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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte WILSON FUNG, HARRY XIAO, and
JOSEF OSCAR

Appeal 2018-004780
Application 14/318,404¹
Technology Center 2800

Before KAREN M. HASTINGS, JAMES C. HOUSEL, and
JEFFREY R. SNAY, *Administrative Patent Judges*.

SNAY, *Administrative Patent Judge*.

DECISION ON APPEAL

A. STATEMENT OF THE CASE

Appellant filed an appeal under 35 U.S.C. § 134(a) from the
Examiner's final decision rejecting claims 1–4 and 6–20² under

¹ Appellant is the Applicant, Cochlear Limited, which, according to the
Appeal Brief, is the real party in interest. Appeal Brief (Appeal Br.) 2, filed
November 20, 2017.

² The Appeal Brief Claims Appendix lists claims 1–4, 6–12, and 14–21 as
the claims on appeal (Appeal Br. 16–20) because claim 13 is left blank (*id.*
at 18). Claims 1–4 and 6–20 were pending at the time of the Final Office
Action (Final Office Action dated May 22, 2017 (“Final Act.”)), as noted in
the Office Action Summary of the Final Office Action and in the § 101

35 U.S.C. § 101 as being directed to patent ineligible subject matter.

We have jurisdiction under 35 U.S.C. § 6(b).³

We AFFIRM.

The subject matter on appeal relates to diagnostic devices, methods of using a diagnostic device including a primary sensor configured to measure a characteristic of a magnetic field generated by an implanted magnet, and a system including a sensor device configured to measure a magnetic field generated by an implanted magnet and a computing device configured to receive signals from the sensor device and to make determinations based on the signals (*see, e.g.*, claims 1, 14, and 20).

The Inventors disclose that implantable medical devices, such as a hearing prosthesis, can include an implanted (internal) unit and an external unit. Spec. ¶ 2. The external unit can be maintained in position over the internal unit by magnetically coupling them via a magnet in each unit. *Id.* ¶ 23. According to the Inventors, if the retention force between the magnets of the units is too weak, the external unit will not be sufficiently secured to a recipient's body and can move, which can result in discomfort (e.g., chafing of the recipient's skin) that may discourage the recipient from using the medical device and can result in the external unit detaching. *Id.* ¶ 24.

rejection. There were no claim amendments after the Final Office Action. The Grouping of Claims and Argument sections of Appeal Brief notes claims 1–4 and 6–20 are rejected. Appeal Br. 9, 15. Therefore, it appears there was a mistake with claim numbering in the Claims Appendix of the Appeal Brief, with claims 13–20 being incorrectly numbered claims 14–21. We hold this to be a harmless error.

³ Our Decision additionally refers to the Specification filed June 27, 2014 (“Spec.”), the Examiner’s Answer dated February 8, 2018 (“Ans.”), and the Reply Brief dated March 13, 2018 (“Reply Br.”).

Conversely, the retention force between the magnets can be too strong, which can result in discomfort for the recipient and damage the recipient's skin and/or soft tissues. *Id.* ¶ 25.

In view of these considerations, the Inventors disclose it is important to select a proper combination of magnets so the external unit is properly retained without causing discomfort. *Id.* ¶ 26. The Inventors state that because the internal unit is not readily accessible post-implantation, clinicians attempt to address this issue by selecting the proper magnet for the external unit or selecting a proper setting for an electromagnet of the external unit. *Id.*

However, according to the Inventors, various factors can influence the retention force between the magnets of the external and internal units, which can cause a clinician to select a less than optimal magnet or setting. *Id.* ¶ 27–28. In view of this, the Inventors disclose a diagnostic device to assist a clinician, such as by assisting the clinician in locating a center of the magnetic field of the implanted magnet and determining a characteristic of the implanted magnet to help the clinician identify the proper external magnet or magnet setting. *Id.* ¶¶ 29–37, 40–46, 53–64, 72–79.

Independent claim 1 is illustrative and is reproduced below from the Claims Appendix of the Appeal Brief.

1. A diagnostic device comprising:
 - a primary sensor configured to measure a characteristic of a magnetic field generated by an implanted magnet, wherein the implanted magnet is implanted in a recipient;
 - an output component; and
 - a processor component configured to:
 - (i) receive one or more measurement signals from the primary sensor, wherein each measurement signal includes information indicative of a measured

characteristic of the magnetic field,

(ii) make a determination that the primary sensor and the implanted magnet are misaligned, and, responsive to the determination, (a) determine a direction from a reference point of the diagnostic device to a center of the magnetic field and (b) cause the output component to output information indicative of the determined direction to help navigate movement of the diagnostic device for alignment of the primary sensor and the implanted magnet,

(iii) based on the measured characteristic included in each of the one or more measurement signals, determine a magnet characteristic, wherein the magnet characteristic is indicative of a characteristic of an external magnet to include in an external apparatus that is configured to be magnetically attached to the recipient, and

(iv) cause the output component to output information indicative of the magnet characteristic.

B. DISCUSSION

The first step in analyzing whether a claim is directed to patent-eligible subject matter is determining whether the claim is directed to one of the patent-ineligible concepts: laws of nature, natural phenomena, and abstract ideas. *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 134 S. Ct. 2347, 2355 (2014) (citing *Mayo Collaborative Services v. Prometheus Labs., Inc.*, 132 S. Ct. 1289 (2012)). If a claim is directed to a patent-ineligible concept, the second step in the analysis is to determine whether additional elements of the claim, “both individually and ‘as an ordered combination,’” “‘transform the nature of the claim’ into a patent-eligible application.” *Alice*, 134 S. Ct. at 2355 (quoting *Mayo*, 132 S. Ct. at 1297, 1298). Thus, 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.* at 2357 (quoting *Mayo*, at 1297).

Here, the Examiner finds claim 1 is directed to the abstract ideas of collecting information, analyzing the information, and displaying certain results, as in *Electric Power Group, LLC v. Alstom S.A.*, 830 F.3d 1350 (Fed. Cir. 2016). Final Act. 2–3. The Examiner finds the additional recitations of claim 1, when considered individually and as an ordered combination, do not amount to significantly more than the abstract ideas because the limitations are recited with a high level of generality and are conventional in nature. *Id.* at 3–4.

Appellant contends that *Electric Power Group* does not mean that claims directed to collecting information, analyzing information, and displaying certain results are per se patent ineligible because a determination should be made whether a claim recites a particular concrete solution to a problem or a claim attempts to patent the abstract idea of the solution to the problem. Appeal Br. 9–11; Reply Br. 3–4. Specifically, Appellant asserts claim 1 is rooted in the technology of diagnostic devices and is directed to a particular and concrete solution for solving the specific problem of possible misalignment between an external sensor and an implanted magnet and the problem of selecting an external magnet to couple with the implanted magnet, which ensures a characteristic of the implanted magnet is accurately determined. Appeal Br. 11–14; Reply Br. 7–9. Appellant further argues claim 1 requires a new source or type of information or new techniques for analyzing information and/or invokes inventive programming and unconventional, non-generic technology, which the Federal Circuit indicated would have been helpful in *Electric Power Group* for making a favorable

determination of patent eligibility. Appeal Br. 11–12, 14. To support this argument Appellant notes there is no prior art rejection after withdrawal of a previous rejection in view of Appellant adding the subject matter of claim 5 to claim 1. *Id.* at 14; Reply Br. 4–6.

The claims of *Electric Power Group* were directed to systems and methods for performing real-time performance monitoring of an electric power grid by collecting data from multiple sources, analyzing the data, and displaying the results. *Electric Power Group*, 830 F.3d at 1351–1352. The Federal Circuit noted that collecting information has been treated as within the realm of abstract ideas, “analyzing information by steps people go through in their minds, or by mathematical algorithms, without more, as essentially mental processes within the abstract-idea category,” and “merely presenting the results of abstract processes of collecting and analyzing information, without more” is abstract and thus the claims focused on the combination of these abstract ideas. *Id.* at 1353–1354. The Federal Circuit has summarized such a situation in this way:

We have explained that claims focused on “collecting information, analyzing it, and displaying certain results of the collection and analysis” are directed to an abstract idea. *Electric Power*, 830 F.3d at 1353. “Information as such is an intangible,” hence abstract, and “collecting information, including when limited to particular content (which does not change its character as information), [i]s within the realm of abstract ideas.” *Id.* (citing cases). So, too, is “analyzing information ... by mathematical algorithms, without more.” *Id.* at 1354 (citing cases, including *Parker v. Flook*, 437 U.S. 584, 98 S.Ct. 2522, 57 L.Ed.2d 451 (1978), and *Gottschalk v. Benson*, 409 U.S. 63, 93 S.Ct. 253, 34 L.Ed.2d 273 (1972)). And “merely presenting the results of abstract processes of collecting and analyzing information, without more (such as identifying a particular tool for presentation), is abstract as an ancillary part of such

collection and analysis.” *Id.* (citing cases). The claims here are directed [to] abstract ideas under those principles.

SAP America, Inc. v. Investpic, LLC, 890 F.3d 1016, 1021 (Fed. Cir. 2018).

Here, claim 1 recites, among other things, a primary sensor configured to measure a characteristic of a magnetic field generated by an implanted magnet, an output component, and a processor component configured to (i) receive one or more measurement signals from the primary sensor indicative of the measured characteristic, (ii) make a determination that the primary sensor and implanted magnet are misaligned and (a) determine a direction to a center of the magnetic field and (b) cause the output component to output information to help navigate movement of the diagnostic device for alignment, (iii) determine a magnet characteristic, and (iv) cause the output component to output information indicative of the magnet characteristic.

As stated by the Examiner (Ans. 5), step (i) corresponds to collecting information (i.e., measuring a characteristic of the implanted magnet’s magnetic field), steps (ii)–(iii) correspond to analyzing the information (i.e., determining the primary sensor and implanted magnet are misaligned, determining a direction to a center of the magnetic field, and determining a characteristic of the magnet based on the measured characteristic), and steps (ii) and (iv) are directed to outputting information (i.e., causing the output component to output information indicative of the direction to the center of the magnetic field and causing the output component to output information indicative of the magnet characteristic). As a result, *Electric Power Group* demonstrates that claim 1 is directed to abstract ideas (i.e., the collection of information, the analysis of information, and presentation of results) under

the first step of analyzing whether a claim is directed to patent-eligible subject matter.

With regard to the second step in the analysis set forth by *Alice*, we agree that the additional elements of claim 1, both individually and as an ordered combination, do not transform the nature of claim 1 into patent eligible subject matter. As stated by the Examiner at pages 5–6 of the Examiner’s Answer, the additional elements are recited at a high level of generality that do no more than generally link the use of the abstract idea to a particular technological environment. Each of functions (i)–(iv) of the processor component are recited in generic terms without reference to a specific type of information, specific information analysis technique, or specific programming.

Moreover, the primary sensor, output component, and processor are each recited in basic, general terms. Appellant’s Specification discloses generic examples for these recitations: the primary sensor can be a generic magnetic field sensor (e.g., magnetometer or Hall Effect sensor), the output component can be a display and/or speaker, and processor component can be a generic processor. Spec. ¶¶ 34–37, 46, 51–54. Implementing an idea on a general purpose computer does not transform it into a patentable apparatus; the idea remains a pre-empted mental process. *See Alice* at 2354 (“We have described the concern that drives this exclusionary principle as one of pre-emption.”), citing *Bilski v. Kappos*, 130 S. Ct. 3218, 3231 (2010) (“upholding the patent ‘would pre-empt use of this approach in all fields, and would effectively grant a monopoly over an abstract idea’”). In other words, claim 1 involves the sort of matter the Supreme Court cautioned against in *Alice* by stating “transformation into a patent-eligible application

requires ‘more than simply stat[ing] the [abstract idea] while adding the words ‘apply it.’” *Id.* at 2357 (quoting *Mayo* at 1294).

As argued by Appellant, a determination should be made whether a claim recites a particular concrete solution to a problem or a claim attempts to patent the abstract idea of the solution to the problem. Appeal Br. 9–11; Reply Br. 3–4. This issue is illustrated by *McRO, Inc. v. Bandai Namco Games America Inc.*, 837 F.3d 1299 (Fed. Cir. 2016). In *McRO*, the Federal Circuit stated one should look to whether the claims “focus on a specific means or method that improves the relevant technology or are instead directed to a result or effect that itself is the abstract idea and merely invoke generic processes and machinery.” 837 F.3d at 1314. The Federal Circuit determined “the claims are limited to rules with specific characteristics” and “[t]he specific, claimed features of these rules allow for the improvement realized by the invention.” *Id.* at 1313–1314. As discussed above, claim 1 invokes generic operations directed to collecting information, analyzing the information, and outputting certain results without reciting specific characteristics that would focus claim 1 on a specific improvement for diagnostic devices, systems, and methods, as asserted by Appellant.

Appellant argues claim 1 requires a new source or type of information or new techniques for analyzing information and/or invokes inventive programming and unconventional, non-generic technology. Appeal Br. 11–12, 14. However, as stated by the Examiner at page 7 of the Examiner’s Answer, there is no evidence in the record that claim 1 requires or is directed to any of these features. With regard to claim 1 being rooted in the technology of diagnostic devices, the Supreme Court has stated the “prohibition against patenting abstract ideas ‘cannot be circumvented by

attempting to limit the use of [the abstract idea] to a particular technological environment.” *Bilski*, 130 S. Ct. at 3230 (quoting *Diamond v. Diehr* 450 U.S. 175, 191–92 (1981)). As a result, claim 1 is not directed to a particular concrete solution that addresses a problem, as argued by the Appellant.

In view of the above, Appellant’s contention that claim 1 is similar to claims in *Thales Visionix Inc. v. U.S.*, 850 F.3d 1343 (Fed. Cir. 2017) (Reply Br. 7) is also unpersuasive. The claims of *Thales* were directed to an unconventional physical arrangement of inertial sensors and calculations based on a different reference frame to reduce errors. *Thales*, 850 F.3d at 1348–1349. Appellant does not explain how the recited conventional or generic steps or components are combined in an unconventional physical arrangement that provides an improvement such that the claims would be directed to patent-eligible subject matter. *See id.* at 1348.

In addition, Appellant’s arguments that the lack of a prior art rejection evidences the non-conventional nature of the claimed invention are also unpersuasive. The fact that an abstract idea is considered novel and non-obvious does not render the subject matter eligible under § 101.

“Groundbreaking, innovative, or even brilliant discovery does not by itself satisfy the § 101 inquiry.” *Ass’n for Molecular Pathology v. Myriad Genetics, Inc.*, 569 U.S. 576, 591 (2013). A novel and non-obvious claim directed to a purely abstract idea is, nonetheless, patent-ineligible. *See Mayo*, 132 S. Ct. at 1303–04. Further, in response to an argument a claim contained an inventive concept because it was not shown to be anticipated under § 102 or obvious under § 103, the Federal Circuit has stated:

[t]hat position misstates the law. It is true that “the § 101 patent-eligibility inquiry and, say, the § 102 novelty inquiry might sometimes overlap.” *Mayo*, 132 S. Ct. at 1304. But, a claim for

a *new* abstract idea is still an abstract idea. The search for a § 101 inventive concept is thus distinct from demonstrating § 102 novelty.

Synopsys, Inc. v. Mentor Graphics Corp., 839 F.3d 1138, 1151 (Fed. Cir. 2016).

In view of the above, Appellant's arguments do not identify a reversible error in the Examiner's § 101 rejection of claim 1.

Appellant does not argue independent claims 14 and 20 or dependent claims 2–4, 6–13, and 15–19 separately from claim 1. Appeal Br. 14–15.

For these reasons and those set forth in the Examiner's Answer, we sustain the Examiner's § 101 rejection of claims 1–4 and 6–20.

C. DECISION

The decision of the Examiner 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).

AFFIRMED