



## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

<p>(51) International Patent Classification <sup>6</sup> : <b>A61F 2/01</b></p>	<p><b>A3</b></p>	<p>(11) International Publication Number: <b>WO 99/44542</b></p> <p>(43) International Publication Date: 10 September 1999 (10.09.99)</p>
<p>(21) International Application Number: PCT/US99/04460</p> <p>(22) International Filing Date: 1 March 1999 (01.03.99)</p> <p>(30) Priority Data: 09/035,740 5 March 1998 (05.03.98) US</p> <p>(71) Applicant: SCIMED LIFE SYSTEMS, INC. [US/US]; One SciMed Place, Maple Grove, MN 55311-1566 (US).</p> <p>(72) Inventors: BROOME, Thomas, E.; 511 Sunnyside Lane, Hopkins, MN 55343 (US). DANIEL, John, M., K.; 12705 - 48th Avenue North, Plymouth, MN 55442 (US). HEKTNER, Thomas, R.; 825 Navajo Road, Medina, MN 55340 (US).</p> <p>(74) Agents: KELLY, Joseph, R.; Westman, Champlin &amp; Kelly, P.A., International Centre, Suite 1600, 900 Second Avenue South, Minneapolis, MN 55402-3319 (US) et al.</p>		<p>(81) Designated States: CA, JP, European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).</p> <p><b>Published</b> <i>With international search report. Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i></p> <p>(88) Date of publication of the international search report: 4 November 1999 (04.11.99)</p>
<p>(54) Title: DISTAL PROTECTION DEVICE AND METHOD</p>		
<p>(57) Abstract</p>		
<p>A device (20) adapted for deployment in a body vessel for collecting floating debris and emboli in a filter. The device (20) includes a collapsible proximally tapered frame (24) for operably supporting the filter (22) between a collapsed insertion profile and an expanded deployment profile. The tapered collapsible frame (24) includes a mouth (28) which is sized to extend to walls of the body vessel in the expanded deployed profile to seal the filter (22) relative to the body vessel for collecting debris floating in the body vessel.</p>		

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# INTERNATIONAL SEARCH REPORT

International Application No  
PCT/US 99/04460

**A. CLASSIFICATION OF SUBJECT MATTER**  
IPC 6 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 6 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)

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 98 02112 A (FOUERE, ALAIN) 22 January 1998 (1998-01-22) abstract; figure 3 ---	1-13
A	DE 40 30 998 A (STRECKER, ERNST PETER) 18 April 1991 (1991-04-18) figure 1 ---	1-13
A	US 5 709 704 A (NOTT ET AL.) 20 January 1998 (1998-01-20) abstract; figures 5,5A -----	1-13

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

° Special categories of cited documents :

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- \*E\* earlier document but published on or after the international filing date
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- \*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.
- \*Z\* document member of the same patent family

Date of the actual completion of the international search

27 August 1999

Date of mailing of the international search report

22.09.1999

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# INTERNATIONAL SEARCH REPORT

national application No.

PCT/US 99/ 04460

## 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.: 14-21  
because they relate to subject matter not required to be searched by this Authority, namely:  
Rule 39.1(iv) PCT - Methods for treatment of the human or animal body by surgery or therapy
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 PCT/US 99/04460
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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 9802112 A	22-01-1998	AU 6617396 A	09-02-1998
DE 4030998 A	18-04-1991	NONE	
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		EP 0794744 A	17-09-1997
		JP 10509623 T	22-09-1998
		WO 9617634 A	13-06-1996