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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* MILENKO MASIC, PETER DOYLE, and  
GARDNER KIMM

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Appeal 2015-001359  
Application 13/098,130  
Technology Center 3700

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Before LYNNE H. BROWNE, MITCHELL G. WEATHERLY, and  
LISA M. GUIJT, *Administrative Patent Judges*.

BROWNE, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Milenko Masic et al. (Appellants) appeal under 35 U.S.C. § 134 from the rejection of claims 1–23. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm-in-part.

CLAIMED SUBJECT MATTER

Claim 1, reproduced below, is illustrative of the claimed subject matter:

1. A method for controlling exhalation during ventilation of a patient on a ventilator, the method comprising:
  - determining with a ventilator a plurality of potential pressure profiles for an exhalation that will provide a faster rate of lung emptying for the exhalation than a previously provided rate based on at least one received criterion by a patient being ventilated on a ventilator;
  - selecting a pressure profile for delivery to the patient from the at least one potential pressure profile; and
  - controlling at least one of airway pressure and flow with the ventilator based on the selected pressure profile during the exhalation by the patient.

REFERENCES

The prior art relied upon by the Examiner in rejecting the claims on appeal is:

Gilmore	US 5,931,160	Aug. 3, 1999
Jalde	US 6,564,798 B1	May 20, 2003
Berthon-Jones	US 7,367,337 B2	May 6, 2008
Yurko	US 6,640,806 B2	Nov. 4, 2003
Blanch	US 7,562,657 B2	July 21, 2009

## REJECTIONS<sup>1</sup>

- I. Claims 1, 6–8, 10–14, 16, 19, and 20–23 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Gilmore and Berthon-Jones.
- II. Claims 2 and 15 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Gilmore, Berthon-Jones, and Blanch.
- III. Claims 3–5, 17, and 18 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Gilmore, Berthon-Jones, and Yurko.
- IV. Claim 9 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Gilmore, Berthon-Jones, and Jalde.

## DISCUSSION

### *Rejection I*

#### Claims 1, 6–8, and 10–13

The Examiner finds that Gilmore discloses all of the limitations of independent claim 1 except for “a potential pressure profile that will provide a faster rate of lung empty than a previously provided rate.” *See* Final Act.

6–7. The Examiner further finds that

Berthon-Jones, in fig 1 teaches a method of ventilating a patient in which a criterion to determine a pressure profile is a function  $\Pi(\Phi)$  which is a decaying exponential with a time constant that decreases as K increases (col 5, ln 45–col 6, ln 25), which provides a faster rate of lung empty than a previously provided rate as K decreases from 1.0 to 0.0 for more efficient ventilation (col 5, ln 36–44).

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<sup>1</sup> The rejection of claims 22 and 23 under 35 U.S.C. § 112(b) and the rejection of claim 21 under 35 U.S.C. § 101 are withdrawn by the Examiner. *See* Ans. 14–16.

*Id.* at 7. Based on these findings, the Examiner determines that it would have been obvious

to modify the method of Gilmore by using as a criterion to determine a pressure profile a decaying exponential function  $\Pi(\Phi)$  to provide a profile with a faster rate of lung empty[ing] than a previously provided rate as taught by Berthon-Jones in order to create a more efficient pressure profile for ventilation when needed by a user (col 3, ln 6–10).

*Id.*

Appellants argue that “Berthon-Jones discloses adjusting a pressure profile to adjust the degree of support provided to the patient. Berthon-Jones does not teach or disclose determining a plurality of pressure profiles to provide a faster rate of lung emptying.” Appeal Br. 23.

In response to this argument, the Examiner explains that

Berthon-Jones also teaches that a gradual decay in the expiratory cycle maintains a high lung volume for a longer period of time rather than an instantaneous drop to zero (Berthon-Jones, col 5, ln 6–12). Therefore, a sudden decrease in pressure in the expiratory cycle would provide a faster rate of lung emptying than a gradual decay, with lower values of K (least smooth, most square) corresponding to pressure profiles that provide a faster rate of lung emptying than higher values of K (most smooth) (Berthon-Jones, col 5, ln 22–34).

Ans. 17. Although, it may be true that selection of one of Berthon-Jones’ pressure profiles with a lower K value might result in a faster rate of lung emptying, the Examiner does not explain why one skilled in the art would make such a selection. Further, the Examiner does not identify where Berthon-Jones teaches making such selection to “provide a faster rate of lung emptying . . . *than a previously provided rate*” as required by claim 1. Appeal Br. 39.

Claim 1 is a method claim. Although, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function (*see, e.g., In re Schreiber*, 128 F.3d 1473, 1477–78 (Fed. Cir. 1997)), the same is not true for method claims. Claim 1 requires “determining with a ventilator a plurality of potential pressure profiles for an exhalation that will provide a faster rate of lung emptying for the exhalation than a previously provided rate based on at least one received criterion by a patient being ventilated on a ventilator.” Appeal Br. 39. In other words, claim 1 requires that the profiles be determined based on an ability to provide a faster rate of lung emptying than a prior profile for the same patient. As noted by Appellants, Berthon-Jones determines the profiles to adjust the degree of support provided to the patient. Appeal Br. 23; *See also* Berthon-Jones 2:49–63. Thus, Berthon-Jones does not teach this step of claim 1.

For this reason, we do not sustain the Examiner decision rejecting independent claim 1, and claims 6–8 and 10–13, which depend therefrom.  
Claims 14, 16, 19 and 20

Independent claim 14, in a manner similar to claim 1, requires “modifying the pressure profile for an exhalation to provide a faster rate of lung emptying during the exhalation than a previously provided rate based at least in part on the monitored at least one parameter.” Appeal Br. 41. Regarding the teachings of Berthon-Jones, the Examiner’s rejection of independent claim 14 is substantially the same as the rejection of claim 1 discussed *supra*. *See* Final Act. 10. This rejection is also deficient for the reasons discussed *supra*. Accordingly, we do not sustain the Examiner’s

decision rejecting independent claim 14, and claims 16, 19, and 20, which depend therefrom.

Claim 21

Claim 21 similarly requires

a pressure profile module that determines at least one potential pressure profile for an exhalation based on at least one received criterion to provide a faster rate of lung emptying for the exhalation than a previously provided rate by a patient being ventilated on a ventilator and selects a pressure profile for delivery to the patient from the at least one potential pressure profile to provide the fastest rate of lung emptying.

Appeal Br. 42. Regarding the teachings of Berthon-Jones, the Examiner's rejection of independent claim 21 is substantially the same as the rejection of claim 1 discussed *supra*. See Final Act. 11–12. Accordingly, we do not sustain the Examiner's decision rejecting claim 21 for the reasons discussed *supra*.

Claims 22 and 23

Claims 22 and 23 are apparatus claims which require “means for selecting a pressure profile for delivery to the patient from the plurality of potential pressure profiles to provide a faster rate of lung emptying than a previously provided rate” and “means for modifying the pressure profile for an exhalation based at least in part on the monitored at least one parameter to provide a faster rate of lung emptying for the exhalation than a previously provided rate.” Appeal Br 42, 43. The Specification identifies the means corresponding to these limitations as modules used by a generic controller 110. See, e.g., Spec 5. The Specification does not indicate that controller 110 is a specialized controller.

Appellants contend that “Berthon-Jones does not teach or disclose means for determining a pressure profile that provides for a faster rate of lung emptying” or “means for modifying a pressure profile to provide a faster rate of lung emptying.” Appeal Br. 30, 33. However, as discussed *supra*, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function.

The Examiner correctly finds (*see* Final Act. 12–13) that Berthon-Jones teaches a processor with modules for selecting pressure profiles. *See, e.g.*, Berthon-Jones 7:22–48. Thus, Berthon-Jones teaches the means set forth in these limitations. Accordingly, Appellants’ arguments are not persuasive.

We sustain the Examiner’s decision rejecting claims 22 and 23.

*Rejections II–IV*

The rejection of claims 2–5, 9, 15, 17, and 18 rely upon the same erroneous finding with respect to Berthon-Jones discussed *supra*. Accordingly, we do not sustain the Examiner’s decision rejecting these claims.

DECISION

The Examiner’s rejections of claims 1–21 are REVERSED.

The Examiner’s rejection of claims 22 and 23 is AFFIRMED.

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).

Appeal 2015-001359  
Application 13/098,130

AFFIRMED-IN-PART