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

[Continued on next page]

(54) Title: ELECTRONIC CONTINUOUS OR PERIODIC AIRWAY THERAPY (ECAT) FOR SLEEP-BREATHING DISORDERS

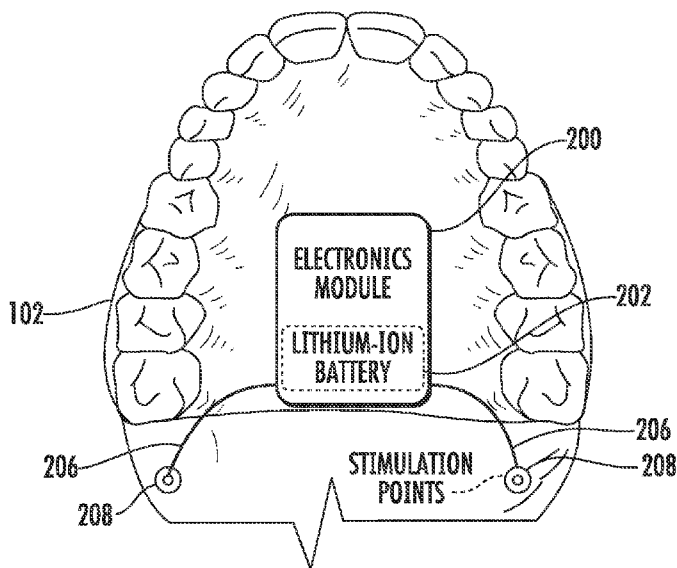


FIG. 2

(57) Abstract: The intra-oral electronic therapy device includes a substrate to be positioned in a patient's mouth, a rechargeable battery carried by the substrate, and at least one hamular notch tissue contact electrode extending outwardly from the substrate to contact at least one hamular notch in the patient's mouth. A controller is carried by the substrate and cooperates with the rechargeable battery and the hamular notch tissue contact electrode to provide a predetermined electrical stimulation pattern to a hamular notch in the patient's mouth. A programming interface is carried by the substrate and coupled to the controller to permit programming of the predetermined stimulation pattern therein.

WO 2010/090852 A3



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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))*

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# INTERNATIONAL SEARCH REPORT

International application No <b>PCT/US2010/021575</b>
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**A. CLASSIFICATION OF SUBJECT MATTER**  
**INV. A61N1/05**  
**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**

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.
X	WO 97/18854 A1 (RESPIRONICS INC [US]) 29 May 1997 (1997-05-29) page 5, line 17 - page 10, line 10; figures 1-3 page 12, line 1 - page 13; figures 4-8 -----	1-20
X	US 5 284 161 A (KARELL MANUEL L [US]) 8 February 1994 (1994-02-08) the whole document ----- -/--	1-20

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

**12 August 2010**

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**26/08/2010**

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## INTERNATIONAL SEARCH REPORT

International application No  
PCT/US2010/021575

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>WO 2005/002467 A2 (BRAINSGATE LTD [IL]; SHALEV ALON [IL]) 13 January 2005 (2005-01-13) page 4, line 30 - page 5, line 26 page 10, line 6 - page 2, line 4; figures 1-2 page 17, line 13 - page 18, line 8; figures 9-10 page 28, lines 5-9</p> <p>-----</p>	1-20
A	<p>WO 2006/008741 A1 (BEISKI BEN ZION [IL]; WOLFF ANDY [IL]) 26 January 2006 (2006-01-26) pages 8-9 page 11, paragraph 4 - page 15, paragraph 1 page 18 - page 20 page 22, paragraph 3; figure 1</p> <p>-----</p>	1-20
X,P	<p>US 2009/082839 A1 (LINDQUIST SHERRILL F [US] ET AL) 26 March 2009 (2009-03-26) the whole document</p> <p>-----</p>	1-20

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US2010/021575

## 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.: 21-33  
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 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:

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.:

### 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

Information on patent family members

International application No

PCT/US2010/021575

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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US 2009082839	A1	26-03-2009	NONE