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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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*Ex parte* RICHARD T. COATES, DARRELL COLES, WEI DAI,  
and KUN JIAO

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Appeal 2019-003236  
Application 15/035,884  
Technology Center 3600

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Before EDWARD A. BROWN, ANNETTE R. REIMERS, and  
MICHAEL L. WOODS, *Administrative Patent Judges*.

BROWN, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellant<sup>1</sup> seeks review under 35 U.S.C. § 134(a) of the Examiner's decision rejecting claims 1–10 and 12–20.<sup>2</sup> We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

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<sup>1</sup> 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 Schlumberger Technology Corporation. Appeal Br. (filed Nov. 5, 2018) 3.

<sup>2</sup> Claim 11 is cancelled. Appeal Br. 18. Claim 21 is objected to as depending from a rejected base claim, but indicated to contain allowable subject matter. Final Act. (dated June 12, 2018) 7.

### CLAIMED SUBJECT MATTER

Claims 1, 17, and 20 are independent claims. Claim 1 illustrates the claimed subject matter on appeal and is reproduced below with reference letters added in brackets.

1. A method for seismic data processing, comprising:
  - [A] receiving seismic data for a region of interest, wherein the seismic data were acquired in a seismic survey;
  - [B] determining sparse seismic data by selecting shot points in the acquired seismic data using statistical sampling, wherein determining the sparse seismic data comprises determining at least one exclusion criterion that includes one or more rules for selecting the shot points in the acquired seismic data based on a location of an individual shot point relative to other shot points, wherein the shot points are selected based on the at least one exclusion criterion, and wherein other shot points not selected based on the at least one exclusion criterion;
  - [C] determining simulated seismic data based at least in part on an earth model for the region of interest, a reflection model for the region of interest, and the selected shot points;
  - [D] determining an objective function that represents a mismatch between the simulated seismic data and the sparse seismic data; and
  - [E] updating the reflection model based at least in part on the objective function.

Appeal Br. 17 (Claims App.).

### REJECTIONS

Claims 1–10 and 12–20 are rejected under 35 U.S.C. § 101 as directed to patent-ineligible subject matter. Final Act. 3.

Claims 1–10 and 12–20 are provisionally rejected on the ground of non-statutory double patenting as unpatentable over claims 1–20 of US Application No. 14/292,487. Final Act. 7.

## ANALYSIS

### *Patent eligibility of claims 1–10 and 12–20*

An invention is patent-eligible if it claims a “new and useful process, machine, manufacture, or composition of matter.” 35 U.S.C. § 101. However, the Supreme Court has long interpreted 35 U.S.C. § 101 to include implicit exceptions: “[I]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*. *Id.* 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.” *See Alice*, 573 U.S. at 219.

Concepts that have been 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 v. Kappos*, 561 U.S. 593 (2010)); mathematical formulas (*Parker v. Flook*, 437 U.S. 584, 594–95 (1978)); and mental processes (*Gottschalk v. Benson*, 409 U.S. 63, 69 (1972)).

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.* (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.*

On January 7, 2019, the PTO issued revised guidance on the application of § 101. *See 2019 Revised Patent Subject Matter Eligibility Guidance*, 84 Fed. Reg. 50 (hereinafter “2019 Guidance”). The 2019 Guidance includes steps 2A and 2B. Under Step 2A, Prong One, of the guidance, we first look to whether the claim recites any judicial exception, including certain groupings of abstract ideas (i.e., mathematical concepts, certain methods of organizing human activities such as a fundamental economic practice, or mental processes). *See id.* at 54.

If a claim recites a judicial exception, we proceed to Step 2A, Prong Two, and determine whether the claim recites additional elements that integrate the judicial exception into a practical application. *See id.*; *see also* MPEP § 2106.05(a)–(c), (e)–(h).

Only if a claim both recites a judicial exception and fails to integrate the judicial exception into a practical application, do we proceed to Step 2B of the guidance. At Step 2B, we determine whether the claim adds a specific limitation beyond the judicial exception that is not “well-understood, routine, conventional” in the field (*see* MPEP § 2106.05(d)); or simply appends well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality, to the judicial exception. *See* 84 Fed. Reg. 56.

*Claim Grouping*

Appellant argues the patent eligibility of claims 1–10 and 12–20 as a group. Appeal Br. 9–15. We select claim 1 as representative. 37 C.F.R. § 41.37(c)(1)(iv). Claims 2–10 and 12–20 stand or fall with claim 1.

*Step One – Statutory Category*

Claim 1 is directed to a method, one of the statutory classes of subject matter eligible for patenting under 35 U.S.C. § 101 (i.e., a process).

*Step 2A, Prong One – Recitation of Judicial Exception*

We next determine whether claim 1 recites any judicial exception, including certain groupings of abstract ideas; namely, mathematical concepts, certain methods of organizing human activities such as a fundamental economic practice, or mental processes.

The Examiner determines that claim 1 recites an abstract idea, namely, “manipulating information using mathematical relationships.” Final Act. 4.

We agree with the Examiner that claim 1 recites an abstract idea. Step B of claim 1 recites “determining sparse seismic data by selecting shot points in the acquired seismic data using statistical sampling,” where “determining the sparse seismic data comprises determining at least one exclusion criterion that includes one or more rules for selecting the shot points in the acquired seismic data based on a location of an individual shot point relative to other shot points,” and “the shot points are selected based on the at least one exclusion criterion, and wherein other shot points not selected based on the at least one exclusion criterion.” Appeal Br. 17 (Claims App.).

Step B recites “one or more rules” at a high level of generality. As support for step B, Appellant references paragraphs 84–97 of the Specification in the Summary of Claimed Subject Matter. *See* Appeal Br. 6. As described in paragraphs 94–96, Figures 7A–7C illustrate examples of statistically sampling shot points from a survey shot distribution 700. Figure 7A shows a shot point 710A randomly selected from survey shot distribution 700 and having a corresponding exclusion radius 705. Spec. ¶ 94, Fig. 7A. Shot point 710B lying outside of exclusion radius 705 may be selected, whereas shot point 715 lying inside of exclusion radius 705 may be excluded, from the sparse seismic data. *Id.* The determination of an exclusion radius is further described at paragraphs 84–86 of the Specification.

As described in paragraph 96 of the Specification, Figure 7C shows a survey shot distribution 700 of acquired seismic data divided into a grid 730 of seismic cells to select shot points. For such seismic cells, the exclusion criteria may limit statistical sampling of the acquired seismic data to a predetermined number of shot points within a seismic cell. *Id.* ¶ 87.

Paragraphs 84–97 of the Specification do not appear to describe that selecting shot points in acquired seismic data using statistical sampling based on an exclusion criterion that uses an exclusion radius or a grid of seismic cells to select shot points requires use of a computing system. Under its broadest reasonable interpretation, step B involves acts that can be performed through observation, evaluation, or judgment in the human mind or on paper. Such acts fall within the abstract idea exception grouping of mental processes. *See* 2019 Guidance at 52. Thus, we determine that step B recites a mental process, which is a judicial exception.

Step D of claim 1 recites “determining an objective function that represents a mismatch between the simulated seismic data and the sparse seismic data.” Appeal Br. 17 (Claims App.). The Specification describes that the objective function may refer to the relationship between the acquired seismic data and the simulated seismic data as described in Equation 1. *See* Spec. ¶¶ 98–99. The objective function may be a least-squares objective function, as expressed in Equation 1, or may use other norms besides the least-squares norm. *Id.* ¶ 99. Paragraph 100 of the Specification describes that the objective function may be a regularized objective function as expressed by Equation 2. We determine that, under its broadest reasonable interpretation, step D involves a mathematical relationship, mathematical formula or equation, or mathematical calculation, which according to the 2019 Guidance, fall within the abstract idea exception grouping of mathematical concepts. *See* 2019 Guidance at 52. Thus, step D recites a mathematical concept, which is a judicial exception.

Step E of claim 1 recites “updating the reflection model based at least in part on the objective function.” Appeal Br. 17 (Claims App.). The Specification describes that the reflection model may be updated using the gradient ( $g(r)$ ) of the objective function and that rules and optimization techniques can be used. *See* Spec. ¶ 104; *see also* ¶ 101 (describing how the gradient of the objective function may be expressed), ¶ 102 (describing that determining the gradient involves computations). Under its broadest reasonable interpretation, step E also involves a mathematical relationship, mathematical formula or equation, or mathematical calculation, which according to the 2019 Guidance, fall within the abstract idea exception

grouping of mathematical concepts. *See* 2019 Guidance at 52. Thus, step E recites a mathematical concept, which is a judicial exception.

Referring to the 2019 Guidance, Appellant contends that the claims do not fall into the categories of mathematical concepts, organizing human activity, and mental processes. Reply Br. 2. According to Appellant, none of the claim steps recites “mathematical relationships, formulas, equations, or calculations, even in general.” *Id.* Appellant specifically addresses only step E, stating this step “is totally unrelated to mathematical concepts.” *Id.* Rather, Appellant contends, step E “is directed to updating a model (e.g., an image) that is a physical representation of the subterranean formation, which may be used to ‘determine the presence of hydrocarbons in the region of interest. For instance, the updated reflection model may be used to facilitate hydrocarbon exploration or production.’” *Id.* (citing Spec. ¶ 108).

Appellant’s contentions are unpersuasive. We determine that steps D and E both involve using mathematical relationships, mathematical formulas or equations, or mathematical calculations, and thus, recite mathematical concepts according to the 2019 Guidance. Furthermore, Step E does not recite updating a model that is a physical representation of a subterranean formation. Nor does claim 1 require the updated reflection model to be used for *any* purpose, much less for determining the presence of hydrocarbons in a region of interest, such as to facilitate hydrocarbon exploration or production. Appellant’s contentions regarding the use of the updated reflection model are incommensurate with the actual language of step E.

As for the mental processes grouping of the abstract idea exception in the 2019 Guidance, Appellant contends that *one or more steps* in the claims cannot be performed in the human mind, but must be performed on a

computing system. Reply Br. 2. According to Appellant, the “[S]pecification describes a computing system 800 *configured to perform one or more steps of the method*. These steps performed by the computing system *may include*, for example, updating the reflection model, *which cannot be performed in the human mind*.” *Id.* (emphasis added).

These contentions are also unpersuasive. First, Appellant does not contend that *every* step of claim 1 *cannot* be performed in the human mind, but rather, must be performed on a computing system. To the extent it is Appellant’s position that *unless* every step of claim 1 can be performed in the human mind, then the claim cannot be considered to recite any limitation that falls within the abstract idea exception grouping of mental processes, Appellant provides no authority supporting such position. To the contrary, courts have found claims that even require a generic computer, or that incidentally recite a generic computer, may still recite a mental process even though the claim limitations are not performed entirely in the human mind. *See* 2019 Guidance at 52 n.14.

Second, like the claims at issue in *Synopsis, Inc. v. Mentor Graphics, Corp.*, 839 F.3d 1138, 1149 (Fed. Cir. 2016), on its face, claim 1 does not call for any computer implementation of the recited steps. To the extent Appellant may be arguing that one or more steps of the method must be construed as requiring the use of a computing system, we decline to do so. Appellant does not direct us to any disclosure, or provide any other evidence, requiring such claim construction. And like the claims in *Synopsis*, “[b]ecause . . . [claim 1] makes no mention of employing a computer or any other physical device . . . [it appears] so broad as to read on

an individual performing the claimed steps mentally or with pencil and paper.” *Id.*

Third, Appellant contends that updating the reflection model (i.e., step E), in particular, cannot be performed in the human mind, and seems to contend that this updating must be performed on a computing system. Reply Br. 2. However, we decline to construe step E, in particular, as requiring use of a computing system, as again, Appellant does not direct us to any disclosure, or provide any other evidence, that requires such construction. In that regard, Appellant’s Specification describes, “[i]mplementations of various technologies described herein *may be* operational with *numerous general purpose* or special purpose computing system environments or configurations.” Spec. ¶ 160 (emphasis added). As for computing system 800 mentioned by Appellant (Reply Br. 2), the Specification describes, “Figure 8 illustrates a schematic diagram of a computing system 800 in which the various technologies described herein *may be* incorporated and practiced. Although the computing system 800 *may be a conventional desktop or a server computer*, as described above, other computer system configurations may be used.” *Id.* ¶ 163 (emphasis added). Appellant does not direct us to any disclosure that step E *must* be performed on computing system 800, or some other computing system.

And, even assuming that step E must be construed as requiring performance on a computer system, even *express* recitation of computer components (which claim 1 lacks), does not, by itself, establish that the claim does *not* recite mental steps. *See Versata Dev. Grp. v. SAP Am., Inc.*, 793 F.3d 1306, 1335 (Fed. Cir. 2015) (“Courts have examined claims that required the use of a computer and still found that the underlying, patent-

ineligible invention could be performed via pen and paper or in a person’s mind.”).

Further, the Specification describes that computing system 800 may be conventional, and “performance of a claim limitation using generic computer components does not necessarily preclude the claim limitation from being in the mathematical concepts grouping, *Benson*, 409 U.S. at 67, or the certain methods of organizing human activity grouping, *Alice*, 573 U.S. at 219–20.” *See* 2019 Guidance at 52 n.14 (emphasis omitted). “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.” *Id.* Accordingly, Appellant’s contention is not persuasive.

We therefore determine that claim 1 recites the abstract ideas of mathematical concepts and mental processes, which are judicial exceptions to patent-eligible subject matter. We proceed to Prong Two to determine whether claim 1 is “directed to” the judicial exception.

*Step 2A, Prong Two – Practical Application*

We next 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 (b) evaluating those additional elements individually and in combination to determine whether they integrate the exception into a practical application. 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* 2019 Guidance at 54.

The 2019 Guidance indicates that, in the context of Prong Two, an exemplary consideration indicative of an additional element (or combination of elements) that may integrate the exception into a practical application is an additional element that reflects an improvement in the functioning of a computer, or an improvement to other technology or technical field. *See id.* at 55.

Here, it is Appellant’s position that “[b]y specifying how the reflection model is updated, the limitations in the claims improve the technical field of seismic surveys and subterranean modeling applications.” Appeal Br. 11. According to Appellant, “updating the reflection model,” as recited in step E, “represents a practical application of the processing provided by the other steps in the claims.” Reply Br. 3. Appellant submits that step E “‘reflects . . . an improvement to other technology or technical field,’ namely, the field of seismic processing.” *Id.* Appellant contends that the Specification states, “[T]here is a need for methods and computing systems that can employ more effective and accurate methods for identifying, isolating, and/or processing various aspects of seismic signals or other data that is collected from a subsurface region or other multidimensional space.” *Id.* (quoting Spec. ¶ 4). Appellant further contends that “Appellant’s processing steps provide these more effective and accurate methods, which improve the seismic processing field. For example, Appellant’s Specification describes the benefits, which include fewer iterations and reduced computational costs to reach the updated reflection model.” *Id.* (citing Spec. ¶ 89). Appellant argues,

[t]hese benefits provided by the processing steps culminate in *the practical application of ‘updating the reflection model.’* This final step is a practical application because the updated reflection model *may be used to locate hydrocarbons (e.g., oil) in the subterranean formation, which may help to produce/extract the hydrocarbons.*

*Id.* (emphasis added). In support, Appellant quotes description in paragraph 108 of the Specification. *Id.* at 3–4.

Appellant’s contentions are unpersuasive. Even if the claimed at least one exclusion criterion may be used to limit which shot points in acquired seismic data may be sampled, and this may avoid certain *computing* inefficiencies and *computational* costs, as described in paragraph 89 of the Specification, claim 1 does not call for any computer implementation of the recited steps. To the extent Appellant is contending that such computing inefficiencies and computational costs must, nonetheless, be associated with a computing system, we disagree. All steps of claim 1, including step B which calls for “determining at least one exclusion criterion,” appear broad enough to read on an individual performing the steps mentally or with pencil and paper.

Second, even if “the updated reflection model may be used to locate hydrocarbons (e.g., oil) in the subterranean formation,” claim 1 does not expressly require this use of the updated reflection model.<sup>3</sup> Reply Br. 3. In

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<sup>3</sup> It should be noted that claim 21, which depends from claim 1, recites “further comprising determining a presence of a hydrocarbon in the region of interest based at least in part on the updated reflection model.” Appeal Br. 21 (Claims App.). According to the doctrine of claim differentiation “the presence of a dependent claim that adds a particular limitation raises a presumption that the limitation in question is not found in the independent claim.” *Bancorp Servs. L.L.C. v. Sun Life Assurance Co. of Can. (U.S.)*, 687 F.3d 1266, 1275 (Fed. Cir. 2012).

fact, claim 1 does not require the updated reflection model to be used for any purpose. To the extent it is Appellant's position that claim 1 integrates any judicial exception into a practical application *because* step E *may* be used to locate hydrocarbons in a subterranean formation, despite this use being unclaimed, we disagree.

Third, to the extent it is Appellant's position that using the exclusion criteria provides an "improvement[] over conventional systems and methods" and avoids certain computing inefficiencies and computational costs (Appeal Br. 11–12), again, claim 1 does not call for any computer implementation of the recited steps.

In addition to steps B, D, and E discussed above in Step 2A, Prong One, step A of claim 1 recites "receiving seismic data for a region of interest, wherein the seismic data were acquired in a seismic survey." Appeal Br. 17 (Claims App.). This step merely recites receiving seismic data acquired in a seismic survey for analysis of the seismic data and, therefore, is insignificant extra-solution activity. *See* 2019 Guidance 55 n.31. Step C of claim 1 recites "determining simulated seismic data based at least in part on an earth model for the region of interest, a reflection model for the region of interest, and the selected shot points." Appeal Br. 17 (Claims App.). Appellant does not contend that either of these additional elements integrates any judicial exception discussed above in Prong One into a practical application.

Appellant also contends that claim 1 does not tie up a mathematical relationship or algorithm. Appeal Br. 9. According to Appellant, even if the claim involves a mathematical relationship or algorithm, the claim is "directed to a specific algorithm that analyzes specific seismic data in a

specific manner.” *Id.* at 10. Appellant’s contention appears to be premised on a lack of preemption. But even assuming Appellant’s contention is correct, as the Examiner recognizes, “[w]hile preemption may signal patent ineligible subject matter, [but] the absence of complete preemption does not demonstrate patent eligibility.” Ans. 3 (citing *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 788 F.3d 1371, 1379 (Fed. Cir. 2015)). Accordingly, Appellant’s apparent non-preemption argument is unpersuasive.

Appellant also contends that claim 1 is not directed to a known method, as evidenced by the absence of any outstanding rejection under 35 U.S.C. § 102 or § 103. Appeal Br. 14. According to Appellant, because the claimed method was not previously known, the claims are patent eligible. *Id.* We disagree. The patent eligibility analysis is not an evaluation of novelty or non-obviousness. “A claim for a new abstract idea is still an abstract idea.” *Synopsis*, 839 F.3d at 1151. Even assuming that the claimed method may be novel, “[t]he ‘novelty’ of . . . the . . . [claim] itself, is of no relevance in determining whether the subject matter of a claim falls within the § 101 categories of possibly patentable subject matter.” *See Diamond v. Diehr*, 450 U.S. 175, 188–189 (1981). A novel and non-obvious claim directed to a purely abstract idea is, nonetheless, patent-ineligible. *See Mayo*, 566 U.S. at 90–91.

In short, the additional elements recited in claim 1: (1) do not improve the functioning of a computer or other technology, as Appellant contends; (2) are not applied with any particular machine; (3) do not affect a transformation of a particular article to a different state; and (4) are 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), (e)–(f). Accordingly, Appellant’s contentions do not persuade us that claim 1 recites any additional claim element(s) that integrate(s) the judicial exception into a practical application of the exception. That is, claim 1 is “directed to” the judicial exception. *See* 2019 Guidance at 54. Accordingly, we proceed to determine whether claim 1 recites an “inventive concept.”

*Step 2B – Inventive Concept*

For Step 2B of the analysis, we determine whether the claim adds a specific limitation *beyond the judicial exceptions* that is not “well-understood, routine, conventional” in the field. *See* 2019 Guidance.

The Examiner concludes that claim 1 does not include any additional elements that are sufficient to amount to significantly more than the abstract idea itself. Final Act. 4–5.

Appellant contends that the claim improves the technical field of seismic surveys and subterranean modeling applications by specifying how the reflection model is updated, and captures the improvements described in the Specification, and thus, is patent eligible under Step 2B. Appeal Br. 11–12. As discussed above, however, Appellant’s contentions do not persuade us that the additional elements of claim 1 provide an improvement in the functioning of a computer (at least because no computer implementation is even recited), or an improvement to other technology or technical field.

Appellant contends that *Finjan*<sup>4</sup> supports its position that the claim provides an inventive concept. *Id.* at 12–13. According to Appellant, “just like the claims in *Finjan*, Appellant’s claims are patent-eligible, without any

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<sup>4</sup> *Finjan Inc. v. Blue Coat Sys. Inc.*, 879 F. 3d 1299 (Fed. Cir. 2018).

need to recite *a controlled physical component apart from a computer.*” *Id.* at 13 (emphasis added). To the extent Appellant may again be contending that claim 1 must be performed on a computing system, again, claim 1 does not call for any computer implementation of the recited steps. Nor does claim 1 require the updated reflection model to be used for *any* purpose.

Furthermore, as we determine that steps B, D, and E recite abstract ideas, Appellant is effectively relying on the application of those abstract ideas in the claimed method as the alleged inventive concept. *Id.* at 11–13. Appellant does not show persuasively that the abstract ideas recited in claim 1 are applied using techniques that are not conventional and well-understood. A claim’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.” *BSG Tech LLC v. BuySeasons, Inc.*, 899 F.3d 1281, 1290 (Fed. Cir. 2018); *Synopsys*, 839 F.3d at 1151 (“[A] claim for a *new* abstract idea is still an abstract idea.”).

Thus, we sustain the rejection of claim 1 under 35 U.S.C. § 101. Claims 2–10 and 12–20 fall with claim 1.

*Non-statutory double patenting of claims 1–10 and 12–20*

In the Appeal Brief, Appellant does not address the non-statutory double patenting rejection of claims 1–10 and 12–20. Accordingly, we sustain the rejection of these claims on the ground of non-statutory double patenting as unpatentable over claims 1–20 of US Application No. 14/292,487.

DECISION 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>
1–10, 12–20	101	Patent ineligible subject matter	1–10, 12–20	
1–10, 12–20	Non-statutory double patenting	Claims 1–20 of US Application No. 14/292,487	1–10, 12–20	
<b>Overall Outcome</b>			<b>1–10, 12–20</b>	

FINALITY AND 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)(1)(iv).

AFFIRMED