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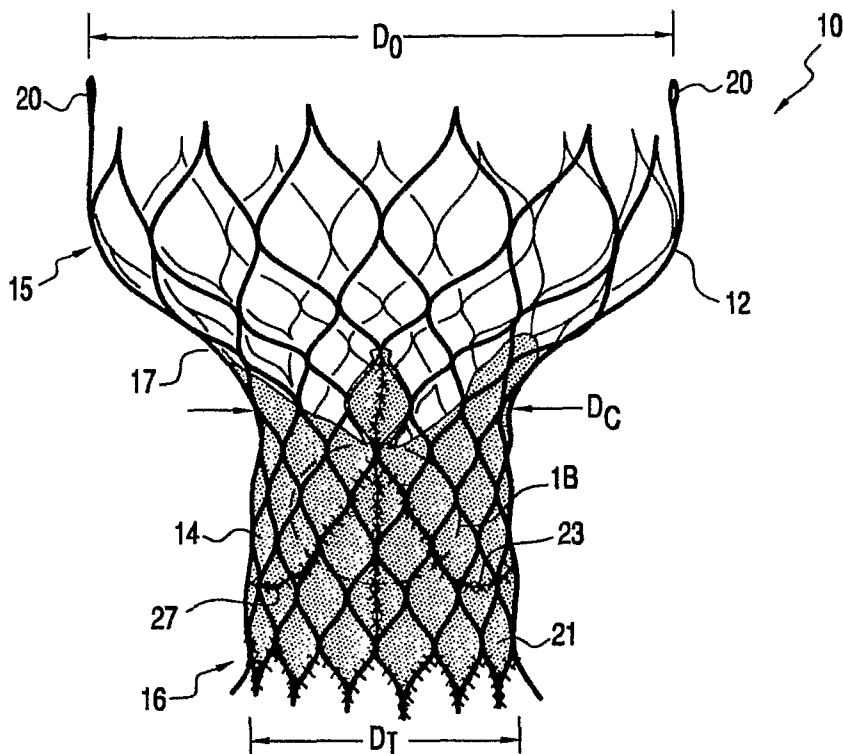
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(54) Title: HEART VALVE PROTHESIS AND METHODS OF MANUFACTURE AND USE



(57) Abstract: A heart valve prosthesis is provided having a self-expanding multi-level frame that supports a valve body comprising a skirt and plurality of coapting leaflets. The frame transitions between a contracted delivery configuration that enables percutaneous transluminal delivery, and an expanded deployed configuration having an asymmetric hourglass shape. The valve body skirt and leaflets are constructed so that the center of coaptation may be selected to reduce horizontal forces applied to the commissures of the valve, and to efficiently distribute and transmit forces along the leaflets and to the frame. Alternatively, the valve body may be used as a surgically implantable replacement valve prosthesis.

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— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

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INTERNATIONAL SEARCH REPORT

International application No.

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A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - A61F 2/24 (2006.01)

USPC - 623/2.18

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)

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USPC - 623/2.14, 2.15, 2.16, 2.17, 2.18, 2.19, 2.38

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 practicable, search terms used)

USPTO WEST System (USPGPB,USPT,USOC,EPAB,JPAB), MicroPatent, IP.com, DialogPro

Search terms: valve, leaflet, skirt, frame, stent, support, scaffold, supra-annularly, catenary, commissure, coaptation

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 93/18721 A1 (FISHER) 30 September 1993 (30.09.1993) entire document	27, 28, 31
Y		1-4, 7-8, 15-17, 19, 21-22, 29, 32, 33, 35-38, 40-41, 43-45
Y	US 6,454,799 B1 (SCHRECK) 24 September 2002 (24.09.2002) entire document	1-6, 9-11, 15-17, 19, 21-22, 27-29, 31-33, 35-38, 40-41, 43-45
Y	US 2004/0260389 A1 (CASE et al) 23 December 2004 (23.12.2004) entire document	1-6, 7-11, 15-17, 19, 21-22, 44-45
Y	WO 01/06959 A1 (GRIFFIN et al) 01 February 2001 (01.02.2001) entire document	16, 40
A	US 2005/0060029 A1 (LE et al) 17 March 2005 (17.03.2005) entire document	1-46
A	US 2005/0075725 A1 (ROWE) 7 April 2005 (07.04.2005) entire document	1-46

 Further documents are listed in the continuation of Box C.

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