

# EXHIBIT 5



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

(10) **Patent No.:** **US 10,104,911 B2**  
(45) **Date of Patent:** **Oct. 23, 2018**

(54) **AEROSOL GENERATING SYSTEM WITH PREVENTION OF CONDENSATE LEAKAGE**

(58) **Field of Classification Search**  
CPC ..... A61M 16/108; A61M 16/202; A61M 11/041; A61M 15/06; A61M 16/0808;  
(Continued)

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**Flavien Dubief**, Neuchatel (CH)

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(73) Assignee: **Philip Morris Products S.A.**,  
Neuchatel (CH)

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(\* ) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 582 days.

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(21) Appl. No.: **13/990,067**

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(65) **Prior Publication Data**

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(57) **ABSTRACT**

(30) **Foreign Application Priority Data**

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There is provided an aerosol generating system for heating a liquid aerosol-forming substrate. The system includes an aerosol-forming chamber, and a leakage preventer for preventing or reducing leakage of liquid aerosol condensate from the aerosol generating system. The leakage preventer may include one or more of: at least one cavity in a wall of the aerosol-forming chamber, for collecting droplets of condensed liquid aerosol-forming substrate; at least one hooked member for collecting droplets of condensed liquid aerosol-forming substrate; an impactor for disrupting air-flow in the aerosol-forming chamber so as to collect liquid droplets; and a closure member for substantially sealing the

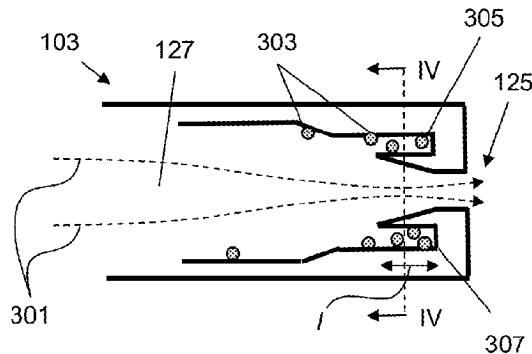
(51) **Int. Cl.**  
**A24F 47/00** (2006.01)  
**A61M 15/06** (2006.01)

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(52) **U.S. Cl.**  
CPC ..... **A24F 47/008** (2013.01); **A61M 11/042** (2014.02); **A61M 15/06** (2013.01);

(Continued)

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aerosol-forming chamber when the aerosol generating system is not in use.

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**13 Claims, 3 Drawing Sheets**

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*A61M 16/20* (2006.01)  
*A61M 11/04* (2006.01)  
*A61M 16/08* (2006.01)  
*A61M 16/00* (2006.01)

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

CPC ..... *A61M 16/108* (2014.02); *A61M 16/202*  
 (2014.02); *A61M 16/0808* (2013.01); *A61M*  
*2016/0024* (2013.01); *A61M 2205/3646*  
 (2013.01)

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 Korean Office Action with English translation dated Feb. 9, 2018 in corresponding Korean Patent Application No. 10-2013-7013271, citing documents AA, AO, and AP therein (13 pages).

(58) **Field of Classification Search**

CPC .. A61M 2016/0024; A61M 2205/3646; A24B 15/165; A24B 15/18; A24F 47/008; A24F 47/002  
 USPC .... 131/194, 198.2, 270, 273, 290, 329, 330, 131/360; 128/202.21  
 See application file for complete search history.

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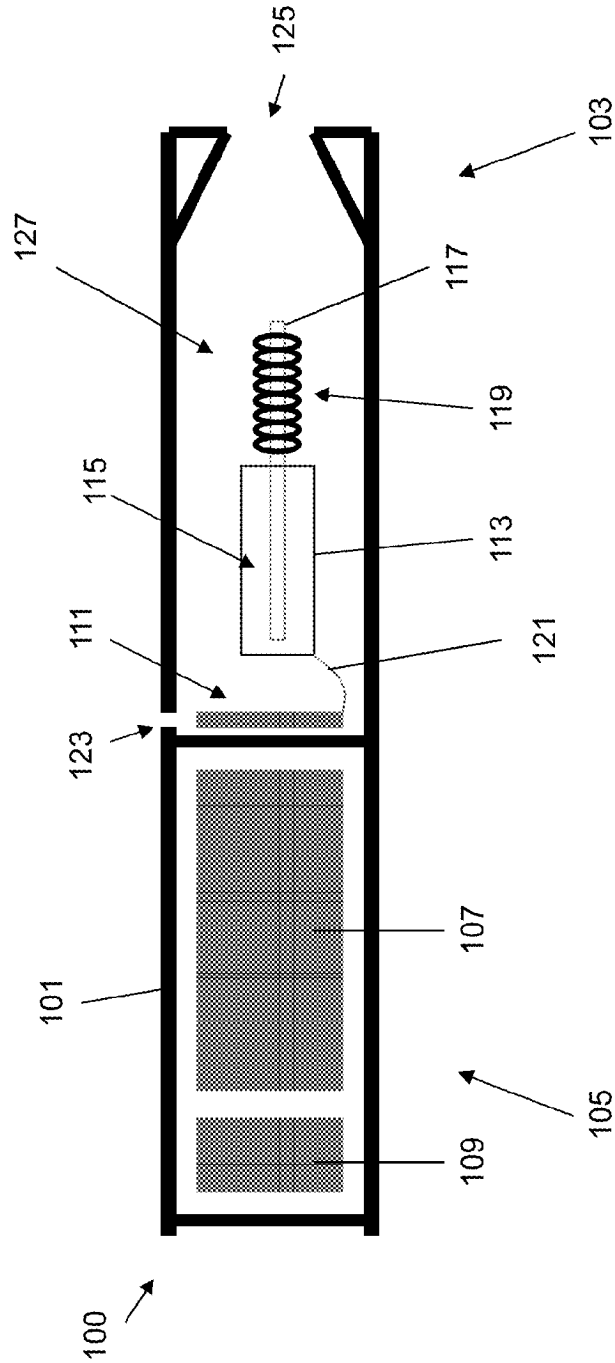
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Figure 1



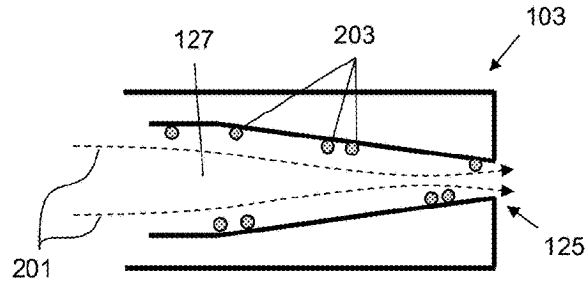


Figure 2

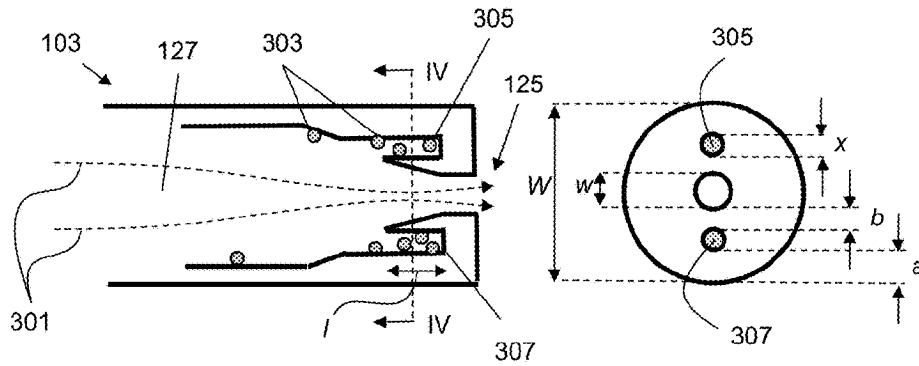


Figure 3

Figure 4

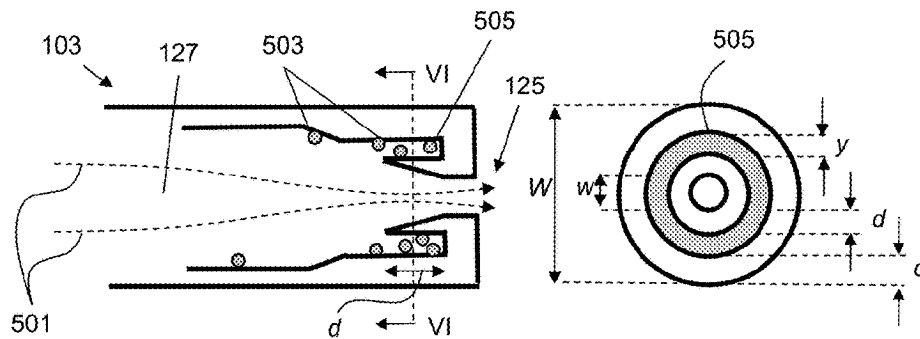


Figure 5

Figure 6

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