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(71) Applicant (for all designated States except US): **VENTOR TECHNOLOGIES LTD.** [IL/IL]; Baratz, Bar-Natan, Horn, c/o Yuval Horn, Azrieli Bldg., 18th floor, 67 021 Tel Aviv (IL).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **SCHWAMMENTHAL, Ehud** [IL/IL]; 6 Hazait Street, 43 263 Raanana (IL). **TUVAL, Yossi** [IL/IL]; 19 Itamar Ben Avi Street, 42308 Natania (IL). **BENARY, Raphael** [IL/IL]; 15 HaRav Ashi Street, 69 395 Tel Aviv (IL).

(74) Agent: **G.E. EHRLICH (1995) LTD.**; 11 Menachem Begin Street, 52 521 Ramat Gan (IL).

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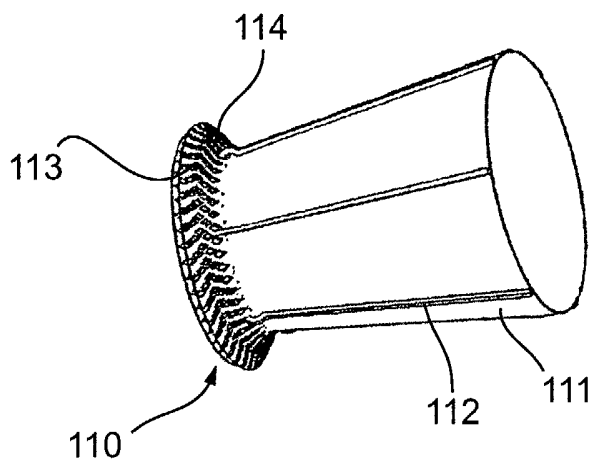
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(54) Title: IMPLANTABLE PROSTHETIC DEVICES PARTICULARLY FOR TRANSARTERIAL DELIVERY IN THE TREATMENT OF AORTIC STENOSIS, AND METHODS OF IMPLANTING SUCH DEVICES



(57) Abstract: Prosthetic devices as described for use in the treatment of aortic stenosis in the aortic valve of a patient's heart, the prosthetic device having a compressed state for transarterial delivery and being expandable to an expanded state for implantation. The prosthetic device includes an expandable metal base (10) constructed so as to be implantable in the expanded state of the prosthetic device in the aortic annulus of the aortic valve; and an inner envelope lining (11) tune inner surface of the metal base (10). The inner envelope, in the expanded state of the prosthetic device, extends into the aorta and is of a diverging conical configuration, in which its diameter gradually increases from its proximal end within the aortic annulus to its distal end extending into the aorta, such as to produce,

during systole, a non-turbulent blood flow into the aorta with pressure recovery at the distal end of the inner envelope. Preferably, the distal end includes a prosthetic valve which is also concurrently implanted, but such a prosthetic valve may be implanted separately in the aorta. Also described are preferred methods of implanting such prosthetic devices.

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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : A61F 2/06

US CL : 623/2.12, 2.14, 2.17

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)

U.S. : 623/2.12, 2.14, 2.17

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)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 6,171,335 B1 (WHEATLEY et al.) 09 January 2001 (09.01.2001), Abstract, column 1, lines 45-67, column 2 and lines 1-24.	1-40
A	US 6,338,740 B1 (CARPENTIER) 15 January 2002 (15.01.2002), Abstract, column 2, lines 15-54, column 3 and lines 1-39.	1-40
A, E	US 6,761,736 B1 (WOO et al.) 13 July 2004 (13.07.2004), Abstract, column 1, lines 66 and 67, column 2 and lines 1-28.	1-40

☐ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

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Commissioner for Patents
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Alexandria, Virginia 22313-1450

Facsimile No. (703) 305-3230

Authorized officer

Corrine M McDermott

Telephone No. 703-308-0873

Sheila H. Veney
Patent Specialist
Tech. Center 3700