**PATENT COOPERATION TREATY**

From the
INTERNATIONAL SEARCHING AUTHORITY

To:

**TRANSLATION**

**PCT**

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing
(day/month/year) 12.01.2016

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

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/JP2015/080749
International filing date (day/month/year) 30.10.2015
Priority date (day/month/year) 10.11.2014

International Patent Classification (IPC) or both national classification and IPC
A24F47/00 (2006.01) i

Applicant
JAPAN TOBACCO INC.

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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 this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1b(iii) 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.

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Name and mailing address of the ISA/IP

Date of completion of this opinion

Authorized officer

Facsimile No.  

Telephone No.
**Box No. 1**  
**Basis of this opinion**

1. With regard to the **language**, this opinion has been established on the basis of:
   - [X] the international application in the language in which it was filed
   - [ ] a translation of the international application into ______________________, which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

2. [ ] This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43bis.1(a))

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of a sequence listing filed or furnished:
   - (means)
     - [ ] on paper
     - [ ] in electronic form
   - (time)
     - [ ] in the international application as filed
     - [ ] together with the international application in electronic form
     - [ ] subsequently to this Authority for the purposes of search

4. [ ] In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

5. **Additional comments:**
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 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.
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.