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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte JOSE A. ACUNA-ROHTER, PAUL CALLAWAY,
PEARCE PECK-WALDEN, and BARRY L. GALSTER

Appeal 2017-000302
Application 13/281,782
Technology Center 3600

Before MAHSHID D. SAADAT, ALLEN R. MacDONALD, and
JOHN P. PINKERTON, *Administrative Patent Judges*.

MacDONALD, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF CASE

Appellants appeal under 35 U.S.C. § 134(a) from a final rejection of claims 1–36. Claim 37 has been withdrawn from consideration pursuant to 37 C.F.R. § 1.142(b) as being drawn to a nonelected Species. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

Representative Claims

Representative claims 1 and 35 under appeal read as follows;

1. A computer implemented system for improving efficiency of a trading system, the trading system comprising a processor and a match engine coupled therewith, the match engine being operative to match an order for an instrument with another order counter thereto to at least partially satisfy one or both of the order or the other order, the system comprising computer executable program codes stored in a non-transitory memory and executable by a processor coupled therewith to cause the processor to:

disable, by the processor, the processor from identifying to the match engine, a first set of orders, each order of the first set of orders being for a different instrument at an associated order price, wherein if identified to the match engine, one or more of the orders of the first set of orders would be used by the match engine to at least partially satisfy, at an associated match price, the remaining orders of the first set of orders;

receive, by the processor, each order of the first set of orders;

determine, by the processor subsequent to the receiving of all of the orders of the first set of orders, that an event has occurred and, based thereon further determining by the processor whether the associated match price for any order of the first set of orders would be better than the associated order price thereof; and

enable, by the processor when the associated match price for each order of the first set of orders would not be better than the associated order price thereof, identification to the match engine, upon receipt of a subsequent order for a same instrument associated with any of the orders of the first set of orders, of a second set of orders comprising the subsequent order and a subset of orders of the first set of orders wherein, if identified to the match engine, one or more of the orders of the second set of orders would be used by the match engine to at least partially satisfy the remaining orders of the second set of orders.

35. A system for improving efficiency of a trading system comprising a match engine operative to match an order for an instrument with another order counter thereto to at least partially satisfy one or both of the order or the other order, the system comprising:

means for disabling identification to the match engine, a first set of orders, each order of the first set of orders being for a different instrument at an associated order price, wherein if identified to the match engine, one or more of the orders of the first set of orders would be used by the match engine to at least partially satisfy, at an associated match price, the remaining orders of the first set of orders;

means for receiving each order of the first set of orders;

means for determining, subsequent to the receiving of all of the orders of the first set of orders, that an event has occurred and, based thereon further determining whether the associated match price for any order of the first set of orders would be better than the associated order price thereof; and

means for enabling, when the associated match price for each order of the first set of orders would not be better than the associated order price thereof, identification to the match engine, upon receipt of a subsequent order for a same instrument associated with any of the orders of the first set of orders, of a second set of orders comprising the subsequent order and a subset of orders of the first set of orders wherein, if

identified to the match engine, one or more of the orders of the second set of orders would be used by the match engine to at least partially satisfy the remaining orders of the second set of orders.

App. Br. 10, 18 (Claims Appendix).

Rejection on Appeal

The Examiner rejected claims 1–36 under 35 U.S.C. § 101 for being directed to patent-ineligible subject matter. *See* Final Act. 2.¹

Issue on Appeal

Did the Examiner err in rejecting claims 1 and 35 as being directed to patent-ineligible subject matter?

ANALYSIS

We have reviewed the Examiner’s rejections in light of Appellants’ arguments that the Examiner has erred. We disagree with Appellants’ contention that the Examiner erred. Instead, we concur with the conclusions reached by the Examiner. Except as noted below, we adopt as our own the reasoning set forth by the Examiner in the Final Office Action and Examiner’s Answer.

¹ We select claims 1 and 35 as representative. Separate patentability, in compliance with 37 C.F.R. § 41.37(c)(iv), is not argued for claims 2–34 and 36. *See* App. Br. 5–9. Except for our ultimate decision, the rejection of claims 2–34 and 36 is not discussed further herein.

A. *Section 101 Case Law*

Under 35 U.S.C. § 101, a patent may be obtained “for any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof.” The Supreme Court has “long held that this provision contains an important implicit exception: Laws of nature, natural phenomena, and abstract ideas are not patentable.” *Alice Corp. v. CLS Bank Int’l*, 134 S. Ct. 2347, 2354 (2014) (quoting *Ass’n for Molecular Pathology v. Myriad Genetics, Inc.*, 569 U.S. 576, 589 (2013)). 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*, 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,” such as an abstract idea. *Id.* The Court acknowledged in *Mayo* that “all inventions at some level embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas.” *Mayo*, 566 U.S. at 71. Therefore, we look to whether the claims focus on a specific means or method that improves the relevant technology or are instead directed to a result or effect that itself is the abstract idea and otherwise merely recite generic processes and machinery. *See Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1336 (Fed. Cir. 2016). If the claims are not directed to an abstract idea, the inquiry ends. Otherwise, the inquiry proceeds to the second step, in which the elements of the claims are considered “individually and ‘as an ordered combination’ to determine whether the additional elements ‘transform the nature of the claim’ into a

patent-eligible application.” *Alice*, 134 S. Ct. at 2355 (quoting *Mayo*, 566 U.S. at 79, 78).

B. *Alice/Mayo* – Step 1

The Examiner determines claim 1 is directed towards improving the efficiency of a trading system, and improving the efficiency of a trading system is a fundamental economic practice, and, thus, claim 1 is directed to an abstract idea. *See* Final Act. 2–3. Appellants contend claim 1 is not directed to an abstract idea under 35 U.S.C. § 101 because:

[T]he Examiner has not shown, *e.g. by objective evidence [e.g., citation to a finance or banking textbook or standard]*, and a person of ordinary skill in the art would not find, that *the claims are directed to a fundamental economic practice*, such as the operation of an economic market to buy and sell, *nor directed to methods of organizing human activities, an idea in and of itself or a mathematical relationship or formula.*

Furthermore, Applicants generally disagree with the Examiner’s unsupported assertion that *the claims are directed to an “abstract idea”, “mathematical relationship”, or “fundamental economic practice”* and even if it were, Applicants’ claims *do not relate to, nor do they preempt, for example, mere trading of financial instruments.*

App. Br. 5–6 (emphasis added).

The Examiner responds:

[T]he recited steps describe the concept of “improving efficiency of a trading system,” which corresponds to *concepts identified as abstract ideas by the courts, such as formulation and trading of risk in Alice*; and as a result, claim 1 includes an abstract idea. *There are no improvements to the technical field or the technology, nor are there improvements to the computer system itself.* Consequently the claim is not patent eligible.

Ans. 3 (emphasis added).

In response, Appellants continue to contend that claim 1 is not directed to an abstract idea under 35 U.S.C. § 101 because:

[T]he Examiner *has failed to clearly identify what abstract idea they feel the claims are directed towards* and instead are merely reciting Appellants' claim preamble, *without regard to the actual limitations of Appellants' claims and without any further support or analysis of those actual limitations of Appellants' claims*. The Examiner further provides [no] explanation for how the supposed Abstract Idea corresponds to concepts identified in the *Alice* decision. Primarily, Appellants find *no parallel between improving efficiency of a trading system and "formulation and trading of risk."*

...

In particular, Appellants' claims *do not relate to, nor do they preempt, the mere improving of efficiency of a trading system*. Instead, the claims are directed to a novel and patentable *specific application which identifies sets of orders to a match engine which may use some of those orders to satisfy the remainder of those orders*. Contrary to the assertion of the Examiner, the claims are *highly specific to controlling the operation of the claimed processor, under the specified conditions*, in conjunction with a match engine of a trading system where the match engine is specifically operative to match an order for an instrument with another order counter thereto to at least partially satisfy one or both of the order or the other order. *See Ex Parte Ismail*, Appeal No. 2014-005477 (Application No. 11/630,856), PTAB, July 1, 2016.

Reply Br. 2 (emphasis added).

We are unpersuaded by Appellants' arguments. Upon review of Appellants' claims and Specification, and consistent with the Examiner's findings, the claims are directed to improving the efficiency of trading in a commodities exchange, derivatives exchange, or similar business involving trading items where orders from buyers are matched with orders for selling. Such trading is substantially similar to the economic practices that were

deemed to be patent-ineligible subject matter in *Bilski v. Kappos*, 561 U.S. 592 (2010) and *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 134 S.Ct. 2347, 2014. *See Bilski*, 561 U.S. at 611–12 (holding that claims directed to the concept of hedging in commodities and energy markets were unpatentable abstract ideas); *see also Alice*, 134 S. Ct. at 2352 (holding that the claims were drawn to the abstract idea of mitigating settlement risk associated with a financial transaction and merely requiring generic computer implementation failed to transform the abstract idea into a patent-eligible invention). Similar to *Alice*, the fact that the claims recite that the matching is implemented by a trading system comprising a processor and a match engine is not sufficient to transform the recited abstract idea into a patent-eligible invention.

Contrary to Appellants' argument that the Examiner is required to cite to a finance textbook, or other type of standard, we conclude the Examiner is merely required to provide Appellants reasonable notice as to the basis of the § 101 rejection. The notice requirement is set forth by 35 U.S.C. § 132.

[T]he PTO carries its procedural burden of establishing a prima facie case when its rejection satisfies 35 U.S.C. § 132, in “notify[ing] the applicant ... [by] stating the reasons for [its] rejection, or objection or requirement, together with such information and references as may be useful in judging of the propriety of continuing the prosecution of [the] application.” 35 U.S.C. § 132. That section “is violated when a rejection is so uninformative that it prevents the applicant from recognizing and seeking to counter the grounds for rejection.” *Chester v. Miller*, 906 F.2d 1574, 1578 (Fed. Cir. 1990).

In re Jung, 637 F.3d 1356, 1362 (Fed. Cir. 2011). We further conclude the Examiner has met this requirement. *See Final Act*. 2–3.

In light of the above, the Examiner correctly concluded that claim 1 is directed to an abstract idea. Regarding Appellants' additional arguments, to the extent that Appellants are arguing that claim 1 recites additional elements that amount to "significantly more" than the abstract idea, that issue is distinct from whether claim 1 is directed to an abstract idea. Appellants' arguments that claim 1 is directed to "significantly more" are addressed *infra*.

C. Alice/Mayo – Step 2

The Examiner determines claim 1 is not significantly more than the abstract idea because:

[T]he 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 an abstract idea to a particular technological environment*. Note that the limitations, in the instant claims, are done by the *generically recited computer and communications network*. The limitations are merely instructions to implement the abstract idea on a computer and require no more than *a generic computer to perform generic computer functions that are well-understood, routine and conventional activities previously known to the industry*.

Final Act. 3 (emphasis added).

Appellants contend claim 1 has sufficiently more to transform the claim from an allegedly abstract idea into patent-eligible subject matter because:

[T]he claims are directed to a *specific, novel and patentable system* which can be used by an electronic trading system to improve the transactional processing efficiency thereof by reducing the number of transactions processed the system. This is specifically accomplished by *conditionally disabling and then*

reenabling the operation of the claimed processor which identifies sets of orders to a match engine which may use some of those orders to satisfy the remainder of those orders.

...

The claimed invention *improves upon the technical field of transaction processing systems by temporarily disabling the generation of certain transaction under certain specific conditions and re-enabling those transactions under other specific conditions.* This necessarily reduces the number of transactions being submitted to the system enabling the system handle other transactions.

This is a *specific and patentable application and meaningful limitation beyond generally linking the use of an abstract idea to a particular technological environment.*

App. Br. 6–7 (emphasis added).

The Examiner responds:

[T]he recited “computer processor” and “match engine” are recited at *a high level of generality* to simply perform the *generic computer functions* of receiving data, processing data, determining specific data elements and transmitting data. . . . Thus, *generic computer components recited as performing generic computer functions that are well-understood, routine and conventional activities amount to no more than implementing the abstract idea with a computerized system.* Thus, taken alone, the additional elements do not amount to significantly more than the above-identified judicial exception (the abstract idea). Looking at the limitations as an ordered combination of elements add nothing that is not already present when looking at the elements taken individually. *There is no indication that the combination of the elements improves the functioning of a computer or improves any other technology.* Their collective functions merely provide conventional computer implementation.

Ans. 3–4 (emphasis added).

In response, Appellants continue to contend that claim 1 has sufficiently more to transform the claim from an allegedly abstract idea into patent-eligible subject matter because:

[T]he claimed invention *improves upon the technical field of data and transaction processing by providing a system which provides a mechanism for disabling, according to specific rules/conditions, implied order identification and reenabling thereof pursuant to other specific rules/conditions*. This is neither a routine nor conventional activity previously known in the industry, or a generic computerization thereof, as evidenced by the lack of prior art, but is instead a specific, patentable application and meaningful limitation beyond generally linking the use of an abstract idea to a particular technological environment.

...

[T]he disabling of identification to the match engine, determination and conditional enablement as claimed by Appellants, *are not the mere patenting of a result but instead are specific as to the process/machinery by which the result is accomplished*. And further, these [limitations] have NOT been used before and therefore *are not well understood, routine or conventional in the art*.

...

[A]s with the invention at issue in the DDR case, which was directed to solving an Internet-centric problem, *Appellants' claimed invention [is] similarly patentable, and directed to solving a transaction/data processing-centric problem*. As with the invention of DDR, Appellants' claims *do not generically recite "use of a communications network" to perform a business practice*, but instead *recites a specific way to process transactions without having to modify the processing systems*.

Reply Br. 4–5, 7 (emphasis added).

We do not agree with Appellants' argument. Instead, we agree with the Examiner that the recited computer components (e.g., “processor” and

“match engine”) are recited at a high level of generality such that the claims recite generic computer components performing generic computer functions (i.e., receiving data, processing data, determining specific data elements and transmitting data) that are well-understood, routine and conventional activities, and the claims amount to no more than implementing the abstract idea with a computerized system. Contrary to Appellants’ argument that the claimed invention improves upon the technical field of transaction processing systems, we conclude that the claimed functionality of disabling the matching of certain orders under certain business-related conditions and re-enabling the aforementioned matching under other business-related conditions merely improves the efficiency of the underlying economic practice (i.e., order matching) implemented by the computer system by omitting the matching of certain orders. In other words, the argued improvement is really an improvement of the underlying economic practice itself, rather than a technological improvement of the computerized trading system that implements the underlying economic practice. Such an improvement does not constitute an improvement to the functionality of the underlying computer system or computer technology.

Regarding Appellants’ argument that claim 1 is similar to the claims in *DDR Holdings, LLC v. Hotels.com*, 773 F.3d 1245, 1257 (Fed. Cir. 2014), this argument is also not persuasive. Appellants provide no persuasive analysis as to why claim 1 is similar to the claims at issue in *DDR*. In *DDR*, the court determined that the claims at issue were necessarily rooted in computer technology in order to address the Internet-centric problem of how to provide user access to computer-implemented applications over the Internet. *DDR*, 773 F.3d at 1257. In contrast, the disabling of the matching

of certain orders under certain conditions and the re-enabling of the aforementioned matching under other conditions, as recited in claim 1, is not necessary rooted in computer technology, as the recited disabling and re-enabling of the matching could also occur outside the context of computer technology (e.g., if the matching of certain orders is implemented using pen and paper). In light of the above, the Examiner correctly concluded that claim 1 does not amount to significantly more than an abstract idea.

D. Other 101 Arguments

Appellants further contend claim 35 recites means-plus-function elements which impart a meaningful limitation or add significantly more to an abstract idea itself. *See* App. Br. 8. More specifically, Appellants contend:

[W]ith respect to claim 35, *the Patent Trial and Appeal Board recently found that a claimed “means for matching” could not be performed by a generic computer and, rather, as a means-plus-function limitation, the “means for matching” encompassed the processing steps recited in the Specification that, according to the Board, amounted to a “specific algorithm that transforms an otherwise general purpose computer into a special purpose computer programmed to perform the recited function of ‘matching.’”* Thus, according to the Board, “*when, as here, a special purpose computer constitutes the structure that performs the recited function of ‘matching,’ in practical terms it imparts a meaningful limitation or adds significantly more to the abstract idea, itself.*” *See Chicago Mercantile Exchange, Inc. v. 5th Market, Inc.*, CBM2015-00061 (PTAB July 16, 2015) (Paper 9), pages 37-38 (denying institution of the request for covered business method post grant review and finding that CME had not demonstrated that claims 1 and 2 of the ‘387 patent lacked the limitations required for an inventive concept).

App. Br. 8 (emphasis added).

The Examiner responds:

[C]laim 35 uses a conventional, general purpose computer to perform generic computer function i.e. accessing memory, receiving and storing data, processing and matching data, and outputting data. As the Examiner observes, a general purpose computer is flexible; it can do anything it is programmed to do. Programming a general purpose computer to perform a particular function ***does not constitute an improvement to the computer itself or an improvement to a technical field or technology.***

Ans. 5 (emphasis added).

In response, Appellants reiterate their arguments that claim 35 recites means-plus-function elements, which impart a meaningful limitation or add significantly more to the abstract idea itself. *See* Reply Br. 9–10.

We are not persuaded by Appellants' arguments. As a threshold matter, the cited decision of *Chicago Mercantile Exchange* was not designated precedential by the Patent Trial and Appeal Board, and, thus, is not binding on this panel. Further, the panel in *Chicago Mercantile Exchange* did not hold that a means-plus-function claim element *per se* adds something significantly more to the claim than an abstract idea itself. Instead, the panel merely held that the petitioner failed to adequately address a means-plus-function element of a claim, and thus, failed to establish that it was more likely than not that the claim was directed to patent-ineligible subject matter under § 101. *See Chicago Mercantile Exchange* at 37–38. In the present appeal, Appellants provide no arguments or evidence that Appellants' Specification discloses an algorithm or any other type of structure that adds something significantly more to the claim than the abstract idea itself. Thus, the Examiner did not err in concluding that claim 35 is also directed to patent-ineligible subject matter.

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In light of the above, we sustain the rejection of claims 1–36 under 35 U.S.C. § 101.

CONCLUSIONS

(1) The Examiner has not erred in rejecting claims 1–36 under 35 U.S.C. § 101.

(2) Claims 1–36 are not patentable.

DECISION

We affirm the Examiner’s rejections of claims 1–36 under 35 U.S.C. § 101.

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