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- (71) Applicant (for all designated States except US): **THE GENERAL HOSPITAL CORPORATION** [US/US]; 55 Fruit Street, Boston, MA 02114 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **TEARNEY, Guillermo, J.** [US/US]; 12 Fairmont Street, Cambridge, MA 02139 (US). **SHISHKOV, Milen** [US/US]; 131 Coolidge Avenue, Apt. 516, Watertown, MA 02472 (US). **BOUMA, Brett, E.** [US/US]; 12 Monmouth Street, Quincy, MA 02140 (US). **VAKOC, Benjamin, J.** [US/US]; 3 Sargent Street, Cambridge, MA 02140 (US).

NISHIOKA, Norman, S. [US/US]; 1 Bennett Road, Wayland, MA 01778 (US).

(74) Agents: **ABELEV, Gary** et al.; Dorsey & Whitney LLP, 250 Park Avenue, New York, NY 10177 (US).

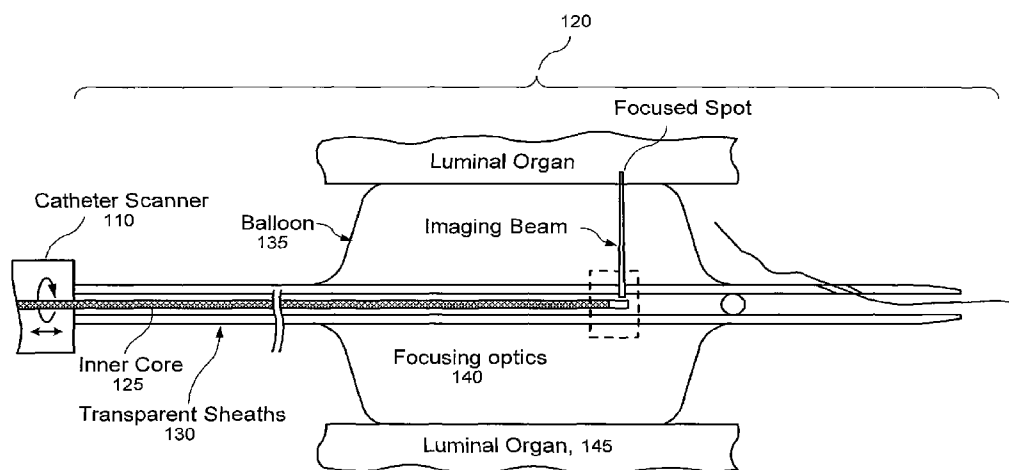
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[Continued on next page]

(54) Title: METHODS AND SYSTEMS FOR OPTICAL IMAGING OF EPITHELIAL LUMINAL ORGANS BY BEAM SCANNING THEREOF



(57) Abstract: Arrangements, apparatus, systems and systems are provided for obtaining data for at least one portion within at least one luminal or hollow sample. The arrangement, system or apparatus can be (insertable via at least one of a mouth or a nose of a patient. For example, a first optical arrangement can be configured to transceive at least one electromagnetic (e.g., visible) radiation to and from the portion. A second arrangement may be provided at least partially enclosing the first arrangement. Further, a third arrangement can be configured to be actuated so as to position the first arrangement at a predetermined location within the luminal or hollow sample. The first arrangement may be configured to compensate for at least one aberration (e.g., astigmatism) caused by the second arrangement and/or the third arrangement. The second arrangement can include at least one portion which enables a guiding arrangement to be inserted there through. Another arrangement can be provided which is configured to measure a pressure within the at least one portion. The data may include a position and/or an orientation of the first arrangement with respect to the luminal or hollow sample.

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— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

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INTERNATIONAL SEARCH REPORT

International application No

PCT/US2007/060787

A. CLASSIFICATION OF SUBJECT MATTER
 INV. A61B5/00 A61B1/07

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 practical, 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	US 2005/165303 A1 (KLEEN MARTIN [DE] ET AL) 28 July 2005 (2005-07-28)	32, 33, 53-55, 57, 61-63
A	figures 1, 2, 4 paragraph [0025] - paragraph [0029] paragraph [0037]	1
X	WO 2005/082225 A (OPTISCAN PTY LTD [AU]; HARRIS MARTIN RUSSELL [AU]; ROSMAN GAVIN EDMUND) 9 September 2005 (2005-09-09)	1-5, 11-13, 21, 22
Y	page 11, line 28 - page 12, line 12 page 18, line 5 - page 19, line 15 page 20, line 35 - page 22, line 2 figures 1, 3, 6, 8A, 9, 12 ----- -/--	6-10, 14-20

☒ 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 document 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.
- *Z* document member of the same patent family

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14/05/2008

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European Patent Office, P.B. 5818 Patentlaan 2
 NL - 2280 HV Rijswijk
 Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
 Fax: (+31-70) 340-3016

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Cornelissen, P

INTERNATIONAL SEARCH REPORT

International application No

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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 2002/052547 A1 (TOIDA MASAHIRO [JP]) 2 May 2002 (2002-05-02) paragraph [0075] - paragraph [0076] paragraph [0089] - paragraph [0101] figures 1-6	10,16-20
Y	US 2004/002650 A1 (MANDRUSOV EVGENIA [US] ET AL) 1 January 2004 (2004-01-01) figure 9 paragraph [0091] - paragraph [0093]	6-8
Y	US 2003/082105 A1 (FISCHMAN ALAN [US] ET AL) 1 May 2003 (2003-05-01) figures 2a,2b,6a-6c,16a,16b paragraph [0259] - paragraph [0270]	14,15
Y	WO 2004/034869 A (SHER ARIEH [IL]) 29 April 2004 (2004-04-29) page 18, line 31 - line 33	9
A	WO 03/052478 A (ADVANCED CARDIOVASCULAR SYSTEM [US]) 26 June 2003 (2003-06-26) page 40, line 4 - line 6	17
A	US 5 304 173 A (KITTRELL CARTER [US] ET AL) 19 April 1994 (1994-04-19) column 17, line 45 - line 57	17
E	WO 2007/038787 A (GEN HOSPITAL CORP [US]; TEARNEY GUILLERMO J [US]; YELIN DVIR [US]; BOU) 5 April 2007 (2007-04-05) paragraph [0119] paragraph [0149] - paragraph [0155] figures 10,11,15,20-26	1-4, 6-13, 15-22
A	US 6 069 698 A (OZAWA TAKESHI [JP] ET AL) 30 May 2000 (2000-05-30) the whole document	10,16,18

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2007/060787

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 allsearchable 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.:

1-22, 32, 33, 53-55, 57, 61-63

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: 1-22,32,33,53-55,57,61-63

An apparatus in which the first arrangement is configured to compensate for an aberration

2. claims: 23-31

An apparatus having a second arrangement including at least a portion which enables a guiding arrangement to be inserted there through

3. claims: 34-41

An apparatus with a non inflatable portion being an expandable collapsible basket

4. claims: 42-52

An apparatus having a second arrangement configured to measure a pressure within the at least one portion

5. claim: 56

An apparatus in which the second portion transmits at least a second electromagnetic radiation beam, which produces a structural change in the at least one portion

6. claim: 58

An apparatus in which the second arrangement is configured to forward return radiation from a sample to an optical coherence tomography system

7. claims: 59,60

An apparatus having a third arrangement partially enclosing the second arrangement and capable of extending outside a periphery of the section of the first arrangement

8. claim: 64

An apparatus in which the actuating arrangement is a motor

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2007/060787

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