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[Continued on next page]

(54) Title: ENDOTRACHEAL TUBE APPARATUS

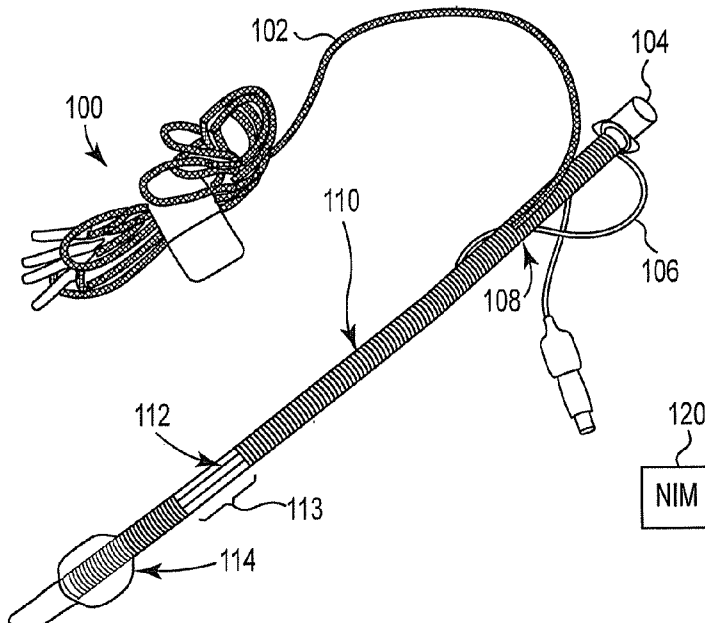
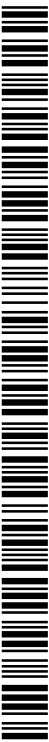


Fig. 1

(57) Abstract: An apparatus for monitoring EMG signals of a patient's laryngeal muscles includes an endotracheal tube having an exterior surface. Conductive ink electrodes are formed on the exterior surface of the endotracheal tube. The conductive ink electrodes are configured to receive the EMG signals from the laryngeal muscles when the endotracheal tube is placed in a trachea of the patient. At least one conductor is coupled to the conductive ink electrodes and is configured to carry the EMG signals received by the conductive ink electrodes to a processing apparatus.



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INTERNATIONAL SEARCH REPORT

International application No

PCT/US2010/051132

A. CLASSIFICATION OF SUBJECT MATTER

INV. A61N1/05 A61B5/0488
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 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.
Y	US 5 125 406 A (GOLDSTONE ANDREW C [US] ET AL) 30 June 1992 (1992-06-30) abstract; figures 1-6 column 1, lines 9-12 column 3, line 1 - column 4, line 18 column 4, line 64 - column 6, line 16 -----	1-3
Y	US 2007/156041 A1 (REA JAMES L [US] REA JAMES LEE [US]) 5 July 2007 (2007-07-05) abstract; figures 1, 2, 2A, 3 paragraph [0001] paragraph [0004] paragraph [0014] - paragraph [0017] paragraph [0019] - paragraph [0022] ----- -/--	1

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

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"P" document published prior to the international filing date but later than the priority date claimed

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"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

24 January 2011

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Name and mailing address of the ISA/

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INTERNATIONAL SEARCH REPORT

International application No PCT/US2010/051132

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 2006/012671 A1 (CATHRX LTD [AU]; ANDERSON NEIL LAWRENCE [AU]; BOOTH NORMAN [AU]; CHONG) 9 February 2006 (2006-02-09) abstract; figures 1, 2a-f page 1, lines 9-11 page 1, line 30 - page 2, line 34 page 9, line 23 - page 11, line 25 -----	2,3
A	US 5 554 176 A (MADDISON DAVID S [AU] ET AL) 10 September 1996 (1996-09-10) the whole document -----	1-3

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2010/051132

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.: 20
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 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.:

1-3

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.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-3

An apparatus for monitoring EMG signals, comprising an endotracheal tube, conductive ink electrodes and at least one conductor coupled to the electrodes to carry the EMG signals to a processing apparatus, wherein the conductive ink electrodes comprise specific materials.

2. claims: 1, 4-19, 21

An apparatus for monitoring EMG signals, comprising an endotracheal tube, conductive ink electrodes and at least one conductor coupled to the electrodes to carry the EMG signals to a processing apparatus, the apparatus for monitoring EMG signals characterized by specific characteristics that contribute to an appropriate positioning with respect to the target laryngeal anatomy.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No PCT/US2010/051132

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5125406	A	30-06-1992	NONE
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US 5554176	A	10-09-1996	NONE