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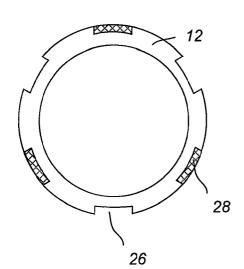
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(54) Title: MEDICAL BALLOON DEFLATION



(57) Abstract: Medical balloons are energetically treated to form regions that facilitate deflation to a desirable configuration.

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INTERNATIONAL SEARCH REPORT

International application No PCT/US2007/078671

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A. CLASSIFICATION OF SUBJECT MATTER INV. A61M25/00 A61M25/10		จ	
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According to International Patent Classification (IPC) or to both	national classification and IPC		
3. FIELDS SEARCHED Minimum documentation searched (classification system followers)	ed by classification symbols)		
A61M		•	
Documentation searched other than minimum documentation to	the extent that such documents are inc	cluded in the fields se	arched
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Electronic data base consulted during the international search (name of data base and, where practical	al, search terms used)	
EPO-Internal, WPI Data			
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C. DOCUMENTS CONSIDERED TO BE RELEVANT	•		
Category* Citation of document, with indication, where appro	opriate, of the relevant passages		Relevant to claim No.
	<u> </u>		·
X US 2005/146085 A1 (HOLMA)		•	1,2,5-8,
AL HOLMAN THOMAS J [US]			10
7 July 2005 (2005-07-07) 7 paragraph [0057] - parag			3,4,9
figure 1	, apri [cooo],		, ,,,,
paragraph [0061] paragraph [0021]			
EP 0 783 897 A (SCHNEIDE	P USA THE FUST		1,5,7
EP 0 783 897 A (SCHNEIDE 16 July 1997 (1997-07-16			1,5,7
column 3, line 32 - line	46		
column 8, line 7 - line figure 5	12	·	
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X Further documents are listed in the continuation of Box (C. X See patent fa	amily annex.	
Special categories of cited documents:	"T" later document pu		
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INTERNATIONAL SEARCH REPORT

International application No
PCT/US2007/078671

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C(Continua		Delayant to dain No.
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 2006/065356 A (BOSTON SCIENT SCIMED INC [US]) 22 June 2006 (2006-06-22) page 2, line 9 - line 19 page 3, line 21 - line 23 page 8, line 2 - line 4 page 9, line 5 - line 7 page 6, line 20	3,4,9
4	US 2006/182873 A1 (KLISCH LEO M [US] ET AL) 17 August 2006 (2006-08-17) paragraph [0006] - paragraph [0160] paragraph [0183]	1-10
A	EP 1 120 129 A (KANEGAFUCHI CHEMICAL IND [JP]) 1 August 2001 (2001-08-01) paragraph [0048]	1-10
•		
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INTERNATIONAL SEARCH REPORT

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:
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:
an extent that no meaning in 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:
see additional sheet
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 fees, this Authority did not invite payment of additional fees.
3. As only some of the required additional search fees were timely paid by the applicant, this international search reportcovers 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.:
1–10
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.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-10

A method of making an inflatable medical balloon formed of polymer, forming first regions wherein polymer is removed to enhance flexibility.

2. claims: 11-16,20-35

A method of making an inflatable medical balloon formed of polymer, forming first treated regions where the polymer crystallinity is increased without substantially removing polymer from the balloons.

3. claims: 17-19

A method of making an inflatable medical balloon formed of polymer, comprising ablating one region and forming three regions the ablated region having higher flexibility than the other regions.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No PCT/US2007/078671

Patent document cited in search report		Publication date	•	Patent family member(s)		Publication date
US 2005146085	A1	07-07-2005	US	2008050462	A1.	28-02-2008
EP 0783897	Α	16-07-1997	- - AT	270568	 Т	15-07-2004
			ΑU	1011397	Α	17-07-1997
		•	CA	2194734	A1	12-07-1997
			DE	69632855	D1	12-08-2004
	*		DE	69632855	T2	14-07-2005
			JP	9192227	Α	29-07-1997
•			JP	2007098163	Α	19-04-2007
			US	5733301	Α	31-03-1998
			US	5826588	Α	27-10-1998
WO 2006065356	Α	22-06-2006	CA	2584526	A1	22-06-2006
			ΕP	1824547	A1	29-08-2007
•		•.	JP	2008522716	T	03-07-2008
			US	2006173421	A1	03-08-2006
US 2006182873	A1	17-08-2006	CA	2597986	A1	24-08-2006
•			ĒΡ	1848487	A1	31-10-2007
			WO	2006089115	A1	24-08-2006
EP 1120129	Α	01-08-2001	CA	2346460	A1	13-04-2000
			CN	1322145	Α	14-11-2001
•			WO	0020063	A1	13-04-2000
•			US	6613066	B1	02-09-2003