



(51) International Patent Classification:

G06N 20/00 (2019.01) A61B 5/16 (1968.09)
G06V 20/52 (2022.01)

(21) International Application Number:

PCT/US2022/036935

(22) International Filing Date:

13 July 2022 (13.07.2022)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

17/376,701 15 July 2021 (15.07.2021) US

(71) Applicant: **COVIDIEN LP** [US/US]; 15 Hampshire St.,
Mansfield, Massachusetts 02048 (US).

(72) Inventors: **ADDISON, Paul S.**; Section 1, Room 2, The
Technopole Centre, Penicuik, Midlothian, Aberdeenshire
EH26 OPJ (GB). **MONTGOMERY, Dean**; Section 1,
Room 2, The Technopole Centre, Penicuik, Midlothian, Ab-
erdeenshire EH26 OPJ (GB). **SMIT, Philip C.**; Section 1,
Room 2, The Technopole Centre, Penicuik, Midlothian, Ab-
erdeenshire EH26 OPJ (GB).

(74) Agent: **BEDINGFIELD, Herbert M.**; CANTOR COL-
BURN LLP, 20 Church St., 22nd Floor, Hartford, Connecti-
cut 06103-3207 (US).

(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, BN, BR, BW, BY, BZ,
CA, CH, CL, CN, CO, CR, CU, CV, CZ, DE, DJ, DK, DM,
DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT,
HN, HR, HU, ID, IL, IN, IQ, IR, IS, IT, JM, JO, JP, KE,
KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU,
LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA,
NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO,
RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, ST, SV, SY, TH,
TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, WS,
ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ,
UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ,
TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK,
EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV,
MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM,
TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW,
KM, ML, MR, NE, SN, TD, TG).

(54) Title: VISION-BASED PATIENT STIMULUS MONITORING AND RESPONSE SYSTEM AND METHOD UTILIZING VISUAL IMAGES

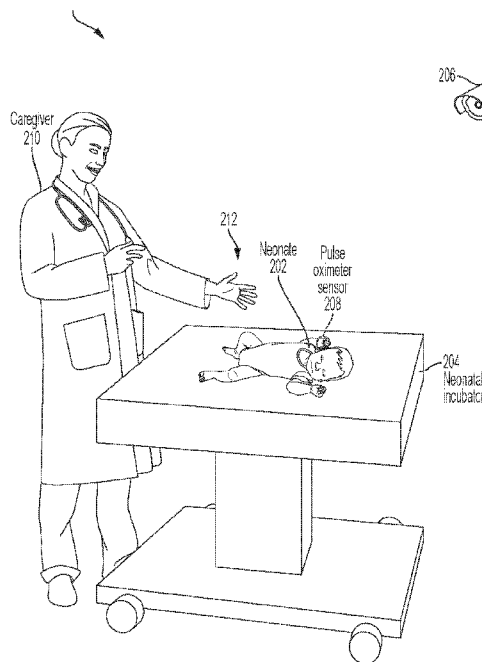


FIG. 2

(57) Abstract: Vision-based stimulus monitoring and response systems and methods are presented, wherein detection, via image(s) of a patient through an external stimulus, such as a caregiver, prompts analysis of the response of the patient, via secondary patient sensors or via analysis of patient image(s), to determine an autonomic nervous system (ANS) state.



WO 2023/287864 A3

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))*

Published:

- *with international search report (Art. 21(3))*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

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

16 February 2023 (16.02.2023)

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2022/036935

A. CLASSIFICATION OF SUBJECT MATTER
INV. G06N20/00 G06V20/52 A61B5/16
ADD.

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)
G06N A61B G06K G06V

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)
EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	KR 2016 0124026 A (SANGMYUNG UNIV SEOUL INDUSTRY-ACADEMY COOP FOUND [KR]) 26 October 2016 (2016-10-26)	1-6, 10
A	paragraphs [0033] - [0035], [0050] - [0055]; claims 1-8; figures 1, 2 -----	7-9
A	US 2019/320974 A1 (ALZAMZMI GHADH [US] ET AL) 24 October 2019 (2019-10-24) paragraphs [0090] - [0120]; figures 1-6 -----	1-10
A	US 2020/302825 A1 (SACHS DAN [US] ET AL) 24 September 2020 (2020-09-24) the whole document -----	1-10
A	WO 2017/139895 A1 (NURALOGIX CORP [CA]) 24 August 2017 (2017-08-24) the whole document -----	1-10

Further documents are listed in the continuation of Box C. See patent family annex.

* Special categories of cited documents :

<p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier application or patent but published on or after the international filing date</p> <p>"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)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p>	<p>"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</p> <p>"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</p> <p>"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> <p>"&" document member of the same patent family</p>
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Date of the actual completion of the international search 9 January 2023	Date of mailing of the international search report 17/01/2023
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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 Gentil, Tamara
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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2022/036935

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
KR 20160124026 A	26-10-2016	NONE	
US 2019320974 A1	24-10-2019	NONE	
US 2020302825 A1	24-09-2020	NONE	
WO 2017139895 A1	24-08-2017	CA 3013959 A1	24-08-2017
		CN 108697386 A	23-10-2018
		EP 3416555 A1	26-12-2018
		US 2019046099 A1	14-02-2019
		US 2020315511 A1	08-10-2020
		US 2021068735 A1	11-03-2021
		WO 2017139895 A1	24-08-2017

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2022/036935

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.: **11-20**
because they relate to subject matter not required to be searched by this Authority, namely:
Rule 39.1(iv) PCT - Diagnostic method practised on the human or animal body
2. Claims 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. Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 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 fees, this Authority did not invite payment of additional fees.
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 and, where applicable, the payment of a protest fee.
- The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- No protest accompanied the payment of additional search fees.