone	
"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		"Y" document of particular relevance; the c	laimed invention cannot be
specified)		considered to involve an inventive step with one or more other such document	when the document is combined
"O" document	referring to an oral disclosure, use, exhibition or other means	to a person skilled in the art	
"P" document published prior to the international filing date but later than the priority date claimed		"&" document member of the same patent family	
Date of the actual completion of the international search		Date of mailing of the international search report	
10 August 2006 (10.08.2006)		2 5 OCT 2006 Authorized officer	
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US		DEBORAH A. THOMAS	
Commissioner for Patents P.O. Box 1450		George Manuel PARA	LEGAL OF LUIALIST
Ale	xandria, Virginia 22313-1450	Telephone No. (703) 308-0858	PUT
Facsimile No. (571) 273-3201			