(19) World Intellectual Property Organization International Bureau





(43) International Publication Date 13 June 2002 (13.06.2002)

PCT

(10) International Publication Number WO 02/045566 A3

(51) International Patent Classification⁷: A61B 5/00

(21) International Application Number: PCT/IL01/01127

(22) International Filing Date: 6 December 2001 (06.12.2001)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

60/251,828 7 December 2000 (07.12.2000) US 60/251,829 7 December 2000 (07.12.2000) US

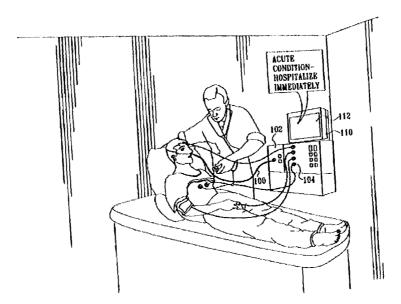
- (71) Applicants (for all designated States except US): CHIL-DREN'S MEDICAL CENTER CORPORATION [US/US]; 300 Longwood Avenue, Boston, MA 02115 (US). MEDTRONIC PHYSIO-CONTROL INC. [US/US]; 11811 Willows Road NE, Redmond, WA 98073 (US). ORIDION MEDICAL 1987 LTD. [IL/IL]; 7 Hamarpeh Stree, 97774 Jerusalem (IL).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): KRAUS, Baruch

[US/US]; 53 Addington Road, Brookline, MA 02445 (US). **HAMPTON, David, Robert** [US/US]; 18130 N E 154 Street, Woodinville, WA 98072 (US). **CARLEBACH, Ephraim** [IL/IL]; 33 Har Sinai Street, 43307 Ra'anana (IL).

- (74) Agent: SANFORD T. COLB & CO.; P.O. Box 2273, 76122 Rehovot (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, 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

[Continued on next page]

(54) Title: AUTOMATED INTERPRETIVE MEDICAL CARE SYSTEM AND METHODOLOGY



(57) Abstract: Improved apparatus and methods for monitoring, diagnosing and treating at least one medical respiratory condition of a patient are provided, including a medical data input interface adapted to provide at least one medical parameter relating at least to the respiration of the patient, and a medical parameter interpretation functionality (104, 110) adapted to receive the at least one medical parameter relating at least to the respiration (102) of the patient and to provide at least one output indication (112) relating to a degree of severity of at least one medical condition indicated by the at least one medical parameter.



02/045566 A3

WO 02/045566 A3



(BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

with international search report

Published:

(88) Date of publication of the international search report: 27 March 2003

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/IL01/01127

| A. CLASSIFICATION OF SUBJECT MATTER | | | | | |
|---|--|--|---|--|--|
| IPC(7) : A61B 5/00 US CL : 600/300-301, 529, 531; 128/200.24, 903-904, 920, 925; 705/2-4 | | | | | |
| According to International Patent Classification (IPC) or to both national classification and IPC | | | | | |
| | OS SEARCHED | | | | |
| Minimum documentation searched (classification system followed by classification symbols) U.S.: 600/300-301, 529, 531; 128/200.24, 903-904, 920, 925; 705/2-4 | | | | | |
| 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) WEST 2.1 | | | | | |
| C. DOCUMENTS CONSIDERED TO BE RELEVANT | | | | | |
| Category * | Citation of document, with indication, where ap | propriate, of the relevant passages | Relevant to claim No. | | |
| X, P | US 6,159,147 A (LICHTER et al) 12 December 2000 | | 1, 3, 5, 7, 9, 11, 13, 104, 106, 108-117, 128-130, 144, 147-155, 169, 171-172, 174-176, and 196-212 | | |
| X, P Y, P | US 6,174,283 B1 (NEVO et al) 16 January 2001, see | e entire document. | 1, 3, 5, 7, 9, 11, 13, 104, 106, 108-117, 128-130, 144, 149-155, 169, 171-172, 174-176, and 196-212 | | |
| 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 int | ernational filing date or priority | | |
| "A" documen | t defining the general state of the art which is not considered to be | date and not in conflict with the application but cited to understand the principle or theory underlying the invention | | | |
| "E" earlier ap | oplication or patent published on or after the international filing date | "X" document of particular relevance; the considered novel or cannot be consid when the document is taken alone | | | |
| establish specified | | "Y" document of particular relevance; the considered to involve an inventive ste combined with one or more other suc | ep when the document is ch documents, such combination | | |
| "O" document referring to an oral disclosure, use, exhibition or other means | | being obvious to a person skilled in t | he art | | |
| "P" document published prior to the international filing date but later than the priority date claimed | | "&" document member of the same paten | t family | | |
| Date of the actual completion of the international search | | Date of mailing of the international search report | | | |
| 11 June 2002 (11.06.2002) Name and mailing address of the ISA/US | | Authorized officer | | | |
| Cor | nmissioner of Patents and Trademarks | Kevin P Shaver | | | |
| Box PCT Washington, D.C. 20231 | | 1 71 | | | |
| | o. (703)305-3230 | Telephone No. (703) 306-5648 | | | |

Form PCT/ISA/210 (second sheet) (July 1998)

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US01/90738

| ategory * | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No |
|------------------|--|--|
| X, P Y, P | US 6,309,360 B1 (MAULT) 30 October 2001, see entire document | 1, 3, 5, 104, 106, a 108 2, 4, 6, 115-118, a 147-148 |
| Х, Е | US 6,375,614 B1 (BRAUN et al) 23 April 2002, see entire document | 1-18, 33-35, 37-3; 53-59, 62, 75, 82, 87-89, 104-117, 12 128-130, 144, 144 155, 169, 171-17; 174-176, 178-180, 196-212 |
| | | |
| | | |
| | | |
| | | |
| | · | |
| | | |
| | | |

INTERNATIONAL SEARCH REPORT

International application No.

PCT/IL01/01127

| Box I Observations where certain claims were found unsearchable (Continuation of Item 1 of first sheet) | | | |
|--|--|--|--|
| This international report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons: | | | |
| 1. Claim Nos.: because they relate to subject matter not required to be searched by this Authority, namely: | | | |
| 2. Claim Nos.: because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically: | | | |
| 3. Claim Nos.: 19-32, 36, 39-52, 60-61, 63-74, 76-81, 83, 85, 86, 90-103, 118-123, 125-127, 131-143, 145, 156-168, 170, 173, 177 and 181-195 because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a). | | | |
| Box II Observations where unity of invention is lacking (Continuation of Item 2 of first sheet) | | | |
| This International Searching Authority found multiple inventions in this international application, as follows: | | | |
| | | | |
| 1. As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims. | | | |
| 2. As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee. | | | |
| 3. As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.: | | | |
| 4. No required additional search fees were timely paid by the applicant. Consequently, this international search report is | | | |
| restricted to the invention first mentioned in the claims; it is covered by claims Nos.: | | | |
| Remark on Protest The additional search fees were accompanied by the applicant's protest. | | | |
| No protest accompanied the payment of additional search fees. | | | |
| | | | |