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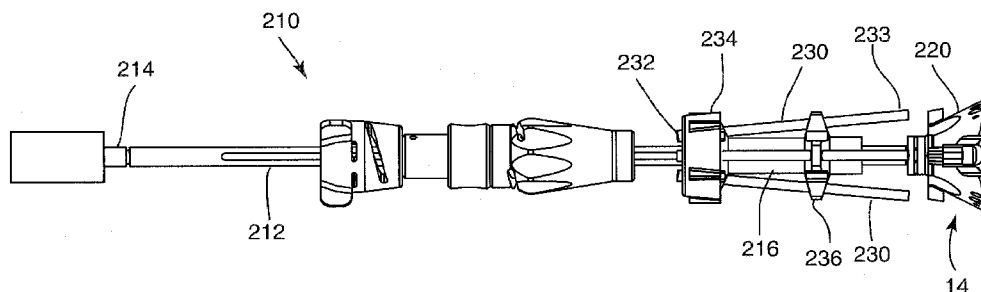
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- (88) Date of publication of the international search report:
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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: MULTIPLE COMPONENT PROSTHETIC HEART VALVE ASSEMBLIES AND APPARATUS AND METHODS FOR DELIVERING THEM



(57) Abstract: Multiple component heart valves and apparatus and methods for implanting them are provided. The heart valve generally includes a first annular prosthesis (10) and a second valve prosthesis. The first prosthesis includes an annular member (12) compressible from a relaxed condition to a contracted condition to facilitate delivery into a biological annulus, the annular member being resiliently expandable towards the relaxed condition. The first prosthesis also includes guide rails extending therefrom. The second prosthesis includes an annular frame, valve elements, and receptacles for receiving respective guide rails therethrough when the second prosthesis is directed towards the first prosthesis. In addition, a valve holder may releasably carry the valve prosthesis that includes channels for receiving respective guide rails therethrough when the guide rails are received through the valve prosthesis. A delivery tool is also provided that includes an actuator for selectively compressing the annular member into the contracted condition.

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INTERNATIONAL SEARCH REPORT

International application No
PCT/US2007/067724

A. CLASSIFICATION OF SUBJECT MATTER INV. A61F2/24		
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) 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) 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 Y	US 2005/043760 A1 (FOGARTY THOMAS J [US] ET AL) 24 February 2005 (2005-02-24) paragraph [0117] - paragraph [0131]; figures 65-78	1, 11, 31, 41, 54 2-10, 12-20, 41-53, 55-60
Y	----- US 6 454 799 B1 (SCHRECK STEFAN [US]) 24 September 2002 (2002-09-24) the whole document	2-10, 12-20, 41-53, 55-60
P, X	----- US 2006/195184 A1 (LANE ERNEST [US] ET AL) 31 August 2006 (2006-08-31) the whole document -----	1, 11, 31, 41, 54
<input type="checkbox"/> Further documents are listed in the continuation of Box C.		
<input checked="" type="checkbox"/> See patent family 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	Date of mailing of the international search report	
21 August 2007	04/12/2007	
Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2260 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Authorized officer SERRA I VERDAGUER, J	

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box II.1

Claims Nos.: 61-82

The subject-matter of claims 61 to 82, discloses a method for implanting a heart valve assembly. The method comprises the step of inserting a prosthesis. The International preliminary searching authority is not required to establish an opinion with regard to novelty, inventive step and industrial applicability on methods for treatment of the human body by surgery or therapy (Rule 39.1(iv)).

INTERNATIONAL SEARCH REPORT

International application No.
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Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 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.: **61-82**
because they relate to subject matter not required to be searched by this Authority, namely:
see FURTHER INFORMATION sheet PCT/ISA/210

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 No. III Observations where unity of invention is lacking (Continuation of item 3 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 allsearchable claims.

2. As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.

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.:

see additional sheet(s)

Remark on Protest

- The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- 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: 1-20, 31-50, 54-60

Directed to a heart prosthesis

2. claims: 21-30

Directed to a system comprising a heart prosthesis and a
delivery tool

3. claims: 51-53

Directed to a tool for implanting a prosthesis

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No PCT/US2007/067724

Patent document cited in search report	Publication date	Publication date	Patent family member(s)	Publication date
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