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(71) Applicant: **EDWARDS LIFESCIENCES CORPORATION** [US/US]; One Edwards Way, Irvine, CA 92614 (US).

(72) Inventor: **LAU, Jackie, P.**; Edwards Lifesciences, One Edwards Way, Legal Department, Irvine, CA 92614 (US).

(74) Agent: **HO, Pui, Tong** et al.; Edwards Lifesciences, One Edwards Way, Irvine, CA 92614 (US).

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- with international search report (Art. 21(3))
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(54) Title: CONTROLLED TISSUE ANCHOR SPACING

(57) Abstract: An anchor guide includes an elongate shaft, an atraumatic tip, a channel defined at least in part by the elongate shaft and configured to retain a suture associated with an anchor, and a spacing feature configured to provide a spacing distance between the channel and a device disposed in physical contact with the spacing feature.

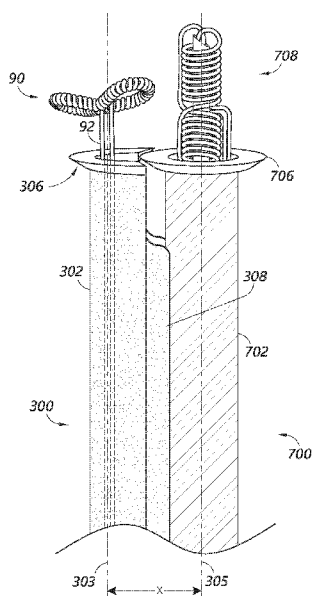


FIG. 7



INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2020/016843

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.: 18-22
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 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.:
1-9

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.

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2020/016843

A. CLASSIFICATION OF SUBJECT MATTER
INV. A61B17/04 A61B17/00 A61B90/00
ADD.

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)
A61B

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)

EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 2018/187753 A1 (HARPOON MEDICAL INC [US]; UNIV MARYLAND [US]) 11 October 2018 (2018-10-11)	1-4,6-9
A	figures 15A, 15C, 17A, 17B, 18B, 20B, 22A, 26 paragraph [0160] paragraph [0174] - paragraph [0175] paragraph [0177] paragraph [0293]	5
X	US 7 608 092 B1 (SCHAFFHAUSEN CORY [US]) 27 October 2009 (2009-10-27)	1-5
A	figure 8 column 4, line 63 - line 65 column 5, line 3 - line 6	6-9
	----- -/-	



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 application or patent 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

21 May 2020

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20/08/2020

Name and mailing address of the ISA/

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040,
Fax: (+31-70) 340-3016

Authorized officer

Cutrone, Annarita

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2020/016843

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 2005/058239 A2 (USGI MEDICAL INC [US]; SAADAT VAHID C [US] ET AL.) 30 June 2005 (2005-06-30)	1,2,4,5
A	figures 1B, 3A, 3E, 4A paragraph [0076] paragraph [0083] paragraph [0085] - paragraph [0086] -----	3,6-9
A	WO 2011/027183 A2 (CSIKY LASZLO [HU]) 10 March 2011 (2011-03-10) the whole document -----	1-9
A	US 2018/303631 A1 (PHAN CHRISTOPHER U [US] ET AL) 25 October 2018 (2018-10-25) the whole document -----	1-9
A	EP 2 974 700 A1 (COVIDIEN LP) 20 January 2016 (2016-01-20) the whole document -----	4

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2020/016843

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FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-9

anchor guide with an atraumatic tip

2. claims: 10-17

tissue-anchoring system with a sliding engagement between an anchor guide and an anchor delivery device

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box II.1

Claims Nos.: 18-22

Claims 18-22 relate to subject-matter considered by this Authority to be covered by the provisions of Rule 39.1(iv) PCT as they relate to surgical methods. Claim 18 is drafted as an independent method claim and relates to "a method of deploying a tissue anchor in a heart valve leaflet" with the steps of "inserting the anchor guide through the access opening at least partially into the ventricle", "advancing the anchor guide to contact a first location on a proximal side of the heart valve leaflet", "inserting an anchor delivery device at least partially into the ventricle", "advancing the anchor delivery device to contact a second location on the of the heart valve leaflet" and "deploying a second tissue anchor at the second location" which are directed towards surgical steps as they imply the movement and the insertion of an instrument (i.e. anchor guide and anchor delivery device) within the ventricle and the heart valve leaflet that involves a substantial health risk. Claims 19-22 are drafted as dependent method claims that are directed to a surgical method by virtue of their dependency on claim 18. Therefore, claims 18-22 have not been searched.