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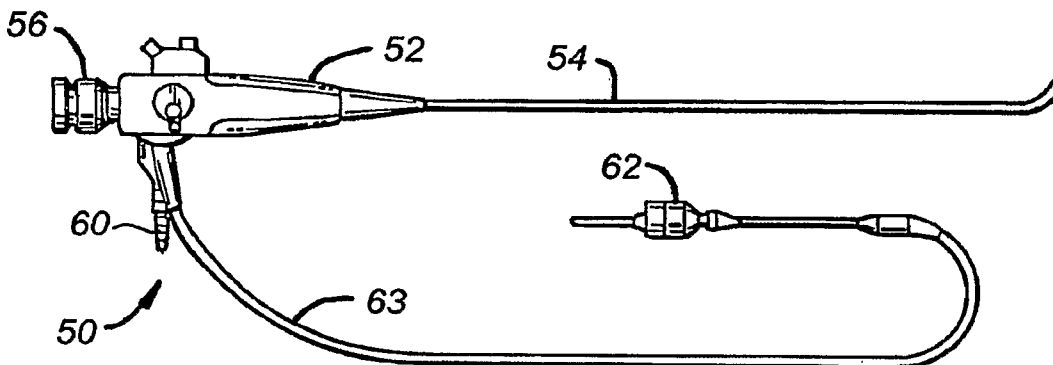
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(54) Title: MINIMALLY INVASIVE LUNG VOLUME REDUCTION DEVICES, METHODS, AND SYSTEMS



(57) Abstract: A lung volume reduction system is disclosed comprising an implantable device adapted to be delivered to a lung airway of a patient in a delivery configuration and to change to a deployed configuration to bend the lung airway. The invention also discloses a method of bending a lung airway of a patient comprising inserting a device into the airway in a delivery configuration and bending the device into a deployed configuration, thereby bending the airway.

WO 2007/106495 A3

INTERNATIONAL SEARCH REPORT

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<p>A. CLASSIFICATION OF SUBJECT MATTER IPC(8) - A61F 2/04 (2008.04) USPC - 623/23.65 According to International Patent Classification (IPC) or to both national classification and IPC</p>														
<p>B. FIELDS SEARCHED</p> <p>Minimum documentation searched (classification system followed by classification symbols) IPC(8): A61F 2/04 (2008.04) USPC: 623/23.65</p> <p>Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched IPC(8): A62B 18/08 (2008.01) USPC: 128/207</p> <p>Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) PubWEST(USPT,PGPB,EPAB,JPAB); GoogleScholar Search Terms: lung, volume, reduction, implant, force, pressure, nickel, titanium, nitinol, resilient, spring, coil, actuator, lumen, temperature, freeze</p>														
<p>C. DOCUMENTS CONSIDERED TO BE RELEVANT</p> <table border="1"> <thead> <tr> <th>Category*</th> <th>Citation of document, with indication, where appropriate, of the relevant passages</th> <th>Relevant to claim No.</th> </tr> </thead> <tbody> <tr> <td>X ---- Y</td> <td>US 2003/0070682 A1 (WILSON et al.) 17 April 2003 (17.04.2003) entire document, especially para[0110], para[0111] and para[0128]</td> <td>1-3, 5-7, 10, 13-17, 22-25, 36-38, 40-46, 55, 89-90, 99-103, 107-109, 111-116, 118-128, 131, 132 and 136-137 ---- 4, 8-9, 11-12, 18-21, 26-35, 39, 47-54, 56-88, 91-98, 104-106, 110,117, 129-130, 133-135 and 138</td> </tr> <tr> <td>Y</td> <td>US 2006/0009801 A1 (McGURK et al.) 12 January 2006 (12.01.2006) entire document, especially para[0045] and Fig. 5</td> <td>4, 18-21, 26-33, 35, 39, 48-54, 56-81,83, 91-97, 104-106, 117, 129-130, 133-135 and 138</td> </tr> <tr> <td>Y</td> <td>US 2005/0131339 A1 (MAKIN et al.) 16 June 2005 (16.06.2005) entire document, especially para[0045]</td> <td>8-9</td> </tr> </tbody> </table>			Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.	X ---- Y	US 2003/0070682 A1 (WILSON et al.) 17 April 2003 (17.04.2003) entire document, especially para[0110], para[0111] and para[0128]	1-3, 5-7, 10, 13-17, 22-25, 36-38, 40-46, 55, 89-90, 99-103, 107-109, 111-116, 118-128, 131, 132 and 136-137 ---- 4, 8-9, 11-12, 18-21, 26-35, 39, 47-54, 56-88, 91-98, 104-106, 110,117, 129-130, 133-135 and 138	Y	US 2006/0009801 A1 (McGURK et al.) 12 January 2006 (12.01.2006) entire document, especially para[0045] and Fig. 5	4, 18-21, 26-33, 35, 39, 48-54, 56-81,83, 91-97, 104-106, 117, 129-130, 133-135 and 138	Y	US 2005/0131339 A1 (MAKIN et al.) 16 June 2005 (16.06.2005) entire document, especially para[0045]	8-9
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<p>* Special categories of cited documents:</p> <table border="0"> <tr> <td>“A” document defining the general state of the art which is not considered to be of particular relevance</td> <td>“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</td> </tr> <tr> <td>“E” earlier application or patent but published on or after the international filing date</td> <td>“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</td> </tr> <tr> <td>“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)</td> <td>“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</td> </tr> <tr> <td>“O” document referring to an oral disclosure, use, exhibition or other means</td> <td>“&” document member of the same patent family</td> </tr> <tr> <td>“P” document published prior to the international filing date but later than the priority date claimed</td> <td></td> </tr> </table>			“A” document defining the general state of the art which is not considered to be of particular relevance	“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	“E” earlier application or patent but published on or after the international filing date	“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	“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)	“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	“O” document referring to an oral disclosure, use, exhibition or other means	“&” document member of the same patent family	“P” document published prior to the international filing date but later than the priority date claimed			
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<p>Date of the actual completion of the international search 25 April 2008 (25.04.2008)</p>		<p>Date of mailing of the international search report 14 MAY 2008</p>												
<p>Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201</p>		<p>Authorized officer: Lee W. Young PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774</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 2006/0004388 A1 (WHAYNE et al.) 5 January 2006 (05.01.2006) entire document, especially para[0061] and para[0062]	11-12, 82
Y	US 2006/0009748 A1 (MATHIS) 12 January 2006 (12.01.2006) entire document, especially para[0058] and Fig. 1	47, 98
Y	US 6,694,977 B1 (FEDEROWICZ et al.) 24 February 2004 (24.02.2004) entire document, especially col 7, ln 50-60	87-88
Y	US 2004/0078054 A1 (BIGGS et al.) 22 April 2004 (22.04.2004) entire document, especially para[0129]	34
Y	US 2004/0176833 A1 (PAVENIK et al.) 9 September 2004 (09.09.2004) entire document, especially para[0050]	84-86
Y	US 5,875,692 A (Lin) 2 March 1999 (02.03.1999) entire document, especially Abstract	110