Title: STRAIN MONITORING SYSTEM AND APPARATUS

Abstract: A system for monitoring strain as an indicator of biological conditions, such as spinal fusion, glucose levels, spinal loading, and heart rate. The system includes an inter-digilated capacitor sensor, and RF transmitter, and an associated antenna, all of which are microminiature or microscopic in size and can be implanted in a biological host such as a human or animal. An inductively coupled power supply is also employed to avoid the need for implantation of chemical batteries. Power is provided to the sensor and transmitter, and data is transmitted from the sensor, when an external receiving device, such as a handheld RF ID type receiver, is placed proximate the location of the implanted sensor, transmitter and inductively coupled power supply. The implanted sensor, transmitter and inductively coupled power supply can be left in place permanently or removed when desired.
INTERNATIONAL SEARCH REPORT

A. CLASSIFICATION OF SUBJECT MATTER
   IPC: A61B 5/00(2006.01)

   USPC: 600/300
   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)
   U.S.: 600/300-201; 128/903-905; 128/920

   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)
   EAST Database

C. DOCUMENTS CONSIDERED TO BE RELEVANT

<table>
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<th>Category</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
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Further documents are listed in the continuation of Box C.

See patent family annex.

Date of the actual completion of the international search
11 October 2006 (11.10.2006)

Date of mailing of the international search report
04 DEC 2006

Name and mailing address of the ISA/US
Mail Stop PCT, Attn: ISA/US Commissioner of Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Authorized officer
Michael Astorino
Telephone No. 571-272-3700

Form PCT/ISA/210 (second sheet) (July 1998)
**Box I Observations where certain claims were found unsearchable (Continuation of Item 1 of first sheet)**

This international report has not been established in respect of certain claims under Article 17(2)(e) for the following reasons:

1. □ Claim Nos.:  
   because they relate to subject matter not required to be searched by this Authority, namely:

2. ☒ Claim Nos.: 87 and 88  
   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:
   Claims 87 and 88 were not searched because they are missing from the list of claims.

3. □ Claim Nos.:  
   because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

**Box II Observations where unity of invention is lacking (Continuation of Item 2 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.
## INTERNATIONAL SEARCH REPORT

### C. (Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

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