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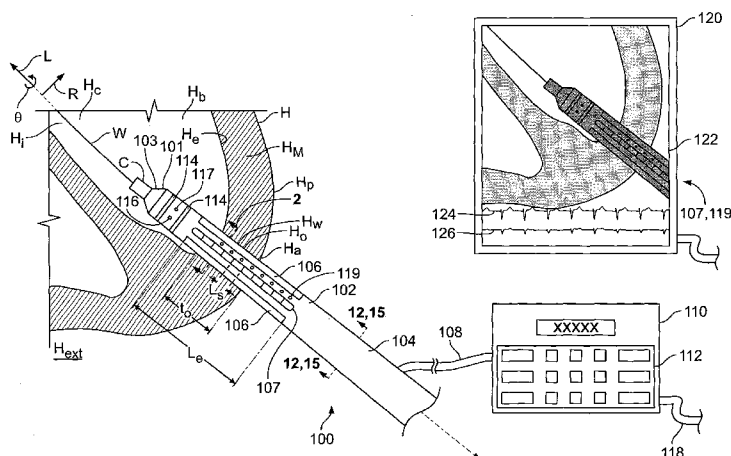


FIG. 1

(57) Abstract: Apparatus and methods for pacing the heart. The apparatus may include, and the methods may involve, an elongated member having: a delivery lumen that is configured to traverse the heart wall, the lumen having a proximal opening for receiving the instrument and a distal opening for deploying the instrument; and an electrically conductive member that is configured to deliver to the heart wall a current that modifies a contraction frequency. The apparatus may include an access opening closure device that has: a distal end that is configured to be disposed interior the heart and contact endocardial tissue adjacent the access opening; and a proximal end that is configured to be disposed exterior the heart and contact heart tissue adjacent the access opening; and an electrode that is configured to discharge electrical energy into the heart wall to change the frequency. The apparatus may include an injectable needle pacing electrode.

WO 2013/104079 A3

**INTERNATIONAL SEARCH REPORT**

International application No  
PCT/CH2013/000003

**A. CLASSIFICATION OF SUBJECT MATTER**  
 INV. A61N1/05 A61F2/24 A61F2/95  
 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)  
 A61N 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 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	US 2007/066974 A1 (VASKA MATTHIAS [US] ET AL) 22 March 2007 (2007-03-22) paragraphs [0012], [0019], [0208], [0201] - [0204]; figures 28,29 -----	1-5
X	US 2005/288596 A1 (EIGLER NEAL L [US] ET AL) 29 December 2005 (2005-12-29) paragraph [0183]; figures 15-21 -----	1,6-10
X	US 2003/032998 A1 (ALTMAN PETER A [US]) 13 February 2003 (2003-02-13) figures 2I,2J -----	1
A	WO 93/15791 A1 (DIMED INC [US]) 19 August 1993 (1993-08-19) abstract; figures 2B-3B -----	1-10

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 <b>28 March 2013</b>	Date of mailing of the international search report <b>09/07/2013</b>
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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 <b>Monogyiou, Efstratia</b>
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# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/CH2013/000003

## 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  
because they relate to subject matter not required to be searched by this Authority, namely:  
Rule 39.1(iv) PCT - Method for treatment of the human or animal body by surgery and therapy
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.:

1-10

### 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: 1-10

Apparatus for delivering an instrument through an opening in a heart wall

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2. claims: 11-17

Apparatus for plugging an opening in a heart wall

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3. claims: 19, 20

Apparatus for pacing the heart

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# INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No PCT/CH2013/000003
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