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DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN,
HR, HU, ID, IL, IN, IR, IS, JP, KE, KG, KH, KN, KP, KR,
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(54) Title: ELECTRODE AND CABLE CONNECTIONS IN ELECTROCARDIOGRAPHY SYSTEMS

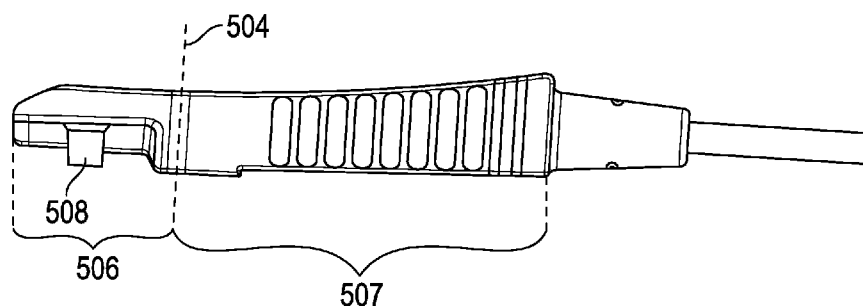


FIG. 5B

(57) Abstract: In electrocardiography (ECG) system, a patient cable connecting one or more electrodes to a processing device for processing ECG signals may include one or more electrode connectors mechanically keyed to respective electrodes and/or a device connector mechanically and/or electronically keyed to a cable connector of the processing device. In some embodiments, keying between the cable and electrode is achieved, for example, with an electrode including a hollow-post portion that defines a bore in conjunction with a post protruding from an arm of the electrode connector that is sized to fit within the bore.



INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2017/021632

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.:
because they relate to subject matter not required to be searched by this Authority, namely:
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:

see additional sheet

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.

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2017/021632

A. CLASSIFICATION OF SUBJECT MATTER
INV. A61B5/0408 H01R11/22
ADD. A61B5/0416

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)
A61B H01R A61N

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	US 7 255 609 B1 (EPSTEIN STEPHEN T [US]) 14 August 2007 (2007-08-14)	1-6
Y	column 3, line 52 - column 5, line 60; figures 1-5	7-9
X	US 4 220 387 A (BICHE BARTON A [US] ET AL) 2 September 1980 (1980-09-02)	1-6,11, 12,18,19
Y	column 3, line 26 - column 5, line 11; figures 1-5,8	7-9, 13-17
X	US 9 226 680 B1 (KENDRICKS DAVID [US]) 5 January 2016 (2016-01-05)	1-6
Y	column 7, line 39 - column 9, line 16; figures 10-20	7-9
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☒ Further documents are listed in the continuation of Box C.

☒ See patent family 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 application or patent 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

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Name and mailing address of the ISA/

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INTERNATIONAL SEARCH REPORT

International application No
PCT/US2017/021632

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2009/099423 A1 (AL-ALI AMMAR [US] ET AL) 16 April 2009 (2009-04-16) paragraphs [0061] - [0065]; figures 23A-23D -----	7-9, 13-17
Y	US 2010/168547 A1 (KENDRICKS DAVID [US]) 1 July 2010 (2010-07-01) paragraphs [0034] - [0040]; figure 1 -----	7,9,13, 14,16,17
X	US 3 901 218 A (BUCHALTER MARTIN) 26 August 1975 (1975-08-26) column 3, line 65 - column 5, line 18; figures 1-5 -----	10
X	US 5 261 402 A (DISABITO DAVID M [US]) 16 November 1993 (1993-11-16) column 5, lines 7-29; figures 3-5 -----	10

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2017/021632

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 7255609	B1	14-08-2007	NONE
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FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-6

An electric cable comprising one or more electrode connectors at a first end of the cable, at least one of the electrode connectors having a pair of clamp arms comprising, respectively, a post and a conductive contact surface.

2. claims: 7-19

An electric cable further comprising a device connector at a second end of the cable, an electrode assembly and system, comprising an electrode with a hollow-post portion, and a method for connecting a hollow-post electrode to a processing device.
