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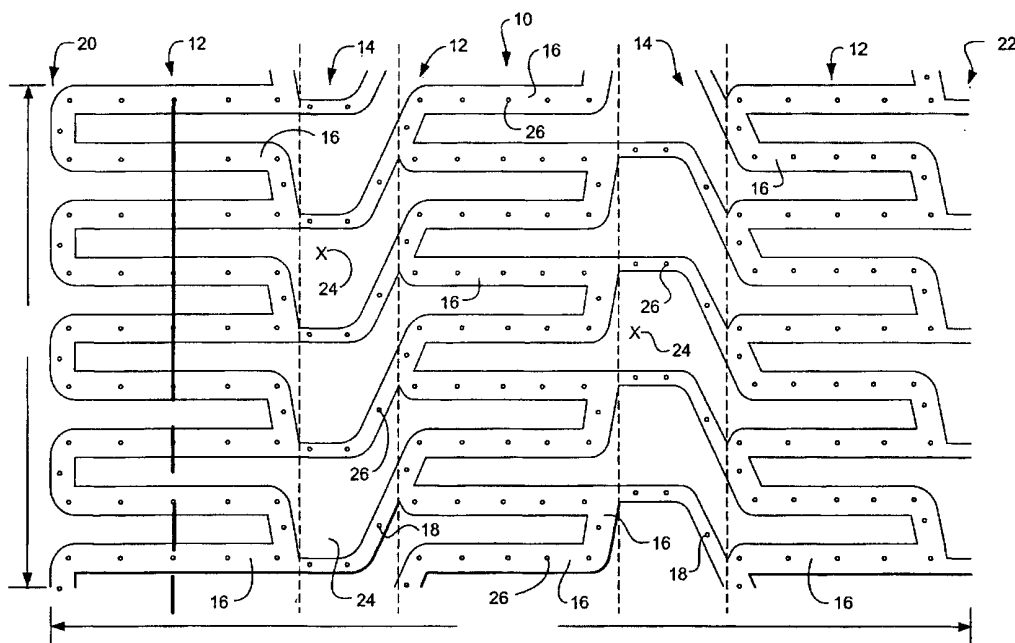
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(54) Title: INTRAVASCULAR STENT WITH INCREASING COATING RETAINING CAPACITY



(57) Abstract: An expandable stent includes a tubular structure with an outer surface positionable adjacent to a vessel wall and an inner surface facing a lumen of a body passageway. The tubular structure further includes a plurality of expansion struts, connector struts and cells. The tubular structure has a first diameter which permits intraluminal delivery of the tubular structure into the body passageway, and a second expanded and deformed diameter which is achieved upon the application of a radially, outwardly extending force. A plurality of cavities are formed in the outer surface of the stent.

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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.

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B. FIELDS SEARCHED				
Minimum documentation searched (classification system followed by classification symbols) IPC 7 A61F				
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Electronic data base consulted during the international search (name of data base and, where practical, search terms used) WPI Data, 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 98 36784 A (COOK INCORPORATED) 27 August 1998 (1998-08-27)	1-8, 10, 12, 14-17, 19, 21, 26-30, 33-64		
Y	page 27, line 17 -page 28, line 8; figures 8-10	9, 11, 18, 20		
Y	--- WO 98 23228 A (ALZA CORPORATION) 4 June 1998 (1998-06-04) page 16, line 19 -page 17, line 2; figure 10 --- -/--	9, 11, 18, 20		
<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none;"> <input checked="" type="checkbox"/> Further documents are listed in the continuation of box C. </td> <td style="width: 50%; border: none;"> <input checked="" type="checkbox"/> Patent family members are listed in annex. </td> </tr> </table>			<input checked="" type="checkbox"/> Further documents are listed in the continuation of box C.	<input checked="" type="checkbox"/> Patent family members are listed in annex.
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Name and mailing address of the ISA 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		Authorized officer <p style="text-align: center; font-size: 1.2em;">Smith, C</p>		

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	EP 0 950 386 A (CORDIS CORPORATION) 20 October 1999 (1999-10-20)	1-5, 16, 17, 19, 21-26, 28-30, 33-39, 41-49, 53-55, 57-62
Y	the whole document ----	27, 40, 56
Y	WO 99 23977 A (EXPANDABLE GRAFTS PARTNERSHIP) 20 May 1999 (1999-05-20) abstract; figures -----	27, 40, 56

INTERNATIONAL SEARCH REPORT

Information on patent family members

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PCT/US 01/18419

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 9836784	A	27-08-1998	AU 737252 B2	16-08-2001
			AU 6663298 A	09-09-1998
			EP 0968013 A1	05-01-2000
			JP 2001512354 T	21-08-2001
			WO 9836784 A1	27-08-1998

WO 9823228	A	04-06-1998	AU 5266698 A	22-06-1998
			WO 9823228 A1	04-06-1998
			US 6071305 A	06-06-2000
			ZA 9710342 A	10-06-1998

EP 950386	A	20-10-1999	US 6273913 B1	14-08-2001
			EP 0950386 A2	20-10-1999
			US 2001029351 A1	11-10-2001
			US 2001027340 A1	04-10-2001

WO 9923977	A	20-05-1999	AU 1451699 A	31-05-1999
			EP 1028672 A1	23-08-2000
			JP 2001522640 T	20-11-2001
			WO 9923977 A1	20-05-1999
			US 6190404 B1	20-02-2001
