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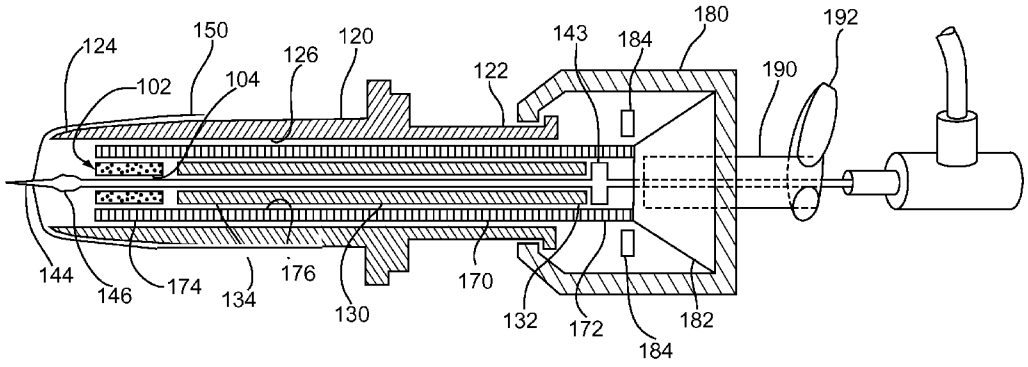
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(54) Title: APPARATUS FOR SEALING A VASCULAR PUNCTURE



(57) Abstract: An apparatus (110) for sealing a puncture through tissue to a vessel includes an elongate occlusion member (140) including an expandable member (146), a cartridge (118) carried on the occlusion member, and a sealant (102) carried within the cartridge. The cartridge includes an outer member (120) and a pusher member (130) within the outer member. The sealant is disposed withinl the outer member adjacent the expandable member distal to the pusher member. During use, the occlusion member is introduced into a puncture until the expandable member and the sealant extend from the puncture into the vessel. The expandable member is expanded, and withdrawn until the expanded expandable member contacts the vessel wall, thereby withdrawing the sealant back into the puncture. The outer member is withdrawn to expose the sealant within the puncture, while the pusher member prevents removal of the sealant, and then the cartridge, occlusion member, and pusher member are successively removed. An inner tubular member (170), a housing (180) and a transition cuff (150) may be provided in different embodiments.

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INTERNATIONAL SEARCH REPORT

International application No
PCT/US2007/078328

A. CLASSIFICATION OF SUBJECT MATTER
INV. A61B17/00

According to International Patent Classification (IPG) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
A61B A61M

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	WO 2006/052611 A (ACCESSCLOSURE INC [US]; KHOSRAVI FARHAD [US]; PAI SURESH S [US]; BAGAO) 18 May 2006 (2006-05-18)	11,13, 17-19
A	page 38, line 17 - page 47, line 8; figures 9A-10B	1,3,7-10
A	US 2005/267522 A1 (YASSINZADEH ZIA [US] ET AL) 1 December 2005 (2005-12-01) paragraphs [0016], [0044]; figure 2	1
A	WO 2004/093690 A (LEAHY PATRICK [IE]) 4 November 2004 (2004-11-04) page 11, line 15 - page 14, line 13; figure 2	1

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[X] 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 filing dale

"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, uss, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"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

'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

"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.

'&' document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
28 February 2008	07/07/2008

Name and mailing address of the ISA/	Authorized officer
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	Nistor, Loredana

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.
A	WO 98/38920 A (SCIMED LIFE SYSTEMS INC [US]) 11 September 1998 (1998-09-11) page 18, line 9 - page 19, line 14; figures 16A,16B	1
A	WO 03/015840 A (ADVANCED BIO PROSTHETIC SURFAC [US]; BOYLE CHRISTOPHER T [US]; BAILEY) 27 February 2003 (2003-02-27) page 9, line 18 - line 27; figure 6	1

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2007/078328

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.: 26-31
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 surgery

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 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 allsearchable 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. [X] 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.:

see additional sheet(s)

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: 1-19

A system for sealing a puncture comprising a delivery sheath, an occlusion member with and expandable member, a cartridge comprising and outer tubular member and a sealant and an inner pusher member, the system further comprising a transition cuff.

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2. claim: 20

A system for sealing a puncture comprising a delivery sheath, an occlusion member with and expandable member, a cartridge comprising and outer tubular member and a sealant and an inner pusher member, the system further comprising a removable stop.

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3. claims: 21-25

An apparatus for sealing a puncture comprising an occlusion member with and expandable member, a cartridge comprising and outer tubular member and a sealant and an inner pusher member, the system further comprising a housing.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
PCT/US2007/078328

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