

- (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**

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)

(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

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.

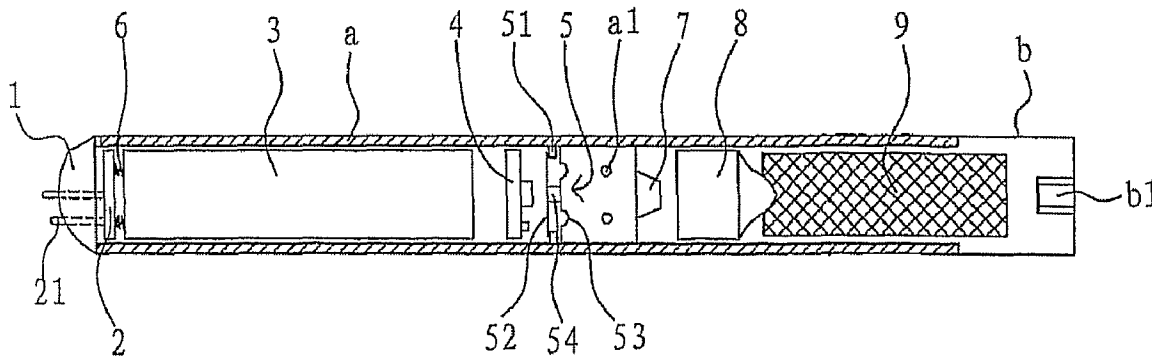
(Continued)

*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 WO105459 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 Invalidity Contentions, Apr. 12, 2012.  
*Cyphert, Gil DBA NUIS, Ruyan v. Smoking Everywhere et al.* CV11-0367 Invalidity 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, LLC, 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

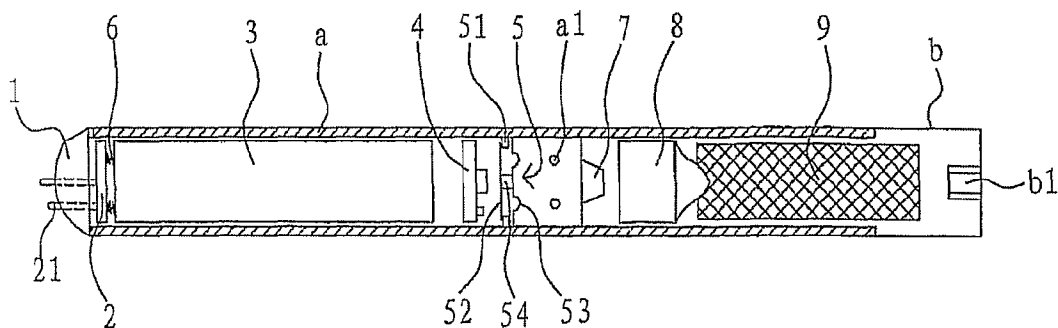


Figure 1

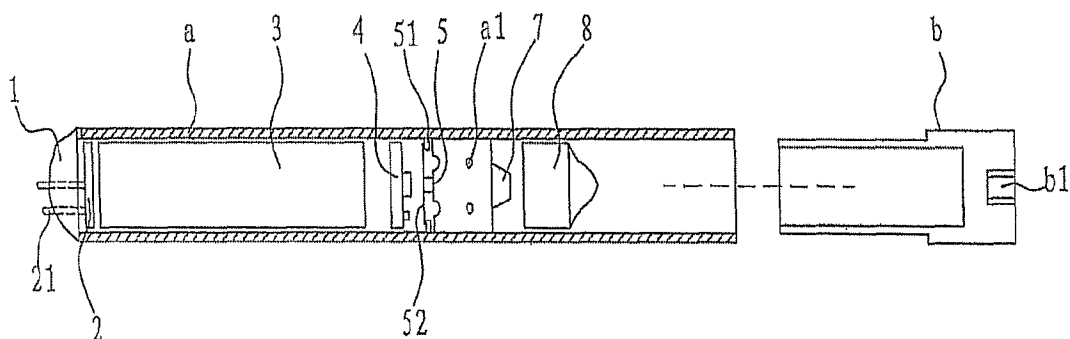


Figure 2

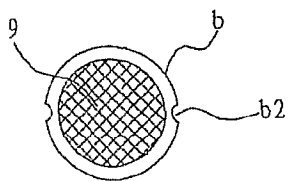


Figure 3

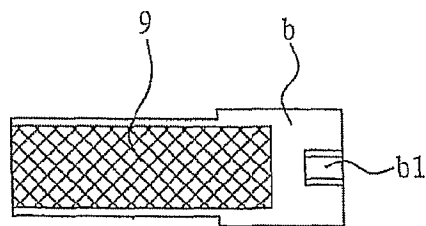


Figure 4

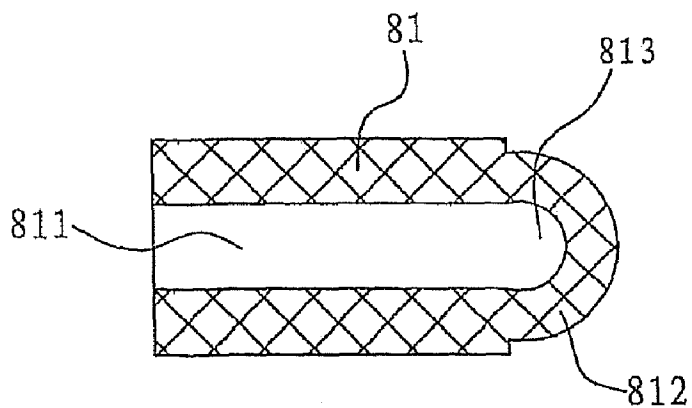


Figure 5

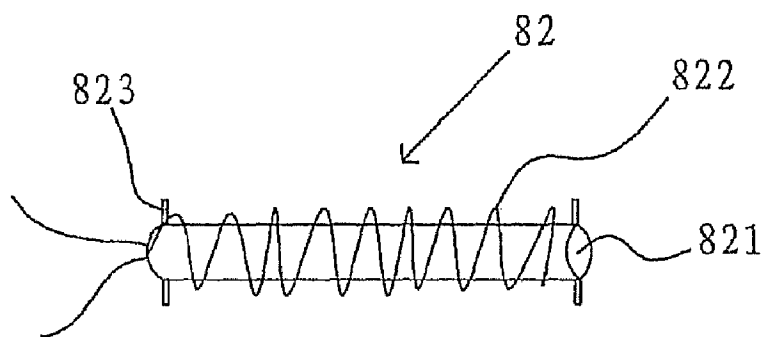


Figure 6

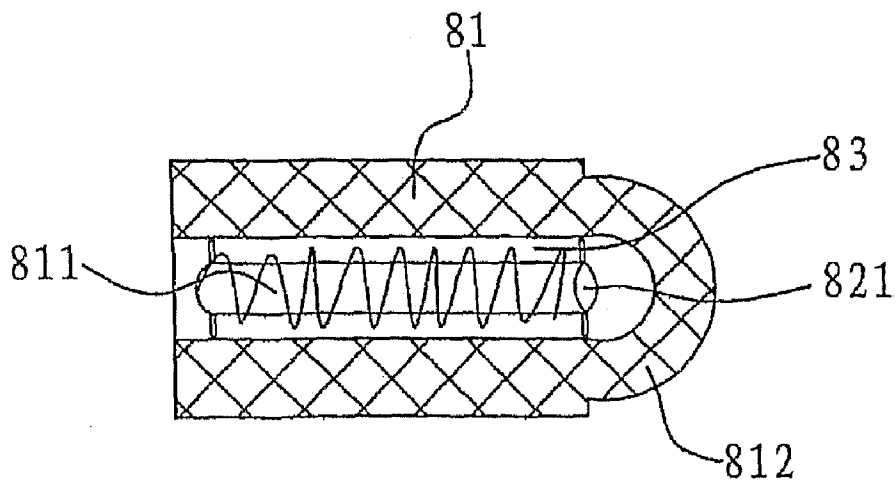


Figure 7

# 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.