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(54) **Electronic cigarette, atomizing device, power pole and charger connector**

(57) An electronic cigarette includes an atomizing device (1) and a power pole (2), the atomizing device includes a first connecting assembly (110), and the power pole includes a second connecting assembly (208). The first connecting assembly includes a pair of first electrodes (110a, 110b) and at least one lapping portion (114). The second connecting assembly includes a pair of second electrodes (209a, 209b) and a cavity with at least one adapting portion formed therein and a guiding surface formed adjacent to the at least one adapting portion. The at least one lapping portion is capable of inserting into the cavity from the guiding surface and rotatable in the cavity until abuts the at least one adapting portion, whereby the first electrodes are in contact with and thus electrically connected to the respective second electrodes. An atomizing device, a power pole and a charger connector are also provided.

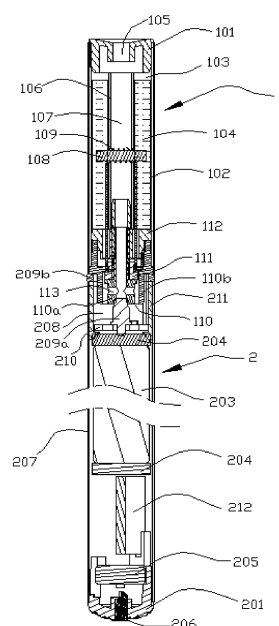


FIG.2



## EUROPEAN SEARCH REPORT

 Application Number  
 EP 14 17 6594

| DOCUMENTS CONSIDERED TO BE RELEVANT  |   |                                  |   |
|--|---|----------------------------------|---|
| Category   | Citation of document with indication, where appropriate, of relevant passages   | Relevant to claim                | CLASSIFICATION OF THE APPLICATION (IPC) |
| X  | KR 2011 0003309 U (EBACO CO LTD)<br>31 March 2011 (2011-03-31)  | 1-3                              | INV.<br>A24F47/00                       |
| Y  | * see automatic translation into English;<br>figure 11 *  | 8                                |   |
| Y  | -----<br>WO 2013/093695 A1 (SIS RESOURCES LTD [IL])<br>27 June 2013 (2013-06-27)<br>* page 8, lines 18-26 *                                   | 8                                |   |
| E  | -----<br>WO 2015/010284 A1 (KIMREE HI TECH INC)<br>29 January 2015 (2015-01-29)<br>* see automatic translation into English;<br>figure 1 *    | 1-3                              |   |
| A  | -----<br>CN 201 718 468 U (YONGHAI LI; ZHONGLI XU)<br>26 January 2011 (2011-01-26)<br>* see automatic translation into English;<br>figure 1 * | 1                                |   |
|  |   |                                  | TECHNICAL FIELDS SEARCHED (IPC)         |
|  |   |                                  | A24F                                    |
| <del>The present search report has been drawn up for all claims</del>  |   |                                  |   |
| Place of search  |   | Date of completion of the search | Examiner                                |
| Munich   |   | 15 June 2015                     | Koob, Michael                           |
| CATEGORY OF CITED DOCUMENTS<br>X : particularly relevant if taken alone<br>Y : particularly relevant if combined with another document of the same category<br>A : technological background<br>O : non-written disclosure<br>P : intermediate document<br>T : theory or principle underlying the invention<br>E : earlier patent document, but published on, or after the filing date<br>D : document cited in the application<br>L : document cited for other reasons<br>& : member of the same patent family, corresponding document |   |                                  |   |

EPO FORM 1503 03.82 (P04C01)



Application Number

EP 14 17 6594

**CLAIMS INCURRING FEES**

The present European patent application comprised at the time of filing claims for which payment was due.

☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due and for those claims for which claims fees have been paid, namely claim(s):

☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due.

**LACK OF UNITY OF INVENTION**

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

☐ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.

☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.

☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:

☒ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

1-9

☐ The present supplementary European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims (Rule 164 (1) EPC).



**LACK OF UNITY OF INVENTION  
SHEET B**

Application Number

EP 14 17 6594

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. claims: 1-9

An electronic cigarette comprising an atomizing device and a power pole, wherein the atomizing device or the power pole comprises a first connecting assembly and the power pole or the atomizing device comprises a second connecting assembly, wherein the first connecting assembly comprises a pair of first electrodes and at least one lapping portion, and the second connecting assembly comprises a pair of second electrodes and a cavity with at least one adapting portion formed therein and a guiding surface formed adjacent to the at least one adapting portion, wherein the at least one lapping portion is capable of being inserted into the cavity from the guiding surface and rotatable in the cavity until it abuts the at least one adapting portion, whereby the first electrodes are in contact with and thus electrically connected to the respective second electrodes.

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2. claim: 10

An atomizing device of an electronic cigarette comprising an atomizing sleeve, a liquid reservoir defined in the atomizing sleeve, an atomizing assembly arranged in the atomizing sleeve, and a first connecting assembly located at an end of the atomizing sleeve, the first connecting assembly comprising an inner electrode, an outer electrode, and at least one lapping portion extending outwards from the outer electrode.

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3. claims: 11-14

A power pole of an electronic cigarette comprising a second connecting assembly, the second connecting assembly comprising a cavity with at least one adapting portion formed therein and a guiding surface formed adjacent to the at least one adapting portion, a positive electrode arranged in the cavity, and a negative electrode set around the positive electrode.

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4. claim: 15

A charger connector for connecting and charging a power pole of an electronic cigarette comprising a third connecting assembly, wherein the third connecting assembly comprises a pair of third electrodes and at least one lapping portion, the at least one lapping portion is rotatable in a cavity of the power pole until it abuts at an adapting portion of the power pole, such that the third electrodes are electrically



**LACK OF UNITY OF INVENTION  
SHEET B**

Application Number

EP 14 17 6594

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

connected to the power pole and thus powers the power pole.  
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**ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.**

EP 14 17 6594

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.  
The members are as contained in the European Patent Office EDP file on  
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

15-06-2015

| Patent document<br>cited in search report | Publication<br>date | Patent family<br>member(s)  | Publication<br>date  |
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| WO 2015010284 A1                          | 29-01-2015          | NONE  |  |
| CN 201718468 U                            | 26-01-2011          | NONE  |  |