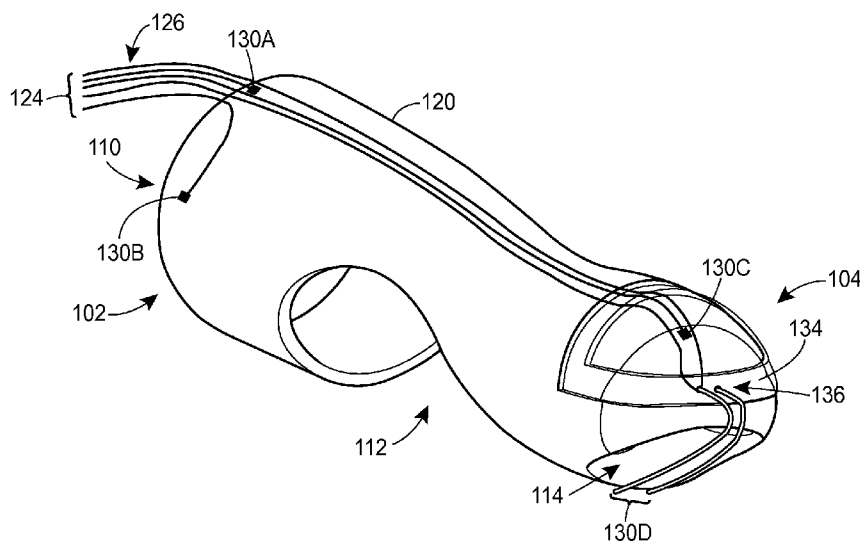




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- (71) **Applicants:** **THE REGENTS OF THE UNIVERSITY OF MICHIGAN** [US/US]; Office of Technology Transfer, 1600 Huron Parkway, 2nd Floor, Ann Arbor, MI 48109-2590 (US). **THE REGENTS OF THE UNIVERSITY OF CALIFORNIA** [US/US]; 1111 Franklin Street, Oakland, CA 94607-5200 (US). **UNITED STATES GOVERNMENT REPRESENTED BY THE DEPARTMENT OF VETERANS AFFAIRS** [US/US]; Office of The General Counsel, Washington, DC 20420 (US).
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- (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, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, 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, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.
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- Published:**
— with international search report (Art. 21(3))

[Continued on next page]

(54) **Title:** DIGITAL MANOMETRY FINGER-MOUNTABLE SENSOR DEVICE**Figure 3B**

(57) **Abstract:** A probe system includes a finger-mountable housing having a distal end and a proximal receptacle end. The proximal receptacle end defines an opening to receive a finger. The probe system also includes a probe assembly disposed on or within the finger-mountable housing and having at least a first sensor. The first sensor is positioned to measure a physical characteristic of a first tissue when the finger-mountable housing and probe assembly are inserted in a rectum of the patient.



— *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))*

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INTERNATIONAL SEARCH REPORT

International application No

PCT/US2012/069680

A. CLASSIFICATION OF SUBJECT MATTER

INV. A61B5/0488 A61B5/22
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)

A61B

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

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 2006/002313 A1 (MAYO FOUNDATION [US]; BHARUCHA ADIL E [US]) 5 January 2006 (2006-01-05) page 6, line 22 - page 7, line 28; figures 3,8 -----	1-3,8,9, 13,14, 17-30, 33-44
X	WO 2008/131557 A1 (URODYNAMIX TECHNOLOGIES LTD [CA]; MOHAMEDALI ZEID [CA]; LI LUYA [CA]) 6 November 2008 (2008-11-06) -----	1-3,8, 10-17, 21-31, 33-36
Y	paragraphs [0030] - [0036]; figures 3A,6 -----	32
X	US 6 567 990 B1 (SPITZNAGLE RICHARD JAMES [US]) 27 May 2003 (2003-05-27) -----	1,4-6, 17-25, 33-36
Y	the whole document ----- -/-	32



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

26 March 2013

Date of mailing of the international search report

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Name and mailing address of the ISA/

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INTERNATIONAL SEARCH REPORT

International application No

PCT/US2012/069680

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2007/293792 A1 (SLIWA JOHN W [US] ET AL) 20 December 2007 (2007-12-20) paragraphs [0017], [0019], [0020], [0035] - [0037]; figure 4 -----	1,7,8, 14,15, 17-22, 25,26, 30,36
X	US 2009/069721 A1 (KELLETT IAN PETER [US] ET AL) 12 March 2009 (2009-03-12) figures 1,7,9 -----	1,7,17, 21-25,36

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2012/069680

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.:

1-44

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.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

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

1. claims: 1-44

Probe system comprising a finger mountable assembly

2. claims: 45-50

A computer-implemented method for diagnosing an anorectal disorder of a patient based on sensor inputs

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2012/069680

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 2006002313	A1	05-01-2006	NONE
WO 2008131557	A1	06-11-2008	US 2010256461 A1 07-10-2010 WO 2008131557 A1 06-11-2008
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US 2009069721	A1	12-03-2009	US 2009069721 A1 12-03-2009 US 2011172563 A1 14-07-2011 WO 2009067573 A2 28-05-2009