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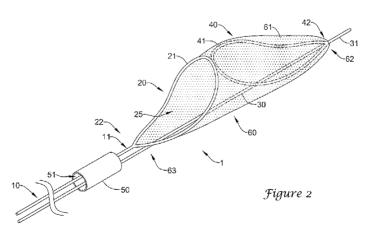
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(54) Title: EMBOLIC CAPTURING DEVICES AND METHODS



(57) Abstract: Disclosed is an emboli capturing device having a first support hoop (20, 420) at a distal portion of a first elongate member (10, 410), and a support member (30, 430) that is coupled to the first support hoop. The support member can comprise, a second elongate member. In some cases, the second elongate member can. be coupled to the first support hoop. In other cases, the support member • can comprise a second elongate member and a support strut. The support strut can be coupled to both the first support hoop and the second elongate member. Movement of the support member relative to the first elongate member can translate the first support hoop between collapsed and expanded configurations. Once in a desired configuration, the support members can also provide support to maintain the first support hoop in the desired-configuration. Also disclosed is a combination emboli capturing and perfusion device (812). The combination device can have a perfusion member in combination with an emboli capturing device. The perfusion member can facilitate the introduction of fluids around a lesion in a vessel of a patient, for example if the lesion is creating a partial or total occlusion of the vessel.



#### **INTERNATIONAL SEARCH REPORT**

International application No PCT/US2008/058177

A. CLASSIFICATION OF SUBJECT MATTER INV. A61B17/22

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)  $\Delta 6.1R$ 

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

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

#### EPO-Internal

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to daim No.
X	US 2006/195137 A1 (SEPETKA IVAN [US] ET AL) 31 August 2006 (2006-08-31)	1-6, 8-10,16, 17, 19-26, 28-30, 36,37
	paragraph [0157]	30,37
Y	paragraph [0170]; figures 26,27	7,27
A	US 2003/144688 A1 (BRADY EAMON [IE] ET AL) 31 July 2003 (2003-07-31)	1,20
Y	paragraphs [0408], [0409]; figures 145-148	7,27
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Further documents are listed in the continuation of Box C.	X 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 document but published on or after the international filling date      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)      O* document referring to an oral disclosure, use, exhibition or other means      P* document published prior to the international filling date but later than the priority date claimed	<ul> <li>"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</li> <li>"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</li> <li>"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.</li> <li>"&amp;" document member of the same patent family</li> </ul>
Date of the actual completion of the international search  30 September 2008	Date of mailing of the international search report 05/01/2009
Name and mailing address of the ISA/  European Patent Office, P.B. 5818 Patentlaan 2  NL – 2280 HV Rijswijk  Tel. (+31–70) 340–2040,  Fax: (+31–70) 340–3016	Authorized officer Nistor, Loredana

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## INTERNATIONAL SEARCH REPORT

International application No
PCT/US2008/058177

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.		
(	US 6 245 087 B1 (ADDIS BRUCE [US]) 12 June 2001 (2001-06-12)	1-6, 8-10,16, 17, 19-26,		
	column 4, line 48 - column 6, line 45; figures	28-30, 36,37		
<b>(</b>	WO 00/07655 A (SAMUELS SHAUN L W [US]) 17 February 2000 (2000-02-17)  page 8, line 18 - page 10, line 20;	1-5,8, 10,16, 17, 20-25, 28,30, 36,37		
1	figures 5-7C  US 2003/212429 A1 (KEEGAN MARTIN [IE] ET AL) 13 November 2003 (2003-11-13) figure 31	1,7,20, 27		
		,		

International application No. PCT/US2008/058177

## **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:
1. X Claims Nos.: 39–46 because they relate to subject matter not required to be searched by this Authority, namely:
Rule 39.1(iv) PCT - Method for treatment of the human or animal body by surgeryRule 39.1(iv) PCT - Method for treatment of the human or animal body by therapy
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:
see additional sheet
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 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.:
<pre>see additional sheet(s)</pre>
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.
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## 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, 16, 17, 19, 20-30,36, 37

An emboli capturing device comprising a first elongate member, a first support hoop coupled to the first elongate member, a capture membrane disposed on the support hoop forming a capture basket; and a first support member comprising a second elongate member, the first and second elongate members being longitudinally translatable with respect to one another; the first support member further comprising a second hoop.

2. claims: 11-15, 31-35

An emboli capturing device comprising a first elongate member, a first support hoop coupled to the first elongate member, a capture membrane disposed on the support hoop forming a capture basket; and a first support member comprising a second elongate member, the first and second elongate members being longitudinally translatable with respect to one another; the device further comprising an alignment member.

3. claims: 18, 38, 47-49

A combination perfusion and emboli capturing device comprising a first elongate member, a first support hoop coupled to the first elongate member, a capture membrane disposed on the support hoop forming a capture basket; and a first support member comprising a second elongate member, the first and second elongate members being longitudinally translatable with respect to one another; and further comprising a perfusion member.

## **INTERNATIONAL SEARCH REPORT**

Information on patent family members

International application No PCT/US2008/058177

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
US 2006195137	A1	31-08-2006	NONE		
US 2003144688	A1	31-07-2003	US US US US	2006122644 A1 2006122645 A1 2003144687 A1 2003144689 A1	08-06-2006 08-06-2006 31-07-2003 31-07-2003
US 6245087	B1	12-06-2001	US	2001016755 A1	23-08-2001
WO 0007655	Α	17-02-2000	NONE		
US 2003212429	A1	13-11-2003	US	2007060946 A1	15-03-2007