



(51) International Patent Classification:

A61F 2/04 (2006.01) A61M 25/00 (2006.01)
A61F 2/76 (2006.01) A61L 27/14 (2006.01)
A61M 39/22 (2006.01)

(72) Inventor; and

(75) Inventor/Applicant (for US only): NGUYEN, Khoi, Minh [US/US]; 3002 Dow Avenue, Unit 124, Tustin, CA 92780 (US).

(21) International Application Number:

PCT/US2012/038443

(74) Agent: BACKOFEN, Paul, J.; Crockett & Crockett, PC,

26020 Acero, Suite 200, Mission Viejo, CA 92691 (US).

(22) International Filing Date:

17 May 2012 (17.05.2012)

(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, 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, 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.

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

61/487,184 17 May 2011 (17.05.2011) US
13/474,585 17 May 2012 (17.05.2012) US

(71) Applicant (for all designated States except US): EN-DOBESE, INC. [US/US]; 3002 Dow Avenue, Unit 124, Tustin, CA 92780 (US).

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH,

[Continued on next page]

(54) Title: METHOD AND APPARATUS FOR BUOYANT GASTRIC IMPLANT

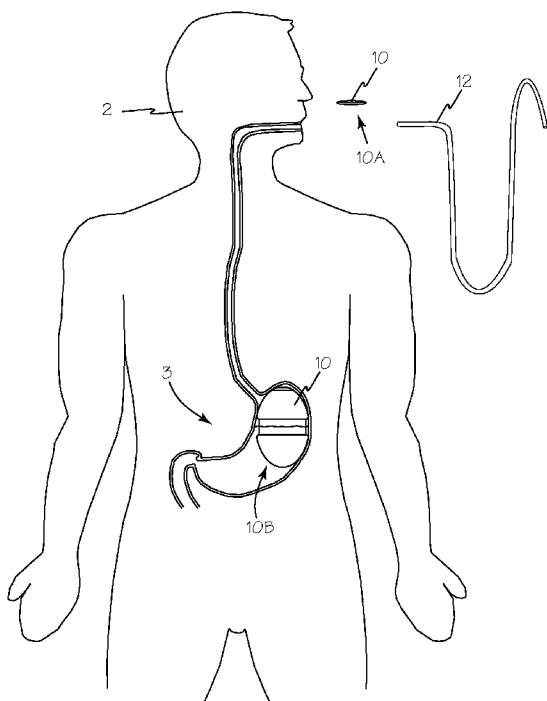


Fig. 1

(57) Abstract: A buoyant, expandable intragastric device is provided that can be inserted into the stomach of a patient. The device is inflated, or expanded, with gas or other low density material to partially fill the stomach and enabling the device, or implant, to be buoyant within the stomach by floating toward the highest location possible relative to the contents of the stomach and the configuration of the stomach walls. The implant moves around as the body changes orientation or as the stomach contents change. Therefore, continual impingement on the same tissues of the gastrointestinal tract is minimized. The implant, being buoyant and floating to the top of the stomach, can beneficially generate increased pressure on, or stretching of, the tissues at the top of the stomach and the vagal nerves causing signals to the brain indicating that the stomach is full.

WO 2012/158972 A3



GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, 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, ML, MR, NE, SN, TD, TG).

— *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:
31 January 2013

Published:

— *with international search report (Art. 21(3))*

A. CLASSIFICATION OF SUBJECT MATTER*A61F 2/04(2006.01)i, A61F 2/76(2006.01)i, A61M 39/22(2006.01)i, A61M 25/00(2006.01)i, A61L 27/14(2006.01)i*

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)

A61F 2/04; A61M 29/00; A61F 2/00; A61B 17/12; A61F 5/00; A61B 17/00; A61M 29/02; B32B 27/36

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal) & Keywords: gastric, implant, balloon, shell, valve, port, assembly, gas control, coating, lubricious coating, catheter, loader, hydrophilic hydrogel, perfluoropentane, silicone, polymer, etc.

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|-----------|--|-----------------------|
| Y | US 2009-0275973 A1 (RICHARD D.Y. CHEN et al.) 05 November 2009 See Abstract; claim 1; Fig. 1; paragraphs 0016, 0024, 0049, 0078, 0086-0088, 0090, and 0112. | 1-4, 8-10, 12-18 |
| A | | 5-7, 11, 19 |
| Y | WO 2009-059803 A1 (VENERA KHAFIZOVA) 14 May 2009 See Figs. 2 and 5-17; page 2, lines 1-8; page 8, lines 24-28. | 1-4, 8-10, 12-18 |
| Y | US 2007-0212559 A1 (TILAK M. SHAH) 13 September 2007 See paragraphs 0075 and 0076. | 4 |
| A | EP 2218403 A1 (CARDIOKINETIX, INC.) 18 August 2010 See the whole document. | 1-19 |
| A | US 2004-0138520 A1 (KEVIN G. CONNORS et al.) 15 July 2004 See the whole document. | 1-19 |
| A | US 2011-0040318 A1 (DORON MARCO et al.) 17 February 2011 See the whole document. | 1-19 |
| A | US 2006-0058829 A1 (DOUGLAS C. SAMPSON et al.) 16 March 2006 See the whole document. | 1-19 |

 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 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 NOVEMBER 2012 (26.11.2012)

Date of mailing of the international search report

28 NOVEMBER 2012 (28.11.2012)

Name and mailing address of the ISA/KR

Korean Intellectual Property Office
189 Cheongsa-ro, Seo-gu, Daejeon Metropolitan
City, 302-701, Republic of Korea

Facsimile No. 82-42-472-7140

Authorized officer

Heo, Joo-Hyung

Telephone No. 82-42-481-8150



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.: 20-23
because they relate to subject matter not required to be searched by this Authority, namely:
Claims 20-23 pertain to a method for treatment of the human body by surgery, and thus relate to a subject matter which this International Searching Authority is not required, under Article 17(2)(a)(i) of the PCT and Rule 39.1(iv) of the Regulations under the PCT, to search.
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 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 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/US2012/038443

| C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT | | |
|---|--|-----------------------|
| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
| A | US 2007-0135829 A1 (PASCAL PAGANON) 14 June 2007 See the whole document. | 1-19 |
| A | US 2008-0255601 A1 (JANEL A. BIRK) 16 October 2008 See the whole document. | 1-19 |
| PA | US 2012-0095385 A1 (ZACHARY DOMINGUEZ et al.) 19 April 2012 See the whole document. | 1-19 |

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/US2012/038443

| Patent document cited in search report | Publication date | Patent family member(s) | Publication date |
|--|------------------|--|--|
| US 2009-0275973 A1 | 05.11.2009 | AU 2005-306367 A1 EP 1744804 A2 EP 1811920 A2 JP 2007-535999 A JP 2008-520374 A JP 4839321 B2 US 2005-0267595 A1 US 2005-0267596 A1 US 2006-0111632 A1 US 2006-0111777 A1 US 8066780 B2 US 8070807 B2 WO 2005-107641 A2 WO 2006-055839 A2 | 26.05.2006 24.01.2007 01.08.2007 13.12.2007 19.06.2008 21.12.2011 01.12.2005 01.12.2005 25.05.2006 25.05.2006 29.11.2011 06.12.2011 17.11.2005 26.05.2006 |
| WO 2009-059803 A1 | 14.05.2009 | None | |
| US 2007-0212559 A1 | 13.09.2007 | EP 1744960 A2 EP 1744960 A4 US 2005-0222329 A1 US 2007-0299463 A1 US 7682306 B2 US 7883491 B2 WO 2005-100169 A2 | 24.01.2007 13.08.2008 06.10.2005 27.12.2007 23.03.2010 08.02.2011 27.10.2005 |
| EP 2218403 A1 | 18.08.2010 | US 2010-274227 A1 | 28.10.2010 |
| US 2004-0138520 A1 | 15.07.2004 | AU 2001-53596 A1 AU 2003-279005 A1 EP 1289448 A2 EP 1289448 B1 EP 1572285 A2 EP 1572285 A4 EP 1844736 A1 EP 1940316 A2 JP 2003-530183 A JP 2006-516001 A JP 2009-509650 A JP 4814634 B2 US 2003-0229263 A1 US 2003-0229264 A1 US 2003-0236442 A1 US 2005-0187427 A1 US 2006-0100478 A1 US 2007-0156167 A1 US 2007-0225753 A1 US 2007-0225803 A1 US 2008-0027478 A1 US 2009-0105527 A1 | 30.10.2001 23.04.2004 12.03.2003 01.08.2007 14.09.2005 05.09.2007 17.10.2007 09.07.2008 14.10.2003 15.06.2006 12.03.2009 16.11.2011 11.12.2003 11.12.2003 25.12.2003 25.08.2005 11.05.2006 05.07.2007 27.09.2007 27.09.2007 31.01.2008 23.04.2009 |

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/US2012/038443

| Patent document cited in search report | Publication date | Patent family member(s) | Publication date |
|--|------------------|-------------------------|------------------|
| | | US 2009-0240277 A1 | 24.09.2009 |
| | | US 2010-0222802 A1 | 02.09.2010 |
| | | US 6682473 B1 | 27.01.2004 |
| | | US 6976950 B2 | 20.12.2005 |
| | | US 6976951 B2 | 20.12.2005 |
| | | US 6988983 B2 | 24.01.2006 |
| | | US 7074178 B2 | 11.07.2006 |
| | | US 7374532 B2 | 20.05.2008 |
| | | US 7470228 B2 | 30.12.2008 |
| | | US 7484510 B2 | 03.02.2009 |
| | | US 7540876 B2 | 02.06.2009 |
| | | US 7691051 B2 | 06.04.2010 |
| | | US 8016740 B2 | 13.09.2011 |
| | | US 8025064 B2 | 27.09.2011 |
| | | US 8298132 B2 | 30.10.2012 |
| | | WO 01-78576 A2 | 25.10.2001 |
| | | WO 2004-030518 A2 | 15.04.2004 |
| | | WO 2007-038476 A2 | 05.04.2007 |
| | | WO 2010-068467 A1 | 17.06.2010 |
| US 2011-0040318 A1 | 17.02.2011 | AU 2007-254213 A1 | 29.11.2007 |
| | | CA 2652569 A1 | 29.11.2007 |
| | | EP 1906875 A2 | 09.04.2008 |
| | | EP 2032093 A2 | 11.03.2009 |
| | | JP 2010-504765 A | 18.02.2010 |
| | | US 2007-0156248 A1 | 05.07.2007 |
| | | US 2009-0182424 A1 | 16.07.2009 |
| | | US 2011-0015665 A1 | 20.01.2011 |
| | | US 2011-0015666 A1 | 20.01.2011 |
| | | US 2011-0022072 A1 | 27.01.2011 |
| | | US 7699863 B2 | 20.04.2010 |
| | | US 7785291 B2 | 31.08.2010 |
| | | US 8267888 B2 | 18.09.2012 |
| | | WO 2006-092789 A2 | 08.09.2006 |
| | | WO 2007-136735 A2 | 29.11.2007 |
| US 2006-0058829 A1 | 16.03.2006 | AU 2004-224409 A1 | 07.10.2004 |
| | | AU 2004-224409 B2 | 19.03.2009 |
| | | CA 2519518 A1 | 07.10.2004 |
| | | CN 1802181 A | 12.07.2006 |
| | | CN 1802181 B | 16.11.2011 |
| | | EP 1610737 A2 | 04.01.2006 |
| | | EP 1610737 B1 | 28.04.2010 |
| | | EP 2204149 A2 | 07.07.2010 |
| | | EP 2204149 A3 | 21.07.2010 |
| | | JP 2006-522643 A | 05.10.2006 |
| | | KR 10-2005-0105284 A | 03.11.2005 |
| | | US 2004-0186502 A1 | 23.09.2004 |
| | | US 6981980 B2 | 03.01.2006 |
| | | WO 2004-084763 A2 | 07.10.2004 |

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/US2012/038443

| Patent document cited in search report | Publication date | Patent family member(s) | Publication date |
|--|------------------|-------------------------|------------------|
| US 2007-0135829 A1 | 14.06.2007 | BR P10408867 A | 11.04.2006 |
| | | CA 2520454 A1 | 21.10.2004 |
| | | CN 1767796 A | 03.05.2006 |
| | | EP 1610734 A2 | 04.01.2006 |
| | | FR 2852821 A1 | 01.10.2004 |
| | | FR 2852821 B1 | 01.06.2007 |
| | | WO 2004-089262 A2 | 21.10.2004 |
| | | US 2008-0255601 A1 | 16.10.2008 |
| AU 2008-239896 A1 | 23.10.2008 | | |
| CA 2683715 A1 | 23.10.2008 | | |
| CN 101677868 A | 24.03.2010 | | |
| EP 2139439 A2 | 06.01.2010 | | |
| EP 2139439 B1 | 31.08.2011 | | |
| ES 2370929 T3 | 23.12.2011 | | |
| JP 2010-523280 A | 15.07.2010 | | |
| KR 10-2010-0016353 A | 12.02.2010 | | |
| MX 2009011021 A | 29.10.2009 | | |
| US 2010-0174307 A1 | 08.07.2010 | | |
| WO 2008-127941 A2 | 23.10.2008 | | |
| US 2012-0095385 A1 | 19.04.2012 | | |
| | | US 2012-089172 A1 | 12.04.2012 |
| | | US 2012-095384 A1 | 19.04.2012 |
| | | US 2012-095483 A1 | 19.04.2012 |
| | | US 2012-095484 A1 | 19.04.2012 |
| | | US 2012-095492 A1 | 19.04.2012 |
| | | US 2012-095494 A1 | 19.04.2012 |
| | | US 2012-095495 A1 | 19.04.2012 |
| | | US 2012-095496 A1 | 19.04.2012 |
| | | US 2012-095497 A1 | 19.04.2012 |
| | | US 2012-095499 A1 | 19.04.2012 |
| | | US 2012-191125 A1 | 26.07.2012 |
| | | WO 2012-051108 A2 | 19.04.2012 |
| | | WO 2012-054293 A1 | 26.04.2012 |
| | | WO 2012-054296 A2 | 26.04.2012 |
| | | WO 2012-054297 A2 | 26.04.2012 |
| | | WO 2012-054410 A2 | 26.04.2012 |
| | | WO 2012-054411 A2 | 26.04.2012 |
| | | WO 2012-054413 A2 | 26.04.2012 |
| | | WO 2012-054414 A2 | 26.04.2012 |
| | | WO 2012-054519 A2 | 26.04.2012 |
| | | WO 2012-054522 A2 | 26.04.2012 |
| | | WO 2012-054598 A2 | 26.04.2012 |