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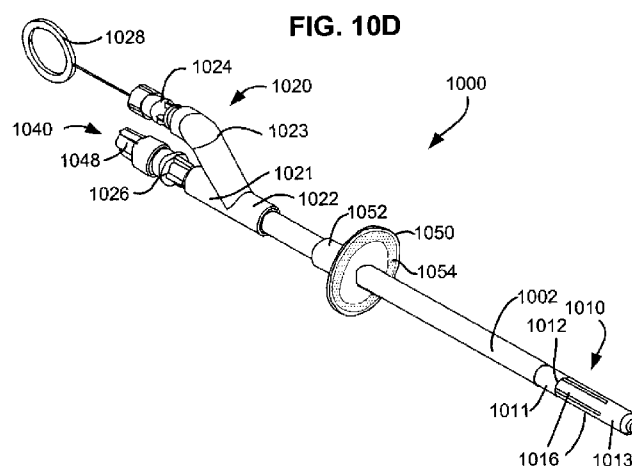
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(54) Title: SURGICAL INSTRUMENTS FOR CREATING A PNEUMOSTOMA AND TREATING CHRONIC OBSTRUCTIVE PULMONARY DISEASE



(57) Abstract: Surgical instruments and techniques for using the instruments are provided for creating a pneumostoma through the chest wall into the lung of a patient. The pneumostomy instruments and techniques may be used to create a pneumostoma which allows gases to escape from the lung through the chest wall and thereby treat chronic obstructive pulmonary disease. The pneumostomy instrument includes a flexible shaft having an expanding pneumoplasty device at the distal end for displacing and engaging lung tissue. A mandrel is provided to facilitate introduction of the pneumoplasty device into the lung. A flange attached to the shaft allows the pneumoplasty device and lung to be drawn towards and the chest wall and secured in place during while the tract of the pneumostoma heals. The instrument is designed to be secured to the chest of the patient in a low-profile configuration during the post-operative period.



MC, MK, MT, NL, NO, PL, PT, RO, SE, SI, SK, TR),
OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML,
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A. CLASSIFICATION OF SUBJECT MATTER***A61M 25/01(2006.01)i, A61M 16/04(2006.01)i, A61B 19/00(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)

IPC : A61M 25/01

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 since 1975

Japanese Utility models and applications for Utility models since 1975

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

eKIPASS(KIPO internal) "stoma", "lumen", "mandrel"

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2007/299424 A1 (CUMMING, SARAH, et al.), 27 DECEMBER 2007 See Claims 1-41, Figures 1-10	1-4,11
A	US 6,881,211 B2 (SCHWEIKERT, TIMOTHY M., et al.), 19 APRIL 2005 See Claims 1-19, Figures 1-8	1-4,11
A	US 2003/199916 A1 (YEE, CARL E. et al.), 23 OCTOBER 2003 See Claims 1-29, Figures 1-16	1-4,11
A	US 2004/75198 A1 (SCHWEIKERT, TIMOTHY M., et al.), 22 APRIL 2004 See Claims 1-35, Figures 1-8	1-4,11



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

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"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/KR

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US2009/034374**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.: 5-10
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

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PCT/US2009/034374

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