

# Exhibit 27



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

(10) **Patent No.:** **US 9,814,265 B2**  
(45) **Date of Patent:** **Nov. 14, 2017**

(54) **PERMEABLE ELECTRIC THERMAL RESISTOR FOIL FOR VAPORIZING FLUIDS FROM SINGLE-USE MOUTHPIECES WITH VAPORIZER MEMBRANES**

(58) **Field of Classification Search**  
CPC ..... A24F 47/00; A24F 47/008; H05B 3/26; H05B 2203/013

(Continued)

(71) Applicant: **PHILIP MORRIS PRODUCTS S.A.**,  
Neuchatel (CH)

(56) **References Cited**

U.S. PATENT DOCUMENTS

(72) Inventors: **Arno Rinker**, Hamburg (DE); **Philipp Litzenberger**, Hamburg (DE)

5,388,594 A 2/1995 Counts et al.  
5,649,554 A 7/1997 Sprinkel et al.

(Continued)

(73) Assignee: **PHILIP MORRIS PRODUCTS S.A.**,  
Neuchatel (CH)

FOREIGN PATENT DOCUMENTS

(\*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 854 days.

CA 2 502 171 C 1/2013  
CN 2244307 Y 1/1997

(Continued)

(21) Appl. No.: **14/344,026**

OTHER PUBLICATIONS

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*Primary Examiner* — Alison L Hindenlang  
*Assistant Examiner* — Mohamed K Ahmed Ali

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(74) *Attorney, Agent, or Firm* — Oblon, McClelland, Maier & Neustadt, L.L.P.

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(57) **ABSTRACT**

(65) **Prior Publication Data**

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A vaporizer device for vaporizing substances is provided, containing active and/or aroma materials, including a mouthpiece with a fluid inlet and a fluid outlet, and including: a heating device with a thermal resistor being a metallic foil or a thin sheet configured as a dual coil and/or sinuous line with two ends and dimensions of the cross-section of a cigarette or a small cigar, wherein the interspaces of the dual coil and/or sinuous line allow fluid flow therethrough, contact tabs are connected to respective opposed ends of the dual coil and/or sinuous line and are not in direct contact with one another, and at least one permeable and wettable vaporizer membrane in large-area contact with the thermal resistor, wherein the thermal resistor and the at least one

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(30) **Foreign Application Priority Data**

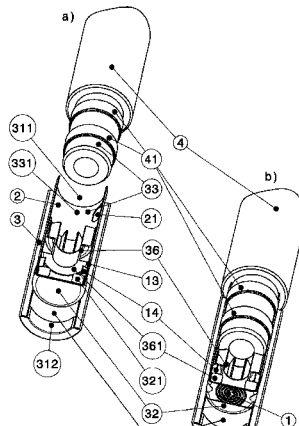
Sep. 28, 2011 (EP) ..... 11183197

(51) **Int. Cl.**

**A24F 47/00** (2006.01)  
**H05B 3/26** (2006.01)

(52) **U.S. Cl.**

CPC ..... **A24F 47/008** (2013.01); **H05B 3/26** (2013.01); **H05B 2203/013** (2013.01)



vaporizer membrane are arranged orthogonally or at an angle to the direction of the fluids passing through the mouthpiece.

17 Claims, 2 Drawing Sheets

(58) Field of Classification Search

USPC ..... 128/202.21, 17; 131/329; 338/294  
See application file for complete search history.

(56)

References Cited

U.S. PATENT DOCUMENTS

5,750,964	A	5/1998	Counts et al.	
2002/0078951	A1*	6/2002	Nichols .....	A61M 11/041 128/200.22
2011/0005535	A1	1/2011	Xiu	
2011/0155153	A1	6/2011	Thorens et al.	
2012/0193343	A1	8/2012	Johnson	

FOREIGN PATENT DOCUMENTS

CN	1575673	A	2/2005
CN	101262786	A	9/2008
DE	1 565 641		2/1970

EP	013046	B1	2/2010
EP	2 260 733		12/2010
EP	2 359 705	A1	8/2011
JP	7-184627	A	7/1995
JP	2012-533313	A	12/2012
JP	2013-516159	A	5/2013
RU	2 360 583	C1	7/2009
WO	WO 2007/042941	A2	4/2007
WO	WO 2009/134164	A1	11/2009
WO	2012 006722		1/2012

OTHER PUBLICATIONS

International Search Report Issued Mar. 28, 2013 in PCT/EP12/069135 Filed Sep. 27, 2012.  
Office Action issued Sep. 21, 2015 in Kazak Patent Application No. 2014/1579.1 (with English language translation).  
Korean Office Action issued Apr. 14, 2016 in Patent Application No. 10-2014-7003526 (with English translation).  
Combined Office Action and Search Report issued Sep. 15, 2015 in Chinese Patent Application No. 201280045111.3 (with English language translation).  
German language International Preliminary Report on Patentability (IPRP) with English translation issued in International application No. PCT/EP2012/069135 (18 pages).

\* cited by examiner

Fig. 1

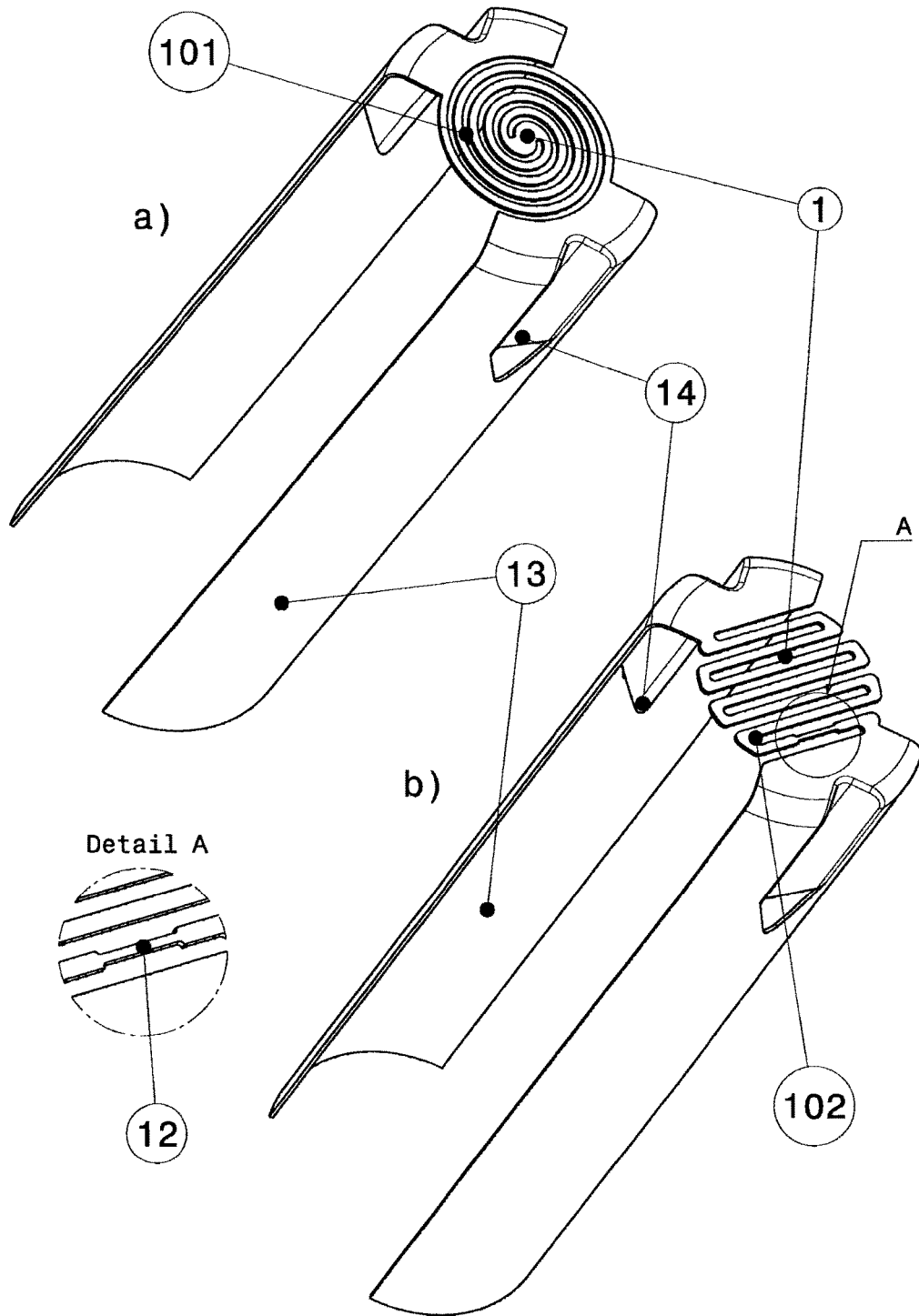
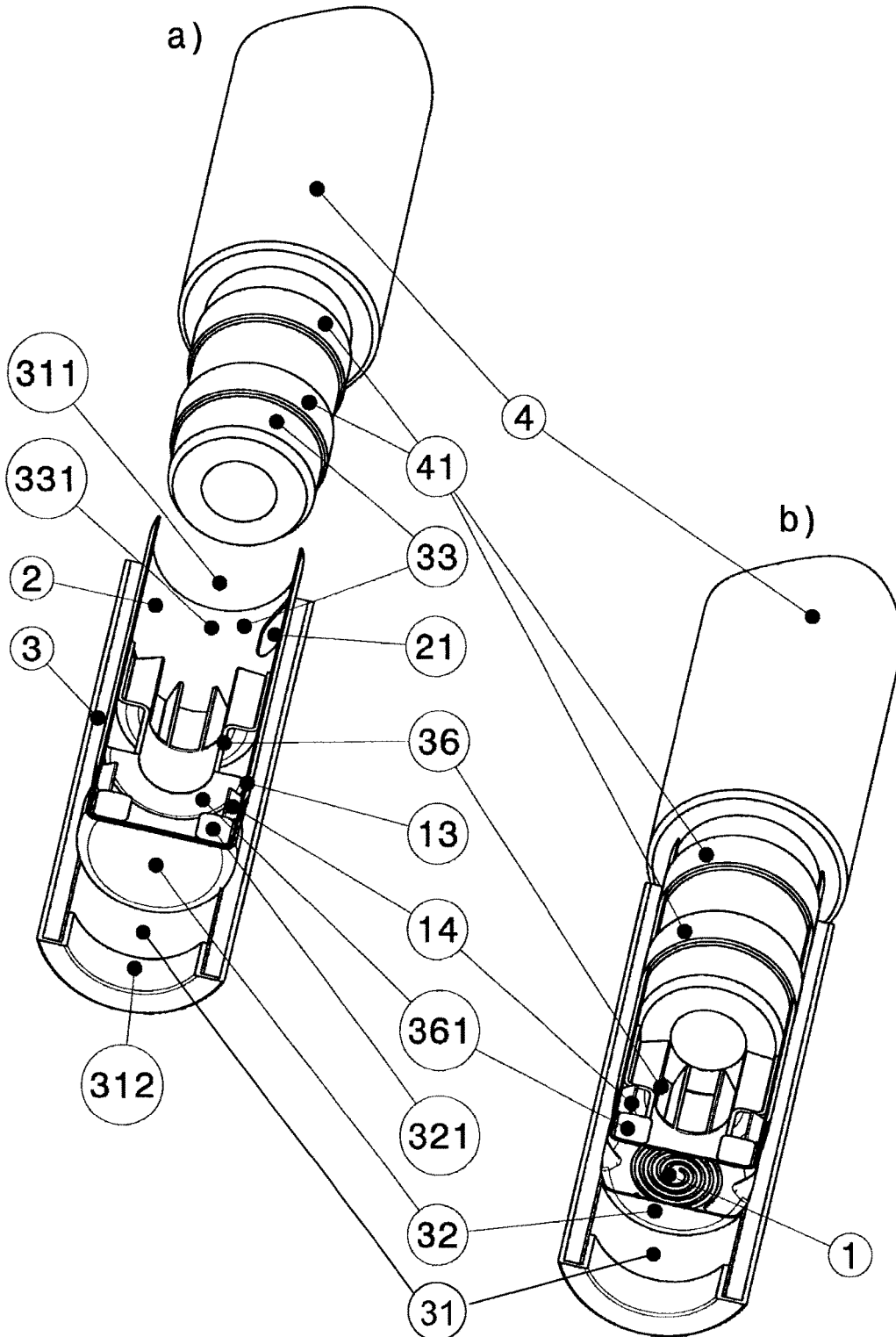


Fig. 2



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