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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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*Ex parte* JOHN POWER, DESMOND REGAN, and  
DECLAN MORAN

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Appeal 2018-002136  
Application 12/583,256  
Technology Center 3700

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Before JOHN C. KERINS, BENJAMIN D. M. WOOD, and  
BRETT C. MARTIN, *Administrative Patent Judges*.

WOOD, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellant<sup>1</sup> appeals under 35 U.S.C. § 134 from a rejection of claims 45–53 and 56–62. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

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<sup>1</sup> “Appellant” refers to “applicant” as defined in 37 C.F.R. § 1.42. Appellant identifies the real party in interest as Nektar Therapeutics Corporation. Appeal Brief (“App. Br.”) 1.

## THE INVENTION

The claims are directed to a nebulizer and methods of using a nebulizer to deliver medicament to a respiratory system. Sole independent claim 45, reproduced below, is illustrative of the claimed subject matter:<sup>2</sup>

45. A method of delivering a medicament to a respiratory system, the method comprising:
- [(i)] providing a reservoir for a liquid medicament to be delivered to the respiratory system, the reservoir having an access opening in a wall of an upper portion thereof, a lower medicament outlet and an interior surface, the interior surface of the reservoir being inclined to promote flow of the liquid medicament;
  - [(ii)] providing a cap positioned inline with the reservoir, the cap having:
    - an inlet port provided through the cap;
    - a projecting annular lip suitable for mounting the cap at the access opening;
    - an integral plug for selectively sealing the inlet port to keep the reservoir from receiving the liquid medicament, the plug having a projecting annular shoulder suitable for sealing of the inlet port; and
    - an arm connecting the plug to the cap, the arm being for pivoting the plug between a sealed position and an open position;
  - [(iii)] delivering a volume of the liquid medicament into the reservoir by engaging the cap to force open the plug, inserting a delivery tip of a supply container having at least the volume of liquid medicament therein into the inlet port, and allowing the volume of the liquid medicament to flow through the inlet port to the reservoir without dismounting any parts of the reservoir or cap;

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<sup>2</sup> Claim 45 has been modified to add Appellant's limitation designations.

[(iv)] providing an aerosol generator for aerosolizing the liquid medicament;

[(v)] arranging the aerosol generator beneath the reservoir at the lower medicament outlet of the reservoir for gravitational flow of the liquid medicament from the reservoir to the aerosol generator;

[(vi)] aerosolizing the liquid medicament using the aerosol generator by:

providing an aerosol supply conduit for delivering the aerosolized medicament from the aerosol generator into a gas conduit, wherein the aerosol supply conduit is releasably mounted to the reservoir, and wherein an outlet of the gas conduit is co-axial with an inlet of the gas conduit; and

[(vii)] entraining the aerosolized medicament with a gas in the gas conduit before delivering the aerosolized medicament to the respiratory system; and

[(viii)] delivering the aerosolized medicament to the respiratory system by: providing a respiratory conduit connecting the outlet of the gas conduit to the respiratory system, wherein the respiratory conduit is rotatable about a longitudinal axis of the outlet of the gas conduit to allow positioning of the reservoir; and

[(ix)] maintaining the reservoir at a suitable orientation that enables gravitational flow of liquid medicament from the reservoir to the aerosol generator;

[(x)] wherein the method further comprises coupling the aerosol generator to a ventilator.

#### REFERENCES

Brown	US 3,724,454	Apr. 3, 1973
Buch	US 3,828,773	Aug. 13, 1974
Enfield	US 3,874,379	Apr. 1, 1975
Holever	US 4,240,417	Dec. 23, 1980

Kee	US 5,445,141	Aug. 29, 1995
Hilliard	US 5,586,551	Dec. 24, 1996
Ivri	US 5,758,637	June 2, 1998
Heinonen	US 6,530,370 B1	Mar. 11, 2003
Cise	US 6,612,304 B1	Sept. 2, 2003

#### REJECTIONS

Claims 45–48, 51–53, 56, 57, and 60–62 are rejected under pre-AIA 35 U.S.C. § 103(a) as unpatentable over Heinonen, Buch, Holever, Kee, and Enfield.

Claims 45–48, 51–53, 56, 57, and 60–62 are rejected under pre-AIA 35 U.S.C. § 103(a) as unpatentable over Heinonen, Buch, Holever, Kee, and Cise.

Claim 49 is rejected under pre-AIA 35 U.S.C. § 103(a) as unpatentable over Heinonen, Buch, Holever, Kee, Enfield, and Hilliard.

Claim 50 is rejected under pre-AIA 35 U.S.C. § 103(a) as unpatentable over Heinonen, Buch, Holever, Kee, Enfield, and Brown.

Claims 58 and 59 are rejected under pre-AIA 35 U.S.C. § 103(a) as unpatentable over Heinonen, Buch, Holever, Kee, Enfield, and Ivri.

#### ANALYSIS

*Claims 45–48, 51–53, 56, 57, and 60–62—Rejected as Unpatentable over Heinonen, Buch, Holever, Kee, and Enfield*

Appellant treats claim 45 as representative of the claims subject to this rejection. Br. 8–13. We select claim 45 as representative of these claims and decide the appeal of the rejection of these claims on the basis of claim 45 alone. 37 C.F.R. § 41.37(c)(1)(iv).

The Examiner relies on Heinonen to teach most the elements of claim 45, including providing a reservoir for a liquid medicament, the interior

surface of the reservoir inclined towards an aerosol generator; arranging the aerosol generator beneath the reservoir for gravitational flow of liquid medicament from the reservoir to the aerosol generator; and maintaining the reservoir at a suitable orientation to enable gravitational flow of liquid medicament from the reservoir to the aerosol generator. Final Act. 3–4 (citing Heinonen, 4:52–67, 5:1–5, 10–54, 6:39–65, 7:43–50, Figs. 1–7); Ans. 15 (citing Heinonen, 6:38–50, 7:10–30, 8:60–65, 9:30–36, Figs. 2, 5, 6). The Examiner relies on Buch, Holver, Kee, and Enfield to teach the limitations not found to be taught by Heinonen. Final Act. 4–6.

Appellant first argues that Heinonen’s nebulizer is designed to be “operated in any position,” and therefore does not rely on gravitational flow of liquid from the reservoir to the aerosol generator, as recited in limitations (i), (v), and (ix). Br. 11. This argument is not persuasive of Examiner error. Appellant does not explain why the embodiment depicted in Figure 5 of Heinonen, on which the Examiner specifically relies to teach the claimed gravitational flow of liquid medicament from a reservoir to an aerosol generator (Ans. 15), does not teach this limitation.

Appellant also argues that Heinonen does not teach a reservoir for a liquid medicament. The Examiner relies on internal volume 80, depicted in Figure 2, as corresponding to the claimed reservoir. Final Act. 4. According to Appellant, “because Heinonen’s approach produces a *liquid column* maintained by surface tension, the liquid does not take the shape of its container,” and thus “there is no ‘reservoir of liquid’ in the space between the end of the transport line 32a and rear surface 76 of mesh plate 66.” Again, this argument is not persuasive of Examiner error. Specifically, we

are not persuaded that internal volume 80 is incapable of receiving and holding liquid medicament that takes the shape of this volume.

Appellant also suggests that Heinonen does not teach a reservoir that comprises an interior surface that is inclined to promote flow of liquid medicament. Br. 14. The Examiner relies on the embodiment depicted in Figure 7 to teach this limitation. Ans. 15. We agree with the Examiner that the internal volume shown in Figure 7 comprises an inclined interior surface. Thus, this argument is not persuasive.

Finally, Appellant argues that the Examiner fails to set forth a sufficient reason to modify Heinonen based on the teachings of Buch, Kee, and Holever. Br. 13. We disagree. *See* Final Act. 4–6, Ans. 15–15. Appellant does not explain why the Examiner’s analysis in this regard is erroneous.

#### *Remaining Rejections*

Appellant relies on the arguments above regarding claim 45, which we found to be unpersuasive, to respond to the remaining rejections. Accordingly, we sustain these rejections.

#### DECISION

For the above reasons, the Examiner’s rejections are affirmed. Specifically:

<b>Claim(s) Rejected</b>	<b>Basis</b>	<b>Affirmed</b>	<b>Reversed</b>
45–48, 51–53, 56, 57, 60–62	§ 103, Heinonen, Buch, Holever, Kee, Enfield	45–48, 51–53, 56, 57, 60–62	
45–48, 51–53, 56, 57, 60–62	§ 103, Heinonen, Buch, Holever, Kee, Cise	45–48, 51–53, 56, 57, 60–62	

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<b>Claim(s) Rejected</b>	<b>Basis</b>	<b>Affirmed</b>	<b>Reversed</b>
49	§ 103, Heinonen, Buch, Holever, Kee, Enfield, Hilliard	49	
50	§ 103, Heinonen, Buch, Holever, Kee, Enfield, Brown	50	
58, 59	§ 103, Heinonen, Buch, Holever, Kee, Enfield, Ivri	58, 59	
<b>Overall Outcome</b>		45–53, 56–62	

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). See 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED