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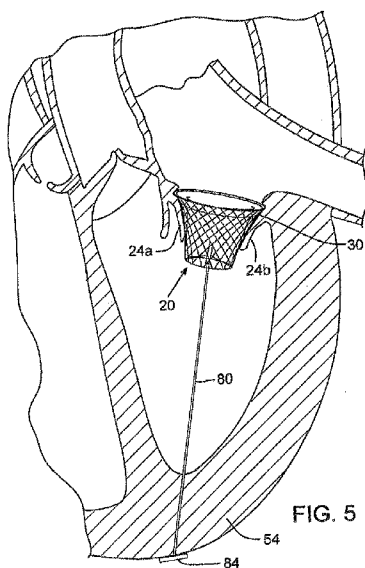
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- with international search report (Art. 21(3))
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))

[Continued on next page]

(54) Title: DEVICE AND METHOD FOR REPLACING MITRAL VALVE



(57) Abstract: A prosthetic mitral valve assembly is disclosed. In certain disclosed embodiments, the prosthetic mitral valve assembly has a flared upper end and a tapered portion to fit the contours of the native mitral valve. The prosthetic mitral valve assembly includes a stent or outer support frame with a valve mounted therein. The assembly can be adapted to expand radially outwardly and into contact with the native tissue to create a pressure fit. The mitral valve assembly further includes tension members between the leaflets of the valve assembly and a suitable location on the heart.



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11 February 2010

INTERNATIONAL SEARCH REPORT

International application No

PCT/US2009/041754

A. CLASSIFICATION OF SUBJECT MATTER
 INV. A61F2/90 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	WO 2005/087140 A (PERCUTANEOUS CARDIOVASCULAR SO [AU]; THAMBAR SUKU [AU]; JAYASINGHE STA) 22 September 2005 (2005-09-22)	1-4,7, 10-13
Y	-----	5,17-20, 22,23
Y	US 2008/009940 A1 (CRIBIER ALAIN [FR]) 10 January 2008 (2008-01-10) paragraph [0093] - paragraph [0094] paragraph [0130] - paragraph [0132] figures 4B,9A-10B ----- -/--	5,17-20, 22,23

Further documents are listed in the continuation of Box C.

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

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Name and mailing address of the ISA/

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INTERNATIONAL SEARCH REPORT

International application No
PCT/US2009/041754

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X A	<p>WO 03/003943 A (ADVANCED BIO PROSTHETIC SURFAC [US]; PALMAZ JULIO C [US]; SPRAGUE EUGE) 16 January 2003 (2003-01-16)</p> <p>page 24, line 29 - page 26, line 5 figures 7-9,11-12b page 25, line 12 - line 17</p>	<p>1-3,10, 12</p> <p>4,7,11, 13</p>
P,X	<p>WO 2009/033469 A (LUTTER GEORG [DE]; LOZONSCHI LUCIAN [US]) 19 March 2009 (2009-03-19) the whole document</p>	<p>1-3,5, 10-13</p>
A	<p>WO 03/037227 A (UNIV GLASGOW [GB]; WHEATLEY DAVID JOHN [GB]) 8 May 2003 (2003-05-08) page 19, paragraph SECOND - paragraph THIRD</p>	<p>5</p>
X	<p>WO 03/003949 A (SEGUIN JACQUES [FR]) 16 January 2003 (2003-01-16) page 1, line 1 - line 4 page 8, line 23 - line 33 page 9, line 11 - line 16 figure 1</p>	<p>1-3</p>

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2009/041754

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.:
because they relate to subject matter not required to be searched by this Authority, namely:

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 all searchable 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 annex

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: 1-5,7,10-13,17-20,22,23

Prosthetic mitral valve assembly comprising a radially-expandable stent including a first portion sized to be held in place by leaflets of a native valve and a second portion having a flared end, the flared end sized to implant above or below an annulus of the mitral valve with a pressure or friction fit, wherein the stent tapers from the flare in to an opposite end of the stent; the assembly further includes a valve portion comprising a tricuspid or bicuspid valve where the bicuspid valve includes two leaflets that differ in size and tension members coupled between the leaflets and the stent

2. claim: 6

A prosthetic mitral valve assembly comprising a radially-expandable stent having a flared end, a valve portion coupled to the stent and tension members coupled between the leaflets and the stent coupled at different heights relative to one another

3. claim: 8

Prosthetic mitral valve assembly comprising a radially-expandable stent having a flared end and a valve portion coupled to the stent wherein the stent includes a non-uniform, cross sectional shape conforming to the native mitral valve

4. claims: 9,21

Prosthetic mitral valve assembly comprising a radially-expandable stent having a flared end and a valve portion coupled to the stent wherein the flared end is scalloped

5. claims: 14-16

Prosthetic mitral valve assembly comprising a radially-expandable stent having a flared end and a valve portion coupled to the stent; the valve portion further including prosthetic leaflets and further including tension members coupled to prosthetic leaflets for preventing the prosthetic leaflets from everting and reducing stresses induced by ventricular contraction

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No PCT/US2009/041754

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