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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte NEIL W. CONARY and STEPHEN R. MIELE JR.

Appeal 2016-008024¹
Application 13/112,188²
Technology Center 3600

Before MICHAEL C. ASTORINO, TARA L. HUTCHINGS, and
ALYSSA A. FINAMORE, *Administrative Patent Judges*.

HUTCHINGS, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellants appeal under 35 U.S.C. § 134(a) from the Examiner's non-final rejection of claims 1–7 and 9–20, which constitute all the claims pending in this application. We have jurisdiction under 35 U.S.C. § 6(b).

¹ Our decision references Appellants' Appeal Brief ("Appeal Br.," filed Dec. 30, 2015) and Reply Brief ("Reply Br.," filed Aug. 22, 2016), and the Examiner's Answer ("Ans.," mailed June 22, 2016) and Non-Final Office Action ("Non-Final Act.," mailed July 31, 2015).

² Appellants identify Level ATS Corporation as the real party in interest. Appeal Br. 1.

We AFFIRM and designate our affirmance as a NEW GROUND OF REJECTION pursuant to our authority under 37 C.F.R. § 41.50(b).

CLAIMED INVENTION

Appellants' claimed invention "relates to systems and methods for trading large block of securities." Spec. ¶ 2.

Claims 1 and 13 are the independent claims on appeal. Claim 1, reproduced below, is illustrative of the claimed subject matter:

1. A computer-implemented trading system for auto-trading securities when transaction pricing is within target prices and in a controlled manner when transaction pricing is outside of such target prices, comprising:

a plurality of electronic input and display devices for traders to input buy and sell orders and trading instructions, and receiving trading transaction information;

a computer-based dark pool facility for receiving buy and sell orders and trading instructions transmitted from the electronic input and display devices and matching crossing buy and sell orders, and transmitting trading transaction information to the plurality of electronic input and display devices, with the computer-based dark pool facility including at least,

a processor-implemented matching engine for matching crossing counterparty buy and sell orders,

a system database for storing buy and sell orders for matching, and trading transaction information that includes at least order fulfillment information based on matches completed by the matching engine,

processor-implemented first programming means for controlling the matching engine and database to auto-match crossing counterparty buy and sell orders according to programming of the first programmable means and trading instructions of counterparty traders to a trading transaction input through respective electronic input and display devices,

processor-implemented second programming means for controlling the first programming means, matching engine, and

database to auto-match crossing counterparty buy and sell orders under conditions when transaction pricing in matching crossing counterparty buy and sell orders according to the programming of the first programming means is outside of the buy or sell target price instructions input as part of the trading instructions by a buyer or seller, respectively, with the second programming means including trading control programming to control trading transactions by limiting the volume of trading transactions that can be completed in a predetermined fixed time period while the transaction pricing remains outside of the buy or sell target price instructions input by the buyer or seller, respectively, and

a processor-implemented communications interface for receiving buy and sell orders and trading instructions from the plurality of electronic input and display devices and transmitting trading transaction information to the plurality of electronic input and display devices; and

an electronic communications link for transmitting buy and sell orders and trading instructions input by traders at the plurality of electronic input and display devices to the communications interface of the dark pool facility and transmitting trading transaction information from the communications interface to the plurality of electronic input and display devices.

REJECTIONS

Claims 10 and 20 are rejected under 35 U.S.C. § 112, second paragraph, as indefinite for failing to particularly point out and distinctly claim the subject matter that Appellants regard as the invention.

Claims 1–7 and 9–20 are rejected under 35 U.S.C. § 101 as directed to non-statutory subject matter.

ANALYSIS

Indefiniteness

We are not persuaded by Appellants' arguments that the Examiner erred in rejecting claims 10 and 20 under 35 U.S.C. § 112, second paragraph. Appeal Br. 13–15; Reply Br. 9–10. Instead, we agree with the Examiner that the term “large block,” as recited in claims 10 and 20, is a relative term that renders the claims indefinite at least because the term is not defined, and the Specification does not provide a standard, i.e., objective boundaries, for determining what constitutes a “large block” of securities. Non-Final Act. 10; *see also* Ans. 7–8. Our reviewing court has made clear that “the objective boundaries requirement applies to terms of degree.” *See Berkheimer v. HP Inc.*, 881 F.3d 1360, 1364 (Fed. Cir. 2018); *see also Interval Licensing LLC v. AOL, Inc.*, 766 F.3d 1364, 1371 (Fed. Cir. 2014) (requiring “objective boundaries” for assessing scope of term of degree); *Datamize LLC v. Plumtree Software, Inc.*, 417 F.3d 1342, 1350 (Fed. Cir. 2005) (“[A] claim term, to be definite, requires an objective anchor.”).

Appellants do not dispute that the Specification fails to provide objective boundaries for the meaning of the term “large blocks.” Instead, Appellants submit and rely upon three appendices to show that the phrase “‘large blocks of securities’ would be clearly understood by a person of ordinary skill in the art” to require at least 10,000 shares per trade. Appeal

Br. 13–15 (citing Appendices B–D).^{3,4,5} In response, the Examiner correctly finds that Appendices C and D describe a block as having either a minimum of 10,000 shares, or a minimum market value of \$200,000. *See* Final Act. 10–11 (quoting Appendices C and D); *compare* App. B 1 (defining a block as having at least 10,000 shares) *with* App. C 6 and App. D 50. As such, the Examiner reasons that a block could be interpreted to require the minimum of 10,000 shares or a market value of \$200,000. *Id.* at 10. In our view, the Examiner and Appellants have shown that the term “block” would be understood by one of ordinary skill in the art under a broadest reasonable interpretation to require at least 10,000 shares or a minimum market value of \$200,000, whichever is smaller. *See, e.g.*, App. C at 6.

Nonetheless, no objective standard has been provided to show what a “large” block means, as such, the term “large block” is indefinite. Accordingly, we are not persuaded, on the present record, that the Examiner erred in rejecting claims 1–20 under 35 U.S.C. § 112, second paragraph. Therefore, we sustain the Examiner’s rejection. Because our rationale differs from that provided by the Examiner, we designate our affirmance as a NEW GROUND OF REJECTION.

³ Appendix B: NYSE Equities, Block Trading, *The NYSE is the Leader in Block Trading* (June 2008).

⁴ Appendix C: NYSE, Rule 72, *Priority of Bids and Offers and Allocation of Executions*, pages 1–7 (December 3, 2014).

⁵ Appendix D: U.S. CONGRESS, OFFICE OF TECHNOLOGY ASSESSMENT, *Electronic Bulls and Bears: U.S. Securities Markets and Information Technology*, OTA-CIT-469, Washington, DC: U.S. Government Printing Office (September 1990).

Non-Statutory Subject Matter

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. The Supreme Court, however, has long interpreted § 101 to include an implicit exception: “[l]aws of nature, natural phenomena, and abstract ideas” are not patentable. *See, e.g., Alice Corp. Pty. Ltd. v. CLS Bank Int’l*, 134 S. Ct. 2347, 2354 (2014).

The Supreme Court, in *Alice*, reiterated the two-step framework previously set forth in *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, 566 U.S. 66 (2012), “for distinguishing patents that claim laws of nature, natural phenomena, and abstract ideas from those that claim patent-eligible applications of those concepts.” *Alice Corp.*, 134 S. Ct. at 2355. The first step in that analysis is to “determine whether the claims at issue are directed to one of those patent-ineligible concepts.” *Id.* If the claims are not directed to a patent-ineligible concept, e.g., an abstract idea, the inquiry ends. Otherwise, the inquiry proceeds to the second step where the elements of the claims are considered “individually and ‘as an ordered combination’” to determine whether there are additional elements that “‘transform the nature of the claim’ into a patent-eligible application.” *Id.* (quoting *Mayo*, 566 U.S. at 79, 78).

“The ‘abstract idea’ step of the inquiry calls upon us to 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) (internal citations omitted). In cases involving software innovations, this inquiry often turns on whether the claims focus 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.” *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1335–36 (Fed. Cir. 2016).

Here, in rejecting the claims under § 101, the Examiner determines that the claims are directed to “auto-trading securities when transaction pricing is within target prices and in a controlled manner when transaction pricing is outside o[f] such target prices,” which is an abstract idea. Non-Final Act. 6. Specifically, the Examiner determines that the claims are “directed to activities that could be performed by human hands or mental processes,” and, thus, is drawn to an abstract idea. *Id.* at 7; *see also* Ans. 3 (explaining that the claims are directed to the collection and comparison of data, which can be performed mentally). Turning to step two, the Examiner determines that the claims do not include additional elements that constitute “significantly more” than the abstract idea because “the claims do not include an improvement to another technology or technical field, an improvement to the functioning of the computer itself, or meaningful limitations beyond generally linking the use of the abstract ideas to a particular technological environment.” Non-Final Act. 7.

In the Appeal Brief, “Appellants submit that claims 1-7 and 9-12 are directed to ‘the electronic trading of large blocks of securities,’” which “may be considered drawn to an abstract idea.” Appeal Br. 10. We agree with Appellants that the claims are directed to an abstract idea.

In the Reply Brief, however, Appellants change their position and argue, for the first time, that the claims are not directed to an abstract idea, but instead to an improvement in computer-related technology. *See* Reply

Br. 4–7. Specifically, Appellants contend that the claims are akin to the patent-eligible claims at issue in *Enfish*, because they are directed to “an improvement in the operation of a computer-implemented trading system for auto-trading securities by allowing trading in a controlled manner when transaction pricing is outside of target prices.” *Id.* at 7.

Yet, the improvement Appellants identify (i.e., allowing trading in a controlled manner when transaction pricing is outside of target prices) is not an improvement to computer capabilities akin to *Enfish*’s self-referential table for a computer database. *See Enfish*, 822 F.3d at 1335–36. Instead, it is an improvement to a process that qualifies as an abstract idea, for which computers are invoked merely as a tool. We agree with the Examiner (*see, e.g.,* Ans. 2–4) that the concept of allowing trading in a controlled manner when transaction pricing is outside of target prices is not meaningfully distinct from cases involving mental processes or the collection, analysis, and manipulation of data. *See, e.g., Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1353–54 (Fed. Cir. 2016) (collecting numerous cases describing mental processes, and data collection, analysis, and display as abstract-idea processes).

Appellants argue that the claims do not preempt the use of “(1) trading securities or (2) trading securities when the price is below the favored sale price or above the favored buy price.” Appeal Br. 12. Appellants’ argument is not persuasive of Examiner error. There is no dispute that the Supreme Court has described “the concern that drives [the exclusion of abstract ideas from patent eligible subject matter] as one of pre-emption.” *Alice Corp.*, 134 S. Ct. at 2354. But, characterizing preemption as a driving concern for patent eligibility is not the same as characterizing preemption as the sole test

for patent eligibility. “The Supreme Court has made clear that the principle of preemption is the basis for the judicial exceptions to patentability” and “[f]or this reason, questions on preemption are inherent in and resolved by the § 101 analysis.” *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 788 F.3d 1371, 1379 (Fed. Cir. 2015) (citing *Alice Corp.*, 134 S. Ct. at 2354).

Although “preemption may signal patent ineligible subject matter, the absence of complete preemption does not demonstrate patent eligibility.” *Id.*

Turning to step two of the *Alice* framework, Appellants argue that “limiting the volume of trading transactions that can be completed in a predetermined fixed time period while the transaction pricing remains outside of the buy or sell target price instructions input by the buyer or seller,” as recited in claim 1, and similarly recited in claim 13, transforms the abstract idea of “(1) trading securities and (2) trading securities when the trading price is below the favored sale price or above the favored buy price” into patent-eligible subject matter. Appeal Br. 12. Yet, limiting the volume of trading transactions, as recited in claims 1 and 13, is no more than an abstract data manipulation step, which is insufficient to transform the abstract idea. Here, Appellants do not indicate, and we do not find, that the limitation requires any new techniques for performing the data analysis step, any inventive components, any inventive program, or any inventive arrangement of known, conventional pieces to improve technology. Instead, the limitation recites desired results (functions) without any particular ways of achieving them, which is insufficient. *Elec. Power Grp.*, 830 F.3d at 1356; *see id.* at 1355 (explaining that the “[i]nquiry [at step two] therefore must turn to any requirements for *how* the desired result is achieved”).

In the Reply Brief, Appellants argue that the claims recite significantly more than the abstract idea. Specifically, Appellants argue that claim 1 is analogous to the claims at issue in *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245 (Fed. Cir. 2014), because it is “directed to problems particular to algorithmic and other computer-based trading systems” and “allow[s] automatic trading to continue when pricing becomes aggressive.” Reply Br. 8 (citing Spec. ¶ 33). Yet, the claims at issue in *DDR Holdings* modified the routine, conventional functioning of Internet hyperlink protocol to direct a user of a host website to a “store within a store” on the host website, rather than to an advertiser’s third-party website, when the user clicks an advertisement. *DDR Holdings*, 773 F.3d at 1257–58. Here, in contrast, Appellants’ Specification describes executing trades when the transaction process is outside the trading instructions requires buyers or sellers to “manually enter the system and selectively make trades[,] which is inefficient and ineffectual.” Spec. ¶ 33. In other words, the claimed solution is an improvement to an abstract business practice, not an improvement to computer networks.

Appellants argue that an inventive concept can be found in the combination of elements, analogous to the situation in *Bascom Global Internet Servs., Inc. v. AT&T Mobility LLC*, 827 F.3d 1341 (Fed. Cir. 2016). Reply Br. 8–9. However, Appellants do not persuasively explain how, and we do not see how, Appellants’ claims parallel the claims in *Bascom*, which recited a “non-conventional and non-generic arrangement of known, conventional pieces” within a network, the arrangement of elements being “a technical improvement over the prior art ways of filtering.” *Bascom*, 827 F.3d at 1350.

In view of the foregoing, we sustain the Examiner's rejection of claims 1–7 and 9–20 under 35 U.S.C. § 101.

DECISION

The Examiner's rejection of claims 10 and 20 under 35 U.S.C. § 112, second paragraph, is affirmed. We designated our affirmance as including a new ground of rejection pursuant to 37 C.F.R. § 41.50(b).

The Examiner's rejection of claims 1–7 and 9–20 under 35 U.S.C. § 101 is affirmed.

This decision contains new grounds of rejection pursuant to 37 C.F.R. § 41.50(b). 37 C.F.R. § 41.50(b) provides “[a] new ground of rejection pursuant to this paragraph shall not be considered final for judicial review.” 37 C.F.R. § 41.50(b) also provides that Appellants, **WITHIN TWO MONTHS FROM THE DATE OF THE DECISION**, must exercise one of the following two options with respect to the new ground of rejection to avoid termination of the appeal as to the rejected claims:

(1) *Reopen prosecution.* Submit an appropriate amendment of the claims so rejected or new evidence relating to the claims so rejected, or both, and have the matter reconsidered by the examiner, in which event the proceeding will be remanded to the Examiner

(2) *Request rehearing.* Request that the proceeding be reheard under § 41.52 by the Board upon the same record

Should Appellants elect to prosecute further before the Examiner pursuant to 37 C.F.R. § 41.50(b)(1), in order to preserve the right to seek review under 35 U.S.C. §§ 141 or 145 with respect to the affirmed rejection, the effective date of the affirmance is deferred until conclusion of the

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prosecution before the Examiner unless, as a mere incident to the limited prosecution, the affirmed rejection is overcome.

If Appellants elect prosecution before the Examiner and this does not result in allowance of the application, abandonment, or a second appeal, this case should be returned to the Patent Trial and Appeal Board for final action on the affirmed rejection, including any timely request for rehearing thereof.

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: 37 C.F.R. § 41.50(b)