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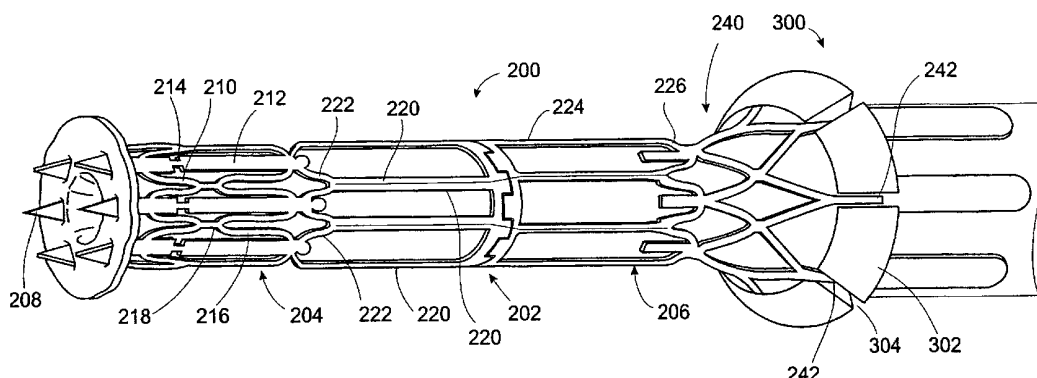
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[Continued on next page]

(54) Title: **IMPLANTABLE MEDICAL DEVICE SUCH AS AN ANASTOMOSIS DEVICE**



(57) Abstract: A medical device (200) which can be implanted at a target site in a living body. The device (200) includes an inner flange formed by radial expansion of the device and an outer flange formed by axial compression of the device. The device can include an implant portion (204) and a discard portion (206) which separate from each other during formation of the outer flange. The separation can occur by fracturing a frangible linkage (202) or by mechanically separating a portion of the outer flange from a deployment tool. The device can be a one piece anastomosis device for connecting a graft vessel to a target vessel without the use of conventional sutures. The inner and outer flanges capture the edges of an opening in a target vessel and secure the graft vessel to the opening in the target vessel. The device greatly increases the speed with which anastomosis can be performed over known suturing methods.



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INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 00/13707

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 A61B17/11 A61F2/06

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 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, 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	US 5 234 447 A (KASTER ET AL.) 10 August 1993 (1993-08-10) the whole document	1, 2, 12, 13, 17, 19, 21, 26, 30
X	WO 99 21491 A (SUYKER ET AL.) 6 May 1999 (1999-05-06) abstract; figures 1-12 page 8, line 8-37 -/--	1, 12, 13, 17, 19, 21, 26, 30

☒ 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
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- *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.
- *&* document member of the same patent family

Date of the actual completion of the international search

2 November 2000

Date of mailing of the international search report

17. 11. 2000

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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.
X	WO 99 18887 A (VASCULAR SCIENCE INC.) 22 April 1999 (1999-04-22) abstract; figures page 6, line 26 -page 7, line 7 page 10, line 32 -page 11, line 9 page 12, line 8 -page 13, line 7 page 15, line 1 -page 16, line 9 ----	1,2,13, 17,19,21
X	WO 98 19630 A (VASCULAR SCIENCE INC.) 14 May 1998 (1998-05-14) abstract; figures ----	1,19
A	WO 98 19629 A (VASCULAR SCIENCE INC.) 14 May 1998 (1998-05-14) figures ----	1,4,26, 27
Y	-----	33,34, 37,38, 41-43
P,X	WO 00 09040 A (VASCULAR INNOVATIONS, INC.) 24 February 2000 (2000-02-24) abstract; figures 12-30 page 22, line 12 -page 32, line 21 ----	1-3,12, 14, 17-19, 23,26, 27,30
P,X	WO 99 38454 A (VASCULAR SCIENCE INC.) 5 August 1999 (1999-08-05) abstract; figures ----	1,2,13, 17,19, 21,26,30
X	WO 97 25002 A (MEDTRONIC, INC.) 17 July 1997 (1997-07-17) abstract; figures page 16, line 32 -page 19, line 33 ----	31,32, 35,36
Y	-----	33,34, 37,38, 41-43
X	US 5 171 262 A (MACGREGOR) 15 December 1992 (1992-12-15) abstract; figures ----	31,32,36
A	US 4 589 416 A (GREEN) 20 May 1986 (1986-05-20) abstract; figures column 3, line 1-27 -----	31

INTERNATIONAL SEARCH REPORT

Inte. application No. _____
PCT/US 00/13707

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.:
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 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:

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.:

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: 1-30

Anastomosis device and corresponding deployment system for connecting an end graft to a target vessel

2. Claims: 31-43

Medical device and corresponding deployment apparatus comprising first and second sections connected together by a frangible linkage

INTERNATIONAL SEARCH REPORT

Information on patent family members

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