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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* LARA MARIE BREWER  
and JOSEPH ALLEN ORR

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Appeal 2020-001406  
Application 14/366,014  
Technology Center 3700

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Before DANIEL S. SONG, CHARLES N. GREENHUT, and  
MICHAEL J. FITZPATRICK, *Administrative Patent Judges*.

GREENHUT, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Pursuant to 35 U.S.C. § 134(a), Appellant appeals from the  
Examiner’s decision to reject claims 1–3, 6–8, 10–13, 15–19.<sup>1</sup> *See* Final Act.

1. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

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<sup>1</sup> We use the term “Appellant” 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. 1.

### CLAIMED SUBJECT MATTER

The claims are directed to a method and apparatus for monitoring and controlling a pressure support device. Claim 1, reproduced below, is illustrative of the claimed subject matter:

1. A respiration monitoring system, comprising:

one or more gas parameter sensors configured to generate output signals conveying information related to one or more gas parameters in a respiratory circuit, wherein the respiratory circuit comprises a subject interface appliance configured to communicate with the airway of a subject; and

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

a breathing parameter module configured to determine breathing parameters of the respiration of the subject based on the output signals, the breathing parameters comprising (i) a first parameter related to breath length, and (ii) a second parameter related to end tidal carbon dioxide;

a respiratory rate monitor module configured to determine, in an ongoing manner, a respiratory rate metric based on a comparison of the first parameter for a first set of breaths by the subject with the first parameter for a first subset of one or more breaths, wherein the one or more breaths in the first subset of one or more breaths are also in the first set of breaths by the subject;

an apnea monitor module configured to determine, in an ongoing manner based on the output signals, an apnea metric that represents whether the subject is currently experiencing an apnea, and, responsive to the subject currently experiencing an apnea, a severity and/or duration of the apnea;

an end tidal carbon dioxide monitor module configured to determine, in an ongoing manner, an end tidal carbon dioxide metric based on a comparison of the second parameter for a second set of breaths by the subject with the second parameter for a second subset of one or more breaths, wherein the one or more breaths in the second subset of one or more breaths are also in the second set of breaths by the subject;

a ventilation index module configured to determine, in an ongoing manner, a ventilation index for the subject by inputting

inputs including the respiratory rate metric, the apnea metric, and the end tidal carbon dioxide metric into a lookup table mapping the inputs to a value of the ventilation index, such that the ventilation index at a given time represents respiratory stability and/or effectiveness for the subject at the given time; and

an alarm module configured to compare the ventilation index with a score threshold and to generate, based on the comparison, alarms that indicate instability in the respiration of the subject, an interface being controlled by the processor to generate the alarm.

Appeal Br. 18–19, Claims App.

### REJECTIONS

Claims 1–3, 6–8, 10–13, and 15–19 are rejected under 35 U.S.C. § 112(a) or 35 U.S.C. § 112 (pre-AIA), first paragraph, as failing to comply with the written description requirement. Final Act. 3–4.

Claims 1–3, 6–8, 10–13, and 15–19 are rejected under 35 U.S.C. § 101 because the claimed invention is directed to an abstract idea. Final Act. 4–5.

### OPINION

The claims are argued as a group, for which we will select claim 1<sup>2</sup> as representative under 47 C.F.R. § 41.37(c)(1)(iv) for purposes of analyzing both rejections.

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<sup>2</sup> It is noted that claim 11, by virtue of reciting “means” for accomplishing particular functions, supported in the Specification only by “modules” for performing those same functions, may raise additional issue under *Aristocrat Tech. Australia Pty Ltd. v. Int’l Game Tech.*, 521 F.3d 1328, 1333 (Fed. Cir. 2008). Such issues are not developed in the record presently before us. Although the Board is authorized to reject claims under 37 C.F.R. §

*Written Description*

The written description requirement serves an important role in ensuring a patentee's right to exclude is commensurate with the patentee's contribution to the art—the so called quid pro quo of the patent grant. *See* MPEP § 2162.

With regard to the written description requirement, the Examiner found:

The [S]pecification [] does not provide details on how to use [the recited] metrics to determine an index. In paragraph 33 of the specification filed 6/17/2014 [], the ventilation index is described as “determined according to one or more mathematical algorithms using numerical metrics as inputs” and “from a look-up table that uses appropriate metrics as inputs.” The [S]pecification provides no additional details on the mathematical algorithm or the look-up table. For computer implemented functional claims, the [S]pecification must disclose the necessary hardware and algorithm to perform the claimed function in sufficient detail (see MPEP 2161.01).<sup>[3]</sup> Without details how the metrics are used together to determine the ventilation index. [sic] Thus, the specification fails to comply with the written description requirement.

Final Act. 4.

Indeed, paragraph 33 of the Specification indicates a ventilation index is determined based on the recited metrics, but gives little guidance as to how to actually make that determination based on those metrics other than

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41.50(b), no inference should be drawn when the Board elects not to do so. See MPEP § 1213.02.

<sup>3</sup> *See also Examining Computer-Implemented Functional Claim Limitations for Compliance With 35 U.S.C. 112*, Fed. Reg. Vol. 84, No. 4 (Jan. 7, 2019)

indicating a type of look-up table or mathematical algorithm could be employed. No specific lookup table or mathematical equation or algorithm that could be used to define such a lookup table or to calculate a ventilation index, is defined anywhere in Appellant's Specification.

Appellant responds by arguing the purportedly missing descriptive content relates to subject matter well-known in the art and submits evidence purporting to demonstrate that in the form of a web page allowing a user to calculate a ventilation index. App. Br. 9–13. Appellant is certainly allowed to rely on common knowledge in the art for satisfaction of the written description requirement. *See, e.g., LizardTech, Inc. v. Earth Resource Mapping, Inc.* 424 F.3d 1336, 1345-47 (Fed. Cir. 2005) (“[T]he patent specification is written for a person of skill in the art, and such a person comes to the patent with the knowledge of what has come before. Placed in that context, it is unnecessary to spell out every detail of the invention in the specification; only enough must be included to convince a person of skill in the art that the inventor possessed the invention.”) (citations omitted). Here, however, the Examiner, after conducting a prior-art search concluded that it was *not* known in the art how to derive the ventilation index based on the recited parameters, which include: a breathing parameter, a repertory rate, an apnea metric, and an end tidal carbon dioxide metric. Appellant is free to disagree with this assessment by the Examiner. However, in such case, Appellant is in the best position to provide evidence as to what was, in fact, known in the art at the time of filing.

The web page provided by Appellant seems to take, as inputs, ventilator respiratory rate, peak inspiratory pressure, positive end-expiratory

pressure, and some form of CO<sub>2</sub> pressure.<sup>4</sup> The Examiner correctly points out, first, these are not the same inputs as those recited by Appellant, and second, an equation *is* provided which *actually teaches* how the ventilation index is derived based on these inputs—something Appellant’s Specification lacks. Ans. 3–5. With regard to the inputs, at least the apnea metric is missing in the web page provided. Ans. 5. Appellant apparently misunderstands the Examiner’s position with regard to the equation because Appellant argues that, contrary to the Examiner’s determination, the web page *does* specify an equation. Reply. Br. 3. That was the point the Examiner was trying to make: the Examiner cited the equation to *contrast* the web page, which actually teaches how the ventilation index is derived based on the indicated parameters, to Appellant’s Specification, which does not teach how to derive the ventilation index based on the recited parameters. Appellant thus provides no meaningful response on this point. The web page provided by Appellant clearly does not support Appellant’s position that it was known in the art how to calculate a ventilation index based on parameters different from those shown in the web page. The web page is the only concrete evidence Appellant provides as to the knowledge of one skilled in the art at the time of invention. However, because the ventilation index calculation demonstrated by the web page is based on different parameters than those recited in Appellant’s claims, the web page is of little probative value.

For the foregoing reasons we sustain the Examiner’s rejection based on the inadequacy of the written description.

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<sup>4</sup> The best available copy of the web page in the record before us is not perfectly legible.

*Eligibility*

In *Gottschalk v. Benson*, 409 U.S. 63, 67 (1972), the Court, (citing *O'Reilly v. Morse* 56 U.S. 62 (1853)), cautioned that a claim “so abstract and sweeping as to cover both known and unknown uses” is not directed to patent-eligible subject matter under 35 U.S.C. § 101. *Gottschalk v. Benson*, 409 US at 68. In *Alice Corp. Pty. Ltd. v. CLS Bank Intern.*, 134 S.Ct. 2347 (2014) the Supreme Court reaffirmed this principle:

We have long held that this provision contains an important implicit exception: Laws of nature, natural phenomena, and abstract ideas are not patentable. We have interpreted § 101 and its predecessors in light of this exception for more than 150 years. We have described the concern that drives this exclusionary principle as one of pre-emption. Laws of nature, natural phenomena, and abstract ideas are ‘the basic tools of scientific and technological work. [M]onopolization of those tools through the grant of a patent might tend to impede innovation more than it would tend to promote it, thereby thwarting the primary object of the patent laws. We have repeatedly emphasized this concern that patent law not inhibit further discovery by improperly tying up the future use of these building blocks of human ingenuity.

*Alice*, 134 S.Ct. at 2354 (citations omitted).The Examiner considers claim 1 to be directed to the collection and analysis of data, a mathematical algorithm, without practical application and we agree.<sup>5</sup> Final Act. 4–5. A

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<sup>5</sup> The Examiner’s alternate rationale, that the process can be performed in the human mind is noted. Ans. 6. We are mindful that if a claim, under its broadest reasonable interpretation, covers performance in the mind but for the recitation of generic computer components, then it is still in the mental processes category unless the claim cannot practically be performed in the mind. However, we do not find within the Examiner’s analysis sufficient explanation as to which steps could be performed mentally and how, and for those steps, if any that could not be performed mentally why they are



mathematical algorithm need not recite any specific equation or formula to be considered ineligible under 35 U.S.C. § 101. App. Br 14–15; *see also*, e.g., *Bancorp Servs. v. Sun Life Assurance*, 687 F.3d 1266, 1280 (Fed. Cir. 2012). Here a number of abstract parameters with no definitive criteria or limitation are recited and, as discussed above, are used in some undefined and nonspecific way to come up with a ventilation index. For example, the “breathing parameter module” is configured to determine by any means and with any device “breathing parameters,” a first of which can have any conceivable relationship to “breath length,” a second of which can have any conceivable relationship to “end tidal carbon dioxide.” The only restriction on the derivation of the breathing parameters is that the breathing parameter determination must be “based on output signals [from the gas sensors].” Spec ¶ 32. However, those “output signals” themselves need only convey information related in any conceivable way to any conceivable “gas parameter” in a “respiratory circuit.” *Id.* The rest of the claim limitations follow essentially the same pattern. There is nothing practical about merely reciting results that can be achieved by any known or unknown devices in any known or unknown way. The abstractness of this claim and its potential preemptive effect are clear and unmistakable.

We agree with the Examiner that the sensors for acquiring and transmitting some nonspecific data and the alarm generated according to some nonspecific criteria mount to pre- and post-solution activity, respectively. Ans. 7; *see also* MPEP 2106.05(g) and cases cited therein.

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conventional. Accordingly, we rely only on the Examiner’s determination that the claim is directed to a mathematical algorithm. Final Act. 4; *see also* Ans. 6.

Appellant argues that the Examiner improperly considered the conventionality of the sensor and alarm arrangements in concluding they do not integrate the claimed subject matter into a practical application. Reply.

Br. 4. According to page 54 of the cited guidance Examiners are instructed:

if an examiner had previously concluded under revised Step 2A that, e.g., an additional element was insignificant extra-solution activity, they should reevaluate that conclusion in Step 2B. If such reevaluation indicates that the element is unconventional or otherwise more than what is well-understood, routine, conventional activity in the field, this finding may indicate that an inventive concept is present and that the claim is thus eligible.

Fed. Reg. Vol. 84, No. 4, 54.

Under this guidance, there is nothing improper about the Examiner considering both the practicality and conventionality of subject matter characterized as insignificant extra-solution activity. However, Appellant correctly points out that a determination of conventionality does not necessarily support the conclusion of the absence of practicality as the Examiner's wording appears to suggest; they are separate inquiries. Although the Examiner's wording could have been clearer and more consistent with the aforementioned guidance, Appellant's argument essentially attacks the precise wording chosen by the Examiner as opposed to the substance of the Examiner's determination. To the extent conventionality was not a factor that should have been considered by the Examiner in determining the absence of a practical application, we do not think it impacted the Examiner's ultimate conclusion because the Examiner cited the correct and relevant section of the MPEP, § 2106.05(b) (as opposed to § 2106.05 (d)) with regard to generic data gathering means and steps not causing claimed subject matter to be integrated in to a practical

application—this was the crux of the Examiner’s point.<sup>6</sup> We do not see how that changes, or how Appellant was harmed by, the Examiner’s statement seemingly inconsistent with the guidance and the MPEP. We recognize that the MPEP sets forth Office policy upon which applicants are entitled to rely. *See In re Kaghan*, 387 F.2d 398, 401 (1967). However, the MPEP “does not have the force of law or the force of the rules of Title 37 of the Code of Federal Regulations.” MPEP Foreword. Appellant does not cite, and we are unaware of, any precedent that Examiner error warranting reversal on the grounds specified by the Examiner is demonstrated simply by showing the Examiner made a statement that did not strictly adhere to the specific language used in the MPEP or PTO guidance.

#### DECISION

For the foregoing reasons we sustain the Examiner’s rejection under § 101. The Examiner’s rejections are affirmed.

#### CONCLUSION SUMMARY

In summary:

<b>Claim(s) Rejected</b>	<b>35 U.S.C. §</b>	<b>Reference(s)/Basis</b>	<b>Affirmed</b>	<b>Reversed</b>
1–3, 6–8, 10–13, 15– 19	112	Written Description	1–3, 6–8, 10–13, 15– 19	
1–3, 6–8, 10–13, 15– 19	101	Eligibility	1–3, 6–8, 10–13, 15– 19	
<b>Overall Outcome</b>			1–3, 6–8, 10–13, 15– 19	

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<sup>6</sup> This is also discussed at MPEP § 2106.05(g)

Appeal 2020-001406  
Application 14/366,014

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