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BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte DANIEL D. O'NEILL

Appeal 2018-007030 Application 12/940,147 Technology Center 3600

Before JOSEPH L. DIXON, JUSTIN BUSCH, and JAMES W. DEJMEK, *Administrative Patent Judges*.

DEJMEK, Administrative Patent Judge.

DECISION ON APPEAL

Appellant¹ appeals under 35 U.S.C. § 134(a) from a Final Rejection of claims 1–6, 8, 10, 11, 13–18, 20, 22–26, 31–38, 40–48, and 50–57.

Appellant has canceled claims 7, 9, 12, 19, 21, 27–30, 39, 49, and 58. *See*Appeal Br. 36–53. Oral arguments were heard on February 25, 2020. A transcript of the hearing was placed in the record on March 10, 2020. We have jurisdiction over the remaining pending claims under 35 U.S.C. § 6(b).

We affirm.

Throughout this Decision, we use the word "Appella

¹ Throughout this Decision, we use the word "Appellant" to refer to "applicant" as defined in 37 C.F.R. § 1.42 (2017). Appellant identifies Rafferty Asset Management, LLC as the real party in interest. Appeal Br. 1.

STATEMENT OF THE CASE

Introduction

Appellant's disclosed and claimed invention generally relates to leveraged index products (e.g., leveraged mutual funds and leveraged exchange traded funds). Spec. 1:3–5. In contrast to traditional index funds, a leveraged index fund "seeks to return a multiple of the return of an underlying benchmark over a period of time." Spec. 1:6–10. "The extent to which a leveraged index product provides a multiple of the return of the benchmark index is generally referred to as the 'Beta' of the product." Spec. 1:19–21. According to the Specification, to attempt to achieve the stated return, exposure to the benchmark is provided in an amount equal to the product of the Beta of the fund and the fund's net assets each day. Spec. 2:4–6.

According to the Specification, the return of a target index is only for a limited period of time. Spec. 2:17–19. Compounding successive periods of return "introduces a path dependency that impacts returns for periods longer than the stated limited period of time." Spec. 3:1–3. For example, market fluctuations (i.e., the market not performing in a linear and directional fashion) may affect the performance of a Daily Beta Model versus a Cumulative Beta Model. *See* Spec. 12:19–19:11.

The claimed approach "attempts to provide a return from the aggregate investment in the cash equivalent and the leveraged index product account that is substantially equivalent to a multiple of the cumulative return of the theoretical index over the period of time." Spec. 4:1–5.

Claim 1 is representative of the subject matter on appeal and is reproduced below:

1. A computer implemented method comprises:

periodically calculating by one or more computers, a theoretical position in an underlying index that corresponds to an index associated with a leveraged index product;

determining by the one or more computers, based on the calculated theoretical position, an exposure correction that corresponds to a level of investment in a leveraged index product account to provide a leveraged exposure to the underlying index relative to the exposure provided by the theoretical position;

sending by the one or more computers a message including the determined exposure correction to a user system;

receiving from the user system a message that causes the one or more computers to apply the exposure correction to rebalance the level of investment in the leveraged index product account;

causing by the one or more computers a cash transfer, according to the received message from the user system; and

causing by the one or more computers investment of contents in the leveraged index product account in an investment pool that invests the investment pool on a daily basis according to a leveraged investment strategy.

The Examiner's Rejections

- Claims 31–38 and 40–48 stand rejected under pre-AIA
 U.S.C. § 112, second paragraph as being indefinite.² Final Act. 2–3.
- 2. Claims 1–6, 8, 10, 11, 13–18, 20, 22–26, 31–38, 40–48, and 50–57 stand rejected under 35 U.S.C. § 101 as being directed to patent-ineligible subject matter. Final Act. 3–16.

² The Examiner initially also rejected claims 3, 16, and 25 on this basis, but has since withdrawn the indefiniteness rejection of these claims. *See* Ans. 3–4.

3

ANALYSIS³

Rejection under pre-AIA 35 U.S.C. § 112, second paragraph

Independent claim 31 recites, in relevant part, "sending by one or more computers a message to a user system indicating the determined cash amount of investment in the leveraged index product account required to provide the leveraged index product account with *substantially the same leveraged exposure* to an underlying index as a leveraged exposure provided by the determined theoretical position." (Emphasis added.) Independent claim 41 recites a commensurate limitation.

The Examiner rejects independent claims 31 and 41 (as well as the claims that depend from them) under pre-AIA 35 U.S.C. § 112, second paragraph, because the phrase "substantially the same leveraged exposure' is a relative term whose metes and bounds are not clear." Final Act. 3 (emphasis omitted).

"The test for definiteness is whether one skilled in the art would understand the bounds of the claim when read in light of the specification."

³ Throughout this Decision, we have considered the Appeal Brief, filed March 16, 2018 ("Appeal Br."); the Reply Brief, filed June 29, 2018 ("Reply Br."); the Examiner's Answer, mailed May 4, 2018 ("Ans."); and the Final Office Action, mailed July 18, 2017 ("Final Act."), from which this Appeal is taken.

⁴ We note that the term "the determined cash amount" lacks proper antecedent basis. In the event of further prosecution, we leave it to the Examiner to determine whether the claim should be amended from "the determined cash amount" to "a determined cash amount." Although the Board is authorized to reject claims under 37 C.F.R. § 41.50(b), no inference should be drawn when the Board elects not to do so. *See* Manual of Patent Examining Procedure (MPEP) § 1213.02 (9th ed. Rev. 08.2017, Jan. 2018).

Miles Labs., Inc. v. Shandon Inc., 997 F.2d 870, 875 (Fed. Cir. 1993). "The purpose of claims is not to explain the technology or how it works, but to state the legal boundaries of the patent grant. A claim is not 'indefinite' simply because it is hard to understand when viewed without benefit of the specification." S3 Inc. v. NVIDIA Corp., 259 F.3d 1364, 1369 (Fed. Cir. 2001). Moreover, "[i]t is well established that when the term 'substantially' serves reasonably to describe the subject matter so that its scope would be understood by persons in the field of the invention, and to distinguish the claimed subject matter from the prior art, it is not indefinite." Verve, LLC v. Crane Cams, Inc., 311 F.3d 1116, 1120 (Fed. Cir. 2002). However, we are mindful that even if the definition of a claim term may be supported by the specification, "the claim is still indefinite if a person of ordinary skill in the art cannot translate the definition into meaningfully precise claim scope." Halliburton Energy Servs., Inc. v. M-I LLC, 514 F.3d 1244, 1251 (Fed. Cir. 2008); see also Interval Licensing LLC v. AOL, Inc., 766 F.3d 1364, 1370-71 (Fed. Cir. 2014).

Here, the Specification provides that the theoretical exposure is compared to the exposure provided by a current investment in the leveraged index product and, "if there is a material difference," recommending or initiating purchases into, or redemptions from, the leveraged index product "to attempt to ensure that the exposure to the underlying index provided by the investment in the leveraged index product is *at least roughly equivalent* to the theoretical exposure." Spec. 20:9–17 (emphasis added); *see also* Spec. 21:1–6 (describing the execution of transactions to provide a current investment that is "substantially equal" to the theoretical benchmark exposure). Further, the Specification describes that if the absolute value of

the difference between a current investment and the theoretical benchmark exposure exceeds a threshold value, then a message (or transaction) will occur suggesting a transfer of assets to/from a cash equivalent account from/to a leveraged index product account. Spec. 25:1–27:5. The Specification also describes the threshold may be bounded by transaction costs and provides an exemplary maximum threshold of 3%. Spec. 25:8–11; see also Reply Br. 3. This may suggest that for a difference percentage below the threshold percentage, the exposure to the underlying index provided by the current level of investment would be "roughly equivalent to" or substantially the same exposure as that provided by a theoretical benchmark exposure.

However, the Specification also indicates the difference threshold may be greater than 3% (e.g., "up to 5% or more") "if transaction costs are more of a concern." Spec. 25:11–15 (emphasis added). That is, the point at which a message or transaction would occur to rebalance the exposure in a leveraged index product account to be substantially the same as the exposure provided by a determined theoretical position is based on the degree to which transaction costs are of concern to a particular investor. Stated another way, the exposure in a leveraged index product account may be considered substantially the same as the exposure provided by a determined theoretical position until a difference threshold is exceeded. However, the trigger value of the difference threshold is subjective and is determined by the tolerance of one to transaction costs.

The scope of claim language cannot depend solely on the unrestrained, subjective opinion of a particular individual purportedly practicing the invention, without sufficient guidance in the specification to

provide objective direction to one of skill in the art. *See DDR Holdings*, *LLC v. Hotels.com*, *L.P.*, 773 F.3d 1245, 1260 (Fed. Cir. 2014).

For the reasons discussed *supra*, we are unpersuaded of Examiner error. Accordingly, we sustain the Examiner's rejection under pre-AIA 35 U.S.C. § 112, second paragraph, of independent claim 31. For similar reasons, we also sustain the Examiner's rejection of independent claim 41, which recites a commensurate limitation. Additionally, we sustain the Examiner's rejection under pre-AIA 35 U.S.C. § 112, second paragraph, of claims 32–38, 40, and 42–48, which depend directly or indirectly therefrom.

Rejection under 35 U.S.C. § 101

Appellant disputes the Examiner's conclusion that the pending claims are directed to patent-ineligible subject matter. Appeal Br. 17–35; Reply Br. 4–20. In particular, Appellant argues that contrary to the Examiner's conclusion that the claims are directed to "rebalancing exposure to an underlying index in a leveraged index product" (Final Act. 4), the claims are instead directed to "a specific, novel methodology for improving tracking of leveraged products, such as leveraged index fund products, with respect to a beta multiplier (volatility multiplier) of an underlying benchmark." Appeal Br. 18; *see also* Appeal Br. 23. In addition, Appellant argues that rebalancing exposure, as identified by the Examiner, is not similar to the concepts of hedging or mitigating risk. Appeal Br. 19. Moreover, Appellant asserts the claims provide a solution to a problem rooted in technology by reciting features that are neither conventional nor routine practice in the industry and, as such, recite significantly more than the alleged abstract idea. Appeal Br. 23–35; Reply Br. 9–20.

The Supreme Court's two-step framework guides our analysis of patent eligibility under 35 U.S.C. § 101. Alice Corp. v. CLS Bank Int'l, 573 U.S. 208, 217 (2014). In addition, the Office has published revised guidance for evaluating subject matter eligibility under 35 U.S.C. § 101, specifically with respect to applying the *Alice* framework. USPTO, 2019 Revised Patent Subject Matter Eligibility Guidance, 84 Fed. Reg. 50 (Jan. 7, 2019) ("Office Guidance"). If a claim falls within one of the statutory categories of patent eligibility (i.e., a process, machine, manufacture, or composition of matter) then the first inquiry is whether the claim is directed to one of the judicially recognized exceptions (i.e., a law of nature, a natural phenomenon, or an abstract idea). Alice, 573 U.S. at 217. As part of this inquiry, we must "look at the 'focus of the claimed advance over the prior art' to determine if the claim's 'character as a whole' is directed to excluded subject matter." Affinity Labs of Tex., LLC v. DIRECTV, LLC, 838 F.3d 1253, 1257-58 (Fed. Cir. 2016). Per Office Guidance, this first inquiry has two prongs of analysis (i) does the claim recite a judicial exception (e.g., an abstract idea), and (ii) if so, is the judicial exception integrated into a practical application. 84 Fed. Reg. at 54. Under the Office Guidance, if the judicial exception is integrated into a practical application, see infra, the claim passes muster under § 101. 84 Fed. Reg. at 54–55. If the claim is directed to a judicial exception (i.e., recites a judicial exception and does not integrate the exception into a practical application), the next step is to determine whether any element, or combination of elements, amounts to significantly more than the judicial exception. *Alice*, 573 U.S. at 217; 84 Fed. Reg. at 56.

Here, we conclude Appellant's claims recite an abstract idea. More specifically, Appellant's claims are generally directed to determining an

exposure correction corresponding to a level of investment in a leveraged index product account, based on a theoretical position, and rebalancing the level of investment in the leveraged index product account consistent with the determined exposure correction. This is consistent with how Appellant describes the claimed invention. See Spec. 6:19–20 (describing an aspect of the invention as "rebalancing exposure to an underlying index in a leveraged index product"). Determining an exposure correction corresponding to a level of investment in a leveraged index product account, based on a theoretical position, and rebalancing the level of investment in the leveraged index product account consistent with the determined exposure correction is a certain method of organizing human activity (e.g., a fundamental economic practice)—i.e., an abstract idea. See 84 Fed. Reg. at 52; see also Alice, 573 U.S. at 219–20 (concluding that use of a third party to mediate settlement risk is a "fundamental economic practice" and thus, an abstract idea); Bilski v. Kappos, 561 U.S. 593, 611–12 (2010) (concluding hedging to be a fundamental economic practice and, therefore, an abstract idea); Credit Acceptance Corp. v. Westlake Servs., 859 F.3d 1044, 1054 (Fed. Cir. 2017) (holding that "processing an application for financing a purchase" falls within certain methods of organizing human activities and is, therefore, an abstract idea).

Contrary to Appellant's assertions (*see, e.g.*, Appeal Br. 18–24; Reply Br. 4–8), determining an exposure correction corresponding to a level of investment in a leveraged index product account, based on a theoretical position, and rebalancing the level of investment in the leveraged index product account consistent with the determined exposure correction is analogous to mitigating risk due to market fluctuations. *See Bilski*, 561 U.S.

at 599 (explaining the pending claims allow consumers "to minimize the risks resulting from fluctuations in market demand for energy"). Similarly, the "tracking of leveraged products" and "mitigat[ing] a path dependency that impacts returns," as Appellant asserts the claims are directed to (*see* Appeal Br. 18, 23; Reply Br. 8, 17), are mechanisms to mitigate an investment risk (e.g., to transfer money from a leveraged index product account to a cash equivalent account); *see also* Spec. 16:10–19:11.

Claim 1 is reproduced below and includes the following claim limitations that recite determining an exposure correction corresponding to a level of investment in a leveraged index product account, based on a theoretical position, and rebalancing the level of investment in the leveraged index product account consistent with the determined exposure correction, emphasized in *italics*:

1. A computer implemented method comprises:

periodically calculating by one or more computers, a theoretical position in an underlying index that corresponds to an index associated with a leveraged index product;

determining by the one or more computers, based on the calculated theoretical position, an exposure correction that corresponds to a level of investment in a leveraged index product account to provide a leveraged exposure to the underlying index relative to the exposure provided by the theoretical position;

sending by the one or more computers a message including the determined exposure correction to a user system;

receiving from the user system a message that causes the one or more computers to apply the exposure correction to rebalance the level of investment in the leveraged index product account;

causing by the one or more computers a cash transfer, according to the received message from the user system; and

causing by the one or more computers investment of contents in the leveraged index product account in an investment pool that invests the investment pool on a daily basis according to a leveraged investment strategy.

More particularly, the concept of determining an exposure correction corresponding to a level of investment in a leveraged index product account, based on a theoretical position, and rebalancing the level of investment in the leveraged index product account consistent with the determined exposure correction comprises (i) determining a theoretical position for a leveraged index product (i.e., the claimed step of calculating a theoretical position in an underlying index corresponding to an index associated with a leveraged index product); (ii) determining an exposure correction corresponding to a level of investment in a leveraged index product account based on the determined theoretical position (i.e., the claimed step of determining, based on the calculated theoretical position, an exposure correction that corresponds to a level of investment in a leveraged index product account to provide the (desired) leveraged exposure); and (iii) rebalancing the level of investment in the leveraged index product account consistent with the determined exposure correction (i.e., the claimed step of applying the exposure correction to rebalance the level of investment in the leveraged index product account).

Because the claim recites a judicial exception, we next determine whether the claim integrates the judicial exception into a practical application. 84 Fed. Reg. at 54. To determine whether the judicial exception is integrated into a practical application, we identify whether there are "any additional elements recited in the claim beyond the judicial exception(s)" and evaluate those elements to determine whether they

integrate the judicial exception into a recognized practical application. 84 Fed. Reg. at 54–55 (emphasis added); *see also* Manual of Patent Examining Procedure ("MPEP") § 2106.05(a)–(c), (e)–(h) (9th ed. Rev. 08.2017, Jan. 2018).

Here, we find the additional limitation(s) do not integrate the judicial exception into a practical application. In particular, the claims do not recite (i) an improvement to the functionality of a computer or other technology or technical field (see MPEP § 2106.05(a)); (ii) use a "particular machine" to apply or use the judicial exception (see MPEP § 2106.05(b)); (iii) a particular transformation of an article to a different thing or state (see MPEP § 2106.05(c)); or (iv) any other meaningful limitation (see MPEP § 2106.05(e)). See 84 Fed. Reg. at 55.

More particularly, the additional limitations merely carry out the application of the exposure correction by causing a cash transfer and investing the contents in the leveraged index product account in an investment pool. *See Apple, Inc. v. Ameranth, Inc.*, 842 F.3d 1229, 1241–42 (Fed. Cir. 2016); *In re Brown*, 645 F. App'x 1014, 1017 (determining that a final step instructing one to apply the abstract idea does not impart patent eligibility); *see also Alice*, 573 U.S. at 223 ("Stating an abstract idea 'while adding the words "apply it" is not enough for patent eligibility."); *Parker v. Flook*, 437 U.S. 584, 590 (1978) (explaining "[t]he notion that post-solution activity, no matter how conventional or obvious in itself, can transform an unpatentable principle into a patentable process exalts form over substance"); MPEP § 2106.05(g).

Additionally, we disagree that the claims are rooted in computer technology or recite an advancement over conventional computer technology. "[T]he fact that the required calculations could be performed more efficiently via a computer does not materially alter the patent eligibility of the claimed subject matter." *Bancorp Servs., L.L.C. v. Sun Life Assurance Co. of Can. (U.S.)*, 687 F.3d 1266, 1278 (Fed. Cir. 2012); *see also OIP Techs., Inc. v. Amazon.com, Inc.*, 788 F. 3d 1359, 1363 (Fed. Cir. 2015) (explaining that "relying on a computer to perform routine tasks more quickly or more accurately is insufficient to render a claim patent eligible") (citing *Alice*, 573 U.S. at 224 ("use of a computer to create electronic records, track multiple transactions, and issue simultaneous instructions" is not an inventive concept)); *see also Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1335–36 (Fed. Cir. 2016) (distinguishing between claims wherein the focus of the claims is on an improvement in computer capabilities and those that invoke a computer as a tool).

By contrast, in *DDR Holdings*, the Federal Circuit determined "the claimed solution amount[ed] to an inventive concept for resolving [a] particular Internet-centric problem," i.e., a challenge unique to the Internet. *DDR Holdings*, 773 F.3d at 1257–59; *see Synopsys, Inc. v. Mentor Graphics Corp.*, 839 F.3d 1138, 1151 (Fed. Cir. 2016) (noting that "[i]n *DDR Holdings*, we held that claims 'directed to systems and methods of generating a composite web page that combines certain visual elements of a "host" website with content of a third-party merchant' contained the requisite inventive concept"). The Federal Circuit explained that the patent-eligible claims specified "how interactions with the Internet are manipulated to yield a desired result . . . that overrides the routine and conventional sequence of events ordinarily triggered by the click of a hyperlink." *DDR Holdings*, 773 F.3d at 1258. The court reasoned that those claims recited a

technological solution "necessarily rooted in computer technology" that addressed a "problem specifically arising in the realm of computer networks." *DDR Holdings*, 773 F.3d at 1257. Here, unlike the claims at issue in *DDR Holdings*, Appellant's claims rely on a "computer network [(i.e., one or more computers and a user system)] operating in its normal, expected manner." *DDR Holdings*, 773 F.3d at 1258–59.

Moreover, contrary to Appellant's assertions (*see*, *e.g.*, Appeal Br. 19–31), limitations recited in the dependent claims also fail to transform the abstract idea into a patent-eligible application.⁵ Rather, the additional limitations merely refine the abstract idea itself or append extra-solution activities to the abstract idea (e.g., refining the determined exposure correction to provide the investment in the leveraged index product to be substantially the same to the exposure determined by a theoretical position, as in claim 3; using a model (i.e., equation) to calculate the theoretical position, as in claim 5⁶; using a tolerance as to when to apply an exposure correction, as in claim 8). As discussed above, these limitations are insufficient to transform judicially excepted subject matter into a patent-eligible application.

For at least the foregoing reasons, the claims do not integrate the judicial exception into a practical application.

⁵ Appellant identifies the following claim groups (with the representative claim identified in bold): (i) **1**, 4, 10, 13, 14, 17, 22, and 26; (ii) **2**, 15, 32, 35–37, 42, 45–47, and 54–56; (iii) **3**, 16, and 25; (iv) 5; (v) 6, **8**, 18, and 20; and (vi) 11, 23, **31**, 33, 34, 38, 40, 41, 43, 44, 48, 50, 52, 53, and 57. Appeal Br. 23–31.

⁶ See also independent claim 31.

Because we determine the claims are directed to an abstract idea or combination of abstract ideas, we analyze the claims under step two of *Alice* to determine if there are additional limitations that individually, or as an ordered combination, ensure the claims amount to "significantly more" than the abstract idea. *Alice*, 573 U.S. at 217–18 (citing *Mayo*, 566 U.S. at 77–79). As stated in the Office Guidance, many of the considerations to determine whether the claims amount to "significantly more" under step two of the *Alice* framework are already considered as part of determining whether the judicial exception has been integrated into a practical application. *See* 84 Fed. Reg. at 56. Thus, at this point of our analysis, we determine if the claims add a specific limitation, or combination of limitations, that is not well-understood, routine, conventional activity in the field, or simply appends well-understood, routine, conventional activities at a high level of generality. *See* 84 Fed. Reg. at 56.

Here, Appellant's claims do not recite specific limitations (or a combination of limitations) that are not well-understood, routine, and conventional. Instead, the recited computers and computer system comprising a processor and memory are described at a high level of generality and perform standard computing functions (e.g., calculating a value, sending a message, and receiving a message). See Spec. 7:8–8:9; see also Mortgage Grader, Inc. v. First Choice Loan Servs. Inc., 811 F.3d 1314, 1324–25 (Fed. Cir. 2016) (generic computer components, such as an "interface," "network," and "database," fail to satisfy the inventive concept requirement); see also Alice, 573 U.S. at 226 at 2360 ("Nearly every computer will include a 'communications controller' and a 'data storage unit' capable of performing the basic calculation, storage, and transmission

functions required by the method claims."); *buySAFE*, *Inc.* v. *Google*, *Inc.*, 765 F.3d 1350, 1355 (Fed. Cir. 2014) ("That a computer receives and sends the information over a network—with no further specification—is not even arguably inventive.").

Further, to the extent Appellant is asserting a lack of rejection under Sections 102 and/or 103 suggests the instant claims do not recite well understood, routine, or conventional activities or, otherwise, recite an inventive concept (see, e.g., Reply Br. 12), we are not persuaded. Subjectmatter eligibility under 35 U.S.C. § 101 is a requirement separate from other patentability inquiries. See Mayo, 566 U.S. at 90 (recognizing that the § 101 inquiry and other patentability inquiries "might sometimes overlap," but that "shift[ing] the patent-eligibility inquiry entirely to these [other] sections risks creating significantly greater legal uncertainty, while assuming that those sections can do work that they are not equipped to do"); see also Diehr, 450 U.S. at 188–89 ("[t]he 'novelty' of any element or steps in a process, or even of the process itself, is of no relevance in determining whether the subject matter of a claim falls within the § 101 categories of possibly patentable subject matter"); Ass'n for Molecular Pathology v. Myriad Genetics, Inc., 569 U.S. 576, 591 (2013) ("Groundbreaking, innovative, or even brilliant discovery does not by itself satisfy the § 101 inquiry."); Two-Way Media Ltd. v. Comcast Cable Commc'ns, LLC, 874 F.3d 1329, 1340 (Fed. Cir. 2017) ("[e]ligibility and novelty are separate inquiries").

For the reasons discussed *supra*, we are unpersuaded of Examiner error. Accordingly, we sustain the Examiner's rejection of claims 1–6, 8, 10, 11, 13–18, 20, 22–26, 31–38, 40–48, and 50–57 under 35 U.S.C. § 101.

CONCLUSION

We affirm the Examiner's decision rejecting claims 31–38 and 40–48 under pre-AIA 35 U.S.C. § 112, second paragraph, as being indefinite.

We affirm the Examiner's decision rejecting claims 1–6, 8, 10, 11, 13–18, 20, 22–26, 31–38, 40–48, and 50–57 under 35 U.S.C. § 101.

DECISION SUMMARY

| Claims Rejected | 35 U.S.C. § | Reference(s)/Basis | Affirmed | Reversed |
|--------------------------------------------------------------------|-----------------------|--------------------|----------------------------------------------------------------------|----------|
| 31–38, 40– 48 | 112, second paragraph | Indefiniteness | 31–38, 40–48 | |
| 1-6, 8, 10, 11, 13-18, 20, 22-26, 31-38, 40- 48, 50-57 | 101 | Patent Eligibility | 1-6, 8, 10, 11, 13-18, 20, 22-26, 31-38, 40-48, 50-57 | |
| Overall Outcome | | | 1-6, 8, 10, 11, 13-18, 20, 22-26, 31-38, 40-48, 50-57 | |

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. § 41.50(f).

AFFIRMED