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(71) Applicant (for all designated States except US): BOSTON SCIENTIFIC SCIMED, INC [US/US]; One Scimed Place, Maple Grove, MN 55311-1566 (US).

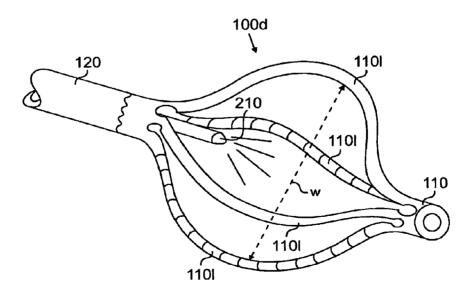
- (72) Inventor; and
- (75) Inventor/Applicant (for US only): TEAGUE, James, A. [US/US]; 507 N. Us Hwy 231, Spencer, IN 47460 (US).
- (74) Agents: BONHAM, David, B. et al.; Mayer & Williams PC, 251 North Avenue West, 2nd Floor, Westfield, NJ 07090 (US).

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(54) Title: LIGHT RESPONSIVE MEDICAL RETRIEVAL DEVICES



(57) Abstract: Minimally invasive surgical retrieval devices may be used to retrieve concretions through an endoscope or a laparoscope. Certain procedures utilize minimally invasive surgical retrieval devices, which have a sheath and a basket formed from wires, which may be opened when it extends beyond the distal end of the sheath or the sheath may be moved over the basket to collapse the basket. Lithotripsy uses various forms of energy, such as laser, to break up biological concretions into smaller fragments that may be extracted from the body with the aid of the surgical retrieval device. The medical retrieval device may radially expand in vivo without the aid of a sheath or other compressive article. A medical retrieval device comprising an elongate member that comprises a shape memory polymer. The elongate member undergoes a change in shape upon activation of the shape memory polymer with activating light.



## INTERNATIONAL SEARCH REPORT

International application No PCT/US2007/012561

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According to International Patent Classification (IPC) or to both national classification and IPC								
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A61B	COMMENTATION SECTIONS (CASSINGATION SYSTEM FORWARD BY CASSINGATION							
Documenta	tion searched other than minimum documentation to the extent that	such documents are included in the fields se	earched					
Electronic d	data base consulted during the international search (name of data ba	se and, where practical, search terms used	)					
  EPO-In	ternal							
C. DOCUMENTS CONSIDERED TO BE RELEVANT								
Category*	Citation of document, with indication, where appropriate, of the re	Relevant to claim No.						
		· · · · · · · · · · · · · · · · · · ·						
Ιx	US 2006/009785 A1 (MAITLAND DUNC	AN [US] ET	1–28					
	AL) 12 January 2006 (2006-01-12)							
	paragraphs [0063], [0064], [006 [0071], [0077], [0082] - paragr	6/] -						
	[0085] - [0132]	αμιιο						
X	US 2005/027245 A1 (SACHDEVA ROHI ET AL) 3 February 2005 (2005-02-		1,2,9					
	paragraphs [0062], [0063]	U3 <i>)</i>						
X	US 2003/236533 A1 (WILSON THOMAS		1–28					
	AL) 25 December 2003 (2003-12-25 paragraphs [0020], [0028], [00							
	[0048]							
		fuel fr	1 20					
X	US 2004/153110 A1 (KURZ DANIEL R AL) 5 August 2004 (2004-08-05)	[02] [1	1-28					
	paragraphs [0007] - [0016]							
		1						
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Further documents are listed in the continuation of Box C.  X See patent family annex.								
* Special	categories of cited documents:	"T" later document published after the inte or priority date and not in conflict with	ernational filing date					
"A" docum consid	eory underlying the							
L	document but published on or after the international	"X" document of particular relevance; the cannot be considered novel or canno						
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other	means	ments, such combination being obvio in the art.						
I docum	nent published prior to the international filing date but than the priority date claimed	*&" document member of the same patent	family					
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## INTERNATIONAL SEARCH REPORT

International application No
PCT/US2007/012561

C(Continua	ntion). DOCUMENTS CONSIDERED TO BE RELEVANT	
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
	WO 02/051488 A (UNIV CALIFORNIA [US]) 4 July 2002 (2002-07-04) page 6, lines 10-15 - pages 9,13,15	1-28
(	US 2005/212630 A1 (BUCKLEY PATRICK R [US] ET AL) 29 September 2005 (2005-09-29) paragraphs [0012] - [0027]	1-9
X	US 2002/094161 A1 (MAITLAND DUNCAN J [US]) 18 July 2002 (2002-07-18) paragraphs [0028] - [0032]	1-9, 22-28
Υ	WO 2005/034772 A (SCIMED LIFE SYSTEMS INC [US]) 21 April 2005 (2005-04-21) the whole document	1-9, 26-28
Υ	US 2005/250983 A1 (TREMAGLIO ANTHONY [US] ET AL) 10 November 2005 (2005-11-10) paragraphs [0011] - [0015]	1-9, 26-28
Y	US 2003/088254 A1 (GREGORY FRANKLIN P [US] ET AL GREGORY JR FRANKLIN P [US] ET AL) 8 May 2003 (2003-05-08) paragraph [0112]	9
Y	US 5 607 419 A (AMPLATZ CURTIS A [US] ET AL) 4 March 1997 (1997-03-04) abstract	9
X	WO 00/03643 A (UNIV CALIFORNIA [US]) 27 January 2000 (2000-01-27) the whole document	1-28
E	WO 2007/109070 A (BOSTON SCIENT SCIMED INC [US]) 27 September 2007 (2007-09-27) the whole document	1-28

5

## INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
PCT/US2007/012561

Patent document cited in search report		Publication date	Patent family Publication member(s) date
US 2006009785	A1	12-01-2006	NONE
US 2005027245	A1	03-02-2005	NONE
US 2003236533	A1	25-12-2003	NONE
US 2004153110	A1	05-08-2004	NONE
WO 02051488	A	04-07-2002	AU 2002245168 A1 08-07-2002 US 2004133231 A1 08-07-2002 US 2002095169 A1 18-07-2002
US 2005212630	A1	29-09-2005	NONE
US 2002094161	A1	18-07-2002	WO 02057686 A1 25-07-2002
WO 2005034772	Α	21-04-2005	EP 1667588 A2 14-06-2009 US 2005154378 A1 14-07-2009
US 2005250983	A1	10-11-2005	NONE
US 2003088254	A1	08-05-2003	NONE
US 5607419	A	04-03-1997	NONE
WO 0003643	Α	27-01-2000	AU 5207899 A 07-02-2000 CA 2337189 A1 27-01-2000 EP 1096888 A1 09-05-200 JP 2002520176 T 09-07-2000 US 6102917 A 15-08-2000
WO 2007109070	Α	27-09-2007	US 2007225729 A1 27-09-200