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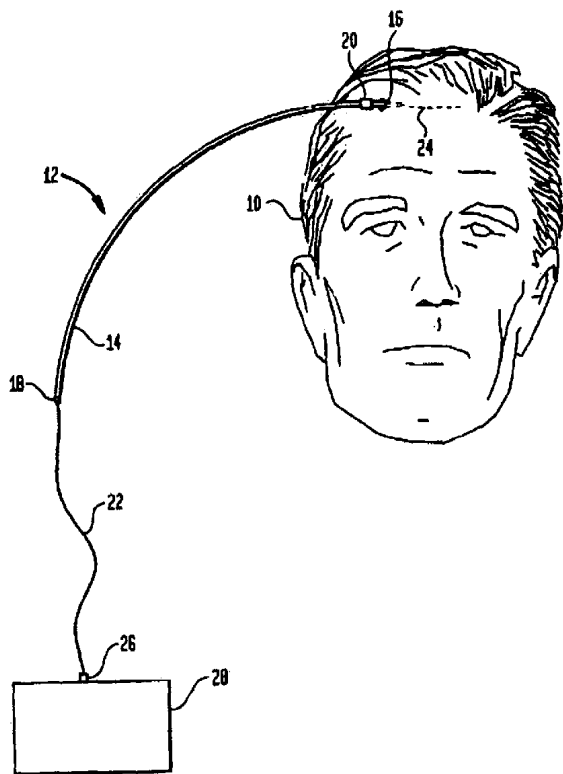
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[Continued on next page]

(54) Title: INFUSION DEVICE AND METHOD FOR INFUSING MATERIAL INTO THE BRAIN OF A PATIENT



(57) Abstract: A fluid infusion device and a method of using the same. The device includes an outer, flexible guide catheter having a distal end for introduction beneath the skull of a patient and a proximal end remaining external of the patient. A flexible infusion fiber is located within the guide catheter and has a distal end extending outwardly from the guide catheter to be located in a target area within the patient's brain. The infusion fiber can be fixed or axially movable within the guide catheter. In the latter embodiment, the proximal end of the infusion fiber extending outwardly from the guide catheter can be manipulated to locate the distal end of the infusion fiber in the target area. An infusion pump is connected to the proximal end of the infusion fiber to infuse a minute quantity of fluid at an extremely low flow rate into the brain of the patient.



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INTERNATIONAL SEARCH REPORT

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PCT/US05/41983

A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - A61M 5/00 (2007.01)

USPC - 604/264

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(8) - A61M 3/00,5/00,31/00 (2007.01)

USPC - 604/43,103.01,173,264

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)

PatBase

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|-----------|---|-----------------------|
| Y | US 5,792,110 A (CUNNINGHAM) 11 August 1998 (11.08.1998) entire document | 1-31 |
| Y | US 2001/0047196 A1 (GINSBURG et al) 29 November 2001 (29.11.2001) figures, para [0109] | 1-31 |
| Y | US 2003/0167031 A1 (ODLAND) 04 September 2003 (04.09.2003) figures, para [0114] | 7, 21 |
| Y | US 2003/0036726 A1 (FORMAN et al) 20 February 2003 (20.02.2003) paragraphs [0020, 0067] | 11, 12 |
| Y | US 2004/0049121 A1 (YARON) 11 March 2004 (11.03.2004) figures, para [0066] | 13 |
| Y | US 2004/0181206 A1 (CHIU et al) 16 September 2004 (16.09.2004) figures, para [0103] | 17 |
| Y | US 6,272,370 B1 (GILLIES et al) 07 August 2001 (07.08.2001) column 26, lines 5-22 | 18-20, 26 |
| Y | US 2004/0064086 A1 (GOTTLIEB et al) 01 April 2004 (01.04.2004) figures, para [0060] | 28 |

 Further documents are listed in the continuation of Box C.

* 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

04 December 2007

Date of mailing of the international search report

02 JAN 2008

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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:
 Group I, claims 1-31, drawn to a delivery device for introducing fluid at a low flow rate into the brain within the skull of a patient comprising an outer, flexible guide catheter.
 Group II, claims 32-36, drawn to a fixation device for securing a catheter entering the skull of a patient through a burr hole comprising a base cap having an opening formed therein.

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 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.:
1-31

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.