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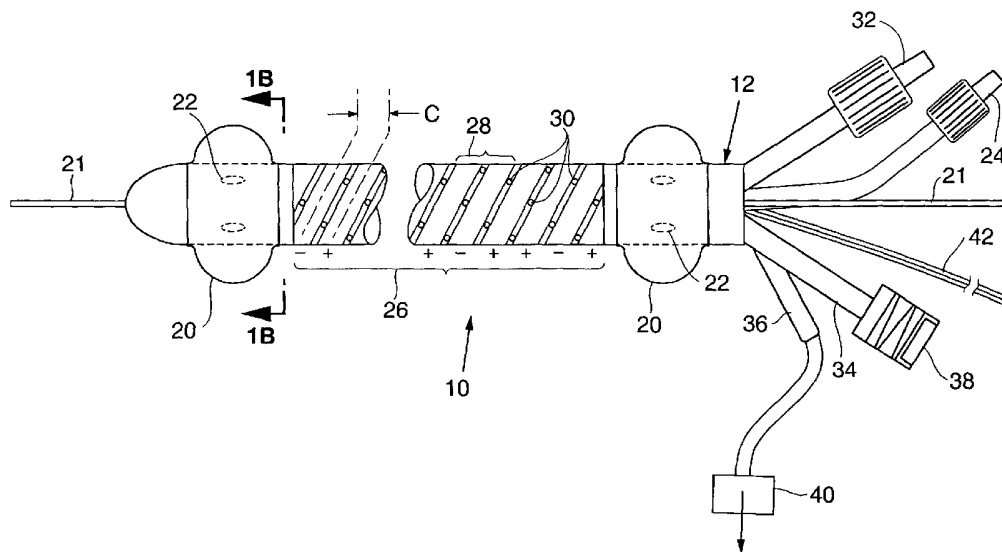
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[Continued on next page]

(54) Title: APPARATUS AND METHOD FOR TREATING VENOUS REFLUX



(57) Abstract: Disclosed is an ablation method and apparatus used to close veins for treatment of venous insufficiency disease. The apparatus includes a catheter body, and an ablation electrode array disposed between the balloons. According to the disclosed method, the catheter is introduced into the vein to be treated and the balloons are distended. Blood is flushed and aspirated from the site between the balloons. RF power is applied to the electrode array, causing scarring of the vessel walls and eventual sealing of the vein.



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INTERNATIONAL SEARCH REPORT

International Application No.

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A. CLASSIFICATION OF SUBJECT MATTER
 IPC 7 A61B18/14 A61M25/10

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 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, PAJ, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X,P	WO 01 97897 A (STARION INSTR INC) 27 December 2001 (2001-12-27) page 4, line 29 -page 10, line 34 page 14, line 22 -page 15, line 24; claims 1-3,5-8; figures 1-4 abstract	16-22
Y	US 5 938 660 A (SWARTZ JOHN F ET AL) 17 August 1999 (1999-08-17) column 4, line 53 -column 5, line 30 column 8, line 17 -column 10, line 25 column 11, line 66 -column 12, line 57 column 14, line 31 -column 15, line 35; claims 1-6,10-15; figures 3-7 --- -/--	16-22

☒ 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

E earlier document but published on or after the international filing 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 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.

G document member of the same patent family

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INTERNATIONAL SEARCH REPORT

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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.
Y	US 5 405 322 A (ROBERTS TROY W ET AL) 11 April 1995 (1995-04-11) column 3, line 35 -column 4, line 43; claims 1-3,7; figures 1-6 abstract ----	16-18,20
Y	DE 40 01 086 A (WEIKL ANDREAS ;MERKEL VOLKMAR (DE)) 18 July 1991 (1991-07-18) column 1, line 66 -column 2, line 11 column 2, line 40 -column 3, line 47; claims 1,11-13; figure 1 ----	16,18,19
Y	WO 99 58070 A (SAMPSON RUSSEL MAHLON ;KANE MARK LEO (US); STRUL BRUNO (US); TRUCK) 18 November 1999 (1999-11-18) cited in the application page 14, line 34 -page 15, line 7 page 20, line 16 -page 21, line 31; claims 12-14,19-21 abstract -----	20-22

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 02/01171

Box I Observations where certain claims were found unsearchable (Continuation of item 1 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.: 1-15
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 II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

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.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

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