

UTILITY PATENT APPLICATION TRANSMITTAL	Attorney Docket No. R60999 1400US.C4 (1383.3)
	First Inventor: John Howard Robinson
	Title: TOBACCO-CONTAINING SMOKING ARTICLE
	FILED VIA EFS

ADDRESS TO: **COMMISSIONER FOR PATENTS**
P.O. BOX 1450
ALEXANDRIA, VA 22313-1450

Transmitted herewith for filing in the United States Patent Office is a utility patent application.

Inventors: John Howard Robinson, David William Griffith, Jr., Billy Tyrone Conner, Evon Llewellyn Crooks, Dempsey Bailey Brewer, Jr.
Assignee of this invention is RAI Strategic Holdings, Inc.

1. The Filing Fee has been calculated as shown below:
2. Applicant claims Small Entity Status. See 37 CFR 1.27.

		Small Entity		Large Entity		
	No. Filed	No. Extra	Rate	Fee 0	Rate	Fee 1
BASIC FEE				\$ 0		\$ 280
SEARCH FEE				\$ 0		\$ 600
EXAMINATION FEE				\$ 0		\$ 720
TOTAL CLAIMS:		30 - 20 =	10	X 40 = \$ 0		x 80 = \$ 800
INDEP CLAIMS:		2 - 3 =	0	X 210 = \$ 0		x 420 = \$ 0
APPLICATION SIZE FEE	If the specification, drawings, and sequence listing exceed 100 sheets of paper, the application size fee due is \$400 (\$200 for small entity) for each additional 50 sheets or fraction thereof.					
<input type="checkbox"/> MULTIPLE DEPENDENT CLAIMS PRESENTED				+390 = \$		+780 = \$
*If the difference in Column 1 is less than zero, enter "0" in Column 2.				TOTAL \$		TOTAL \$ 2400

The Commissioner is hereby authorized to credit overpayments or charge the following fees to Deposit Acct. No. 09-0528.

- a. Fees required under 37 CFR 1.16 (National filing fees).
b. Fees required under 37 CFR 1.17 (National application processing fees) including any extension of time fees under 37 CFR § 1.136(a) that are required for consideration of papers filed during prosecution.
- A check in the amount of \$ ___ for the filing fee is enclosed.
 The filing fees are being authorized when e-filing.
 The above filing fee will be paid along with Applicant(s) Response to the Notice to File Missing Parts.

3. Specification; Total Pages 49
4. 5 Sheets of Drawing(s) (35 USC 113)
5. Declaration and Power of Attorney; [Total Pages]
- a. Newly executed (original or copy)
- b. Copy from a prior application (37 CFR 1.63(d))
(for continuation/divisional with Box 18 completed)
- i. DELETION OF INVENTOR(S) Signed statement attached deleting inventor(s) named in the prior application, see 37 CFR 1.63(d)(2) & 1.33(b).
6. Application Data Sheet. See 37 CFR 1.76
7. CD-ROM or CD-R in duplicate, large table or Computer Program (Appendix)
 Landscape Table on CD
8. Nucleotide and/or Amino Acid Sequence Submission (if applicable, all necessary)
- a. Computer Readable Form (CRF)
- b. Request for Transfer of Computer Readable Form of Sequence Listing under 37 CFR § 1.821(e) and MPEP 2422.05 (must be compliant with new rules)
- c. Specification Sequence Listing on:
- i. CD-ROM or CD-R (2 copies); or
- ii. Paper
- iii. Electronic Text File Submission
- d. Statements verifying identity of above copies

ACCOMPANYING APPLICATION PARTS

9. Assignment Papers (cover sheet & document(s) (including \$40.00 fee)
Name of Assignee
10. 37 CFR 3.73(b) Statement and General Power of Attorney by Assignee. OR
 Application Specific Power of Attorney by Assignee
11. English Translation Document (if applicable)
12. Information Disclosure Statement (IDS)/PTO-1449; IDS Coversheet
13. Preliminary Amendment
14. Return Receipt Postcard (MPEP 503) (Should be specifically itemized)
15. Certified Copy of Priority Document(s) (if foreign priority is claimed)
 Foreign Priority is claimed as Application No. , filed
16. Nonpublication Request under 35 U.S.C. 122(b)(2)(B)(i).
Applicant **must** attach form PTO/SB35 or its equivalent.
17. Request for Early Publication Under 37 CFR § 1.219. Fee of \$300.00 is enclosed.
18. **If a CONTINUING APPLICATION, check appropriate box and supply the requisite information below and in a preliminary amendment, or in an Application Data Sheet under 37 CFR 1.76:**
 Continuation Divisional Continuation in Part (CIP)

of prior Application No: 14/527,287; Filed October 29, 2014

Prior Application Information: Examiner Phu Hoang Nguyen Group/Art Unit: 1747

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

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	R60999 1400US.C4 (1383.3)
	Application Number	
Title of Invention	TOBACCO CONTAINING SMOKING ARTICLE	
<p>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.</p>		

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:

Inventor	1				Remove
Legal Name					
Prefix	Given Name	Middle Name	Family Name	Suffix	
	John	Howard	Robinson		
Residence Information (Select One) <input checked="" type="radio"/> US Residency <input type="radio"/> Non US Residency <input type="radio"/> Active US Military Service					
City	Kernersville	State/Province	NC	Country of Residence	US

Mailing Address of Inventor:

Address 1	604 Antler Court				
Address 2					
City	Kernersville	State/Province	NC		
Postal Code	27284	Country i	US		

Inventor	2				Remove
Legal Name					
Prefix	Given Name	Middle Name	Family Name	Suffix	
	David	William	Griffith	Jr.	
Residence Information (Select One) <input checked="" type="radio"/> US Residency <input type="radio"/> Non US Residency <input type="radio"/> Active US Military Service					
City	Winston-Salem	State/Province	NC	Country of Residence	US

Mailing Address of Inventor:

Address 1	4130 White Hawk Lane				
Address 2					
City	Winston-Salem	State/Province	NC		
Postal Code	27106	Country i	US		

Inventor	3				Remove
Legal Name					
Prefix	Given Name	Middle Name	Family Name	Suffix	
	Billy	Tyrone	Conner		
Residence Information (Select One) <input checked="" type="radio"/> US Residency <input type="radio"/> Non US Residency <input type="radio"/> Active US Military Service					

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	R60999 1400US.C4 (1383.3)
		Application Number	
Title of Invention	TOBACCO CONTAINING SMOKING ARTICLE		

City	Clemmons	State/Province	NC	Country of Residence	US
------	----------	----------------	----	----------------------	----

Mailing Address of Inventor:

Address 1	180 Scott Farm Road				
Address 2					
City	Clemmons	State/Province	NC	Country	US
Postal Code	27012	Country	US		

Inventor	4	<input type="button" value="Remove"/>
----------	---	---------------------------------------

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Evon	Llewellyn	Crooks	

Residence Information (Select One)	<input checked="" type="radio"/> US Residency	<input type="radio"/> Non US Residency	<input type="radio"/> Active US Military Service
---	---	--	--

City	Mocksville	State/Province	NC	Country of Residence	US
------	------------	----------------	----	----------------------	----

Mailing Address of Inventor:

Address 1	749 Howell Road				
Address 2					
City	Mocksville	State/Province	NC	Country	US
Postal Code	27028	Country	US		

Inventor	5	<input type="button" value="Remove"/>
----------	---	---------------------------------------

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Dempsey	Bailey	Brewer	Jr.

Residence Information (Select One)	<input checked="" type="radio"/> US Residency	<input type="radio"/> Non US Residency	<input type="radio"/> Active US Military Service
---	---	--	--

City	East Bend	State/Province	NC	Country of Residence	US
------	-----------	----------------	----	----------------------	----

Mailing Address of Inventor:

Address 1	2853 Davis Road				
Address 2					
City	East Bend	State/Province	NC	Country	US
Postal Code	27018	Country	US		

All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the Add button.		<input type="button" value="Add"/>
---	--	------------------------------------

Correspondence Information:

Enter either Customer Number or complete the Correspondence Information section below. For further information see 37 CFR 1.33(a).
--

<input type="checkbox"/> An Address is being provided for the correspondence information of this application.	Philip Morris Products, S.A.
---	------------------------------

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

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	R60999 1400US.C4 (1383.3)
		Application Number	
Title of Invention	TOBACCO CONTAINING SMOKING ARTICLE		

Customer Number	26158		
Email Address	patentdocketing@wcsr.com	<input type="button" value="Add Email"/>	<input type="button" value="Remove Email"/>

Application Information:

Title of the Invention	TOBACCO CONTAINING SMOKING ARTICLE		
Attorney Docket Number	R60999 1400US.C4 (1383.3)	Small Entity Status Claimed	<input type="checkbox"/>
Application Type	Nonprovisional		
Subject Matter	Utility		
Total Number of Drawing Sheets (if any)	5	Suggested Figure for Publication (if any)	1

Filing By Reference:

Only complete this section when filing an application by reference under 35 U.S.C. 111(c) and 37 CFR 1.57(a). Do not complete this section if application papers including a specification and any drawings are being filed. Any domestic benefit or foreign priority information must be provided in the appropriate section(s) below (i.e., "Domestic Benefit/National Stage Information" and "Foreign Priority Information").

For the purposes of a filing date under 37 CFR 1.53(b), the description and any drawings of the present application are replaced by this reference to the previously filed application, subject to conditions and requirements of 37 CFR 1.57(a).

Application number of the previously filed application	Filing date (YYYY-MM-DD)	Intellectual Property Authority or Country

Publication Information:

<input type="checkbox"/> Request Early Publication (Fee required at time of Request 37 CFR 1.219)
<input type="checkbox"/> 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:

<p>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.</p>
--

Please Select One:	<input checked="" type="radio"/> Customer Number	<input type="radio"/> US Patent Practitioner	<input type="radio"/> Limited Recognition (37 CFR 11.9)
Customer Number	26158		

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	R60999 1400US.C4 (1383.3)
		Application Number	
Title of Invention	TOBACCO CONTAINING SMOKING ARTICLE		

Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, 365(c), or 386(c) or indicate National Stage entry from a PCT application. Providing benefit claim 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.

When referring to the current application, please leave the "Application Number" field blank.

Prior Application Status	Pending					Remove
Application Number	Continuity Type	Prior Application Number	Filing or 371(c) Date (YYYY-MM-DD)			
	Continuation of	14527287	2014-10-29			
Prior Application Status	Patented					Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)	
14527287	Continuation of	13297983	2011-11-16	8899238	2014-12-02	
Prior Application Status	Patented					Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)	
13297983	Continuation of	12763890	2010-04-20	8079371	2011-12-20	
Prior Application Status	Patented					Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)	
12763890	Continuation of	11550634	2006-10-18	7726320	2010-06-01	
Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the Add button.						Add

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. When priority is claimed to a foreign application that is eligible for retrieval under the priority document exchange program (PDX)¹ the information will be used by the Office to automatically attempt retrieval pursuant to 37 CFR 1.55(i)(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 ⁱ	Filing Date (YYYY-MM-DD)	Access Code ⁱ (if applicable)	
Additional Foreign Priority Data may be generated within this form by selecting the Add button.				Add

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

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	R60999 1400US.C4 (1383.3)
	Application Number	
Title of Invention	TOBACCO CONTAINING SMOKING ARTICLE	

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

<p>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.</p> <p><input type="checkbox"/> 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.</p>
--

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	R60999 1400US.C4 (1383.3)
	Application Number	
Title of Invention	TOBACCO CONTAINING SMOKING ARTICLE	

Authorization or Opt-Out of Authorization to Permit Access:

When this Application Data Sheet is properly signed and filed with the application, applicant has provided written authority to permit a participating foreign intellectual property (IP) office access to the instant application-as-filed (see paragraph A in subsection 1 below) and the European Patent Office (EPO) access to any search results from the instant application (see paragraph B in subsection 1 below).

Should applicant choose not to provide an authorization identified in subsection 1 below, applicant **must opt-out** of the authorization by checking the corresponding box A or B or both in subsection 2 below.

NOTE: This section of the Application Data Sheet is **ONLY** reviewed and processed with the **INITIAL** filing of an application. After the initial filing of an application, an Application Data Sheet cannot be used to provide or rescind authorization for access by a foreign IP office(s). Instead, Form PTO/SB/39 or PTO/SB/69 must be used as appropriate.

1. Authorization to Permit Access by a Foreign Intellectual Property Office(s)

A. Priority Document Exchange (PDX) - Unless box A in subsection 2 (opt-out of authorization) is 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 State Intellectual Property Office of the People's Republic of China (SIPO), the World Intellectual Property Organization (WIPO), and any other foreign intellectual property office participating with the USPTO in a bilateral or multilateral priority document exchange agreement in which a foreign application claiming priority to the instant patent application is filed, access to: (1) the instant patent application-as-filed and its related bibliographic data, (2) any foreign or domestic application to which priority or benefit is claimed by the instant application and its related bibliographic data, and (3) the date of filing of this Authorization. See 37 CFR 1.14(h)(1).

B. Search Results from U.S. Application to EPO - Unless box B in subsection 2 (opt-out of authorization) is checked, the undersigned hereby **grants the USPTO authority** to provide the EPO access to the bibliographic data and search results from the instant patent application when a European patent application claiming priority to the instant patent application is filed. See 37 CFR 1.14(h)(2).

The applicant is reminded that the EPO's Rule 141(1) EPC (European Patent Convention) requires applicants to submit a copy of search results from the instant application without delay in a European patent application that claims priority to the instant application.

2. Opt-Out of Authorizations to Permit Access by a Foreign Intellectual Property Office(s)

A. Applicant **DOES NOT** authorize the USPTO to permit a participating foreign IP office access to the instant application-as-filed. If this box is checked, the USPTO will not be providing a participating foreign IP office with any documents and information identified in subsection 1A above.

B. Applicant **DOES NOT** authorize the USPTO to transmit to the EPO any search results from the instant patent application. If this box is checked, the USPTO will not be providing the EPO with search results from the instant application.

NOTE: Once the application has published or is otherwise publicly available, the USPTO may provide access to the application in accordance with 37 CFR 1.14.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	R60999 1400US.C4 (1383.3)
	Application Number	
Title of Invention	TOBACCO CONTAINING SMOKING ARTICLE	

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	<input type="button" value="Remove"/>
<p>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.</p>		
<input type="button" value="Clear"/>		
<input checked="" type="radio"/> Assignee	Legal Representative under 35 U.S.C. 117	Joint Inventor
Person to whom the inventor is obligated to assign.		Person who shows sufficient proprietary interest
If applicant is the legal representative, indicate the authority to file the patent application, the inventor is:		
<div style="border: 1px solid black; height: 20px; width: 100%;"></div>		
Name of the Deceased or Legally Incapacitated Inventor: <input type="text"/>		
If the Applicant is an Organization check here. <input checked="" type="checkbox"/>		
Organization Name	RAI STRATEGIC HOLDINGS, INC.	
Mailing Address Information For Applicant:		
Address 1	401 NORTH MAIN STREET	
Address 2		
City	WINSTON-SALEM	State/Province NC
Country	US	Postal Code 2
Phone Number		Fax Number
Email Address		
Additional Applicant Data may be generated within this form by selecting the Add button. <input type="button" value="Add"/>		

Assignee Information including Non-Applicant Assignee 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.

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

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	R60999 1400US.C4 (1383.3)
		Application Number	
Title of Invention	TOBACCO CONTAINING SMOKING ARTICLE		

Assignee	1
-----------------	---

Complete this section if assignee information, including non-applicant assignee information, is desired to be included on the patent application publication. An assignee-applicant identified in the "Applicant Information" section will appear on the patent application publication as an applicant. For an assignee-applicant, complete this section only if identification as an assignee is also desired on the patent application publication.

Remove

If the Assignee or Non-Applicant Assignee is an Organization check here.

Prefix	Given Name	Middle Name	Family Name	Suffix

Mailing Address Information For Assignee including Non-Applicant Assignee:

Address 1				
Address 2				
City		State/Province		
Country ⁱ		Postal Code		
Phone Number		Fax Number		
Email Address				

Additional Assignee or Non-Applicant Assignee Data may be generated within this form by selecting the Add button.

Add

Signature:

Remove

NOTE: This Application Data Sheet must be signed in accordance with 37 CFR 1.33(b). However, if this Application Data Sheet is submitted with the **INITIAL** filing of the application and either box A or B is not checked in subsection 2 of the "Authorization or Opt-Out of Authorization to Permit Access" section, then this form must also be signed in accordance with 37 CFR 1.14(c).

This Application Data Sheet **must** be signed by a patent practitioner if one or more of the applicants is a **juristic entity** (e.g., corporation or association). If the applicant is two or more joint inventors, this form must be signed by a patent practitioner, **all** joint inventors who are the applicant, or one or more joint inventor-applicants who have been given power of attorney (e.g., see USPTO Form PTO/AIA/81) on behalf of **all** joint inventor-applicants.

See 37 CFR 1.4(d) for the manner of making signatures and certifications.

Signature	/christopher m. humphrey/		Date (YYYY-MM-DD)	2016-10-05	
First Name	Christopher	Last Name	Humphrey	Registration Number	43683

Additional Signature may be generated within this form by selecting the Add button.

Add

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

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	R60999 1400US.C4 (1383.3)
	Application Number	
Title of Invention	TOBACCO CONTAINING SMOKING ARTICLE	

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.**

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

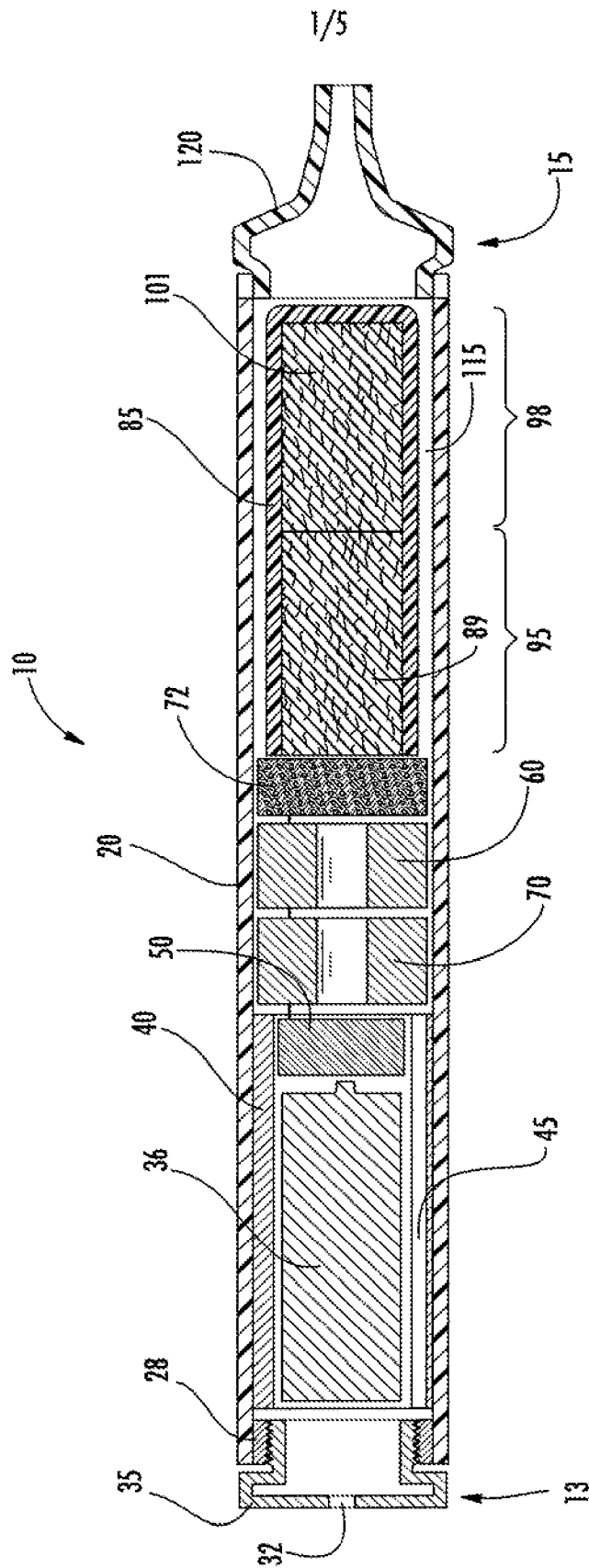


FIG. 1

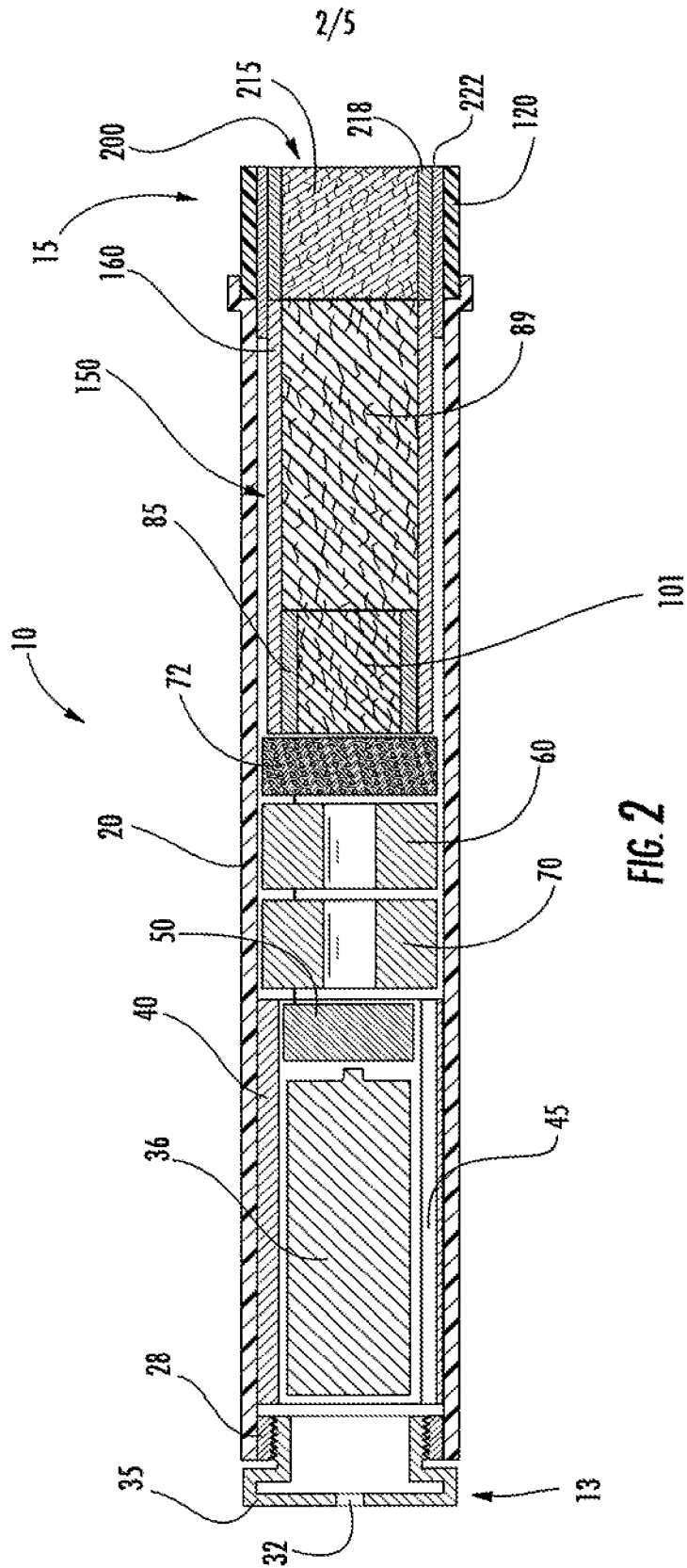


FIG. 2

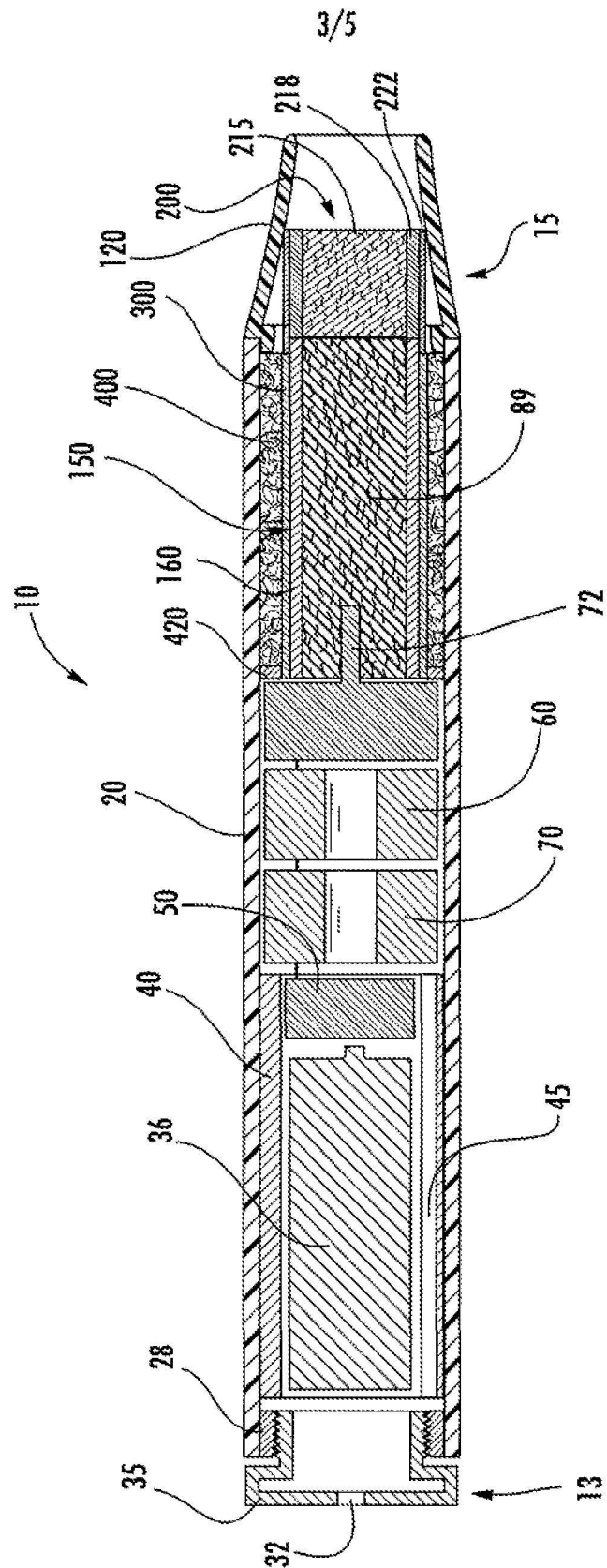


FIG. 3

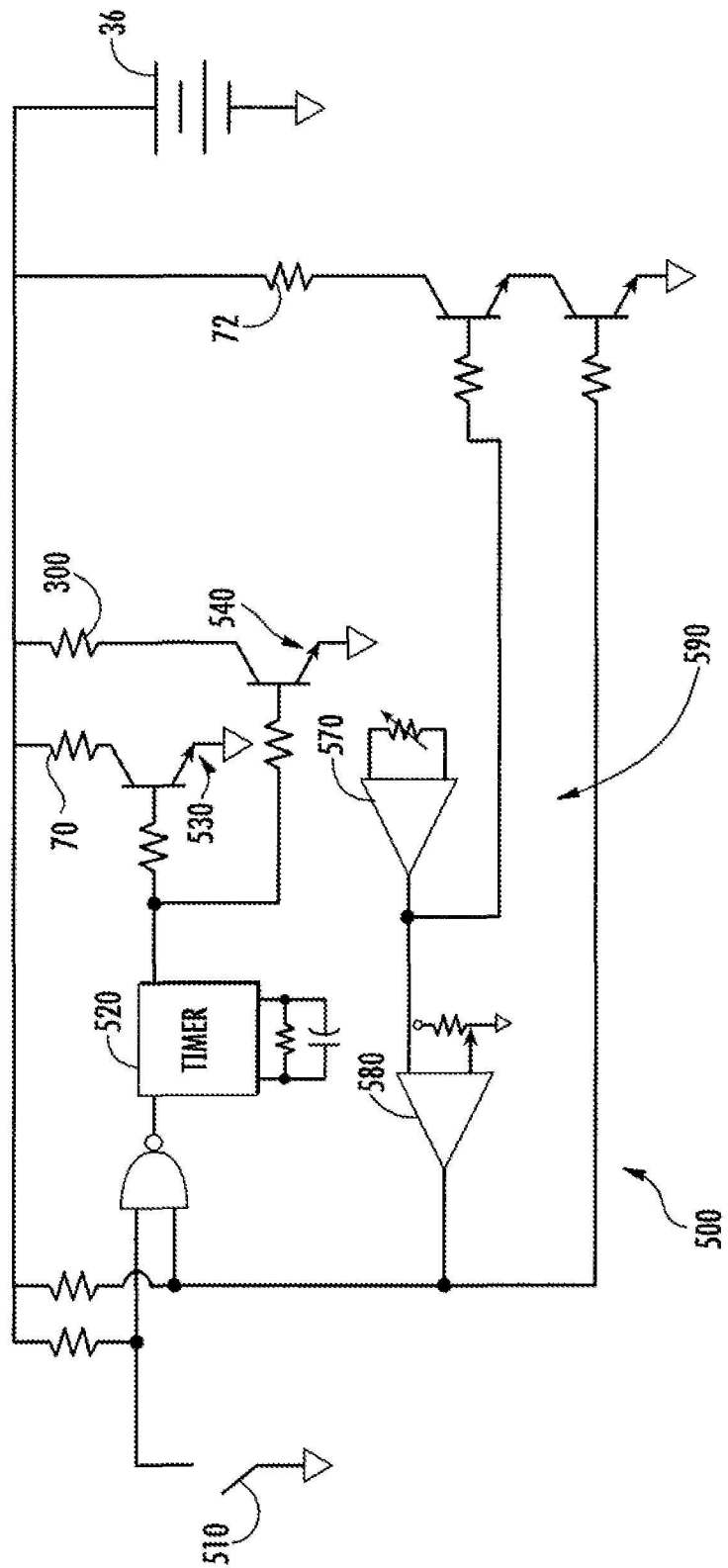


FIG. 5

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re: Robinson et al. Confirmation No.: TBA
Appl No.: TBA Group Art Unit: 1747
Filed: Concurrently Herewith
For: TOBACCO-CONTAINING SMOKING ARTICLE

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

**INFORMATION DISCLOSURE STATEMENT
CITATION UNDER 37 C.F.R. § 1.97**

Attached is a list of documents. It is requested that the Examiner consider these documents and officially make them of record in accordance with the provisions of 37 C.F.R. § 1.97 and Section 609 of the MPEP. By identifying the listed documents, Applicant in no way makes any admission as to the prior art status of the listed documents, but is instead identifying the listed documents for the sake of full disclosure.

Any foreign patents or non-patent literature documents items are attached, except those that were supplied in, or cited by the Office during prosecution of, parent Application Nos. 11/550,634 filed October 18, 2006, 12/763,890 filed April 20, 2010 and 13/297,983 filed November 16, 2011, and 14/527,287, filed October 29, 2014. Since the benefit of these applications were claimed under 35 U.S.C. 120, no copies need to be furnished in accordance with 37 C.F.R. 1.98(d); however, copies will be furnished on request.

Respectfully submitted,

/christopher m. humphrey/

Christopher M. Humphrey
Registration No. 43,683

Date: October 5, 2016

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(919)-755-2150 (Facsimile)

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Substitute for form 1449/PTO (Revised 07/2005) INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>				Complete if Known			
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				First Named Inventor		John Howard Robinson	
				Group Art Unit		1747	
				Examiner Name		Phu Hoang Nguyen	
Sheet	1	of	13	Attorney Docket Number		R60999 1400US.C4 (1383.3)	

U. S. PATENT DOCUMENTS					
Examiner Initials*	Cite No.	Document Number Number - Kind Code (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages of Relevant Figures Appear
	1	US-3,200,819	08-17-1965	Gilbert	
	2	US-3,258,015	06-28-1966	Ellis et al.	
	3	US-3,356,094	12-05-1967	Ellis et al.	
	4	US-3,486,508	12-30-1969	Sipos	
	5	US-3,516,417	06-23-1970	Moses	
	6	US-3,614,956	10-26-1971	Thornton	
	7	US-3,738,374	06-12-1973	Bennett	
	8	US-3,766,000	10-16-1973	Gibson	
	9	US-3,844,294	10-29-1974	Webster	
	10	US-3,878,850	04-22-1975	Gibson et al.	
	11	US-3,931,824	01-13-1976	Miano et al.	
	12	US-3,943,941	03-16-1976	Boyd et al.	
	13	US-4,044,777	08-30-1977	Boyd et al.	
	14	US-4,079,742	03-21-1978	Rainer et al.	
	15	US-4,190,046	02-26-1980	Virag	
	16	US-4,219,031	08-26-1980	Rainer et al.	
	17	US-4,233,993	11-18-1980	Miano et al.	
	18	US-4,284,089	08-18-1981	Ray	
	19	US-4,286,604	09-01-1981	Ehretsmann et al.	
	20	US-4,326,544	04-27-1982	Hardwick et al.	
	21	US-4,340,072	07-20-1982	Bolt et al.	
	22	US-4,347,855	09-07-1982	Lanzillotti et al.	
	23	US-4,391,285	07-05-1983	Burnett et al.	
	24	US-4,635,651	01-13-1987	Jacobs	
	25	US-4,700,727	10-20-1987	Torigian	

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Sheet	2	of	13	Attorney Docket Number		R60999 1400US.C4 (1383.3)	

U. S. PATENT DOCUMENTS					
	26	US-4,714,082	12-22-1987	Banerjee et al.	
	27	US-4,735,217	04-05-1988	Gerth et al.	
	28	US-4,756,318	07-12-1988	Clearman et al.	
	29	US-4,771,795	09-20-1988	White et al.	
	30	US-4,793,365	12-27-1988	Sensabaugh, Jr. et al.	
	31	US-4,800,903	01-31-1989	Ray et al.	
	32	US-4,807,809	02-28-1989	Pryor et al.	
	33	US-4,819,665	04-11-1989	Roberts et al.	
	34	US-4,823,817	04-25-1989	Luke	
	35	US-4,836,225	06-06-1989	Sudoh	
	36	US-4,848,374	07-18-1989	Chard et al.	
	37	US-4,874,000	10-17-1989	Tamol et al.	
	38	US-4,892,109	01-09-1990	Strubel	
	39	US-4,893,639	01-16-1990	White	
	40	US-4,917,121	04-17-1990	Riehl et al.	
	41	US-4,917,128	04-17-1990	Clearman et al.	
	42	US-4,920,990	05-01-1990	Lawrence et al.	
	43	US-4,922,901	05-08-1990	Brooks et al.	
	44	US-4,924,886	05-15-1990	Litzinger	
	45	US-4,947,874	08-14-1990	Brooks et al.	
	46	US-4,947,875	08-14-1990	Brooks et al.	
	47	US-4,961,438	10-09-1990	Korte	
	48	US-4,966,171	10-30-1990	Serrano et al.	
	49	US-4,969,476	11-13-1990	Bale et al.	
	50	US-4,972,855	11-27-1990	Kuriyama et al.	
	51	US-4,977,908	12-18-1990	Luke	
	52	US-4,981,522	01-01-1991	Nichols et al.	

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U. S. PATENT DOCUMENTS					
	53	US-4,991,606	02-12-1991	Serrano et al.	
	54	US-5,020,548	06-04-1991	Farrier et al.	
	55	US-5,025,814	06-25-1991	Raker	
	56	US-5,033,483	07-23-1991	Clearman et al.	
	57	US-5,040,551	08-20-1991	Schlatter et al.	
	58	US-5,046,514	09-10-1991	Bolt	
	59	US-5,050,621	09-24-1991	Creighton et al.	
	60	US-5,060,667	10-29-1991	Strubel	
	61	US-5,060,671	10-29-1991	Counts et al.	
	62	US-5,060,676	10-29-1991	Hearn et al.	
	63	US-5,065,776	11-19-1991	Lawson et al.	
	64	US-5,072,744	12-17-1991	Luke et al.	
	65	US-5,074,321	12-24-1991	Gentry et al.	
	66	US-5,076,296	12-31-1991	Nystrom et al.	
	67	US-5,076,297	12-31-1991	Farrier et al.	
	68	US-5,092,353	03-03-1992	Montoya et al.	
	69	US-5,099,861	03-31-1992	Clearman et al.	
	70	US-5,101,839	04-07-1992	Jakob et al.	
	71	US-5,105,835	04-21-1992	Drewett et al.	
	72	US-5,105,836	04-21-1992	Gentry et al.	
	73	US-5,105,837	04-21-1992	Barnes et al.	
	74	US-5,105,838	04-21-1992	White et al.	
	75	US-5,115,820	05-26-1992	Hauser et al.	
	76	US-5,144,962	09-08-1992	Counts et al.	
	77	US-5,146,934	09-15-1992	Deevi et al.	
	78	US-5,148,821	09-22-1992	Best et al.	
	79	US-5,159,940	11-03-1992	Hayward et al.	

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U. S. PATENT DOCUMENTS					
	80	US-5,159,942	11-03-1992	Brinkley et al.	
	81	US-5,178,167	01-12-1993	Riggs et al.	
	82	US-5,183,062	02-02-1993	Clearman et al.	
	83	US-5,203,355	04-20-1993	Clearman et al.	
	84	US-5,211,684	05-18-1993	Shannon et al.	
	85	US-5,224,498	07-06-1993	Deevi et al.	
	86	US-5,240,014	08-31-1993	Deevi et al.	
	87	US-5,240,016	08-31-1993	Nichols et al.	
	88	US-5,249,586	10-05-1993	Morgan et al.	
	89	US-5,271,419	12-21-1993	Arzonico et al.	
	90	US-5,285,798	02-15-1994	Banerjee et al.	
	91	US-5,293,883	03-15-1994	Edwards	
	92	US-5,322,075	06-21-1994	Deevi et al.	
	93	US-5,327,917	07-12-1994	Lekwauwa et al.	
	94	US-5,345,955	09-13-1994	Clearman et al.	
	95	US-5,357,984	10-25-1994	Farrier et al.	
	96	US-5,360,023	11-01-1994	Blakley et al.	
	97	US-5,369,723	11-29-1994	Counts et al.	
	98	US-5,372,148	12-13-1994	McCafferty et al.	
	99	US-5,388,574	02-14-1995	Ingebretsen	
	100	US-5,388,594	02-14-1995	Counts et al.	
	101	US-5,396,911	03-14-1995	Casey, III et al.	
	102	US-5,505,214	04-09-1996	Collins et al.	
	103	US-5,533,530	07-09-1996	Young et al.	
	104	US-5,551,451	09-03-1996	Riggs et al.	
	105	US-5,588,446	12-31-1996	Clearman	
	106	US-5,593,792	01-14-1997	Farrier et al.	

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Sheet	5	of	13	Attorney Docket Number		R60999 1400US.C4 (1383.3)	

U. S. PATENT DOCUMENTS					
	107	US-5,595,577	01-21-1997	Bensalem et al.	
	108	US-5,598,868	02-04-1997	Jakob et al.	
	109	US-5,665,262	09-09-1997	Hajaligol et al.	
	110	US-5,692,525	12-02-1997	Counts et al.	
	111	US-5,715,844	02-10-1998	Young et al.	
	112	US-5,743,251	04-28-1998	Howell et al.	
	113	US-5,778,899	07-14-1998	Saito et al.	
	114	US-5,799,663	09-01-1998	Gross et al.	
	115	US-5,819,751	10-13-1998	Barnes et al.	
	116	US-5,819,756	10-13-1998	Mielordt	
	117	US-5,829,453	11-03-1998	White et al.	
	118	US-5,865,185	02-02-1999	Collins et al.	
	119	US-5,878,752	03-09-1999	Adams et al.	
	120	US-5,880,439	03-09-1999	Deevi et al.	
	121	US-5,915,387	06-29-1999	Baggett, Jr., et al.	
	122	US-5,934,289	08-10-1999	Watkins et al.	
	123	US-6,033,623	03-07-2000	Deevi et al.	
	124	US-6,040,560	03-21-2000	Fleischhauer et al.	
	125	US-6,053,176	04-25-2000	Adams et al.	
	126	US-6,089,857	07-18-2000	Matsuura et al.	
	127	US-6,095,152	08-01-2000	Beven et al.	
	128	US-6,146,934	11-14-2000	Gardner et al.	
	129	US-6,164,287	12-26-2000	White	
	130	US-6,182,670	02-06-2001	White et al.	
	131	US-6,234,167	05-22-2001	Cox et al.	
	132	US-6,289,898	09-18-2001	Fournier et al.	
	133	US-6,397,852	06-04-2002	McAdam	

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Sheet	6	of	13	Attorney Docket Number		R60999 1400US.C4 (1383.3)	

U. S. PATENT DOCUMENTS					
	134	US-6,408,856	06-25-2002	McAdam	
	135	US-6,516,796	02-11-2003	Cox et al.	
	136	US-6,532,965	03-18-2003	Abhulimen et al.	
	137	US-6,537,186	03-25-2003	Veluz	
	138	US-6,578,584	06-17-2003	Beven et al.	
	139	US-6,591,841	07-15-2003	White et al.	
	140	US-2003/0131859	07-17-2003	Li et al.	
	141	US-6,598,607	07-29-2003	Adiga et al.	
	142	US-6,615,840	09-09-2003	Fournier et al.	
	143	US-2004/0020508	02-05-2004	Earl	
	144	US-6,688,313	02-10-2004	Wrenn et al.	
	145	US-6,730,832	05-04-2004	Dominguez et al.	
	146	US-2004/0173229	09-09-2004	Crooks et al.	
	147	US-6,823,873	11-30-2004	Nichols et al.	
	148	US-2005/0016549	01-27-2005	Banerjee et al.	
	149	US-2005/0066986	03-31-2005	Nestor et al.	
	150	US-6,994,096	02-07-2006	Rostami et al.	
	151	US-2006/0185687	08-24-2006	Hearn et al.	
	152	US-2006/0196518	09-07-2006	Hon	
	153	US-7,117,867	10-10-2006	Cox et al.	
	154	US-2007/0062549	03-22-2007	Holton, Jr., et al.	
	155	US-2007/0074734	04-05-2007	Braunshteyn et al.	
	156	US-2007/0267031	11-22-2007	Hon	
	157	US-1,771,366	07-22-1930	Wyss et al.	
	158	US-2,057,353	10-13-1936	Whittemore, Jr.	
	159	US-2,104,266	01-04-1938	McCormick	
	160	US-3,200,819	04-17-1963	Gilbert	

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Sheet	7	of	13	Attorney Docket Number		R60999 1400US.C4 (1383.3)	

U. S. PATENT DOCUMENTS					
	161	US-4,303,083	12-01-1981	Burruss, Jr.	
	162	US-4,907,606	03-13-1990	Lilja et al.	
	163	US-4,945,931	08-07-1990	Gori	
	164	US-4,986,286	01-22-1991	Roberts et al.	
	165	US-5,019,122	05-28-1991	Clearman et al.	
	166	US-5,042,510	08-27-1991	Curtiss et al.	
	167	US-5,093,894	03-03-1992	Deevi et al.	
	168	US-5,261,424	11-16-1993	Sprinkel, Jr.	
	169	US-5,353,813	10-11-1994	Deevi et al.	
	170	US-5,408,574	04-18-1995	Deevi et al.	
	171	US-5,468,936	11-21-1995	Deevi et al.	
	172	US-5,498,850	03-12-1996	Das	
	173	US-5,515,842	05-14-1996	Ramseyer et al.	
	174	US-5,530,225	06-25-1996	Hajaligol	
	175	US-5,564,442	10-15-1996	MacDonald et al.	
	176	US-5,649,554	07-22-1997	Sprinkel et al.	
	177	US-5,666,977	09-16-1997	Higgins et al.	
	178	US-5,687,746	11-18-1997	Rose et al.	
	179	US-5,726,421	03-10-1998	Fleischhauer et al.	
	180	US-5,727,571	03-17-1998	Meiring et al.	
	181	US-5,865,186	02-02-1999	Volsey, II	
	182	US-5,894,841	04-20-1999	Voges	
	183	US-5,954,979	09-21-1999	Counts et al.	
	184	US-5,967,148	10-19-1999	Harris et al.	
	185	US-6,164,287	12-26-2000	White	
	186	US-6,095,153	08-01-2000	Kessler et al.	
	187	US-6,125,853	10-03-2000	Susa et al.	

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Sheet	8	of	13	Attorney Docket Number		R60999 1400US.C4 (1383.3)	

U. S. PATENT DOCUMENTS					
	188	US-6,155,268	12-05-2000	Takeuchi	
	189	US-6,196,218	03-06-2001	Voges	
	190	US-6,196,219	03-06-2001	Hess et al.	
	191	US-6,601,776	08-05-2003	Oljaca et al.	
	192	US-6,772,756	08-10-2004	Shayan	
	193	US-6,803,545	10-12-2004	Blake et al.	
	194	US-6,854,461	02-15-2005	Nichols	
	195	US-6,854,470	02-15-2005	Pu	
	196	US-7,293,565	11-13-2007	Griffin et al.	
	197	US-7,513,253	04-07-2009	Kobayashi et al.	
	198	US-7,775,459	08-17-2010	Martens III et al.	
	199	US-7,832,410	11-16-2010	Hon	
	200	US-7,845,359	12-07-2010	Montaser	
	201	US-7,896,006	03-01-2011	Hamano et al.	
	202	US-8,127,772	03-06-2012	Montaser	
	203	US-8,314,591	11-20-2012	Terry et al.	
	204	US-8,365,742	02-05-2013	Hon	
	205	US-8,402,976	03-26-2013	Fernando et al.	
	206	US-8,499,766	08-06-2013	Newton	
	207	US-8,528,569	09-10-2013	Newton	
	208	US-8,550,069	10-08-2013	Alelov	
	209	US-2002/0146242	10-10-2002	Vieira	
	210	US-2003/0226837	12-11-2003	Blake et al.	
	211	US-2004/0118401	06-24-2004	Smith et al.	
	212	US-2004/0129280	07-08-2004	Woodson et al.	
	213	US-2004/0198127	10-07-2004	Yamamoto et al.	
	214	US-2004/0200488	10-14-2004	Felter et al.	

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Sheet	9	of	13	Attorney Docket Number		R60999 1400US.C4 (1383.3)	

U. S. PATENT DOCUMENTS					
	215	US-2004/0226568	11-18-2004	Takeuchi et al.	
	216	US-2005/0016550	01-27-2005	Katase	
	217	US-2006/0016453	01-26-2006	Kim	
	218	US-2006/0196518	09-07-2006	Hon	
	219	US-2007/0074734	04-05-2007	Braunshteyn et al.	
	220	US-2007/0102013	05-10-2007	Adams et al.	
	221	US-2007/0215167	09-20-2007	Crooks et al.	
	222	US-2008/0085103	04-10-2008	Beland et al.	
	223	US-2008/0092912	04-24-2008	Robinson et al.	
	224	US-2008/0257367	10-23-2008	Paterno et al.	
	225	US-2008/0276947	11-13-2008	Martzel	
	226	US-2008/0302374	12-11-2008	Wengert et al.	
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				First Named Inventor		John Howard Robinson	
				Group Art Unit		1747	
				Examiner Name		Phu Hoang Nguyen	
Sheet	10	of	13	Attorney Docket Number		R60999 1400US.C4 (1383.3)	

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Sheet	11	of	13	Attorney Docket Number		R60999 1400US.C4 (1383.3)	

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				Examiner Name		Phu Hoang Nguyen	
Sheet	12	of	13	Attorney Docket Number		R60999 1400US.C4 (1383.3)	

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Sheet	13	of	13	Attorney Docket Number		R60999 1400US.C4 (1383.3)	

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Examiner Initials*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s) , volume-issue number(s), publisher, city and/or country where published.	English Language Translation Attached
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TOBACCO-CONTAINING SMOKING ARTICLE

CROSS REFERENCE TO RELATED APPLICATIONS

This application is a continuation of U.S. App. No. 14,527,287; filed October 29, 2014, which is a continuation of U.S. Application No. 13/297,983, filed November 16, 2011, issued on December 2, 2014, as U.S. Patent No. 8,899,238, which is a continuation of U.S. Application No. 12/763,890, filed April 20, 2010 and issued on December 20, 2011 as U.S. Patent No. 8,079,371, which is a continuation of U.S. Application No. 11/550,634, filed on October 18, 2006 and issued on June 1, 2010 as U.S. Patent No. 7,726,320, which are each incorporated by reference herein in their entirety.

FIELD OF THE INVENTION

The present invention relates to tobacco products, such as tobacco-containing smoking articles.

BACKGROUND OF THE INVENTION

Popular smoking articles, such as cigarettes, have a substantially cylindrical rod shaped structure and include a charge, roll, or column of smokable material, such as shredded tobacco (e.g., in cut filler form), surrounded by a paper wrapper, thereby forming a so-called “smokable rod” or “tobacco rod.” Normally, a cigarette has a cylindrical filter element aligned in an end-to-end relationship with the tobacco rod. Preferably, a filter element comprises plasticized cellulose acetate tow circumscribed by a paper material known as “plug wrap.” Certain filter elements can incorporate polyhydric alcohols. See, for example, UK Pat. Spec. 755,475. Certain cigarettes incorporate a filter element having multiple segments, and one of those segments can comprise activated charcoal particles. See, for example, US Pat. Nos. 5,360,023 to Blakley et al. and 6,537,186 to Veluz. Preferably, the filter element is attached to one end of the tobacco rod using a circumscribing wrapping material known as “tipping paper.” It also has become desirable to perforate the tipping material and plug wrap, in order to provide dilution of drawn mainstream smoke with ambient air. Descriptions of cigarettes and the various components thereof are set forth in *Tobacco Production, Chemistry and Technology*, Davis et al. (Eds.) (1999). Traditionally, a cigarette of the most popular type is employed by a smoker by lighting one end

thereof and burning the tobacco rod. The smoker then receives mainstream smoke produced by the burning tobacco into his/her mouth by drawing on the opposite end (e.g., the filter end) of the cigarette.

5 Through the years, various methods for altering the composition of mainstream tobacco smoke have been proposed. In PCT Appl. Pub. No. WO 02/37990 to Bereman, it has been suggested that metallic particles and/or carbonaceous particles can be incorporated into the smokable material of a cigarette in an attempt to reduce the amounts of certain compounds in the smoke produced by that cigarette. In US Patent Appl. Pub. No. 2005/0066986 to Nestor et al., it has been suggested that a smokable rod possessing tobacco wrapped in paper can incorporate
10 tobacco filler combined with an aerosol-forming material, such as glycerin. US Pat. No. 6,874,508 to Shafer et al. proposes a cigarette having a paper wrapped tobacco rod having a tip portion that is treated with an additive, such as potassium bicarbonate, sodium chloride or potassium phosphate.

15 Various tobacco substitute materials have been proposed, and substantial listings of various types of those materials can be found in US Pat. Nos. 4,079,742 to Rainer et al. and 4,771,795 to White et al. Certain cigarette-type products that employ non-tobacco materials (e.g., dried vegetable leaves, such as lettuce leaves) as filler that is burned to produce smoke that resembles tobacco smoke have been marketed under the trade names “Cubebs,” “Triumph,” “Jazz,” and “Bravo.” See, for example, the types of materials described in US Pat. No.
20 4,700,727 to Torigian. Furthermore, tobacco substitute materials having the trade names “Cytrel” and “NSM” were introduced in Europe during the 1970s. Representative types of proposed synthetic tobacco substitute materials, smokable materials incorporating tobacco and other components, and cigarettes incorporating those materials, are described in British Pat. No. 1,431,045; and US Pat. Nos. 3,738,374 to Bennett; 3,844,294 to Webster; 3,878,850 to Gibson et al.; 3,931,824 to Miano et al.; 3,943,941 to Boyd et al.; 4,044,777 to Boyd et al.; 4,233,993 to
25 Miano et al.; 4,286,604 to Ehretsmann et al.; 4,326,544 to Hardwick et al.; 4,920,990 to Lawrence et al.; 5,046,514 to Bolt; 5,074,321 to Gentry et al.; 5,092,353 to Montoya et al.; 5,778,899 to Saito et al.; 6,397,852 to McAdam; and 6,408,856 to McAdam. Furthermore, various types of highly processed smokable materials incorporating tobacco and other
30 ingredients are set forth in US Pat. Nos. 4,823,817 to Luke; 4,874,000 to Tamol et al.; 4,977,908 to Luke; 5,072,744 to Luke et al.; 5,829,453 to White et al.; and 6,182,670 to White et al.

Certain types of coaxial or concentric-type smoking articles have been proposed. There have been proposed cigarette-type smoking articles including tobacco smokable materials surrounding longitudinally extending cores of other materials. UK Pat. Appl. 2,070,409 proposes a smoking article having a rod of smoking material having at least one filament extending over at least a major portion of the length of the rod. US Pat. No. 3,614,956 to Thornton proposes a smoking article having an annular outer portion made of tobacco smoking material and a central cylindrical core of absorbent material. US Pat. No. 4,219,031 to Rainer et al. proposes a smoking article having a central core of carbonized fibers circumscribed by tobacco. US Pat. No. 6,823,873 to Nichols et al. proposes a cigarette including an ignition element surrounded by tobacco, which is in turn surrounded by a composite outer wrapper. One type of cigarette-type smoking article has included a rod of tobacco smokable material surrounded a longitudinally extending annulus of some other material. For example, US Pat. No. 5,105,838 to White et al. proposes a rod of smokable material, normally circumscribed by a layer of wrapping material, which is in turn circumscribed by an insulating material (e.g., glass filaments or fibers). PCT Appl. Pub. No. WO 98/16125 to Snaidr et al. proposes a smoking device constructed from a very thin cigarette designed to fit into a tubular ceramic cartridge.

Numerous references have proposed various smoking articles of a type that generate flavored vapor, visible aerosol, or a mixture of flavored vapor and visible aerosol. Some of those proposed types of smoking articles include tubular sections or longitudinally extending air passageways. See, for example, those types of smoking articles described in US Pat. Nos. 3,258,015 to Ellis et al.; 3,356,094 to Ellis et al.; 3,516,417 to Moses; 4,347,855 to Lanzellotti et al.; 4,340,072 to Bolt et al.; 4,391,285 to Burnett et al.; 4,917,121 to Riehl et al.; 4,924,886 to Litzinger; and 5,060,676 to Hearn et al. Many of those types of smoking articles have employed a combustible fuel source that is burned to provide an aerosol and/or to heat an aerosol-forming material. See, for example, the background art cited in US Pat. Nos. 4,714,082 to Banerjee et al. and 4,771,795 to White et al.; which are incorporated herein by reference. See, also, for example, those types of smoking articles described in US Pat. Nos. 4,756,318 to Clearman et al.; 4,714,082 to Banerjee et al.; 4,771,795 to White et al.; 4,793,365 to Sensabaugh et al.; 4,917,128 to Clearman et al.; 4,961,438 to Korte; 4,966,171 to Serrano et al.; 4,969,476 to Bale et al.; 4,991,606 to Serrano et al.; 5,020,548 to Farrier et al.; 5,033,483 to Clearman et al.; 5,040,551 to Schlatter et al.; 5,050,621 to Creighton et al.; 5,065,776 to Lawson; 5,076,296 to Nystrom et al.;

5,076,297 to Farrier et al.; 5,099,861 to Clearman et al.; 5,105,835 to Drewett et al.; 5,105,837 to Barnes et al.; 5,115,820 to Hauser et al.; 5,148,821 to Best et al.; 5,159,940 to Hayward et al.; 5,178,167 to Riggs et al.; 5,183,062 to Clearman et al.; 5,211,684 to Shannon et al.; 5,240,014 to Deevi et al.; 5,240,016 to Nichols et al.; 5,345,955 to Clearman et al.; 5,551,451 to Riggs et al.;
5 5,595,577 to Bensalem et al.; 5,819,751 to Barnes et al.; 6,089,857 to Matsuura et al.; 6,095,152 to Beven et al; 6,578,584 Beven; and 6,730,832 to Dominguez; which are incorporated herein by reference. Furthermore, certain types of cigarettes that employ carbonaceous fuel elements have been commercially marketed under the brand names “Premier” and “Eclipse” by R. J. Reynolds Tobacco Company. See, for example, those types of cigarettes described in *Chemical and*
10 *Biological Studies on New Cigarette Prototypes that Heat Instead of Burn Tobacco*, R. J. Reynolds Tobacco Company Monograph (1988) and *Inhalation Toxicology*, 12:5, p. 1-58 (2000).

Certain proposed cigarette-shaped tobacco products purportedly employ tobacco in a form that is not intended to be burned. See, for example, US Pat. Nos. 4,836,225 to Sudoh;
15 4,972,855 to Kuriyama et al.; and 5,293,883 to Edwards; which are incorporated herein by reference. Yet other types of smoking articles, such as those types of smoking articles that generate flavored vapors by subjecting tobacco or processed tobaccos to heat produced from chemical or electrical heat sources, are described in US Pat. Nos. 4,848,374 to Chard et al.; 4,947,874 to Brooks et al.; 5,060,671 to Counts et al.; 5,146,934 to Deevi et al.; 5,224,498 to
20 Deevi; 5,285,798 to Banerjee et al.; 5,357,984 to Farrier et al.; 5,593,792 to Farrier et al.; 5,369,723 to Counts; 5,692,525 to Counts et al.; 5,865,185 to Collins et al.; 5,878,752 to Adams et al.; 5,880,439 to Deevi et al.; 5,915,387 to Baggett et al.; 5,934,289 to Watkins et al.; 6,033,623 to Deevi et al.; 6,053,176 to Adams et al.; 6,164,287 to White; 6,289,898 to Fournier et al.; 6,615,840 to Fournier et al.; and U.S. Patent Appl. Pub. Nos. 2003/0131859 to Li et al.;
25 2005/0016549 to Banerjee et al.; and 2006/0185687 to Hearn et al.; each of which is incorporated herein by reference. One type of smoking article that has employed electrical energy to produce heat has been commercially marketed by Philip Morris Inc. under the brand name “Accord.”

Certain attempts have been made to deliver vapors, sprays or aerosols, such as those
30 possessing or incorporating flavors and/or nicotine. See, for example, the types of devices set forth in US Pat. Nos. 4,190,046 to Virag; 4,284,089 to Ray; 4,635,651 to Jacobs; 4,735,217 to

Gerth et al.; 4,800,903 to Ray et al.; 5,388,574 to Ingebrethsen et al.; 5,799,663 to Gross et al.; 6,532,965 to Abhulimen et al.; and 6,598,607 to Adiga et al; and EP 1,618,803 to Hon; which are incorporated herein by reference. See also, US Pat. No. 7,117,867 to Cox et al. and the devices set forth on the website, www.e-cig.com, which are incorporated herein by reference.

5 Smoking articles that employ tobacco substitute materials and smoking articles that employ sources of heat other than burning tobacco cut filler to produce tobacco-flavored vapors or tobacco-flavored visible aerosols have not received widespread commercial success. Thus, it would be highly desirable to provide a smoking article that provides a smoker with an ability to enjoy using tobacco without the necessity of burning any significant amount of tobacco. In particular, it would be highly desirable to provide a tobacco-containing smoking article, such as an article having the general appearance of a cigarette, cigar, or pipe, that possesses the ability to provide to a smoker many of the benefits and advantages of conventional tobacco smoking without necessarily delivering considerable quantities of incomplete combustion and pyrolysis products.

15

SUMMARY OF THE INVENTION

The present invention relates to smoking articles for providing tobacco enjoyment, as well as manners and methods for providing tobacco enjoyment using such smoking articles. That is, the present invention relates to articles that produce aerosols incorporating components derived from, or provided by, tobacco. Preferred articles produce aerosols that are not necessarily produced as a result of burning of tobacco, but rather, produce an aerosol incorporating components derived from, or provided by, tobacco as a result of the application of heat upon tobacco or materials that are in contact with tobacco. Preferred articles produce visible aerosols that are “smoke-like” in nature, and exhibit many of the sensory characteristics associated with those types of smoking articles that burn tobacco. As a result, the present invention relates to tobacco smoking articles that produce aerosols without experiencing any necessary burning of tobacco or other component materials during periods in which the articles are used. Thus, the present invention relates to smoking articles, and in particular, to smoking articles that incorporates tobacco in some form. Of particular interest is generally rod-shaped smoking articles (e.g., a cigarette, a cigarillo, or a cigar), or smoking articles having shapes comparable to other traditional types of smoking products (e.g., pipes).

30

A preferred smoking article of the present invention, when smoked, is capable of providing mainstream aerosol that may be characterized as being flavorful and satisfying. Highly preferred cigarettes provide certain of the flavors, sensations and satisfaction of popular cigarettes that burn tobacco cut filler, because those preferred cigarettes generate mainstream aerosol, at least in part, by the action of heat upon some form of tobacco.

In one embodiment, the present invention relates to a cigarette that is smoked by coupling that cigarette to an electrically powered aerosol generating device that acts as a holder for that cigarette. The cigarette possesses at least one form of tobacco, and that tobacco is wrapped in a paper wrapper. If desired, various forms of tobacco, or various forms of tobacco containing compositions, can be positioned at specific locations within the cigarette. The cigarette also incorporates aerosol-forming material, and that aerosol-forming material can be an ingredient that is employed in addition to the tobacco. The cigarette may also possess a mouth-end piece that is used by the smoker to inhale components of tobacco, components derived from tobacco, and other components, preferably in the form of a visible aerosol, generated at least in part by the action of heat upon components of that cigarette. A representative device possesses a source of electrical power (e.g., a battery), a controller mechanism including a sensor that is capable of selectively powering certain components of the device (e.g., electrical resistance heating elements) at least during periods of draw, and at least one heating device (e.g., an electrical resistance heating unit) for forming a thermally generated aerosol that incorporates components of tobacco. During use, the cigarette is positioned within the outer housing of the smoking article, and after use, the used cigarette is removed from the smoking article. When desired, another cigarette is positioned within the device for further use.

In another embodiment, the present invention relates to a smoking article that is smoked by incorporating that tobacco within an electrically-powered, aerosol-generating device. At least one form of tobacco can be positioned at one or more specific locations within the cigarette. Aerosol-forming material is employed in addition to the tobacco. A mouth-end piece is used by the smoker to inhale components of tobacco that are generated by the action of heat upon components of that smoking article. A representative smoking article possesses a source of electrical power (e.g., a battery), a controller mechanism including a sensor that is capable of selectively powering certain components of the device (e.g., electrical resistance heating elements) at least during periods of draw, and at least one heating device (e.g., an electrical

resistance heating unit) for forming a thermally generated aerosol that incorporates components of tobacco. During use, a cartridge containing some form of tobacco is positioned within the smoking article, and after use, the used cartridge is removed from the outer housing of the device. When desired, another cartridge is positioned within the device for further use.

5 In one preferred embodiment, a tobacco-containing, electrically-powered smoking article is provided, the smoking article comprising:

(a) an outer housing having a mouth-end and an end distal to the mouth-end, wherein the mouth-end comprises an opening adapted for egress of an aerosol generated within the smoking article and the distal end comprises an opening adapted for intake of air into the smoking article;

10 (b) an electrical power source within the outer housing and operatively positioned downstream of the opening in the distal end of the outer housing such that air entering the smoking article passes the electrical power source;

(c) a first electrical resistance heating element within the outer housing, powered by said electrical power source, and operatively positioned for heating air drawn through the opening in
15 the distal end of the outer housing;

(d) a tobacco material positioned within the outer housing;

(e) an aerosol-forming material positioned within the outer housing in fluid communication with said tobacco material such that air can be drawn through both the tobacco material and the aerosol-forming material;

20 (f) a second electrical resistance heating element within the outer housing, powered by said electrical power source, and operatively positioned for heating the aerosol-forming material and tobacco material; and

(g) a puff-actuated controller adapted for regulating current flow through at least one of said first and second electrical resistance heating elements during draw, the controller
25 comprising a sensor adapted for sensing draw by the user on the smoking article.

The aerosol-forming material and tobacco can be positioned within a cartridge within the outer housing, the cartridge having an opening facing the second electrical resistance heating element such that aerosol generated within the cartridge initially flows in the direction of the second electrical resistance heating element. The cartridge containing the tobacco material and
30 the aerosol-forming material can be positioned between the second resistance heating element and the mouth-end of the outer housing, and the aerosol generated in the cartridge would initially

flow in the direction of the second electrical resistance heating element and then flow towards the mouth-end of the outer housing.

5 In one further embodiment, the tobacco material is in the form of a tobacco rod circumscribed by a wrapping material and positioned between the second resistance heating element and the mouth-end of the outer housing. A cartridge comprising an aerosol-generating material circumscribed by a wrapping material can be positioned between the tobacco rod and the second resistance heating element. Preferably, a filter element is attached to the end of the tobacco rod closest to the mouth-end of the outer housing.

10 The smoking article can further include, in certain embodiments, a third resistance heating element within the outer housing, powered by the electrical power source, and operatively positioned to heat the tobacco rod. The third heating element can be, for example, a tubular heating element circumscribing all or a portion of the tobacco rod. When a third heating element is present, current through this heating element can also be selectively controlled and regulated by the puff-actuated controller.

15 In yet another preferred embodiment, a tobacco-containing, electrically-powered smoking article is provided which comprises:

(a) an outer housing having a mouth-end and an end distal to the mouth-end, wherein the mouth-end comprises an opening adapted for egress of an aerosol generated within the smoking article and the distal end comprises an opening adapted for intake of air into the smoking article;

20 (b) an electrical power source within the outer housing and operatively positioned downstream of the opening in the distal end of the outer housing such that air entering the smoking article passes the electrical power source;

(c) a first electrical resistance heating element within the outer housing, powered by said electrical power source, and operatively positioned for heating air drawn through the opening in the distal end of the outer housing;

25 (d) a cigarette rod (which is preferably removable so that the rod can be replaced within the smoking article) within the outer housing and comprising a tobacco rod circumscribed by a wrapping paper and an adjacent filter element, the cigarette rod being positioned downstream of the second resistance heating element;

(e) an aerosol-forming material positioned within the outer housing in fluid communication with said cigarette rod such that air can be drawn through both the cigarette rod and the aerosol-forming material;

5 (f) a second electrical resistance heating element within the outer housing, powered by said electrical power source, and operatively positioned for heating the aerosol-forming material and the tobacco rod; and

(g) a puff-actuated controller adapted for regulating current flow through at least one of said first and second electrical resistance heating elements during draw, the controller comprising a sensor adapted for sensing draw by the user on the smoking article.

10 The aerosol-generating material may be in intimate contact with the tobacco in the tobacco rod, or the smoking article may further include a cartridge comprising the aerosol-generating material circumscribed by a wrapping material, the cartridge positioned between the tobacco rod and the second resistance heating element. In this embodiment also, the device may further include a third resistance heating element within the outer housing, powered by said
15 electrical power source, and operatively positioned to heat the tobacco rod.

In a still further embodiment, the invention provides a tobacco-containing, electrically-powered smoking article comprising:

(a) an outer housing having a mouth-end and an end distal to the mouth-end, wherein the mouth-end comprises an opening adapted for egress of an aerosol generated within the smoking
20 article and the distal end comprises an opening adapted for intake of air into the smoking article;

(b) a mouthpiece through which air can be drawn from the mouth-end of the outer housing, the mouthpiece being removably attached to the outer housing;

(c) an electrical power source within the outer housing and operatively positioned downstream of the opening in the distal end of the outer housing such that air entering the
25 smoking article passes the electrical power source;

(d) a first electrical resistance heating element within the outer housing, powered by said electrical power source, and operatively positioned for heating air drawn through the opening in the distal end of the outer housing;

(e) a removable carrier device within the outer housing comprising a tobacco material
30 and an aerosol-forming material in fluid communication with the tobacco material such that air can be drawn through both the tobacco material and the aerosol-forming material;

(f) a second electrical resistance heating element within the outer housing, powered by said electrical power source, and operatively positioned for heating the aerosol-forming material and the tobacco material; and

5 (g) a puff-actuated controller adapted for regulating current flow through at least one of said first and second electrical resistance heating elements during draw, the controller comprising a sensor adapted for sensing draw by the user on the smoking article.

An exemplary removable carrier device is a cigarette rod as described above, the cigarette comprising a tobacco rod circumscribed by a wrapping paper and an adjacent filter element, the cigarette rod being positioned between the second resistance heating element and the removable
10 mouthpiece. Another example of a removable carrier device is a removable cartridge enclosing the aerosol-forming material and tobacco material as described above, the cartridge having an opening facing the second electrical resistance heating element such that aerosol generated within the cartridge initially flows in the direction of the second electrical resistance heating element. The removable carrier device can be heated by a third resistance heating element
15 within the outer housing, the third heating element being powered by the electrical power source.

In any of the above embodiments, at least a portion of the tobacco in the tobacco rod can be in the form of tobacco cut filler, and the cut filler can be in intimate contact with the aerosol-forming material. In certain embodiments, at least a portion of the tobacco in the tobacco rod is in the form of an extract. In any embodiment, at least a portion of the tobacco in the tobacco rod
20 and the aerosol-forming material can be in the form of an intimate mixture, or the two components can be separately-located within the smoking article, such as in separate, adjacent regions in the cigarette rod or in a cartridge. Exemplary aerosol-forming materials include glycerin, propylene glycol, and mixtures thereof.

25 BRIEF DESCRIPTION OF THE DRAWINGS

In order to assist the understanding of embodiments of the invention, reference will now be made to the appended drawings, which are not necessarily drawn to scale. The drawings are exemplary only, and should not be construed as limiting the invention.

FIG. 1 through FIG. 3 depict longitudinal cross-sectional views of various embodiments
30 of an electrically powered, tobacco-containing smoking article; and

FIG. 4 and FIG. 5 each are representative schematic diagrams of electronic circuits for smoking articles.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

5 The present inventions now will be described more fully hereinafter with reference to the accompanying drawings. The invention may be embodied in many different forms and should not be construed as limited to the embodiments set forth herein; rather, these embodiments are provided so that this disclosure will satisfy applicable legal requirements. Like numbers refer to like elements throughout. As used in this specification and the claims, the singular forms "a,"
10 "an," and "the" include plural referents unless the context clearly dictates otherwise.

 A smoking article of the present invention incorporates tobacco. The type of tobacco can vary. One type of tobacco can be employed, or combinations or blends of various types of tobacco can be employed. Furthermore, different types of tobaccos, or different blends of tobaccos, can be employed at different locations within the smoking article.

15 The tobacco that is employed can include, or can be derived from, tobaccos such as flue-cured tobacco, burley tobacco, Oriental tobacco, Maryland tobacco, dark tobacco, dark-fired tobacco and *Rustica* tobacco, as well as other rare or specialty tobaccos, or blends thereof. See, also, for example, the types of tobaccos set forth in U.S. Pat. Nos. 6,730,832 to Dominguez et al.; and 7,025,066 to Lawson et al.; and US Pat. Appl. Serial No. 60/818,198, filed June 30, 2006, to
20 Stebbins et al.; each of which is incorporated herein by reference. Descriptions of various types of tobaccos, growing practices, harvesting practices and curing practices are set for in *Tobacco Production, Chemistry and Technology*, Davis et al. (Eds.) (1999). Most preferably, the tobacco that is employed has been appropriately cured and aged. Especially preferred techniques and conditions for curing flue-cured tobacco are set forth in Nestor et al., *Beitrage Tabakforsch. Int.*,
25 20 (2003) 467-475 and U.S. Pat. No. 6,895,974 to Peele, which are incorporated herein by reference. Representative techniques and conditions for air curing tobacco are set forth in Roton et al., *Beitrage Tabakforsch. Int.*, 21 (2005) 305-320 and Staaf et al., *Beitrage Tabakforsch. Int.*, 21 (2005) 321-330, which are incorporated herein by reference.

 The tobacco that is incorporated within the smoking article can be employed in various
30 forms; and combinations of various forms of tobacco can be employed, or different forms of tobacco can be employed at different locations within the smoking article. For example, the

tobacco can be employed in the form of cut or shredded pieces of lamina or stem; in a processed form (e.g., reconstituted tobacco sheet, such as pieces of reconstituted tobacco sheet shredded into a cut filler form; films incorporating tobacco components; extruded tobacco parts or pieces; expanded tobacco lamina, such as cut filler that has been volume expanded; pieces of processed tobacco stems comparable to cut filler in size and general appearance; granulated tobacco; foamed tobacco materials; compressed or pelletized tobacco; or the like); as pieces of finely divided tobacco (e.g., tobacco dust, tobacco powder, agglomerated tobacco powders, or the like); or in the form of a tobacco extract. See, for example, US Pat. App. Ser. Nos. 11/194,215 filed August 1, 2005, to Cantrell et al. and 11/377,630 filed March 16, 2006 to Crooks et al.; which are incorporated herein by reference.

The smoking article can employ tobacco in the form of lamina and/or stem. As such, the tobacco can be used in forms, and in manners, that are virtually identical in many regards to those traditionally used for the manufacture of tobacco products, such as cigarettes. Traditionally, cut or shredded pieces of tobacco lamina and stem have been employed as so-called “cut filler” for cigarette manufacture. Pieces of water extracted stems also can be employed. As such, the tobacco in such a form introduces mass and bulk within the smoking article. Manners and methods for curing, de-stemming, aging, moistening, cutting, reordering and handling tobacco that is employed as cut filler will be apparent to those skilled in the art of tobacco product manufacture.

Processed tobaccos that can be incorporated within the smoking article can vary. Exemplary manners and methods for providing reconstituted tobacco sheet, including casting and paper-making techniques, are set forth in US Pat. Nos. 4,674,519 to Keritsis et al.; 4,941,484 to Clapp et al.; 4,987,906 to Young et al.; 4,972,854 to Kiernan et al.; 5,099,864 to Young et al.; 5,143,097 to Sohn et al.; 5,159,942 to Brinkley et al.; 5,322,076 to Brinkley et al.; 5,339,838 to Young et al.; 5,377,698 to Litzinger et al.; 5,501,237 to Young; and 6,216,707 to Kumar; each of which is incorporated herein by reference. Exemplary manners and methods for providing extruded forms of processed tobaccos are set forth in US Pat. Nos. 4,821,749 to Toft et al.; 4,880,018 to Graves, Jr. et al.; 5,072,744 to Luke et al.; 4,874,000 to Tamol et al.; 5,551,450 to Hemsley; 5,649,552 to Cho et al.; 5,829,453 to White; 6,125,855 to Nevett et al.; and 6,182,670 to White; each of which is incorporated herein by reference. Extruded tobacco materials can have the forms of cylinders, strands, discs, or the like. Exemplary expanded tobaccos (e.g.,

puffed tobaccos) can be provided using the types of techniques set forth in US Pat. Nos. Re 32,013 to de la Burde et al.; 3,771,533 to Armstrong et al.; 4,577,646 to Ziehn; 4,962,773 to White; 5,095,922 to Johnson et al.; 5,143,096 to Steinberg; 5,172,707 to Zambelli; 5,249,588 to Brown et al.; 5,687,748 to Conrad; and 5,908,032 to Poindexter; and US Pat. Pub. 2004/0182404 to Poindexter et al.; each of which is incorporated herein by reference. One particularly preferred type of expanded tobacco is dry ice expanded tobacco (DIET). Exemplary forms of processed tobacco stems include cut-rolled stems, cut-rolled-expanded stems, cut-puffed stems and shredded-steam expanded stems. Exemplary manners and methods for providing processed tobacco stems are set forth in US Pat. Nos. 4,195,646 to Kite; 5,873,372 to Honeycutt et al.; each of which is incorporated herein by reference. Manners and methods for employing tobacco dust are set forth in US Pat. Nos. 4,341,228 to Keritsis et al.; 4,611,608 to Vos et al.; 4,706,692 to Gellatly; and 5,724,998 to Gellatly et al.; each of which is incorporated herein by reference. Yet other types of processed tobaccos are of the type set forth in US Pat. Pub. No. 2006/0162733 to McGrath et al.

The tobacco can be used in a blended form. Typically, the blends of various types and forms of tobaccos are provided in a blended cut filler form. For example, certain popular tobacco blends for cigarette manufacture, commonly referred to as “American blends,” comprise mixtures of cut or shredded pieces of flue-cured tobacco, burley tobacco and Oriental tobacco; and such blends, in many cases, also contain pieces of processed tobaccos, such as processed tobacco stems, volume expanded tobaccos and/or reconstituted tobaccos. The precise amount of each type or form of tobacco within a tobacco blend used for the manufacture of a particular smoking article can vary, and is a manner of design choice, depending upon factors such as the sensory characteristics (e.g., flavor and aroma) that are desired. See, for example, the types of tobacco blends described in *Tobacco Encyclopedia*, Voges (Ed.) p. 44-45 (1984), Browne, *The Design of Cigarettes*, 3rd Ed., p.43 (1990) and *Tobacco Production, Chemistry and Technology*, Davis et al. (Eds.) p. 346 (1999). See, also, the representative types of tobacco blends set forth in US Pat. Nos. 4,836,224 to Lawson et al.; 4,924,888 to Perfetti et al.; 5,056,537 to Brown et al.; and 5,220,930 to Gentry; U.S. Patent Appl. Pub. Nos. 2004/0255965 to Perfetti et al.; and 2005/0066986 to Nestor et al.; PCT Appl. Pub. No. WO 02/37990 to Bereman; and Bombick et al., *Fund. Appl. Toxicol.*, 39, p. 11-17 (1997); each of which is incorporated herein by reference.

Certain processed tobaccos can incorporate ingredients other than tobacco. However, it is preferred that processed tobaccos be composed predominantly of tobacco of some form, based on the dry weights of those processed tobaccos. That is, the majority of the dry weight of those processed tobaccos, and the majority of the weight of a mixture incorporating those processed tobaccos (including a blend of materials, or materials having additives applied thereto or otherwise incorporated therein), are provided by tobacco of some form. For example, those materials can be processed tobaccos that incorporate minor amounts of non-tobacco filler materials (e.g., calcium carbonate particles, spongy or absorbent materials, carbonaceous materials including carbon particles and graphite fibers, grains or wood pulp) and/or binding agents (e.g., guar gum, sodium alginate or ammonium alginate); and/or a blend of those materials can incorporate tobacco substitutes or extenders. Exemplary types of tobacco substitutes or extenders are set forth in US Pat. Appl. Serial No. 11/489,334, filed July 19, 2006, to Fagg et al., which is incorporated herein by reference. The foregoing materials, and blends incorporating those materials, frequently include greater than about 70 percent tobacco, often are greater than about 80 percent tobacco, and generally are greater than about 90 percent tobacco, on a dry weight basis, based on the combined weights of the tobacco, non-tobacco filler material, and non-tobacco substitute or extender. However, those processed tobaccos also can be made of virtually all tobacco, and not incorporate any non-tobacco fillers, substitutes or extenders.

The tobacco can be treated with tobacco additives of the type that are traditionally used for the manufacture of tobacco products. Those additives can include the types of materials used to enhance the flavor and aroma of tobaccos used for the production of cigars, cigarettes, pipes, and the like. For example, those additives can include various cigarette casing and/or top dressing components. See, for example, US Pat. Nos. 3,419,015 to Wochnowski; 4,054,145 to Berndt et al.; 4,887,619 to Burcham, Jr. et al.; 5,022,416 to Watson; 5,103,842 to Strang et al.; and 5,711,320 to Martin. Preferred casing materials include water, sugars and syrups (e.g., sucrose, glucose and high fructose corn syrup), humectants (e.g. glycerin or propylene glycol), and flavoring agents (e.g., cocoa and licorice). Those added components also include top dressing materials (e.g., flavoring materials, such as menthol). See, for example, US Pat. No. 4,449,541 to Mays et al. Additives also can be added to the tobacco using the types of equipment described in US Pat. No. 4,995,405 to Lettau, or that are available as Menthol Application System MAS from Kohl Maschinenbau GmbH. The selection of particular casing

and top dressing components is dependent upon factors such as the sensory characteristics that are desired, and the selection and use of those components will be readily apparent to those skilled in the art of cigarette design and manufacture. See, Gutcho, *Tobacco Flavoring Substances and Methods*, Noyes Data Corp. (1972) and Leffingwell et al., *Tobacco Flavoring for Smoking Products* (1972). The tobacco also may be treated, for example, with ammonia or ammonium hydroxide or otherwise treated to incorporate ammonia (e.g., by addition of ammonia salts such as, for example, diammonium phosphate). Preferably, the amount of ammonia optionally incorporated into the smokable tobacco is less than about 5 percent, and generally about 1 to about 3 percent, based on the dry weight of the tobacco.

10 Tobacco can be incorporated with the smoking article in a form other than cut filler form. For example, tobacco leaf and/or reconstituted tobacco sheet can be used as a wrapper for a tobacco-containing component having the form of a cigar or an inner wrapper of a double wrapped cigarette rod. Alternatively, processed tobaccos, such as certain types of reconstituted tobaccos, can be employed as longitudinally extending strands. See, for example, the type of configuration set forth in US Pat. No. 5,025,814 to Raker, which is incorporated herein by reference. In addition, certain types of reconstituted tobacco sheets can be formed, rolled or gathered into a desired configuration. In addition, molded, compressed or extruded segments or pieces of tobacco-containing materials that are formed into desired shapes (e.g., strands, tubes, cylinders, pellets, or the like) can be incorporated within the aerosol delivery article. See, for example, US Pat. Nos. 4,836,225 to Sudoh; 4,893,639 to White; 4,972,855 to Kuriyama et al.; and 5,293,883 to Edwards; each of which is incorporated herein by reference. If desired, finely milled tobacco or tobacco dust can be incorporated within other types of processed tobaccos, such as extrudate formulations, reconstituted tobacco sheets, or the like. Furthermore, finely milled tobacco or tobacco dust can be contained on substrates, such as membranes or screens. If desired, at least a portion of the tobacco can be heat treated prior to use within the smoking article (e.g., have the form of high temperature dried, toasted, pre-pyrolyzed, condensed volatiles collected after tobacco is heated, condensed tobacco smoke components, or the like).

25 At least a portion of the tobacco incorporated with the smoking article can be provided in the form of a tobacco extract. As used herein, the term "tobacco extract" means components separated from, removed from, or derived from, tobacco using tobacco extraction processing conditions and techniques. Typically, tobacco extracts are obtained using solvents, such as

solvents having an aqueous nature (e.g., water) or organic solvents (e.g., alcohols, such as ethanol or alkanes, such as hexane). As such, extracted tobacco components are removed from tobacco and separated from the unextracted tobacco components; and for extracted tobacco components that are present within a solvent, (i) the solvent can be removed from the extracted tobacco components, or (ii) the mixture of extracted tobacco components and solvent can be used as such. For example, tobacco can be subjected to extraction conditions using water as a solvent; the resulting aqueous extract of tobacco then is separated from the water insoluble pulp; and then (i) the mixture of aqueous extract of tobacco within water can be used as such, or (ii) substantial amounts of the water can be removed from extracted tobacco components (e.g., using spray drying or freeze drying techniques) in order to provide a tobacco extract in powder form. Preferred tobacco extracts incorporate numerous components that are separated from, removed from, or derived from, tobacco; and are not obtained using tobacco extraction processes conditions that are highly selective to a single component (e.g., preferred extracts are not high nicotine content extracts, or extracts that can be characterized as relatively pure nicotine compositions). As such, exemplary preferred tobacco extracts possess less than 45 percent nicotine, often less than 35 percent nicotine, and frequently less than 25 percent nicotine, on the basis of the total extract weight with solvent removed (e.g., on a dry weight basis when the solvent is water). In addition, highly preferred tobacco extracts are highly aromatic and flavorful, and hence introduce desirable sensory characteristics to the aerosol produced by the smoking articles incorporating those extracts. Exemplary types of tobacco extracts, tobacco essences, solvents, tobacco extraction processing conditions and techniques, and tobacco extract collection and isolation procedures, are set forth in Australia Pat. No. 276,250 to Schachner; US Pat. Nos. 2,805,669 to Meriro; 3,316,919 to Green et al.; 3,398,754 to Tughan; 3,424,171 to Rooker; 3,476,118 to Luttich; 4,150,677 to Osborne; 4,131,117 to Kite; 4,506,682 to Muller; 4,986,286 to Roberts et al.; 5,005,593 to Fagg; 5,065,775 to Fagg; 5,060,669 to White et al.; 5,074,319 to White et al.; 5,099,862 to White et al.; 5,121,757 to White et al.; 5,131,415 to Munoz et al.; 5,230,354 to Smith et al.; 5,235,992 to Sensabaugh; 5,243,999 to Smith; 5,301,694 to Raymond; 5,318,050 to Gonzalez-Parra et al.; 5,435,325 to Clapp et al.; and 5,445,169 to Brinkley et al.; each of which is incorporated herein by reference.

Tobacco extracts typically are carried by a substrate, or are otherwise contained within a carrier or material. The substrate for the tobacco extract can be provided by generally solid

substances, such as alumina beads, pieces of carbonaceous materials, paper or paper-type materials (e.g., shredded or gathered pieces of porous paper, papers incorporating tobacco materials such as tobacco stems or stalks, papers incorporating pieces of absorbent carbon particles, or the like), pieces of tobacco lamina and/or stem, pieces of processed tobacco, synthetic fibers, or the like. Alternatively, the tobacco extract can be mixed with generally liquid or fluid substances, such as solvents, aerosol-forming materials, flavor carrying agents, and the like. Mixtures of tobacco extracts and generally liquid or fluid substances, in turn, can be carried by generally solid substrate materials or can be contained within suitable containers, vials, cartridges, or the like.

Various manners and methods for incorporating tobacco into smoking articles, and particularly smoking articles that are designed so as to not purposefully burn virtually all of the tobacco within those smoking articles, are set forth in US Pat. No. 4,947,874 to Brooks et al.; U.S. Patent Application Pub. No. 2005/0016549 to Banerjee et al.; and US Pat. App. Ser. Nos. 11/194,215 filed August 1, 2005, to Cantrell et al. and 11/377,630 filed March 16, 2006 to Crooks et al.; which are incorporated herein by reference. In addition, tobacco has been incorporated with cigarettes that have been marketed commercially under the brand names “Premier” and “Eclipse” by R. J. Reynolds Tobacco Company. See, for example, those types of cigarettes described in *Chemical and Biological Studies on New Cigarette Prototypes that Heat Instead of Burn Tobacco*, R. J. Reynolds Tobacco Company Monograph (1988) and *Inhalation Toxicology*, 12:5, p. 1-58 (2000). Tobacco also has been incorporated within a smoking article that has been marketed commercially by Philip Morris Inc. under the brand name “Accord.”

The smoking article of the present invention further includes an aerosol-generating material, which can be in intimate contact with the tobacco material (e.g., in the form of an intimate mixture), or can be carried by a non-tobacco substrate and segregated from the tobacco in the smoking article (e.g., positioned in an adjacent region of the device). The aerosol-generating material is positioned in fluid communication with the tobacco material such that air can be drawing through both the tobacco and the aerosol-generating material, thereby generating an aerosol that includes volatilized portions of the aerosol-generating material and volatilized components derived from the tobacco. The aerosol-forming material can vary, and mixtures of various aerosol-forming materials can be used. Representative types of aerosol-forming materials are set forth in US Pat. Nos. 4,793,365 to Sensabaugh, Jr. et al.; and 5,101,839 to Jakob

et al.; PCT Appl. Pub. No. WO 98/57556 to Biggs et al.; EPO 1,618,803 to Hon; and *Chemical and Biological Studies on New Cigarette Prototypes that Heat Instead of Burn Tobacco*, R. J. Reynolds Tobacco Company Monograph (1988); which are incorporated herein by reference.

5 A preferred aerosol-forming material produces a visible aerosol upon the application of sufficient heat thereto, or otherwise through the action of aerosol forming conditions using components of the smoking article. A highly preferred aerosol-forming material produces an aerosol that can be considered to be “smoke-like.” A preferred aerosol-forming material is chemically simple, relative to the chemical nature of the smoke produced by burning tobacco. A preferred aerosol-forming material is a polyol; and exemplary preferred aerosol-forming
10 materials include glycerin, propylene glycol, and mixtures thereof. If desired, aerosol-forming materials can be combined with other liquid materials, such as water. For example, aerosol-forming material formulations can incorporate mixtures of glycerin and water, or mixtures of propylene glycol and water. Exemplary aerosol-forming materials also include those types of materials incorporated within devices available through Atlanta Imports Inc., Acworth, Georgia,
15 USA., as an electronic cigar having the brand name E-CIG, which can be employed using associated Smoking Cartridges Type C1a, C2a, C3a, C4a, C1b, C2b, C3b and C4b; and as Ruyan Atomizing Electronic Pipe and Ruyan Atomizing Electronic Cigarette from Ruyan SBT Technology and Development Co., Ltd., Beijing, China.

The aerosol-forming material can be maintained within the smoking article in a variety of
20 ways. For example, the aerosol-forming material can be contained within a container in liquid form, or soaked within absorbent fibrous materials or sponge-like materials. Exemplary absorbent materials can be composed of synthetic polymeric materials, such as fibers of polyethylene terephthalate. Alternatively, the aerosol-forming material can be incorporated within, or carried by, a material that acts as a substrate. For example, the substrate can be, at
25 least in part, a material that incorporates tobacco. Exemplary substrate materials, and exemplary formulations incorporating aerosol-forming materials, are set forth in US Pat. Nos. 4,793,365 to Sensabaugh et al.; 4,893,639 to White; 5,099,861 to Clearman et al.; 5,101,839 to Jakob et al.; 5,105,836 to Gentry et al.; 5,159,942 to Brinkley et al.; 5,203,355 to Clearman et al.; 5,271,419 to Arzonico et al.; 5,327,917 to Lekwauwa et al.; 5,396,911 to Casey, III et al.; 5,533,530 to
30 Young et al.; 5,588,446 to Clearman; 5,598,868 to Jakob et al.; and 5,715,844 to Young et al.; and U.S. Patent Application Pub. No. 2005/0066986 to Nestor et al.; which are incorporated

herein by reference. See, also, *Chemical and Biological Studies on New Cigarette Prototypes that Heat Instead of Burn Tobacco*, R. J. Reynolds Tobacco Company Monograph (1988).

Exemplary substrate materials have been incorporated within the types of cigarettes commercially marketed under the trade names “Premier” and “Eclipse” by R. J. Reynolds

5 Tobacco Company.

The substrate material can incorporate tobacco of some form, normally is composed predominantly of tobacco, and can be provided by virtually all tobacco material. The form of the substrate material can vary; but most preferably that material is employed in an essentially traditional cigarette, cigar or pipe filler form (e.g., as cut filler). The substrate material can be otherwise formed into desired configurations. The substrate material can be used in the form of a gathered web or sheet, using the types of techniques generally set forth in US Pat. No. 10 4,807,809 to Pryor et al. The substrate material can be used into the form of a web or sheet that is shredded into a plurality of longitudinally extending strands, using the types of techniques generally set forth in US Pat. No. 5,025,814 to Raker. The substrate material can have the form of a loosely rolled sheet, such that a spiral type of air passageway extends longitudinally through the aerosol-generation segment. Representative types of tobacco containing substrate materials can be manufactured from mixtures of tobacco types; or from one predominant type of tobacco (e.g., a cast sheet-type or paper-type reconstituted tobacco composed primarily of burley tobacco, or a cast sheet-type or paper-type reconstituted tobacco composed primarily of Oriental 15 tobacco).

The substrate material also can be treated with tobacco additives of the type that are traditionally used for the manufacture of cigarettes, such as casing and/or top dressing components. The substrate material optionally can be ammoniated (e.g., by treatment with anhydrous ammonia, aqueous ammonium hydroxide, or ammonium salts such as diammonium phosphate). Alternatively those materials can be absent, or virtually absent, of any type of added ammonia (e.g., whether by treatment with anhydrous ammonia, aqueous ammonium hydroxide, or ammonium salts such as diammonium phosphate). Those materials also can be treated with other additives, such as potassium carbonate or sodium bicarbonate. Other materials, such as catalytic agents, nanoparticle compositions, and the like, also can be incorporated within any of the smokable materials of the smokable rod. See, for example, the types of components set forth 25 in US Pat. Publication 2004/0173229 to Crooks et al. Preferably, the material is not treated with 30

more that about 10 percent of any of those types of additive agents other than aerosol-forming materials, based on the dry weight of tobacco material within that substrate material.

The manner by which the aerosol-forming material is contacted with the substrate material (e.g., the tobacco) can vary. The aerosol-forming material can be applied to a formed tobacco material, or can be incorporated into processed tobaccos during manufacture of those tobaccos. The aerosol-forming material can be dissolved or dispersed in an aqueous liquid, or other suitable solvent or liquid carrier, and sprayed onto that substrate material. See, for example, U.S. Patent Appl. Pub. No. 2005/0066986 to Nestor et al. The amount of aerosol-forming material employed relative to the dry weight of substrate material can vary. Materials including exceedingly high levels of aerosol-forming material can be difficult to process into cigarette rods using conventional types of automated cigarette manufacturing equipment.

Cast sheet types of processed tobaccos preferably can incorporate relatively high levels aerosol-forming material. Reconstituted tobaccos manufactured using paper-making types of processes preferably can incorporate moderate levels of aerosol-forming material. Tobacco lamina strip and tobacco cut fuller can incorporate lower amounts of aerosol-forming material. For processed materials, such as cast sheet materials and paper-type reconstituted tobaccos, tobacco pulp materials that are extracted with aqueous liquids can be used as components thereof. The removal of some fraction or essentially all of the water soluble components of tobacco can assist in providing a processed material that is capable of acting as an effective substrate for higher levels of aerosol-forming material. In addition, dusting processed tobaccos with dry tobacco powders can assist in providing processed materials having relatively high levels of glycerin while not demonstrating overly tacky or sticky characteristics. Alternatively, relatively high levels of aerosol-forming materials can be applied to, or incorporated within, tobacco substrate materials; and those resulting materials can be considered to be somewhat moist, wet, tacky, sticky or gooey in nature.

Cast sheet processes tobaccos, and particularly cast sheet tobaccos incorporating certain amounts of tobacco pulp that have been extracted with water, often can comprise up to about 65 percent, often up to about 60 percent, and frequently up to about 55 percent, aerosol-forming material, based on the dry weight of the tobacco and aerosol-forming material in the processed material so produced. Paper-type reconstituted tobaccos, and particularly those forms of tobacco incorporating certain amounts of tobacco pulp materials that have been extracted with water, and

not reapplying some or all of the water soluble extract components back to that pulp, often can comprise up to about 55 percent, often up to about 50 percent, and frequently up to about 45 percent, aerosol-forming material, based on the dry weight of the tobacco and aerosol-forming material in the material so produced. A tobacco material produced by spraying tobacco strip or cut filler with aerosol-forming material often does not comprise more than about 20 percent, and frequently does not comprise more than about 15 percent, aerosol-forming material, based on the dry weight of the tobacco and aerosol-forming material of the material so produced. Materials having relatively high loading levels of aerosol-forming material can be dried (e.g., by being subjected to a flow of hot air) to a moisture content of about 4 percent to about 5 percent, by weight; the dried material then can be processed to form the components of the designed configuration; and then those components can be re-equilibrated to a moisture content of about 12 to about 13 weight percent. Alternatively, those materials can be used in a somewhat moist or wet form.

Other types of materials incorporating relatively high levels of aerosol-forming material can be incorporated in the smoking article. Formed, encapsulated or microencapsulated materials can be employed. Such types of materials preferably include primarily of aerosol-forming material, and those materials most preferably incorporate some amount and form of tobacco. An example of such a type of material is a film produced by casting and drying an aqueous solution of about 65 to about 70 weight parts glycerin, and about 25 to about 30 weight parts binder (e.g., citrus pectin, ammonium alginate, sodium alginate or guar gum), and about 5 weight parts flavoring agent (e.g., vanillin, coffee, tea, cocoa and/or fruit flavor concentrates); and then surface-coating that film with about 2 to about 10 weight parts of a finely divided powder that is provided by milling tobacco lamina.

The amount of aerosol-forming material that is used within the smoking article is such that the cigarette exhibits acceptable sensory and organoleptic properties, and desirable performance characteristics. For example, it is highly preferred that sufficient aerosol-forming material, such as glycerin and/or propylene glycol, be employed in order to provide for the generation of a visible mainstream aerosol that in many regards resembles the appearance of tobacco smoke. Typically, the amount of aerosol-generating material incorporated into the smoking article is in the range of less than about 1.5 g, often less than about 1 g, and sometimes less than about 0.5 g. The amount of aerosol-forming material is dependent upon factors such as

the number of puffs desired per tobacco-containing cartridge or cigarette incorporated within the smoking article. The amount of aerosol-forming material also can be dependent upon factors such as the position or location of that material relative to the heat-producing components of the smoking article, the ability of that material to wick or transfer to heating regions within the smoking article, the desired concentration of that material in the aerosol generated by the smoking article, and the like.

It is desirable for the aerosol-generating composition not to introduce significant degrees of unacceptable off-taste, filmy mouth-feel, or an overall sensory experience that is significantly different from that of a traditional type of cigarette that generates mainstream smoke by burning tobacco cut filler. The selection of the particular aerosol-generating material and substrate material, the amounts of those components used, and the types of tobacco material used, can be altered in order to control the overall chemical composition of the mainstream aerosol produced by the cigarette.

Other types of flavoring agents, or materials that alter the sensory or organoleptic character or nature of the mainstream aerosol of the smoking article, can be employed. Such flavoring agents can be provided from sources other than tobacco, can be natural or artificial in nature, and can be employed as concentrates or flavor packages. Of particular interest are flavoring agents that are applied to, or incorporated within, those regions of the smoking article where aerosol is generated. Exemplary flavoring agents include vanillin, ethyl vanillin, cream, tea, coffee, fruit (e.g., apple, cherry, strawberry, peach and citrus flavors, including lime and lemon), maple, menthol, mint, peppermint, spearmint, wintergreen, nutmeg, clove, lavender, cardamom, ginger, honey, anise, sage, cinnamon, sandalwood, jasmine, cascarilla, cocoa, licorice; and flavorings and flavor packages of the type and character traditionally used for the flavoring of cigarette, cigar and pipe tobaccos. Syrups, such as high fructose corn syrup, also can be employed. Flavoring agents also can include acidic or basic characteristics (e.g., organic acids, such as levulinic acid). Preferably, such flavoring agents constitute less than about 10 percent, and often less than about 5 percent of the total weight of tobacco, on a dry weight basis. The flavoring agents can be added to the tobacco material or to the aerosol-generating material or both.

The amount of tobacco incorporated within each smoking article can vary. For certain embodiments, the amount of tobacco cut filler incorporated within each smoking article is at

least about 20 mg, generally at least about 50 mg, often at least about 75 mg, and frequently at least 100 mg, on a dry weight basis. For certain embodiments, the amount of tobacco cut filler incorporated within each smoking article does not exceed about 400 mg, generally does not exceed about 350 mg, often does not exceed about 300 mg, and frequently does not exceed about 5 250 mg, on a dry weight basis. For segments or sections incorporating tobacco cut filler or processed tobacco in cut filler form, the packing density of the material within those segments or sections typically is less than about 400 mg/cm³, and generally is less than about 350 mg/cm³; while the packing density of the material within those segments or sections can exceed about 100 mg/cm³, and often can exceed about 150 mg/cm³. Preferably, each such segment or section is 10 composed entirely of tobacco and/or processed tobacco. Alternatively, each such segment or section can be composed of tobacco and/or processed tobacco mixed or blended with a non-tobacco substrate material. In either case, the tobacco material, and optional non-tobacco substrate material, can act as a substrate for aerosol-forming materials, flavoring agents, and the like.

15 The moisture content of the tobacco that is used within the smoking article can vary. Typically, the moisture content of the tobacco exceeds about 12 weight percent, and often can exceed about 15 weight percent. In certain circumstances, moist tobacco can be employed; and that tobacco can have a moisture content in excess of about 20 weight percent, often in excess of about 30 weight percent, and even in excess of about 40 weight percent.

20 Certain embodiments of the smoking article of the invention incorporate a cigarette rod as a necessary component. That is, the smoking article of the invention can incorporate a tobacco rod wrapped in paper or other wrapping material. The wrapping material used as a wrapper for containing the tobacco, and hence used for cigarette manufacture, can vary. Exemplary types of wrapping materials are set forth in US Pat. Nos. 4,938,238 to Barnes et al. 25 and 5,105,837 to Barnes et al. Wrapping materials, such as those set forth in U.S. Patent Appl. Pub. No. 2005/0005947 to Hampl, Jr. et al. and PCT Appl. Pub. No. WO 2005/039326 to Rasouli et al., can be employed as inner wrapping materials of a so-called “double wrap” configuration. An exemplary type of heat conductive wrapping material is set forth in US Pat. No. 5,551,451 to Riggs et al.; and other suitable wrapping materials are set forth in US Pat. Nos. 30 5,065,776 to Lawson et al. and 6,367,481 to Nichols et al.; each of which is incorporated herein by reference. Exemplary wrapping materials, such as laminates of paper and metal foil, and

papers used as the outer circumscribing wrapper of the heat generation segment, have been incorporated within the types of cigarettes commercially marketed under the trade names “Premier” and “Eclipse” by R. J. Reynolds Tobacco Company. Other representative wrapping materials, and processed wrapping materials, suitable for use for cigarette manufacture are set forth in US Pat. Nos. 5,220,930 to Gentry; 6,976,493 to Chapman et al.; and 7,047,982 to Seymour et al.; and US Pat. Application Ser. No. 11/377,630 filed March 16, 2006 to Crooks et al.; each of which is incorporated herein by reference. Paper materials can be composed of materials, or treated with films, in order to provide resilience, particularly when the paper material is used to contain tobacco materials that are substrates for relatively high amounts of liquid materials (e.g., aerosol-forming materials). For example, such papers can be treated with coatings of nitrocellulose or ethylcellulose. Alternatively, paper materials can be highly absorbent in nature, and can act as substrates for liquid materials (e.g., aerosol-forming materials, liquid flavoring agents, or mixture of aerosol-forming materials and tobacco extracts).

The tobacco can be wrapped in at least one layer of tobacco lamina and/or reconstituted tobacco sheet. As such, the tobacco that is incorporated within the smoking article is configured in a type of form characteristic of a cigar. Outer wrappers for cigar type tobacco segments or sections can act as substrates for liquid materials (e.g., aerosol-forming materials, liquid flavoring agents, tobacco extracts, or mixtures thereof).

The tobacco can be wrapped in moisture permeable and air permeable pouches, sachets, packets, or the like. For example, finely divided tobacco pieces can be sealed in mesh-type pouches. Suitable pouches are of the type traditionally used for containment of certain types of smokeless tobacco products. See, for example, the types of pouches and types of contents of those pouches that are set forth in US Pat. Appl. Serial Nos. 11/233,399, filed September 22, 2005, to Holton et al.; 11/351,919, filed February 10, 2006, to Holton et al.; and 11/461,633, filed August 1, 2006, to Mua et al.; which are incorporated herein by reference. Such pouches and the contents thereof can act as substrates for significant amounts of aerosol-forming materials, flavoring agents and tobacco extracts. For example, relatively high levels of liquid materials can be applied to, or incorporated within, those substrates; and those resulting materials can be considered to be moist, wet, tacky, sticky or gooey in nature. If desired, those substrates can be soaked in liquid mixtures of aerosol-forming material and other components that provide tobacco flavor characteristics to the aerosol produced by the smoking article. The number of

such types of pouches that are incorporated within a representative smoking article can vary, and typically can range, for example, from 1 to about 5.

The smoking article typically possesses a mouth-end piece. Representative types of filter elements, such as those employed for cigarettes, including segmented cigarette filter elements, are set forth in US Pat. Appl. Serial No. 11/461,941, filed August 2, 2006, to Nelson et al., which is incorporated herein by reference. Mouth-end pieces also can be fashioned into desired shapes using plastic materials such as nylon, polypropylene, polystyrene, poly(butadiene/styrene/acrylonitrile), or the like.

Representative smoking articles can possess certain components comparable to, and operate in a manner generally comparable to, that type of device set forth in EPO 1,618,803 to Hon. Representative smoking articles, and exemplary components thereof, also can be provided using components of those nicotine aerosol delivery systems available through Atlanta Imports Inc., Acworth, Georgia, USA., as an electronic cigar having the brand name E-CIG, which can be employed using associated Smoking Cartridges Type C1a, C2a, C3a, C4a, C1b, C2b, C3b and C4b. Exemplary components for representative smoking articles also have been available components of those devices available as Ruyan Atomizing Electronic Pipe and Ruyan Atomizing Electronic Cigarette from Ruyan SBT Technology and Development Co., Ltd., Beijing, China.

Aspects and embodiments of the present invention relating to various smoking articles now are described with reference to the illustrations contained in FIGS. 1-3. Referring to FIG. 1, an embodiment of a representative smoking article 10 is shown. The smoking article 10 has an overall shape that is generally rod-like or tubular in nature, generally akin to a cigarette-type or cigar-type smoking article. The smoking article 10 includes a distal end 13 and a mouth-end 15.

The smoking article 10 possesses an outer container or housing 20. Although the dimensions and shape of the outer container 20 can vary, a representative outer housing is generally tubular in shape (e.g., having an overall length of about 11 cm and an outer diameter of about 1.5 cm). The outer housing 20 can be provided using a variety of materials. For example, the outer housing 20 can be provided from metal (e.g., aluminum or stainless steel), heat-resistant plastic (e.g., polycarbonate), treated paperboard material, or the like. If desired, the outer housing can possess an aesthetically pleasing cover (not shown). A representative outer housing can be of the type possessed by the Ruyan Atomizing Electronic Cigarette available

from Ruyan SBT Technology and Development Co., Ltd. As shown, the outer housing 20 includes a mouth-end 15 and an end 13 distal to the mouth-end, wherein the mouth-end comprises an opening adapted for egress of an aerosol generated within the smoking article and the distal end comprises an opening adapted for intake of air into the smoking article 10.

5 The distal end 13 of the outer container 20 of the smoking article 10 can possess an end cover or cap 35. The end cover or cap 35 can be maintained in place by friction fit, a threaded screw mechanism that cooperates with a complementing threaded mechanism 28 that is secured to the distal region of the outer container, or the like. The end cover 35 can act to assist in maintaining various components of the smoking article contained within the outer container.

10 The end cover preferably possesses at least one air passageway 32 to allow drawn air to enter the inner region of the outer container 20. A representative end cover or cap 35 can be of the type possessed by the Ruyan Atomizing Electronic Cigarette available from Ruyan SBT Technology and Development Co., Ltd.

 Within the outer container 20 is located an electric power source 36, such as at least one

15 battery. The battery typically is maintained in place by a generally tubular battery holder 40 that is positioned and secured in place within the outer container 20. Typically, at least one longitudinally extending air passageway 45 allows for drawn air to pass by the battery towards the mouth-end 15 of the smoking article 10. As shown, the passageway 45 can be created by incorporation of one or more grooves in the battery holder 40 or, alternatively, by incorporating

20 ribs (not shown) extending into the interior of the battery holder in order to prevent the power source 36 from entering the passageway. The battery holder 40 also can act as a container for relevant electrical wiring (not shown) that passes from the battery to downstream regions of the smoking article 10. Representative types of power sources, and representative arrangements thereof within the outer container, are of the type incorporated within a device available as

25 Ruyan Atomizing Electronic Cigarette from Ruyan SBT Technology and Development Co., Ltd. If desired, higher power electrical power sources can be employed.

 The smoking article 10 incorporates various electrically powered control components 50. For a representative embodiment, the control components 50 are positioned within the tubular battery holder 40 in a region downstream from the battery 36. Typically, the electrically-

30 powered control components 50 include microchips that provide control of time of operation, control of current, control of electrical resistance heat generation, and the like. Exemplary

circuits that can be included in the controller 50 are set forth in FIGS. 4-5. The electrically-powered components 50 are powered by the battery 36. Representative types of electronic control components are of the type can be of the type possessed by the Ruyan Atomizing Electronic Cigarette available from Ruyan SBT Technology and Development Co., Ltd. See, also, the types of electronic systems set forth in US Pat. No. 4,947,874 to Brooks et al.

The representative smoking article 10 incorporates suitably adapted sensing mechanism 60 in order to provide for operation of the electrically powered components during desired periods of time. Representative types of sensing mechanism components are incorporated within a device available as Ruyan Atomizing Electronic Cigarette from Ruyan SBT Technology and Development Co., Ltd. See, also, those types of airflow sensing mechanisms proposed in EPO 1,618,803 to Hon; and US Pat. Nos. 4,735,217 to Gerth et al.; 4,947,874 to Brooks et al.; and 5,388,574 to Ingebrethsen. The sensing mechanism 60 also can be powered by the battery 36. Typically, the sensing mechanism components 60 are positioned within the outer container 20 in a location downstream from the electrically powered control components 50. The sensor 60, in concert with certain control circuitry within the controller 50, is preferably part of a puff-actuated controller adapted for regulating current flow through one or more of the resistance heating elements discussed below. The sensor 60 is preferably adapted for sensing draw (i.e., intake of air from the smoking article) by the user of the smoking article. Representative types of draw sensors are set forth in US Pat. No. 4,947,874 to Brooks et al., wherein pressure sensitive switches are discussed, such as pressure sensitive differential switches available from Micro Pneumatic Logic, Inc. of Ft. Lauderdale, Florida, pressure sensitive transducers, airflow-deflected vanes with motion sensors, and the like. See also, US Pat. No. 7,117,867 to Cox et al. The sensor 60 is configured to allow airflow through or around the sensor. In the embodiment shown, the sensor 60 is configured in an annular shape with a passageway through the center thereof. Other configurations are also possible, such as configurations with multiple passageways through or around the sensor 60.

The representative smoking article 10 also incorporates at least one electrical resistance heating element 70, 72. An optional first resistance heating element 70 can be located upstream from the sensing mechanism 60, and as such, can act to heat drawn air passing through the smoking article from the distal end 13 of the outer housing 20. A second resistance heating element 72 can be located downstream from the sensing mechanism 60. The resistance heating

elements 70, 72 also can be powered by the battery 36, and control of the operation of those heating elements can be controlled by the electrically powered control components 50. The heating elements 70, 72 are configured to allow airflow therethrough. The heating element 70 upstream of the sensor 60 is configured in the same manner as the sensor (i.e., in an annular shape); however, other configurations are possible as noted above.

Typically, the second resistance element 72 can be formed from relatively high surface area absorbent or wicking-type materials, such as graphite yarn, high surface area metallic cloth or screen, or the like. Resistance elements of such type are useful for supporting or holding sufficient aerosol-forming material for aerosol generation, as well as for wicking additional aerosol-forming material for aerosol generation during subsequent puffs. Alternatively, the second resistance element 72 can be employed in close proximity to an absorbent wicking material such that aerosol-forming material can be wicked or otherwise transferred so as to contact the second resistance element or contact an area in close proximity to the second resistance element (e.g., a region that is exposed to a the heat produced by the second resistance element). Representative types of resistance heating elements are incorporated within a device available as Ruyan Atomizing Electronic Cigarette from Ruyan SBT Technology and Development Co., Ltd. If desired, each of the heating elements 70, 72 can be arranged to have current pass therethrough (and hence provide heat) in response to a signal provided by a puff-actuated controller that regulates current through one or more of the heating elements in response to signals from the sensor 60. For example, each heating element 70, 72 can be turned “on” and “off” in response to a signal provided in response to the sensing mechanism 60 and related control circuitry. Alternatively, current flow through the first heating element 70 can be controlled during periods of normal use of the smoking article 10, and current flow through the second heating element 72 can be controlled only during periods of draw (i.e., the second heating element will be energized when the sensor 60 detects draw by the user).

The representative smoking article 10 of FIG. 1 incorporates a cartridge 85. The cartridge can be manufactured from a variety of materials, such as metal (e.g., aluminum or stainless steel), paper (e.g., paperboard or paper coated with a hydrophobic film or coating), plastic (e.g., polyester, polypropylene, nylon, polycarbonate, or the like). The cartridge 85 contains tobacco 89 in some form. The cartridge 85 also most preferably contains aerosol-forming material. The tobacco 89 and the aerosol-forming material can be in the form of an

intimate mixture or provided in separate regions of the cartridge 85. Representative types of cartridges are of the type incorporated within a device available as Ruyan Atomizing Electronic Cigarette from Ruyan SBT Technology and Development Co., Ltd. can be modified by adding tobacco extract thereto, or by removing at least a portion of the substrate and nicotine-containing material incorporated therein and replacing that removed portion with a tobacco composition. For example, for the embodiment shown in FIG. 1, the cartridge 85 can contain an upstream segment 95 composed of tobacco filler or processed tobacco filler material 89 incorporating aerosol-forming material, and a downstream segment 98 composed of a substrate 101, such as fibers of polyethylene terephthalate carrying flavors and/or aerosol-forming material. The representative smoking article 10 is assembled such that a certain amount of aerosol-forming material and tobacco components can be wicked or otherwise transferred to heating element 72 or the region in close proximity to the heating element. Optionally, as shown, the extreme mouth end region of the cartridge 85 is sealed, and as such, tobacco components and aerosol-forming material have a tendency to travel upstream towards the resistance heater 72. Typically, at least one air passageway 115 extends longitudinally between the inner surface of the outer container 20 and the outer surface of the cartridge 85. This air passageway 115 can be created using the same techniques noted above in connection with the passageway 45 in the batter holder 40.

A representative cartridge 85 is provided by modifying the components of a cartridge employed in a device available as Ruyan Atomizing Electronic Cigarette from Ruyan SBT Technology and Development Co., Ltd. For example, the section or segment of the fibrous substrate and aerosol-forming material is removed from that cartridge and discarded, and that portion is replaced by a section or segment composed of tobacco cut filler saturated with a mixture of glycerin and spray dried tobacco extract. As another example, a web of reconstituted tobacco sheet that is gathered so as to possess a plurality of longitudinally extending passageways can be treated with a mixture of propylene glycol, flavoring agent and tobacco extract. As still another example, the whole section or segment of the fibrous substrate and aerosol-forming material is removed from that cartridge and discarded, and all of that material is replaced by a section or segment composed of aqueous extracted tobacco cut filler pulp saturated or nearly saturated with a mixture of glycerin, flavoring agent and spray dried tobacco extract. As a further example, the fibrous substrate and aerosol-forming material can be positioned in the upstream end of the cartridge, and the downstream end of the cartridge can be provided by a

plurality of formed tobacco pieces or pellets that act as a substrate for aerosol-forming material and flavoring agent.

The amount of aerosol-forming material, tobacco extract, flavoring agent, and the like that is carried by the substrate can vary; and the weight of those ingredients typically can be as much as at least equal to, often can be at least about twice that, and frequently can be at least about three times that, of the dry weight of the substrate. As such, the cartridge can be adapted to provide components, of types and in amounts, sufficient to provide aerosols demonstrating acceptable visual characteristics, acceptable mouthfeel and other organoleptic effects, acceptable tobacco flavor, and the like.

In a further embodiment, tobacco can be incorporated within a cartridge 85 having the ability to act as a type of liquid storage container of the smoking article. For example, powdered spray dried tobacco extract can be incorporated within the liquid storage container 85, or liquid tobacco extracts or essences can be combined within components contained within the liquid storage container (e.g., aerosol-forming materials) so as to be intimately combined with those components. In another embodiment, pieces of tobacco lamina, stems, or processed tobacco can be incorporated within the liquid storage container 85. For example, pieces of tobacco lamina cut filler, tobacco dust, or pieces of reconstituted tobacco sheet, can be incorporated within the liquid storage container. As such, the tobacco can be mixed with, or be part of, the aerosol-forming mixture within the cartridge 85. Most preferably, essentially pure nicotine, extracts composed predominantly of nicotine, or formulations composed predominantly of nicotine, are not incorporated within the liquid storage container 85 or elsewhere within the smoking article.

In another embodiment, the tobacco can be located within the smoking article 10 in a region that is physically separate from the cartridge 85. For example, the tobacco can be positioned so as to abut the cartridge 85, or positioned in a spaced apart relationship relative to the cartridge. As such, the tobacco is not mixed with the aerosol-forming mixture within the cartridge 85. In one embodiment, a charge or roll of tobacco cut filler wrapped in paper (e.g., so as to provide a generally cylindrical charge of tobacco) can be positioned either upstream or downstream from the cartridge 85. In another embodiment, tobacco-containing reconstituted tobacco sheet (e.g., a formed cast sheet or reconstituted tobacco paper) can be used as wrapping materials of various components (e.g., including the cartridge 85) within the smoking article 10. In another embodiment, tobacco cut filler can surround the cartridge 85 or other components

located within the smoking article 10. In another embodiment, tobacco extract can be carried by a substrate or positioned within a cartridge that is located within the smoking article 10 physically separate from the aforementioned cartridge 85 that contains the aerosol-forming material.

5 The number of puffs during the use of a single cartridge 85 can vary, depending upon factors such as the amount of aerosol-forming material, tobacco, and other associated components that is employed, the form of those components, the positioning of those components within the smoking article 10 relative to the resistance heating elements, and the like. The amount of those components can be sufficient to provide, for example, about 10 to
10 about 15 puffs per cartridge, when that cartridge is employed within a smoking article and smoked under FTC smoking conditions. However, amount of those components can be sufficient to provide, for example, greater than about 200 puffs per cartridge, often greater than about 400 puffs per cartridge, and frequently greater than about 600 puffs per cartridge, when that cartridge is employed within a smoking article and smoked under FTC smoking conditions.
15 For smoking articles employing cartridges containing sufficient components to provide a relatively large number of puffs, those smoking articles can be employed in conjunction with removable caps, or other suitable sealing means, in order that the smoking article can be sealed during periods of non-use. The smoking article 10 can be configured such that the cartridge 85 can be removed from the smoking article and replaced as needed.

20 The smoking article 10, at its mouth-end 15, possesses a mouth-end piece 120. The mouth-end piece 120, which is typically removable, can be maintained in place by friction fit, a threaded screw mechanism that cooperates with a complementing threaded mechanism that is secured to the outer container, or the like. A representative mouth-end piece can be of the type incorporated within a device available as Ruyan Atomizing Electronic Cigarette from Ruyan
25 SBT Technology and Development Co., Ltd. Alternatively, the mouth-end piece 120 can have the form of other types of holders that have been proposed for use with smoking articles. See, also, for example, the types of mouth-end pieces and cigarette-type filter elements set forth in US Pat. Appl. Serial No. 11/377,630 filed March 16, 2006 to Crooks et al.

30 During use, the mouth-end 15 of the smoking article 10 is placed in the lips of the smoker. Air is drawn through the air passageways or openings 32 in the cap 35 located at the distal end 13 of the smoking article, and into the outer container 20. Drawn air passes through

air passageway 45 that extends along the length of the power source 36 and the electronic control components 50, through an air passageway area within the first heating element 70, through the air flow sensing region 60, past or through the second heating element 72, through air passageway 115 that extends along the length of the cartridge 85, and into the mouth-end piece 120. Typically, resistance heating elements provide surface region temperatures, and hence the ability to heat aerosol-forming materials and tobacco materials in surrounding regions in the vicinity of those heating elements. Typically, during relevant periods of use, those heating elements can provide surface region temperatures of at least about 200°C, and often at least about 300°C. Typically, those temperatures do not exceed about 600°C, often do not exceed about 500°C, and frequently do not exceed about 400°C. Aerosol that is formed by the action of drawn air passing heated tobacco components and aerosol-forming material in the region occupied by the second heating element 72 is drawn through the mouth-end piece 120, and into the mouth of the smoker. That is, when used, the smoking article 10 yields visible mainstream aerosol that preferably resembles the mainstream tobacco smoke of traditional cigarettes that burn tobacco cut filler. The aerosol may also contain flavors and other components provided by, or derived from, tobacco.

Referring to FIG. 2, another embodiment of a representative smoking article 10 is shown. The smoking article 10 has a rod-like shape, and includes a distal end 13 and a mouth-end 15. The smoking article 10 possesses certain components comparable to, and in certain regards operates in a manner generally comparable to, that smoking article described previously with reference to FIG. 1. However, the smoking article is adapted to incorporate a cigarette 150.

An exemplary type of cigarette 150 possesses a charge or roll of tobacco 89 (e.g., tobacco cut filler or processed tobacco material) wrapped in wrapping material 160 (e.g., paper). The length of the resulting tobacco rod can vary; with a typical tobacco rod having a length of at least about 30 mm, often at least about 40 mm, while a typical tobacco rod has a length that does not exceed about 60 mm, and often does not exceed about 50 mm. The circumference of the tobacco rod can vary; with a typical tobacco rod having a circumference of about 20 mm to about 35 mm, and often about 25 mm to about 30 mm. Depending upon factors such as the ingredients incorporated within the cigarette 150, the number of puffs of aerosol per cigarette than are expected, the configuration of the holder into which the cigarette is inserted, the amount of heat

generated by the resistance heating element, and the like, the physical dimensions of the cigarette can be smaller than those of conventional, commercially available cigarettes that burn tobacco.

Typically, the wrapping material 160 is wrapped around the tobacco 89 so as to form a generally cylindrical rod-shaped cigarette rod or tobacco rod. That is, the wrapping material 160 is formed into a generally tubular shape, and the tobacco is positioned within the hollow region within that tube. Preferably, the wrapping material 160 is formed such that each end of the tobacco rod is open to expose the tobacco contained therein, and to allow the passage of drawn air therethrough.

The wrapping material 160 can vary. The wrapping material 160 can be a paper wrapping material of the type traditionally used for cigarette manufacture. The wrapping material 160 also can be composed of a laminate of metallic foil and paper, and as such, heat generated by the second heating element can heat the metallic foil of the laminate and hence heat the tobacco contained within that laminate. See, for example, the types of wrapping materials, wrapping material laminates and wrapping material configurations set forth US Pat. Appl. Ser. No. 11/377,630 filed March 16, 2006 to Crooks et al.

For the embodiment shown, the cigarette 150 possesses a type of cartridge 85 at its distal end within the wrapping material 160 and in fluid communication with the tobacco rod. That optional cartridge 85 contains an aerosol-generating material composition 101 therein. The components of the composition 101 can include a substrate material (e.g., polyethylene terephthalate fibers) that can be mixed or blended with tobacco filler. Typically, the substrate materials act as carriers for tobacco components and other aerosol-forming materials that can be delivered to the mouth of the smoker. The cartridge 85 can have a generally tubular shape with open ends such that air may flow therethrough. Cartridges can be manufactured from a variety of materials, such as paper or plastic, or heat conductive materials (e.g., metal foil, metal mesh or screen, ceramic non-woven web, or the like). Typically, when present, the length of the cartridge 85 does not exceed about 30 mm, and often does not exceed about 20 mm. Typically, when present, the cartridge 85 has a length of at least about 5 mm, and often at least about 10 mm. Optionally, an air passageway or gap (not shown) can exist downstream from the cartridge 85, or the cartridge 85 can abut the tobacco rod as shown in FIG. 2 such that some migration of material between the tobacco rod and the cartridge is possible. Such an air passageway, when present, typically has a length of up to about 10 mm.

In one embodiment, the cartridge 85 and/or the wrapping material 160 of the tobacco rod can be manufactured from materials that, to some degree, conduct electricity. As such, depending upon the positioning of the cigarette 150 within the smoking article 10, the cartridge 85 and/or the wrapping material 160 can be in electrical contact with the electrical circuitry associated with the electrical resistance heating element 72. As a result, it is possible that some degree of electrical resistance heating also can be provided by the cartridge 85 and/or the wrapping material 160.

In one embodiment, the cartridge 85 can be virtually devoid or free of nicotine. For example, the cartridge 85 can contain aerosol-forming materials, non-tobacco flavoring agents, and optionally, tobacco (e.g., as pieces of tobacco or as an extract) that has been de-nicotinized (e.g., using de-nicotinization processes or by using tobaccos virtually devoid of nicotine). As such, visible aerosol or flavored visible aerosol that is produced solely using components incorporated within the container 85 possesses virtually no nicotine. Rather, nicotine provided to the smoker of the smoking article within the mainstream aerosol delivered by the smoking article is provided by action upon tobacco 89 located in another region of the smoking article 10 rather than from nicotine incorporation within the cartridge 85.

In one embodiment, the cartridge 85 can contain a gathered web of paper that incorporates carbon particles (e.g., about 10 to about 60 weight parts carbon and about 40 to about 90 weight parts wood pulp or flax fiber). See, for example, the types of carbon-containing papers set forth in US Pat. No. 5,360,023 to Blakley et al., which is incorporated herein by reference. For example, a gathered sheet of carbon paper weighing about 40 mg, and having a length of about 10 mm to about 20 mm, can be saturated with a liquid mixture of glycerin, tobacco extract, and flavoring agent (e.g., with about 40 mg to about 120 mg of liquid mixture).

In a further embodiment, the cartridge 85 can contain a gathered web of paper that incorporates calcium carbonate particles (e.g., about 10 to about 40 weight parts calcium carbonate and about 60 to about 90 weight parts wood pulp or flax fiber). For example, a gathered sheet of carbon paper weighing about 40 mg, and having a length of about 10 mm to about 20 mm, can be saturated with a liquid mixture of glycerin, tobacco extract, and flavoring agent (e.g., with about 40 mg to about 100 mg of liquid mixture).

In yet another embodiment, the cartridge 85 can contain a fibrous carbonaceous material (e.g., graphite fibers). For example, a segment formed from about 40 mg to about 100 mg of

those fibers, and having a length of about 10 mm to about 20 mm, can be saturated with a liquid mixture of glycerin, tobacco extract, and flavoring agent (e.g., in an amount of about 3 times of the dry weight of those fibers).

5 In a still further embodiment, the cartridge 85 can contain a reconstituted tobacco material (e.g., a cast sheet type material, an extruded material, or a paper-type reconstituted tobacco material) that incorporates particles or pieces of highly heat conductive materials (e.g., a matrix of aluminum wires, aluminum foil, copper wire, copper tubing, metal beads, or the like). Representative pieces or beads can have lengths, thicknesses or diameters of about 0.01 micrometers to about 1 mm. That material can act as a substrate for aerosol-forming material, 10 tobacco extract, flavoring agents, and the like, and also can act as a conductor of heat produced by electrical resistance heating to regions within the cigarette 150.

If desired, the region of the cigarette 150 that is wrapped in the paper wrapper 160 can be composed entirely of tobacco material, processed tobacco material, or a blend of tobacco material and other substrate material, and those materials is treated in such a manner so as to act 15 as substrates for aerosol-forming materials. For such an embodiment, the previously described cartridge 85 is not incorporated within the cigarette 150, and the components contained within the wrapping material 160 are not necessarily positioned or arranged therein in a segmented fashion.

The cigarette 150 also can possess an optional filter element 200 located at the 20 downstream end of the tobacco rod. The filter element can be composed of filter material 215 (e.g., cellulose acetate tow, gathered polypropylene web, plasticized cellulose acetate tube, or the like) wrapped in circumscribing plug wrap 218. The filter element can be attached to the tobacco rod using a tipping material 222 that circumscribes the length of the filter element 200 and an adjacent region of the tobacco rod.

25 The mouth-end piece 120 of the smoking article 10 can be adapted to act as a support for the filter element 200 of the cigarette 150, and can be removably attached to the outer housing 20 of the smoking article. That is, the mouth-end piece 120 can be removed from the outer housing 20 of the smoking article 10, the filter element 200 of the cigarette 150 can be secured within the mouth-end piece (e.g., by friction fit), and the cigarette can be inserted into the downstream end 30 of the outer housing. In such a circumstance, the mouth-end piece 120 can have a generally

tubular shape. As such, the mouth-end piece can act as a type of support for the cigarette 120 while that cigarette is positioned within the outer housing 20 for use.

During use, the mouth-end 15 of the smoking article 10 is placed in the lips of the smoker. Air is drawn through the through the air passageways or openings 32 in the cap 35 located at the distal end 13 of the smoking article, and into the outer container 20. Draw air passages through air passageway 45 that extends along the length of the power source 36 and the electronic control components 50, through an air passageway area within the first optional heating element 70, through the air flow sensing region 60, past or through the second heating element 72, through the cigarette 150 (including through cartridge 85), and into the mouth-end piece 120. Heat generated by the heating elements acting upon the tobacco and components thereof acts to volatilize components of the tobacco or otherwise cause components of tobacco to be entrained in drawn air. As such, the resulting aerosol incorporating tobacco components or tobacco-derived components is drawn into the mouth of the smoker. After use, the spent cigarette 150 is removed from the outer container 20 and disposed of, and when desired, a new cigarette is replaced within the outer container.

Referring to FIG. 3, yet another embodiment of a representative smoking article 10 is shown. The smoking article possesses a distal end 13 and a mouth-end 15. The smoking article 10 possesses certain components comparable to, and in certain regards operates in a manner generally comparable to, that smoking article described previously with reference to FIG. 1. The smoking article 10 is adapted to incorporate a type of cigarette 150. The tobacco segment 89, circumscribed with a wrapping material 160, can be provided so as to provide tobacco components or tobacco derived components by the action of heat. Components of the tobacco segment 89 can be treated (e.g., by contact with metal salts, moisture, or other suitable materials) in order that the tobacco (e.g., as cut filler, reconstituted tobacco sheet, or the like) that is subjected to heating by the action of the electrically generated heat exhibits desirable heat resistance, does not burn to an undesirable extent, experiences a controlled smolder, or the like. The tobacco segment 89 can also incorporate an aerosol-generating material. As shown, the cigarette 150 may include a filter element 200 as noted in connection with FIG. 2.

The smoking article 10 possesses a third optional resistance heating element 300 that is powered by the power source 36. The third resistance heating element is operated in essentially the same manner as the first and second resistance heating elements 70, 72 that have been

described previously with reference to FIG. 1. As such, the third resistance heating element 300 is powered by the power source 36 and controlled by the electrically powered control components 50, through suitable electrical connections, such as conductive wires, or the like (not shown). The third resistance heating element 300 can be provided by a suitable conductive material that can be suitably used as a resistance heating element, such as non-woven graphite yarn or web, ceramic material, metallic cloth or screen, metal alloy sheet, or the like. The physical size and shape of the third resistance heating element is such that the heating element can provide heat to at least a portion of the tobacco 89 of the cigarette 150. For example, the third resistance heating element 300 can have the general shape of a tube that is adapted to fit snugly around a portion of a tobacco rod 89 inserted therein. Alternatively, the third resistance heating element 300 can have a form so that aerosol-forming material and extracted tobacco components can be wicked from a tobacco substrate or a substrate paper material that is wrapped around that tobacco 89. If desired, at least one of the resistance heating elements (e.g., the first and/or third resistance elements) can be equipped with a separate on/off timing mechanisms and/or switching mechanisms in order that the cigarette 150 can be pre-heated or heating can be otherwise controlled during certain desired periods of use of the smoking article 10. In other words, each heating element can be selectively and separately controlled in certain embodiments. If desired, each of the heating elements can be arranged to have current pass therethrough (and hence provide heat) in response to a signal provided by response to the sensing mechanism component 60. For example, each heating element can be turned “on” and “off” in response to a signal provided by response to the sensing mechanism 60. Alternatively, current flow through the first heating element 70 can be controlled during periods of normal use of the smoking article 10, and current flow through the second heating element 72 can be controlled only during periods of draw. Thus, each resistance heating element can provide differing amounts of heat, and can be operated to provide heat during differing periods.

Optionally, the size and shape of the second resistance heating element 72 can be altered. For example, as shown in FIG. 3, at least a portion of the second resistance heating element can be elongated, and at least a portion thereof can extend downstream within the outer container 20. As such, at least a portion of the second resistance heating element can extend into the tobacco segment 89, and hence be in close contact with a significant amount of substrate and aerosol-forming material within the tobacco.

Preferably, a thermally insulated region 400 circumscribes the resistance heating element 300 of the smoking article 10 as shown, although the insulation can extend further down the smoking article and circumscribe, for example, the first and second heating elements as well. Representative types and configurations of insulation are set forth in US Pat. Appl. Ser. Nos. 5 11/194,215 filed August 1, 2005, to Cantrell et al. and 11/377,630 filed March 16, 2006 to Crooks et al. As such, there is provided a way to prevent the outer regions of the outer container 20 from becoming unduly hot to the touch during use of the smoking article 10. In addition, a series of substantially non-permeable walls or like structural regions 420 can assist in ensuring that drawn air has a tendency to pass through the tobacco 89 during use of the smoking article 10. The insulating material 400 also can be positioned elsewhere within the smoking article 10. For example, insulating material 400 can be used as a substrate material for tobacco extract, tobacco dust, aerosol-forming material, flavoring agent, and the like. In addition, insulating material 400 can be positioned at the locations or regions near the distal end 13 of the smoking article 10, around the power source 36, around the electronic and/or puff control components of 15 the smoking article 10, or elsewhere.

During use, the mouth-end 15 of the smoking article 10 is placed in the lips of the smoker. Air is drawn through the air passageways or openings 32 in the cap 35 located at the distal end 13 of the smoking article, and into the outer container 20. Draw air passages through air passageway 45 that extends along the length of the power source 36 and the electronic control 20 components 50, through an air passageway area within the first heating element 70, through the air flow sensing region 60, past or through the second heating element 72, through the cigarette 150, and into the mouth-end piece 120. Heat generated by the three heating elements 70, 72, 300 acting upon the tobacco and components thereof act to volatilize components of the tobacco or otherwise cause components of tobacco to be entrained in drawn air. Typically, resistance 25 heating elements provide surface region temperatures, and hence the ability to heat aerosol-forming materials and tobacco materials in surrounding regions in the vicinity of those heating elements. Typically, during relevant periods of use, those heating elements can provide surface region temperatures of at least about 200°C, and often at least about 300°C. Those temperatures typically do not exceed about 600°C, often do not exceed about 500°C, and frequently do not 30 exceed about 400°C. As such, the resulting aerosol incorporating tobacco components or tobacco derived components is drawn into the mouth of the smoker. After use, the spent

cigarette 150 is removed from the outer container 20 and disposed of, and when desired, a new cigarette is replaced within the outer container. Removal of the cigarette 150 can be accomplished by removing the mouthpiece 120, which is typically removably attached to the outer housing 20.

5 For all the embodiments described above, the selection of battery and resistance heating elements can vary, and can be a matter of design choice. For example, the battery voltage, amount of electrical current and resistance provided by the various resistance heating elements can be selected to provide sufficient power for initial heating (e.g., sufficient to provide virtually immediate aerosol formation and delivery of tobacco derived components upon draw), adequate heating of relevant components within the smoking article (i.e., sufficient heat to generate aerosol formation), adequate power source lifetime, and the like. Typically, the various components of the various control circuitry acts to ensure that current is controlled in order that resistance heating heats relevant components to a desired temperature or within a desired temperature range (i.e., a preferred smoking article does not overheat). Selection of the power source and resistance heating elements can be a matter of design choice, and will be readily apparent to one skilled in the art of design and manufacture of electrical resistance heating systems.

10 If desired, the smoking articles 10 of the present invention optionally can be air diluted. For smoking articles 10 that optionally are air diluted or ventilated, the amount or degree of air dilution or ventilation can vary. Frequently, the amount of air dilution for an air diluted cigarette is greater than about 10 percent, generally is greater than about 20 percent, often is greater than about 30 percent, and sometimes is greater than about 40 percent. Preferably, the upper level for air dilution for an air diluted cigarette is less than about 80 percent, and often is less than about 70 percent. As used herein, the term “air dilution” is the ratio (expressed as a percentage) of the volume of air drawn through the air dilution means to the total volume and air and aerosol drawn through the cigarette and exiting the mouth end portion of the cigarette. Higher air dilution levels can act to reduce the transfer efficiency of aerosol-forming material into mainstream aerosol.

25 Preferred smoking articles 10 of the present invention exhibit desirable resistance to draw. For example, an exemplary smoking article exhibits a pressure drop of between about 50 and about 200 mm water pressure drop at 17.5 cc/sec. air flow. Preferred smoking articles

exhibit pressure drop values of between about 60 mm and about 180, more preferably between about 70 mm to about 150 mm, water pressure drop at 17.5 cc/sec. air flow. Preferably, pressure drop values of smoking articles are measured using a Filtrona Cigarette Test Station (CTS Series) available from Filtrona Instruments and Automation Ltd.

5 Aerosols that are produced by smoking articles of the present invention are those that comprise air-containing components such as vapors, gases, suspended particulates, and the like. Aerosol components can be generated by the action of heat upon tobacco of some form; and in certain circumstances, by thermally decomposing tobacco caused by heating tobacco, smoldering tobacco, and charring tobacco; and by vaporizing aerosol-forming agent. As such, the aerosol
10 can contain volatilized components, combustion products (e.g., carbon dioxide and water), incomplete combustion products, and products of pyrolysis. Aerosol components may also be generated by the action of heat from burning tobacco of some form (and optionally other components that are burned to generate heat), upon substances that are located in a heat exchange relationship with tobacco material that is burned and other components that are burned.
15 Aerosol components may also be generated by the aerosol generation system as a result of the action of heat of the heat generation system. Most preferably, components resulting from the aerosol generation system have an overall composition, and are positioned within the smoking article, such that those components have a tendency not to undergo a significant degree of thermal decomposition (e.g., as a result of combustion, smoldering or pyrolysis) during
20 conditions of normal use.

Referring to FIG. 4, there is shown a diagram of an embodiment of an electronic circuit 500 that can be incorporated within a smoking article of the present invention. The control circuitry for the smoking articles of the invention can be assembled as discrete electronic components or functionally as an integrated microprocessor device. The representative circuit
25 includes a power source 36, an actuation mechanism 510 (e.g., an actuation switch), and at least one resistance heating element; and for the embodiment shown, a first resistance heating element 70, a second resistance heating element 72, and a third resistance heating element 300. Such a circuit that incorporates three resistance heating elements can be incorporated within the type of smoking article described previously with reference to FIG. 3. It is noted that the circuit 500 of
30 FIG. 4 can be readily adapted for use in a smoking article comprising two heating elements by

simply removing the circuit pathways involving heating element 300, and thus would be suitable for use in the embodiments of FIGS. 1 and 2.

The actuation mechanism 510 typically is a switching mechanism that can be engaged by activity of the smoker. That is, such a switch can be activated by pressing or other type of movement by the smoker using his/her finger, by activation by contact with the lips of the smoker, or by at least one other type of sensing mechanism located at an appropriate location on the smoking article. A representative switch can be manually operated by the smoker.

The circuit preferably incorporates a timing mechanism 520. Such a timing mechanism can be programmed to provide for a controlled period of operation. For example, after the circuit has been activated by activity resulting in the switching of the current actuation mechanism 510 to an "on" position, the timing mechanism operates for a selected period of time (e.g., 1 minute, 2 minutes, 4 minutes, or the like). In the event that the remaining portion of the circuit is reactivated within the selected period of time, the timing mechanism 520 is reset and begins operating again. In the event of the occurrence a certain period of inactivity or non-use, the timing mechanism then can act to turn the circuit "off," until reactivation of the cycle.

During operation of the circuit, current passes through the first resistance heating element 70 and the third resistance heating element 300, and as such, those resistance heating elements produce heat. Control of the temperatures generated by each resistance heating element is provided by control mechanisms 530, 540, respectively.

A puff control mechanism 550, such as a suitable air flow sensing switch, acts to complete the circuit that provides current to the second resistance heating element 72. That is, during periods of draw, the circuit that provides current through the second resistance heating element is closed, and hence that heating element produces heat. A predetermined quantity of heat can be produced by current controlled by a timer (e.g., a fixed pulse set at about 0.5 second to about 2 seconds in duration). Alternatively, a series of "on/off" types of pulses can be provided during draw periods. When draw is complete, that circuit is broken. A control mechanism 560, such as a timer, acts to provide for control of the current passing through the circuit, and hence the amount of heat generated by heating element. For example, for longer puff periods, current supplied to the heating element, and hence power for aerosol generation, can be provided by a controlled sequential "on" and "off" signal provided by the timer. Typically, the timed period for current flow ranges from about 0.1 second to about 1 second, and about 0.2

second to about 0.6 second generally can be employed; while the “off” period for between periods of periodic current flow often can range from about 0.1 second to about 0.6 second.

Referring to FIG. 5, there is shown a diagram of another embodiment of an electronic circuit 500 that can be incorporated within a smoking article of the present invention. It is again
5 noted that the control circuitry for the smoking articles of the invention can be assembled as discrete electronic components or as an integrated microprocessor device. The representative circuit includes a power source 36, an actuation mechanism 510, and at least one resistance heating element; and for the embodiment shown, a first resistance heating element 70, a second resistance heating element 72, and a third resistance heating element 300. Such a circuit that
10 incorporates three resistance heating elements can be incorporated within the type of smoking article described previously with reference to FIG. 3. Again, simply removing the third heating element 300 could produce a circuit useful in other smoking article embodiments set forth herein.

The circuit preferably incorporates a timing mechanism 520. Such a timing mechanism
15 can be programmed to provide for a controlled period of operation. For example, after the circuit has been activated by activity resulting in the switching of the current actuation mechanism 510 to an “on” position, the timing mechanism operates for a selected period of time. In the event that the remaining portion of the circuit is activated, the timing mechanism is reset and begins operating again. In the event of the occurrence a certain period of inactivity or non-use, the
20 timing mechanism then can act to turn the circuit “off.”

During operation, current passes through the first resistance heating element 70 and the third resistance heating element 300, and as such, those resistance heating elements produce heat. Control of the temperatures generated by each resistance heating element is provided by control mechanisms 530, 540, respectively.

25 A puff control mechanism 590 acts to complete the circuit that provides current to the second resistance heating element 72. That is, during periods of draw, the circuit that provides current through the second resistance heating element is closed, and hence that heating element produces heat. When draw is complete, that circuit is broken. In the embodiment shown, the puff control mechanism 590 is provided by a pressure sensor 570 and a threshold detector 580
30 (e.g., a Schmitt trigger), which can provide for control of the current passing through the second resistance heating element 72, and hence for heat generation by heating element 72 that is

proportional to the period and magnitude of the draw. For example, for longer puff periods, current supplied to the heating element 72, and hence power for aerosol generation, can be provided for longer periods of time. As another example, for deeper or more rigorous puffs, a sensing of stronger draw can be used to provide for greater current flow to the appropriate
5 resistance heating element, and hence provide for a correspondingly greater aerosol generation. Alternatively, a separate switch (not shown) can be selected by the smoker to provide control of current to at least one of the resistance heating elements; and as such, during periods of draw (e.g., whether or not the draw or puff is intense, long, short, deep, shallow, large in volume, small in volume, or the like) the conditions associated with heat generation for aerosol formation
10 are controlled, and hence, consistent aerosol formation can be provided during each puff.

Many modifications and other embodiments of the invention will come to mind to one skilled in the art to which this invention pertains having the benefit of the teachings presented in the foregoing description; and it will be apparent to those skilled in the art that variations and modifications of the present invention can be made without departing from the scope or spirit of
15 the invention. Therefore, it is to be understood that the invention is not to be limited to the specific embodiments disclosed and that modifications and other embodiments are intended to be included within the scope of the appended claims. Although specific terms are employed herein, they are used in a generic and descriptive sense only and not for purposes of limitation.

What is claimed is:

1. A tobacco-containing, electrically-powered smoking article comprising:
 - (a) a tubular outer housing having a mouth-end and an end distal to the mouth-end, the housing comprising an opening adapted for intake of air into the smoking article;
 - (b) an electrical power source within the outer housing;
 - 5 (c) at least one electrical resistance heater within the outer housing, the heater being configured to allow air flow therethrough and being powered by said electrical power source;
 - (d) a controller adapted for regulating current flow through the heater; and
 - (e) a rod-shaped carrier device removably engaged with the mouth-end of the outer housing and comprising a tubular mouth-end piece and a tubular cartridge with two open ends
 - 10 allowing air to flow therethrough, wherein the cartridge includes a substrate that comprises a tobacco material and an aerosol-generating material, wherein the cartridge is operatively positioned within the outer housing and adjacent to the heater such that the electrical resistance heater is adapted for heating at least a portion of the tobacco and the aerosol-generating material and such that air drawn into the outer housing passes through at least a portion of the heater,
 - 15 through the cartridge, and through the mouth-end piece.

2. The smoking article of claim 1, wherein the aerosol-forming material comprises glycerin, propylene glycol, or a mixture thereof.

- 20 3. The smoking article of claim 1, wherein the substrate comprises an absorbent material.

4. The smoking article of claim 3, wherein the absorbent material comprises a paper material.

- 25 5. The smoking article of claim 3, wherein the absorbent material comprises a paper-type reconstituted tobacco.

6. The smoking article of claim 1, wherein the substrate comprises a paper material with a tobacco extract and the aerosol-generating material absorbed thereon.

5 7. The smoking article of Claim 1, wherein the substrate comprises polyethylene terephthalate fibers.

8. The smoking article of claim 7, wherein polyethylene terephthalate fibers are blended with tobacco cut filler.

10 9. The smoking article of claim 1, wherein the substrate further comprises a flavoring agent.

10. The smoking article of claim 1, wherein the substrate further comprises carbon particles or calcium carbonate particles therein.

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11. The smoking article of claim 1, wherein the substrate further comprises a fibrous carbonaceous material.

20 12. The smoking article of claim 1, wherein the substrate is a laminate of metallic foil and paper.

13. The smoking article of claim 12, wherein the paper comprises reconstituted tobacco.

25 14. The smoking article of claim 12, wherein the paper includes a tobacco extract and the aerosol-generating material absorbed thereon.

15. The smoking article of claim 14, wherein the paper further includes a flavoring agent absorbed thereon.

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16. The smoking article of claim 1, further comprising a sensor adapted for sensing draw on the smoking article.

5 17. The smoking article of claim 1, wherein the heater is tubular in shape and positioned around the cartridge.

18. The smoking article of claim 1, wherein the heater comprises at least one elongated portion extending downstream therefrom.

10 19. The smoking article of claim 1, wherein at least a portion of the cartridge is circumscribed by a wrapping material.

15 20. The smoking article of claim 1, wherein the cartridge is conductive and in electrical contact with an electrical circuitry within the smoking article such that electrical resistance heating can be provided by the cartridge.

21. The smoking article of claim 20, wherein the substrate incorporates a conductive material that conducts heat produced by electrical resistance heating.

20 22. The smoking article of claim 21, wherein the conductive material comprises aluminum or copper.

23. A tobacco-containing, electrically-powered smoking article comprising:
25 (a) a tubular outer housing having a mouth-end and an end distal to the mouth-end, the housing comprising an opening adapted for intake of air into the smoking article;
(b) an electrical power source within the outer housing;
(c) at least one electrical resistance heater within the outer housing, the heater being configured to allow air flow therethrough and being powered by said electrical power source, and wherein the heater comprises at least one elongated portion extending downstream
30 therefrom;

(d) a puff-actuated controller adapted for regulating current flow through the heater during draw, the controller comprising a sensor adapted for sensing draw by the user on the smoking article; and

5 (e) a rod-shaped carrier device removably engaged with the mouth-end of the outer housing and comprising a tubular mouth-end piece and a tubular cartridge with two open ends allowing air to flow therethrough, wherein the cartridge includes a tobacco-containing absorbent material with an aerosol-generating material absorbed thereon, wherein the cartridge is operatively positioned within the outer housing and adjacent to the heater such that the heater is adapted for heating at least a portion of the tobacco and the aerosol-generating material and such
10 that air drawn into the outer housing passes through at least a portion of the heater, through the cartridge, and through the mouth-end piece.

24. The smoking article of claim 23, wherein the aerosol-forming material comprises glycerin, propylene glycol, or a mixture thereof.

15 25. The smoking article of claim 23, wherein the tobacco-containing absorbent material is a paper material.

26. The smoking article of claim 25, wherein the tobacco-containing absorbent material is a paper material with a tobacco extract absorbed thereon.

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27. The smoking article of claim 23, wherein the tobacco-containing absorbent material is a paper-type reconstituted tobacco.

28. The smoking article of Claim 23, wherein the tobacco-containing absorbent
25 material comprises polyethylene terephthalate fibers.

29. The smoking article of claim 28, wherein the polyethylene terephthalate fibers are blended with tobacco cut filler.

30. The smoking article of claim 23, wherein the tobacco-containing absorbent material further comprises a flavoring agent absorbed thereon.

ABSTRACT OF THE DISCLOSURE

A smoking article may include a cigarette incorporated within an electrically powered aerosol generating device that acts as a holder for that cigarette. The smoking article possesses at least one form of tobacco. The smoking article also possesses a mouth-end piece that is used by the smoker to inhale components of tobacco that are generated by the action of heat upon components of the cigarette. A representative smoking article possesses an outer housing incorporating a source of electrical power (e.g., a battery), a sensing mechanism for powering the device at least during periods of draw, and a heating device (e.g., at least one electrical resistance heating element) for forming a thermally generated aerosol that incorporates components of tobacco. During use, the cigarette is positioned within the device, and after use, the used cigarette is removed from the device and replaced with another cigarette.

Electronic Patent Application Fee Transmittal

Application Number:	
Filing Date:	
Title of Invention:	TOBACCO-CONTAINING SMOKING ARTICLE
First Named Inventor/Applicant Name:	John Howard Robinson
Filer:	Christopher M. Humphrey/Tracey Wright
Attorney Docket Number:	R60999 1400US.C4 (1383.3)

Filed as Large Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
UTILITY APPLICATION FILING	1011	1	280	280
UTILITY SEARCH FEE	1111	1	600	600
UTILITY EXAMINATION FEE	1311	1	720	720

Pages:

Claims:

CLAIMS IN EXCESS OF 20	1202	10	80	800
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Miscellaneous-Filing:

LATE FILING FEE FOR OATH OR DECLARATION	1051	1	140	140
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Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
			Total in USD (\$)	2540

Electronic Acknowledgement Receipt

EFS ID:	27131878
Application Number:	15286087
International Application Number:	
Confirmation Number:	2741
Title of Invention:	TOBACCO-CONTAINING SMOKING ARTICLE
First Named Inventor/Applicant Name:	John Howard Robinson
Customer Number:	26158
Filer:	Christopher M. Humphrey/Tracey Wright
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Attorney Docket Number:	R60999 1400US.C4 (1383.3)
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RAM confirmation Number	100616INTEFSW00002838090528
Deposit Account	090528
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The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

37 CFR 1.16 (National application filing, search, and examination fees)

37 CFR 1.17 (Patent application and reexamination processing fees)

Philip Morris Products, S.A.

Exhibit 1002

Page 084

37 CFR 1.19 (Document supply fees)
 37 CFR 1.20 (Post Issuance fees)
 37 CFR 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Transmittal of New Application	R60999-1400US-C4-ContinuationTransmittal.pdf	18370	no	3
			4e4320b93717ba5101e73b25f92aa00d8d2f76d6		
Warnings:					
Information:					
2	Application Data Sheet	R60999-1400US-C4-ADS.pdf	1836662	no	10
			a406d88c66e53116f22d04b2d65e9958966ebee9		
Warnings:					
Information:					
3	Drawings-only black and white line drawings	R60999-1400US-C4-Drawings.pdf	375342	no	5
			87d85db52a6f462fa5f368045f08788bdac47e04		
Warnings:					
Information:					
4	Transmittal Letter	R60999-1400US-C4-IDSCoversheet.pdf	14955	no	1
			67e54dec61840d54b0184679e12b7a3dd0f67c2b		
Warnings:					
Information:					
5	Information Disclosure Statement (IDS) Form (SB08)	R60999-1400US-C4-PTO-1449.pdf	103604	no	13
			3062f9e15a10287898309bd9d47f7ca09ba ce041		
Warnings:					
Information:					
This is not an USPTO supplied IDS fillable form					
6		R60999-1400US-C4-ContinuationApplication.pdf	240859	yes	49
			62bd01ca2002a309e51d4f58a9fc898007e53d21		

Multipart Description/PDF files in .zip description			
	Document Description	Start	End
	Specification	1	43
	Claims	44	48
	Abstract	49	49

Warnings:

Information:

7	Fee Worksheet (SB06)	fee-info.pdf	38909	no	2
			ab377b7df0e1f1353bb4f8fb4c54e14e3d7dcd48		

Warnings:

Information:

Total Files Size (in bytes):	2628701
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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.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE PATENT APPLICATION OF: Robinson et al.
APPLICATION NO.: 15/286,087
FILING DATE: October 25, 2016
DOCKET NO.: R60999 1400US.C4 (1383.3)
ART UNIT: TBD
EXAMINER: TBD
CON. NO.: 2741
FOR: TOBACCO-CONTAINING SMOKING ARTICLE

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

PRELIMINARY AMENDMENT

Dear Sir:

Prior to the initial examination of the patent application being filed herewith, Applicants respectfully request that the application be amended as set forth herein.

In accordance with 37 C.F.R. 1.121, the present amendment is submitted in separate sections as follows:

Amendments to the Claims begin on page **2** of this paper.

Remarks begin on page **8** of this paper.

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application. Please amend the claims as indicated below:

1-30 (Cancelled)

31. (New) An electrically-powered, aerosol-generating smoking article comprising:
an electrical power source within a tubular outer housing having a mouth-end and an end distal to the mouth-end;

at least one electrical resistance heater powered by said electrical power source;
a puff-actuated controller within the tubular outer housing and adapted for regulating current flow through the electrical resistance heater during draw, the controller comprising a sensor adapted for sensing draw on the smoking article by a user; and

a rod-shaped carrier device engaged with the mouth-end of the tubular outer housing and comprising a cartridge providing a liquid storage compartment containing a mixture comprising a tobacco extract and an aerosol-forming material absorbed within an absorbent fibrous material, the cartridge having a generally tubular shape and adapted for airflow therethrough;

wherein the rod-shaped carrier device is operatively positioned such that, during draw, the mixture comprising the tobacco extract and the aerosol-forming material can be wicked into contact with the electrical resistance heater and volatilized to produce a visible mainstream aerosol incorporating tobacco components or tobacco-derived components that can be drawn into the mouth of the user of the smoking article.

32. (New) The smoking article of claim 31, wherein the aerosol-forming material comprises glycerin, propylene glycol, or a mixture thereof.

33. (New) The smoking article of claim 31, wherein the mixture further comprises a flavoring agent.

34. (New) The smoking article of claim 33, wherein the flavoring agent comprises menthol.

35. (New) The smoking article of claim 31, wherein the mixture further comprises an organic acid.

36. (New) The smoking article of claim 31, wherein the mixture comprises essentially pure nicotine, extracts composed predominantly of nicotine, or formulations composed predominantly of nicotine.

37. (New) The smoking article of claim 31, wherein the absorbent fibrous material comprises a synthetic polymeric material.

38. (New) The smoking article of claim 31, wherein the amount of aerosol-forming material is sufficient to provide greater than about 200 puffs per cartridge.

39. (New) The smoking article of claim 31, wherein the cartridge is made from paper, plastic, or heat conductive materials.

40. (New) The smoking article of claim 31, wherein the cartridge has a length that does not exceed about 30 mm.

41. (New) The smoking article of claim 31, wherein the cartridge is electrically conductive.

42. (New) The smoking article of claim 31, wherein the rod-shaped carrier device is removably engaged with the mouth-end of the tubular outer housing.

43. (New) The smoking article of claim 31, wherein the mixture comprises glycerin, tobacco extract, and a flavoring agent.

44. (New) The smoking article of claim 31, wherein the absorbent fibrous material is in contact with the electrical resistance heater.

45. (New) An electrically-powered, aerosol-generating smoking article comprising:
an electrical power source in the form of a battery within a tubular outer housing having a mouth-end and an end distal to the mouth-end;

at least one electrical resistance heater powered by said electrical power source;
a puff-actuated controller within the tubular outer housing and adapted for regulating current flow through the electrical resistance heater during draw, the controller comprising a sensor adapted for sensing draw on the smoking article by a user; and

a rod-shaped carrier device removably engaged with the mouth-end of the tubular outer housing and comprising a cartridge providing a liquid storage compartment containing a mixture comprising a tobacco extract comprising nicotine and an aerosol-forming material selected from glycerin, propylene glycol, or a mixture thereof, the mixture absorbed within an absorbent wicking material, the cartridge having a generally tubular shape and adapted for airflow therethrough;

wherein the rod-shaped carrier device is operatively positioned such that, during draw, the mixture comprising the tobacco extract and the aerosol-forming material can be wicked into contact with the electrical resistance heater and volatilized to produce a visible mainstream aerosol incorporating tobacco components or tobacco-derived components that can be drawn into the mouth of the user of the smoking article.

46. (New) The smoking article of claim 45, wherein the mixture further comprises a flavoring agent.

47. (New) The smoking article of claim 46, wherein the flavoring agent comprises menthol.

48. (New) The smoking article of claim 45, wherein the mixture further comprises an organic acid.

49. (New) The smoking article of claim 45, wherein the mixture comprises essentially pure nicotine, extracts composed predominantly of nicotine, or formulations composed predominantly of nicotine.

50. (New) The smoking article of claim 45, wherein the amount of the aerosol-forming material is sufficient to provide greater than about 200 puffs per cartridge.

51. (New) The smoking article of claim 45, wherein the cartridge is made from paper, plastic, or heat conductive materials.

52. (New) The smoking article of claim 45, wherein the cartridge has a length that does not exceed about 30 mm.

53. (New) The smoking article of claim 45, wherein the cartridge is electrically conductive.

54. (New) The smoking article of claim 45, wherein the absorbent wicking material is in contact with the electrical resistance heater.

55. (New) The smoking article of claim 45, wherein the absorbent wicking material is positioned in proximity to the at least one electrical resistance heater.

56. (New) The smoking article of claim 45, wherein an air passageway extends along the length of the cartridge.

57. (New) An electrically-powered, aerosol-generating smoking article comprising:
an electrical power source in the form of a battery within a tubular outer housing having a mouth-end and an end distal to the mouth-end;

at least one electrical resistance heater powered by said electrical power source, wherein at least a portion of the resistance heating element is elongated and extending downstream toward the mouth-end of the outer housing, the elongated portion of the resistance heating element positioned proximal to the center of the outer housing;

a controller within the tubular outer housing and adapted for regulating current flow through the electrical resistance heater; and

a cigarette-type device removably engaged with the mouth-end of the tubular outer housing and comprising a tobacco segment circumscribed by a wrapping material and comprising a tobacco material and an aerosol-forming material, wherein the elongated portion of the resistance heating element extends into the tobacco segment when the cigarette-type device is engaged with the mouth-end of the outer housing, such that during draw, aerosol-forming material can be volatilized to produce a visible mainstream aerosol incorporating tobacco components or tobacco-derived components that can be drawn into the mouth of the user of the smoking article.

58. (New) The smoking article of claim 57, wherein the cigarette-type device further comprises a filter element downstream from the tobacco segment.

59. (New) The smoking article of claim 57, further comprising an actuation mechanism in the form of a switching mechanism that can be manually operated by the user in order to heat the cigarette-type device.

60. (New) The smoking article of claim 57, wherein the electrical resistance heating element provides surface region temperatures of at least 200°C and less than 600°C such that the tobacco material does not burn during use.

REMARKS

Claims 1-30 are cancelled herewith. Claims 31-60 are now pending in this application. Support for the new claims can be found throughout the specification and drawings.

Applicants respectfully requests that the above Preliminary Amendment be entered into the above-referenced application prior to examination thereof on the merits and prior to the calculation of the claim fees.

Date: October 6, 2016

Respectfully submitted,

/christopher m. humphrey/

Christopher M. Humphrey
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Customer No. 26158

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ELECTRONICALLY FILED USING THE EFS-WEB ELECTRONIC FILING SYSTEM OF THE UNITED STATES PATENT & TRADEMARK OFFICE ON OCTOBER 6, 2016

Electronic Acknowledgement Receipt

EFS ID:	27144886
Application Number:	15286087
International Application Number:	
Confirmation Number:	2741
Title of Invention:	TOBACCO CONTAINING SMOKING ARTICLE
First Named Inventor/Applicant Name:	John Howard Robinson
Customer Number:	26158
Filer:	Christopher M. Humphrey/Tracey Wright
Filer Authorized By:	Christopher M. Humphrey
Attorney Docket Number:	R60999 1400US.C4 (1383.3)
Receipt Date:	06-OCT-2016
Filing Date:	
Time Stamp:	16:14:52
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		R60999-1400US-C4- PreliminaryAmendment.pdf	24637 <small>b4d731 eab6b2bdd4633ee3090195f96c8df 8a754</small>	yes	8

Multipart Description/PDF files in .zip description			
Document Description		Start	End
Preliminary Amendment		1	1
Claims		2	7
Applicant Arguments/Remarks Made in an Amendment		8	8

Warnings:

Information:

Total Files Size (in bytes):	24637
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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.

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CONFIRMATION NO. 2741

FILING RECEIPT

26158
WOMBLE CARLYLE SANDRIDGE & RICE, LLP
ATTN: IP DOCKETING
P.O. BOX 7037
ATLANTA, GA 30357-0037



Date Mailed: 10/19/2016

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Inventor(s)

John Howard Robinson, Kernersville, NC;
David William Griffith JR., Winston-Salem, NC;
Billy Tyrone Conner, Clemmons, NC;
Evon Llewellyn Crooks, Mocksville, NC;
Dempsey Bailey Brewer JR., East Bend, NC;

Applicant(s)

RAI STRATEGIC HOLDINGS, INC., Winston-Salem, NC;

Power of Attorney: None

Domestic Priority data as claimed by applicant

This application is a CON of 14/527,287 10/29/2014
which is a CON of 13/297,983 11/16/2011 PAT 8899238
which is a CON of 12/763,890 04/20/2010 PAT 8079371
which is a CON of 11/550,634 10/18/2006 PAT 7726320

Foreign Applications for which priority is claimed (You may be eligible to benefit from the Patent Prosecution Highway program at the USPTO. Please see http://www.uspto.gov for more information.) - None.

Foreign application information must be provided in an Application Data Sheet in order to constitute a claim to foreign priority. See 37 CFR 1.55 and 1.76.

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The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 15/286,087**

Projected Publication Date: 01/26/2017

Non-Publication Request: No

Early Publication Request: No
Title

TOBACCO CONTAINING SMOKING ARTICLE

Preliminary Class

131

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

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Table with 4 columns: APPLICATION NUMBER (15/286,087), FILING OR 371(C) DATE (10/05/2016), FIRST NAMED APPLICANT (John Howard Robinson), ATTY. DOCKET NO./TITLE (R60999 1400US.C4 (1383.3))

CONFIRMATION NO. 2741

INFORMAL NOTICE



26158
WOMBLE CARLYLE SANDRIDGE & RICE, LLP
ATTN: IP DOCKETING
P.O. BOX 7037
ATLANTA, GA 30357-0037

Date Mailed: 10/19/2016

INFORMATIONAL NOTICE TO APPLICANT

Applicant is notified that the above-identified application contains the deficiencies noted below. No period for reply is set forth in this notice for correction of these deficiencies. However, if a deficiency relates to the inventor's oath or declaration, the applicant must file an oath or declaration in compliance with 37 CFR 1.63, or a substitute statement in compliance with 37 CFR 1.64, executed by or with respect to each actual inventor no later than the expiration of the time period set in the "Notice of Allowability" to avoid abandonment. See 37 CFR 1.53(f).

The item(s) indicated below are also required and should be submitted with any reply to this notice to avoid further processing delays.

- A properly executed inventor's oath or declaration has not been received for the following inventor(s):
John Howard Robinson
David William Griffith JR.
Billy Tyrone Conner
Evon Llewellyn Crooks
Dempsey Bailey Brewer JR.

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.

/cma/

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I hereby revoke all previous powers of attorney given in the application identified in either 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/AIA/82A.)

- I hereby 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 States Patent and Trademark Office connected therewith for the application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above: 26158
- OR**
- I hereby appoint Practitioner(s) named in the attached list (form PTO/AIA/82C) as my/our 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/82A) or identified above. (Note: Complete form PTO/AIA/82C.)

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- OR**
- The address associated with Customer Number:
- OR**

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Address				
City	State		Zip	
Country				
Telephone		Email		

I am the Applicant (if the Applicant is a juristic entity, list the Applicant name in the box):

RAI STRATEGIC HOLDINGS, INC.

- 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 supplied below) is authorized to act on behalf of the applicant (e.g., where the applicant is a juristic entity).

Signature	<i>Michael J. Madigan</i>	Date (Optional)	<i>March 31, 2016</i>
Name	<i>Michael J. Madigan</i>		
Title	<i>Secretary</i>		

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 _____ forms are submitted.

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re: Robinson et al. Confirmation No.: 2741
Appl No.: 15/286,087 Group Art Unit: 1747
Filed: October 5, 2016
For: TOBACCO-CONTAINING SMOKING ARTICLE

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

REQUEST FOR CORRECTED FILING RECEIPT

Sir:

In reviewing the Filing Receipt for the above-referenced application, Applicant notes that an error appears in the title of the patent application, as noted on the enclosed copy of the Filing Receipt. Specifically, the correct title should be "Tobacco_Containing Smoking Article", not "Tobacco Containing Smoking Article.

Additionally, an updated marked-up Application Data Sheet is being simultaneously filed to correct the title of the invention. Applicant requests that a corrected Filing Receipt be issued.

Applicant does not believe that any fees are applicable for correcting the application title. However, in order to consider this Request and amend the title, the Commissioner is authorized to charge the required fee, or credit any refund, to our Deposit Account No. 09-0528.

Customer No. 26158
Womble Carlyle Sandridge &
Rice, LLP
Attn: Patent Docketing
P.O. Box 7037
Atlanta, GA 30357-0037
Tel Raleigh Office (919) 755-2100
Fax Raleigh Office (919) 755-2150

Respectfully submitted,

/Christopher m. humphrey/

Christopher M. Humphrey
Registration No. 43,683

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FILING SYSTEM OF THE UNITED STATES PATENT AND
TRADEMARK OFFICE ON NOVEMBER 29, 2016.*



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CONFIRMATION NO. 2741

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ATLANTA, GA 30357-0037



Date Mailed: 10/19/2016

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David William Griffith JR., Winston-Salem, NC;
Billy Tyrone Conner, Clemmons, NC;
Evon Llewellyn Crooks, Mocksville, NC;
Dempsey Bailey Brewer JR., East Bend, NC;

Applicant(s)

RAI STRATEGIC HOLDINGS, INC., Winston-Salem, NC;

Power of Attorney: None

Domestic Priority data as claimed by applicant

This application is a CON of 14/527,287 10/29/2014
which is a CON of 13/297,983 11/16/2011 PAT 8899238
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which is a CON of 11/550,634 10/18/2006 PAT 7726320

Foreign Applications for which priority is claimed (You may be eligible to benefit from the Patent Prosecution Highway program at the USPTO. Please see http://www.uspto.gov for more information.) - None.

Foreign application information must be provided in an Application Data Sheet in order to constitute a claim to foreign priority. See 37 CFR 1.55 and 1.76.

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The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 15/286,087**

Projected Publication Date: 01/26/2017

Non-Publication Request: No

Early Publication Request: No

Title

TOBACCO CONTAINING SMOKING ARTICLE

Preliminary Class "Tobacco-Containing Smoking Article"

131

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

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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.

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 Assets Control, 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 <http://www.SelectUSA.gov> or call +1-202-482-6800.

Electronic Acknowledgement Receipt

EFS ID:	27642934
Application Number:	15286087
International Application Number:	
Confirmation Number:	2741
Title of Invention:	TOBACCO CONTAINING SMOKING ARTICLE
First Named Inventor/Applicant Name:	John Howard Robinson
Customer Number:	26158
Filer:	Christopher M. Humphrey/Tracey Wright
Filer Authorized By:	Christopher M. Humphrey
Attorney Docket Number:	R60999 1400US.C4 (1383.3)
Receipt Date:	29-NOV-2016
Filing Date:	05-OCT-2016
Time Stamp:	18:43:18
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Application Data Sheet	R60999-1400US-C4-CorrectedApplicationDataSheet.pdf	693963 <small>d1c45efe8905cc8e7d2dc4f17700bb0f82d5f133</small>	no	10

Warnings:

Philip Morris Products, S.A.

Exhibit 1002

Page 109

Information:					
This is not an USPTO supplied ADS fillable form					
2	Oath or Declaration filed	R60999-1400US-C4-Declaration.pdf	66264 e50629ab5c244bd54a92841b1f6914cd781735ad	no	5
Warnings:					
Information:					
3	Power of Attorney	R60999-1400US-C4-POA-Coversheet-PTOAI82A.pdf	179444 f8f0a28016e2988cc31cdc94e50f5c275e2e7b1d	no	1
Warnings:					
Information:					
4	Power of Attorney	R60999-1400US-C4-RAI-General-Power-of-Attorney.pdf	146852 85afaac03987fea9b964338912e593fc212416c1	no	1
Warnings:					
Information:					
5	Request for Corrected Filing Receipt	R60999-1400US-C4-RequestForCorrectedFilingReceipt.pdf	265051 7f703a779d9d172078789208ec60e97037d cc954	no	5
Warnings:					
Information:					
Total Files Size (in bytes):				1351574	
<p>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.</p> <p><u>New Applications Under 35 U.S.C. 111</u> 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.</p> <p><u>National Stage of an International Application under 35 U.S.C. 371</u> 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.</p> <p><u>New International Application Filed with the USPTO as a Receiving Office</u> 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.</p>					

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

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	R60999 1400US.C4 (1383.3)
		Application Number	
Title of Invention	<u>TOBACCO-CONTAINING SMOKING ARTICLE</u>		
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:

Inventor 1					<input type="button" value="Remove"/>
Legal Name					
Prefix	Given Name	Middle Name	Family Name	Suffix	
	John	Howard	Robinson		
Residence Information (Select One) <input checked="" type="radio"/> US Residency <input type="radio"/> Non US Residency <input type="radio"/> Active US Military Service					
City	Kernersville	State/Province	NC	Country of Residence	US
Mailing Address of Inventor:					
Address 1	604 Antler Court				
Address 2					
City	Kernersville	State/Province	NC		
Postal Code	27284	Country i	US		
Inventor 2					<input type="button" value="Remove"/>
Legal Name					
Prefix	Given Name	Middle Name	Family Name	Suffix	
	David	William	Griffith	Jr.	
Residence Information (Select One) <input checked="" type="radio"/> US Residency <input type="radio"/> Non US Residency <input type="radio"/> Active US Military Service					
City	Winston-Salem	State/Province	NC	Country of Residence	US
Mailing Address of Inventor:					
Address 1	4130 White Hawk Lane				
Address 2					
City	Winston-Salem	State/Province	NC		
Postal Code	27106	Country i	US		
Inventor 3					<input type="button" value="Remove"/>
Legal Name					
Prefix	Given Name	Middle Name	Family Name	Suffix	
	Billy	Tyrone	Conner		
Residence Information (Select One) <input checked="" type="radio"/> US Residency <input type="radio"/> Non US Residency <input type="radio"/> Active US Military Service					

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

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	R60999 1400US.C4 (1383.3)
	Application Number	
Title of Invention	<u>TOBACCO-CONTAINING SMOKING ARTICLE</u>	

City	Clemmons	State/Province	NC	Country of Residence ⁱ	US
------	----------	----------------	----	-----------------------------------	----

Mailing Address of Inventor:

Address 1	180 Scott Farm Road				
Address 2					
City	Clemmons	State/Province	NC	Country ⁱ	US
Postal Code	27012	Country ⁱ	US		

Inventor 4	<input type="button" value="Remove"/>				
Legal Name					
Prefix	Given Name	Middle Name	Family Name	Suffix	
	Evon	Llewellyn	Crooks		

Residence Information (Select One)	<input checked="" type="radio"/> US Residency	<input type="radio"/> Non US Residency	<input type="radio"/> Active US Military Service		
City	Mocksville	State/Province	NC	Country of Residence ⁱ	US

Mailing Address of Inventor:

Address 1	749 Howell Road				
Address 2					
City	Mocksville	State/Province	NC	Country ⁱ	US
Postal Code	27028	Country ⁱ	US		

Inventor 5	<input type="button" value="Remove"/>				
Legal Name					
Prefix	Given Name	Middle Name	Family Name	Suffix	
	Dempsey	Bailey	Brewer	Jr.	

Residence Information (Select One)	<input checked="" type="radio"/> US Residency	<input type="radio"/> Non US Residency	<input type="radio"/> Active US Military Service		
City	East Bend	State/Province	NC	Country of Residence ⁱ	US

Mailing Address of Inventor:

Address 1	2853 Davis Road				
Address 2					
City	East Bend	State/Province	NC	Country ⁱ	US
Postal Code	27018	Country ⁱ	US		

All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the **Add** button.

Correspondence Information:

Enter either Customer Number or complete the Correspondence Information section below. For further information see 37 CFR 1.33(a).
<input type="checkbox"/> An Address is being provided for the correspondence information of this application.

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

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	R60999 1400US.C4 (1383.3)	
		Application Number		
Title of Invention	<u>TOBACCO-CONTAINING SMOKING ARTICLE</u>			
Customer Number	26158			
Email Address	patentdocketing@wcsr.com	<input type="button" value="Add Email"/>	<input type="button" value="Remove Email"/>	

Application Information:

Title of the Invention	<u>TOBACCO-CONTAINING SMOKING ARTICLE</u>			
Attorney Docket Number	R60999 1400US.C4 (1383.3)	Small Entity Status Claimed <input type="checkbox"/>		
Application Type	Nonprovisional			
Subject Matter	Utility			
Total Number of Drawing Sheets (if any)	5	Suggested Figure for Publication (if any)	1	

Filing By Reference:

Only complete this section when filing an application by reference under 35 U.S.C. 111(c) and 37 CFR 1.57(a). Do not complete this section if application papers including a specification and any drawings are being filed. Any domestic benefit or foreign priority information must be provided in the appropriate section(s) below (i.e., "Domestic Benefit/National Stage Information" and "Foreign Priority Information").

For the purposes of a filing date under 37 CFR 1.53(b), the description and any drawings of the present application are replaced by this reference to the previously filed application, subject to conditions and requirements of 37 CFR 1.57(a).

Application number of the previously filed application	Filing date (YYYY-MM-DD)	Intellectual Property Authority or Country

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:	<input checked="" type="radio"/> Customer Number	<input type="radio"/> US Patent Practitioner	<input type="radio"/> Limited Recognition (37 CFR 11.9)
Customer Number	26158		

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

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	R60999 1400US.C4 (1383.3)
	Application Number	
Title of Invention	<u>TOBACCO-CONTAINING SMOKING ARTICLE</u>	

Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, 365(c), or 386(c) or indicate National Stage entry from a PCT application. Providing benefit claim 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.

When referring to the current application, please leave the "Application Number" field blank.

Prior Application Status	Pending		<input type="button" value="Remove"/>		
Application Number	Continuity Type	Prior Application Number	Filing or 371(c) Date (YYYY-MM-DD)		
	Continuation of	14527287	2014-10-29		
Prior Application Status	Patented		<input type="button" value="Remove"/>		
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
14527287	Continuation of	13297983	2011-11-16	8899238	2014-12-02
Prior Application Status	Patented		<input type="button" value="Remove"/>		
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
13297983	Continuation of	12763890	2010-04-20	8079371	2011-12-20
Prior Application Status	Patented		<input type="button" value="Remove"/>		
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
12763890	Continuation of	11550634	2006-10-18	7726320	2010-06-01
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. When priority is claimed to a foreign application that is eligible for retrieval under the priority document exchange program (PDX), the information will be used by the Office to automatically attempt retrieval pursuant to 37 CFR 1.55(i)(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).

Application Number	Country ⁱ	Filing Date (YYYY-MM-DD)	<input type="button" value="Remove"/>	
			Access Code ⁱ (if applicable)	
Additional Foreign Priority Data may be generated within this form by selecting the Add button.				

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

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	R60999 1400US.C4 (1383.3)
	Application Number	
Title of Invention	<u>TOBACCO-CONTAINING SMOKING ARTICLE</u>	

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.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	R60999 1400US.C4 (1383.3)
	Application Number	
Title of Invention	<u>TOBACCO-CONTAINING SMOKING ARTICLE</u>	

Authorization or Opt-Out of Authorization to Permit Access:

When this Application Data Sheet is properly signed and filed with the application, applicant has provided written authority to permit a participating foreign intellectual property (IP) office access to the instant application-as-filed (see paragraph A in subsection 1 below) and the European Patent Office (EPO) access to any search results from the instant application (see paragraph B in subsection 1 below).

Should applicant choose not to provide an authorization identified in subsection 1 below, applicant **must opt-out** of the authorization by checking the corresponding box A or B or both in subsection 2 below.

NOTE: This section of the Application Data Sheet is **ONLY** reviewed and processed with the **INITIAL** filing of an application. After the initial filing of an application, an Application Data Sheet cannot be used to provide or rescind authorization for access by a foreign IP office(s). Instead, Form PTO/SB/39 or PTO/SB/69 must be used as appropriate.

1. Authorization to Permit Access by a Foreign Intellectual Property Office(s)

A. Priority Document Exchange (PDX) - Unless box A in subsection 2 (opt-out of authorization) is 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 State Intellectual Property Office of the People's Republic of China (SIPO), the World Intellectual Property Organization (WIPO), and any other foreign intellectual property office participating with the USPTO in a bilateral or multilateral priority document exchange agreement in which a foreign application claiming priority to the instant patent application is filed, access to: (1) the instant patent application-as-filed and its related bibliographic data, (2) any foreign or domestic application to which priority or benefit is claimed by the instant application and its related bibliographic data, and (3) the date of filing of this Authorization. See 37 CFR 1.14(h)(1).

B. Search Results from U.S. Application to EPO- Unless box B in subsection 2 (opt-out of authorization) is checked, the undersigned hereby **grants the USPTO authority** to provide the EPO access to the bibliographic data and search results from the instant patent application when a European patent application claiming priority to the instant patent application is filed. See 37 CFR 1.14(h)(2).

The applicant is reminded that the EPO's Rule 141(1) EPC (European Patent Convention) requires applicants to submit a copy of search results from the instant application without delay in a European patent application that claims priority to the instant application.

2. Opt-Out of Authorizations to Permit Access by a Foreign Intellectual Property Office(s)

A. Applicant **DOES NOT** authorize the USPTO to permit a participating foreign IP office access to the instant application-as-filed. If this box is checked, the USPTO will not be providing a participating foreign IP office with any documents and information identified in subsection 1A above.

B. Applicant **DOES NOT** authorize the USPTO to transmit to the EPO any search results from the instant patent application. If this box is checked, the USPTO will not be providing the EPO with search results from the instant application.

NOTE: Once the application has published or is otherwise publicly available, the USPTO may provide access to the application in accordance with 37 CFR 1.14.

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

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	R60999 1400US.C4 (1383.3)
	Application Number	
Title of Invention	<u>TOBACCO-CONTAINING SMOKING ARTICLE</u>	

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
 Legal Representative under 35 U.S.C. 117
 Joint Inventor

Person to whom the inventor is obligated to assign.
 Person who shows sufficient proprietary interest

If applicant is the legal representative, indicate the authority to file the patent application, the inventor is:

Name of the Deceased or Legally Incapacitated Inventor:

If the Applicant is an Organization check here.

Organization Name RAI STRATEGIC HOLDINGS, INC.

Mailing Address Information For Applicant:

Address 1	401 NORTH MAIN STREET		
Address 2			
City	WINSTON-SALEM	State/Province	NC
Country	US	Postal Code	2
Phone Number		Fax Number	
Email Address			

Additional Applicant Data may be generated within this form by selecting the Add button.

Assignee Information including Non-Applicant Assignee 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.

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

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	R60999 1400US.C4 (1383.3)
	Application Number	
Title of Invention	<u>TOBACCO-CONTAINING SMOKING ARTICLE</u>	

Assignee 1				
Complete this section if assignee information, including non-applicant assignee information, is desired to be included on the patent application publication. An assignee-applicant identified in the "Applicant Information" section will appear on the patent application publication as an applicant. For an assignee-applicant, complete this section only if identification as an assignee is also desired on the patent application publication.				
If the Assignee or Non-Applicant Assignee is an Organization check here. <input type="checkbox"/>				
Prefix	Given Name	Middle Name	Family Name	Suffix
Mailing Address Information For Assignee including Non-Applicant Assignee:				
Address 1				
Address 2				
City		State/Province		
Country i	Postal Code			
Phone Number		Fax Number		
Email Address				
Additional Assignee or Non-Applicant Assignee Data may be generated within this form by selecting the Add button.				

Signature:

NOTE: This Application Data Sheet must be signed in accordance with 37 CFR 1.33(b). However, if this Application Data Sheet is submitted with the INITIAL filing of the application and either box A or B is not checked in subsection 2 of the "Authorization or Opt-Out of Authorization to Permit Access" section, then this form must also be signed in accordance with 37 CFR 1.14(c). This Application Data Sheet must be signed by a patent practitioner if one or more of the applicants is a **juristic entity** (e.g., corporation or association). If the applicant is two or more joint inventors, this form must be signed by a patent practitioner, **all** joint inventors who are the applicant, or one or more joint inventor-applicants who have been given power of attorney (e.g., see USPTO Form PTO/AIA/81) on behalf of **all** joint inventor-applicants. See 37 CFR 1.4(d) for the manner of making signatures and certifications.

Signature	/christopher m. humphrey/		Date (YYYY-MM-DD)	2016-10-05	
First Name	Christopher	Last Name	Humphrey	Registration Number	43683
Additional Signature may be generated within this form by selecting the Add button.					

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

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	R60999 1400US.C4 (1383.3)
	Application Number	
Title of Invention	<u>TOBACCO-CONTAINING SMOKING ARTICLE</u>	

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.**

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

**DECLARATION FOR UTILITY OR DESIGN
PATENT APPLICATION (37 CFR 1.63)**

This Declaration is directed to the patent application entitled:

TOBACCO-CONTAINING SMOKING ARTICLE,

the specification of which

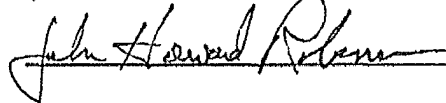
is attached hereto
OR

was filed on October 29, 2014 as United States Application No. 14/527,287 or PCT
International Application Number ___ and was amended on ___ (if applicable).

Each below named inventor hereby declares that: (1) the above-identified application was made or authorized to be made by me; (2) I believe that I am the original inventor or an original joint inventor of a claimed invention in the application; and (3) I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

Full name of (first/sole) inventor: John Howard Robinson

Inventor's
Signature:

 Date: 10/14/16

Full name of second inventor: David William Griffith, Jr.

Inventor's

Signature:

David William Griffith Date: 10-10-2016

Full name of third inventor: Billy Tyrone Conner

Inventor's

Signature:

Billy Tyrone Conner

Date:

10/07/2016

Full name of fourth inventor: Evon Llewellyn Crooks

Inventor's

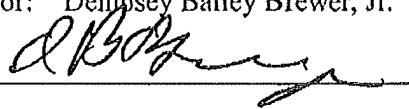
Signature:

Evon Llewellyn Crooks Date: 10/12/2016

Full name of fifth inventor: Dempsey Bailey Brewer, Jr.

Inventor's

Signature:



Date:

10/21/2010

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 Number	15/286,087
Filing Date	October 5, 2016
First Named Inventor	John Howard Robinson
Title	Tobacco-Containing Smoking Article
Art Unit	1747
Examiner Name	TBD
Attorney Docket Number	R60999-1400US-C4 (1385.0)

SIGNATURE of Applicant or Patent Practitioner

Signature	/christopher m. humphrey/	Date (Optional)	
Name	Christopher M. Humphrey	Registration Number	43,683
Title (if Applicant is a juristic entity)	Attorney for Applicant		
Applicant Name (if Applicant is a juristic entity)	RAI STRATEGIC HOLDINGS, INC.		

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 more than one applicant, use multiple forms.

*Total of _____ 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.

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.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 15/286,087	Filing Date 10/05/2016	<input type="checkbox"/> To be Mailed
---	---	----------------------------------	---------------------------------------

ENTITY: LARGE SMALL MICRO

APPLICATION AS FILED – PART I

FOR	NUMBER FILED	NUMBER EXTRA	RATE (\$)	FEE (\$)
<input type="checkbox"/> BASIC FEE <small>(37 CFR 1.16(a), (b), or (c))</small>	N/A	N/A	N/A	
<input type="checkbox"/> SEARCH FEE <small>(37 CFR 1.16(k), (l), or (m))</small>	N/A	N/A	N/A	
<input type="checkbox"/> EXAMINATION FEE <small>(37 CFR 1.16(o), (p), or (q))</small>	N/A	N/A	N/A	
TOTAL CLAIMS <small>(37 CFR 1.16(i))</small>	minus 20 =	*	X \$ =	
INDEPENDENT CLAIMS <small>(37 CFR 1.16(h))</small>	minus 3 =	*	X \$ =	
<input type="checkbox"/> APPLICATION SIZE FEE <small>(37 CFR 1.16(s))</small>	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			
<input type="checkbox"/> MULTIPLE DEPENDENT CLAIM PRESENT <small>(37 CFR 1.16(j))</small>				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

APPLICATION AS AMENDED – PART II

	(Column 1)	(Column 2)	(Column 3)	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)
AMENDMENT	11/29/2016	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR			
	Total <small>(37 CFR 1.16(i))</small>	* 30	Minus	** 30	= 0	X \$80 = 0
	Independent <small>(37 CFR 1.16(h))</small>	* 3	Minus	***3	= 0	X \$420 = 0
	<input type="checkbox"/> Application Size Fee <small>(37 CFR 1.16(s))</small>					
	<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM <small>(37 CFR 1.16(j))</small>					
					TOTAL ADD'L FEE	0

	(Column 1)	(Column 2)	(Column 3)	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR			
	Total <small>(37 CFR 1.16(i))</small>	*	Minus	**	=	X \$ =
	Independent <small>(37 CFR 1.16(h))</small>	*	Minus	***	=	X \$ =
	<input type="checkbox"/> Application Size Fee <small>(37 CFR 1.16(s))</small>					
	<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM <small>(37 CFR 1.16(j))</small>					
					TOTAL ADD'L FEE	

LDRC
CARMEN WILLIAMS

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

This collection of information is required by 37 CFR 1.16. 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 12 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.



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
15/286,087	10/05/2016	John Howard Robinson	R60999 1400US.C4 (1385.0)

CONFIRMATION NO. 2741

POA ACCEPTANCE LETTER



26158
WOMBLE CARLYLE SANDRIDGE & RICE, LLP
ATTN: IP DOCKETING
P.O. BOX 7037
ATLANTA, GA 30357-0037

Date Mailed: 12/02/2016

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 11/29/2016.

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.

/yfeferra/



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

Table with 7 columns: APPLICATION NUMBER, FILING or 371(c) DATE, GRP ART UNIT, FIL FEE REC'D, ATTY.DOCKET.NO, TOT CLAIMS, IND CLAIMS. Row 1: 15/286,087, 10/05/2016, 1747, 2540, R60999 1400US.C4 (1385.0), 30, 3

CONFIRMATION NO. 2741
REPLACEMENT FILING RECEIPT

26158
WOMBLE CARLYLE SANDRIDGE & RICE, LLP
ATTN: IP DOCKETING
P.O. BOX 7037
ATLANTA, GA 30357-0037



Date Mailed: 12/02/2016

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. 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)

John Howard Robinson, Kernersville, NC;
David William Griffith JR., Winston-Salem, NC;
Billy Tyrone Conner, Clemmons, NC;
Evon Llewellyn Crooks, Mocksville, NC;
Dempsey Bailey Brewer JR., East Bend, NC;

Applicant(s)

RAI STRATEGIC HOLDINGS, INC., Winston-Salem, NC;

Power of Attorney: The patent practitioners associated with Customer Number 26158

Domestic Priority data as claimed by applicant

This application is a CON of 14/527,287 10/29/2014
which is a CON of 13/297,983 11/16/2011 PAT 8899238
which is a CON of 12/763,890 04/20/2010 PAT 8079371
which is a CON of 11/550,634 10/18/2006 PAT 7726320

Foreign Applications for which priority is claimed (You may be eligible to benefit from the Patent Prosecution Highway program at the USPTO. Please see http://www.uspto.gov for more information.) - None.

Foreign application information must be provided in an Application Data Sheet in order to constitute a claim to foreign priority. See 37 CFR 1.55 and 1.76.

Permission to Access Application via Priority Document Exchange: Yes

Permission to Access Search Results: Yes

Applicant may provide or rescind an authorization for access using Form PTO/SB/39 or Form PTO/SB/69 as appropriate.

If Required, Foreign Filing License Granted: 10/17/2016

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 15/286,087**

Projected Publication Date: 01/26/2017

Non-Publication Request: No

Early Publication Request: No
Title

TOBACCO-CONTAINING SMOKING ARTICLE

Preliminary Class

131

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

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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.

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 Assets Control, 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).

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technology, manufacture products, deliver services, and grow your business, visit <http://www.SelectUSA.gov> or call +1-202-482-6800.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		15286087
	Filing Date		2016-10-05
	First Named Inventor	John Howard Robinson	
	Art Unit		1747
	Examiner Name	NGUYEN, Phu Hoang	
	Attorney Docket Number		R60999 1400US.C4 (1385.0)

U.S.PATENTS						
Examiner Initial*	Cite No	Patent Number	Kind Code ¹	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	1514682		1924-11-11	H. Wilson	
	2	3479561		1969-11-18	J. L. Janning	
	3	7726320	B2	2010-06-01	Robinson et al.	
	4	8079371	B2	2011-12-20	Robinson et al.	
	5	8899238	B2	2014-12-02	Robinson et al.	

If you wish to add additional U.S. Patent citation information please click the Add button.

U.S.PATENT APPLICATION PUBLICATIONS

Examiner Initial*	Cite No	Publication Number	Kind Code ¹	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1					

If you wish to add additional U.S. Published Application citation information please click the Add button.

FOREIGN PATENT DOCUMENTS

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number	15286087
Filing Date	2016-10-05
First Named Inventor	John Howard Robinson
Art Unit	1747
Examiner Name	NGUYEN, Phu Hoang
Attorney Docket Number	R60999 1400US.C4 (1385.0)

Examiner Initial*	Cite No	Foreign Document Number ³	Country Code ²	Kind Code ⁴	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear	T ⁵
	1							<input type="checkbox"/>

If you wish to add additional Foreign Patent Document citation information please click the Add button

NON-PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T ⁵
	1		<input type="checkbox"/>

If you wish to add additional non-patent literature document citation information please click the Add button

EXAMINER SIGNATURE

Examiner Signature	Date Considered
--------------------	-----------------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. ²Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). ³For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁴Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁵Applicant is to place a check mark here if English language translation is attached.

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number	15286087
Filing Date	2016-10-05
First Named Inventor	John Howard Robinson
Art Unit	1747
Examiner Name	NGUYEN, Phu Hoang
Attorney Docket Number	R60999 1400US.C4 (1385.0)

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

See attached certification statement.

The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/christopher h. orders/	Date (YYYY-MM-DD)	2017-01-06
Name/Print	Christopher H. Orders	Registration Number	57151

This collection of information is required by 37 CFR 1.97 and 1.98. 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 1 hour 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.**

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Electronic Acknowledgement Receipt

EFS ID:	27994487
Application Number:	15286087
International Application Number:	
Confirmation Number:	2741
Title of Invention:	TOBACCO-CONTAINING SMOKING ARTICLE
First Named Inventor/Applicant Name:	John Howard Robinson
Customer Number:	26158
Filer:	Christopher Harrison Orders/Tenika Askew
Filer Authorized By:	Christopher Harrison Orders
Attorney Docket Number:	R60999 1400US.C4 (1385.0)
Receipt Date:	06-JAN-2017
Filing Date:	05-OCT-2016
Time Stamp:	15:35:26
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
------------------------	----

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Information Disclosure Statement (IDS) Form (SB08)	R609991400USC4_SB08.pdf	1177091 <small>1f3ac69a334863fbcf20ec794e95fe4a814f2fcd</small>	no	4

Warnings:

Philip Morris Products, S.A.

Exhibit 1002

Page 137

Information:

This is not an USPTO supplied IDS fillable form

Total Files Size (in bytes):

1177091

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.



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Table with 4 columns: APPLICATION NUMBER (15/286,087), FILING OR 371(C) DATE (10/05/2016), FIRST NAMED APPLICANT (John Howard Robinson), ATTY. DOCKET NO./TITLE (R60999 1400US.C4 (1385.0))

CONFIRMATION NO. 2741

PUBLICATION NOTICE

26158
WOMBLE CARLYLE SANDRIDGE & RICE, LLP
ATTN: IP DOCKETING
P.O. BOX 7037
ATLANTA, GA 30357-0037



Title: TOBACCO-CONTAINING SMOKING ARTICLE

Publication No. US-2017-0020200-A1
Publication Date: 01/26/2017

NOTICE OF PUBLICATION OF APPLICATION

The above-identified application will be electronically published as a patent application publication pursuant to 37 CFR 1.211, et seq. The patent application publication number and publication date are set forth above.

The publication may be accessed through the USPTO's publically available Searchable Databases via the Internet at www.uspto.gov. The direct link to access the publication is currently http://www.uspto.gov/patft/.

The publication process established by the Office does not provide for mailing a copy of the publication to applicant. A copy of the publication may be obtained from the Office upon payment of the appropriate fee set forth in 37 CFR 1.19(a)(1). Orders for copies of patent application publications are handled by the USPTO's Office of Public Records. The Office of Public Records can be reached by telephone at (571) 272-3150 or (800) 972-6382, by facsimile at (571) 273-3250, by mail addressed to the United States Patent and Trademark Office, Office of Public Records, Alexandria, VA 22313-1450 or via the Internet.

In addition, information on the status of the application, including the mailing date of Office actions and the dates of receipt of correspondence filed in the Office, may also be accessed via the Internet through the Patent Electronic Business Center at www.uspto.gov using the public side of the Patent Application Information and Retrieval (PAIR) system. The direct link to access this status information is currently http://pair.uspto.gov/. Prior to publication, such status information is confidential and may only be obtained by applicant using the private side of PAIR.

Further assistance in electronically accessing the publication, or about PAIR, is available by calling the Patent Electronic Business Center at 1-866-217-9197.

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Table with 5 columns: APPLICATION NO., FILING DATE, FIRST NAMED INVENTOR, ATTORNEY DOCKET NO., CONFIRMATION NO. Includes application details for 15/286,087 and examiner information for NGUYEN, PHU HOANG.

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

IPDocketing@WCSR.COM

The present application is being examined under the pre-AIA first to invent provisions.

Information Disclosure Statement

It is noted that the IDS filed 10/05/2016 contains an extremely large number of references for consideration by the Examiner. If the applicant and/or applicant's representative are aware of any particular reference or portion of a reference in the list which the examiner should take particular attention to it is requested that it be specifically pointed out in response to this Office action.

Allowable Subject Matter

The following is a statement of reasons for the indication of allowable subject matter:

The closest prior art of Counts et al. (U.S Patent No. 5692525) discloses a tobacco containing, electrically powered smoking article comprising:

(a) a tubular outer housing having a mouth-end (by reference sign 37, fig. 2) and an end distal to the mouth end, the housing comprising an opening adapted for intake of air into the smoking article;

(b) an electrical power source (35a, fig.2) within the outer housing;

(c) at least one electrical resistance heater (37, fig. 3) within the outer housing, the heater being configured to allow air flow therethrough and being powered by said electrical power source; and wherein the heater comprises at least one elongated portion extending downstream therefrom.

Art Unit: 1747

(d) a puff actuated controller adapted for regulating current flow through electrical resistance heating elements during draw, the controller comprising a sensor capable of selectively powering electrical components of the smoking article (column 7, lines 32-49);

(e) a rod-shaped carrier device (23, fig. 2 and column 5, line 65 to column 6, line 5) removably engaged with the mouth-end of the outer housing and comprising a tubular mouth-end piece (by reference sign 104, fig. 4A) and a tubular cartridge (houses inside reference sign 71, fig. 4A or any one of the equivalence in alternative embodiments in figs. 7A, 10, 11) with two open ends allowing air to flow therethrough, wherein the cartridge includes a substrate that comprises a tobacco material (reference sign 80, fig. 4A, 220", fig. 7A) and glycerin (corresponding to the claimed "an aerosol forming material") added to the tobacco material as a humectant and as an aerosol precursor (column 12, lines 33-37); wherein the cartridge is capable of operatively positioned within the outer housing and adjacent to the heater such that the electrical resistance heater is adapted for heating at least a portion of the tobacco and the aerosol-generating material and such that air drawn into the outer housing passes through at least a portion of the heater, through the cartridge, and through the mouth-end piece.

However, Counts does not teach or suggest that the rod-shaped carrier device is operatively positioned such that, during draw, the mixture comprising the tobacco extract and the aerosol-forming material can be wicked into contact with the electrical resistance heater and volatilized to produce a visible mainstream aerosol incorporating

Art Unit: 1747

tobacco components or tobacco-derived components that can be drawn into the mouth of the user of the smoking article.

Therefore the claimed invention is distinguished from the prior art of Counts.

Claims 31-60 are allowed.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory double patenting rejection is appropriate where the claims at issue are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the reference application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of

Art Unit: 1747

activities undertaken within the scope of a joint research agreement. A terminal disclaimer must be signed in compliance with 37 CFR 1.321(b).

The USPTO internet Web site contains terminal disclaimer forms which may be used. Please visit <http://www.uspto.gov/forms/>. The filing date of the application will determine what form should be used. A web-based eTerminal Disclaimer may be filled out completely online using web-screens. An eTerminal Disclaimer that meets all requirements is auto-processed and approved immediately upon submission. For more information about eTerminal Disclaimers, refer to <http://www.uspto.gov/patents/process/file/efs/guidance/eTD-info-l.jsp>.

Claims 31-60 are provisionally rejected on the ground of nonstatutory double patenting as being unpatentable over claims 57-81 of copending Application No. 14527287 (reference application). Although the claims at issue are not identical, they are not patentably distinct from each other because they have the same scope of invention with the same features of a smoking article has an outer housing, an electrical power source, resistance heating element, puff actuated controller and a rod-shaped carrier device.

This is a provisional nonstatutory double patenting rejection because the patentably indistinct claims have not in fact been patented.

Claims 31-60 are rejected on the ground of nonstatutory double patenting as being unpatentable over claims 1-40 of U.S Patent No. 8899238, claims 1-35 of U.S. Patent No. 8079371 and claims 1-9 of Patent No. 7726320. Although the claims at issue are not identical, they are not patentably distinct from each other because they have the

Art Unit: 1747

same scope of invention with the same features of a smoking article has an outer housing, an electrical power source, resistance heating element, puff actuated controller and a rod-shaped carrier device.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PHU NGUYEN whose telephone number is (571)272-5931. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Wilson can be reached on 571-270-3882. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/PHU NGUYEN/
Examiner, Art Unit 1747

Notice of References Cited	Application/Control No. 15/286,087	Applicant(s)/Patent Under Reexamination ROBINSON ET AL.	
	Examiner PHU NGUYEN	Art Unit 1747	Page 1 of 1

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*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	CPC Classification	US Classification
*	A US-5,692,525 A	12-1997	Counts; Mary Ellen	A24F47/008	131/194
B	US-				
C	US-				
D	US-				
E	US-				
F	US-				
G	US-				
H	US-				
I	US-				
J	US-				
K	US-				
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FOREIGN PATENT DOCUMENTS

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S					
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NON-PATENT DOCUMENTS

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	CPC Classification
*	Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)				
U					
V					
W					
X					

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Substitute for form 1449/PTO (Revised 07/2005) INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>				Complete if Known			
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				Group Art Unit		1747	
				Examiner Name		Phu Hoang Nguyen	
Sheet	1	of	13	Attorney Docket Number	R60999 1400US.C4 (1383.3)		

U. S. PATENT DOCUMENTS					
Examiner Initials*	Cite No.	Document Number Number - Kind Code (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages of Relevant Figures Appear
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	2	US-3,258,015	06-28-1966	Ellis et al.	
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				Examiner Name		Phu Hoang Nguyen	
Sheet	2	of	13	Attorney Docket Number	R60999 1400US.C4 (1383.3)		

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Examiner Signature		Date Considered	
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Sheet	3	of	13	Attorney Docket Number	R60999 1400US.C4 (1383.3)		

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Sheet	4	of	13	Attorney Docket Number		R60999 1400US.C4 (1383.3)	

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Sheet	5	of	13	Attorney Docket Number	R60999 1400US.C4 (1383.3)		

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Sheet	6	of	13	Attorney Docket Number		R60999 1400US.C4 (1383.3)	

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Substitute for form 1449/PTO (Revised 07/2005) INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>				Complete if Known			
				Application Number		TBA	
				Filing Date		Concurrently Herewith	
				First Named Inventor		John Howard Robinson	
				Group Art Unit		1747	
				Examiner Name		Phu Hoang Nguyen	
Sheet	7	of	13	Attorney Docket Number		R60999 1400US.C4 (1383.3)	

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				Examiner Name		Phu Hoang Nguyen	
Sheet	8	of	13	Attorney Docket Number		R60999 1400US.C4 (1383.3)	

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Sheet	10	of	13	Attorney Docket Number	R60999 1400US.C4 (1383.3)		

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Sheet	11	of	13	Attorney Docket Number		R60999 1400US.C4 (1383.3)	

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Sheet	12	of	13	Attorney Docket Number		R60999 1400US.C4 (1383.3)	

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				Examiner Name		Phu Hoang Nguyen	
Sheet	13	of	13	Attorney Docket Number		R60999 1400US.C4 (1383.3)	

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Examiner Initials*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s) , volume-issue number(s), publisher, city and/or country where published.	English Language Translation Attached
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Search Notes 	Application/Control No. 15286087	Applicant(s)/Patent Under Reexamination ROBINSON ET AL.
	Examiner PHU NGUYEN	Art Unit 1747

CPC- SEARCHED		
Symbol	Date	Examiner

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner

SEARCH NOTES		
Search Notes	Date	Examiner
See East Search History	6/20/2017	P.N

INTERFERENCE SEARCH			
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	Philip Morris Products, S.A. Exhibit 1002 Page 161
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EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
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S2	42	S1 and electrical	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2009/06/03 21:19
S4	2	"20080092912"	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2009/06/03 21:46
S5	3	flameless near2 electronic near2 cigarette	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2009/06/04 12:58
S6	4	((("5093894") or ("5505214")).PN.	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2009/06/04 13:40
S7	109	("1771366" "1968509" "2057353" "2104266" "2442004" "2974669" "3200819" "3255760" "3258015"	US- PGPUB; USPAT;	OR	OFF	2009/06/04 13:41

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S9	2	(S8 S7) and puff near2 controller	US- PGPUB; USPAT; USOCR	OR	ON	2009/06/04 13:55
S10	16	(S8 S7) and glycerin and (electrical electronic)	US- PGPUB; USPAT; USOCR	OR	ON	2009/06/04 14:28
S11	54	(S8 S7) and glycerin and extract	US- PGPUB; USPAT; USOCR	OR	ON	2009/06/04 16:33
S12	2	("20080092912").PN.	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2010/01/06 20:51
S13	18	aerosol near2 material and cartridge and electrica\$4 and tobacco and heat\$4 near2 element	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2010/01/06 21:08
S14	497	("2881770" "20020000235" "20020014453" "20030075193" "20030114298" "20030131859" "20030154993" "20040084056" "20040107973" "20040134631" "20040173229" "20040194792" "20040217023" "20040226569" "20040237984" "20040255965" "20040256253" "20040261807" "20050005947" "20050016549" "20050016556" "20050049128" "20050066983" "20050066984" "20050066986" "20050076929" "20050133051" "20050133052" "20050150786" "20050194014" "20050252693" "20050274390" "20060021624" "20060025292" "20070023056" "20070190347" "3101723" "3217715" "3258015" "3263244" "3308600" "3347247" "3356094" "3370595" "3419015" "3516417" "3614956" "3648711" "3738374" "3844294" "3878850" "3931824" "3943941" "3957563" "3972335" "4044777" "4054145" "4079742" "4174720" "4201234" "4219031" "4223597" "4233993" "4280187" "4281670" "4286604" "4294353" "4326544" "4340072" "4347855" "4391285" "4449541" "4508525" "4534463" "4700727" "4714082" "4715497" "4756318" "4771795" "4793365" "4807809" "4823817" "4836224" "4848374" "4852734" "4874000" "4881556" "4887619" "4893637" "4893639"	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2010/01/06 21:13

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S17	2	("20120060853").PN.	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2014/01/27 13:59
S18	598	("2881770" "20020000235" "20020014453" "20030075193" "20030114298" "20030131859" "20030154993" "20040084056" "20040107973" "20040134631" "20040173229" "20040194792" "20040217023" "20040226569" "20040237984" "20040255965" "20040256253" "20040261807" "20050005947" "20050016549" "20050016556" "20050049128" "20050066983" "20050066984"	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2014/01/28 16:59

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S19	38	S18 and cartridge	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2014/01/28 16:59
S20	29	A24F47/\$ and cartridge and substrate	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2014/01/28 17:00
S22	4	((("20120060853") or ("7726320")).PN.	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2014/01/28 17:02
S24	21	A24F\$/ \$ and polyethylene near2 terephthalate and electronic	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2014/01/29 17:14
S27	18	polyethylene near2 terephthalate and electronic and absorbent and tobacco and smoking	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2014/01/29 17:17
S28	359	("20030131859" "20040173229" "20050016549" "20050066986" "20060185687" "20060196518" "20070062549" "3258015" "3356094" "3516417" "3614956" "3738374" "3844294" "3878850" "3931824" "3943941" "4044777" "4079742" "4190046" "4219031" "4233993" "4284089" "4286604" "4326544" "4340072" "4347855" "4391285" "4635651" "4700727" "4714082" "4735217" "4756318" "4771795" "4793365" "4800903" "4807809" "4819665" "4823817" "4836225" "4848374" "4874000" "4892109" "4893639" "4917121" "4917128" "4920990" "4924886" "4947874" "4961438" "4966171" "4969476" "4972855" "4977908" "4991606" "5020548" "5025814" "5033483" "5040551" "5050621" "5060667" "5060671" "5060676" "5065776" "5072744" "5074321" "5076296" "5076297" "5092353" "5099861" "5101839" "5105835" "5105836" "5105837" "5105838" "5115820"	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2014/01/29 17:17

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S31	713	(polyethylene near2 terephthalate near2 fiber) same (carbon near2 fiber)	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2014/01/29 17:20
S32	12	(polyethylene near2 terephthalate near2 fiber) same (carbon near2 fiber) and base near2 web	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2014/01/29 17:20
S33	65	(polyethylene near2 terephthalate near2 fiber) same (carbon near2 fiber) and absorbent	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2014/01/29 17:34
S34	28	(polyethylene near2 terephthalate near2 fiber) same bio	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2014/02/02 00:35
S38	2	("3486508").PN.	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2014/02/02 01:31
S40	22	A24F\$/ \$ and paper same "metallic foil"	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2014/02/02 01:32
S42	14	A24F\$/ \$ and paper and base near2 web and calcium near carbonate	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2014/02/03 15:41

S43	2	("8079371").PN.	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2014/02/03 21:22
S44	7	cigarette near2 paper and carbon near2 fiber and carbon near2 particle and carbonate near2 particle	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2014/08/02 23:31
S45	0	(A24B15/165).cpc. and controller and aerosol and heater	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2014/08/02 23:32
S46	2	(A24B15/14).cpc. and controller and aerosol and heater	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2014/08/02 23:32
S47	0	(A24D1/18).cpc. and controller and aerosol and heater	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2014/08/02 23:33
S49	142	("1771366" "2057353" "2104266" "20020146242" "20030226837" "20040129280" "20040200488" "20040226568" "20050016550" "20060016453" "20060196518" "20070074734" "20070102013" "20070215167" "3200819" "4303083" "4907606" "4945931" "4986286" "5019122" "5042510" "5093894" "5261424" "5353813" "5408574" "5468936" "5498850" "5515842" "5530225" "5564442" "5649554" "5666977" "5687746" "5726421" "5727571" "5865186" "5894841" "5954979" "5967148" "6095153" "6125853" "6155268" "6164287" "6196218" "6196219" "6601776" "6772756" "6803545" "6854461" "6854470" "7293565").PN.	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2014/09/29 23:59
S50	1	S49 and glycerin and (electrical electronic) and controller	US- PGPUB; USPAT; USOCR	OR	ON	2014/09/30 00:00
S53	122	smoking near2 article and tobacco near extract and heater	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2016/10/02 20:40
S54	2	("8899238").PN.	US-	OR	OFF	2016/10/02

			US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT			21:47
S55	0	(smoking and puff and carrier and wick and heater and controller).clm.	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2016/10/02 21:55
S56	1	(smoking and puff and carrier and wick\$3 and heater and controller).clm.	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2016/10/02 21:55
S58	4	((("7726320") or ("8899238"))).PN.	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2017/04/01 01:42
S59	2	("20150047656").PN.	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2017/04/01 01:46
S60	6	((("7726320") or ("8899238") or ("8079371"))).PN.	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2017/04/01 02:00
S61	2	("20150047656").PN.	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2017/04/01 13:33
S62	2	(smoking and puff and carrier and wick\$3 and heater and controller).clm.	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2017/04/01 13:46

6/ 20/ 2017 12:05:28 AM

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		15286087
	Filing Date		2016-10-05
	First Named Inventor	John Howard Robinson	
	Art Unit		1747
	Examiner Name	NGUYEN, Phu Hoang	
	Attorney Docket Number		R60999 1400US.C4 (1385.0)

U.S.PATENTS						
Examiner Initial*	Cite No	Patent Number	Kind Code ¹	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	1514682		1924-11-11	H. Wilson	
	2	3479561		1969-11-18	J. L. Janning	
	3	7726320	B2	2010-06-01	Robinson et al.	
	4	8079371	B2	2011-12-20	Robinson et al.	
	5	8899238	B2	2014-12-02	Robinson et al.	

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U.S.PATENT APPLICATION PUBLICATIONS						
Examiner Initial*	Cite No	Publication Number	Kind Code ¹	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1					

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FOREIGN PATENT DOCUMENTS

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number	15286087
Filing Date	2016-10-05
First Named Inventor	John Howard Robinson
Art Unit	1747
Examiner Name	NGUYEN, Phu Hoang
Attorney Docket Number	R60999 1400US.C4 (1385.0)

Examiner Initial*	Cite No	Foreign Document Number ³	Country Code ²	Kind Code ⁴	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear	T ⁵
	1							<input type="checkbox"/>

If you wish to add additional Foreign Patent Document citation information please click the Add button

NON-PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T ⁵
	1		<input type="checkbox"/>

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EXAMINER SIGNATURE

Examiner Signature	/PHU H NGUYEN/	Date Considered	06/19/2017
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*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. ²Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). ³For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁴Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁵Applicant is to place a check mark here if English language translation is attached.

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number	15286087
Filing Date	2016-10-05
First Named Inventor	John Howard Robinson
Art Unit	1747
Examiner Name	NGUYEN, Phu Hoang
Attorney Docket Number	R60999 1400US.C4 (1385.0)

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

See attached certification statement.

The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/christopher h. orders/	Date (YYYY-MM-DD)	2017-01-06
Name/Print	Christopher H. Orders	Registration Number	57151

This collection of information is required by 37 CFR 1.97 and 1.98. 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 1 hour 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.**

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
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5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re: Robinson et al. Confirmation No.: 2741
Appl No.: 15/286,087 Group Art Unit: 1747
Filed: October 5, 2016 Examiner: Phu Hoang Nguyen
For: TOBACCO-CONTAINING SMOKING ARTICLE

Docket No.: **R60999 1400US.C4 (1385.0)**
Customer No.: 26158

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

RESPONSE UNDER 37 C.F.R. §1.111

Sir:

In response to the Office Action dated June 26, 2017:

Pending Claims are reflected in the listing of claims beginning on page 2 of this paper.

Remarks/Arguments begin on page 7 of this paper.

PENDING CLAIMS

1-30 (Cancelled)

31. (Previously Presented) An electrically-powered, aerosol-generating smoking article comprising:

an electrical power source within a tubular outer housing having a mouth-end and an end distal to the mouth-end;

at least one electrical resistance heater powered by said electrical power source;

a puff-actuated controller within the tubular outer housing and adapted for regulating current flow through the electrical resistance heater during draw, the controller comprising a sensor adapted for sensing draw on the smoking article by a user; and

a rod-shaped carrier device engaged with the mouth-end of the tubular outer housing and comprising a cartridge providing a liquid storage compartment containing a mixture comprising a tobacco extract and an aerosol-forming material absorbed within an absorbent fibrous material, the cartridge having a generally tubular shape and adapted for airflow therethrough;

wherein the rod-shaped carrier device is operatively positioned such that, during draw, the mixture comprising the tobacco extract and the aerosol-forming material can be wicked into contact with the electrical resistance heater and volatilized to produce a visible mainstream aerosol incorporating tobacco components or tobacco-derived components that can be drawn into the mouth of the user of the smoking article.

32. (Previously Presented) The smoking article of claim 31, wherein the aerosol-forming material comprises glycerin, propylene glycol, or a mixture thereof.

33. (Previously Presented) The smoking article of claim 31, wherein the mixture further comprises a flavoring agent.

34. (Previously Presented) The smoking article of claim 33, wherein the flavoring agent comprises menthol.

35. (Previously Presented) The smoking article of claim 31, wherein the mixture further comprises an organic acid.

36. (Previously Presented) The smoking article of claim 31, wherein the mixture comprises essentially pure nicotine, extracts composed predominantly of nicotine, or formulations composed predominantly of nicotine.

37. (Previously Presented) The smoking article of claim 31, wherein the absorbent fibrous material comprises a synthetic polymeric material.

38. (Previously Presented) The smoking article of claim 31, wherein the amount of aerosol-forming material is sufficient to provide greater than about 200 puffs per cartridge.

39. (Previously Presented) The smoking article of claim 31, wherein the cartridge is made from paper, plastic, or heat conductive materials.

40. (Previously Presented) The smoking article of claim 31, wherein the cartridge has a length that does not exceed about 30 mm.

41. (Previously Presented) The smoking article of claim 31, wherein the cartridge is electrically conductive.

42. (Previously Presented) The smoking article of claim 31, wherein the rod-shaped carrier device is removably engaged with the mouth-end of the tubular outer housing.

43. (Previously Presented) The smoking article of claim 31, wherein the mixture comprises glycerin, tobacco extract, and a flavoring agent.

44. (Previously Presented) The smoking article of claim 31, wherein the absorbent fibrous material is in contact with the electrical resistance heater.

45. (Previously Presented) An electrically-powered, aerosol-generating smoking article comprising:

an electrical power source in the form of a battery within a tubular outer housing having a mouth-end and an end distal to the mouth-end;

at least one electrical resistance heater powered by said electrical power source;

a puff-actuated controller within the tubular outer housing and adapted for regulating current flow through the electrical resistance heater during draw, the controller comprising a sensor adapted for sensing draw on the smoking article by a user; and

a rod-shaped carrier device removably engaged with the mouth-end of the tubular outer housing and comprising a cartridge providing a liquid storage compartment containing a mixture comprising a tobacco extract comprising nicotine and an aerosol-forming material selected from glycerin, propylene glycol, or a mixture thereof, the mixture absorbed within an absorbent wicking material, the cartridge having a generally tubular shape and adapted for airflow therethrough;

wherein the rod-shaped carrier device is operatively positioned such that, during draw, the mixture comprising the tobacco extract and the aerosol-forming material can be wicked into contact with the electrical resistance heater and volatilized to produce a visible mainstream aerosol incorporating tobacco components or tobacco-derived components that can be drawn into the mouth of the user of the smoking article.

46. (Previously Presented) The smoking article of claim 45, wherein the mixture further comprises a flavoring agent.

47. (Previously Presented) The smoking article of claim 46, wherein the flavoring agent comprises menthol.

48. (Previously Presented) The smoking article of claim 45, wherein the mixture further comprises an organic acid.

49. (Previously Presented) The smoking article of claim 45, wherein the mixture comprises essentially pure nicotine, extracts composed predominantly of nicotine, or formulations composed predominantly of nicotine.

50. (Previously Presented) The smoking article of claim 45, wherein the amount of the aerosol-forming material is sufficient to provide greater than about 200 puffs per cartridge.

51. (Previously Presented) The smoking article of claim 45, wherein the cartridge is made from paper, plastic, or heat conductive materials.

52. (Previously Presented) The smoking article of claim 45, wherein the cartridge has a length that does not exceed about 30 mm.

53. (Previously Presented) The smoking article of claim 45, wherein the cartridge is electrically conductive.

54. (Previously Presented) The smoking article of claim 45, wherein the absorbent wicking material is in contact with the electrical resistance heater.

55. (Previously Presented) The smoking article of claim 45, wherein the absorbent wicking material is positioned in proximity to the at least one electrical resistance heater.

56. (Previously Presented) The smoking article of claim 45, wherein an air passageway extends along the length of the cartridge.

57. (Previously Presented) An electrically-powered, aerosol-generating smoking article comprising:

an electrical power source in the form of a battery within a tubular outer housing having a mouth-end and an end distal to the mouth-end;

at least one electrical resistance heater powered by said electrical power source, wherein at least a portion of the resistance heating element is elongated and extending downstream toward the mouth-end of the outer housing, the elongated portion of the resistance heating element positioned proximal to the center of the outer housing;

a controller within the tubular outer housing and adapted for regulating current flow through the electrical resistance heater; and

a cigarette-type device removably engaged with the mouth-end of the tubular outer housing and comprising a tobacco segment circumscribed by a wrapping material and comprising a tobacco material and an aerosol-forming material, wherein the elongated portion of the resistance heating element extends into the tobacco segment when the cigarette-type device is engaged with the mouth-end of the outer housing, such that during draw, aerosol-forming material can be volatilized to produce a visible mainstream aerosol incorporating tobacco components or tobacco-derived components that can be drawn into the mouth of the user of the smoking article.

58. (Previously Presented) The smoking article of claim 57, wherein the cigarette-type device further comprises a filter element downstream from the tobacco segment.

59. (Previously Presented) The smoking article of claim 57, further comprising an actuation mechanism in the form of a switching mechanism that can be manually operated by the user in order to heat the cigarette-type device.

60. (Previously Presented) The smoking article of claim 57, wherein the electrical resistance heating element provides surface region temperatures of at least 200°C and less than 600°C such that the tobacco material does not burn during use.

REMARKS

In light of the following remarks, reexamination and reconsideration of this application, withdrawal of the rejections, and formal notification of the allowability of all claims as presented are earnestly solicited. In this Office Action, Claims 31-60 are pending and are now rejected. Claims 1-30 were previously canceled.

Double Patenting

Claims 31-60 are provisionally rejected on the grounds of nonstatutory double patenting over Claims 57-81 of co-pending US App. No. 14/527,287 (the '287 Application). Claims 31-60 are also rejected on grounds of nonstatutory double patenting over Claims 1-40 of US Patent No. 8,899,238 (the '238 Patent), Claims 1-35 of US Patent No. 8,079,371 (the '371 Patent), and Claims 1-9 of US Patent No. 7,726,320 (the '320 Patent). Although Applicant does not acquiesce to the rejections, in order to expedite allowance, Applicant has filed an electronic terminal disclaimer for each of the '287 Application, which has recently been allowed, the '238 Patent, the '371 Patent, and the '320 Patent. Applicant submits that the rejections are thus moot, and Applicant requests reconsideration and withdrawal of the rejections.

CONCLUSION

It is not believed that extensions of time or fees for net addition of claims are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 CFR § 1.136(a), and any fee required therefor (including fees for net addition of claims) is hereby authorized to be charged to Deposit Account No. 09-0528.

Respectfully submitted,

/lauren f. anderson/

Lauren F. Anderson
Registration No. 69,344

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ELECTRONICALLY FILED USING THE EFS-WEB ELECTRONIC FILING SYSTEM OF THE UNITED STATES PATENT & TRADEMARK OFFICE ON September 26, 2017

Electronic Acknowledgement Receipt

EFS ID:	30471237
Application Number:	15286087
International Application Number:	
Confirmation Number:	2741
Title of Invention:	TOBACCO-CONTAINING SMOKING ARTICLE
First Named Inventor/Applicant Name:	John Howard Robinson
Customer Number:	26158
Filer:	Lauren F Anderson/Tenika Askew
Filer Authorized By:	Lauren F Anderson
Attorney Docket Number:	R60999 1400US.C4 (1385.0)
Receipt Date:	26-SEP-2017
Filing Date:	05-OCT-2016
Time Stamp:	11:12:49
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		R609991400USC4_Amendment.pdf	28517 e1422ab99e75742625edbad53183a20694468420	yes	8

Multipart Description/PDF files in .zip description			
Document Description		Start	End
Amendment/Req. Reconsideration-After Non-Final Reject		1	1
Claims		2	6
Applicant Arguments/Remarks Made in an Amendment		7	8

Warnings:

Information:

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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.

Doc Code: DIST.E.FILE Document Description: Electronic Terminal Disclaimer - Filed	PTO/SB/25 PTO/SB/26 U.S. Patent and Trademark Office Department of Commerce
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Electronic Petition Request	TERMINAL DISCLAIMER TO OBVIATE A PROVISIONAL DOUBLE PATENTING REJECTION OVER A PENDING "REFERENCE" APPLICATION AND TERMINAL DISCLAIMER TO OBVIATE A DOUBLE PATENTING REJECTION OVER A "PRIOR" PATENT
Application Number	15286087
Filing Date	05-Oct-2016
First Named Inventor	John Robinson
Attorney Docket Number	R60999 1400US.C4 (1385.0)
Title of Invention	TOBACCO-CONTAINING SMOKING ARTICLE

Filing of terminal disclaimer does not obviate requirement for response under 37 CFR 1.111 to outstanding Office Action
 This electronic Terminal Disclaimer is not being used for a Joint Research Agreement.

Owner	Percent Interest
RAI Strategic Holdings, Inc.	100 %

The owner(s) of percent interest listed above in the instant application hereby disclaims, except as provided below, the terminal part of the statutory term of any patent granted on the instant application which would extend beyond the expiration date of the full statutory term of any patent granted on pending reference Application Number(s)

14527287 filed on 10/29/2014
as the term of any patent granted on said reference application may be shortened by any terminal disclaimer filed prior to the grant of any patent on the pending reference application. The owner hereby agrees that any patent so granted on the instant application shall be enforceable only for and during such period that it and any patent granted on the reference application are commonly owned. This agreement runs with any patent granted on the instant application and is binding upon the grantee, its successors or assigns.
In making the above disclaimer, the owner does not disclaim the terminal part of any patent granted on the instant application that would extend to the expiration date of the full statutory term of any patent granted on said reference application, "as the term of any patent granted on said reference application may be shortened by any terminal disclaimer filed prior to the grant of any patent on the pending reference application," in the event that any such patent granted on the pending reference application: expires for failure to pay a maintenance fee, is held unenforceable, is found invalid by a court of competent jurisdiction, is statutorily disclaimed in whole or terminally disclaimed under 37 CFR 1.321, has all claims canceled by a reexamination certificate, is reissued, or is in any manner terminated prior to the expiration of its full statutory term as shortened by any terminal disclaimer filed prior to its grant.

The owner(s) with percent interest listed above in the instant application hereby disclaims, except as provided below, the terminal part of the statutory term of any patent granted on the instant application which would extend beyond the expiration date of the full statutory term of prior patent number(s)

8079371

8899238

7726320

as the term of said prior patent is presently shortened by any terminal disclaimer. The owner hereby agrees that any patent so granted on the instant application shall be enforceable only for and during such period that it and the prior patent are commonly owned. This agreement runs with any patent granted on the instant application and is binding upon the grantee, its successors or assigns.

In making the above disclaimer, the owner does not disclaim the terminal part of the term of any patent granted on the instant application that would extend to the expiration date of the full statutory term of the prior patent, "as the term of said prior patent is presently shortened by any terminal disclaimer," in the event that said prior patent later:

- expires for failure to pay a maintenance fee;
- is held unenforceable;
- is found invalid by a court of competent jurisdiction;
- is statutorily disclaimed in whole or terminally disclaimed under 37 CFR 1.321;
- has all claims canceled by a reexamination certificate;
- is reissued; or
- is in any manner terminated prior to the expiration of its full statutory term as presently shortened by any terminal disclaimer.

Terminal disclaimer fee under 37 CFR 1.20(d) is included with Electronic Terminal Disclaimer request.

I certify, in accordance with 37 CFR 1.4(d)(4), that the terminal disclaimer fee under 37 CFR 1.20(d) required for this terminal disclaimer has already been paid in the above-identified application.

Applicants claims the following fee status:

Small Entity

Micro Entity

Regular Undiscounted

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

THIS PORTION MUST BE COMPLETED BY THE SIGNATORY OR SIGNATORIES

I certify, in accordance with 37 CFR 1.4(d)(4) that I am:

An attorney or agent registered to practice before the Patent and Trademark Office who is of record in this application

Registration Number 69344

A sole inventor

A joint inventor; I certify that I am authorized to sign this submission on behalf of all of the inventors as evidenced by the power of attorney in the application

A joint inventor; all of whom are signing this request

Signature

/lauren f. anderson/

Philip Morris Products, S.A.

Exhibit 1002

Page 188

Name	Lauren F. Anderson
------	--------------------

*Statement under 37 CFR 3.73(b) is required if terminal disclaimer is signed by the assignee (owner).
Form PTO/SB/96 may be used for making this certification. See MPEP § 324.

Electronic Patent Application Fee Transmittal

Application Number:	15286087			
Filing Date:	05-Oct-2016			
Title of Invention:	TOBACCO-CONTAINING SMOKING ARTICLE			
First Named Inventor/Applicant Name:	John Howard Robinson			
Filer:	Lauren F Anderson/Tenika Askew			
Attorney Docket Number:	R60999 1400US.C4 (1385.0)			
Filed as Large Entity				
Filing Fees for Utility under 35 USC 111(a)				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
STATUTORY OR TERMINAL DISCLAIMER	1814	1	160	160
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				160

Doc Code: DISQ.E.FILE

Document Description: Electronic Terminal Disclaimer – Approved

Application No.: 15286087

Filing Date: 05-Oct-2016

Applicant/Patent under Reexamination: Robinson

Electronic Terminal Disclaimer filed on September 26, 2017

APPROVED

This patent is subject to a terminal disclaimer

DISAPPROVED

Approved/Disapproved by: Electronic Terminal Disclaimer automatically approved by EFS-Web

U.S. Patent and Trademark Office

Electronic Acknowledgement Receipt

EFS ID:	30471167
Application Number:	15286087
International Application Number:	
Confirmation Number:	2741
Title of Invention:	TOBACCO-CONTAINING SMOKING ARTICLE
First Named Inventor/Applicant Name:	John Howard Robinson
Customer Number:	26158
Filer:	Lauren F Anderson/Tenika Askew
Filer Authorized By:	Lauren F Anderson
Attorney Docket Number:	R60999 1400US.C4 (1385.0)
Receipt Date:	26-SEP-2017
Filing Date:	05-OCT-2016
Time Stamp:	11:19:01
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	DA
Payment was successfully received in RAM	\$160
RAM confirmation Number	092617INTEFSW00014007090528
Deposit Account	
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Terminal Disclaimer-Filed (Electronic)	eTerminal-Disclaimer.pdf	36948	no	3
			9d74ee672b05bb40305d237cd4ef32c8297a677d		

Warnings:

Information:

2	Fee Worksheet (SB06)	fee-info.pdf	30781	no	2
			30714279e09c3918181fd18c421b0bdf24d24e		

Warnings:

Information:

Total Files Size (in bytes):	67729
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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.

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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 15/286,087	Filing Date 10/05/2016	<input type="checkbox"/> To be Mailed
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ENTITY: LARGE SMALL MICRO

APPLICATION AS FILED – PART I

FOR	NUMBER FILED	NUMBER EXTRA	RATE (\$)	FEE (\$)
<input type="checkbox"/> BASIC FEE <small>(37 CFR 1.16(a), (b), or (c))</small>	N/A	N/A	N/A	
<input type="checkbox"/> SEARCH FEE <small>(37 CFR 1.16(k), (l), or (m))</small>	N/A	N/A	N/A	
<input type="checkbox"/> EXAMINATION FEE <small>(37 CFR 1.16(o), (p), or (q))</small>	N/A	N/A	N/A	
TOTAL CLAIMS <small>(37 CFR 1.16(i))</small>	minus 20 =	*	X \$ =	
INDEPENDENT CLAIMS <small>(37 CFR 1.16(h))</small>	minus 3 =	*	X \$ =	
<input type="checkbox"/> APPLICATION SIZE FEE <small>(37 CFR 1.16(s))</small>	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			
<input type="checkbox"/> MULTIPLE DEPENDENT CLAIM PRESENT <small>(37 CFR 1.16(j))</small>				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

APPLICATION AS AMENDED – PART II

	(Column 1)	(Column 2)	(Column 3)	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)
AMENDMENT	09/26/2017	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR			
	Total <small>(37 CFR 1.16(i))</small>	* 30	Minus	** 30	= 0	X \$80 = 0
	Independent <small>(37 CFR 1.16(h))</small>	* 3	Minus	***3	= 0	X \$420 = 0
	<input type="checkbox"/> Application Size Fee <small>(37 CFR 1.16(s))</small>					
<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM <small>(37 CFR 1.16(j))</small>						
					TOTAL ADD'L FEE	0

	(Column 1)	(Column 2)	(Column 3)	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR			
	Total <small>(37 CFR 1.16(i))</small>	*	Minus	**	=	X \$ =
	Independent <small>(37 CFR 1.16(h))</small>	*	Minus	***	=	X \$ =
	<input type="checkbox"/> Application Size Fee <small>(37 CFR 1.16(s))</small>					
<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM <small>(37 CFR 1.16(j))</small>						
					TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
 ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
 *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
 The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

SLIE
 ALA HUNTER

This collection of information is required by 37 CFR 1.16. 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 12 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.



NOTICE OF ALLOWANCE AND FEE(S) DUE

26158 7590 10/04/2017
WOMBLE CARLYLE SANDRIDGE & RICE, LLP
ATTN: IP DOCKETING
P.O. BOX 7037
ATLANTA, GA 30357-0037

Table with 2 columns: EXAMINER (NGUYEN, PHU HOANG), ART UNIT (1747), PAPER NUMBER

DATE MAILED: 10/04/2017

Table with 5 columns: APPLICATION NO., FILING DATE, FIRST NAMED INVENTOR, ATTORNEY DOCKET NO., CONFIRMATION NO.

15/286,087 10/05/2016 John Howard Robinson R60999 1400US.C4 (1385.0) 2741

TITLE OF INVENTION: TOBACCO-CONTAINING SMOKING ARTICLE

Table with 7 columns: APPLN. TYPE, ENTITY STATUS, ISSUE FEE DUE, PUBLICATION FEE DUE, PREV. PAID ISSUE FEE, TOTAL FEE(S) DUE, DATE DUE

nonprovisional UNDISCOUNTED \$960 \$0 \$0 \$960 01/04/2018

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the ENTITY STATUS shown above. If the ENTITY STATUS is shown as SMALL or MICRO, verify whether entitlement to that entity status still applies.

If the ENTITY STATUS is the same as shown above, pay the TOTAL FEE(S) DUE shown above.

If the ENTITY STATUS is changed from that shown above, on PART B - FEE(S) TRANSMITTAL, complete section number 5 titled "Change in Entity Status (from status indicated above)".

For purposes of this notice, small entity fees are 1/2 the amount of undiscounted fees, and micro entity fees are 1/2 the amount of small entity fees.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Maintenance fees are due in utility patents issuing on applications filed on or after Dec. 12, 1980. It is patentee's responsibility to ensure timely payment of maintenance fees when due. More information is available at www.uspto.gov/PatentMaintenanceFees.

PART B - FEE(S) TRANSMITTAL

**Complete and send this form, together with applicable fee(s), to: Mail Mail Stop ISSUE FEE
 Commissioner for Patents
 P.O. Box 1450
 Alexandria, Virginia 22313-1450
 or Fax (571)-273-2885**

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

26158 7590 10/04/2017
WOMBLE CARLYLE SANDRIDGE & RICE, LLP
 ATTN: IP DOCKETING
 P.O. BOX 7037
 ATLANTA, GA 30357-0037

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

_____ (Depositor's name)
_____ (Signature)
_____ (Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/286,087	10/05/2016	John Howard Robinson	R60999 1400US.C4 (1385.0)	2741

TITLE OF INVENTION: TOBACCO-CONTAINING SMOKING ARTICLE

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	\$960	\$0	\$0	\$960	01/04/2018

EXAMINER	ART UNIT	CLASS-SUBCLASS
NGUYEN, PHU HOANG	1747	131-200000

<p>1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).</p> <p><input type="checkbox"/> Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.</p> <p><input type="checkbox"/> "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a Customer Number is required.</p>	<p>2. For printing on the patent front page, list</p> <p>(1) The names of up to 3 registered patent attorneys or agents OR, alternatively, 1 _____</p> <p>(2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 _____</p> <p>3 _____</p>
---	---

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE _____ (B) RESIDENCE: (CITY and STATE OR COUNTRY) _____

Please check the appropriate assignee category or categories (will not be printed on the patent) : Individual Corporation or other private group entity Government

<p>4a. The following fee(s) are submitted:</p> <p><input type="checkbox"/> Issue Fee</p> <p><input type="checkbox"/> Publication Fee (No small entity discount permitted)</p> <p><input type="checkbox"/> Advance Order - # of Copies _____</p>	<p>4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)</p> <p><input type="checkbox"/> A check is enclosed.</p> <p><input type="checkbox"/> Payment by credit card. Form PTO-2038 is attached.</p> <p><input type="checkbox"/> The director is hereby authorized to charge the required fee(s), any deficiency, or credits any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).</p>
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5. **Change in Entity Status** (from status indicated above)

Applicant certifying micro entity status. See 37 CFR 1.29

Applicant asserting small entity status. See 37 CFR 1.27

Applicant changing to regular undiscouted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.

NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature _____ Date _____

Typed or printed name _____ Registration No. _____



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

Table with 5 columns: APPLICATION NO., FILING DATE, FIRST NAMED INVENTOR, ATTORNEY DOCKET NO., CONFIRMATION NO.
15/286,087 10/05/2016 John Howard Robinson R60999 1400US.C4 (1385.0) 2741

26158 7590 10/04/2017
WOMBLE CARLYLE SANDRIDGE & RICE, LLP
ATTN: IP DOCKETING
P.O. BOX 7037
ATLANTA, GA 30357-0037

Table with 2 columns: EXAMINER, ART UNIT, PAPER NUMBER
EXAMINER: NGUYEN, PHU HOANG
ART UNIT: 1747

DATE MAILED: 10/04/2017

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)

(Applications filed on or after May 29, 2000)

The Office has discontinued providing a Patent Term Adjustment (PTA) calculation with the Notice of Allowance.

Section 1(h)(2) of the AIA Technical Corrections Act amended 35 U.S.C. 154(b)(3)(B)(i) to eliminate the requirement that the Office provide a patent term adjustment determination with the notice of allowance. See Revisions to Patent Term Adjustment, 78 Fed. Reg. 19416, 19417 (Apr. 1, 2013). Therefore, the Office is no longer providing an initial patent term adjustment determination with the notice of allowance. The Office will continue to provide a patent term adjustment determination with the Issue Notification Letter that is mailed to applicant approximately three weeks prior to the issue date of the patent, and will include the patent term adjustment on the patent. Any request for reconsideration of the patent term adjustment determination (or reinstatement of patent term adjustment) should follow the process outlined in 37 CFR 1.705.

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

OMB Clearance and PRA Burden Statement for PTOL-85 Part B

The Paperwork Reduction Act (PRA) of 1995 requires Federal agencies to obtain Office of Management and Budget approval before requesting most types of information from the public. When OMB approves an agency request to collect information from the public, OMB (i) provides a valid OMB Control Number and expiration date for the agency to display on the instrument that will be used to collect the information and (ii) requires the agency to inform the public about the OMB Control Number's legal significance in accordance with 5 CFR 1320.5(b).

The information collected by PTOL-85 Part B is required by 37 CFR 1.311. 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 12 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, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450. 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.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Notice of Allowability	Application No. 15/286,087	Applicant(s) ROBINSON ET AL.	
	Examiner PHU NGUYEN	Art Unit 1747	AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. This communication is responsive to 9/26/2017.
 A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.
2. An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.
3. The allowed claim(s) is/are 31-60. As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.
4. Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

- a) All b) Some *c) None of the:
1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Examiner's Amendment/Comment |
| 2. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____ | 6. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| 3. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 7. <input type="checkbox"/> Other _____. |
| 4. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. | |

/PHU NGUYEN/
Examiner, Art Unit 1747

/MICHAEL H WILSON/
Supervisory Patent Examiner, Art Unit 1747

The present application is being examined under the pre-AIA first to invent provisions.

REASONS FOR ALLOWANCE

The following is an examiner's statement of reasons for allowance: The approved Terminal Disclaimer filed 9/26/2017 overcame the Double Patenting Rejection in Office Action filed 6/26/2017. Therefore, the claimed invention is in condition for allowance.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PHU NGUYEN whose telephone number is (571)272-5931. The examiner can normally be reached on M-F.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at <http://www.uspto.gov/interviewpractice>.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Wilson can be reached on 571-270-3882. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1747

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/PHU NGUYEN/
Examiner, Art Unit 1747


/MICHAEL H WILSON/
Supervisory Patent Examiner, Art Unit 1747

Issue Classification 	Application/Control No. 15286087	Applicant(s)/Patent Under Reexamination ROBINSON ET AL.
	Examiner PHU NGUYEN	Art Unit 1747

CPC						
Symbol					Type	Version
A24F		47		008	F	2013-01-01
A24B		15		12	I	2013-01-01
A24D		1		002	I	2013-01-01
A24B		13		02	I	2013-01-01
A24B		15		167	I	2016-11-01
H05B		3		42	I	2013-01-01
H05B		2203		021	A	2013-01-01


CPC Combination Sets				
Symbol	Type	Set	Ranking	Version

/PHU NGUYEN/ Examiner.Art Unit 1747 (Assistant Examiner)	9/28/2017 (Date)	Total Claims Allowed: 30	
/MICHAEL H WILSON/ Supervisory Patent Examiner.Art Unit 1747 (Primary Examiner)	09/29/2017 (Date)	O.G. Print Claim(s) 1	O.G. Print Figure 1

Issue Classification 	Application/Control No. 15286087	Applicant(s)/Patent Under Reexamination ROBINSON ET AL.
	Examiner PHU NGUYEN	Art Unit 1747


US ORIGINAL CLASSIFICATION						INTERNATIONAL CLASSIFICATION								
CLASS		SUBCLASS				CLAIMED				NON-CLAIMED				
131		200				A	2	4	F	1 / 00 (2006.0)				
CROSS REFERENCE(S)														
CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)													
131	273	336	194	329	194									
442	408	361	414											
219	268	492												
392	390	395	404											

/PHU NGUYEN/ Examiner.Art Unit 1747 (Assistant Examiner)	9/28/2017 (Date)	Total Claims Allowed: 30	
/MICHAEL H WILSON/ Supervisory Patent Examiner.Art Unit 1747 (Primary Examiner)	09/29/2017 (Date)	O.G. Print Claim(s) 1	O.G. Print Figure 1

Issue Classification 	Application/Control No. 15286087	Applicant(s)/Patent Under Reexamination ROBINSON ET AL.
	Examiner PHU NGUYEN	Art Unit 1747

<input checked="" type="checkbox"/> Claims renumbered in the same order as presented by applicant																<input type="checkbox"/> CPA		<input checked="" type="checkbox"/> T.D.		<input type="checkbox"/> R.1.47	
Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original						
	31		47																		
	32		48																		
	33		49																		
	34		50																		
	35		51																		
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	37		53																		
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	40		56																		
	41		57																		
	42		58																		
	43		59																		
	44		60																		
	45																				
	46																				

/PHU NGUYEN/ Examiner.Art Unit 1747 (Assistant Examiner)	9/28/2017 (Date)	Total Claims Allowed: 30	
/MICHAEL H WILSON/ Supervisory Patent Examiner.Art Unit 1747 (Primary Examiner)	09/29/2017 (Date)	O.G. Print Claim(s) 1	O.G. Print Figure 1

Index of Claims 	Application/Control No. 15286087	Applicant(s)/Patent Under Reexamination ROBINSON ET AL.
	Examiner PHU NGUYEN	Art Unit 1747

✓	Rejected
=	Allowed

-	Cancelled
÷	Restricted

N	Non-Elected
I	Interference

A	Appeal
O	Objected

Claims renumbered in the same order as presented by applicant
 CPA
 T.D.
 R.1.47

CLAIM		DATE							
Final	Original	09/28/2017							
	31	=							
	32	=							
	33	=							
	34	=							
	35	=							
	36	=							
	37	=							
	38	=							
	39	=							
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CONFIRMATION NO. 2741

SERIAL NUMBER	FILING or 371(c) DATE RULE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO. R60999 1400US.C4 (1385.0)		
15/286,087	10/05/2016	131	1747			
APPLICANTS RAI STRATEGIC HOLDINGS, INC., Winston-Salem, NC;						
INVENTORS John Howard Robinson, Kernersville, NC; David William Griffith JR., Winston-Salem, NC; Billy Tyrone Conner, Clemmons, NC; Evon Llewellyn Crooks, Mocksville, NC; Dempsey Bailey Brewer JR., East Bend, NC;						
** CONTINUING DATA ***** This application is a CON of 14/527,287 10/29/2014 which is a CON of 13/297,983 11/16/2011 PAT 8899238 which is a CON of 12/763,890 04/20/2010 PAT 8079371 which is a CON of 11/550,634 10/18/2006 PAT 7726320						
** FOREIGN APPLICATIONS *****						
** IF REQUIRED, FOREIGN FILING LICENSE GRANTED ** 10/17/2016						
Foreign Priority claimed <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	35 USC 119(a-d) conditions met <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Met after Allowance P.N	STATE OR COUNTRY NC	SHEETS DRAWINGS 5	TOTAL CLAIMS 30	INDEPENDENT CLAIMS 3
Verified and Acknowledged	/PHU HOANG NGUYEN/ Examiner's Signature	Initials				
ADDRESS WOMBLE CARLYLE SANDRIDGE & RICE, LLP ATTN: IP DOCKETING P.O. BOX 7037 ATLANTA, GA 30357-0037 UNITED STATES						
TITLE TOBACCO-CONTAINING SMOKING ARTICLE						
FILING FEE RECEIVED 2540	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:		<input type="checkbox"/> All Fees <input type="checkbox"/> 1.16 Fees (Filing) <input type="checkbox"/> 1.17 Fees (Processing Ext. of time) <input type="checkbox"/> 1.18 Fees (Issue) <input type="checkbox"/> Other _____ <input type="checkbox"/> Credit			

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	1	(15/286087).APP.	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2017/09/28 22:53
S1	284	("20030131859" "20040173229" "20050016549" "20050066986" "20060185687" "20060196518" "20070062549" "3258015" "3356094" "3516417" "3614956" "3738374" "3844294" "3878850" "3931824" "3943941" "4044777" "4079742" "4190046" "4219031" "4233993" "4284089" "4286604" "4326544" "4340072" "4347855" "4391285" "4635651" "4700727" "4714082" "4735217" "4756318" "4771795" "4793365" "4800903" "4807809" "4819665" "4823817" "4836225" "4848374" "4874000" "4892109" "4893639" "4917121" "4917128" "4920990" "4924886" "4947874" "4961438" "4966171" "4969476" "4972855" "4977908" "4991606" "5020548" "5025814" "5033483" "5040551" "5050621" "5060667" "5060671" "5060676" "5065776" "5072744" "5074321" "5076296" "5076297" "5092353" "5099861" "5101839" "5105835" "5105836" "5105837" "5105838" "5115820" "5146934" "5148821" "5159940" "5159942" "5178167" "5183062" "5203355" "5211684" "5224498" "5240014" "5240016" "5271419" "5285798" "5293883" "5327917" "5345955" "5357984" "5360023" "5369723" "5388574" "5396911" "5533530" "5551451" "5588446" "5593792" "5595577" "5598868" "5692525" "5715844" "5743251" "5778899" "5799663" "5819751" "5829453" "5865185" "5878752" "5880439" "5915387" "5934289" "6033623" "6053176" "6089857" "6095152" "6146934" "6164287" "6182670" "6234167" "6289898" "6397852" "6408856" "6516796" "6532965" "6537186" "6578584" "6591841" "6598607" "6615840" "6730832" "6823873" "7117867").PN.	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2009/06/03 21:16

S2	42	S1 and electrical	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2009/06/03 21:19
S4	2	"20080092912"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2009/06/03 21:46
S5	3	flameless near2 electronic near2 cigarette	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2009/06/04 12:58
S6	4	((("5093894") or ("5505214")).PN.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2009/06/04 13:40
S7	109	("1771366" "1968509" "2057353" "2104266" "2442004" "2974669" "3200819" "3255760" "3258015" "3363633" "3402723" "3482580" "3608560" "3738374" "3744496" "3804100" "3889690" "4016061" "4068672" "4077784" "4131119" "4141369" "4164230" "4193411" "4215708" "4219032" "4246913" "4256945" "4259970" "4303083" "4319591" "4393884" "4431903" "4436100" "4463247" "4505282" "4562337" "4570646" "4580583" "4621649" "4623401" "4637407" "4659912" "4735217" "4771796" "4776353" "4837421" "4846199" "4848376" "4874924" "4877989" "4922901" "4945931" "4947874" "4947875" "4966171" "4981522" "4991606" "5016656" "5040552" "5060671" "5076296" "5093894" "5159940" "5249586" "5274214").PN. OR ("5505214").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2009/06/04 13:41
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S9	2	(S8 S7) and puff near2 controller	US- PGPUB; USPAT; USOCR	OR	ON	2009/06/04 13:55
S10	16	(S8 S7) and glycerin and (electrical electronic)	US- PGPUB; USPAT; USOCR	OR	ON	2009/06/04 14:28
S11	54	(S8 S7) and glycerin and extract	US- PGPUB; USPAT; USOCR	OR	ON	2009/06/04 16:33
S12	2	("20080092912").PN.	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2010/01/06 20:51
S13	18	aerosol near2 material and cartridge and electrica\$4 and tobacco and heat\$4 near2 element	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2010/01/06 21:08
S14	497	("2881770" "20020000235" "20020014453" "20030075193" "20030114298" "20030131859" "20030154993" "20040084056" "20040107973" "20040134631" "20040173229" "20040194792" "20040217023" "20040226569"	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2010/01/06 21:13

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S19	38	S18 and cartridge	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2014/01/28 16:59
S20	29	A24F47/\$ and cartridge and substrate	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2014/01/28 17:00
S22	4	((("20120060853") or ("7726320")).PN.	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2014/01/28 17:02
S24	21	A24F\$/ \$ and polyethylene near2 terephthalate and electronic	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2014/01/29 17:14
S27	18	polyethylene near2 terephthalate and electronic and absorbent and tobacco and smoking	US- PGPUB; USPAT;	OR	ON	2014/01/29 17:17

			USOCR; EPO; JPO; DERWENT			
S28	359	("20030131859" "20040173229" "20050016549" "20050066986" "20060185687" "20060196518" "20070062549" "3258015" "3356094" "3516417" "3614956" "3738374" "3844294" "3878850" "3931824" "3943941" "4044777" "4079742" "4190046" "4219031" "4233993" "4284089" "4286604" "4326544" "4340072" "4347855" "4391285" "4635651" "4700727" "4714082" "4735217" "4756318" "4771795" "4793365" "4800903" "4807809" "4819665" "4823817" "4836225" "4848374" "4874000" "4892109" "4893639" "4917121" "4917128" "4920990" "4924886" "4947874" "4961438" "4966171" "4969476" "4972855" "4977908" "4991606" "5020548" "5025814" "5033483" "5040551" "5050621" "5060667" "5060671" "5060676" "5065776" "5072744" "5074321" "5076296" "5076297" "5092353" "5099861" "5101839" "5105835" "5105836" "5105837" "5105838" "5115820" "5146934" "5148821" "5159940" "5159942" "5178167" "5183062" "5203355" "5211684" "5224498" "5240014" "5240016" "5271419" "5285798" "5293883" "5327917" "5345955" "5357984" "5360023" "5369723" "5388574" "5396911" "5533530" "5551451" "5588446" "5593792" "5595577" "5598868" "5692525" "5715844" "5743251" "5778899" "5799663" "5819751" "5829453" "5865185" "5878752" "5880439" "5915387" "5934289" "6033623" "6053176" "6089857" "6095152" "6146934" "6164287" "6182670" "6234167" "6289898" "6397852" "6408856" "6516796" "6532965" "6537186" "6578584" "6591841" "6598607" "6615840" "6730832" "6823873" "7117867").PN.	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2014/01/29 17:17
S31	713	(polyethylene near2 terephthalate near2 fiber) same (carbon near2 fiber)	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2014/01/29 17:20
S32	12	(polyethylene near2 terephthalate near2 fiber) same (carbon near2 fiber) and base near2 web	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2014/01/29 17:20
S33	65	(polyethylene near2 terephthalate near2 fiber) same (carbon near2 fiber) and	US- PGPUB;	OR	ON	2014/01/29 17:34

		absorbent	USPAT; USOCR; EPO; JPO; DERWENT			
S34	28	(polyethylene near2 terephthalate near2 fiber) same bio	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2014/02/02 00:35
S38	2	("3486508").PN.	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2014/02/02 01:31
S40	22	A24F\$/ and paper same "metallic foil"	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2014/02/02 01:32
S42	14	A24F\$/ and paper and base near2 web and calcium near carbonate	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2014/02/03 15:41
S43	2	("8079371").PN.	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2014/02/03 21:22
S44	7	cigarette near2 paper and carbon near2 fiber and carbon near2 particle and carbonate near2 particle	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2014/08/02 23:31
S45	0	(A24B15/165).cpc. and controller and aerosol and heater	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2014/08/02 23:32
S46	2	(A24B15/14).cpc. and controller and aerosol and heater	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2014/08/02 23:32
S47	0	(A24D1/18).cpc. and controller and aerosol and heater	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2014/08/02 23:33
S49	142	("1771366" "2057353" "2104266" "20020146242" "20030226837"	US- PGPUB;	OR	OFF	2014/09/29 23:59

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S50	1	S49 and glycerin and (electrical electronic) and controller	US- PGPUB; USPAT; USOCR	OR	ON	2014/09/30 00:00
S53	122	smoking near2 article and tobacco near extract and heater	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2016/10/02 20:40
S54	2	("8899238").PN.	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2016/10/02 21:47
S55	0	(smoking and puff and carrier and wick and heater and controller).clm.	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2016/10/02 21:55
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S59	2	("20150047656").PN.	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2017/04/01 01:46
S60	6	((("7726320") or ("8899238") or	US-	OR	OFF	2017/04/01

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EAST Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L2	2	(smoking and puff and carrier and wick\$3 and heater and controller).clm.	US-PGPUB; USPAT	OR	ON	2017/09/28 22:58
L3	2	(smoking and carrier and wick\$3 and heater and controller).clm.	US-PGPUB; USPAT	OR	ON	2017/09/28 22:58
S16	1	(tobacco and aerosol and heating and cartridge).clm.	USPAT	OR	ON	2010/01/11 13:26
S48	5	(tobacco and tub\$3 and electric\$3 and heater and aerosol).clm.	US-PGPUB; USPAT	OR	ON	2014/08/02 23:34
S51	0	(tobacco and tub\$3 and electric\$3 and heater and aerosol and absorbent).clm.	US-PGPUB; USPAT	OR	ON	2014/09/30 00:14
S52	1	(tobacco and electric\$3 and heater and aerosol and absorbent).clm.	US-PGPUB; USPAT	OR	ON	2014/09/30 00:15
S57	1	(smoking and puff and carrier and wick\$3 and heater and controller).clm.	US-PGPUB; USPAT	OR	ON	2016/10/02 21:55
S63	2	(smoking and puff and carrier and wick\$3 and heater and controller).clm.	US-PGPUB; USPAT	OR	ON	2017/06/19 22:26

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Search Notes 	Application/Control No. 15286087	Applicant(s)/Patent Under Reexamination ROBINSON ET AL.
	Examiner PHU NGUYEN	Art Unit 1747

CPC- SEARCHED		
Symbol	Date	Examiner

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SEARCH NOTES		
Search Notes	Date	Examiner
See East Search History	6/20/2017	P.N
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INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner
	See East Search History	9/28/2017	P.N

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	15286087
	Filing Date	2016-10-05
	First Named Inventor	ROBINSON, John Howard
	Art Unit	1747
	Examiner Name	NGUYEN, Phu Hoang
	Attorney Docket Number	R60999 1400US.C4 (1385.0)

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	1	0 503 767	EP	A1	1992-09-16			
	2	2949114	JP	B1	1999-09-13			

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	Filing Date		2016-10-05
	First Named Inventor	ROBINSON, John Howard	
	Art Unit		1747
	Examiner Name	NGUYEN, Phu Hoang	
	Attorney Docket Number		R60999 1400US.C4 (1385.0)

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	1	Extended European Search Report, EP 17 18 5645, mailed November 28, 2017.	

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¹ See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. ² Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). ³ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁴ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁵ Applicant is to place a check mark here if English language translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	15286087
	Filing Date	2016-10-05
	First Named Inventor	ROBINSON, John Howard
	Art Unit	1747
	Examiner Name	NGUYEN, Phu Hoang
	Attorney Docket Number	R60999 1400US.C4 (1385.0)

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Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

- See attached certification statement.
 - The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.
- A certification statement is not submitted herewith.

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A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/lauren f. anderson/	Date (YYYY-MM-DD)	2017-12-15
Name/Print	Lauren F. Anderson	Registration Number	69344

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11 Publication number:

0 503 767 A1

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EUROPEAN PATENT APPLICATION

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30 Priority: **11.03.91 US 666926**

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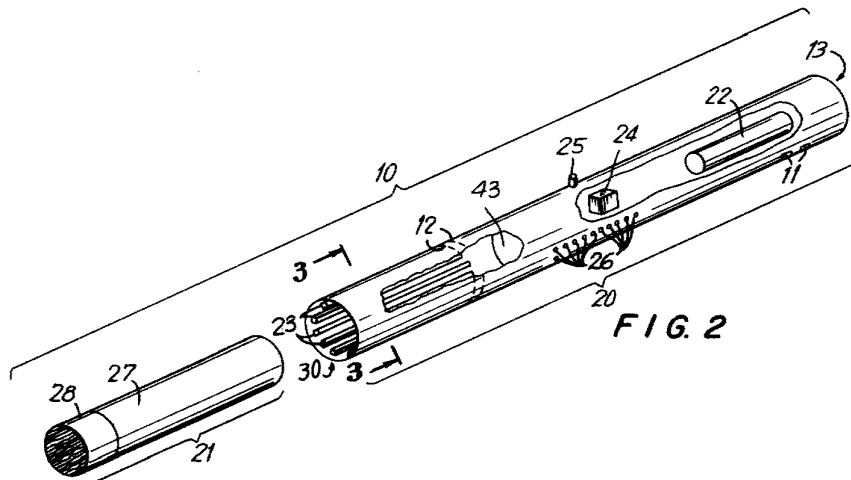
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54 Flavor generating article.

57 An article is provided in which a replaceable flavor generating medium (27) is electrically heated by a set of permanent reusable heaters (23) to evolve inhalable flavors or other components in vapor or aerosol form. Each heater heats only a portion of the available flavor generating medium so that a

plurality of individual puffs of flavour-containing substance can be delivered sequentially to the consumer. The flavor generating medium is a compressible foam which abuts heater elements mounted in a cavity (30) in the article and cleans the elements on insertion.



EP 0 503 767 A1

This invention relates to articles in which flavor generating media are heated but not burned to release tobacco flavors. More particularly, this invention relates to electrically heated articles.

An electrically heated flavor generating article is described in copending European Patent Application EP-A-0430566 claiming priority from commonly-assigned United States patent application Serial No: 07/444,746, filed December 1, 1989, which is hereby incorporated by reference in its entirety. That application describes an electrically heated flavor generating article which is provided with a disposable set of electrical heating elements on each of which is deposited an individual charge of flavor generating medium containing, for example, tobacco or tobacco-derived material. The disposable heater/flavor unit is mated to a more or less permanent unit containing a source of electrical energy such as a battery or capacitor, as well as control circuitry to actuate the heating elements in response to a puff by a consumer on the article or the depression of a manual switch. The circuitry is designed so that at least one but less than all of the heating elements are actuated for any one puff, so that a pre-determined number of puffs, each containing a premeasured amount of flavor-containing substance, is delivered to the consumer. The circuitry also preferably prevents the actuation of any particular heater more than once, to prevent overheating of the flavor generating medium thereon and consequent production of undesired compounds yielding off tastes.

In such an article, the heating elements are disposed of along with the spent flavor generating medium. This results in increased costs to the consumer, who must buy new heating elements with each refill of flavor generating medium. The volume of material disposed of is also greater when the heating elements must be disposed of.

In addition, when the heating elements are not permanently attached to the article, there is sometimes excessive contact resistance where the removable heaters are electrically connected to the source of electrical energy, resulting in increased power consumption.

Also, when the heating elements are disposable, the resistance may vary from heater to heater, resulting in variations in power consumption which in turn lead to variations in temperature. As it is the temperature to which the flavor generating medium is heated that determines the characteristics of the flavor containing substance, those characteristics will also vary.

The present invention aims to overcome the above mentioned disadvantages with the article described in EP-A-0430566 and accordingly provides an article for delivering to a consumer an inhalable flavor-containing substance, comprising a

plurality of electrical heating means disposed in a cavity, a source of electrical energy for powering the electrical heating means, control means for controlling the heating of the electrical heating means by the source to heat at any one of a pre-determined number of times, at least one but fewer than all of the electrical heating means, and a removable portion of flavor generating medium received in the cavity in proximity to the plurality of electrical heating means, whereby on activation of any one of the electrical heating means a respective fraction of the removable portion of flavor generating medium in contact therewith is heated, delivering a predetermined quantity of flavor-containing substance to the consumer.

An article embodying the invention has the advantage of reusable heating elements and the further advantage that all disposable portions are biodegradable.

An article embodying the invention may have the further advantage that electrical contact resistance between the heaters and the source of electrical energy is minimized, and the advantage that variations from use to use in the temperature of the heating elements is minimized.

Preferred and advantageous features are defined in the sub-claims to which reference should be made.

Embodiments of the invention will now be described, by way of example and with reference to the accompanying drawings, in which:

Figure 1 is a perspective view of a flavor generating article embodying the invention;

Figure 2 is a partially fragmentary, exploded perspective view of the flavor generating article of Figure 1;

Figure 3 is a radial cross-sectional view of the flavor generating articles of FIGS. 1 and 2, taken from line 3-3 of Figure 2;

Figure 3A is radial cross-sectional view of the flavor generating article of Figures 1-3, taken from line 3A-3A of Figure 1;

Figure 4 is a longitudinal cross-sectional view of the flavor cartridges received cavity of the flavor generating article of Figures 1-3A, taken from line 4-4 of Figure 3;

Figure 5 is a radial cross-sectional view similar to Figure 3 showing an alternative heater embodiment;

Figure 6 is a longitudinal cross-sectional view of the flavor cartridge receiving cavity of the flavor generating article of Figure 5, taken from line 6-6 of Figure 5;

Figure 7 is a radial cross-sectional view similar to Figures 3 and 5 showing another alternative heater embodiment;

FIG. 8 is a longitudinal cross-sectional view of the flavor cartridge receiving cavity of the flavor

generating article of FIG. 7, taken from line 8-8 of FIG. 7;

FIG. 9 is a perspective view of an alternative embodiment of a flavor cartridge embodying the invention; and

FIG. 10 is an end elevational view of the flavor cartridge of FIG. 9, taken from line 10-10 of FIG. 9.

A flavor generating article according to the present invention can be used, for example, to simulate a cigarette. In such a case, the flavor generating medium would be a material containing tobacco or tobacco derivatives. In accordance with the invention, the flavor generating article would include a removable disposable portion which included the flavor generating medium and, if desired, a filter, and a reusable "permanent" portion including a source of electrical energy, a set of reusable heating elements, and control circuitry for energizing the heaters in an appropriate sequence, in response to manual actuation or puff-induced actuation. Suitable control circuitry is described in EP-A-0430566 referred to above.

The reusable or permanent portion includes a cavity at the mouth end thereof for insertion of the disposable portion. The reusable heaters are disposed in the cavity in such a way that they make thermal contact with the disposable portion when the disposable portion is inserted into the cavity. This can be accomplished by having the heaters protrude from the sides of the cavity and making the disposable portion compressible, so that the heaters press into the material. Alternatively, the heaters can protrude from the end of the cavity, so that they actually pierce and extend into the disposable portion.

When reusable heaters are used, it is important that they be cleaned before each use. Otherwise, residues from the previous use, which might include partially oxidized, pyrolyzed or thermally decomposed constituents of the flavor generating medium, might be reheated, possibly giving rise to undesired compounds and off tastes being delivered to the consumer. Such residues are not of concern when the heaters are part of the disposable portion because they are never reheated, but may be of concern where reusable heaters are provided. In the present invention, the cleaning of the heaters is accomplished by the wiping action of the disposable portion against the heaters as the disposable portion is inserted. Thus the insertion end of the disposable portion pushes any residues on the heater surfaces toward the mouth end of the cavity, to, and preferably past, the ends of the heaters. For this reason, the disposable portion, while compressible, should be relatively firm, and the heaters should preferably have a smooth surface finish to assure that the wiping action is effective.

tive.

The parameters of the heaters are chosen to allow delivery of an effective amount of flavor-containing substance -- e.g., an aerosol containing tobacco flavors -- to the consumer under standard conditions of use. For example, it may be desirable to deliver 2 mg of aerosol to a consumer during a 35 ml puff having a two-second duration.

It has been found that in order to achieve such delivery, the heaters should be able to reach a temperature of between about 150°C and about 500°C when in contact with the flavor generating medium. Further, the heaters should consume between about 1 calorie (4.19 Joules) and about 6 calories (25*12 Joules) given the limitations of power sources.

Heaters having such characteristics preferably have a ratio of active surface area (surface area in contact with the flavor generating medium) to mass of between about 3 mm²/mg and about 6 mm²/mg, an active surface area of between about 3 mm² and about 50 mm², a mass of between about 1 mg and about 30 mg, and a resistance of between about 0.5 ohm and 3.0 ohms. More preferably, the heaters should have an active surface area of between about 3 mm² and about 20 mm² and a resistance of between about 1.0 ohm and 1.6 ohms. These requirements are interrelated, because heater power consumption is determined by resistance, which in turn is determined by resistivity and size.

The materials of which the heaters are made are chosen to assure reliable repeated uses of up to 3,600 on/off cycles without failure. The heater materials are also chosen based on their reactivities, to assure that they will not react with the flavor generating medium at any temperature likely to be encountered to form any undesired compounds.

Similarly, the heaters themselves should not evolve any undesired compounds when heated out of the presence of the flavor generating medium. Alternatively, heater materials that might otherwise give rise to undesired compounds could be encapsulated in an inert heat-conducting material such as a suitable ceramic material.

Based on these criteria, preferred materials for the electric heating means of the present invention include carbon, graphite, stainless steel, tantalum, metal ceramic matrices, and metal alloys, such as aluminum alloys, iron alloys, and chromium alloys. Suitable metal-ceramic matrices include silicon carbide aluminum and silicon carbide titanium. Of the listed materials, stainless steel and the aluminum, iron or chromium alloys should be encapsulated in a suitable ceramic material because of their reactivity. Suitable ceramic materials for encapsulation include silica, alumina, and sol gels.

A particularly preferred material for use in the electrical heating means of this invention is tantalum.

A first preferred embodiment of a flavor generating article 10 is shown in FIGS. 1-4. Article 10 includes reusable or "permanent" portion 20 and disposable filter/flavor portion or cartridge 21 which is received in a cavity 30 at the mouth end of portion 20.

Reusable portion 20 includes, at the end remote from the mouth end, a power source 22, which could include a battery, a capacitor or both. The battery could be replaceable, rechargeable or both. If the battery is rechargeable, or if power source 22 is a capacitor alone, then article 10 is provided with charging contacts 11 on its outer surface, for connection to an external power supply (not shown) for charging power source 22. Power source 22 provides power for heating elements 23, which are energized under the control of control circuit 24, which is in turn actuated by pushbutton 25 or by a puff-actuated sensor (not shown). Indicators 26, which could be light-emitting diodes or other visual indicators, reflect the status of the various heaters 23. The functions of power source 22, control circuit 24, pushbutton 25 (or a puff-actuated sensor), and indicators 26 are described in more detail in EP-A-0430566 referred to above.

Portion 20 is preferably covered by cigarette wrapping paper 31, to give it the appearance of a conventional cigarette. Perforations 12 may be provided in the wall of portion 20 to allow outside air to be drawn in during puffing, or outside air may be drawn through all of portion 20 via openings (not shown) at its far end 13.

In this embodiment, heating elements 23 are linear, extending from a point slightly spaced away from the mouth end of cavity 30 to a point slightly spaced away from the rod end of cavity 30. As seen in FIG. 4, heating elements 23 are bowed slightly away from the wall of cavity 30, for reasons to be discussed below. At one of the two ends, all of heating elements 23 are connected in common to ground, while at the other end each element 23 is connected separately to control circuitry 24 for individual actuation of heating elements 23. The curvature of ends 40 of heating elements 23 at the mouth end of cavity 30 provides a lead-in for the insertion of disposable portion 21. Heating elements 23 are preferably distributed substantially uniformly around the circumference of cavity 30, and should preferably be spaced apart sufficiently that the regions of disposable portion 21 heated by neighboring heating elements 23 do not overlap, which could lead to reheating and the production of undesired compounds and off tastes.

Disposable portion 21 preferably includes a flavor segment 27 and a filter segment 28, attached

by a plug wrap or other fastening means (not shown). Filter segment 28 is preferably a conventional cellulose acetate filter segment, and preferably is very short, being provided mostly for the sake of appearance and to give article 10 a "mouth feel" similar to a conventional cigarette.

Flavor segment 27 can be any material that liberates flavors when hot air passes over or through it. Preferably, flavor segment 27 is a cylindrical portion of an extruded open-cell foamed tobacco product of the kind described in commonly-assigned United States Patent No. 4,510,950, which is hereby incorporated by reference in its entirety, except that approximately 10% of an aerosol precursor such as glycerine is added to the composition. It is desirable to add an aerosol precursor to deliver the flavor-containing substance as an aerosol, so that when the consumer exhales the flavor-containing substance, the visible condensed aerosol may mimic the appearance of cigarette smoke.

The diameter of filter/flavor portion 21 is at most equal to the inner diameter of cavity 30, and should be at least somewhat greater than the diameter of the cylindrical space between heating elements 23, which are bowed out from the wall of cavity 30 as discussed above, so that elements 23 press into flavor segment 27 for intimate thermal contact. To that end, flavor segment 27 should be firm but compressible. The open-cell foamed structure described in above-incorporated Patent No. 4,510,950 is particularly well-suited for that purpose, but other compressible structures may be used.

The compression of flavor segment 27 by heating elements 23 is illustrated in FIG. 3A, which shows a radial cross-sectional view of article 10 with disposable portion 21 inserted. FIG. 3A also shows regions 32 of flavor segment 27 adjacent heaters 23, each region 32 representing that fraction of segment 27 that is heated by each respective heater 23 to provide an individual charge of flavor-containing substance.

The length of portion 21 is preferably such that some part of filter segment 28 protrudes from cavity 30 to aid removal of spent portions 21. However, portion 21 could be inserted flush into cavity 30, and a separate ejection mechanism (not shown) could be provided. Whatever length portion 21 is made, the relative lengths of segments 27, 28 preferably should be such that all of filter segment 28 is closer to the mouth end of cavity 30 than the ends 40 of heating elements 23, so that no energy is wasted heating filter segment 28.

As discussed above, a wiping action cleans residue from previous uses off heating elements 23 as each new disposable portion 21 is inserted, and that preferably is aided by smooth surface finish 41

on the surface of heating elements 23. (Although drawn separately from elements 23, surface finish 41 need not be, and preferably is not, a separate layer.) The resilience of firm but compressible portion 21 assures firm contact for the wiping action. Preferably also, the ends 42 of heating elements 23 remote from the mouth end are connected to the side wall of cavity 30 adjacent to, but spaced away from, end wall 43 of cavity 30. That allows the residue that is wiped off heating elements 23 to be pushed past ends 42 of heating elements 23 so that residue is not reheated.

As discussed above, in embodiment 10 of FIGS. 1-4, the electrical connections to heating elements 23 are made at both ends 40, 42 thereof, requiring the extension of wires or other conductors to the mouth end of cavity 30. That requirement is eliminated in a more particularly preferred embodiment 50, which is identical to embodiment 10 except for the arrangement of heating elements 51 as illustrated in FIGS. 5 and 6.

Each heating element 51 is in the shape of an elongated "U", each having both of its ends 52, 53 connected to the side wall of cavity 30 adjacent end wall 43 of cavity 30. Each respective end 52 is individually connected to control circuitry 24 for individual actuation of heating elements 51, while ends 53 are connected in common to ground. While ends 54 adjacent the mouth end of cavity 30 are not electrically connected, and thus need not touch the side wall of cavity 30, they are nonetheless turned toward the side wall of cavity 30, as shown in both FIGS. 5 and 6, to provide a lead-in for disposable portion 21 as discussed above. It should be noted that in FIG. 6, the uppermost and lowermost elements 51 are shown cut through their U-shaped tips 54.

In another embodiment 70 shown in FIGS. 7 and 8, heating elements 71 are spaced somewhat further from the wall of cavity 30, and each is provided with a somewhat sharper "V" tip 72, as well as with fold 73 to increase their rigidity. In this way, heating elements 71 actually pierce and extend into disposable portion 21 to provide the desired intimate thermal contact. The open-cell foam structure described above is particularly well-suited for such an embodiment. In this embodiment, because heating elements 71 are spaced further from the side wall of cavity 30, ends 52, 53 are not attached to the side wall of cavity 30, but to its end wall 43. Preferably, the connections of ends 52, 53 to end wall 43 are made through spacers 80 which are not conductive of either heat or electricity. In this way, the wiping action referred to above wipes residue past ends 52, 53 and onto spacers 80, where the residues are not reheated.

An alternative embodiment of flavor segment 27 of disposable portion 21 is shown in FIGS. 9

and 10. Flavor segment 90 includes a fiber bundle 91 around which is wrapped a layer 92 of metallic foil, such as aluminum foil, onto which has been coated a slurry 93 of flavor generating medium. Fiber bundle 91 gives segment 90 the necessary compressibility. This alternative avoids the inefficient use of tobacco that occurs in segment 27, where the tobacco foam region 33 (FIG. 3A) in the center of segment 27 provides bulk and compressibility but is never heated to deliver flavor to the consumer. Furthermore, if this embodiment 90 is used, fiber bundle 91 could be made of cellulose acetate or other suitable filter material, and could be extended to form filter segment 28, thereby providing disposable portion 21 as a unitary body.

Thus it is seen that an electrically heated flavor generating article is provided in which the heating elements are reusable, and of which all disposable portions can be biodegradable. In addition, electrical contact resistance between the heaters and the source of electrical energy is eliminated, as the heaters are permanently attached.

Claims

1. An article for delivering to a consumer an inhalable flavor-containing substance, comprising a plurality of electrical heating means (23;51;71) disposed in a cavity (30), a source of electrical energy (22) for powering the electrical heating means, control means (24) for controlling the heating of the electrical heating means by the source (22) to heat at any one of a pre-determined number of times, at least one but fewer than all of the electrical heating means, and a removable portion of flavor generating medium (21) received in the cavity (30) in proximity to the plurality of electrical heating means, whereby on activation of any one of the electrical heating means (23;51;71) a respective fraction of the removable portion of flavor generating medium in contact therewith is heated, delivering a predetermined quantity of flavor-containing substance to the consumer.
2. An article according to Claim 1, wherein the removable portion of flavor generating medium contains a sufficient quantity of flavor generating medium for delivery of the predetermined quantity of flavor containing substance to the consumer by a single activation of each electrical heating means after which the removable portion is spent and is replaceable by the consumer.
3. An article according to Claim 1 or 2, wherein the cavity (30) and the removable portion (21) are substantially cylindrical and of substantially

equal diameter.

4. An article according to Claim 3, wherein the removable portion (21) is longer than the cavity (30) and, in position has an end protruding there from providing a grip for the consumer for insertion and removal. 5
5. An article according any of claims 1 to 4, wherein each electrical heating means (23;51) protrudes into the cavity, and the removable portion is compressible, whereby the electrical heating means are adjacent the removable portion in the cavity and compress the removable portion to provide intimate thermal contact therebetween. 10 15
6. An article according to any of Claims 1 to 4, wherein each electrical heating means protrudes (71) into the cavity, and the removable portion is compressible whereby the electrical heating means extend into said removable portion, providing intimate thermal contact therebetween. 20 25
7. An article according to any preceding claim, wherein the cavity (30) has an insertion end through which the removable portion (21) is inserted and a far end remote from said insertion end, and insertion of the removable portion into the cavity, wipes from the electrical heating means (23;51;71) any residue remaining from a previously heated removable portion. 30 35
8. An article according to Claim 7, wherein each of the electrical heating means (23;51;71) is spaced from the far end, whereby on insertion of the removable portion into the cavity, the residue is wiped beyond the electrical heating means in the direction of the far end. 40
9. An article according to any preceding claim, wherein the flavor generating medium comprises an extruded tobacco material. 45
10. An article according to Claim 9, wherein the extruded tobacco material is a tobacco foam material. 50
11. An article according to Claim 10, wherein the tobacco foam material is an open-cell foam.
12. The article of any preceding claim, wherein the flavor generating medium comprises an aerosol-forming material, which on heating forms an aerosol. 55
13. The article of Claim 12, wherein the aerosol-forming material comprises glycerine.
14. The article of Claim 16 or 17, wherein said aerosol-forming material comprises water.
15. An article according to any of Claims 9 to 14, wherein said flavor generating medium comprises tobacco and an aerosol-forming material, and on heating the flavor generating medium an aerosol comprising tobacco components is formed.
16. An article according to Claim 15, wherein the flavor generating medium further comprises tobacco solubles.
17. An article according to any preceding claim, wherein the electrical heating means has a resistance of between about 0.5 ohms and about 3.0 ohms.
18. An article according to Claim 17, wherein the electrical heating means has a resistance of between about 1.0 ohms and 1.6 ohms.
19. An article according to any preceding claim, wherein the electrical heating means produces a temperature of between about 150 °C and about 500 °C when in contact with the flavor generating medium.
20. An article according to any preceding claim, wherein the electrical heating means consumes between about 1 calorie (4.10 Joules) and about 6 calories (25;12 Joules) each time it is heated.
21. An article according to any preceding claim, wherein the electrical heating means has a ratio of active surface area to mass of between about 3 mm²/mg and about 6 mm²/mg.
22. An article according to Claim 21, wherein the electrical heating means has an active surface area of between 3mm² and about 50 mm², and a mass of between 1 mg and about 30 mg.
23. An article according to Claim 22, wherein the electrical heating means has an active surface area of between about 3 mm² and about 20 mm².
24. An article according to any preceding claim, wherein the electrical heating means comprises a material selected from the group consisting of carbon, graphite, stainless steel, tantalum, metal ceramic matrices, and metal al-

loys.

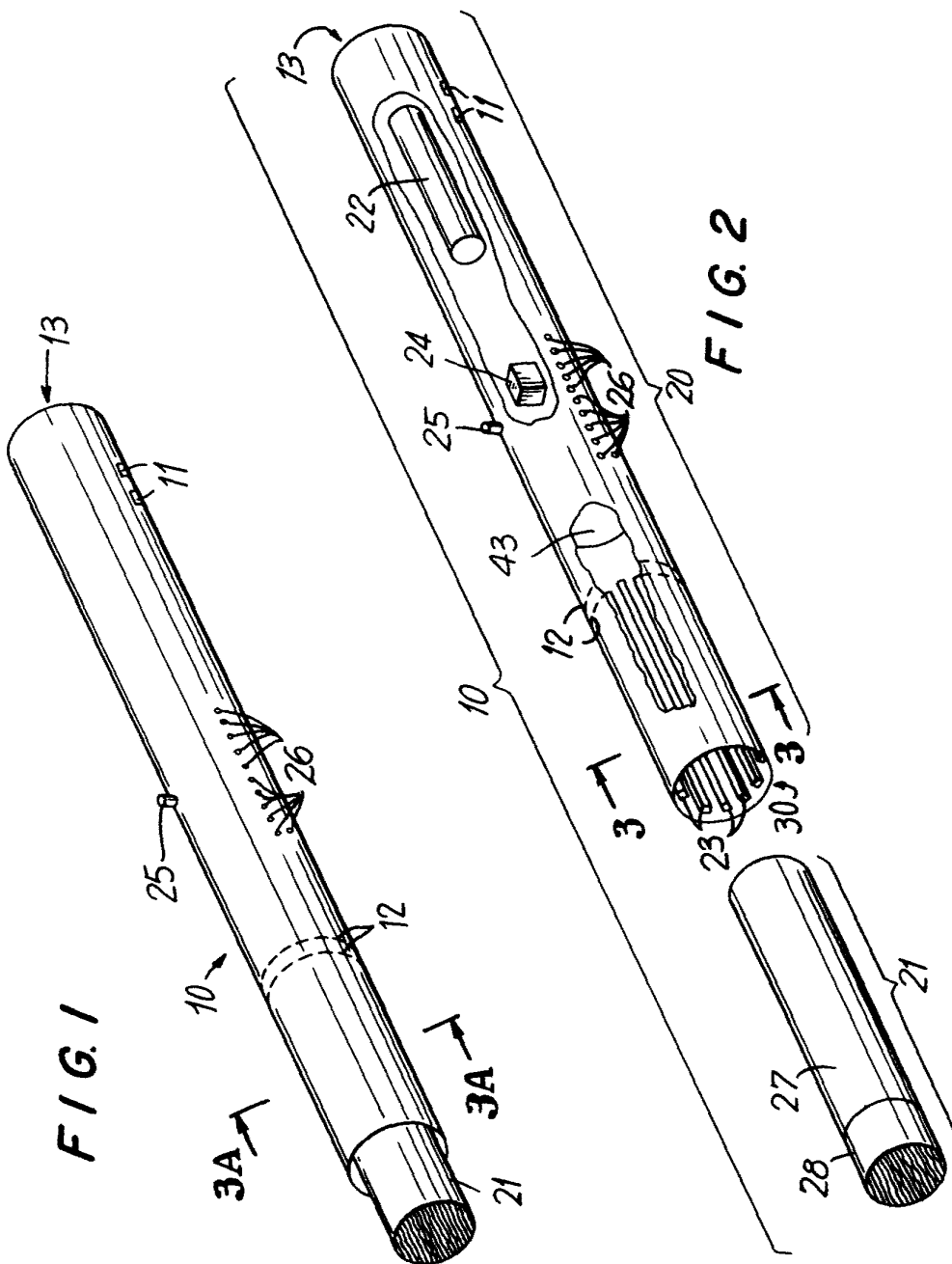
25. An article according to Claim 24, wherein the metal alloys are selected from the group consisting of aluminium alloys, iron alloys, and chromium alloys. 5
26. An article according to Claim 24, wherein the metal ceramic matrices are selected from the group consisting of silicon carbide aluminium, silicon carbide titanium, and mixtures thereof. 10
27. An article according to Claim 24, wherein the material comprises tantalum. 15
28. An article according to Claim 25, wherein the material is encapsulated in a ceramic coating.
29. An article according to any preceding claim, wherein the removable portion has a mouth end and a rod end, the removable portion (21) further comprising a filter at the mouth end. 20
30. An article for delivering to a consumer an inhalable flavor containing substance, comprising a plurality of electrical heating elements (23;51;71), an electrical energy source (22) for powering the heating elements, control means (24) for controlling the heating of the heating elements by the power source to heat at least one, but not all the elements a predetermined number of times, and a flavor generating medium arranged proximate the heating elements, whereby heating of the elements by the power source releases a flavor containing substance from the flavor medium to the consumer characterised in that the heating elements are disposed in a cavity in the article and the flavor generating medium is removably received within the cavity, and in that heating of the elements releases a predetermined quantity of flavor containing substance from the portion of flavor generating medium in contact with the one or more elements heated. 25
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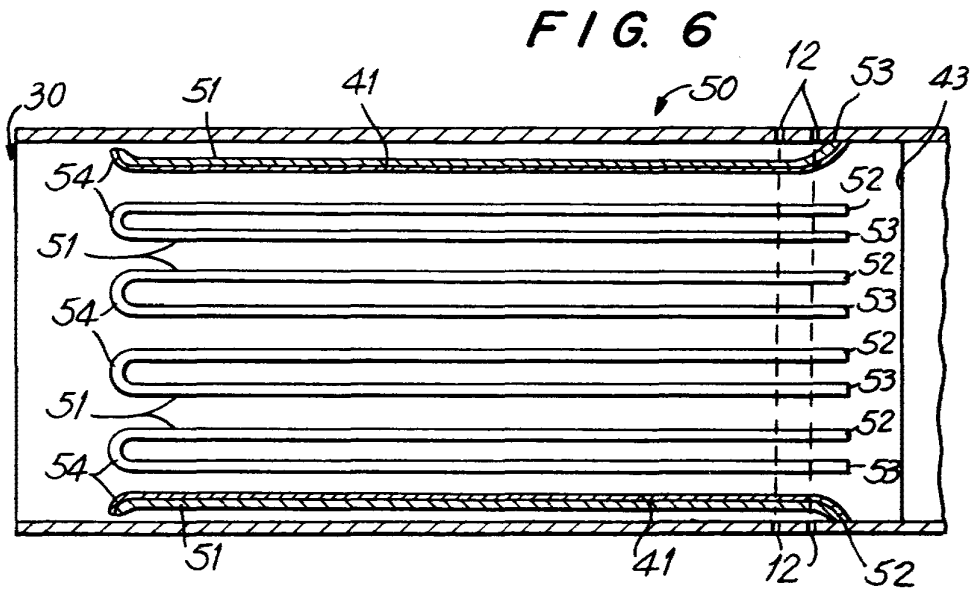
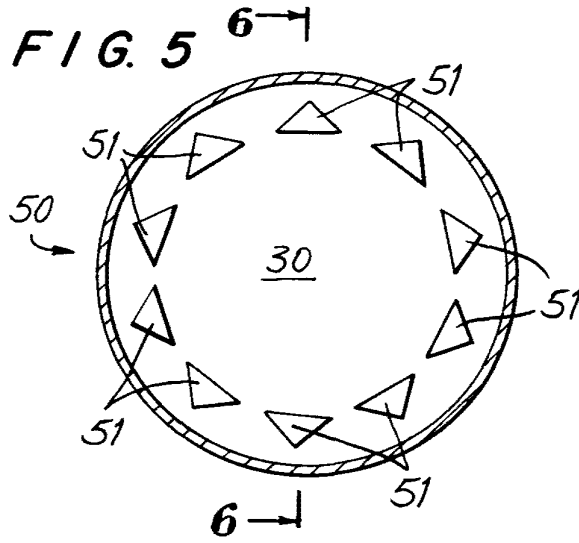
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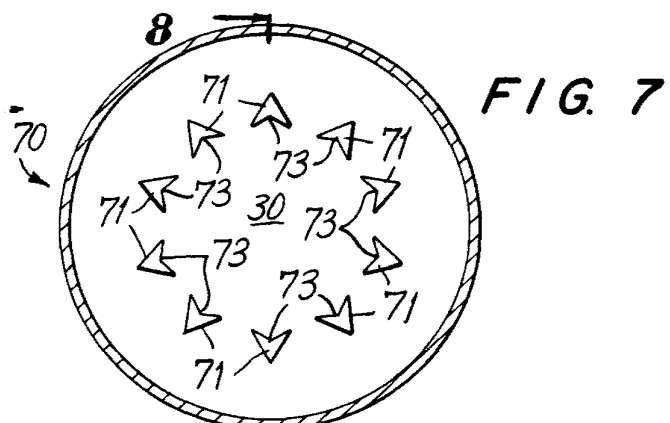


FIG. 7

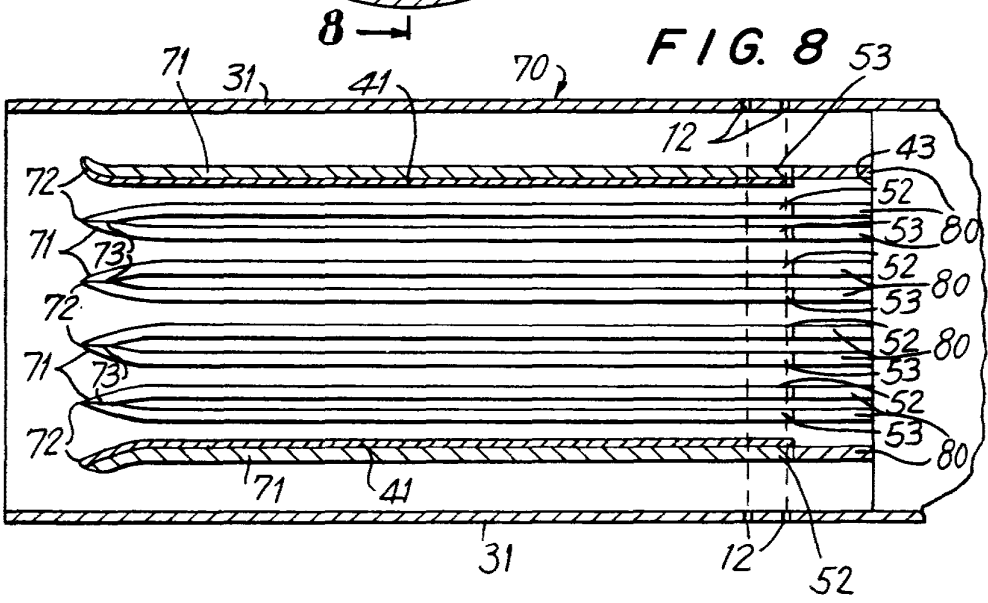


FIG. 8

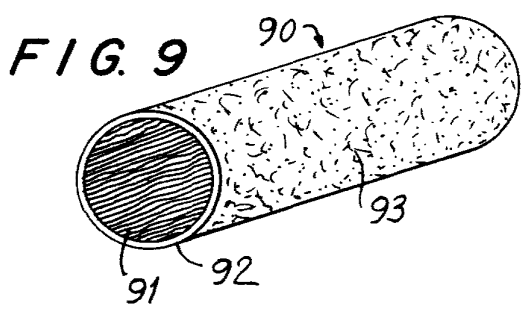


FIG. 9

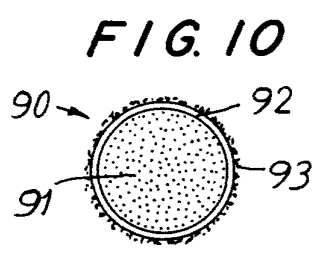


FIG. 10



DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
A	WO-A-8 602 528 (NILSSON) * the whole document * ---	1-3, 12, 14, 15, 30	A24F47/00
D,A, P	EP-A-0 430 566 (PHILIP MORRIS PRODUCTS INC.) * the whole document * ---	1, 12-16, 19, 24, 27, 30	
P,A	EP-A-0 438 862 (PHILIP MORRIS PRODUCTS INC.) * the whole document * ---	1, 17-19, 24, 25, 30	
A	EP-A-0 358 002 (R. J. REYNOLDS TOBACCO COMPANY) * the whole document * ---	1, 30	
A	US-A-3 200 819 (GILBERT) * the whole document * -----	1, 30	
			TECHNICAL FIELDS SEARCHED (Int. Cl.5)
			A24F
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 25 JUNE 1992	Examiner RIEGEL R. E.
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

EPO FORM 1503 01.92 (P0601)

**Espacenet****Bibliographic data: JP2000041654 (A) — 2000-02-15****ELECTRIC HEATING CONTROL SYSTEM FOR FLAVOR-PRODUCTIVE ARTICLE**

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Classification: - **international:** *A24F47/00*; (IPC1-7): A24F47/00
- **cooperative:**

Application number: JP19980220314 19980804

Priority number (s): JP19980220314 19980804

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Abstract of JP2000041654 (A)

PROBLEM TO BE SOLVED: To provide the subject system designed to control the heating temperature for a flavor-productive article without using any thermosensor.

SOLUTION: This electric heating control system for a flavor-productive article 20 is specifically such one as to be equipped with constant voltage generating means 2, 3 for generating direct current constant voltage, a heater 1 with its electrical resistance variable in response to the temperature as a result of heating during energization under being subjected to the direct current constant voltage, a circuit 6 for detecting the electrical resistance value based on the magnitude of current through the heater in energization, a circuit 9 for setting a specified electrical resistance value corresponding to such a desired temperature of the heater as not cause the flavor thermal decomposition of the flavor-productive article 20, a comparative arithmetic circuit 10 for comparing a detected electrical resistance value with the above specified value and outputting a relevant signal when both the values coincide with each other, and a sequence control circuit 11 for performing an ON/OFF control of the energization path to the heater following receiving the above signal.

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(56)参考文献 特開 平2-124082 (J P, A)

(58)調査した分野(Int.Cl.⁶, D B名)

A24F 47/00

(54)【発明の名称】 電気式香味生成物品加熱制御装置

(57)【特許請求の範囲】

【請求項1】 香味生成物品を所定温度に加熱制御する電気式香味生成物品加熱制御装置において、直流定電圧を発生する定電圧発生手段の出力側に発熱温度に応じて電気抵抗値が変化する香味生成物品用発熱体を接続し、温度センサを用いることなく、通電時に前記発熱体に流れる電流値から前記電気抵抗値を検出し、この検出電気抵抗値が所定の電気抵抗値に達したとき、前記発熱体への通電路を所定時間ごとにオン・オフ制御することを特徴とする電気式香味生成物品加熱制御装置。

【請求項2】 香味生成物品を所定温度に加熱制御する電気式香味生成物品加熱制御装置において、直流定電圧を発生する定電圧発生手段と、この定電圧発生手段の直流定電圧を受けている通電時の発熱温度に応じて電気抵抗値が変化する発熱体と、通電時に発熱体に

流れる電流値から電気抵抗値を検出する抵抗検出手段と、前記香味生成物品の香味熱分解の生じない発熱体の所望温度に応じた所定の電気抵抗値に設定する抵抗設定手段と、この所定の電気抵抗値と前記抵抗検出手段による検出電気抵抗値とを比較し、両値が一致したときに一致信号を出力する比較演算手段と、この比較演算手段からの一致信号を受けた後、前記発熱体への通電路をオン・オフ制御するシーケンス制御手段とを備えたことを特徴とする電気式香味生成物品加熱制御装置。

【請求項3】 前記発熱体は、通電時に昇温速度が速く、かつ、前記香味生成物品の香味熱分解が起らない所望温度に加熱可能なセラミックヒータを用いることを特徴とする請求項1または請求項2に記載の電気式香味生成物品加熱制御装置。

【請求項4】 前記定電圧発生手段は、香味生成物品

の未挿入時、通電初期時の通電時間10秒以内に発熱体の所望温度が300°Cとなるような直流定電圧を発生し、また前記シーケンス制御手段は、香味生成物品の未挿入時、前記発熱体の所望温度300°Cに対して±60°Cの温度変化範囲となるように前記発熱体への通電路をオン・オフ制御することを特徴とする請求項2に記載の電気式香味生成物品加熱制御装置。

【請求項5】 前記シーケンス制御手段は、前記香味生成物品の香味の熱分解を考慮しつつ予め前記発熱体への通電路のオフ時間およびオン時間のシーケンス制御時間が設定され、前記比較演算手段から一致信号を受けたとき、前記シーケンス制御時間に従って発熱体への通電路をオン・オフ制御することを特徴とする請求項2または請求項3に記載の電気式香味生成物品加熱制御装置。

【発明の詳細な説明】

【0001】

【発明の属する技術分野】本発明は香味生成物品の加熱温度を制御する電気式香味生成物品加熱制御装置に関する。

【0002】

【従来の技術】被加熱物体を加熱制御する場合、その被加熱物体の温度を直接温度センサで検出し、この検出温度に基づいて被加熱物体の温度を制御するのが一般的であるが、エアロゾルシガレットのごとき香味生成物品では物性上の要因から温度センサを使用するのが難しい。しかも、香味生成物品は、一定温度以上の熱を与えたとき、熱分解等の悪影響を受けて所要の香味性能が得られなくなる。そこで、香味生成物品を加熱制御するために、間接的にヒータの発熱温度を制御することにより香味生成物品の加熱温度を制御する必要がある。

【0003】従来、温度センサを使用しない電気ヒータの加熱制御装置は、一定温度上昇後に発熱体であるヒータの電源回路をオフする構成のものもあるが、温度の急降下および電源回路のオン時の急上昇の変化が激しく、被加熱物体の温度を安定に維持することが困難である。

【0004】また、上記以外の加熱制御技術としては、自己制御タイプのヒータを使用するか、ヒータ表面またはヒータ内部に温度センサを設置し、この温度センサの検出温度を加熱制御装置内に取込んでヒータの温度を制御するものが考えられている。

【0005】

【発明が解決しようとする課題】しかしながら、香味生成物品を加熱する加熱用ヒータは、その適用物品である香味生成物品が外観的に小さいことからおのずとヒータサイズが小型となり、これに伴って加熱用ヒータの昇温速度も比較的速くなる。その結果、温度センサを利用した加熱制御装置は、センサの応答性や熱容量の関係から安定した制御特性が得られないばかりか、特定の温度で安定条件が得られても、香味生成物品にとって最適な温度に設定するのが難しいといった問題がある。

【0006】本発明は上記事情に鑑みてなされたもので、通電時の発熱体の電気抵抗値を利用して香味生成物品の加熱温度を適切に制御する電気式香味生成物品加熱制御装置を提供することにある。

【0007】

【課題を解決するための手段】上記課題を解決するために、本発明は、香味生成物品を所定温度に加熱制御する電気式香味生成物品加熱制御装置において、直流定電圧を発生する定電圧発生手段の出力側に発熱温度に応じて電気抵抗値が変化する香味生成物品用発熱体を接続し、温度センサを用いることなく、通電時に前記発熱体に流れる電流値から前記電気抵抗値を検出し、この検出電気抵抗値が所定の電気抵抗値に達したとき、前記発熱体への通電路を所定時間ごとにオン・オフ制御する構成である。

【0008】このような手段を講じたことにより、通電により香味生成物品用発熱体の発熱温度が上昇すると、この温度上昇に伴って電気抵抗値が増加するので、この電気抵抗値を有効に利用すれば、発熱体の発熱温度、ひいては香味生成物品の所定温度を把握でき、また発熱体の発熱温度が香味生成物品の所定温度に達したとき、温度センサを用いることなく、発熱体への通電路をオン・オフ制御することにより、香味生成物品を所定の加熱温度に制御できる。

【0009】また、別の発明は、直流定電圧を発生する定電圧発生手段と、この定電圧発生手段の直流定電圧を受けている通電時の発熱温度に応じて電気抵抗値が変化する発熱体と、通電時に発熱体に流れる電流値から電気抵抗値を検出する抵抗検出手段と、前記香味生成物品の香味熱分解の生じない発熱体の所望温度に応じた所定の電気抵抗値に設定する抵抗設定手段と、この所定の電気抵抗値と前記抵抗検出手段による検出電気抵抗値とを比較し、両値が一致したときに一致信号を出力する比較演算手段と、この比較演算手段からの一致信号を受けた後、前記発熱体への通電路をオン・オフ制御するシーケンス制御手段とを設けた電気式香味生成物品加熱制御装置である。

【0010】このような手段を講じたことにより、通電時に発熱温度に応じて電気抵抗値が変化する発熱体の電流値から電気抵抗値を検出し、一方、香味生成物品の香味熱分解が生じない発熱体の所望温度に応じた所定の電気抵抗値に設定し、これら設定電気抵抗値と前記検出電気抵抗値とを比較すれば、その両値の一致から発熱体が所望温度に達したことを検出でき、しかも温度センサを用いることなく、确实、かつ、高精度に検出できる。さらに、両値の一致信号を受けてシーケンス制御手段が発熱体への通電路を適切にオン・オフ制御することにより、発熱体を安定な状態で所望温度に制御できる。

【0011】さらに、前記発熱体としては、通電時に昇温速度が速く、かつ、香味生成物品の香味熱分解が起

ない所望温度に加熱可能なセラミックヒータを用いることにより、速やかに香味生成物品の香味性能が発揮され、香味生成物品の香味を得ることができる。

【0012】さらに、前記定電圧発生手段としては、香味生成物品の未挿入時、通電初期時の通電時間10秒以内に発熱体の所望温度が300°Cとなるような直流動電圧を発生し、また前記シーケンス制御手段としては、香味生成物品の未挿入時、前記発熱体の所望温度300°Cに対して±60°Cの温度変化範囲となるように前記発熱体への通電回路をオン・オフ制御することにより、現在の香味生成物品において速やかに香味生成物品の香味が得られ、しかもある時間の間安定した状態で香味を確保できる。

【0013】さらに、前記シーケンス制御手段としては、香味生成物品の香味の熱分解を考慮しつつ予め前記発熱体への通電回路のオフ時間およびオン時間のシーケンス制御時間が設定され、前記比較演算手段から一致信号を受けたとき、前記シーケンス制御時間に従って発熱体への通電回路をオン・オフ制御することにより、安定、かつ、継続的に所要の香味を確保できる。

【0014】

【発明の実施の形態】以下、本発明装置の一実施の形態を説明するに先立ち、香味生成物品の概略構成について説明する。

【0015】(1) 香味生成物品について。

【0016】香味生成物品は、本出願人において既に出願済みであり(特願平9-335743号)、具体的には図5に示すような構成のものが提案されている。

【0017】この香味生成物品20は、通常のシガレットとほぼ同じ使用感および香味性能が得られるように、使用材料、外観、寸法等が市販のシガレットに準じて作られている。すなわち、香味生成物品20は、通常のシガレットのたばこ巻きに相当する部分となる主管21と、その主管21の一端部にチップペーパー22を介して接続されるフィルタ23とによって構成されている。主管21は硬質の厚紙からなり、その先端部分には後述するように香味成分等を含む固体状原料の筒状成形体30が同心状に内蔵され、一方、フィルタ23はプラグ巻取紙で巻かれたセルロースジアセテートなどの繊維濾過材が用いられている。

【0018】主管21およびチップペーパー22は香味生成物品20のガス流路24を規定するためのケーシング25を構成する。このケーシング25は主管21の先端側に空気を取込む空気取込口26が設けられ、一方、フィルタ23の端部には使用者において香味を吸引する吸引口27が設けられている。そして、空気取込口26と吸引口27との間のケーシング25内にガス流路24が設けられている。

【0019】ケーシング25は、市販のシガレットと同じ外径、すなわち使用者がシガレットと同様に口に自然

にくわえることができる程度の外径をもった直線的な円筒形となっている。なお、ケーシング25の材料としては、通常のシガレットとほぼ同じ使用感を生み出すように紙が使用されるが、香味生成物品を燃焼させずに原料を加熱して吸引対象物である香味を生成することから、香味生成物品20の使用温度に応じて種々の材料が選択使用される。ケーシング25の材料として、例えば使用温度が200°C以下の場合には紙、200°C~400°Cの場合には耐熱性プラスチック、400°C以上の場合にはセラミックス、金属などが使用される。

【0020】前記筒状成形体30は、図5に示すような形状、つまり通気性の低い緻密な円筒体として形成されている。この成形体30の中心にはヒータ挿入穴31が形成され、この挿入穴31には成形体30を加熱する加熱用ヒータ1が着脱自在に挿入される。この挿入穴31の後端面中心にはヒータ挿入穴31よりも十分小径の透孔32が形成され、さらに成形体中実部分である円筒壁33の外側面の相対向する2箇所には軸方向にそって溝34が形成されている。

【0021】これらヒータ挿入穴31、透孔32および溝34は、成形体30で生成される香味やエアロゾルの成分を含む加熱ガスを搬送するための通路の機能の他、香味やエアロゾルの成分を含む加熱ガスを効率よく生成するように成形体30上の蒸発面積を確保する機能をもっている。

【0022】28はケーシング25に形成されたガス流路24に冷却空気を導入する小径の透孔である。成形体30で生成される香味やエアロゾルの成分を含む加熱ガスは透孔28により導入された外気と混合冷却され、エアロゾルの生成が助長される。なお、外気導入用の透孔28に代え、ケーシング25の一部を通気性の材料で形成し、ケーシング25の壁の通気特性を利用して外気を導入することもありうる。

【0023】ところで、燃焼せずに加熱により香味を生成する媒体である原料の成形体30は、熱分解の影響を受けるバインダー、香味成分の揮散を防止する担持素材、香味成分、エアロゾル基剤および水などが含有されている。この成形体30は、押出し、プレス(金型、ラバー)、鋳込み、射出成形等の圧力による成形方法の何れを用いて、通気性の低い緻密な固体物として形成される。

【0024】前記バインダーは内容成分を混合後に固結し、成形体30に必要な機械的強度を付与するために用いられ、有機、無機に拘らず種々の材料を選択することができ、例えば鉱物系粘土、珪酸塩、リン酸塩、セメント、シリカ、石膏、石灰、でん粉、糖、海藻、蛋白、たばこ粉末等を挙げることができる。香味を生成する香味成分およびエアロゾル煙を生成するエアロゾル基剤は、用途に応じて種々の天然物からの抽出物質および/またはそれらの構成成分を選択することができる。香味成分

としては、例えばメンソール、カフェイン、或いは熱分解により香味を生成する配糖体等の前駆体或いはたばこ抽出物成分やたばこ煙凝縮物成分等のたばこ成分を用いることができる。

【0025】(2) 次に、以上のような香味生成物品20を装着して成形体30を加熱制御する加熱制御装置について説明する。

【0026】図1は本発明に係わる加熱制御装置の一実施の形態を示す構成図である。

【0027】同図において1は前述した香味生成物品20を加熱する加熱用ヒータ(発熱体)であって、この加熱用ヒータ1には直流電源2が定電圧発生回路3を介して印加されている。

【0028】この加熱用ヒータ1は、通電時の抵抗損失により発熱するヒータであって、図2に示すように発熱温度Tの上昇に伴って抵抗値Rが上昇する特性のものが使用される。加熱用ヒータ1は、具体的には成形体30のヒータ挿入穴31の穴径よりも小さい外径をもった円筒棒状の金属ヒータ(ステンレス鋼管)やセラミックヒータなどが用いられる。セラミックヒータは、昇温速度が速いこと、50°Cから800°Cの温度範囲まで発熱可能である一方、例えば30秒以内に香味生成物品を熱分解させない最高温度300°C程度に昇温加熱できるなどのメリットがある。以上のような昇温速度の点を考えれば、ニクロム線は昇温速度が遅いので、この種の香味生成物品の加熱用には不適當なものである。

【0029】前記直流電源2は例えば3.8V~12.0V内の何れかの直流電圧を発生する電池などが用いられる。この直流電源2の直流電圧は香味生成物品20を熱分解させずに所要の時間内に所望の香味性能を得るかに応じて決定される。因みに、香味生成物品20を熱分解させずに30秒以内に300°Cの温度に加熱するには7.2Vの直流電圧が必要となる。

【0030】前記定電圧発生回路3は、例えば三端子レギュレータが用いられ、加熱用ヒータ1などの負荷変動による電源電圧の変動を回避し常に加熱用ヒータ1に一定の電圧を印加する機能をもっている。

【0031】この定電圧発生回路3の両出力端子間には、加熱用ヒータ1、電流検出回路4およびスイッチ手段5からなる直列回路が接続されている。

【0032】この電流検出回路4は、例えば温度係数が小さく、かつ、温度依存性をもたない抵抗体が用いられ、加熱用ヒータ1の発熱温度の上昇による抵抗値の上昇に伴って変化する電流値を検出し、この検出電流に応じた電圧に変換して出力する。前記スイッチ手段5は、リレーまたは半導体スイッチング素子で構成され、外部からのオン・オフ制御信号を受けてオン・オフ動作する。

【0033】なお、定電圧発生回路3は加熱用ヒータ1に対し変動の伴わない一定の電圧印加状態に設定するこ

と、つまり適切な抵抗測定条件を作り出す機能をもっていること、一方、電流検出回路4は加熱用ヒータ1の加熱により変化する抵抗値にのみ依存して変化する電流値を検出する機能をもっていることから、これら定電圧発生回路3および電流検出回路4は加熱用ヒータ1の変化する抵抗値を検出する機能をもった抵抗検出回路6と呼ぶことができる。

【0034】また、加熱制御装置には温度設定回路7および電圧変換回路8が設けられている。この温度設定回路7は、図2に示すように加熱用ヒータ1の最適発熱温度 T_s のときの加熱用ヒータ1の抵抗値 R_s が設定されるが、この最適発熱温度は香味成分物品20の成分含有量によって異なるものであり、そのため設定抵抗値 R_s も任意に可変可能な構成とする。電圧変換回路8は温度設定回路7の設定抵抗値に応じた電圧を発生させるものである。これら温度設定回路7および電圧変換回路8は、具体的には例えば可変抵抗器の両端に所定の電圧を印加し、当該可変抵抗器のうち設定抵抗値 R_s に相当する部分に予め設定される可動端子から設定抵抗値 R_s にのみ依存する電圧を取り出す構成によって実現でき、これら温度設定回路7および電圧変換回路8は抵抗設定回路9と呼ぶことができる。

【0035】10は電流検出回路4から出力される検出電流に応じた電圧と電圧変換回路8から出力される電圧とを比較する比較演算回路であって、これら両電圧の比較結果がシーケンス制御回路11に送られる。このシーケンス制御回路11は、タイマーが内蔵され、電圧変換回路8から出力される電圧に一致する電圧が電流検出回路4で検出されたとき、つまり一致信号をうけたとき、香味生成物品20の熱分解を考慮しつつ予め設定された所定の時間のタイミングでオン・オフ制御を行うためのシーケンス制御信号を出力する機能をもっている。シーケンス制御回路11は、比較演算回路10から一致信号を受けたとき、例えば具体的には0.2秒~2秒間オフとするシーケンス制御信号を出力した後、本来の比較結果を取込んで同様の処理を繰り返すとか、或いは前記一致信号を受けたとき、所定の時間ごとにオフ・オンを繰り返し実行するシーケンス制御信号を出力することが挙げられる。

【0036】12はスイッチ駆動制御回路であって、これはシーケンス制御回路11から入力されるシーケンス制御信号に基づいてスイッチ手段5をオン・オフ制御するものである。

【0037】これら比較演算回路10、シーケンス制御回路11、スイッチ駆動制御回路12およびスイッチ手段5はヒータ電源制御装置13を構成するものである。

【0038】次に、以上のように構成された装置の動作について説明する。

【0039】先ず、抵抗設定回路9を用いて、香味生成物品の熱分解を起こさず、かつ、香味性能が得られる図

2に示す加熱用ヒータ1の最適加熱温度 T_s に対応する抵抗値 R_s に設定する。

【0040】この状態において装置に電源を投入すると、シーケンス制御回路11が所定のシーケンス制御動作を開始し、スイッチ手段5をオンとするためのシーケンス制御信号を出力し、スイッチ駆動制御回路12を介してスイッチ手段5をオンに設定する。

【0041】ここで、スイッチ手段5がオンとなると、加熱用ヒータ1には定電圧発生回路3から予め定める一定の直流電圧が印加される。その結果、加熱用ヒータ1は、通電による抵抗損失で発熱し、この発熱温度の上昇に伴って加熱用ヒータ1の電気抵抗値が増大する。このとき、加熱用ヒータ1は常に一定の直流電圧が印加されているので、通電による発熱温度の上昇とともに抵抗値が増大し、逆に加熱用ヒータ1に流れる電流値が低下する。電流検出回路4は、発熱用ヒータ1に流れる電流を検出し、この検出電流を電圧値に変換し比較演算回路10に送出する。

【0042】ここで、比較演算回路10は、基準抵抗設定側となる電圧変換回路8から入力される設定抵抗に依存する所定電圧と電流検出回路4から出力される電圧とを比較し、電流検出回路4から出力される電圧が所定電圧に一致したとき、つまり設定温度に相当する抵抗値と加熱用ヒータ1の抵抗値とが等しくなったとき、例えばハイレベル信号Hを出力しシーケンス制御回路11に送出する。

【0043】このシーケンス制御回路11は比較演算回路10からハイレベル信号Hを受けると、オフとするシーケンス制御信号を出力し、スイッチ駆動制御回路12を介してスイッチ手段5をオフ制御にすると同時にタイマーを作動させる。これにより加熱用ヒータ1への低電圧電源の供給が停止する。

【0044】以後、シーケンス制御回路11は、所定のシーケンスプログラムに基づき、香味生成物品20の香味熱分解を考慮しつつ予め設定される所定の時間、例えばタイマーが例えば1秒経過した後、スイッチ駆動制御回路12を介してスイッチ手段5をオンとし、その後、比較演算回路10の比較結果に基づき、スイッチ手段5のオフ・オンを繰り返すとか、或いはハイレベル信号Hを受けてスイッチ手段5をオフとした後、予め定める所定時間ごとにオン・オフ制御を繰り返し実行する。

【0045】なお、スイッチ手段5のオン・オフ制御時間は、短時間であればあるほど制御時の温度範囲が狭くなるが、抵抗検出回路6側のオン・オフ接点の種類（リレー、半導体スイッチング素子）および被加熱物体の物性（比熱・熱伝達率）などの条件を考慮し、さらに香味生成物品20の熱分解および香味性能等を考慮し、0.2～2秒程度のインターバルで行うのが望ましいが、この時間も香味生成物品20の成分含有量の状態によって異なるものである。

【0046】また、筒状成形体30として例えば前述したようにバインダー、良伝熱素材、担持素材、香味成分、エアロゾル基剤および水などを含有成分とし、さらにバインダーとして例えば鉱物系粘土、珪酸塩、リン酸塩、セメント、シリカ、石膏、石灰、でん粉、糖、海藻、蛋白、たばこ粉末等を適宜選択することにより、その香味生成物品の最適な加熱温度がほぼ 300°C 程度であるので、望ましくは $300^{\circ}\text{C}\pm 30^{\circ}\text{C}$ の温度変化範囲であれば香味の熱分解がなく安定な香味性能が得られるが、例えばバインダーとして例えば鉱物系粘土を主成分とする場合には $\pm 60^{\circ}\text{C}$ の温度変化範囲であってもよい。

【0047】従って、以上のような実施の形態によれば、加熱用ヒータ1に定電圧発生回路3から常に一定の直流電圧を印加し、この通電時の抵抗損失による発熱温度の上昇に伴って変化する加熱用ヒータ1の抵抗値を利用し、当該加熱用ヒータ1の発熱温度を検出するので、温度センサを用いる必要がなく、また小形でかつ速い昇温速度を必要とする香味生成物品の加熱温度制御に非常に有効なものである。

【0048】また、通電時に発熱温度に応じて抵抗値が変化する加熱用ヒータ1の電流値から得られる抵抗値と予め香味生成物品の香味熱分解が生じない加熱用ヒータ1の所望温度に応じた所定の設定抵抗とを比較し、両抵抗値の一致から加熱用ヒータ1の所望の発熱温度を検出するので、確実、かつ、高精度に加熱用ヒータ1の所望の発熱温度、ひいては香味生成物品に最適な加熱温度に設定できる。

【0049】さらに、比較演算回路10から両抵抗値の一致信号を受けたとき、シーケンス制御回路11は、予め定めた任意のインターバルで加熱用ヒータ1の通電回路をオン・オフ制御するので、香味生成物品の物性を考慮しつつ香味性能を安定、かつ、継続的に得ることができる。

【0050】なお、上記実施の形態では、加熱用ヒータ1として、金属ヒータまたはセラミックヒータなどを用いた例を説明したが、例えば図3および図4に示すような白金線や熱電対を用いてもよい。図3は、白金線の加熱用ヒータ1を用い、かつ、香味生成物品の挿入時のオン・オフ制御およびPID（P：比例、I：積分、D：微分）制御を行ったときの経過時間とヒータ発熱温度との慣例をプロットした図である。この図から明らかなように、オン・オフ制御およびPID制御とも通電時の昇温速度が速い点において迅速に香味生成物品の香味性能を得ることができるが、PID制御の場合には加熱用ヒータ1の発熱温度が 250°C ないし 300°C に上昇した後PID制御を実行すると、P、D制御パラメータがきいて発熱温度が大きく変化するのに対し、オン・オフ制御の場合には $250^{\circ}\text{C}\pm 20^{\circ}\text{C}$ の温度変化幅に入るように加熱温度を制御することができ、安定した

状態で香味生成物品の香味性能を得ることができる。

【0051】図4に示す熱電対の加熱用ヒータ1の場合においても同様であって、通電時の昇温速度が速く、オン・オフ制御を採用すれば、安定した加熱温度制御を実施できる。

【0052】

【発明の効果】以上説明したように本発明によれば、次のような種々の効果を奏する。

【0053】請求項1の発明では、発熱体の発熱温度の変化に対応して変化する抵抗値を有効に利用することにより、発熱体の発熱温度を正確に検出でき、温度センサを用いることなく、香味生成物品を所定の加熱温度に制御できる。

【0054】請求項2の発明では、通電時の発熱体の発熱温度に応じて変化する抵抗値と予め定める香味生成物品にとって最適な所望温度に対応する設定抵抗値とを比較し、その両値の一致から発熱体の最適な発熱温度の到達を検出するので、温度センサを用いることなく、確実、かつ、高精度に加熱温度を制御できる。また、シーケンス制御手段により、発熱体への通電路を適切にオン・オフを適宜選択的な時間を用いてオン・オフ制御することにより、発熱体を安定した状態で適切な温度変化範囲で制御できる。

【0055】請求項3の発明では、発熱体としてセラミックヒータを用いることにより、香味生成物品にとって香味性能の得やすい最適な発熱温度に設定できる。

【0056】請求項4の発明では、発熱体に所要の定電圧を印加し、かつ、シーケンス制御手段を用いて発熱体への通電路のオン・オフ時間を適宜調整可能とすることにより、香味生成物品の香味熱分解を起こすことなく、また香味生成物品の種々の含有成分に対しても適用可能である。

【0057】請求項5の発明では、香味生成物品の香味の熱分解を考慮しつつ発熱体への通電路のオフ・オン時間を設定できる。

【図面の簡単な説明】

【図1】本発明に係わる電気式香味生成物品加熱制御装置の一実施の形態を示す構成図。

【図2】図1に示す加熱制御装置に用いる加熱用ヒータ

の発熱温度と電気抵抗値との関係を示す図。

【図3】加熱用ヒータとして白金線を用いた時のオン・オフ制御とPID制御における経過時間と発熱温度との制御特性を示す図。

【図4】加熱用ヒータとして熱電対を用いた時のオン・オフ制御とPID制御における経過時間と発熱温度との制御特性を示す図。

【図5】香味生成物品の部分断面図。

【図6】香味生成物品の筒状成形体を示す横断面図および縦断面図。

【符号の説明】

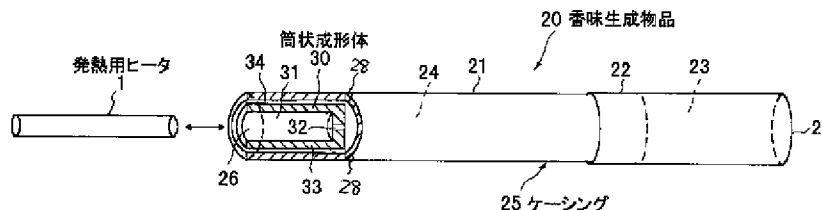
- 1…加熱用ヒータ（発熱体）
- 2…直流電源
- 3…定電圧発生回路
- 4…電流検出回路
- 5…スイッチ手段
- 6…抵抗検出回路
- 9…抵抗設定回路（温度設定回路+電圧変換回路）
- 10…比較演算回路
- 11…シーケンス制御回路
- 20…香味生成物品
- 30…筒状成形体

【要約】

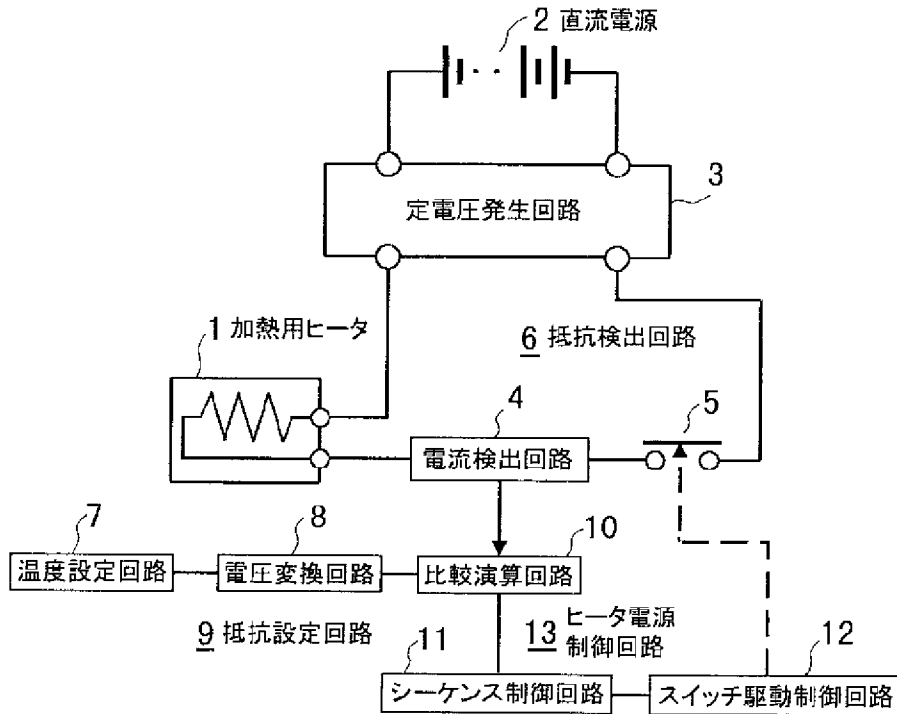
【課題】 温度センサを用いずに、香味生成物品の加熱温度を高精度に制御することにある。

【解決手段】 香味生成物品20を加熱制御する物品加熱制御装置であって、具体的には直流定電圧を発生する定電圧発生手段2、3と、この定電圧直流定電圧を受けている通電時の発熱温度に応じて電気抵抗値が変化する加熱ヒータ1と、通電時に加熱ヒータに流れる電流値から電気抵抗値を検出する抵抗検出回路6と、香味生成物品の香味熱分解の生じない加熱ヒータの所望温度に応じた所定の電気抵抗値に設定する抵抗設定回路9と、この所定の電気抵抗値と検出電気抵抗値とを比較し、両値が一致したときに一致信号を出力する比較演算回路10と、この一致信号を受けた後、加熱用ヒータへの通電路をオン・オフ制御するシーケンス制御回路11とを設けた電気式香味生成物品加熱制御装置である。

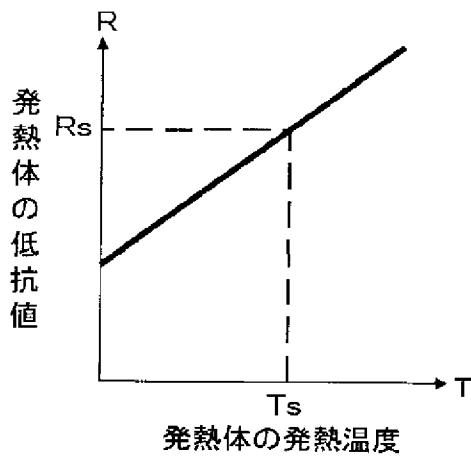
【図5】



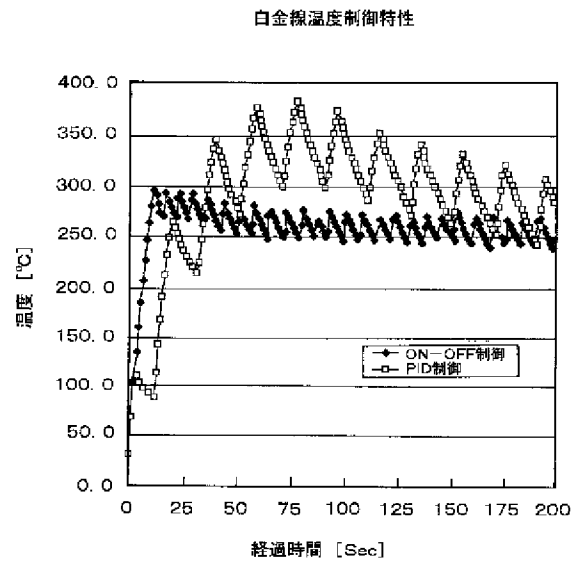
【図1】



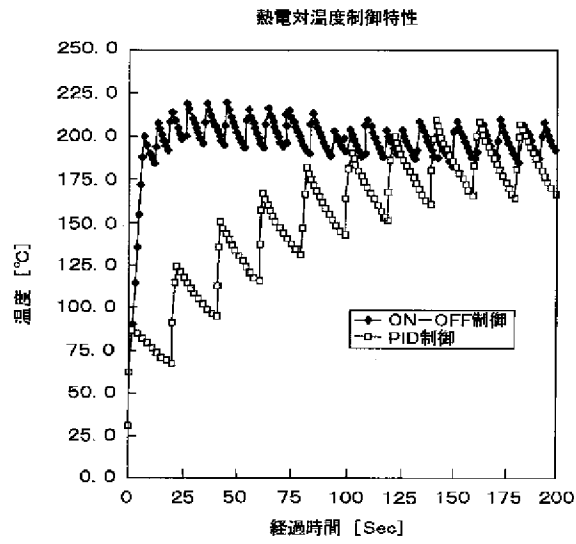
【図2】



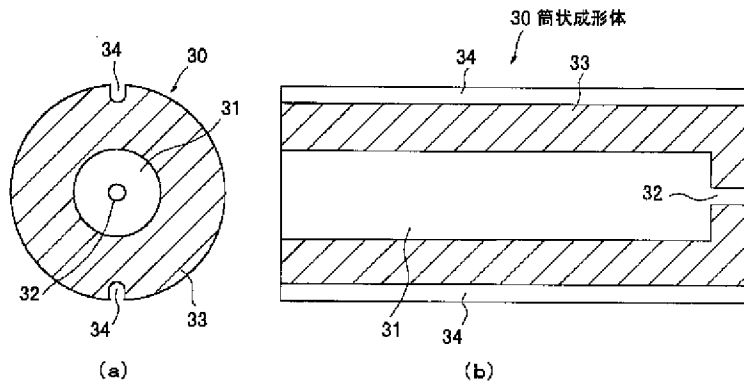
【図3】



【图4】



【图6】



Electronic Patent Application Fee Transmittal

Application Number:	15286087
Filing Date:	05-Oct-2016
Title of Invention:	TOBACCO-CONTAINING SMOKING ARTICLE
First Named Inventor/Applicant Name:	John Howard Robinson
Filer:	Lauren F Anderson/Kayla Cobler
Attorney Docket Number:	R60999 1400US.C4 (1385.0)

Filed as Large Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
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:				
Submission- Information Disclosure Stmt	1806	1	180	180
Total in USD (\$)				180

Electronic Acknowledgement Receipt

EFS ID:	31241428
Application Number:	15286087
International Application Number:	
Confirmation Number:	2741
Title of Invention:	TOBACCO-CONTAINING SMOKING ARTICLE
First Named Inventor/Applicant Name:	John Howard Robinson
Customer Number:	26158
Filer:	Lauren F Anderson
Filer Authorized By:	
Attorney Docket Number:	R60999 1400US.C4 (1385.0)
Receipt Date:	15-DEC-2017
Filing Date:	05-OCT-2016
Time Stamp:	14:07:44
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	DA
Payment was successfully received in RAM	\$180
RAM confirmation Number	121817INTEFSW00000452090528
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Transmittal Letter	R60999_1400US_C4_IDS_Cover_Sheet.pdf	108344	no	2
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Warnings:

Information:

2	Information Disclosure Statement (IDS) Form (SB08)	R60999_1400US_C4_SB08.pdf	626929	no	4
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Warnings:

Information:

3	Non Patent Literature	nref1.pdf	822068	no	7
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Warnings:

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Information:

4	Foreign Reference	fref1.pdf	741690	no	12
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Warnings:

Information:

5	Foreign Reference	fref_2.pdf	2856074	no	9
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Warnings:

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6	Fee Worksheet (SB06)	fee-info.pdf	30849	no	2
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Warnings:

Information:	
Total Files Size (in bytes):	5185954
<p>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.</p> <p><u>New Applications Under 35 U.S.C. 111</u> 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.</p> <p><u>National Stage of an International Application under 35 U.S.C. 371</u> 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.</p> <p><u>New International Application Filed with the USPTO as a Receiving Office</u> 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.</p>	

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re:	ROBINSON, John Howard	Confirmation No.:	2741
Appl. No.:	15/286,087	Art Unit:	1747
Filed:	October 5, 2016	Examiner:	NGUYEN, Phu Hoang
For:	TOBACCO-CONTAINING SMOKING ARTICLE		

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

**SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT
UNDER 37 C.F.R. § 1.97(d)**

This Information Disclosure Statement is being filed after a Final Office Action under 37 C.F.R. § 1.113 or a Notice of Allowance under 37 C.F.R. § 1.311, but before payment of the Issue Fee. The Notice of Allowance was mailed on October 4, 2017.

Attached is a list of documents on form PTO-1449 along with any cited foreign patent documents and non-patent literature documents in accordance with 37 CFR 1.98(a)(2). Also enclosed is a translation or a concise explanation of each non-English language document.

By identifying the listed documents, Applicant in no way makes any admission as to the prior art status of the listed documents, but is instead identifying the listed documents for the sake of full disclosure.

In accordance with the requirements of 37 C.F.R. § 1.97(d)(2), the following statement as specified in 37 C.F.R. § 1.97(e) is made:

Each item of information contained in this statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three (3) months prior to the filing of this statement. In this regard, Applicant notes that the communication from the foreign patent office was not received by any individual designated by 37 CFR 1.56(c) more than thirty (30) days prior to the filing of this Information Disclosure Statement.

The Commissioner is authorized to charge the \$180.00 fee specified in 37 C.F.R. § 1.17(p) to our Deposit Account No. 09-0568. The Commissioner is also authorized to charge any additional fee, or credit any refund to the above noted deposit account.

Respectfully submitted,

/lauren f. anderson/

Lauren F. Anderson
Registration No. 69,344

Customer No. 26158
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Atlanta, GA 30357-0037
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Fax Raleigh Office (919) 755-2150

ELECTRONICALLY FILED USING THE EFS-WEB ELECTRONIC FILING SYSTEM OF THE UNITED STATES PATENT & TRADEMARK OFFICE ON December 15, 2017.

PART B - FEE(S) TRANSMITTAL

**Complete and send this form, together with applicable fee(s), to: Mail Mail Stop ISSUE FEE
 Commissioner for Patents
 P.O. Box 1450
 Alexandria, Virginia 22313-1450
 or Fax (571)-273-2885**

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

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26158 7590 10/04/2017
WOMBLE CARLYLE SANDRIDGE & RICE, LLP
 ATTN: IP DOCKETING
 P.O. BOX 7037
 ATLANTA, GA 30357-0037

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

Kayla Cobler	(Depositor's name)
/kayla cobler/	(Signature)
January 3, 2018	(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/286,087	10/05/2016	John Howard Robinson	R60999 1400US.C4 (1385.0)	2741

TITLE OF INVENTION: TOBACCO-CONTAINING SMOKING ARTICLE

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	\$960	\$0	\$0	\$960	01/04/2018

EXAMINER	ART UNIT	CLASS-SUBCLASS
NGUYEN, PHU HOANG	1747	131-200000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363). <input type="checkbox"/> Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached. <input type="checkbox"/> "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a Customer Number is required.	2. For printing on the patent front page, list (1) The names of up to 3 registered patent attorneys or agents OR, alternatively, (2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.	1- Womble Bond Dickinson (US) LLP 2- 3-
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3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE: **RAI Strategic Holdings, Inc.**
 (B) RESIDENCE: (CITY and STATE OR COUNTRY) **Winston-Salem, NC**

Please check the appropriate assignee category or categories (will not be printed on the patent): Individual Corporation or other private group entity Government

4a. The following fee(s) are submitted: <input checked="" type="checkbox"/> Issue Fee <input type="checkbox"/> Publication Fee (No small entity discount permitted) <input type="checkbox"/> Advance Order - # of Copies _____	4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above) <input type="checkbox"/> A check is enclosed. <input type="checkbox"/> Payment by credit card. Form PTO-2038 is attached. <input checked="" type="checkbox"/> The director is hereby authorized to charge the required fee(s), any deficiency, or credits any overpayment, to Deposit Account Number <u>090528</u> (enclose an extra copy of this form).
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5. **Change in Entity Status** (from status indicated above)
- Applicant certifying micro entity status. See 37 CFR 1.29
 - Applicant asserting small entity status. See 37 CFR 1.27
 - Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.
NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.
NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature /lauren f. anderson/ Date January 3, 2018
 Typed or printed name Lauren F. Anderson Registration No. 69,344

Electronic Patent Application Fee Transmittal

Application Number:	15286087
Filing Date:	05-Oct-2016
Title of Invention:	TOBACCO-CONTAINING SMOKING ARTICLE
First Named Inventor/Applicant Name:	John Howard Robinson
Filer:	Lauren F Anderson/kayla cobler
Attorney Docket Number:	R60999 1400US.C4 (1385.0)

Filed as Large Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
UTILITY APPL ISSUE FEE	1501	1	960	960

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				960

Electronic Acknowledgement Receipt

EFS ID:	31392310
Application Number:	15286087
International Application Number:	
Confirmation Number:	2741
Title of Invention:	TOBACCO-CONTAINING SMOKING ARTICLE
First Named Inventor/Applicant Name:	John Howard Robinson
Customer Number:	26158
Filer:	Lauren F Anderson
Filer Authorized By:	
Attorney Docket Number:	R60999 1400US.C4 (1385.0)
Receipt Date:	03-JAN-2018
Filing Date:	05-OCT-2016
Time Stamp:	14:21:37
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	DA
Payment was successfully received in RAM	\$960
RAM confirmation Number	010418INTEFSW00000416090528
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Issue Fee Payment (PTO-85B)	R60999_1400US_C4_Issue_Fee_Transmittal.pdf	221406 29b232efdc92ffdd89c37d0cda501f514bdf6886	no	1

Warnings:

Information:

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Warnings:

Information:

Total Files Size (in bytes):	252303
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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.



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Table with 5 columns: APPLICATION NO., FILING DATE, FIRST NAMED INVENTOR, ATTORNEY DOCKET NO., CONFIRMATION NO. Includes application details for WOMBLE BOND DICKINSON (US) LLP and examiner information for NGUYEN, PHU HOANG.

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

IPDocketing@wbd-us.com

**Corrected
Notice of Allowability**

Application No. 15/286,087	Applicant(s) ROBINSON ET AL.	
Examiner PHU NGUYEN	Art Unit 1747	AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

- This communication is responsive to 9/26/2017.
 A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.
- An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.
- The allowed claim(s) is/are 31-60. As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.
- Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

- a) All b) Some *c) None of the:
- Certified copies of the priority documents have been received.
 - Certified copies of the priority documents have been received in Application No. _____.
 - Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

- CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
- DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- Notice of References Cited (PTO-892)
- Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____
- Examiner's Comment Regarding Requirement for Deposit
of Biological Material
- Interview Summary (PTO-413),
Paper No./Mail Date _____.
- Examiner's Amendment/Comment
- Examiner's Statement of Reasons for Allowance
- Other _____.

/PHU NGUYEN/
Examiner, Art Unit 1747

/MICHAEL H WILSON/
Supervisory Patent Examiner, Art Unit 1747

The present application is being examined under the pre-AIA first to invent provisions.

REASONS FOR ALLOWANCE

The following is an examiner's statement of reasons for allowance: The approved Terminal Disclaimer filed 9/26/2017 overcame the Double Patenting Rejection in Office Action filed 6/26/2017. Therefore, the claimed invention is in condition for allowance.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PHU NGUYEN whose telephone number is (571)272-5931. The examiner can normally be reached on M-F.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at <http://www.uspto.gov/interviewpractice>.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Wilson can be reached on 571-270-3882. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1747

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/PHU NGUYEN/
Examiner, Art Unit 1747


/MICHAEL H WILSON/
Supervisory Patent Examiner, Art Unit 1747

Issue Classification 	Application/Control No. 15286087	Applicant(s)/Patent Under Reexamination ROBINSON ET AL.	
	Examiner PHU NGUYEN	Art Unit 1747	

CPC						
Symbol					Type	Version
A24F		47		008	F	2013-01-01
A24B		15		12	I	2013-01-01
A24D		1		002	I	2013-01-01
A24B		13		02	I	2013-01-01
A24B		15		167	I	2016-11-01
H05B		3		42	I	2013-01-01
H05B		2203		021	A	2013-01-01


CPC Combination Sets				
Symbol	Type	Set	Ranking	Version

/PHU NGUYEN/ Examiner.Art Unit 1747 (Assistant Examiner)	1/12/2018 (Date)	Total Claims Allowed: 30	
/MICHAEL H WILSON/ Supervisory Patent Examiner.Art Unit 1747 (Primary Examiner)	01/19/2018 (Date)	O.G. Print Claim(s) 1	O.G. Print Figure 1

Issue Classification 	Application/Control No. 15286087	Applicant(s)/Patent Under Reexamination ROBINSON ET AL.
	Examiner PHU NGUYEN	Art Unit 1747


US ORIGINAL CLASSIFICATION						INTERNATIONAL CLASSIFICATION								
CLASS		SUBCLASS				CLAIMED				NON-CLAIMED				
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CROSS REFERENCE(S)														
CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)													
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442	408	361	414											
219	268	492												
392	390	395	404											

/PHU NGUYEN/ Examiner.Art Unit 1747 (Assistant Examiner)	1/12/2018 (Date)	Total Claims Allowed: 30	
/MICHAEL H WILSON/ Supervisory Patent Examiner.Art Unit 1747 (Primary Examiner)	01/19/2018 (Date)	O.G. Print Claim(s) 1	O.G. Print Figure 1

Issue Classification 	Application/Control No. 15286087	Applicant(s)/Patent Under Reexamination ROBINSON ET AL.
	Examiner PHU NGUYEN	Art Unit 1747

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/PHU NGUYEN/ Examiner.Art Unit 1747 (Assistant Examiner)	1/12/2018 (Date)	Total Claims Allowed: 30	
/MICHAEL H WILSON/ Supervisory Patent Examiner.Art Unit 1747 (Primary Examiner)	01/19/2018 (Date)	O.G. Print Claim(s) 1	O.G. Print Figure 1

<i>Index of Claims</i> 	Application/Control No. 15286087	Applicant(s)/Patent Under Reexamination ROBINSON ET AL.
	Examiner PHU NGUYEN	Art Unit 1747

✓	Rejected
=	Allowed

-	Cancelled
÷	Restricted

N	Non-Elected
I	Interference

A	Appeal
O	Objected

Claims renumbered in the same order as presented by applicant
 CPA
 T.D.
 R.1.47

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EAST Search History

EAST Search History (Prior Art)

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S19	38	S18 and cartridge	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2014/01/28 16:59
S20	29	A24F47/\$ and cartridge and substrate	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2014/01/28 17:00
S22	4	((("20120060853") or ("7726320")).PN.	US- PGPUB; USPAT;	OR	OFF	2014/01/28 17:02

			USOCR; EPO; JPO; DERWENT			
S24	21	A24F\$/ and polyethylene near2 terephthalate and electronic	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2014/01/29 17:14
S27	18	polyethylene near2 terephthalate and electronic and absorbent and tobacco and smoking	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2014/01/29 17:17
S28	359	("20030131859" "20040173229" "20050016549" "20050066986" "20060185687" "20060196518" "20070062549" "3258015" "3356094" "3516417" "3614956" "3738374" "3844294" "3878850" "3931824" "3943941" "4044777" "4079742" "4190046" "4219031" "4233993" "4284089" "4286604" "4326544" "4340072" "4347855" "4391285" "4635651" "4700727" "4714082" "4735217" "4756318" "4771795" "4793365" "4800903" "4807809" "4819665" "4823817" "4836225" "4848374" "4874000" "4892109" "4893639" "4917121" "4917128" "4920990" "4924886" "4947874" "4961438" "4966171" "4969476" "4972855" "4977908" "4991606" "5020548" "5025814" "5033483" "5040551" "5050621" "5060667" "5060671" "5060676" "5065776" "5072744" "5074321" "5076296" "5076297" "5092353" "5099861" "5101839" "5105835" "5105836" "5105837" "5105838" "5115820" "5146934" "5148821" "5159940" "5159942" "5178167" "5183062" "5203355" "5211684" "5224498" "5240014" "5240016" "5271419" "5285798" "5293883" "5327917" "5345955" "5357984" "5360023" "5369723" "5388574" "5396911" "5533530" "5551451" "5588446" "5593792" "5595577" "5598868" "5692525" "5715844" "5743251" "5778899" "5799663" "5819751" "5829453" "5865185" "5878752" "5880439" "5915387" "5934289" "6033623" "6053176" "6089857" "6095152" "6146934" "6164287" "6182670" "6234167" "6289898" "6397852" "6408856" "6516796" "6532965" "6537186" "6578584" "6591841" "6598607" "6615840" "6730832" "6823873" "7117867") .PN.	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2014/01/29 17:17
S31	713	(polyethylene near2 terephthalate near2 fiber) same (carbon near2 fiber)	US- PGPUB;	OR	ON	2014/01/29 17:20

			USPAT; USOCR; EPO; JPO; DERWENT			
S32	12	(polyethylene near2 terephthalate near2 fiber) same (carbon near2 fiber) and base near2 web	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2014/01/29 17:20
S33	65	(polyethylene near2 terephthalate near2 fiber) same (carbon near2 fiber) and absorbent	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2014/01/29 17:34
S34	28	(polyethylene near2 terephthalate near2 fiber) same bio	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2014/02/02 00:35
S38	2	("3486508").PN.	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2014/02/02 01:31
S40	22	A24F\$/ \$ and paper same "metallic foil"	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2014/02/02 01:32
S42	14	A24F\$/ \$ and paper and base near2 web and calcium near carbonate	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2014/02/03 15:41
S43	2	("8079371").PN.	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2014/02/03 21:22
S44	7	cigarette near2 paper and carbon near2 fiber and carbon near2 particle and carbonate near2 particle	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2014/08/02 23:31
S45	0	(A24B15/165).cpc. and controller and aerosol and heater	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2014/08/02 23:32
S46	2	(A24B15/14).cpc. and controller and aerosol and heater	US- PGPUB;	OR	ON	2014/08/02 23:32

			USPAT; USOCR; EPO; JPO; DERWENT			
S47	0	(A24D1/18).cpc. and controller and aerosol and heater	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2014/08/02 23:33
S49	142	("1771366" "2057353" "2104266" "20020146242" "20030226837" "20040129280" "20040200488" "20040226568" "20050016550" "20060016453" "20060196518" "20070074734" "20070102013" "20070215167" "3200819" "4303083" "4907606" "4945931" "4986286" "5019122" "5042510" "5093894" "5261424" "5353813" "5408574" "5468936" "5498850" "5515842" "5530225" "5564442" "5649554" "5666977" "5687746" "5726421" "5727571" "5865186" "5894841" "5954979" "5967148" "6095153" "6125853" "6155268" "6164287" "6196218" "6196219" "6601776" "6772756" "6803545" "6854461" "6854470" "7293565").PN.	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2014/09/29 23:59
S50	1	S49 and glycerin and (electrical electronic) and controller	US- PGPUB; USPAT; USOCR	OR	ON	2014/09/30 00:00
S53	122	smoking near2 article and tobacco near extract and heater	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2016/10/02 20:40
S54	2	("8899238").PN.	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2016/10/02 21:47
S55	0	(smoking and puff and carrier and wick and heater and controller).clm.	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2016/10/02 21:55
S56	1	(smoking and puff and carrier and wick\$3 and heater and controller).clm.	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2016/10/02 21:55
S58	4	((("7726320") or ("8899238")).PN.	US-	OR	OFF	2017/04/01

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S59	2	("20150047656").PN.	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2017/04/01 01:46
S60	6	((("7726320") or ("8899238") or ("8079371"))).PN.	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2017/04/01 02:00
S61	2	("20150047656").PN.	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2017/04/01 13:33
S62	2	(smoking and puff and carrier and wick\$3 and heater and controller).clm.	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2017/04/01 13:46
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S65	7	S64 and carrier and wick and extract and mainstream and cartridge	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2017/06/20 00:04
S66	1	("15286087").PN.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2017/09/28 22:53

EAST Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L4	3	(smoking and carrier and wick\$3 and heater and controller).clm.	US-PGPUB; USPAT	OR	ON	2018/01/12 00:33
L5	7	(tobacco and electric\$3 and heater and aerosol and absorbent).clm.	US-PGPUB; USPAT	OR	ON	2018/01/12 00:33
S16	1	(tobacco and aerosol and heating and cartridge).clm.	USPAT	OR	ON	2010/01/11 13:26
S48	5	(tobacco and tub\$3 and electric\$3 and heater and aerosol).clm.	US-PGPUB; USPAT	OR	ON	2014/08/02 23:34
S51	0	(tobacco and tub\$3 and electric\$3 and heater and aerosol and absorbent).clm.	US-PGPUB; USPAT	OR	ON	2014/09/30 00:14
S52	1	(tobacco and electric\$3 and heater and aerosol and absorbent).clm.	US-PGPUB; USPAT	OR	ON	2014/09/30 00:15
S57	1	(smoking and puff and carrier and wick\$3 and heater and controller).clm.	US-PGPUB; USPAT	OR	ON	2016/10/02 21:55
S63	2	(smoking and puff and carrier and wick\$3 and heater and controller).clm.	US-PGPUB; USPAT	OR	ON	2017/06/19 22:26
S67	2	(smoking and puff and carrier and wick\$3 and heater and controller).clm.	US-PGPUB; USPAT	OR	ON	2017/09/28 22:58
S68	2	(smoking and carrier and wick\$3 and heater and controller).clm.	US-PGPUB; USPAT	OR	ON	2017/09/28 22:58

1/ 12/ 2018 12:42:16 AM

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	15286087
	Filing Date	2016-10-05
	First Named Inventor	ROBINSON, John Howard
	Art Unit	1747
	Examiner Name	NGUYEN, Phu Hoang
	Attorney Docket Number	R60999 1400US.C4 (1385.0)

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	1	5666978	A	1997-09-16	Counts et al.		

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	2	2949114	JP	B1	1999-09-13			

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	15286087
	Filing Date	2016-10-05
	First Named Inventor	ROBINSON, John Howard
	Art Unit	1747
	Examiner Name	NGUYEN, Phu Hoang
	Attorney Docket Number	R60999 1400US.C4 (1385.0)

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T ⁵
	1	Extended European Search Report, EP 17 18 5645, mailed November 28, 2017.	

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Examiner Signature	/PHU H NGUYEN/	Date Considered	01/12/2018
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*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. ² Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). ³ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁴ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁵ Applicant is to place a check mark here if English language translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	15286087
	Filing Date	2016-10-05
	First Named Inventor	ROBINSON, John Howard
	Art Unit	1747
	Examiner Name	NGUYEN, Phu Hoang
	Attorney Docket Number	R60999 1400US.C4 (1385.0)

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

- See attached certification statement.
 - The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.
- A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/lauren f. anderson/	Date (YYYY-MM-DD)	2017-12-15
Name/Print	Lauren F. Anderson	Registration Number	69344


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Search Notes 	Application/Control No. 15286087	Applicant(s)/Patent Under Reexamination ROBINSON ET AL.
	Examiner PHU NGUYEN	Art Unit 1747

CPC- SEARCHED		
Symbol	Date	Examiner

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner

* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

SEARCH NOTES		
Search Notes	Date	Examiner
See East Search History	6/20/2017	P.N
See East Search History	9/28/2017	P.N
See East Search History	1/12/2018	P.N

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner
	See East Search History	9/28/2017	P.N
	See East Search History	1/12/2018	P.N

Philip Morris Products, S.A.
Exhibit 1002
Page 282



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15/286,087	02/27/2018	9901123	R60999 1400US.C4 (1385.0)	2741

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WOMBLE BOND DICKINSON (US) LLP
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ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment is 0 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Data Management (ODM) at (571)-272-4200.

APPLICANT(s) (Please see PAIR WEB site <http://pair.uspto.gov> for additional applicants):

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