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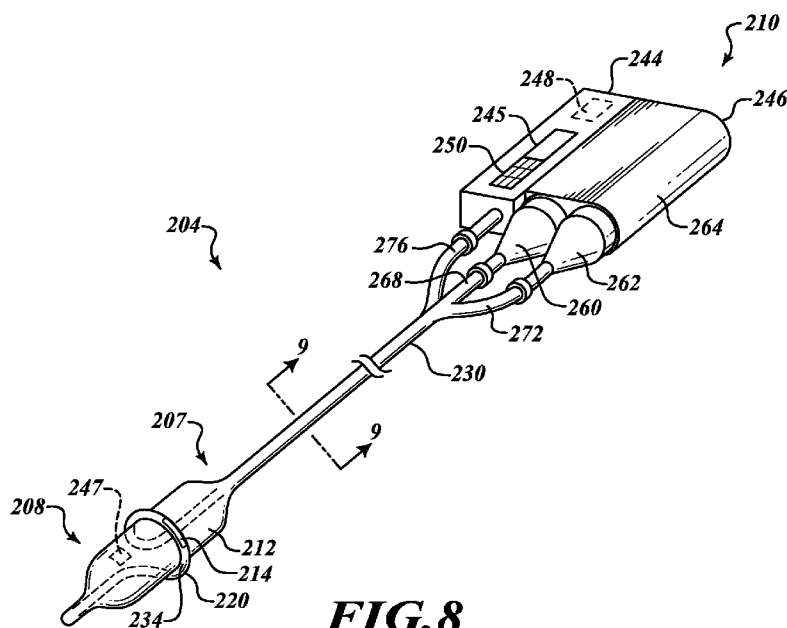
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— with international search report (Art. 21(3))

[Continued on next page]

(54) Title: DELIVERY DEVICES WITH COOLABLE ENERGY EMITTING ASSEMBLIES



**FIG. 8**

(57) Abstract: Systems, delivery devices, and methods to treat to ablate, damage, or otherwise affect tissue. The treatment systems are capable of delivering a coolable ablation assembly that ablates targeted tissue without damaging non-targeted tissue. The coolable ablation assembly damages nerve tissue to temporarily or permanently decrease nervous system input.

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— *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))*

**(88) Date of publication of the international search report:**  
11 August 2011

INTERNATIONAL SEARCH REPORT

International application No  
PCT/US2010/054356

A. CLASSIFICATION OF SUBJECT MATTER  
INV. A61B18/14  
ADD. A61B18/00 A61B18/02

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 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.
A	WO 2007/061982 A1 (MAYO FOUNDATION [US]; ASIRVATHAM SAMUEL J [US]; FRIEDMAN PAUL A [US];) 31 May 2007 (2007-05-31) page 25, line 13 - page 26, line 9; figure 8a	1-19
X	US 2009/131928 A1 (EDWARDS STUART D [US] ET AL) 21 May 2009 (2009-05-21) paragraph [0017]; figure 27	1-3,5,8, 13-19
Y	paragraph [0057] paragraph [0085]	9,10
X	WO 00/66017 A1 (CURON MEDICAL INC [US]) 9 November 2000 (2000-11-09) page 55, line 21; figures 39-40, 55-57 page 55, line 19 - line 20	1,2,4-7, 11,12
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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  31 January 2011	Date of mailing of the international search report  16/06/2011
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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  Ekstrand, Vilhelm
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# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US2010/054356

## 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.: **55-92**  
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.:

**1-19**

### 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/US2010/054356

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2002/087208 A1 (KOBUSH JOSEF V [US] ET AL) 4 July 2002 (2002-07-04) figures 2-3,29-30 paragraph [0147] paragraph [0200] - paragraph [0204] -----	1,2,4-8, 11,12
Y	WO 01/00114 A1 (SAADAT VAHID [US]) 4 January 2001 (2001-01-04) page 8, line 30 - line 32; figures 3a-c -----	9
Y	WO 2008/024220 A1 (BOSTON SCIENT SCIMED INC [US]) 28 February 2008 (2008-02-28) page 4, line 23 - page 5, line 21; figure 1 -----	10
A	US 2004/167509 A1 (TAIMISTO MIRIAM H [US]) 26 August 2004 (2004-08-26) the whole document -----	1-19
A	US 5 902 268 A (SAAB MARK A [US]) 11 May 1999 (1999-05-11) figure 6 -----	1-19

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No PCT/US2010/054356
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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 2007061982	A1	31-05-2007	EP 1954348 A1 13-08-2008 US 2008312715 A1 18-12-2008
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US 2002087208	A1	04-07-2002	NONE
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US 5902268	A	11-05-1999	NONE
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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: 1-19

A delivery device where the energy emitter assembly contacts the airway

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2. claims: 20-24

A delivery device with a small diameter during insertion into a bronchial tree

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3. claims: 25-31

A delivery device to create annular lesions between adjacent cartilage rings of an airway wall of a bronchial tree

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4. claims: 32-41

A delivery device that enables different cooling to the energy emitter and the cooling chamber

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5. claims: 42-45

A delivery device that creates a generally uniform temperature distribution

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6. claims: 46-54

A delivery device that creates deep lesions without damaging tissue close to the delivery device

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**FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210**

Continuation of Box II.1

Claims Nos.: 55-92

Independent Claims 55,60,76,78 and 89 refer to methods for treating a subject or tissue as well as a method for delivering energy to the tissue repectively. Thus, according to Rule 39.1 (iv) PCT, no search is required to be carried out on claims 53-92 because they disclose a method for treatment of the human body by surgery. Further, according to Art 43bis.1 PCT and Rule 67.1 PCT, no international preliminary examination is required to be carried out on these claims.