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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte MICHAEL L. LEHRMAN, SHUN-YONG ZINN, and
MICHAEL D. HALLECK

Appeal 2018-003859
Application 14/294,024
Technology Center 3700

Before STEFAN STAICOVICI, BRETT C. MARTIN, and
RICHARD H. MARSCHALL, *Administrative Patent Judges*.

STAICOVICI, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellant¹ appeals under 35 U.S.C. § 134(a) from the Examiner's decision in the Final Office Action (dated July 29, 2016, hereinafter "Final Act.") rejecting claims 1–3, 5–9, 11, 12, 21–23, and 25–31.² We have jurisdiction over this appeal under 35 U.S.C. § 6(b).

¹ We use the word "Appellant" to refer to "applicant" as defined in 37 C.F.R. § 1.42. Sleep Methods, Inc. is identified as the real party in interest in Appellant's Appeal Brief (filed Aug. 3, 2017, hereinafter "Appeal Br."). Appeal Br. 2.

² Claims 4, 10, 13–20, and 24 are canceled. *See* Appeal Br. 28, 31, 32, 34 (Claims App.).

SUMMARY OF DECISION

We AFFIRM.

INVENTION

Appellant's invention relates "to systems and methods for anticipating the onset of an obstructive sleep apnea event." Spec. para. 2.

Claims 1, 5, 7, 11, 21, and 25 are independent. Claim 1 is illustrative of the claimed invention and is reproduced below (with reference indicators added in brackets):

1. A method for detecting a general breathing event, the method comprising:
 - [i] receiving a plurality of signals from at least one sensing device;
 - [ii] determining a one-sided power spectral density from the plurality of received signals;
 - [iii] distinguishing each received signal of the plurality of received signals as a signal associated with a breath or a signal associated with a background noise; and
 - [iv] calculating a breath signature by processing each signal associated with a breath, wherein distinguishing each received signal of the plurality of received signals comprises:
 - [v] determining a pedestal-adjusted auxiliary spectral density based on the one-sided power spectral density;
 - [vi] integrating the pedestal-adjusted auxiliary spectral density to obtain an auxiliary total power;
 - [vii] determining a filtered noise index using the auxiliary total power;
 - [viii] categorizing each received signal of the plurality of received signals as a signal associated with a breath if the filtered noise index is greater than a threshold; and
 - [ix] categorizing each received signal of the plurality of received signals as a signal associated with a

background noise if the filtered noise index is less than the threshold.

REJECTION

The Examiner rejects claims 1–3, 5–9, 11, 12, 21–23, and 25–31 under 35 U.S.C. § 101 as being directed to patent-ineligible subject matter.

ANALYSIS

Section 101 states, “[w]hoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.” 35 U.S.C. § 101. However, the Supreme Court has “long held that this provision contains an important implicit exception: “[l]aws of nature, natural phenomena, and abstract ideas are not patentable.” *E.g., Alice Corp. v. CLS Bank Int’l*, 573 U.S. 208, 216 (2014).

In determining whether a claim falls within an excluded category, we are guided by the Supreme Court’s two-step framework, described in *Mayo* and *Alice*. *See Alice*, 573 U.S. at 217–18 (citing *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 75–77 (2012)). In accordance with that framework, we first determine what concept the claim is “directed to.” *Id.* at 219 (“On their face, the claims before us are drawn to the concept of intermediated settlement, *i.e.*, the use of a third party to mitigate settlement risk.”); *see also Bilski v. Kappos*, 561 U.S. 593, 611 (2010) (“Claims 1 and 4 in petitioners’ application explain the basic concept of hedging, or protecting against risk.”).

Concepts determined to be abstract ideas, and thus patent ineligible, include certain methods of organizing human activity, such as fundamental economic practices (*Alice*, 573 U.S. at 219–20; *Bilski*, 561 U.S. at 611); mathematical formulas (*Parker v. Flook*, 437 U.S. 584, 594–95 (1978)); and mental processes (*Gottschalk v. Benson*, 409 U.S. 63, 679 (1972)). Concepts determined to be patent eligible include physical and chemical processes, such as “molding rubber products” (*Diamond v. Diehr*, 450 U.S. 175, 191 (1981)); “tanning, dyeing, making water-proof cloth, vulcanizing India rubber, smelting ores” (*id.* at 182 n. 7 (quoting *Corning v. Burden*, 56 U.S. 252, 267–68 (1854))); and manufacturing flour (*Benson*, 409 U.S. at 69 (citing *Cochrane v. Deener*, 94 U.S. 780, 785 (1876))).

If the claim is “directed to” an abstract idea, we turn to the second step of the *Alice* and *Mayo* framework, where “we must examine the elements of the claim to determine whether it contains an ‘inventive concept’ sufficient to ‘transform’ the claimed abstract idea into a patent-eligible application.” *Alice*, 573 U.S. at 221 (quotation marks omitted). “A claim that recites an abstract idea must include ‘additional features’ to ensure ‘that the [claim] is more than a drafting effort designed to monopolize the [abstract idea].’” *Id.* ((alteration in the original) quoting *Mayo*, 566 U.S. at 77). “[M]erely requir[ing] generic computer implementation[] fail[s] to transform that abstract idea into a patent-eligible invention.” *Id.*

The PTO has published revised guidance on the application of § 101. *2019 Revised Patent Subject Matter Eligibility Guidance*, 84 Fed. Reg. 50 (Jan. 7, 2019) (hereinafter “2019 Guidance”). Under Step 2A of that guidance, we first look to whether the claim *recites*:

- (1) any judicial exceptions, including certain groupings of abstract ideas (i.e., mathematical concepts, certain methods of organizing human activity such as a fundamental economic practice, or mental processes); and
- (2) additional elements that integrate the judicial exception into a practical application (*see* MPEP § 2106.05(a)–(c), (e)–(h)).

Only if a claim (1) recites a judicial exception and (2) does not integrate that exception into a practical application, do we then look, in Step 2B, to whether the claim:

- (3) adds a specific limitation beyond the judicial exception that is not “well-understood, routine, conventional” in the field (*see* MPEP § 2106.05(d)); or
- (4) simply appends well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality, to the judicial exception.

Claims 1, 5, 7, 11, 21, and 25

Appellant does not present arguments for the patentability of claims 5, 7, 11, 21, and 25³ apart from claim 1. *See* Appeal Br. 11–19. Therefore, in accordance with 37 C.F.R. § 41.37(c)(1)(iv), we select claim 1 as the representative claim to decide the appeal of the rejection of these claims, with claims 5, 7, 11, 21, and 25 standing or falling with claim 1.

³ Although Appellant refers to claim 26, because dependent claim 26 is discussed in conjunction with other dependent claims (claims 6, 12, and 29–31), for the purpose of this appeal, we view Appellant’s reference to claim 26 as a typographical error and instead refer to claim 25 (which, like claims 1, 5, 7, 11, and 21, is an independent claim). *See* Appeal Br. 11, 22.

Step 1 – Statutory Category

We first determine whether claim 1 recites one or more of the enumerated statutory classes of subject matter, i.e., process, machine, manufacture, or composition of matter, eligible for patenting under 35 U.S.C. § 101. Independent claim 1 recites a method for detecting a general breathing event that includes a series of steps, and, therefore, is a process. *See* Appeal Br. 27 (Claims App.).

Step 2A, Prong 1 – Recitation of Judicial Exception

We next look to whether claim 1 recites any judicial exceptions, including certain groupings of abstract ideas, i.e., mathematical concepts, certain methods of organizing human activity, or mental processes.

In determining that claim 1 is directed to a judicial exception to patent eligibility the Examiner determines that this claim is directed to the abstract idea of “applying *mathematical operations* to conduct non-invasive diagnosis.” Final Act. 8 (emphasis added) (citing *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 788 F.3d 1371 (Fed. Cir. 2015)).

In response, Appellant asserts that the Examiner has oversimplified the claim when determining that it is directed to an abstract idea as “[c]laim 1 as a whole is not directed simply to excluded subject matter. Appeal Br. 12, 14 (citing *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327 (Fed. Cir. 2016)). According to Appellant, “[t]he Examiner describes the claims at a high level of abstraction and untethered from the recitations of the claim language,” which “recite[s] specific processes that use particular information and techniques and that are specifically designed to achieve an improved technological result.” *Id.* at 13.

We agree with the Examiner that claim 1 sets forth an abstract idea. First, in regards to the “detecting” aspect in the preamble, we note that detection of a breathing event is a non-invasive diagnosis process that constitutes a mental step because it involves merely making a mental observation that a patient is undergoing a breathing event. Further, in limitation [i], absent the use of “at least one sensing device,” the limitation of “receiving a plurality of signals” reads on receiving (gathering) data, which can be carried out either in the human mind (e.g., in the form of noting an observation) or with the aid of pencil and paper. *See* 2019 Guidance 52 n.14; *see also Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1353 (Fed. Cir. 2016) (“[W]e have treated collecting information, including when limited to particular content (which does not change its character as information), as within the realm of abstract ideas.”). Acts that can be performed in the human mind fall within the abstract idea exception subgrouping of mental processes. Likewise, “distinguishing” limitation [iii] and “categorizing” limitations [viii] and [ix] involve evaluating information that can be performed in the human mind (which can include observation, evaluation, judgment, and/or opinion), and, thus, fall within the “mental processes” grouping as well. *See* 2019 Guidance 52 n.15; *see also Spec. para. 63* (describes limitations [iii], [viii], and [ix] as evaluating (judging) the value of the noise index with respect to a threshold). Furthermore, each of the “determining” limitations [ii], [v], and [vii], the “calculating” limitation [iv], and the “integrating” limitation [vi], sets forth a mathematical concept, either *expressly* as “calculating” or “integrating,” or *implicitly* in the use of mathematical relationships, mathematical formulas or equations, and mathematical calculations, which all fall within the “mathematical concepts” grouping. *See* 2019 Guidance 52 n.12; *see also Spec. paras. 33–*

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40, 54–62, and 68 (describe limitations [ii] and [iv] through [vii] as calculations employing mathematical equations).

As such, steps [i] through [ix] of claim 1 discussed above, under their broadest reasonable interpretation, in light of Appellant’s Specification, set forth processes that can either be performed in the human mind or involve mathematical calculations; such processes constitute judicial exceptions to patent-eligible subject matter. This is true even though claim 1 recites step [i] is performed with “at least one sensing device.” See 2019 Guidance 52 n.14 (“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.”); see also *CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1373, 1375 (Fed. Cir. 2011) (“That purely mental processes can be unpatentable, even when performed by a computer, was precisely the holding of the Supreme Court in *Gottschalk v. Benson.*”); *Parker v. Flook*, 437 U.S. 584, 595 (1978) (“If a claim is directed essentially to a method of calculating, using a mathematical formula, even if the solution is for a specific purpose, the claimed method is nonstatutory.”).

Accordingly, for the foregoing reasons, as we conclude that claim 1 sets forth an abstract idea, as noted above, we proceed to Prong 2 of Step 2A.

Step 2A, Prong 2 – Integrated Into a Practical Application

If a claim recites a judicial exception, then, in *Prong 2*, we determine whether the recited judicial exception is integrated into a practical application of that exception by: (a) identifying whether there are any additional elements recited in the claim *beyond the judicial exception(s)*; and

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(b) evaluating those additional elements individually and in combination to determine whether they integrate the exception into a practical application. *See* 2019 Guidance 54–55. This evaluation requires an additional element or a combination of additional elements in the claim to apply, rely on, or use the judicial exception in a manner that imposes a meaningful limit on the judicial exception, such that the claim is more than a drafting effort designed to monopolize the exception. *See id.* at 54.

Appellant contends that “[c]laim 1 is limited to a specific process using particular information and techniques to achieve an improved technological result.” Appeal Br. 14 (citing *McRO, Inc. v. Bandai Namco Games Amer. Inc.*, 837 F.3d 1299 (Fed. Cir. 2016)). According to Appellant, “[c]laim 1 recites a specific process that uses specific data in a manner never done before” and “includes various recitations regarding a specific set of operations using specific data and specific devices,” and, thus, “are not simply ‘generic functions’” and “extends the claim[] far beyond any alleged abstract idea.” *Id.* at 16, 19. Thus, Appellant asserts that “[t]he Examiner over-generalizes the additional elements of the claim[.]” *Id.* at 15, 17 (citing *Bascom Global Internet Serv., Inc. v. AT&T Mobility LLC*, 827 F.3d 1341 (Fed. Cir. 2016); *Ex Parte Wegman*, Appeal No. 2013-008168 (PTAB Sept. 18, 2015); *Ex Parte Fuller*, Appeal No. 2013-000762 (PTAB May 28, 2015)).⁴

The preamble of claim 1 recites “[a] method for detecting a general breathing event,” which requires “at least one sensing device,” and, according to claim 7, a “processor in communication with the at

⁴ As Appellant only cites *Fuller*, but does not present any substantive arguments, we do not need to address *Fuller*. *See* Appeal Br. 17–19.

least one sensing device” to perform the abstract idea. *See* Appeal Br. 27, 30 (Claims App.). We, thus, agree with the Examiner that claim 1 “recite[s] obtaining data from a conventional sensor (‘at least one sensing device’) and applying a series of mathematical steps [using a processor] in order to analyze data in the field of breath detection.” Ans. 2.⁵ Limitation [i] of claim 1 recites “receiving a plurality of signals from at least one sensing device,” which as noted above, represents a data gathering process step, and, thus, constitutes insignificant extra-solution activity. *See* 2019 Guidance 55, n.31 (citing MPEP § 2106.05(g)). Furthermore, as discussed *supra*, because the limitations [ii] through [ix] of claim 1 set forth an abstract idea, we are hard-pressed to identify any other additional element(s) sufficient to integrate the abstract idea into a patent-eligible practical application. Hence, other than the limitations directed to the abstract idea or insignificant extra-solution activity, discussed above, the invention is claimed at a very high level of generality and is only limited in the data used in mathematical calculations.

Although we appreciate Appellant’s position that claim 1 “recite[s] an improved method for detecting general breathing events,” we note that the improvement noted by Appellant is what has been determined as the abstract idea. *See* Reply Br. 3.⁶ As noted above, claim 1 merely adds particularity as to how information is processed in mathematical calculations. Even though Appellant’s invention “separate[s] . . . general breathing event[s] from background noises,” claim 1 fails to recite that

⁵ Examiner’s Answer, dated Dec. 28, 2017.

⁶ Appellant’s Reply Brief, filed Feb. 28, 2018.

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“[o]nce detected and separated, such breathing events facilitate anticipation of obstructive apnea events” (*see id.* at 4), and limitations not appearing in the claims cannot be relied upon for patentability. *In re Self*, 671 F.2d 1344, 1348 (CCPA 1982).

We also do not agree with Appellant’s reliance on *McRO* and *Bascom*. In contrast to *McRO*, Appellant does not identify specific rules that act in the same way as the specific rules enabling the computer in *McRO* to generate the result of a sequence of animated characters. In other words, here, we have none of the claimed specificity of technological improvement the Federal Circuit found present in the invention of *McRO*, but only different mathematical concepts for improving detection of a breathing event, i.e., a non-invasive diagnosis, which itself is a mental observation. Hence, the Examiner is correct that *McRO* does not apply here because claim 1 does not constitute “an improvement to the relevant technology.” Ans. 3. As to *Bascom*, where the claims provided a software solution applicable to solve a problem specific to the software-based environment of the Internet, here, claim 1 merely recites mathematical calculations performed with data.

Finally, with respect to Appellant’s reliance on the non-precedential PTAB decision in *Wegman*, we are not persuaded because the Examiner is correct that the fact pattern presented in this case is not the same as that presented to the panel in *Wegman*. *See* Ans. 5. Even though we appreciate that claim 1 in *Wegman* includes a “calculating” step (*see* Appeal Br. 18) that does not mean that Appellant’s step of “calculating a breath signature” in limitation [iv] of instant claim 1 in combination with the other claimed elements integrate in instant claim 1 the abstract idea into a practical application. Appellant has not adequately

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explained how the limitations of claim 1 in *Wegman* specifically apply to the limitations of instant claim 1. *See* Appeal Br. 18–19. As such, for the foregoing reasons, we determine that Appellant’s claim 1:

- (1) does not improve the functioning of a computer or other technology;
- (2) is not applied with any particular machine;
- (3) does not affect a transformation of a particular article to a different state;
- (4) does not add more than insignificant extra-solution activity; and
- (5) is not applied in any meaningful way beyond generally linking the use of the judicial exception to a particular technological environment. *See* MPEP § 2106.05(a)–(c), (f), (g).

Lastly, Appellant argues that claim 1 “do[es] not preempt use of the alleged abstract idea in all fields.” *See* Appeal Br. 17; Reply Br. 5. We are not persuaded because “[w]hile preemption may signal patent ineligible subject matter, the absence of complete preemption does not demonstrate patent eligibility.” *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 788 F.3d 1371, 1379 (Fed. Cir. 2015). “Where a patent’s claims are deemed only to disclose patent ineligible subject matter under the *Mayo* [*Alice*] framework, as they are in this case, preemption concerns are fully addressed and made moot.” *Id.*

In conclusion, for the foregoing reasons, we are not persuaded of error in the Examiner’s determination that claim 1 is directed to an abstract idea, and we find that the claimed additional elements do not integrate the abstract idea into a practical application.

Step 2B – Well-Understood, Routine, Conventional Activity

Having determined that claim 1 recites a judicial exception, and does not integrate that exception into a practical application, under *Step 2B* we consider whether the claim adds a specific limitation beyond the judicial exception that is not “well-understood, routine, conventional” in the field. *See* 2019 Guidance 56.

The Examiner finds that claim 1 “do[es] not include additional elements that are sufficient to amount to significantly more than the judicial exception because the additional elements” of “at least one sensing device” and a “processor” “are conventional in the art.” Final Act. 8. According to the Examiner, the additional elements “perform[] generic computer functions that are well-understood, routine and conventional activities,” and, thus, “amount to no more than implementing the abstract idea with a computerized system.” *Id.* at 8–9; *see also* Ans. 4 (“The claims are directed towards an abstract idea implemented on a processor.”).

We appreciate Appellant’s position that “the specific operations and elements of the claimed processes . . . constitute significantly more.” *See* Appeal Br. 15; Reply Br. 6–7. However, we are not persuaded that the Examiner erred in determining that the elements of claim 1, considering all elements both individually and as an ordered combination, do not amount to significantly more than the abstract idea of a mental process or a mathematical concept. In other words, the elements of claim 1, both individually and as an ordered combination, are not *sufficient* to amount to significantly more than the abstract idea itself. As discussed *supra*, other than limitations [ii] through [ix] in claim 1 that set forth an abstract idea, limitation [i] of “receiving a plurality of signals from at least one sensing device” represents a data gathering process step, and, thus, constitutes

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insignificant extra-solution activity. The Examiner is correct that the process of claim 1 “takes data from a conventional sensor and utilizes a generic processor to perform the calculation.” Ans. 4. As such, apart from being used to perform the abstract idea itself, the generic “at least one sensing device” and “processor” only serve to perform well-understood functions. *See FairWarning IP, LLC v. Iatric Sys., Inc.*, 839 F.3d 1089, 1096 (Fed. Cir. 2016) (“the use of generic computer elements like a microprocessor or user interface do not alone transform an otherwise abstract idea into patent-eligible subject matter.”).

In conclusion, claim 1 fails to add a specific limitation beyond the judicial exception that is not “well-understood, routine, conventional” in the field. Thus, we are not persuaded that claim 1 is directed to a specific application designed to achieve an improved technological result, as opposed to being directed to merely ordinary functionality of the above-recited additional elements to apply an abstract idea, and, thus, fails to indicate the presence of an inventive concept. Therefore, we conclude that none of the limitations of claim 1, viewed “both individually and as an ordered combination,” amount to significantly more than the judicial exception in order to sufficiently transform the nature of the claims into patent-eligible subject matter. *See Alice*, 134 S.Ct. at 2355 (internal quotations omitted) (quoting *Mayo*, 132 S.Ct. at 1297).

Accordingly, for the foregoing reasons, we sustain the rejection of claim 1 under 35 U.S.C. § 101 as being directed to patent-ineligible subject matter. Claims 5, 7, 11, 21, and 25 fall with claim 1.

Claims 2, 8, and 22

As Appellant does not present arguments for the patentability of claims 8 and 22 apart from claim 2, we select claim 2 as the representative claim to decide the appeal of the rejection of these claims, with claims 8 and 22 standing or falling with claim 2. *See* Appeal Br. 19–20; Reply Br. 8–9.

Appellant argues that it is improper for the Examiner to “not discuss [c]laims 2, 8, and 22 in any way in the § 101 rejection other than to state that the dependent claims ‘are also abstract as they do nothing more than to further define the abstract idea.’” Appeal Br. 20.

As claim 2 is dependent from claim 1, claim 2 sets forth the same abstract idea as claim 1, discussed *supra*. In addition, the Examiner is correct that claim 2 “do[es] no more than further define the abstract idea.” *See* Ans. 5; *see also* Spec. paras. 47–49. More specifically, the limitations of claim 2 merely represent an extension of limitation [i] in claim 1 of “receiving a plurality of signals from at least one sensing device,” which as discussed above, absent the use of “at least one sensing device,” reads on receiving (gathering) data that can be carried out either in the human mind (e.g., in the form of noting an observation) or with the aid of pencil and paper, and, thus fall within the mental processes grouping. *See* Spec. paras. 47–49. Moreover, as discussed *supra*, the use of “at least one sensing device” is not sufficient to amount to significantly more than the abstract idea itself because a data gathering process merely constitutes insignificant extra-solution activity. *See* 2019 Guidance 55, n.14, 31. Hence, claim 2 adds *nothing beyond* the abstract idea set forth in independent claim 1 from which it depends.

As such, claim 2 fails to survive Step 2A, Prong 2, and, for the same reasons, fails to survive Step 2B. We, thus, agree with the Examiner that

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claim 2 sets forth “an abstract idea without significantly more.” Ans. 6. Finally, we note that Appellant merely recites the limitations of dependent claim 2, but does not provide a substantive explanation as to why claim 2 is directed to something significantly more than the abstract idea recited in independent claim 1 from which it depends. *See* Appeal Br. 19–20.

Therefore, we sustain the rejection of claim 2 as patent-ineligible for the same reasons as claim 1. Claims 8 and 22 fall with claim 2.

Claims 3, 9, and 23

As Appellant does not present arguments for the patentability of claims 9 and 23 apart from claim 3, we select claim 3 as the representative claim to decide the appeal of the rejection of these claims, with claims 9 and 23 standing or falling with claim 3. *See* Appeal Br. 21–22; Reply Br. 8–9.

Appellant argues that it is improper for the Examiner to “not discuss [c]laims 3, 9, and 23 in any way in the § 101 rejection other than to state that the dependent claims ‘are also abstract as they do nothing more than to further define the abstract idea.’” Appeal Br. 21.

As claim 3 is dependent from claim 1, claim 3 sets forth the same abstract idea as claim 1, discussed *supra*. In addition, the Examiner is correct that claim 3 “do[es] no more than further define the abstract idea by way of further claimed mathematical operations that have been well established in signal processing.” *See* Ans. 5; *see also* Spec. paras. 51–55. More specifically, the limitations of claim 3 further define “determining a one-sided power spectral density from the plurality of received signals,” which is merely an extension of the mathematical concept discussed above regarding claim 1. Hence, claim 3 adds *nothing beyond* the abstract idea set forth in independent claim 1 from which it depends.

As such, claim 3 fails to survive Step 2A, Prong 2, and, for the same reasons, fails to survive Step 2B. We agree with the Examiner that claim 3 sets forth “an abstract idea without significantly more.” Ans. 6. Appellant merely recites the limitations of dependent claim 3, but does not provide a substantive explanation as to why claim 3 is directed to something significantly more than the abstract idea recited in independent claim 1 from which it depends. *See* Appeal Br. 21– 22.

Therefore, we sustain the rejection of claims 3 as patent-ineligible for the same reasons as claim 1. Claims 9 and 23 fall with claim 3.

Claims 6, 12, 26, and 29–31

As Appellant does not present arguments for the patentability of claims 12, 26, and 29–31 apart from claim 6, we select claim 6 as the representative claim to decide the appeal of the rejection of these claims, with claims 12, 26, and 29–31 standing or falling with claim 6. *See* Appeal Br. 22–23; Reply Br. 8–9.

Appellant argues that it is improper for the Examiner to “not discuss [c]laims 6, 12, 26, and 29–31 in any way in the § 101 rejection other than to state that the dependent claims ‘are also abstract as they do nothing more than to further define the abstract idea.’” Appeal Br. 23.

As claim 6 is dependent from claim 1, claim 6 sets forth the same abstract idea as claim 1, discussed *supra*. In addition, the Examiner is correct that claim 6 “do[es] no more than further define the abstract idea.” *See* Ans. 5. More specifically, claim 6 adds the limitations of “determining if the breath is a short breath” and “determining a peak signature for each breath that is not a short breath.” *See* Appeal Br. 29, 32, 35, 36 (Claims App.). Appellant’s Specification states that “[a] breath must be longer than

a threshold value, or it is considered a short breath” and “in addition to computing the average signature, the method may find the maximum signature value, also called the ‘peak signature.’” Spec. paras. 71, 73. As such, evaluating a duration of a breath with respect to a threshold value and finding a peak value of a breath signal involve evaluating information that can be performed in the human mind (which can include observation, evaluation, judgment, and/or opinion), and, thus, represent an extension of the “mental processes” grouping discussed above regarding claim 1. Therefore, claim 6 adds *nothing beyond* the abstract idea set forth in independent claim 1 from which it depends.

Accordingly, claim 6 fails to survive Step 2A, Prong 2, and, for the same reasons, fails to survive Step 2B. We agree with the Examiner that claim 6, sets forth “an abstract idea without significantly more.” Ans. 6. Appellant merely recites the limitations of dependent claim 6, but does not provide a substantive explanation as to why claim 6 is directed to something significantly more than the abstract idea set forth in independent claim 1 from which it depends. *See* Appeal Br. 22–23.

Therefore, we sustain the rejection of claim 6 as patent-ineligible for the same reasons as claim 1. Claims 12, 26, and 29–31 fall with claim 6.

Claims 27 and 28

As Appellant does not present arguments for the patentability of claim 28 apart from claim 27, we select claim 28 as the representative claim to decide the appeal of the rejection of these claims, with claim 27 standing or falling with claim 28. Appeal Br. 24–25; Reply Br. 8–9.

Appellant argues that it is improper for the Examiner to “not discuss [c]laims 27 and 28 in any way in the § 101 rejection other than to state that

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the dependent claims ‘are also abstract as they do nothing more than to further define the abstract idea.’” Appeal Br. 24.

As claim 28 is indirectly dependent from claim 1, claim 28 sets forth the same abstract idea as claim 1, discussed *supra*. In addition, the Examiner is correct that claim 28 “do[es] no more than further define the abstract idea.” *See* Ans. 5. More specifically, claim 28 adds the limitation of “discarding each breath that is a short breath.” *See* Appeal Br. 36 (Claims App.). Appellant’s Specification describes a “short breath” as a breath that is shorter than a threshold value. Spec. para. 71. As such, evaluating a duration of a breath with respect to a threshold value involves evaluating information that can be performed in the human mind (which can include observation, evaluation, judgment, and/or opinion), and, thus, represents an extension of the “mental processes” grouping discussed above regarding claim 1. Therefore, claim 28 adds *nothing beyond* the abstract idea set forth in independent claim 1 from which it indirectly depends.

Accordingly, claim 28 fails to survive Step 2A, Prong 2, and, for the same reasons, fails to survive Step 2B. We agree with the Examiner that claim 28 sets forth “an abstract idea without significantly more.” Ans. 6. Appellant merely recites the limitations of dependent claim 28, but does not provide a substantive explanation as to why claim 28 is directed to something significantly more than the abstract idea recited in independent claim 1 from which it indirectly depends. *See* Appeal Br. 24–25.

Therefore, we sustain the rejection of claim 28 as patent-ineligible for the same reasons as claim 1. Claim 27 falls with claim 28.

CONCLUSION

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
1-3, 5-9, 11, 12, 21-23, 25-31	101	Eligibility	1-3, 5-9, 11, 12, 21-23, 25-31	

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

AFFIRMED