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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte STEPHEN FROEHLICH

Appeal 2018-001370
Application 13/044,017
Technology Center 3600

Before BRADLEY B. BAYAT, TARA L. HUTCHINGS, and ROBERT J. SILVERMAN, *Administrative Patent Judges*.

SILVERMAN, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Pursuant to 35 U.S.C. § 134(a), Appellant[1] appeals from the Examiner's decision rejecting claims 1, 3–7, 9–16, 18, 29, 32, and 33. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

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[1] We use the word "Appellant" to refer to "applicant" as defined in 37 C.F.R. § 1.42. Appellant identifies the real party in interest as BRAINLAB AG. Appeal Br. 3.

ILLUSTRATIVE CLAIM

1. A method of providing a medical treatment protocol template stored in electronic format to an associated user, the method comprising:

receiving, at a computer system, a request for a treatment protocol template related to a medical condition of interest of an associated patient;

processing the request and identifying, from an electronic database comprising a plurality of medical treatment protocol template files, at least one treatment protocol template related to the request, the at least one treatment protocol template including treatment parameters data describing parameters and conditions to be used during treatment of the medical condition and criteria for patient selection for the treatment of the medical condition;

wherein the medical treatment protocol template comprises sample case data, the sample case data including data representing results from at least one example of the treatment protocol as applied to a medical subject;

transmitting the at least one medical treatment protocol template to the associated user including transmitting the sample case data and the criteria for patient selection for the treatment of the medical condition for evaluation by the associated user;

receiving, at the computer system, patient-specific data, the patient-specific data describing the specific medical condition of the associated patient prior to the treatment of the specific medical condition of the associated patient based on the treatment protocol template, the patient-specific data comprising at least one medical specific parameter, the medical specific parameter being one of a disease stage and a tumor size for the associated patient for the specific medical condition;

using a processor of the computer system to automatically create a patient-specific treatment plan including patient-specific treatment parameters data and patient-specific treatment conditions being created based on both the treatment

protocol template and the patient-specific data, wherein the created patient-specific treatment parameters data includes a photon beam energy setting, areas to avoid with the beam and beam arrangement specific for the associated patient and for the specific medical condition; and

transferring, by the computer system, the photon beam energy setting, areas to avoid with the beam and the beam arrangement specific for the associated patient and for the specific medical condition of the created patient-specific treatment parameters data of the patient-specific treatment plan to a computer connected to medical equipment for treating the associated patient with the medical equipment based on the photon energy setting, areas to avoid with the beam and the beam arrangement such that the medical equipment operates under such created patient-specific treatment parameters.

REFERENCES

The prior art relied upon by the Examiner is:

Name	Reference	Date
Riff et al.	US 2002/0082480 A1	June 27, 2002
Nagaeda et al. ("Nagaeda")	US 2005/0159981 A1	July 21, 2005
Gertner	US 2008/0181362 A1	July 31, 2008
Manetta et al. ("Manetta")	US 2009/0125335 A1	May 14, 2009
Kresl et al. ("Kresl")	US 2011/0106563 A1	May 5, 2011
Opfer et al. ("Opfer")	US 2012/0066000 A1	March 15, 2012

REJECTIONS

I. Claims 1, 3–7, 9–16, 18, 29, 32, and 33 are rejected under 35 U.S.C. § 101 as ineligible subject matter.

II. Claims 1, 3–7, 9, 10, 12–16, and 29 are rejected under 35 U.S.C. § 103(a) as unpatentable over Nagaeda, Kresl, Opfer, and Gertner.

III. Claims 11 and 18 are rejected under 35 U.S.C. § 103(a) as unpatentable over Nagaeda, Kresl, Opfer, Gertner, and Riff.

IV. Claims 32 and 33 are rejected under 35 U.S.C. § 103(a) as unpatentable over Nagaeda, Kresl, Opfer, Gertner, and Manetta.

FINDINGS OF FACT

The findings of fact relied upon, which are supported by a preponderance of the evidence, appear in the following Analysis.

ANALYSIS

Subject-Matter Eligibility

Under 35 U.S.C. § 101, an invention is patent-eligible if it claims a "new and useful process, machine, manufacture, or composition of matter." 35 U.S.C. § 101. Yet, subject matter belonging to any of the statutory categories may, nevertheless, be ineligible for patenting. The Supreme Court has interpreted § 101 to exclude laws of nature, natural phenomena, and abstract ideas, because they are regarded as the basic tools of scientific and technological work, such that including them within the domain of patent protection would risk inhibiting future innovation premised upon them. *Ass'n for Molecular Pathology v. Myriad Genetics, Inc.*, 569 U.S. 576, 589 (2013).

Of course, "[a]t some level, 'all inventions . . . embody, use, reflect, rest upon, or apply'" these basic tools of scientific and technological work. *Alice Corp. v. CLS Bank Int'l*, 573 U.S. 208, 217 (2014). Accordingly, evaluating ineligible subject matter, under these judicial exclusions, involves a two-step framework for "distinguish[ing] between patents that claim the buildin[g] block[s] of human ingenuity and those that integrate the building blocks into something more, thereby transform[ing] them into a patent-eligible invention." *Id.* (citing *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 88–89 (2012)). The first step determines whether

the claim is directed to judicially excluded subject matter (such as a so-called "abstract idea"); the second step determines whether there are any "additional elements" recited in the claim that (either individually or as an "ordered combination") amount to "significantly more" than the identified judicially excepted subject matter itself. *Id.* at 217–18.

The USPTO recently published revised guidance on the application of § 101, in accordance with judicial precedent. 2019 Revised Patent Subject Matter Eligibility Guidance, 84 Fed. Reg. 50, 52 (Jan. 7, 2019) ("*2019 Revised Guidance*"). Under the *2019 Revised Guidance*, a claim is "directed to" an abstract idea, only if the claim recites any of (1) mathematical concepts, (2) certain methods of organizing human activity, and (3) mental processes — without integrating such abstract idea into a "practical application," i.e., without "apply[ing], rely[ing] on, or us[ing] 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 judicial exception." *Id.* at 52–55. The considerations articulated in MPEP § 2106.05(a)–(c) and (e)–(h) bear upon whether a claim element (or combination of elements) integrates an abstract idea into a practical application. *Id.* at 55. A claim that is "directed to" an abstract idea constitutes ineligible subject matter, unless the claim recites an additional element (or combination of elements) amounting to significantly more than the abstract idea. *Id.* at 56.

Although created "[i]n accordance with judicial precedent" (*id.* at 52), the *2019 Revised Guidance* enumerates the analytical steps differently than the Supreme Court's *Alice* opinion. Step 1 of the *2019 Revised Guidance* addresses whether the claimed subject matter falls within any of the statutory

categories of § 101. *Id.* at 53–54. Step 2A, Prong One, concerns whether the claim at issue recites ineligible subject matter and, if an abstract idea is recited, Step 2A, Prong Two, addresses whether the recited abstract idea is integrated into a practical application. *Id.* at 54–55. Unless such integration exists, the analysis proceeds to Step 2B, in order to determine whether any additional element (or combination of elements) amounts to significantly more than the identified abstract idea. *Id.* at 56.

The Appellant argues independent claims 1 and 14 together as a group, but presents no separate argument for any other claim. Appeal Br. 11–15. Insofar as we address specific claim language, we refer to claim 1, herein. *See* 37 C.F.R. § 41.37(c)(1)(iv).

With respect to Step 1 of the *2019 Revised Guidance*, the Examiner does not determine that the claims are outside the identified categories of § 101.

Turning to Step 2A, Prong One, of the analytical framework delineated in the *2019 Revised Guidance*, the Examiner addresses the following limitations of claim 1: "receiving" "a request for a treatment protocol template"; "identifying" "at least one treatment protocol template related to the request"; "transmitting the at least one medical treatment protocol template to the associated user"; "receiving" "patient-specific data . . . describing the specific medical condition of the associated patient"; "create a patient-specific treatment plan . . . based on both the treatment protocol template and the patient-specific data"; and "transferring" data "for the associated patient and for the specific medical condition of the created patient-specific treatment parameters data of the patient-specific treatment plan to" "medical equipment for treating the associated patient." *See* Final

Action 2–3. According to the Examiner, these limitations express the concept of "creating a patient specific treatment plan based on patient data and a treatment protocol template," which the Examiner regards as an abstract idea, in a manner similar to the mental steps of comparing new and stored information and using rules to identify medical options in *SmartGene, Inc. v. Advanced Biological Laboratories, SA*, 555 F. App'x 950, 955 (Fed. Cir. 2014) (nonprecedential), comparing a sample or test subject to a control or target data in *Association for Molecular Pathology v. United States Patent & Trademark Office*, 689 F.3d 1303, 1334 (Fed. Cir. 2012), *aff'd in part, rev'd in part*, 569 U.S. 576 (2013), and using categories to organize, store, and transmit information in *Cyberfone Systems, LLC v. CNN Interactive Group, Inc.*, 558 F. App'x 988, 991–92 (Fed. Cir. 2014) (nonprecedential). *Id.* at 3–4. Viewed through the lens of the *2019 Revised Guidance*, 84 Fed. Reg. at 52, the identified limitations of claim 1 constitute a judicially excepted mental process.

The Appellant disputes the determination that claim 1 involves "a series of mental steps that people, aware of each step, can and regularly do perform in their heads." Reply Br. 3. However, this assertion is no more than attorney argument, which is not persuasive of error in the Examiner's determination. Indeed, the identified limitations of claim 1 employ broad language to describe the creation of a treatment plan, such that we are not persuaded of error in the Examiner's determination that the identified portions of claim 1 may practically be performed mentally. *See 2019 Revised Guidance*, 84 Fed. Reg. at 52.

Therefore, the Appellant's arguments do not persuade us of error, in regard to the Examiner's Step 2A, Prong One, determination that the claims recite an abstract idea.

Turning to Step 2A, Prong Two, unless a claim that recites a judicial exception (such as an abstract idea) "integrates the recited judicial exception into a practical application of that exception," the claim is "directed to" the judicial exception. *Id.* at 53. The analysis of such an "integration into a practical application" involves "[i]dentifying . . . any additional elements recited in the claim beyond the judicial exception(s)" and "evaluating those additional elements individually and in combination to determine whether they integrate the exception into a practical application." *Id*. at 54–55. Among the considerations "indicative that an additional element (or combination of elements) may have integrated the exception into a practical application" is whether "[a]n additional element reflects an improvement in the functioning of a computer, or an improvement to other technology or technical field." *Id.* at 55 (footnote omitted). "[W]hether an additional element or combination of elements integrate the exception into a practical application should be evaluated on the claim as a whole." *Id.* at 55 n.24.

In regard to Step 2A, Prong Two, the Appellant argues that the claims "are directed as a whole to improvements related to computer-related technology." Appeal Br. 11–12. According to the Appellant:

> [T]he claims at issue include utilizing patient-specific data describing a specific medical condition, prior to treatment, to create a patient-specific treatment plan which includes patient-specific treatment parameters data including *photon beam energy settings* and *areas to avoid with the beam* and *beam arrangement specific* for the associated patient and for the specific medical condition. The method and system as well

> *transfers* such data *to the computer connected to the medical equipment* for treating the associated patient *based on the settings*. Hence, the character of the claims as a whole are towards the efficient and directed control of such equipment given the patient specific treatment parameters and the appropriate medical treatment protocol as directed from the medical treatment protocol application. Indeed, the method and system provides specific treatment beam parameters for efficient use (within the medical equipment treating device) of the beam transmission settings so as to not damage healthy tissue areas of the patient.

Id. at 12. *See also* Reply Br. 2–3.

Yet, the Appellant essentially characterizes the claims as using the computer as a tool, in order to implement the concept identified by the Examiner. *See* Final Action 3–4 ("creating a patient specific treatment plan based on patient data and a treatment protocol template"). Such a use of computer technology does not integrate a judicial exception into a practical application, in the manner addressed in the *2019 Revised Guidance*, 84 Fed. Reg. at 54–55. *See Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 135–36 (Fed. Cir. 2016) (explaining that the *Alice* inquiry "asks whether the focus of the claims is on the specific asserted improvement in computer capabilities . . . or, instead, on a process that qualifies as an 'abstract idea' for which computers are invoked merely as a tool.")

Further, the Appellant contends that the Examiner has "fail[ed] to consider the claims, as a whole," by not "taking into any consideration the steps of":

> transferring, by the computer system, the photo beam energy settings, areas to avoid with the beam and the beam arrangement . . . to a computer connected to medical equipment for tr[e]ating the associated patient . . . based on the photon energy setting, areas to avoid with the beam and the beam

> arrangement such that the medical equipment operates under such created patient specific treatment parameters.

Appeal Br. 12–13. Yet, as discussed above, the Examiner's determination of the judicial exception, recited in the claims, embraces the "transferring" limitation. *See* Final Action 2–3. Accordingly, this argument of the Appellant does not identify an additional element that might integrate the judicial exception into a practical application, as articulated in the *2019 Revised Guidance*, 84 Fed. Reg. at 54–55.

Therefore, the Appellant does not persuasively argue that the Examiner erred, in regard to Step 2A, Prong Two, of the *2019 Revised Guidance*.

Turning to Step 2B of the *2019 Revised Guidance* (84 Fed. Reg. at 56), a claim that recites a judicial exception (such as an abstract idea) might, nevertheless, be patent-eligible, if the claim contains "additional elements amount[ing] to significantly more than the exception itself" — i.e., "a specific limitation or combination of limitations that are not well-understood, routine, conventional activity in the field, which is indicative that an inventive concept may be present." *See Alice*, 573 U.S. at 223 ("[T]he mere recitation of a generic computer cannot transform a patent-ineligible abstract idea into a patent-eligible invention.")

The Appellant argues that the "transferring" limitation of claim 1 constitutes an additional element, beyond the abstract idea, that constitutes significantly more than the identified abstract idea. *See* Appeal Br. 13–15.

Yet, as discussed above, the Examiner's analysis includes the "transferring" limitation among the limitations that delineate the recited judicial exception of claim 1. *See* Final Action 2–3. Accordingly, the

"transferring" limitation cannot provide significantly more than the identified judicial exception, under Step 2B. *See BSD Tech LLC v. BuySeasons, Inc.*, 899 F.3d 1281, 1290 (Fed. Cir. 2018) ("It has been clear since *Alice* that a claimed invention's use of the ineligible concept to which it is directed cannot supply the inventive concept that renders the invention 'significantly more' than that ineligible concept.") Therefore, we are not persuaded of error in the Examiner's analysis corresponding to Step 2B.

In view of the foregoing, we sustain the Examiner's rejection of independent claims 1 and 14, as well as dependent claims 3–7, 9–13, 15, 16, 18, 29, 32, and 33 under 35 U.S.C. § 101.

Obviousness

Among the arguments for error in the obviousness rejection of independent claim 1, the Appellant contends that the cited prior art fails to teach or suggest the recited "identifying . . . at least one treatment protocol template . . . including . . . criteria for patient selection for the treatment of the medical condition." *See* Appeal Br. 19.

According to the Specification, "criteria for patient selection for treatment" include "e.g., age, disease stage, tumor size, etc." Spec. 8, ll. 9–10. Therefore, the claimed "criteria for patient selection for the treatment of the medical condition" refer to particular features of the patient and/or the status of the patient's medical condition that are used to determine the suitability of a particular course of treatment.

The Examiner determines that Nagaeda's "clinical path" satisfies the identified limitation of claim 1. *See* Final Action 5–6 (citing Nagaeda ¶¶ 138–40, Fig. 4); Answer 6–9 (citing Nagaeda ¶¶ 137–42, 144–45, Figs.

3–5). These portions of Nagaeda disclose selecting particular medical treatments in relation to particular ailments:

> [A]n operator selects a clinical path in response to a patient at the hospital information system terminal 2 (step S1, hereinafter the step is expressed as "S"). Specifically, a clinical path which responds to the disease/ailment of a patient is selected on a list of clinical paths in response to respective diseases/ailments registered in the clinical path database server 3.

Nagaeda ¶ 140. Further, the operator can use the system to

> specify[ ] dates, event information 35 for indicating events corresponding to the above dates, "Medical service" items 36 such as a treatment, a procedure, an examination, drug, nourishment, diet, nursing, and the like, and a bar displaying area 37 for displaying bars (hatched portions in FIG. 5) for indicating the number of days in correspondence to each of "Medical service" items 36.

Id. ¶ 144. In addition, "the clinical path database 3 inquires the order managing server 4 so that when some of the medical services in the clinical path to be displayed are assigned reservation slots, a search is conducted to find whether or not there are empty reservation slots regarding such medical services (S3)." *Id.* ¶ 145.

Although the identified portions of Nagaeda permit a system operator to choose particular medical treatments to be administered, in respect to particular ailments, the reference does not address claim 1's use of "criteria for patient selection for the treatment of the medical condition." Accordingly, Nagaeda does not teach or suggest claim 1's "identifying . . . at least one treatment protocol template . . . including . . . criteria for patient selection for the treatment of the medical condition."

Claim 14 —the other independent claim in this Appeal — includes the limitation of "receive a request for a medical treatment protocol template

including . . . criteria for patient selection for the treatment of the medical condition." The Examiner's position, regarding this limitation of claim 14, relies upon the above-cited portions of Nagaeda. *See* Final Action 10. The Appellant's argument relating to claim 1, discussed above, applies equally to claim 14. *See* Appeal Br. 21–24.

Therefore, in view of the foregoing analysis, we do not sustain the Examiner's rejection of independent claims 1 and 14 (and their dependent claims 3–7, 9–13, 15, 16, 18, 29, 32, and 33) under 35 U.S.C. § 103(a).

CONCLUSION

In summary:

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
1, 3–7, 9–16, 18, 29, 32, 33	101	Eligibility	1, 3–7, 9–16, 18, 29, 32, 33	
1, 3–7, 9, 10, 12–16, 29	103(a)	Nagaeda, Kresl, Opfer, Gertner		1, 3–7, 9, 10, 12–16, 29
11, 18	103(a)	Nagaeda, Kresl, Opfer, Gertner, Riff		11, 18
32, 33	103(a)	Nagaeda, Kresl, Opfer, Gertner, Manetta		32, 33
Overall Outcome			1, 3–7, 9–16, 18, 29, 32, 33	

TIME PERIOD FOR RESPONSE

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