



US008365742B2

(12) **United States Patent**
Hon

(10) **Patent No.:** **US 8,365,742 B2**
(45) **Date of Patent:** **Feb. 5, 2013**

(54) **AEROSOL ELECTRONIC CIGARETTE**

(75) Inventor: **Lik Hon**, Hong Kong (CN)

(73) Assignee: **Ruyan Investment (Holdings) Limited**,
Hong Kong (HK)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **13/079,937**

(22) Filed: **Apr. 5, 2011**

(65) **Prior Publication Data**

US 2011/0209717 A1 Sep. 1, 2011

Related U.S. Application Data

(62) Division of application No. 12/226,818, filed as application No. PCT/CN2007/001575 on May 15, 2007.

(30) **Foreign Application Priority Data**

May 16, 2006 (CN) 2006 2 0090805 U

(51) **Int. Cl.**
A24F 47/00 (2006.01)

(52) **U.S. Cl.** **131/273**; 131/194; 131/360; 128/202.21

(58) **Field of Classification Search** 131/360,
131/194, 273; 128/202.21
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

1,775,947 A 5/1927 Robinson
2,057,353 A 10/1936 Whittemore
2,631,219 A 3/1953 Suchy
3,200,819 A 8/1965 Gilbert
4,171,000 A 10/1979 Uhle

4,641,053 A 2/1987 Takeda
4,735,217 A 4/1988 Gerth
4,756,318 A 7/1988 Clearman
4,771,796 A 9/1988 Myer
4,819,665 A 4/1989 Roberts
4,848,374 A 7/1989 Chard
4,945,929 A 8/1990 Egilmex
4,945,931 A * 8/1990 Gori
4,947,875 A * 8/1990 Brooks
5,042,470 A * 8/1991 Kanesaka
5,060,671 A * 10/1991 Counts et al.
5,080,114 A * 1/1992 Rudolph et al.
5,095,921 A * 3/1992 Losee
5,144,962 A * 9/1992 Counts

(Continued)

FOREIGN PATENT DOCUMENTS

CN 2047485 U 11/1989
CN 1135860 11/1996

(Continued)

OTHER PUBLICATIONS

International Search Report issued Aug. 16, 2007 in corresponding PCT Application No. PCT/CN2007/001575 filed May 15, 2007, and English translation thereto, 6 pages.

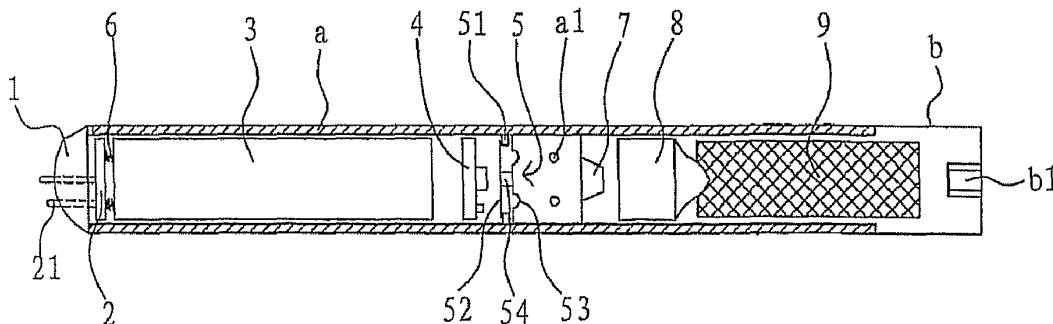
(Continued)

Primary Examiner — Richard Crispino
Assistant Examiner — Dionne Walls Mayes
(74) *Attorney, Agent, or Firm* — Perkins Coie LLP

(57) **ABSTRACT**

An aerosol electronic cigarette includes a battery assembly, an atomizer assembly and a cigarette bottle assembly and also includes a shell (a) which is hollow and integrally formed. Said battery assembly connects with said atomizer assembly and both are located in said shell (a). Said cigarette bottle assembly is located in one end of the shell (a), which is detachable. Said cigarette bottle assembly fits with said atomizer assembly. Said shell (a) has through-air-inlets (a1).

3 Claims, 8 Drawing Sheets



U.S. PATENT DOCUMENTS

5,159,940	A *	11/1992	Hayward et al.
5,190,060	A *	3/1993	Gerding
5,224,498	A	7/1993	Deevi
5,249,586	A *	10/1993	Morgan et al.
5,261,424	A *	11/1993	Sprinkel, Jr.
5,285,798	A *	2/1994	Banerjee
5,322,075	A *	6/1994	Deevi
5,388,594	A	2/1995	Counts
5,438,978	A	8/1995	Hardester
5,497,791	A	3/1996	Bowen et al.
5,505,214	A *	4/1996	Collins
5,591,368	A	1/1997	Fleischhauer et al.
5,666,977	A *	9/1997	Higgins
5,666,978	A *	9/1997	Counts
5,730,158	A	3/1998	Collins
5,743,251	A *	4/1998	Howell
5,799,663	A *	9/1998	Gross et al.
5,819,756	A *	10/1998	Mielordt
5,878,752	A *	3/1999	Adams et al.
5,894,841	A *	4/1999	Voges
6,040,560	A *	3/2000	Fleischhauer
6,041,789	A *	3/2000	Bankert
6,095,153	A	8/2000	Kessler
6,164,287	A *	12/2000	White
6,178,969	B1 *	1/2001	St. Charles
6,196,218	B1 *	3/2001	Voges
6,354,293	B1	3/2002	Madison
6,357,671	B1 *	3/2002	Cewers
6,443,146	B1 *	9/2002	Voges
6,532,965	B1 *	3/2003	Abhulimen
6,715,494	B1	4/2004	McCoy
6,772,756	B2 *	8/2004	Shayan
6,803,545	B2 *	10/2004	Blake
6,810,883	B2 *	11/2004	Felter
6,854,461	B2 *	2/2005	Nichols
6,854,470	B1 *	2/2005	Pu
7,100,618	B2	9/2006	Dominguez
7,131,599	B2	11/2006	Katase
7,726,320	B2	6/2010	Robinson
7,832,410	B2	11/2010	Hon
7,845,359	B2	12/2010	Montaser
7,997,280	B2	8/2011	Rosenthal
8,156,944	B2	4/2012	Han
2003/0108342	A1	6/2003	Sherwood et al.
2004/0261802	A1	12/2004	Griffin et al.
2005/0016550	A1	1/2005	Katase
2005/0236006	A1	10/2005	Cowan
2006/0196518	A1	9/2006	Hon
2008/0276947	A1	11/2008	Martzel
2009/0095311	A1	4/2009	Han
2009/0126745	A1	5/2009	Hon
2009/0151717	A1	6/2009	Bowen
2009/0188490	A1	7/2009	Han
2009/0230117	A1	9/2009	Fernando
2009/0260642	A1	10/2009	Monsees
2009/0272379	A1	11/2009	Thorens
2010/0031968	A1	2/2010	Sheikh
2010/0126505	A1	5/2010	Rinker
2010/0181387	A1	7/2010	Zaffaroni
2010/0200008	A1	8/2010	Taieb
2010/0242974	A1	9/2010	Pan
2010/0307518	A1	12/2010	Wang
2011/0005535	A1	1/2011	Xiu
2011/0036346	A1	2/2011	Cohen

FOREIGN PATENT DOCUMENTS

CN	2293957	Y	10/1998
CN	1252961	A	5/2000
CN	03111582.9		11/2004
CN	1575673	A	2/2005
CN	2719043	Y	8/2005
CN	200420031182.0		8/2005
CN	2777995	Y	5/2006
CN	200997909	Y	1/2008
CN	101116542	A	2/2008
CN	101176805		5/2008
DE	10051792		5/2002

EP	0057243		8/1982
EP	0230420		8/1987
EP	0295122	A2	12/1988
EP	0342538		11/1989
EP	0358002		3/1990
EP	0295122	B1	1/1992
EP	0545186		6/1993
EP	0703735		4/1996
EP	0824927		2/1998
EP	0845220		6/1998
EP	0893071		1/1999
EP	0951219		11/2002
GB	1528391	A	10/1978
JP	64000498		1/1989
JP	06114105		4/1994
JP	07506999		8/1995
JP	09075058		3/1997
UA	47514		12/1997
WO	WO9409842		5/1994
WO	WO9421317		9/1994
WO	WO9740876		11/1997
WO	WO9748293		12/1997
WO	WO9817130		4/1998
WO	WO0049901		8/2000
WO	WO0105459		1/2001
WO	WO03034847		1/2003
WO	WO03022364		3/2003
WO	WO03055486		7/2003
WO	WO03101454		12/2003
WO	WO04001407		12/2003
WO	WO2004023222		3/2004
WO	WO2004080216		9/2004
WO	PCT/CN04/000182		11/2004
WO	PCT/CN05/000337		8/2005
WO	WO2006082571		8/2006
WO	WO2007078273		7/2007
WO	WO2008077271		7/2008
WO	WO2008130813		10/2008
WO	WO2009118085		10/2009
WO	WO2009135729		11/2009
WO	WO2010052323		5/2010
WO	WO2010091593		8/2010
WO	2010145468		12/2010
WO	WO2010145805		12/2010
WO	WO2011010334		1/2011
WO	WO2011022431		2/2011

OTHER PUBLICATIONS

Australian Patent Office, Examination Report for SG 200505930-8, dated May 4, 2006.

Australian Patent Office; Exam Report for AU2004234199, dated Aug. 14, 2009.

Australian Patent Office; Search and Examination Report for SG200604498-6, dated Apr. 16, 2008.

China Intellectual Property Office, International Search Report for PCT/CN04/000182, dated Jun. 10, 2004.

China Intellectual Property Office, International Search Report for PCT/CN05/000337, Jul. 14, 2005.

China Intellectual Property Office, International Search Report for PCT/CN10/073613, Aug. 26, 2010.

China Intellectual Property Office, International Search Report for PCT/CN10/000125, Apr. 1, 2010.

CN Creative ; Intellicig USA, Ruyan v. Smoking Everywhere et al. CV11-6268 Invalidation Contentions, Apr. 12, 2012.

Cyphert, Gil DBA NUIS, Ruyan v. Smoking Everywhere et al. CV11-0367 Invalidation Contentions, Apr. 11, 2012.

European Patent Office, Supplemental Extended European Search Report for EP04718242, dated Jul. 27, 2007.

European Patent Office, Supplemental Extended European Search Report for EP05729107, dated Jul. 31, 2007.

European Patent Office, Supplemental Partial Extended European Search Report for EP05729107, dated May 22, 2007.

European Patent Office, Supplemental Partial Extended European Search Report for EP04718242, dated May 22, 2007.

Fin Branding Group, L.L.C., Request for Inter Partes Reexamination of U.S. Patent No. 8,156,944, filed Sep. 13, 2012.

- Japanese Patent Office, Office Action and English Translation for JP2006504199, dated Oct. 30, 2009.
- Korean Intellectual Property Office, Notice of Preliminary Rejection for KR1020057009767, dated Jul. 27, 2009.
- Macau Patent Office, Official Communication for MOI121, dated Apr. 17, 2009.
- Malaysian Patent Office, Examiner's Report for MY PI 20041407, dated Sep. 28, 2007.
- Sottera, Inc., Ruyan v. Smoking Everywhere et al.* CV11-0367 Invalidation Contentions, Apr. 12, 2012.
- Sottera, Inc., Ruyan v. Smoking Everywhere et al.* CV11-0367 Invalidation Contentions, Exhibit 7 (Claim 20 Claim Chart), Apr. 12, 2012.
- Sottera, Inc., Ruyan v. Smoking Everywhere et al.* CV11-0367 Invalidation Contentions, Exhibit 8 (Claim 24 Claim Chart), Apr. 12, 2012.
- Taiwan Patent Office, Official Letter for TW093111573, dated Apr. 24, 2009.
- Ukraine Patent Office, Examination Report for UA200511258, dated Feb. 4, 2009.
- China Intellectual Property Office, English Translation of Written Opinion for PCT/CN07/001575, Jul. 20, 2007.
- China Intellectual Property Office, English translation of Written Opinion for PCT/CN07/001576, Aug. 3, 2007.
- China Intellectual Property Office, International Search Report for PCT/CN07/001576, Aug. 16, 2007.
- China Intellectual Property Office, Search Report for CN ZL 200620090805.0.
- Introduction to selecting and using electronic components, ISBN7-111-13752-3.
- European Patent Office, Extended European Search Report for EP07721148, Dec. 6, 2010.
- European Patent Office, Extended European Search Report for EP11001479, Jul. 4, 2011.
- Manual for Electric Engineers, 2nd Ed, Mar. 2000.
- Manual for Mechanical Designers, 4th Ed, Jan. 2002.
- Materials Manual—Nonmetal, Jul. 1, 1985.
- TechPowerUp “What is a MOSFET, what does it look like and how does it work?” May 24, 2004.
- IP Australia, Patent Examination Report No. 1 for AU2007250367, Jul. 30, 2012.
- IP Australia, Patent Examination Report No. 1 for AU2007250368, Aug. 9, 2012.
- United States Patent and Trademark Office, Office Action in Inter Partes Reexamination of U.S. Patent No. 8,156,944, mailed Nov. 27, 2012.
- Machine translation Chinese Patent Application 200420031182 which corresponds to the priority document of WO2005/099494 (Hon '494) Oct. 27, 2005, cited by the Examiner in the Nov. 27, 2012 Office Action identified above.
- Machine translation of Chinese Patent Application 03111582.9 which corresponds to the priority document of WO2004/095955 (Hon '955) Nov. 11, 2004, cited by the Examiner in the Nov. 27, 2012 Office Action identified above.

* cited by examiner

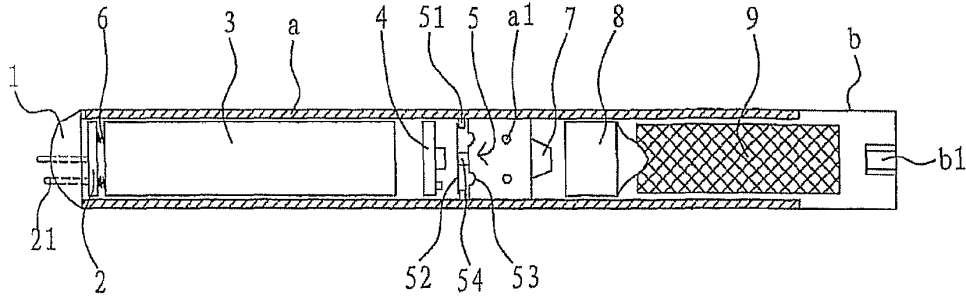


Figure 1

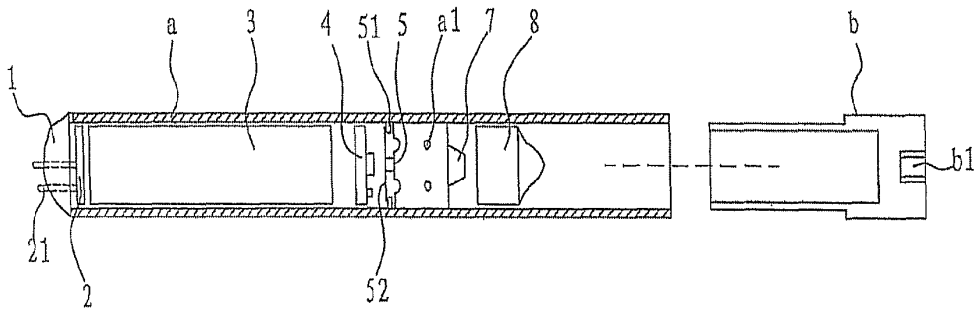


Figure 2

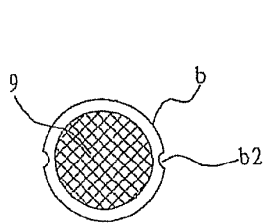


Figure 3

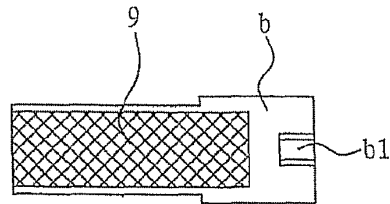


Figure 4

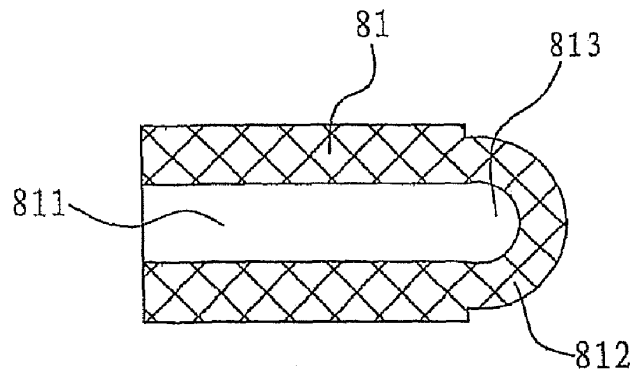


Figure 5

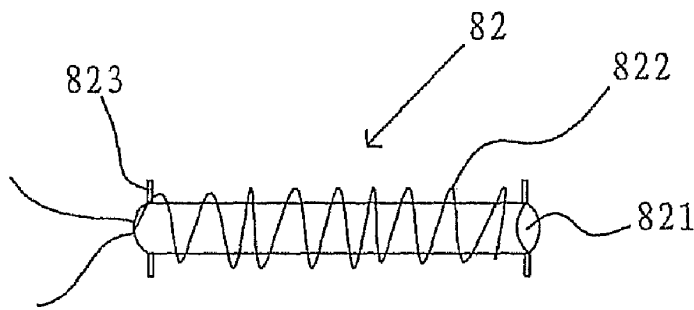


Figure 6

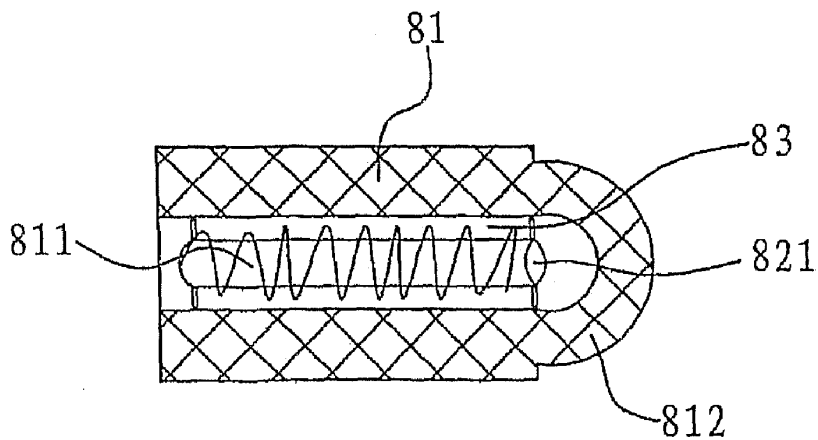


Figure 7

Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

Real-Time Litigation Alerts



Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

Advanced Docket Research



With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

Analytics At Your Fingertips



Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

LAW FIRMS

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

FINANCIAL INSTITUTIONS

Litigation and bankruptcy checks for companies and debtors.

E-DISCOVERY AND LEGAL VENDORS

Sync your system to PACER to automate legal marketing.