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katelyn.mulroy@philips.com
marianne.fox@philips.com
patti.demichele@Philips.com

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte NATHAN JOHN BERRY ANN and
WILLIAM ANTHONY TRUSCHEL

Appeal 2019-000264
Application 14/422,012
Technology Center 3700

Before JOHN C. KERINS, MICHAEL L. WOODS and
ARTHUR M. PESLAK, *Administrative Patent Judges*.

KERINS, *Administrative Patent Judge*.

DECISION ON APPEAL

Pursuant to 35 U.S.C. § 134(a), Appellant appeals from the Examiner's decision to reject claims 1, 3–6, 8–11, and 13–24.¹ We have jurisdiction under 35 U.S.C. § 6(b).

We REVERSE.

¹ The term “Appellant” is used herein to refer to “applicant” as defined in 37 C.F.R. § 1.42. Appellant identifies Koninklijke Philips N.V. as the real party in interest. Appeal Br. 2.

THE CLAIMED SUBJECT MATTER

Appellant's invention relates to a ventilator, and associated method and system. Claim 1 is illustrative, and is reproduced below:

1. A ventilator comprising:

a pressure generator configured to generate a flow of breathable gas for delivery to an airway of a subject;

a patient interface assembly configured to convey the flow of breathable gas from the pressure generator to the airway of the subject;

a sensor configured to generate output signals conveying information related to a first dynamic property of the flow of breathable gas;

a processor configured to execute computer program modules, the computer program modules comprising:

a control module configured to control the pressure generator to adjust a second dynamic property of the flow of breathable gas over time in accordance with a therapy regime;

a property determination module configured to determine measured values of the first dynamic property of the flow of breathable gas during respiration of the subject such that measured values of the first dynamic property are determined for individual points of time in an ongoing manner;

a model parameter module configured to determine, for individual periods of time, parameter values for a model parameter of a model that provides a predicted value of the first dynamic property at a point in time as a function of the second dynamic property at the same point in time, wherein the model parameter module is configured to determine a parameter value for the model parameter

during a given period of time by fitting predicted values of the first dynamic property to measured values of the first dynamic property for points of time that occurred in the given period of time; and

a disconnect detection module configured to determine whether the airway of the subject is engaged with the patient interface assembly to receive the flow of breathable gas based on the fitting of the predicted values of the first dynamic property to the measured values of the first dynamic property.

THE REJECTIONS

The Examiner rejects:

(i) claims 1, 3–6, 8–11, and 13–15 under 35 U.S.C. § 102(b) as being anticipated by Jafari (US 2010/0147303 A1, published June 17, 2010); and

(ii) claims 16–24 under 35 U.S.C. § 103 as being unpatentable over Jafari in view of Mathews (US 2006/0000475 A1, published Jan. 5, 2006).

ANALYSIS

Claims 1, 3–6, 8–11, and 13–15--Anticipation by Jafari

The issue joined in the appeal of this anticipation rejection is whether or not Jafari discloses a “fitting of the predicted values of the first dynamic property to the measured values of the first dynamic property,” which pertains to the following claim limitations found in claim 1:

. . . wherein the model parameter module is configured to determine a parameter value for the model parameter during a given period of time *by fitting predicted values of the first dynamic property to measured values of the first dynamic property for points of time that occurred in the given period of time*; and
a disconnect detection module configured to *determine whether the airway of the subject is engaged with the patient interface*

assembly to receive the flow of breathable gas based on the fitting of the predicted values of the first dynamic property to the measured values of the first dynamic property.

Appeal Br. 19 (Claims Appendix). Independent claims 6 and 11 include similarly-worded limitations.

The Examiner finds that the “fitting” operation is disclosed in paragraphs 59 and 61 of Jafari, and that the determination of airway engagement based on that “fitting” is disclosed in one or more of paragraphs 51, 52, 53, 57, 59, and 69. Final Act. 6. As to the latter, the Examiner explains that the disclosed operation of determining if an actual leak exceeds a calculated maximum leak is seen as meeting the determination step. *Id.*

Appellant’s position is that Jafari determines a disengaged condition by merely comparing a calculated individual actual leak value to a calculated individual maximum leak value, which, according to Appellant, does not involve a fitting of measured values of a parameter to predicted values of that parameter at plural points over a given period of time but rather involves “[i]ntegrating an equation over a breath (e.g., a given period of time) convert[ing] a set of values into a single value” and “two single values . . . are compared to determine the disconnect condition.” Appeal Br. 9, 11–12.

In response, the Examiner takes the position that, based on the fact that no special definition or limiting language appears in the Specification for the term “fitting,” a broadest reasonable interpretation of the term encompasses a comparison of two values. Ans. 2. The Examiner repeats the position that Jafari compares an actual leak value to a calculated maximum leak value to determine if the former exceeds

the latter, and that “[t]his comparison of [two] values over time reads on the limitation of fitting.” *Id.* at 3.

Appellant replies that the term “fitting,” or variants such as “fit,” are consistently used in the context of “determining a mathematical function that describes or is fitted to data points over a given time period.” Reply Br. 3. Appellant also directs our attention to the Specification as contrasting the claimed “fitting” to a simple comparison of two values to one another. *Id.* at 3–4. Most telling is a quote from paragraph 37 of the Specification (identified in the Reply Brief as paragraph 39), which reads, “[i]n some implementations, rather than looking directly at the fit between the measured and predicted values, disconnect detection module 38 may look at the parameter values determined during the periods of time.” *Id.* at 4 (emphasis omitted). The Specification provides, as an example of looking at the parameter values instead of to the outcome of the fitting operation, that the disengagement determination “may be made by comparing [a particular] parameter to a threshold.” Spec. ¶ 38.

Appellant has the better position. A “fitting,” in accordance with Appellant’s disclosure, is different from a simple point-by-point comparison. Although we appreciate that the Examiner, as noted above, takes into account a comparing of two values “over time,” in reference to Jafari, that goes no further than a showing that the same type of one-to-one comparison of values is repeated over the course of the ventilation therapy regime. There is no indication that a plurality of predicted and measured values of a property occurring in a given period of time are fitted or characterized by a particular mathematical function.

The rejection of claims 1, 3–6, 8–11, and 13–15 as being anticipated by Jafari is not sustained.

Claims 16–24--Unpatentability over Jafari and Mathews

The Examiner does not rely on Mathews in any manner that overcomes the basic deficiency in the disclosure of Jafari, discussed above. In that each of claims 16–24 depends directly or indirectly from an independent claim rejected as anticipated by Jafari, the obviousness rejection over Jafari in view of Mathews is not sustained.²

CONCLUSION

The rejection of claims 1, 3–6, 8–11, and 13–15 under 35 U.S.C. § 102(b) is reversed.

The rejection of claims 16–24 under 35 U.S.C. § 103(a) is reversed.

DECISION SUMMARY

In summary:

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
1, 3–6, 8–11, 13–15	§ 102(b)	Jafari		1, 3–6, 8–11, 13–15
16–24	§ 103(a)	Jafari, Mathews		16–24

² Claims 22–24, according to their presentation in the Claims Appendix, depend from claim 12, which is indicated in the Claims Appendix as cancelled. Accordingly, claims 22–24 appear to be of improper form, and corrective action is recommended subsequent to this Appeal.

Appeal 2019-000264
Application 14/422,012

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
Overall Outcome				1, 3-6, 8-11, 13-24

REVERSED