Abstract: Ferromagnetic heating can be employed in medical devices such as catheters. Catheters bearing ferromagnetic materials can be used to provide localized and directed heating to a treatment site such as an intravascular treatment site. In particular, a balloon catheter can be positioned proximate an intravascular treatment and can be heated by applying an alternating magnetic field.
A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 A61M29/02 A61B18/00 A61M25/00

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)

IPC 7 A61M A61B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic database consulted during the international search (name of data base end, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category* Citation of document, with indication, where appropriate, of the relevant passages Relevant to claim No.

X US 5 098 429 A (STERZER FRED)
column 3, line 2 - column 5, line 24;
figures 3a,4
-----

X US 4 808 164 A (HESS ROBERT)
28 February 1989 (1989-02-28)
column 2, line 42 - column 7, line 33
-----

column 3, line 49 - column 5, line 47
-----

X WO 89/11311 A (KASEVICH ASSOCIATES INC)
30 November 1989 (1989-11-30)
page 11; figure 14
-----

Further documents are listed in the continuation of box C.

Patent family members are listed in 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 a 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.

"A" document member of the same patent family

Date of the actual completion of the international search

9 July 2004

Date of mailing of the international search report

16/07/2004

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (31-70) 340-2040, Tx. 31 651 epo nl,
Fax (31-70) 340-3016

Authorized officer

Cuiper, R

Form PCT/ISA/210 (second sheet) (January 2004)
<table>
<thead>
<tr>
<th>Category</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>US 5 236 410 A (GRANOV DMITRY A ET AL) 17 August 1993 (1993-08-17) claim 1 -----</td>
<td>1</td>
</tr>
</tbody>
</table>
**Box 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(5)(a) for the following reasons:

1. [X] Claims Nos.: 23-27  
   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

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 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:

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 fee, this Authority did not invite payment of any additional fee.

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.:

**Remark on Protest**

- [ ] The additional search fees were accompanied by the applicant's protest.
- [ ] No protest accompanied the payment of additional search fees.
<table>
<thead>
<tr>
<th>Patent document cited in search report</th>
<th>Publication date</th>
<th>Patent family member(s)</th>
<th>Publication date</th>
</tr>
</thead>
<tbody>
<tr>
<td>US 5098429</td>
<td>24-03-1992</td>
<td>NONE</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>CA 1327930 C</td>
<td>22-03-1994</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DE 3889333 D1</td>
<td>01-06-1994</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DE 3889333 T2</td>
<td>01-09-1994</td>
</tr>
<tr>
<td></td>
<td></td>
<td>JP 3501089 T</td>
<td>14-03-1991</td>
</tr>
<tr>
<td></td>
<td></td>
<td>WO 8901800 A1</td>
<td>09-03-1989</td>
</tr>
<tr>
<td></td>
<td></td>
<td>US 4927413 A</td>
<td>22-05-1990</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CA 1283015 C</td>
<td>16-04-1991</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DE 3850914 D1</td>
<td>06-09-1994</td>
</tr>
<tr>
<td></td>
<td></td>
<td>JP 1049573 A</td>
<td>27-02-1989</td>
</tr>
<tr>
<td>WO 8911311</td>
<td>30-11-1989</td>
<td>AU 3696989 A</td>
<td>12-12-1989</td>
</tr>
<tr>
<td></td>
<td></td>
<td>WO 8911311 A1</td>
<td>30-11-1989</td>
</tr>
<tr>
<td></td>
<td></td>
<td>US 5057106 A</td>
<td>15-10-1991</td>
</tr>
<tr>
<td>US 5236410</td>
<td>17-08-1993</td>
<td>NONE</td>
<td></td>
</tr>
</tbody>
</table>