Apparatus for self-induced cough-cardiopulmonary resuscitation

A  apparatus (30, 40) for self-treatment of cardiac arrhythmia by a patient, comprising a container (44) sized to be portable by the patient and having therein a chamber containing a medicament composition comprising a pharmaceutically acceptable carrier mixed with a chemorefractory, preferably L-tartaric acid; a nebulizing valve connected to the chamber so as to provide an outlet therefore; a source of motivating force connected with the chamber so as to motivate the composition through the opening in the nebulizing valve to thereby cause nebulization of the composition; a wireless transmitter responsive to activation of the nebulizer for sending a wireless signal requesting medical assistance; and a power source operatively connected for providing power; wherein the chemorefractory is mixed in the composition in an amount sufficient for causing the patient to produce an involuntary cough effective to maintain at least partial blood circulation.
Date of publication of the international search report:
17 April 2003

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.
## INTERNATIONAL SEARCH REPORT

### A. CLASSIFICATION OF SUBJECT MATTER

**IPC 7** A61M11/00

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 G04G A61K

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

<table>
<thead>
<tr>
<th>Category</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevance to claim No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>US 6 004 268 A, Stephens Robert E ET AL&lt;br&gt;21 December 1999 (1999-12-21)&lt;br&gt;column 1, line 59 - column 4, line 53; figure 2</td>
<td>1-18</td>
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<td>A</td>
<td>EP 0 915 398 A, Soom Huggenberger Verena&lt;br&gt;12 May 1999 (1999-05-12)&lt;br&gt;column 1, line 1 - column 4, line 19</td>
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<td>A</td>
<td>US 6 196 218 B1, Voges Robert Martin&lt;br&gt;6 March 2001 (2001-03-06)&lt;br&gt;column 5, line 55 - line 61</td>
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<td>A</td>
<td>DE 199 18 955 A, Lohmann Therapie SYST LTS&lt;br&gt;11 November 1999 (1999-11-11)&lt;br&gt;column 1, line 28 - line 31</td>
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Further documents are listed in the continuation of box C. Patents 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* 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 without it
  *Y* document of particular relevance; the claimed invention cannot be considered without it
  *Z* document of particular relevance; the claimed invention cannot be considered without it

Date of actual completion of the international search: 30 October 2002

Date of mailing of the international search report: 06. 03. 2003

Name and mailing address of the ISA
European Patent Office, P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk
Tel: (+31-70) 340-2400, Tx 01 651 epo nl, Fax: (+31-70) 340-2016

Authorized officer: Kroeders M
INTERNATIONAL SEARCH REPORT

Box I  Observations where certain claims were found unsearchable (Continuation of item 1 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. [X] Claims Nos.: 19-23 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 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:

- 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 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. [X] 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.: 1-7

Remark on Protest

- [ ] The additional search fees were accompanied by the applicant’s protest.
- [ ] No protest accompanied the payment of additional search fees.
This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1-7

   A nebulizer apparatus, suitable for self treatment by producing an involuntary cough, comprising the following features:

   A) a container sized to be portable by the patient and having a chamber containing a pharmaceutically acceptable carrier composition

   B) a nebulizing valve connected to said chamber so as to provide an outlet therefor

   C) a source of motivating force connected with said chamber so as to motivate said composition through the opening in said nebulizing valve

   D) a wireless transmitter responsive to activation of the nebulizer for sending a wireless signal

   E) a power source operatively connected for providing power

   F) the nebulization comprises droplets having an airborne diameter of less than 10 μm

1.1. Claims: 8-12

   A nebulizer apparatus, comprising all the features of subject 1 but feature F)

1.2. Claims: 13-18

   A nebulizer apparatus, comprising all the features of subject 1 but feature F), further comprising the feature

   G) a location determining system connected for locating the origin of said wireless signal

2. Claim : 24

   An L-tartaric acid composition for therapeutic use as a medicament in a patient having cardiac arrhythmia, the composition comprising a pharmaceutical acceptable carrier mixed with an amount of L-tartaric acid

Please note that all inventions mentioned under item 1, although not necessarily linked by a common inventive concept, could be searched without effort justifying an additional fee.
<table>
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<th>Patent document cited in search report</th>
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