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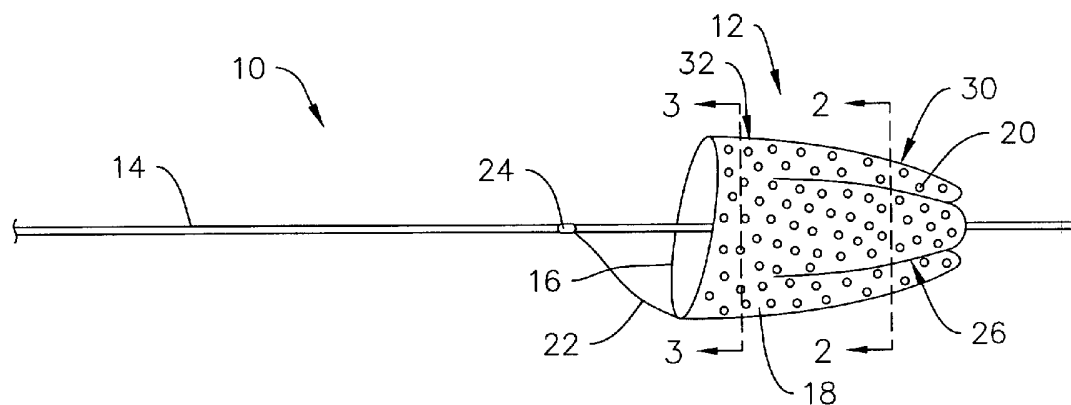
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- (88) Date of publication of the international search report:
28 April 2005
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(54) Title: FILTER MEMBRANE WITH INCREASED SURFACE AREA



(57) Abstract: A filtering device with an increased surface area, and method of making and using the same. The present invention comprises a filtering device including an elongate shaft and a filter coupled to the shaft. The filter may include a filter membrane configured to have an increased surface area.

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INTERNATIONAL SEARCH REPORT

International Application No
PCT/US2004/010097

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 A61F2/01

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 7 A61F

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

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WD 99/16382 A (LEARY JAMES J ; CARDEON CORP (US); MACOVIK JOHN A (US); SAMSON WILFRE) 8 April 1999 (1999-04-08) page 19, line 5 - line 6; figures 18-22,30-35 page 24, line 23 - page 25, line 4	1-4, 9-11, 14-19,21
X	US 5 928 261 A (RUIZ CARLOS E) 27 July 1999 (1999-07-27) column 5, line 12 - line 22; figures 4-6	1,5,14, 15,17,18
A		9
X	US 6 506 203 B1 (BOYLE WILLIAM J ET AL) 14 January 2003 (2003-01-14) figure 5	14,16, 17,19
A		21
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Further documents are listed in the continuation of box C. Patent family members are listed in annex.

* Special categories of cited documents :

"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 document 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	

Date of the actual completion of the international search 18 August 2004	Date of mailing of the international search report 09 FEB 2005
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Name and mailing address of the ISA European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl. Fax: (+31-70) 340-3016	Authorized officer Neumann, E
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INTERNATIONAL SEARCH REPORT

International Application No PCT/US2004/010097

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P,X	WO 2004/019817 A (BELSON AMIR) 11 March 2004 (2004-03-11) page 6, last paragraph; figure 2	14,17
P,A	-----	1,9,15, 18

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2004/010097

Box 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.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box 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 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.:
1-8, 9-13, 14-16, 17-19, 21

Remark on Protest

- The additional search fees were accompanied by the applicant's protest.
- 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: 1-8,9-13,14-16,17-19,21

An embolic filtering device comprising a shaft, a filter frame and a filter membrane wherein the membrane comprises pleats or sinusoidal ribs
(Problem: to augment the filter surface area in respect to a conventional filter surface)

2. claims: 17,20,22,23

An embolic filtering device comprising a shaft and a filter wherein the filter has a slidable distal apex movable between a proximal first and distal second position
(Problem: during the use of the filter possibility to change the inner volume of the filter)

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US2004/010097

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 9916382	A	08-04-1999	AU 749573 B2 27-06-2002
			AU 9321498 A 23-04-1999
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			EP 1017333 A2 12-07-2000
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			US 2004215167 A1 28-10-2004
