

Exhibit H



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(12) **United States Patent**
Lau et al.

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(54) **POD ASSEMBLY, DISPENSING BODY, AND E-VAPOR APPARATUS INCLUDING THE SAME**

(58) **Field of Classification Search**
None
See application file for complete search history.

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(56) **References Cited**

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U.S. PATENT DOCUMENTS

D112,702 S 12/1938 Kirsten
D127,009 S 5/1941 Gebhart et al.
(Continued)

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FOREIGN PATENT DOCUMENTS

CN 104432537 A 3/2015
CN 106820274 A 6/2017
(Continued)

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

This patent is subject to a terminal disclaimer.

OTHER PUBLICATIONS

Web address <http://www.my7s.com/faq>, 7's electronic cigarettes, Electronic Vapor.

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(Continued)

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Primary Examiner — Cynthia Szewczyk

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(74) *Attorney, Agent, or Firm* — Harness, Dickey & Pierce, P.L.C.

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(Continued)

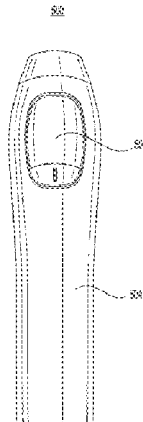
(51) **Int. Cl.**
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B65D 25/04 (2006.01)
(Continued)

(57) **ABSTRACT**

An e-vapor apparatus may include a pod assembly and a dispensing body configured to receive the pod assembly. A vaporizer may be disposed in the pod assembly and/or the dispensing body. The pod assembly may include a pre-vapor formulation compartment, a device compartment, and a vapor channel extending from the device compartment and traversing the pre-vapor formulation compartment. The pod assembly is a smart pod configured to receive, store, and transmit information that can be communicated with the dispensing body and/or another electronic device. The proximal portion of the dispensing body includes a vapor passage and a through-hole. The vapor passage may extend from an end surface of the proximal portion to a side wall of the through-hole. The through-hole is configured to receive the pod assembly such that the vapor channel of the pod

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(Continued)

(Continued)



assembly is aligned with the vapor passage of the dispensing body.

26 Claims, 44 Drawing Sheets

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H05B 1/02 (2006.01)
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 CPC *H05B 1/0227* (2013.01); *H05B 1/0297* (2013.01); *H05B 3/12* (2013.01)

(56) **References Cited**

U.S. PATENT DOCUMENTS

D176,226 S 11/1955 Morris
 D217,841 S 6/1970 Bulger et al.
 3,986,516 A 10/1976 Brooks
 3,998,232 A 12/1976 Smith
 4,686,353 A 8/1987 Spector
 D292,324 S 10/1987 Decker et al.
 D301,618 S 6/1989 Barros
 D317,407 S 6/1991 Gray et al.
 D367,608 S 3/1996 Stranders
 D368,552 S 4/1996 Adams
 D373,536 S 9/1996 Kokenge et al.
 5,666,977 A 9/1997 Higgins et al.
 D401,507 S 11/1998 Gonda et al.
 D422,113 S 3/2000 Higgins et al.
 D424,236 S 5/2000 Reed
 D424,739 S 5/2000 Ross
 D433,532 S 11/2000 Higgins et al.
 D433,744 S 11/2000 Basaganas
 D438,459 S 3/2001 Holthaus
 D446,499 S 8/2001 Andre et al.
 D484,806 S 1/2004 Cummings
 D522,272 S 6/2006 Vanhee
 D527,640 S 9/2006 Cummings et al.
 D532,927 S 11/2006 Sann
 D532,972 S 12/2006 Dixon
 D544,956 S 6/2007 Collins et al.
 D546,940 S 7/2007 Collins et al.
 D547,859 S 7/2007 Choi
 D552,230 S 10/2007 Collins et al.
 D552,232 S 10/2007 Collins et al.
 D552,730 S 10/2007 Collins et al.
 D562,761 S 2/2008 Ueda et al.
 D569,794 S 5/2008 Zhang et al.
 D577,150 S 9/2008 Bryman et al.
 D579,544 S 10/2008 Birath et al.
 D579,545 S 10/2008 Birath et al.
 D579,547 S 10/2008 Birath et al.
 D579,549 S 10/2008 Birath et al.
 D588,741 S 3/2009 Murdaugh, III et al.
 7,699,052 B2 4/2010 Schiewe et al.
 D623,129 S 9/2010 Kawakami et al.
 D629,154 S 12/2010 Sung
 D643,807 S 8/2011 Jiang
 D649,708 S 11/2011 Oneil
 D650,520 S 12/2011 Timmermans
 D650,737 S 12/2011 Hamilton
 D654,160 S 2/2012 Yomtov
 8,205,622 B2 6/2012 Pan

D665,346 S 8/2012 Kumagai et al.
 D665,734 S 8/2012 Fitch et al.
 D672,714 S 12/2012 Brandys et al.
 D682,197 S 5/2013 Leung
 D683,626 S 6/2013 Beck et al.
 D686,153 S 7/2013 Qu
 D689,818 S 9/2013 Sasada
 8,550,069 B2 10/2013 Alelov
 D693,053 S 11/2013 Chen
 D694,468 S 11/2013 Chen
 8,689,804 B2 4/2014 Fernando et al.
 8,707,965 B2 4/2014 Newton
 D705,719 S 5/2014 Wong
 8,820,330 B2 9/2014 Bellinger et al.
 D718,492 S 11/2014 Albanese
 D720,094 S 12/2014 Alima
 D720,497 S 12/2014 Alima
 D720,884 S 1/2015 Liu
 D723,215 S 2/2015 Chen
 D723,216 S 2/2015 Chen
 8,955,522 B1 2/2015 Bowen et al.
 D725,310 S 3/2015 Eksouzian
 D725,588 S 3/2015 Iaconis et al.
 8,977,115 B2 3/2015 Penman, Jr.
 D727,566 S 4/2015 Xiao
 D728,855 S 5/2015 Liu
 D729,444 S 5/2015 Leidel
 D729,445 S 5/2015 Leidel
 D730,282 S 5/2015 Miller et al.
 D730,572 S 5/2015 Leidel
 D731,114 S 6/2015 Leidel
 D733,050 S 6/2015 Chiang
 9,072,321 B2 7/2015 Liu
 D736,090 S 8/2015 Kikuchi
 9,095,175 B2 8/2015 Terry et al.
 D738,038 S 9/2015 Smith
 D743,099 S 11/2015 Oglesby
 D748,325 S 1/2016 Leidel
 D750,321 S 2/2016 Chen
 9,247,773 B2 2/2016 Memari et al.
 D751,984 S 3/2016 Lin
 D752,284 S 3/2016 Doster
 D752,286 S 3/2016 Doster
 D753,336 S 4/2016 Chen
 9,301,545 B2 4/2016 Li et al.
 D758,004 S 5/2016 Freshwater et al.
 D758,651 S 6/2016 Wu
 D758,655 S 6/2016 Freshwater et al.
 D758,656 S 6/2016 Freshwater et al.
 D759,303 S 6/2016 Afridi
 D760,429 S 6/2016 Emarlou
 D760,645 S 7/2016 Chen
 D760,948 S 7/2016 Eksouzian
 D761,999 S 7/2016 Liu
 D762,003 S 7/2016 Lomeli
 D764,703 S 8/2016 Liu
 D767,821 S 9/2016 Clark et al.
 D768,068 S 10/2016 Chen
 D769,520 S 10/2016 Hua
 D770,678 S 11/2016 Shin
 D771,308 S 11/2016 Saydar et al.
 D771,867 S 11/2016 Leidel et al.
 D772,477 S 11/2016 Shin
 D772,480 S 11/2016 Hua
 D773,114 S 11/2016 Leidel et al.
 D773,115 S 11/2016 Liu
 D773,116 S 11/2016 Liu et al.
 D774,247 S 12/2016 Chen
 D775,414 S 12/2016 Ampolini et al.
 D775,762 S 1/2017 Chen
 D776,337 S 1/2017 Levin et al.
 D776,338 S 1/2017 Lomeli
 D776,869 S 1/2017 Heidl
 D778,492 S 2/2017 Liu
 D778,493 S 2/2017 Scott
 D779,719 S 2/2017 Qiu
 D780,373 S 2/2017 Bennett et al.

(56)

References Cited

U.S. PATENT DOCUMENTS

D788,362 S	5/2017	Qiu	2014/0096782 A1	4/2014	Ampolini et al.
D788,364 S	5/2017	Chen	2014/0107815 A1	4/2014	LaMothe
D788,697 S	6/2017	Verleur et al.	2014/0123989 A1	5/2014	LaMothe
D790,122 S	6/2017	Hawes et al.	2014/0123990 A1	5/2014	Timmermans
D790,123 S	6/2017	Beer et al.	2014/0144453 A1	5/2014	Capuano et al.
D790,766 S	6/2017	Li	2014/0150785 A1	6/2014	Malik et al.
D792,020 S	7/2017	Mendoza	2014/0157583 A1	6/2014	Ward et al.
D792,021 S	7/2017	Beer et al.	2014/0174459 A1	6/2014	Burstyn
D792,643 S	7/2017	Wong et al.	2014/0190830 A1	7/2014	Sturmer et al.
D792,644 S	7/2017	Jordan et al.	2014/0202474 A1	7/2014	Peleg et al.
D796,112 S	8/2017	Lafferty et al.	2014/0224267 A1	8/2014	Levitz et al.
D799,110 S	10/2017	Qiu	2014/0246035 A1	9/2014	Minskoff et al.
D799,111 S	10/2017	Qiu	2014/0251326 A1	9/2014	Terry et al.
D799,112 S	10/2017	Qiu	2014/0253144 A1	9/2014	Novak, III et al.
D799,113 S	10/2017	Qiu	2014/0261408 A1	9/2014	DePiano et al.
D799,743 S	10/2017	Qiu	2014/0261495 A1	9/2014	Novak, III et al.
D799,744 S	10/2017	Qiu	2014/0270727 A1	9/2014	Ampolini et al.
D799,746 S	10/2017	Leidel et al.	2014/0270730 A1	9/2014	DePiano et al.
D799,748 S	10/2017	Freese	2014/0299137 A1	10/2014	Kieckbusch et al.
D799,749 S	10/2017	Freese	2014/0299141 A1	10/2014	Flick
D800,377 S	10/2017	Liu	2014/0338685 A1	11/2014	Amir
D801,507 S	10/2017	Kelnhofer	2014/0345635 A1	11/2014	Rabinowitz et al.
D802,834 S	11/2017	Mathias et al.	2014/0360517 A1	12/2014	Taggart et al.
D802,839 S	11/2017	Scott	2014/0378790 A1	12/2014	Cohen
9,814,271 B2	11/2017	Goggin et al.	2015/0027455 A1	1/2015	Peleg et al.
D805,685 S	12/2017	Lee	2015/0040929 A1	2/2015	Hon
9,833,021 B2	12/2017	Perez et al.	2015/0053217 A1	2/2015	Steingraber et al.
D806,943 S	1/2018	Liu et al.	2015/0075546 A1	3/2015	Kueny, Sr. et al.
D807,286 S	1/2018	Qiu	2015/0082859 A1	3/2015	Xiang
D807,574 S	1/2018	Hawes et al.	2015/0108019 A1	4/2015	Liu
D807,576 S	1/2018	Liu et al.	2015/0114410 A1	4/2015	Doster
D807,577 S	1/2018	Ward et al.	2015/0128967 A1	5/2015	Robinson et al.
D807,818 S	1/2018	Mathias et al.	2015/0128971 A1	5/2015	Verleur et al.
D808,071 S	1/2018	Folkerts et al.	2015/0136158 A1	5/2015	Stevens et al.
D808,073 S	1/2018	Leidel	2015/0142387 A1	5/2015	Alarcon et al.
D808,791 S	1/2018	Johnston et al.	2015/0164430 A1	6/2015	Hu et al.
D808,792 S	1/2018	Jaggi et al.	2015/0189919 A1	7/2015	Liu
D809,191 S	1/2018	Li	2015/0208729 A1	7/2015	Monsees et al.
D809,192 S	1/2018	Liu et al.	2015/0237917 A1	8/2015	Lord
D814,693 S	4/2018	Qiu	2015/0237918 A1	8/2015	Liu
D815,347 S	4/2018	Jones et al.	2015/0257445 A1	9/2015	Henry, Jr. et al.
D818,636 S	5/2018	Qiu	2015/0282527 A1	10/2015	Henry, Jr.
9,961,940 B2	5/2018	Anderson, Jr. et al.	2015/0313287 A1	11/2015	Verleur et al.
9,968,136 B1	5/2018	Bell	2015/0320116 A1	11/2015	Bleloch et al.
D819,880 S	6/2018	Qiu	2015/0328415 A1	11/2015	Minskoff et al.
D819,882 S	6/2018	Qiu	2015/0351456 A1	12/2015	Johnson et al.
D821,639 S	6/2018	Dai et al.	2015/0374039 A1	12/2015	Zhu
D821,640 S	6/2018	Qiu	2016/0000149 A1	1/2016	Scatterday
2005/0016550 A1	1/2005	Katase	2016/0029698 A1	2/2016	Xiang
2005/0268911 A1	12/2005	Cross et al.	2016/0120218 A1	5/2016	Schennum et al.
2008/0023003 A1	1/2008	Rosenthal	2016/0158782 A1	6/2016	Henry, Jr. et al.
2008/0092912 A1	4/2008	Robinson et al.	2016/0345626 A1	12/2016	Wong et al.
2009/0266358 A1	10/2009	Sacristan Rock et al.	2016/0353805 A1	12/2016	Hawes et al.
2009/0293888 A1	12/2009	Williams et al.	2017/0006918 A1	1/2017	Chen et al.
2011/0011396 A1	1/2011	Fang	2017/0119044 A1	5/2017	Oligschlaeger et al.
2011/0036346 A1	2/2011	Cohen et al.	2017/0208863 A1	7/2017	Davis et al.
2011/0265806 A1	11/2011	Alarcon et al.	2017/0208864 A1	7/2017	Anderson, Jr. et al.
2011/0277760 A1	11/2011	Terry et al.	2017/0215478 A1	8/2017	Harrison et al.
2012/0174914 A1	7/2012	Pirshafiey et al.	2017/0245550 A1	8/2017	Freelander
2012/0318882 A1	12/2012	Abehasera	2017/0290371 A1	10/2017	Davis et al.
2013/0042865 A1	2/2013	Monsees et al.	2017/0360092 A1	12/2017	Althorpe et al.
2013/0081642 A1	4/2013	Safari	2017/0360098 A1	12/2017	Newcomb et al.
2013/0087160 A1	4/2013	Gherghe	2017/0367406 A1	12/2017	Schuler et al.
2013/0167853 A1	7/2013	Liu	2017/0367407 A1	12/2017	Althorpe et al.
2013/0182360 A1	7/2013	Stevens et al.	2017/0369219 A1	12/2017	Bailey et al.
2013/0192615 A1	8/2013	Tucker et al.	2018/0007954 A1	1/2018	Mishra et al.
2013/0213418 A1	8/2013	Tucker et al.	2018/0007967 A1	1/2018	Davis et al.
2013/0220315 A1	8/2013	Conley et al.	2018/0013175 A1	1/2018	Liu
2013/0284192 A1	10/2013	Peleg et al.	2018/0020738 A1	1/2018	Qiu
2013/0298905 A1	11/2013	Levin et al.	2018/0035715 A1	2/2018	Wu
2013/0327327 A1	12/2013	Edwards et al.	2018/0070638 A1	3/2018	Qiu
2013/0340775 A1	12/2013	Juster et al.	2018/0084828 A1	3/2018	Phillips et al.
2013/0341218 A1	12/2013	Liu	2018/0084836 A1	3/2018	Perez et al.
			2018/0098571 A1	4/2018	Watson
			2018/0110943 A1	4/2018	Raichman

(56)

References Cited

U.S. PATENT DOCUMENTS

2018/0153219 A1 6/2018 Verleur et al.
 2018/0160739 A1 6/2018 Chen
 2018/0166238 A1 6/2018 Chen

FOREIGN PATENT DOCUMENTS

CN	303417607	S	6/2017
CN	206413749	U	8/2017
EM	002337410-0013		11/2013
EP	0640297	A1	3/1995
GB	2502164	A	11/2013
JP	1584539	S	8/2017
RU	00104198		7/2017
WO	WO-2013040193	A2	3/2013
WO	WO-2014/060267	A2	4/2014
WO	WO-2014/060269	A1	4/2014
WO	WO-2014/066730	A1	5/2014
WO	WO-2014/095737	A1	6/2014
WO	WO-2014/110119	A1	7/2014
WO	WO-2014/125483	A1	8/2014
WO	WO-2014-144678	A2	9/2014
WO	WO-2014207719	A1	12/2014
WO	WO-2015052513	A2	4/2015
WO	WO-2015/077645	A1	5/2015
WO	WO-2015/131991	A1	9/2015
WO	WO-2015/189556	A1	12/2015
WO	WO-2015/197165	A1	12/2015
WO	WO-2016/100368	A1	6/2016

OTHER PUBLICATIONS

International Search Report dated Jun. 23, 2016, issued in corresponding International Application No. PCT/US2016/028048.

Written Opinion of the International Searching Authority dated Jun. 23, 2016, issued in corresponding International Application No. PCT/US2016/028048.

U.S. Office Action dated Jun. 5, 2017 for copending U.S. Appl. No. 14/998,020.

Viva—retrieved on Sep. 18, 2017 at https://cdn.shopify.com/s/files/1/1203/8500/products/viva-vaporizer-01_large.jpg?v=1480032844.
 ALD—retrived Sep. 18, 2017 at <https://ae01.alicdn.com/kf/HTB1gMOmPFXXXbdXpXXq6xXFXXXR/ALD-AMAZE-dry-herb-vaporizer-font-b-kit-b-font-smoke-herbal-electronic-cigarette-vaporizer-portable.jpg>.

International Search Report and Written Opinion for Application No. PCT/US2016/028048 dated Nov. 2, 2017.

International Search Report and Written Opinion for Application No. PCT/US2016/028048 dated Nov. 2, 2017.

Office Action for corresponding U.S. Appl. No. 14/998,020 dated Dec. 21, 2017.

Office Action for corresponding U.S. Appl. No. 15/334,989 dated Feb. 23, 2018.

Notice of Allowance for corresponding U.S. Appl. No. 15/601,365 dated Mar. 2, 2018.

VaporDNA by VaporDNA dated 2013-2018, found online <https://www.vapordna.com/SMPO-Ultra-Portable-Kit-p/impoup.htm?Click=40939>.

Vype Bye Electronic Tobacconist dated 2018, found online <https://www.electrictobacconist.co.uk/vype-pebble-p7009>.

Notice of Allowance for corresponding U.S. Appl. No. 29/575,887 dated May 3, 2018.

Notice of Allowance for corresponding U.S. Appl. No. 29/575,883 dated May 3, 2018.

Notice of Allowance for corresponding U.S. Appl. No. 15/911,533 dated May 8, 2018.

Non-Final Office Action for corresponding U.S. Appl. No. 15/984,627 dated Jul. 12, 2018.

Notice of Allowance for corresponding U.S. Appl. No. 29/623,426 dated Jul. 19, 2018.

Notice of Allowance for corresponding U.S. Appl. No. 29/623,423 dated Jul. 24, 2018.

Office Action for corresponding U.S. Appl. No. 16/010,934 dated Aug. 7, 2018.

Notice of Allowance dated Aug. 29, 2018 issued in corresponding U.S. Appl. No. 29/575,881.

Office Action dated Sep. 11, 2018 issued in corresponding U.S. Appl. No. 29/575,895.

U.S. Office Action dated Sep. 11, 2018 issued in co-pending U.S. Appl. No. 29/575,895.

U.S. Office Action dated Oct. 4, 2018 for co-pending U.S. Appl. No. 16/111,468.

European Office Action dated Oct. 10, 2018 in corresponding Application No. 18178672.4.

Office Action for corresponding Eurasian Application No. 201792097 dated Apr. 23, 2019 and English translation thereof.

Notice of Allowance for U.S. Appl. No. 16/111,468 dated Apr. 18, 2019.

Eurasian Office Action for corresponding Application No. 201792097 dated May 7, 2019, English translation thereof.

Smokio, <http://www.premiumlifestyle.co.uk/products/smokio-smart-wireless-e-cigarette>, 2014.

Go Electronic Cigarette, "Igo 4Electronic Cigarette," <http://www.electronic-cigarette.ie/Charger-iGO4>, Feb. 19, 2015.

International Search Report and Written Opinion dated Jul. 19, 2016.

International Preliminary Report on Patentability dated Oct. 24, 2017.

Parate, "Designing Efficient and Accurate Behavior-Aware Mobile Systems," Doctoral Dissertations, University of Massachusetts-Amherst, 2014.

International Search Report and Written Opinion dated Mar. 29, 2018.

Office Action for U.S. Appl. No. 15/135,932 dated Mar. 14, 2018.

Office Action for U.S. Appl. No. 15/135,932 dated Sep. 18, 2018.

Notice of Allowance for U.S. Appl. No. 15/135,932 dated Feb. 26, 2019.

Examination Report for European Application No. 16 721 308.1 dated Jul. 9, 2019.

United States Notice of Allowance for corresponding U.S. Appl. No. 16/111,468, dated Jul. 10, 2019.

United States Office Action for U.S. Appl. No. 16/395,614, dated Sep. 17, 2019.

United States Notice of Allowance for U.S. Appl. No. 29/670,492, dated Sep. 30, 2019.

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