PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

Applicant’s or agent’s file reference
JT-052-2PCT

FOR FURTHER ACTION
International application No.
PCT/JP2015/080749

See item 4 below
International filing date (day/month/year)
30 October 2015 (30.10.2015)

Priority date (day/month/year)
10 November 2014 (10.11.2014)

See relevant information in Form PCT/ISA/237

International Patent Classification (8th edition unless older edition indicated)

Applicant
JAPAN TOBACCO INC.

1. This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 bis.1(a).

2. This REPORT consists of a total of 7 sheets, including this cover sheet.

   In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.

3. This report contains indications relating to the following items:

   □ Box No. I      Basis of the report
   □ Box No. II     Priority
   □ Box No. III    Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
   □ Box No. IV     Lack of unity of invention
   □ Box No. V      Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
   □ Box No. VI     Certain documents cited
   □ Box No. VII    Certain defects in the international application
   □ Box No. VIII   Certain observations on the international application

4. The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis.2).

Date of issuance of this report
16 May 2017 (16.05.2017)

The International Bureau of WIPO
34, chemin des Colombettes
1211 Geneva 20, Switzerland

Authorized officer
Yukari Nakamura

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Form PCT/IB/373 (January 2004)
From the
INTERNATIONAL SEARCHING AUTHORITY

To:

PATENT COOPERATION TREATY

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing
(day/month/year) 12.01.2016

FOR FURTHER ACTION
See paragraph 2 below

Applicant's or agent's file reference

JT-052-2PCT

International application No. International filing date (day/month/year) Priority date (day/month/year)

International Patent Classification (IPC) or both national classification and IPC

A24F47/00 (2006.01) i

Applicant
JAPAN TOBACCO INC.

1. This opinion contains indications relating to the following items:

- Box No. I  Basis of the opinion
- Box No. II  Priority
- Box No. III  Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- Box No. IV  Lack of unity of invention
- Box No. V  Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- Box No. VI  Certain documents cited
- Box No. VII  Certain defects in the international application
- Box No. VIII  Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1(h)(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

Name and mailing address of the ISA/IP

Date of completion of this opinion

Authorized officer

Facsimile No.

Telephone No.

Form PCT/ISA/237 (cover sheet) (July 2011)
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<th>Box No. 1</th>
<th>Basis of this opinion</th>
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<td>1.</td>
<td>With regard to the <strong>language</strong>, this opinion has been established on the basis of:</td>
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<td>☒ the international application in the language in which it was filed</td>
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<td>☐ a translation of the international application into ______________________, which is the language of a</td>
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<td>translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).</td>
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<td>2.</td>
<td>☐ This opinion has been established taking into account the <strong>rectification of an obvious mistake</strong> authorized by or notified to this</td>
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<td>Authority under Rule 91 (Rule 43(b)(1)(a))</td>
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<td>With regard to any <strong>nucleotide and/or amino acid sequence</strong> disclosed in the international application, this opinion has been established on</td>
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<td>that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the</td>
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<td>application as filed, as appropriate, were furnished.</td>
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<td>5.</td>
<td>Additional comments:</td>
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### 1. Statement

#### Novelty (N)
- Claims 1-24: YES
- Claims: NO

#### Inventive step (IS)
- Claims 18: YES
- Claims 1-17, 19-24: NO

#### Industrial applicability (IA)
- Claims 1-24: YES
- Claims: NO

### 2. Citations and explanations:

- **Document 1:** US 2013/0213419 A1 (ALTRIA CLIENT SERVICES INC.) 22 August 2013, paragraphs [0045]-[0049], fig. 1
- **Document 2:** WO 2014/157463 A1 (NITTO KOHKI CO., LTD.) 02 October 2014, paragraph [0040]
- **Document 3:** JP 2003-307557 A (THE FURUKAWA BATTERY CO., LTD) 31 October 2003, paragraph [0004]
- **Document 4:** JP 2013-130197 A (MITSUBISHI MOTORS CORP.) 04 July 2013, paragraph [0029]
- **Document 5:** US 2013/0284192 A1 (PELEG, Eyal) 31 October 2013, paragraphs [0037], [0042]-[0079]

The invention as in claims 1-3 and 21-22 does not involve an inventive step in the light of document 1 cited in the ISR.

Document 1 discloses a non-combusting flavor inhaler which is provided with a vaporizer unit (heater 14) that vaporizes an aerosol source without combustion, a battery (battery 1) that stores electrical power supplied to the vaporizer unit, and a control unit (control circuitry) which, as an instruction to the battery, outputs to the
battery a prescribed instruction instructing the battery that the amount of aerosol vaporized by the vaporizer unit should fall within a desired range, wherein the control unit stops power supply from the battery to the vaporizer unit once a prescribed period has elapsed from commencement of the power supply to the vaporizer unit (less than 10 seconds, and more preferably less than 7 seconds).

Here, it is unclear whether this prescribed period is shorter than the upper limit value of a standard puff period, which is derived from statistics for a user puff period, but calculating a standard puff period from statistics is a matter that a person skilled in the art could plan as appropriate.

The invention as in claims 4 and 23 does not involve an inventive step in the light of documents 1-2 cited in the ISR.

Controlling the amount of power supplied from the battery through pulse control and outputting an instruction to the battery to increase the duty ratio as the remaining capacity of the battery decreases in order to achieve desired power is a well-known feature, as disclosed in document 2.

The invention as in claims 5-6 does not involve an inventive step in the light of documents 1-3 cited in the ISR.

Estimating the remaining capacity of a battery on the basis of a voltage value outputted from the battery is a well-known feature, as disclosed in document 3.
The invention as in claim 7 does not involve an inventive step in the light of documents 1-4 cited in the ISR.

Increasing the instructed voltage output to a battery as the remaining capacity of the battery decreases is a well-known feature, as disclosed in document 4.

The invention as in claims 8-14 does not involve an inventive step in the light of documents 1-4 cited in the ISR.

The constitution of the vaporizer unit, the battery capacity and the puff period and prescribed period, which are standards, are matters that could be specified, as appropriate, by a person skilled in the art.

The invention as in claims 15-17 and 19-20 does not involve an inventive step in the light of documents 1-5 cited in the ISR.

Document 5 discloses a non-combusting flavor inhaler (e-cigarette), which is provided with a memory (memory 718) that stores a user puff duration and an interface (communications interface 714) for communicating with an external device (smartphone 702).

In addition, document 5 discloses a non-combusting flavor inhaler in which a light-emitting device (light-emitting diode 612) is controlled in a prescribed mode while a user puff action is detected by a suction sensor (a flow-sensitive switch or flow sensor 604).

The invention as in claim 24 does not involve an inventive step in the light of documents 1-2 and 5 cited
in the ISR.

Document 5 discloses a non-combusting flavor inhaler (e-cigarette), which is provided with a memory (memory 718) that stores a user puff duration and an interface (communications interface 714) for communicating with an external device (smartphone 702).

The invention as in claim 18 is not disclosed in any of the documents cited in the ISR, and would not be obvious to a person skilled in the art.

Documents 1-5 do not disclose "a flavor source that imparts a flavor to an aerosol vaporized by the vaporizer unit", which is set forth for the invention as in claim 18.