### Doc Code: TR.PROV

Document Description: Provisional Cover Sheet (SB16)

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Provisional Application for Patent Cover Sheet
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#### This is a request for filing a PROVISIONAL APPLICATION FOR PATENT under 37 CFR 1.53(c) Inventor(s) Inventor 1 Remove State Given Name Middle Name Family Name City Country i FL US Verleur Miami Beach Jan Andries Inventor 2 Remove **Given Name** Middle Name Family Name City State Country i Dan Recio Miami FL US Inventor 3 Remove Given Name Middle Name Family Name City State Country i Fred FL US Lu Miami Inventor 4 Remove Given Name Middle Name Family Name City State Country i Yinjun FL US Zhang Miami Inventor 5 Remove Given Name State Middle Name Family Name City Country i Arturo FL US Fajardo Miami Inventor 6 Remove Given Name Middle Name Family Name City State Country j Hans Verleur El Dorado CA US All Inventors Must Be Listed - Additional Inventor Information blocks may be Add generated within this form by selecting the Add button. **Title of Invention** ELECTRONIC CIGARETTE Attorney Docket Number (if applicable) 1617.VMRP0008P **Correspondence Address** Direct all correspondence to (select one): • The address corresponding to Customer Number Firm or Individual Name

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PTO/SB/16 (11-08) Approved for use through 05/31/2015. OMB 0651-0032 U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number

The invention was made by an agency of the United States Government or under a contract with an agency of the States Government.	e United
No.	
O Yes, the invention was made by an agency of the United States Government. The U.S. Government agency	name is:
O Yes, the invention was under a contract with an agency of the United States Government. The name of the U Government agency and Government contract number are:	.S.

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Document Description: Provisional Cover Sheet (SB16)

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#### **Entity Status**

Applicant asserts small entity status under 37 CFR 1.27 or applicant certifies micro entity status under 37 CFR 1.29

Applicant asserts small entity status under 37 CFR 1.27

Applicant certifies micro entity status under 37 CFR 1.29. Applicant must attach form PTO/SB/15A or B or equivalent.

O No

## Warning

Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.

## Signature

Please see 37 CFR 1.4(d) for the form of the signature.

Signature	/A. Robert Weaver/		Date (YYYY-MM-DD)	2013-11-12	
First Name	Arthur	Last Name	Weaver	Registration Number (If appropriate)	63123

This collection of information is required by 37 CFR 1.51. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 8 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. This form can only be used when in conjunction with EFS-Web. If this form is mailed to the USPTO, it may cause delays in handling the provisional application.

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Application Da	ta Sheet 37 CFR 1.76	Attorney Docket Number	1617.VMRP0008P		
Application Da		Application Number			
Title of Invention	ELECTRONIC CIGARETTE				
The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76. This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.					

## Secrecy Order 37 CFR 5.2

Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)

## Inventor Information:

Invent		1							R	emove	
Legal I	Name										
Prefix	Give	en Name			Middle Name	e		Family	Name		Suffix
	Jan				Andries			Verleur			
Residence Information (Select One)			$\overline{\mathbf{O}}$	US Residency	0	Non US R	lesidency	O Activ	e US Military Service	;	
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Application Data Sheet 37 CFR 1			1 76	Attorney Docket Number 16		1617.VM	1617.VMRP0008P				
			1.70	Application Number							
Title of	Invention	ELEC.	TRONIC CIGAI	RETTE							
City	Miami			State/	Province	FL	Counti	y of Resid	dence	US	
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Invent	or 6								R	emove	
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Application Da	ta Sheet 37 CFR 1.76	Attorney Docket Number	1617.VMRP0008P
Application Da		Application Number	
Title of Invention	ELECTRONIC CIGARETTE		

### Mailing Address of Inventor:

Address 1		4520 Steins Way				
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Postal Code 95623			Cou	ı <b>ntry</b> i	US	
All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the <b>Add</b> button.						

## **Correspondence Information:**

Enter either Customer Number or complete the Correspondence Information section below. For further information see 37 CFR 1.33(a).					
An Address is being provided for the correspondence Information of this application.					
Customer Number	44338				
Email Address		Add Email	Remove Email		

## **Application Information:**

Title of the Invention	ELECTRONIC CIGARETTE				
Attorney Docket Number	1617.VMRP0008P		Small Entity Status Claimed 🛛 🔀		
Application Type	Provisional				
Subject Matter	Utility				
Total Number of Drawing	Sheets (if any)	8	Suggested Figure for Publication (if any)		

## **Publication Information:**

Request Early Publication (Fee required at time of Request 37 CFR 1.219)

**Request Not to Publish.** I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application **has not and will not** be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

## **Representative Information:**

 Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32). Either enter Customer Number or complete the Representative Name section below. If both sections are completed the customer Number will be used for the Representative Information during processing.

 Please Select One:

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	Application Da	ta Shoot 37 CEP 1 76	Attorney Docket Number	1617.VMRP0008P
	Application Data Sheet 37 CFR 1.76		Application Number	
	Title of Invention ELECTRONIC CIGARETTE			

## **Domestic Benefit/National Stage Information:**

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, or 365(c) or indicate National Stage entry from a PCT application. Providing this information in the application data sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78.

Prior Application Status			Remove			
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)			
Additional Domestic Renefit/National Stage Data may be generated within this form						

Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the **Add** button.

# Foreign Priority Information:

This section allows for the applicant to claim priority to a foreign application. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55(d). When priority is claimed to a foreign application that is eligible for retrieval under the priority document exchange program (PDX)<sup>i</sup> the information will be used by the Office to automatically attempt retrieval pursuant to 37 CFR 1.55(h)(1) and (2). Under the PDX program, applicant bears the ultimate responsibility for ensuring that a copy of the foreign application is received by the Office from the participating foreign intellectual property office, or a certified copy of the foreign priority application is filed, within the time period specified in 37 CFR 1.55(g)(1).

Remove								
Application Number	Country <sup>i</sup>	Filing Date (YYYY-MM-DD)	Access Code <sup>i</sup> (if applicable)					
Additional Foreign Priority <b>Add</b> button.	Data may be generated wit	hin this form by selecting the						

# Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications

This application (1) claims priority to or the benefit of an application filed before March 16, 2013 and (2) also contains, or contained at any time, a claim to a claimed invention that has an effective filing date on or after March 16, 2013.

NOTE: By providing this statement under 37 CFR 1.55 or 1.78, this application, with a filing date on or after March 16, 2013, will be examined under the first inventor to file provisions of the AIA.

## Authorization to Permit Access:

Authorization to Permit Access to the Instant Application by the Participating Offices

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Application Da	ta Shoot 37 CER 1 76	Attorney Docket Number	1617.VMRP0008P
Application Data Sheet 37 CFR 1.76		Application Number	
Title of Invention ELECTRONIC CIGARETTE			

If checked, the undersigned hereby grants the USPTO authority to provide the European Patent Office (EPO), the Japan Patent Office (JPO), the Korean Intellectual Property Office (KIPO), the World Intellectual Property Office (WIPO), and any other intellectual property offices in which a foreign application claiming priority to the instant patent application is filed access to the instant patent application. See 37 CFR 1.14(c) and (h). This box should not be checked if the applicant does not wish the EPO, JPO, KIPO, WIPO, or other intellectual property office in which a foreign application claiming priority to the instant patent application claiming priority office in which a foreign application claiming priority to the instant patent application.

In accordance with 37 CFR 1.14(h)(3), access will be provided to a copy of the instant patent application with respect to: 1) the instant patent application-as-filed; 2) any foreign application to which the instant patent application claims priority under 35 U.S.C. 119(a)-(d) if a copy of the foreign application that satisfies the certified copy requirement of 37 CFR 1.55 has been filed in the instant patent application; and 3) any U.S. application-as-filed from which benefit is sought in the instant patent application.

In accordance with 37 CFR 1.14(c), access may be provided to information concerning the date of filing this Authorization.

# **Applicant Information:**

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.								
Applicant 1								
If the applicant is the inventor (or the remaining joint inventor or inventors under 37 CFR 1.45), this section should not be completed. The information to be provided in this section is the name and address of the legal representative who is the applicant under 37 CFR 1.43; or the name and address of the assignee, person to whom the inventor is under an obligation to assign the invention, or person who otherwise shows sufficient proprietary interest in the matter who is the applicant under 37 CFR 1.46. If the applicant is an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest) together with one or more joint inventors, then the joint inventor or inventors who are also the applicant should be identified in this section.								
Assignee		C Legal Representative un	der 3	5 U.S.C. 117	Joint Inventor			
O Person to whom the inv	ventor is oblig	ated to assign.	0	Person who shows s	sufficient proprietary interest			
If applicant is the legal re	epresentativ	ve, indicate the authority to f	ile the	e patent application,	the inventor is:			
Name of the Deceased or Legally Incapacitated Inventor :								
If the Applicant is an O	If the Applicant is an Organization check here.							
Organization Name	Organization Name VMR Products, LLC							
Mailing Address Info	rmation Fo	r Applicant:						
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Address 1	3050 Biscayne Blvd., 8th Floor			
Address 2				
City	Miami	State/Province FL		
Country <sup>i</sup> US		Postal Code	33137	
Phone Number		Fax Number		

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Application Da	ta Sheet 37 CFR 1.76	Attorney Docket Number	1617.VMRP0008P		
Application Da		Application Number			
Title of Invention	ELECTRONIC CIGARETTE				
Email Address					
Additional Applicant Data may be generated within this form by selecting the Add button.					

## **Non-Applicant Assignee Information:**

Providing assignment information in this section does not subsitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

## Assignee 1

Complete this section only if non-applicant assignee information is desired to be included on the patent application publication in accordance with 37 CFR 1.215(b). Do not include in this section an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest), as the patent application publication will include the name of the applicant(s).

If the Assignee is an Organization check here.							
Organization	Name	VMF	R Products, LLC				
Mailing Address Information For Non-Applicant Assignee:							
Address 1			3050 Biscayne Blvd., 8th Floor				
Address 2							
City		ſ	Miami	State/Province	FL		
Country <sup>i</sup>	US			Postal Code	33137		
Phone Number				Fax Number			
Email Address							
Additional Assignee Data may be generated within this form by selecting the Add button.							

## Signature:

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications.								
Signature	/A. Robert Weaver/	Date (YYYY-MM-DD)	2013-11-12					
First Name	Arthur	Registration Number	63123					
Additional Signature may be generated within this form by selecting the Add button.								

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Application Da	ta Shoot 37 CEP 1 76	Attorney Docket Number	1617.VMRP0008P
Application Data Sheet 37 CFR 1.76		Application Number	
Title of Invention	ELECTRONIC CIGARETTE		

This collection of information is required by 37 CFR 1.76. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 23 minutes to complete, including gathering, preparing, and submitting the completed application data sheet form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450**.

#### **ELECTRONIC CIGARETTE**

### FIELD OF THE INVENTION

**[0001]** This invention relates to the field of electronic cigarettes.

#### BACKGROUND

**[0002]** Electronic cigarettes have recently emerged as a new product for providing nicotine through a smokeless inhalation process. There are many embodiments of the electronic cigarette. Most implementations consist of a power supply (typically a battery) and an atomizing device. In reusable electronic cigarettes the two items are separated into a battery and a cartomizer, to allow the disposal and replacement of the nicotine containing fluid cartomizer while preserving the more costly battery and associated circuitry (microcontroller, switch, indicating LED, etc.) In disposable electronic cigarettes the two items are combined to integrate the functions into one unit that is disposed of after either the battery energy or the nicotine containing liquid is exhausted.

**[0003]** The liquid that is used to produce vapor in electronic cigarettes is a generally a solution of one or more of propylene glycol (PG) and/or vegetable glycerin (VG) and/or polyethylene glycol 400 (PEG400) mixed with concentrated flavors, and optionally, a variable percentage of a liquid nicotine concentrate. The solution is often sold in a bottle or in disposable cartridges or cartomizers. Many different flavors of such liquid are sold, including flavors that resemble the taste of regular tobacco, menthol, vanilla, coffee, cola and various fruits. Various nicotine concentrations are also available, and nicotine-free solutions are also common.

#### **BRIEF DESCRIPTION OF THE FIGURES**

**[0004]** FIG. 1 illustrates a longitudinal cross sectional view of an embodiment of an electronic cigarette with a first cartomizer inserted into a cartomizer chamber;

[0005] FIG. 1A illustrates a lateral cross sectional view of the electronic cigarette of FIG. 1 illustrating an electrical connector and magnets;

**[0006]** FIG. 1B illustrates a lateral cross sectional view of the electronic cigarette of FIG. 1 illustrating the end of the inserted cartomizer;

**[0007]** FIG. 1C illustrates a lateral cross sectional view of the electronic cigarette of FIG. 1 illustrating the cartomizer chamber;

**[0008]** FIG. 2 illustrates a longitudinal cross sectional view of an embodiment of a second cartomizer insertable into the cartomizer chamber of the electronic cigarette of FIG. 1;

**[0009]** FIG. 2A illustrates a lateral cross sectional view of the cartomizer of FIG. 2 illustrating the end of the cartomizer at the inserted in;

**[0010]** FIG. 2B illustrates a lateral cross sectional view of the cartomizer of FIG. 2 illustrating the airhole structure;

**[0011]** FIG. 3 illustrates a longitudinal cross sectional view of an embodiment of a battery portion for an electronic cigarette with an embodiment of a charger inserted into a cartomizer chamber;

[0012] FIGS 4-7 illustrate additional embodiments of an electronic cigarette;

[0013] FIG. 8 illustrates a longitudinal cross sectional view of an embodiment of an electronic cigarette;

[0014] FIG. 9 illustrates a longitudinal cross sectional view of the electronic cigarette of FIG. 8 with a charger attached;

**[0015]** FIG. 10 illustrates a longitudinal cross sectional view of an embodiment of a cartomizer;

[0016] FIG. 11 illustrates a longitudinal cross sectional view of an embodiment of a cartomizer

[0017] FIG. 12 illustrates an additional embodiment of an electronic cigarette;

**[0018]** FIG. 13 illustrates a longitudinal cross sectional view of an embodiment of an electronic cigarette;

[0019] FIG. 14 illustrates a longitudinal cross sectional view of the electronic cigarette of FIG. 8 with a charger attached; and

[0020] FIG. 15 illustrates an additional embodiment of an electronic cigarette.

#### **DETAILED DESCRIPTION**

**[0021]** The following detailed description and the appended drawings describe and illustrate exemplary embodiments of the invention solely for the purpose of enabling one of ordinary skill in the relevant art to make and use the invention. As such, the detailed description and illustration of these embodiments are purely exemplary in nature and are in no way intended to limit the scope of the invention, or its protection, in any manner. It should also be understood that the drawings are not to scale and in certain instances details have been omitted, which are not necessary for an understanding of the present invention, such as conventional details of fabrication and assembly.

[0022] With reference now to FIG. 1, an embodiment of an electronic cigarette 10 is provided in accordance with the disclosure. Electronic cigarette 10 may include a battery portion 100 connectable with a vaporization unit or cartomizer 200 for holding a vaporizable substance 300. Battery portion 100 may include a first battery housing segment 102 provided proximate to the first end 102A of battery portion 100, and a second cartomizer receiving segment 104 provided proximate a second end 104A of battery portion 100. Battery portion 100 may include an outer shell 106 for covering or protecting one or more of the components of battery portion 100 as may be internally provided as described herein. Outer shell 106 may be substantially constructed from metal, plastic, or any other known or to be developed material suitable for protecting internal components of electronic cigarette 10, including the electrical components described herein. First and second segments 102, 104 may commonly share outer shell 106. A cartomizer chamber 108 may provided within at least a portion of cartomizer receiving segment 104. A cartomizer 200 may be insertable into the cartomizer chamber 108 in accordance with embodiments of the disclosure. Shell 106 may cover cartomizer chamber 108 thereby protecting an inserted or received cartomizer 200.

**[0023]** Electrical components for operating electronic cigarette 10 may be provided within battery housing segment 102. A battery 110 may be provided in order to provide electrical power as may be required by various features of electronic cigarette 10. In some embodiments, battery 110 may be a disposable battery, such as an AA or AAA battery, while in other embodiments battery 110 may be a rechargeable battery, for example a 13450 lithium ion battery, an 18650 200mAh lithium ion cell, or flat lithium ion EVE 903180 cell rated at 2300 mAh. Multiple

batteries 110 may be used, for instance stacking two flat lithium ion batteries in order to generate more voltage to allow cartomizer 200 quickly obtain an vaporization temperature. A printed circuit board (PCB) 112 may also be provided for controlling one or more functions of electronic cigarette 10. PCB 112 may be electrically connected to battery 110 through circuitry in order to direct current flow as required in accordance with the disclosure. PCB 112 may include a light emitting diode (LED), a microcontroller, a plurality of capacitors, a plurality of transistors, and a plurality of resistors. Any known or to be discovered circuitry or arrangement of the components of PCB 112 are contemplated within the disclosure in order to achieve the desired functions of electronic cigarette 10 as described herein.

[0024] A variety of indicator lights forming one or more illuminative indicators may be provided in embodiments of the disclosure. One such indicator may be a battery end indicator 114 provided as a ring extending about at least a portion of shell 106 at or proximate to first end 102A. In one such embodiment, battery end indicator 114 may be provided at or proximate to first end 102A and includes one or more LED lights having one or more colors. Each color may, for instance, indicate a status of electronic cigarette 10. The status may be associated with the power remaining of battery 110, an activation state of electronic cigarette 10, the heating level of an inserted cartomizer 200, or any other status which may be desirable to communicate to a user of electronic cigarette 10 through a light color. For instance, when electronic cigarette 10 is activated such that a user is either actively inhaling cigarette 10, as described in accordance with disclosure, or cigarette 10 is in a state such that the user could inhale, indicator 114 may be red or reddish. In such an embodiment, battery end indicator 114 could extend about at least a portion of the first end 102A such that when indicator 114 emanates a red or reddish color a user may associate the red color at or proximate to first end 102A with the red glow of a lit cigarette. In another embodiment, indicator ring may be provided to illuminate one or more colors associated with the charge or power state of battery 110. For instance, battery end indicator 114 may illuminate green or blue when the battery is operating with a sufficient charge, and yellow or red when the battery is operating with a low charge such that the user should consider charging battery 110 in accordance with the disclosure. A ring indicator 116 may be provided on or proximate to an activation button 118, which may function to activate cigarette 10 as described herein in accordance with the disclosure. While activation button 118 may be provided on the surface of outer shell 106, and ring indicator 116 may substantially circumference button

118. Ring indicator 116 may include one or more LED lights having one or more colors to indicate various statuses of electronic cigarette 10. Status changes of electronic cigarette 10, such as insertion of cartomizer 200, activation of electronic cigarette 10 by pressing button 118, or deactivation of electronic cigarette 10 by pressing button 118 an additional time may each result in a different associated and predetermined color. The activation of the appropriate LED light or lights may be controlled by PCB 112. In embodiments where button 118 is coplanar or aligned with the surface of outer shell 106, as described herein, ring indicator 116 may also be coplanar or aligned with button 118 and the surface of outer shell 106. Another indicator light may be provided at or proximate to cartomizer end 104A. In one embodiment, in order to transmit a lighting effect from the battery segment 102, where battery 110 and PCB 112 may be housed, to the cartomizer end 104A, one or more LED lights may be provided in the cartomizer receiving segment 104 at or proximate to the battery segment 102. One or more clear tubes or optic fibers may be also be provided within or just below the surface of outer shell 106, with the tubes or fibers terminating at or proximate to the cartomizer end 104A. The resulting effect is an attractive, illuminative effect where the LED lights provided in the cartomizer segment are projected into and transmitted along the fibers. PCB 112 could potentially alternate or change the LED light colors projected into the fibers. The color alternation could be periodic, creating a steady change of colors, or the color alteration could be responsive to a status change of the electronic cigarette 10.

**[0025]** In order to provide an electrical connection between PCB 112 and an inserted cartomizer 200, an electrical connector 120 may be provided and may include a plurality of pogo pins 120. Pogo pins are devices used to establish connections between two circuits, and each may take the form of a cylinder containing one or more spring-loaded pins 122, each retractable upon compression, for instance by cartomizer 200 when it is inserted in cartomizer chamber 108. In one such embodiment, three pogo pins 122 may be provided, one for establishing positive current connection, one for establishing a negative current connection, and one for establishing a ground current connection. Each pogo pin 122 may be connected to PCB 112, which may control current outputted to pogo pins 122. When no cartomizer 200 is received in cartomizer chamber 108, a head portion of each pogo pin may extend into cartomizer chamber 108. When cartomizer 200 is received in cartomizer chamber 108, the pins 122 are contacted and at least partially compressed into battery portion 102. Pins 122 may be contacted or pressed against electrical

receivers provided on cartomizer 200 as described herein, thereby establishing an electrical connection between PCB 112 and cartomizer 200. Additional pins 122 are contemplated in embodiments of the disclosure, such as a fourth pin for providing an electrical connection to another element, such as the LED lights described above or a temperature sensor 260 described herein and illustrated in FIG. 2. Other known or to be developed devices or connectors are contemplated within the disclosure for establishing an electrical current between PCB 112 and cartomizer 200.

**[0026]** Various features may be further provided in embodiments of electronic cigarette 10 in order to secure and align cartomizer 200 within cartomizer chamber 108. For instance, at least one magnet 124 may be provided in or proximate to chamber 108. A magnet 202 of opposing polarity to magnet 124 may be placed on a surface of cartomizer 200 so as to secure cartomizer 200 within chamber 108 when magnets 124, 202 contact each other. Other known or to be discovered means of securing cartomizer 200 in cartomizer chamber 108 are contemplated within the disclosure, including but not limited to, snap fit connectors, friction fit, threaded insertion of cartomizer 200 into chamber 108, a suction fit using pressurized means or any other suitable method of securing known or to be developed in the art.

**[0027]** One or more alignment features or mechanism may be included in order to ensure proper placement of cartomizer 200 in cartomizer chamber 108. In one embodiment, two magnets 122 may be provided proximate to connector 120, each magnet 122 having an opposed polarity. In this embodiment, two cartomizer magnets 202 may be provided of opposing polarity at an insertion end 210 of cartomizer 200. Because of the opposing polarities of magnets 124/202, the cartomizer 200 may only be inserted and secured in one direction or orientation, thereby facilitating alignment of cartomizer 200 within chamber 108. An alignment protrusion or peg 126 may be provided on a portion of an interior surface of chamber 108, and an alignment slit or slot 204 may be provided on a portion of cartomizer 200. Alignment protrusion 126 may be dimensioned to fit or slid along slit 204 so that cartomizer 200 may only be inserted in a particular, proper orientation. Ensuring cartomizer 200 is properly oriented within chamber 108 in turn ensures proper contacting of cartomizer 200 with connector 120, and therefore proper functioning of electronic cigarette 10.

**[0028]** One or more windows 130 may be provided in outer shell 106. Windows 130 may be made of a translucent material, such as glass or substantially clear plastic, in order to view internal components of battery portion 100. For instance, in one embodiment, window 130 may be provided on or proximate to cartomizer receiving segment 104 and, more particularly, cartomizer chamber 108 so as to permit a user of electronic cigarette 10 to view the cartomizer 200 when it is inserted into cartomizer chamber 108.

**[0029]** One embodiment of cartomizer 200 for holding vaporizable material 300 is cartomizer 200A for holding a vaporizable fluid 300A, an embodiment of which is illustrated in FIG. 1. Vaporizable fluid 300A may be any known or to be developed fluid for use in an electronic cigarette, such as the solution described in the background portion of the instant application. Cartomizer 200A may be substantially elongate and insertable into chamber 108. An insertion end 210 of cartomizer 200A, defined opposite of a mouthpiece end 212, may inserted into the chamber first and may ultimately contact or be positioned proximate to connector 120 of battery portion 100. Cartomizer 200A may include a body 208 for holding fluid 300A. At least a portion of body 208 may be composed of translucent or substantially translucent material, such as glass or plastic, so that a user may see fluid 300A held within. The portion of body 208 composed of translucent material may be alignable with window 130 and may be proximate to LED lights or fiber optics so as to illuminate cartomizer 200A as it is inserted into chamber 108. The illumination may occur automatically upon insertion, or may be programmed to illuminate upon activation or manipulation of a switch, such as button 118.

**[0030]** In order to vaporize fluid 300A, a heating element 214 and a wicking element 216 may be provided within cartomizer body 208. An electrical current may be transmitted to heating element 214 through circuitry in electrical communication with electrical contacts 218, which contact pins 122 when cartomizer 200A is inserted in chamber 108. Once fluid 300A is heated to an optimal vaporizing temperature, the user may inhale the vaporized fluid 300A through a mouthpiece 220 provided on body 208 at or proximate to mouthpiece end 212. The vaporized fluid may travel through an inhalation tube 222 in fluid connection with heating element 214 and wick 216. Inhalation tube 222 may also be in fluid communication with one or more holes or ducts provided, for instance, in sides of shell 106 in order to permit air flow through cartomizer body 208. The electrical current transmitted to heating element 214 may be controlled by PCB 112 through connector 120 when cartomizer 200A is inserted into chamber 108. The electronic

cigarette 10 may be manually controlled, as a user may press button 118 which initiates a charge to heating element 214, which in turn may heat fluid 300A to a vaporized temperature which a user may inhale through mouthpiece 220. An automatically heating version of electronic cigarette 10 is also contemplated with disclosure, where a pressure switch integrated into connector 120 may activate current flow from PCB to heating element 214 rather than by manual activation from switch 118.

**[0031]** So that a user may refill fluid 300A held in body 208, mouthpiece 220 may be removable from body 208. Mouthpiece 220 include a screw thread 224 so that mouthpiece 220 may be threadably engaged with mouthpiece end 212 of body 208 or, alternatively, may be press fit onto or into mouthpiece end 212 of body 208. A bushing 226, which may be a ring formed from plastic, rubber, or any other suitable material, may be provided to help stabilize and retain cartomizer 200 tightly fit in chamber 108. Additionally, a colored ring 228 may be provided about a portion of cartomizer body 208 in order to identify the type or cartomizer being used.

[0032] With reference now to FIG. 2, an additional embodiment of cartomizer 200B is provided for holding a dry vaporizable material 300B, such as dry tobacco. A container 240 may be provided within cartomizer body 208. Container 240 may be made from a material having a high thermal conductivity, such as metal, in order to transmit heat from a heating element 214A provided about at least a portion of container 240. In that at least a portion of heating element 214A may be provided about at least a portion of container 240, the material 300B provided within container 240 may be heated from multiple sides, similar to an oven, as opposed to from a single concentrated heat source. As an electrical current is transmitted to heating element 214A, the interior of container 240 may be heated to a desired vaporizing temperature. Heating element 214A may be substantially compromised of a non-conductive material, such as a polyimide flex harness material, with a conductive material, such a copper or other metal wiring shaped into a wire or flat ribbon, dispersed throughout the non-conductive material. The conductive material may be intertwined or wound throughout the non-conductive material in order to increase the heated surface area as well as to increase the impedance of the conductive material, which may then be electrically connected to current provided by PCB 112 through connector 120 when cartomizer 200B is inserted in cartomizer chamber 108. The impedence value of the conductive material may be 2-3 ohms in some embodiments.

**[0033]** An insulating material 242 may be further provided within body 208 in order to control or regulate the heat distribution. Insulating material 242 may be provided around at least a portion of the exterior of heating element 240 in order to insulate body 208 from excess heat temperature, which may transmit to outer shell 106. Insulating material 242 may also be provided between heating element 242 and container 240 so as to regulate or control heat transmitted to container 240.

**[0034]** One or more screens 250 may be provided within body 208 in order to contain dry material 300B within container 240, as well as to filter circulated air. Air may be circulated by providing one or more holes 252 in the cartomizer body 208. In one embodiment, holes 252 form a "t" shape from which the center of the "t" is substantially aligned with a hole leading to container 240. Holes 252 may be alignable with one or more holes on the outer shell 106 of battery portion 100 so that air from the environment may pass through holes 252 and into container 240 where material 300B is provided. Holes 252 may be provided proximate to the inserted end 210. Screens 250 may be provided either at or proximate to inserted end 210, mouthpiece end 212, or both. In some embodiments, container 240 is removable from the rest of cartomizer body 208. Mouthpiece 220 may be removable or detachable, for instance through a screw thread, so as to permit access to container 240. An upper screen 250 may be attached or manufactured integrally with mouthpiece 220 so as to be removed with mouthpiece 220.

**[0035]** A temperature sensor 260 may be included in some embodiments of cartomizer 200. Sensor 260 may operate to sense vaporizing temperature, and may be electronically communicative with PCB 112 so as to provide sensory information to PCB 112, which may be consequently transmitted to one of the LED indicators provided in electronic cigarette 10 as described in accordance with the disclosure. For instance, indicator 118 may illuminate a certain color when sensor 260 has detected container 240 has reached vaporization temperature and the user may proceed to inhale the vaporized material 300. PCB 112 may also including safety protocols for automatic shutoff should sensor 260 record a temperature above a preset vaporization temperature range, which may indicate material 300 is actively burning or about to burn. A vaporization range for many materials 300 may be between about 190 degrees Celsius and about 240 degrees Celsius, and in some embodiments the vaporization temperature may be at about 230 degrees Celsius. In this vaporization temperature range, active ingredients of the

vaporization material 300 may begin to vaporize without actively burning, which may occur at about 400 degrees Celsius or higher for some material.

**[0036]** As shown in Figure 3, a charger 400 may be inserted into chamber 108 in order to charge battery 110 in embodiments where battery 110 may be rechargeable. Through its insertion into chamber 108 and contact with connector 120, charger 400 may provide an electrical charge to battery 110. Charger 400 may include a plug 410 for connecting charger 400 to a power source, which in one embodiment is a wall socket. Other plugs 410 for different power sources are contemplated within the disclosure including USB connections and other known or to be developed power sources. An indicator light 420, which may be an LED light, may be provided on charger 400 in order to indicate a charging status, for instance when charger 400 is connected with a power source. PCB 112 may operate to change other indicators, for instance LED indicators 114/116, to indicate the charging status of electronic cigarette 10.

**[0037]** Figures 4-7 illustrate additional embodiments of an electronic cigarette 10 in accordance with the disclosure.

**[0038]** Figures 8 and 9 illustrate an additional embodiment of an electronic cigarette 10 having a battery portion 100A for receiving a cartomizer 200, such as cartomizer 200B. PCB 112 may operate to perform a variety of functions including, such vaporization temperature control or regulation, voltage boost, accelerometer, or various drivers for controlling LED functioning. One or more LED indicators 114 may be provided and, in one embodiment, a set of three LED lights of variable colors are provided proximate to battery end 102A of the battery portion 100A. Magnets 124/202 may be provided in order to retain cartomizer 200 within cartomizer chamber 108. A switch 118A may be provided in order to manually activate or otherwise control electronic cigarette 10.

**[0039]** A battery charger 400A, having charging contacts 402, may be attached or connected to charging contacts 160 provided on outer shell 106, or otherwise exposable to the environment. In one embodiment, charging contacts 160 are positioned at or proximate to battery end 102A. Charging contacts 160, 402 may include a first positive contact and a second negative contact. In order to secure charging contacts 160 against corresponding charging contacts 402 of charger 400A, one or more magnets 162 may be provided proximate to charging contacts 160. Magnets 162 may then be engageable with charger magnets 404 provided on portion of charger 400A

such that magnets 162, 404 are adjacent to each other when contacts 160, 402 are contacting one another. In order to ensure the proper alignment of contacts 160, 402, two magnets 162 may be provided with opposed polarities, and two charger magnets 404 may be provided with opposed polarities. These opposed polarities may ensure proper orientation of charger 400A when it is connected to battery portion 100A. An indicator light 420, which may be an LED, may be provided to indicate a charging status of battery 110. A charging extension 410 may be provided so as to connect charger 400A to a power source or, alternatively, a power source may be internally provided within charger 400A. Charging extension 410 may be an AC wall adapter to USB and USB cord to magnetic plug. Any charger 400 of the disclosure may contain OverVoltage and OverCurrent protection in order to prevent over charging of battery 110 thereby assuring long battery life and in order to reduce the likelihood of battery 110 overheating. In one embodiment, charger 400 is rated at approximately 1000mA current, which for some embodiments will equate to approximately two hours of battery life. The battery life will vary depending on battery selection and number of batteries 110 used in a given embodiment.

**[0040]** Referring now to FIG. 10, an embodiment for a cartomizer 200C is provided for holding a vaporizable substance 300. Vaporizable substance 300 in cartomizer 200C may be a wax, oil or gel 300C. In cartomizer 200C, heating element 214 may be provided at the base of a basin 214B, which may or may not be removable from cartomizer body 208. Basin 214B may be dimensioned to hold gel 300C while heating element 214 may elevate or the temperature within basin 214B to a vaporization temperature range, as controlled by PCB 112. Once the gel 300C is vaporized, a user may inhale the vapor through an inhalation tube 222 and out through mouthpiece 220. In some embodiments, mouthpiece 220 is removable through a friction fit, threaded connection, or any other known or to be developed connection means. One or more oring seals may also be provided proximate to the mouthpiece to ensure a fluid tight connection between mouthpiece 220 and cartomizer body 208.

**[0041]** FIG. 11 shows an additional embodiment of a cartomizer 200D for holding a dry vaporizable substance 300B. Dry substance 300B may be held in a removable liner or container 240. Cartomizer 200D may also include heating element 214A and insulation material 242, each of which may be similarly provided and oriented as previously described with respect to cartomizer 200B. An air flow hole or aperture 270 may be provided at the base of cartomizer

200D. This airflow hole 270 may be provided off plane or misaligned with respect to electrical contacts 218. Airflow hole 270 may align with a hole between chamber 108 and battery portion 102, which may house a fan 190 as described below. A temperature sensor 260 may also be included.

**[0042]** FIG. 12 illustrates an additional embodiment of an electronic cigarette 10.

[0043] Referring now to FIG. 13, an embodiment of an electronic cigarette 10 including a battery portion 100B is provided. PCB 112 may include a microcontroller, voltage boost integrated circuit, accelerometer, and a Fan control circuitry. A fan 190, including blades and a motor, may be provided internally in battery segment 102 of battery portion 100. Fan 190 may operate to facilitate air flow from external battery portion 100, such as through one or more holes 152 provided in outer shell 106, through battery segment 102 and into cartomizer 200 thereby establishing an air flow for inhalation in accordance with the disclosure. In some embodiments, fan 190 has a reversible operation in order to "clear" the air flow path in the event debris or excess vapor is caught in the air flow path. PCB 112 may also include one or more switches that, for instance, may be provided beneath control buttons, such as button 118. PCB 112 may also include one or more LED's for switch light 116. PCB 112 may also operate to display a status message on an LED screen, which may be provided on outer shell 106. A status message may, for example, includes messages to indicate a status of the electronic cigarette 10, such as when the cigarette 10 is activated, charging, or has reached a vaporization temperature. An LED screen may also display warning or error messages, for instance a danger message when a critical temperature has been dedicated by sensor 260. Further, as illustrated in FIG. 14. Charger 400A may be utilized for charging battery 110 in battery portion 100C. It should be understood and appreciated that, in some embodiments, charger 400 may be inserted into chamber 108 of battery portions 100A/100B in addition to connection of charger 400A as described herein.

**[0044]** FIG. 15 illustrates an additional embodiment of an electronic cigarette 10.

**[0045]** The descriptions set forth above are meant to be illustrative and not limiting, and persons of skill in the art will recognize that various common and known deviations from the above described structures are considered to be within the scope of the disclosed concepts described herein.

[0046] The invention illustratively disclosed herein suitably may be practiced in the absence of any element which is not specifically disclosed herein. The invention illustratively disclosed herein suitably may also be practiced in the absence of any element which is not specifically disclosed herein and that does not materially affect the basic and novel characteristics of the claimed invention.

















3/8



# **FIG.** 6





NJOY Exhibit 1006.027

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FIG. 12







FIG. 15

Electronic Patent Application Fee Transmittal						
Application Number:						
Filing Date:						
Title of Invention:	ELECTRONIC CIGARETTE					
First Named Inventor/Applicant Name:	Jan Andries Verleur					
Filer:     Arthur Robert Weaver/Monica Farrell						
Attorney Docket Number:	1617.VMRP0008P					
Filed as Small Entity						
Provisional Filing Fees						
Description		Fee Code	Quantity	Amount	Sub-Total in USD(\$)	
Basic Filing:						
Provisional Application Filing Fee		2005	1	130	130	
Pages:						
Claims:						
Miscellaneous-Filing:						
Petition:						
Patent-Appeals-and-Interference:						
Post-Allowance-and-Post-Issuance:						
Extension-of-Time:						

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Miscellaneous:				
	Total in USD (\$)			130

Electronic Acknowledgement Receipt				
EFS ID:	17384740			
Application Number:	61903344			
International Application Number:				
Confirmation Number:	1092			
Title of Invention:	ELECTRONIC CIGARETTE			
First Named Inventor/Applicant Name:	Jan Andries Verleur			
Customer Number:	44338			
Filer:	Arthur Robert Weaver/Monica Farrell			
Filer Authorized By:	Arthur Robert Weaver			
Attorney Docket Number:	1617.VMRP0008P			
Receipt Date:	12-NOV-2013			
Filing Date:				
Time Stamp:	21:06:44			
Application Type:	Provisional			

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Electronic Acl	Electronic Acknowledgement Receipt				
EFS ID:	17437963				
Application Number:	61903344				
International Application Number:					
Confirmation Number:	1092				
Title of Invention:	ELECTRONIC CIGARETTE				
First Named Inventor/Applicant Name:	Jan Andries Verleur				
Customer Number:	44338				
Filer:	Arthur Robert Weaver				
Filer Authorized By:					
Attorney Docket Number:	1617.VMRP0008P				
Receipt Date:	19-NOV-2013				
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Time Stamp:	11:18:20				
Application Type:	Provisional				

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2	Power of Attorney	POA.pdf	1011817	no	1
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Application Numb	er	61/903,344			
Filing Date		November 12, 2013			
First Named Inver	ntor	Jan Andries Verleur			
Title		ELECTRONIC CIGARETTE			
Art Unit		not applicable			
Examiner Name		not applicable			
Attorney Docket N	lumber	1617.VMRP0008P			
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Name	Arthur R	obert Weaver	Registration Number	63,123	
Title (if Applicant is a juristic entity)					
Applicant Name (if Applicant is a juristic entity)				amonto and partifications. If	
<b>NOTE:</b> This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4(d) for signature requirements and certifications. If more than one applicant, use multiple forms.				ements and certifications. If	
✓ *Total of <u>01</u> forms are submitted.					

This collection of information is required by 37 CFR 1.131, 1.32, and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450**.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



Receipt is acknowledged of this provisional patent application. It will not be examined for patentability and will become abandoned not later than twelve months after its filing date. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections

Inventor(s)

Jan Andries Verleur, Miami Beach, FL; Dan Recio, Miami, FL; Fred Lu, Miami, FL; Yinjun Zhang, Miami, FL; Arturo Fajardo, Miami, FL; Hans Verleur, El Dorado, CA;

#### Applicant(s)

VMR Products, LLC, Miami, FL

Power of Attorney: The patent practitioners associated with Customer Number 44338

#### If Required, Foreign Filing License Granted: 12/03/2013

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 61/903,344** 

Projected Publication Date: None, application is not eligible for pre-grant publication

Non-Publication Request: No

Early Publication Request: No \*\* SMALL ENTITY \*\* Title

### ELECTRONIC CIGARETTE

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications: No

## PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at http://www.uspto.gov/web/offices/pac/doc/general/index.html.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, http://www.stopfakes.gov. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4258).

## LICENSE FOR FOREIGN FILING UNDER

## Title 35, United States Code, Section 184

## Title 37, Code of Federal Regulations, 5.11 & 5.15

### **GRANTED**

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

page 2 of 3

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign AssetsControl, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

### NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

## SelectUSA

The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The U.S. offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to promote and facilitate business investment. SelectUSA provides information assistance to the international investor community; serves as an ombudsman for existing and potential investors; advocates on behalf of U.S. cities, states, and regions competing for global investment; and counsels U.S. economic development organizations on investment attraction best practices. To learn more about why the United States is the best country in the world to develop technology, manufacture products, deliver services, and grow your business, visit <a href="http://www.SelectUSA.gov">http://www.SelectUSA.gov</a> or call +1-202-482-6800.

page 3 of 3

UNITED ST	ates Patent and Trademai	UNITED STA' United States Address: COMMIS P.O. Box 1	, Virginia 22313-1450
APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
61/903,344	11/12/2013	Jan Andries Verleur	1617.VMRP0008P
			<b>CONFIRMATION NO. 1092</b>
44338		POA ACCI	EPTANCE LETTER
FELDMAN GALE, P.A. 1700 Market Street Suite 3130 Philadelphia, PA 19103			⊃C000000065334107*

Date Mailed: 12/06/2013

## NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 11/19/2013.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

/kung/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

# TRANSMITTAL FOR POWER OF ATTORNEY TO ONE OR MORE REGISTERED PRACTITIONERS

NOTE: This form is to be submitted with the Power of Attorney by Applicant form (PTO/AIA/82B) to identify the application to which the Power of Attorney is directed, in accordance with 37 CFR 1.5, unless the application number and filing date are identified in the Power of Attorney by Applicant form. If neither form PTO/AIA/82A nor form PTO/AIA82B identifies the application to which the Power of Attorney is directed, the Power of Attorney will not be recognized in the application.

Application Numb	er	61/903,344		
Filing Date		11-12-2013		
First Named Inver	ntor	Jan Andries Verleur		
Title		ELECTRONIC CIGARETTE		
Art Unit				
Examiner Name				
Attorney Docket N	lumber	55755-402P01US		
SIGNATU	RE of A	oplicant or Patent Practitioner		
Signature	/Alex	ander G. Roan/	Date (Optional)	11/16/2018
Name	Alexand	er G. Roan	Registration Number	75,772
Title (if Applicant is a juristic entity)				
Applicant Name (if Applicant is a juristic entity)         NOTE:       This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4(d) for signature requirements and certifications. If			ements and certifications. If	
more than one applicant, use multiple forms.         Image: Total of 1 forms are submitted.				

This collection of information is required by 37 CFR 1.131, 1.32, and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450**.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

### Doc Code: PA.. Document Description: Power of Attorney

PTO/AIA/82B (07-13)
Description: Power of Attorney
Approved for use through 01/31/2018. OMB 0651-0035
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number

In hereby revoke all previous powers of attorney given in the application identified in gither the attached transmittal letter or the boxes below.         Application Number       Filing Date         (Note: The boxes above may be left blank if information is provided on form PTO/AL/482A.)       Inhereby appoint the Patent Practitioner(s) associated with the following Customer Numbers any/our attorney(s) or agent(s), and to transact all business in the United States Patent and Tademark Office connected therewith for the epplication referenced in the attached transmittal letter (form PTO/AL/482A) or identified above.         OR       Inhereby appoint the Practitioner(s) named in the attached its (form PTO/AL/482C) as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Tademark Office connected therewith for the patent application referenced in the attached transmittal letter (form PTO/AL/482C) are my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith fort he patent application referenced in the attached transmittal letter (form PTO/AL/482C) are my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith fort he patent application identified in the attached transmittal letter or the boxes above to:         Image:       Inhereby appoint the patent application attransmittal ident (form PTO/AL/482C) are my/our attorney (s) or agent(s), and to transact all business associated with the above-mentioned Customer Number         Image:       Inhereby applicits the network of the patent application at a state and the attached transmittal ident (form PTO/AL/482C) are my/our attransmittal attra (form PTO/AL/482C) are my/our attransmittal a	POWER OF ATTORNEY BY APPLICANT					
(Note: The boxes above may be left blank if information is provided on form PTO/AI/M2A.) <ul> <li>Ihereby appoint the Patent Practitioner(s) associated with the following Customer Number as my/our attorney(s) or agent(s), and to transact all business in the United Stales Patent and Trademark Office connected therewith for the application referenced in the attached transmittal latter (form PTO/AI/M2A) or identified above:               OR             148514               Ihereby appoint Practitioner(s) named in the attached list (form PTO/AI/M2A) or identified above:             <li>(Note: Complete form PTO/AI/M2A) or identified above:</li> <li>(Note: Complete form PTO/AI/M2A) or identified above. (Note: Complete form PTO/AI/M2AC)</li> </li></ul> Please recognize or change the correspondence address for the application identified in the attached transmittal latter (form PTO/AI/M2A) or identified above. (Note: Complete form PTO/AI/M2AC)               Image:             OR               Image: <ld>OR               If maddress associated with the above-mentioned Customer Number             <ld>OR               OR             Individual Name               Address             Individual Name          <t< td=""><td></td><td>vious powers of attorney given</td><td>in the applicatio</td><td>n identified in <u>eith</u></td><td><u>er</u> the attache</td><td>d transmittal letter or</td></t<></ld></ld>		vious powers of attorney given	in the applicatio	n identified in <u>eith</u>	<u>er</u> the attache	d transmittal letter or
I hereby appoint the Patent Practitioner(s) associated with the following Customer Number as mytour attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above: [148514         OR       [148514         I hereby appoint Practitioner(s) named in the attached list (form PTO/AIA/82C) as mytour attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the patent application referenced in the attached transmittal letter (form PTO/AIA/82C) or identified above. (Note: Complete form PTO/AIA/82C.)         Please recognize or change the correspondence address for the application identified in the attached transmittal letter or the boxes above to:         Image: The address associated with Customer Number         OR         Firm or         Individual Name         Address         City       State         Country         Telephone         Lam the Applicant (if the Applicant is a juristic entity, list the Applicant name in the box):         VMR Products LLC         Inventor or Joint Inventor (stile not required below)         Legal Representative of a Deceased or Legality Incapacitated Inventor (title not required below)         Assignee or Person to Whom the Inventor is Under an Obligation to Assign (provide signer's title if applicant is a juristic entity).         SiconArtUne of Applicant (or Patient Formari	A	pplication Number	Ę	Filing Date		
OR         Firm or Individual Name         Address         City       State         Cauntry         Country         Telephone         I am the Applicant (if the Applicant is a juristic entity, list the Applicant name in the box):         VMR Products LLC         Inventor or Joint Inventor (title not required below)         Legal Representative of a Deceased or Legally Incapacitated Inventor (title not required below)         Assignee or Person to Whom the Inventor is Under an Obligation to Assign (provide signer's title if applicant is a juristic entity)         Person Who Otherwise Shows Sufficient Proprietary Interest (e.g., a petition under 37 CFR 1.46(b)(2) was granted in the application or is concurrently being filed with this document) (provide signer's title if applicant is a juristic entity)         SIGNATURE of Applicant for Patent         The undersigned (whose title & stipplier below) is authorized to act on behalf of the applicant (e.g., where the applicant is a juristic entity).         Signature       Image: Date (Optional)         Marne       Timoffy S. Danaher         Title       Manager         NoTE;       Signature than one applicant, use multiple forms.         I'total of 1       forms are submitted.	I hereby appoint to transact all but the attached transact all but the attached transact all business in the attached transact all business in the attached transact all business in the attached transact att	t the Patent Practitioner(s) associa usiness in the United States Paten nsmittal letter (form PTO/AIA/82A) t Practitioner(s) named in the attac he United States Patent and Trade hittal letter (form PTO/AIA/82A) or i change the correspondence bove to:	ted with the follow t and Trademark ( or identified abov ched list (form PTC mark Office conne identified above. ( address for the	ing Customer Numb Difice connected the e: 148514 D/AIA/82C) as my/ou acted therewith for th Note: Complete for a application iden	per as my/our a rewith for the a rewith	pplication referenced in agent(s), and to transact cation referenced in the C.)
Address       City       State       Zip         Country       Email       Image: Country       Email       Image: Country         Telephone       Email       Email       Image: Country       Image: Country         I am the Applicant (if the Applicant is a juristic entity, list the Applicant name in the box):       Image: Country       Image: Count	OR Firm or	[				
Country       Email         Telephone       Email         I am the Applicant (if the Applicant is a juristic entity, list the Applicant name in the box):       Image: Country         VMR Products LLC       Inventor or Joint Inventor (title not required below)         Legal Representative of a Deceased or Legally Incapacitated Inventor (title not required below)         Assignee or Person to Whom the Inventor is Under an Obligation to Assign (provide signer's title if applicant is a juristic entity)         Person Who Otherwise Shows Sufficient Proprietary Interest (e.g., a petition under 37 CFR 1.46(b)(2) was granted in the application or is concurrently being filed with this document) (provide signer's title if applicant is a juristic entity)         SIGNATURE of Applicant for Patent         The undersigned (whose title/b supplied below) is authorized to act on behalf of the applicant (e.g., where the applicant is a juristic entity).         Signature       Image: Date (Optional)         Note:       Signature - This form must be signed by the applicant in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. If more than one applicant, use multiple forms.         It Total of 1       forms are submitted.						
Telephone       Email         I am the Applicant (if the Applicant is a juristic entity, list the Applicant name in the box):       Image: Constraint of the Applicant is a juristic entity, list the Applicant name in the box):         VMR Products LLC       Inventor or Joint Inventor (title not required below)         Legal Representative of a Deceased or Legally Incapacitated Inventor (title not required below)         Assignee or Person to Whom the Inventor is Under an Obligation to Assign (provide signer's title if applicant is a juristic entity)         Person Who Otherwise Shows Sufficient Proprietary Interest (e.g., a petition under 37 CFR 1.46(b)(2) was granted in the application or is concurrently being filed with this document) (provide signer's title if applicant is a juristic entity)         SiGNATURE of Applicant for Patent         The undersigned (whose title is applicating plow) is authorized to act on behalf of the applicant (e.g., where the applicant is a juristic entity).         Signature       Image: Date (Optional)         Manager       Manager         NOTE: Signature - This form must be signed by the applicant in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. If more than one applicant, use multiple forms.         Image: Total of 1       forms are submitted.			State		Zip	
I am the Applicant (if the Applicant is a juristic entity, list the Applicant name in the box):         VMR Products LLC         Inventor or Joint Inventor (title not required below)         Legal Representative of a Deceased or Legally Incapacitated Inventor (title not required below)         Assignee or Person to Whom the Inventor is Under an Obligation to Assign (provide signer's title if applicant is a juristic entity)         Person Who Otherwise Shows Sufficient Proprietary Interest (e.g., a petition under 37 CFR 1.46(b)(2) was granted in the application or is concurrently being filed with this document) (provide signer's title if applicant is a juristic entity)         SIGNATURE of Applicant for Patent         The undersigned (whose title/s supplies Delow) is authorized to act on behalf of the applicant (e.g., where the applicant is a juristic entity).         Signature         Mame         Title       Manager         NOTE:       Signature - This form must be signed by the applicant in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. If more than one applicant, use multiple forms.         Total of       1			Erosi		******	**************************************
Legal Representative of a Deceased or Legally Incapacitated Inventor (title not required below)         ✓       Assignee or Person to Whom the Inventor is Under an Obligation to Assign (provide signer's title if applicant is a juristic entity)         Person Who Otherwise Shows Sufficient Proprietary Interest (e.g., a petition under 37 CFR 1.46(b)(2) was granted in the application or is concurrently being filed with this document) (provide signer's title if applicant is a juristic entity)         SIGNATURE of Applicant for Patent         The undersigned (whose title/b supplier pelow) is authorized to act on behalf of the applicant (e.g., where the applicant is a juristic entity).         Signature       Max         Timothy S. Danaher         Title       Manager         NOTE:       Signature - This form must be signed by the applicant in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. If more than one applicant, use multiple forms.         ✓       Total of       1	I am the Applicant (if the		~~~~~~			
The undersigned (whose title/ts supplies below) is authorized to act on behalf of the applicant (e.g., where the applicant is a juristic entity).         Signature       Date (Optional)       /0/4//3         Name       Timothy S. Danaher       /0/4//3         Title       Manager         NOTE:       Signature - This form must be signed by the applicant in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. If more than one applicant, use multiple forms.         Image:       Image: Total of 1       forms are submitted.	Legal Represer	ntative of a Deceased or Legally In rson to Whom the Inventor is Unde herwise Shows Sufficient Propriets concurrently being filed with this c	capacitated Invent er an Obligation to ary Interest (e.g., a locument) (provide	Assign (provide sign petition under 37 C a signer's title if appl	ner's title if app FR 1.46(b)(2) v	was granted in the
Signature     Max     Date (Optional)     /0/4//ð       Name     Timothy S. Danaher						
Title       Manager         NOTE:       Signature - This form must be signed by the applicant in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. If more than one applicant, use multiple forms.         Image: Total of 1       forms are submitted.		the X du				
NOTE:       Signature - This form must be signed by the applicant in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. If more than one applicant, use multiple forms.         ✓       Total of       1         forms are submitted.       1	Name	Timothy S. Danaher				
	NOTE: Signature - Th	is form must be signed by the applic		with 37 CFR 1.33. Se	e 37 CFR 1.4 fo	r signature requirements
			The information is require	red to obtain or retain a be	nefit by the public	which is to file (and by the

USP 10 to process) an application. Contridentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450, DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Electronic Acknowledgement Receipt				
EFS ID:	34328690			
Application Number:	61903344			
International Application Number:				
Confirmation Number:	1092			
Title of Invention:	ELECTRONIC CIGARETTE			
First Named Inventor/Applicant Name:	Jan Andries Verleur			
Customer Number:	44338			
Filer:	Alexander Roan			
Filer Authorized By:				
Attorney Docket Number:	1617.VMRP0008P			
Receipt Date:	23-NOV-2018			
Filing Date:	12-NOV-2013			
Time Stamp:	16:39:10			
Application Type:	Provisional			

# Payment information:

Submitted wit	th Payment	no				
File Listing	g:					
Document Number	Document Description		File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
				802092		
1	Power of Attorney	5	55755-402P01US_POA.pdf	b259bd3114edfd001b1b7f197b36be82a3a 8d4dd	no	2
Warnings:				<u>ا</u>		

# NJOY Exhibit 1006.046

Information:	
Total Files Size (in bytes):	802092

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

### New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course. New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

UNITED STATES PATENT AND TRADEMARK OFFICE UNITED STATES DEPARTMENT OF COMMER United States Patent and Trademark Office Address. COMMISSIONER FOR PATENTS PO. Box 1450 Alexandria, Virginia 22313-1450 www.usplo.ew					
APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE		
61/903,344	11/12/2013	Jan Andries Verleur	1617.VMRP0008P		
44338		POWER O	CONFIRMATION NO. 1092 F ATTORNEY NOTICE		
Feldman Gale, P.A. 2 SOUTH BISCAYNE BOULEVARD					

2 SOUTH BISCAYNE BOULEVARD ONE BISCAYNE TOWER, 30TH FLOOR Miami, FL 33131

Date Mailed: 11/28/2018

## NOTICE REGARDING CHANGE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 11/23/2018.

• The Power of Attorney to you in this application has been revoked by the applicant. Future correspondence will be mailed to the new address of record(37 CFR 1.33).

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at (571) 272-4000 or (571) 272-4200 or 1-888-786-0101.

/agizaw/

UNITED ST	ates Patent and Tradema	UNITED STA' United States Address: COMMIS P.O. Box I	a, Virginia 22313-1450
APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
61/903,344	11/12/2013	Jan Andries Verleur	55755-402P01US
			<b>CONFIRMATION NO. 1092</b>
148514		POA ACCI	EPTANCE LETTER
Mintz/JUUL/PAX One Financial Center Boston, MA 02111			C000000104057543*

Date Mailed: 11/28/2018

## NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 11/23/2018.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at (571) 272-4000 or (571) 272-4200 or 1-888-786-0101.

/agizaw/