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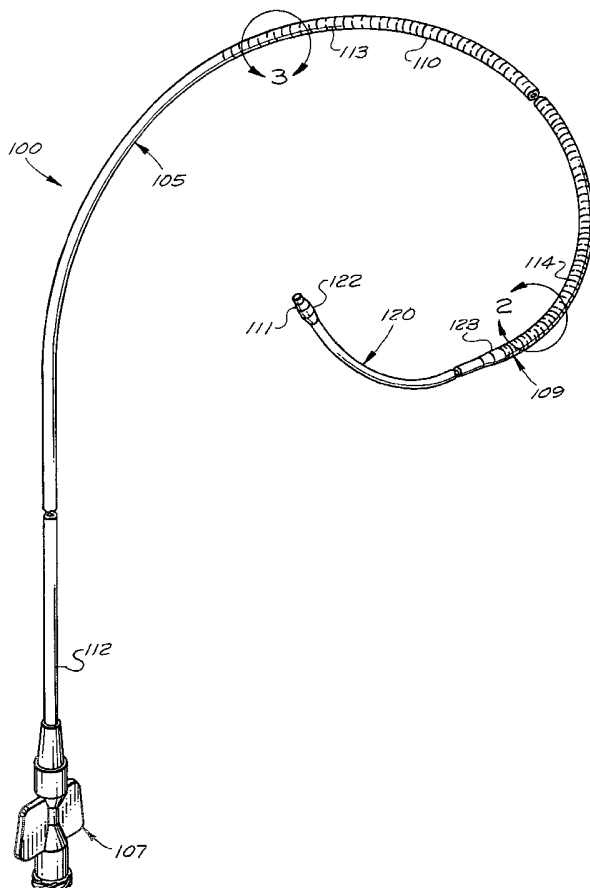
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- (71) Applicant (for all designated States except US): PRECISION VASCULAR SYSTEMS, INC. [US/US]; 2405 W. Orton Circle, West Valley City, UT 84119 (US).
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- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW.
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[Continued on next page]

(54) Title: TROQUEABLE SOFT TIP MEDICAL DEVICE AND METHOD OF USAGE



(57) Abstract: A medical device (100) or intravascular device, and methods of use. The devices may be tubular and may have a flexible polymer tip (120). The body (105) may be nitinol and may have cuts part (110) way through along its length to facilitate bending. The device (100) may have a liner (203) which may extend through the tip or form the tip. The device (100) may have markers (122, 123) readily visible on an X-ray viewer during insertion. The tip (120) may have an anti-collapsing (1032, 1333) structure and may be shaped before use to perform a medical procedure such as treating an aneurysm. The device (100) may have a strong fiber (840) through it for complete removal. The method may include selecting the device, bending the tip, setting the shape, and inserting the device into the patient's anatomy. The shape of the tip may be set by heating with steam (1848) and then removing a mandrel (1840).



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European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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6 November 2003

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*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

# INTERNATIONAL SEARCH REPORT

International Application No  
PCT/US 02/21150

**A. CLASSIFICATION OF SUBJECT MATTER**  
IPC 7 A61M25/01 A61M25/00

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 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, WPI Data, PAJ

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 01 45773 A (PREC VASCULAR SYSTEMS INC) 28 June 2001 (2001-06-28)	1-24,26, 27
Y	page 3, line 3-5,15-17 page 6, line 19-22 page 7, line 6-10 page 10, line 5 page 11, line 10,24 -page 12, line 2 page 16, line 3-7 page 17, paragraph 1 page 20, line 31 -page 21, line 3 page 24, line 12-14 page 26, line 15-29; claim 3; figures 1-6,13-21,23,24	25
Y	--- US 4 781 186 A (DAVIS TOMMY G ET AL) 1 November 1988 (1988-11-01) column 6, line 57 -column 7, line 14; figures --- -/--	25

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.

"&" document member of the same patent family

Date of the actual completion of the international search

29 January 2003

Date of mailing of the international search report

01.07.2003

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INTERNATIONAL SEARCH REPORT

In International Application No  
PCT/US 02/21150

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 205 830 A (DASSA ALYSSA J ET AL) 27 April 1993 (1993-04-27) column 3, line 20-43; figures ---	1
X	EP 0 790 066 A (LUNDQUIST INGEMAR H) 20 August 1997 (1997-08-20) column 24, line 34-47; figures ---	1
A	US 5 437 288 A (DONADIO III JAMES V ET AL) 1 August 1995 (1995-08-01) abstract; figures ---	
A	US 5 690 120 A (DAVIS CLARK ET AL) 25 November 1997 (1997-11-25) cited in the application claims 11,18; figures ---	
A	US 5 833 632 A (DAVIS CLARK ET AL) 10 November 1998 (1998-11-10) cited in the application abstract; figures -----	

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US 02/21150

## 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.: 32-41  
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:

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.:  
1-27

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: 1-27

A medical device comprising a body with a plurality of cuts, a non-metallic tip, liner(s) and a braid.

2. Claims: 28-31

A medical device having a tensile strength, a body with a plurality of cuts and a fiber extending through said body.

## INTERNATIONAL SEARCH REPORT

 In International Application No  
 PCT/US 02/21150

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