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(54) Title: APPARATUS AND METHODS FOR TREATING OBSTRUCTIONS WITHIN BODY LUMENS

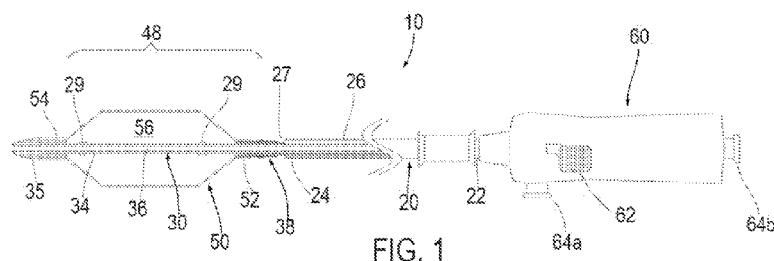


FIG. 1

(57) Abstract: Apparatus and methods are provided for delivering fluid into a body lumen during a medical procedure. A distal end of an apparatus may be introduced into a body lumen, and a valve on the distal end may be opened to deliver fluid through a first lumen into the body lumen, e.g., contrast and/or other diagnostic or therapeutic agents. The valve may be closed, and a procedure may be performed within the body lumen, e.g., using a treatment element carried on the distal end. For example, the treatment element may include a balloon that may be inflated when fluid is delivered through the first lumen with the valve closed. Optionally, a prosthesis, energy source, drug platform, and the like may be carried by the balloon for treating the body lumen. In various embodiments, the valve may be located proximal or distal to the treatment element.



INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2012/025734**A. CLASSIFICATION OF SUBJECT MATTER****A61M 25/10(2006.01)i, A61B 17/22(2006.01)i, A61M 29/02(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)

A61M 25/10; A61M 31/00; A61M 29/00; A61B 6/00; A61B 17/00

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: lumen, sealing, balloon, handle, actuator, tensioning

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X A	WO 2011-011765 A2 (HOTSPUR TECHNOLOGIES, INC.) 27 January 2011 See the abstract; claims 1-87; and figs. 1-4 and 18B.	1-5, 7-9, 16, 19 , 21-27, 29-32 6, 10-15, 17-18, 20 , 28
A	US 2006-0036277 A1 (KIETURAKIS et al.) 16 February 2006 See the abstract; claims 6-17; and figs. 1-37.	1-32
A	US 2004-0243167 A1 (TANAKA et al.) 02 December 2004 See the abstract; claims 1-4; and figs. 1-10.	1-32
A	US 2004-0181150 A1 (EVANS et al.) 16 September 2004 See the abstract; claims 1-33; and figs. 1-4.	1-32

☐ 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 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

04 DECEMBER 2012 (04.12.2012)

Date of mailing of the international search report

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Name and mailing address of the ISA/KR

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US2012/025734**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.: 33-43
because they relate to subject matter not required to be searched by this Authority, namely:
Claims 33-43 pertain to methods for treatment of human by therapy, and thus relate to a subject matter which this International Searching Authority is not required to search under Article 17(2)(a)(i) of the PCT and Rule 39.1(iv) of the Regulations under the PCT.
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

Information on patent family members

International application No.

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