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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte UDESH JHA, SASHA ROZENBERG, ZIYI WANG,
and JALPAN SHAH

Appeal 2017-010500¹
Application 13/711,390²
Technology Center 3600

Before MURRIEL E. CRAWFORD, NINA L. MEDLOCK, and
AMEE A. SHAH, *Administrative Patent Judges*.

MEDLOCK, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellants appeal under 35 U.S.C. § 134(a) from the Examiner’s final rejection of claims 1–5, 7–20, and 22–32. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

¹ Our decision references Appellants’ Appeal Brief (“App. Br.,” filed April 19, 2017) and Reply Brief (“Reply Br.,” filed August 4, 2017), and the Examiner’s Answer (“Ans.,” mailed June 6, 2017) and Final Office Action (“Final Act.,” mailed November 23, 2016).

² Appellants identify Chicago Mercantile Exchange Inc. as the real party in interest. App. Br. 2.

CLAIMED INVENTION

Appellants' claimed invention "relate[s] to minimization of risk of loss, and thereby minimization of margin and/or guarantee fund requirements, for a portfolio of interest rate swap ("IRS") positions held by a market participant" (Spec. ¶ 18).

Claims 1, 16, 31, and 32 are the independent claims on appeal. Claim 1, reproduced below with bracketed notations added, is illustrative of the claimed subject matter:

1. A computer implemented method of minimizing risk of loss for a portfolio held by a market participant, the portfolio comprising a plurality of interest rate swap ("IRS") positions, the method comprising:

[(a)] identifying, automatically by a processor for portfolio data accessible via an exchange computer system coupled with the processor and representative of each of one or more of the plurality of IRS positions, portfolio data representative of a counter-position in another portfolio accessible via the exchange computer system, which is not accessible to the market participant, held by another market participant for a proposed trade therewith wherein execution of the proposed trade would result in a reduction of the risk of loss of the portfolio;

[(b)] providing, by the processor, data representative of each of the identified proposed trades to the market participant for acceptance;

[(c)] receiving, by the processor, input representative of acceptance of the one or more proposed trades from the market participant and, based thereon, causing the one or more proposed trades to be executed to modify the portfolio data representative of at least one of the IRS positions in the portfolio, wherein the risk of loss for the portfolio is reduced thereby.

REJECTIONS

Claims 1–5, 7–20, and 22–32 are rejected under 35 U.S.C. § 101 as directed to non-statutory subject matter.

Claims 1–5, 7–20, and 22–32 are rejected under 35 U.S.C. § 112(a) as failing to comply with the written description requirement.³

ANALYSIS

Patent-Ineligible Subject Matter

Appellants argue the pending claims as a group (App. Br. 7–14). We select independent claim 1 as representative. The remaining claims stand or fall with claim 1. *See* 37 C.F.R. §41.37(c)(1)(iv).

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. *Alice Corp. v. CLS Bank Int’l*, 573 U.S. 208, 216 (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.*, 573 U.S. at 217. The first step in that analysis is to “determine whether the claims at issue are

³ The written description requirement was entered as “new grounds of rejection” in the Answer. Ans. 8. We treat, as inadvertent error, the Examiner’s inclusion there of canceled claims 6 and 21 among the rejected claims.

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 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, the Federal Circuit has instructed that claims are to be considered in their entirety to determine “whether their character as a whole is directed to excluded subject matter.” *McRO, Inc. v. Bandai Namco Games Am., Inc.*, 837 F.3d 1299, 1312 (Fed. Cir. 2016) (quoting *Internet Patents Corp. v. Active Network, Inc.*, 790 F.3d 1343, 1346 (Fed. Cir. 2015)).

Here, in rejecting the pending claims under 35 U.S.C. § 101, the Examiner determined that the claims are directed to “providing proposed trades while minimizing risk of loss,” which the Examiner determined is a fundamental economic practice and, therefore, an abstract idea (Final Act. 7). The Examiner also determined that the claims do not include limitations that amount to “significantly more” than the abstract idea itself “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 an abstract idea to a particular technological environment” (*id.* at 7–8).

We are not persuaded, as an initial matter, by Appellants’ argument that the Examiner erred in determining that claim 1 is directed to an abstract idea (App. Br. 7). The Federal Circuit has explained that “the ‘directed to’ inquiry applies a stage-one filter to claims, considered in light of the [S]pecification, based on whether ‘their character as a whole is directed to excluded subject matter.’” *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1335 (Fed. Cir. 2016) (quoting *Internet Patents Corp.*, 790 F.3d at 1346). It asks whether the focus of the claims is on a specific improvement in relevant technology or on a process that itself qualifies as an “abstract idea” for which computers are invoked merely as a tool. *See id.* at 1335–36. Here, the Specification, including the claim language, make clear that the claims focus on an abstract idea, and not on any improvement to computer technology and/or functionality.

The Specification is titled “INTEREST RATE SWAP RISK COMPRESSION.” The Background section of the Specification describes that in a typical futures trading environment, the standardization of futures contracts and the nature of the central counterparty based trading system allow a futures exchange or a market participant to net together offsetting positions in the same contract for the purpose of reducing the margin requirement to reflect the reduced risk of loss of such positions (Spec. ¶ 6). The Specification describes that, in the case of interest rate swap (“IRS”) contracts, however, the variability in the characteristics of positions that may exist in any given portfolio makes it difficult to identify suitable positions for netting, and that this process is further complicated by the bilateral nature of an IRS contract where a particular position of one party is coupled with a counter position of a counter-party (*id.* ¶ 7). “In addition, the nature of an

IRS contract,” e.g., that it is based on a floating interest rate, “complicates the assessment of the risk of loss, and the corresponding margin requirement, further complicates identification of transactions which may reduce the risk of loss, and thereby, the margin requirement” (*id.*). The claimed invention is ostensibly intended to provide an improved method for minimizing risk of loss for a portfolio comprising a plurality of IRS positions by identifying, for each of the IRS positions in the portfolio, a counter-position in another portfolio held by another market participant for a proposed trade, and not accessible by the market participant, where execution of the proposed trade will result in a reduction of the risk of loss of the portfolio (*id.* ¶ 18).

Understood in light of the Specification, claim 1 is, thus, directed to (1) identifying proposed trades that will result in a reduction in the risk of loss for a portfolio that comprises IRS positions (step (a)); (2) presenting these trades to a market participant for acceptance (step (b)); and (3) executing the accepted trades (step (c)). Put simply, claim 1 is directed to identifying and executing trades to minimize the risk of loss for a portfolio of IRS positions — in other words, to a fundamental economic practice, which is a method of organizing human activity and, therefore, an abstract idea.

In this regard, claim 1 is substantially similar to the claims in *Bilski v. Kappos*, 561 U.S. 593, 611 (2010), which the Court determined were directed to a fundamental economic practice, and, therefore, to an unpatentable abstract idea. Similar to pending claim 1 at issue here, claim 1 in *Bilski* was directed to a method for hedging against the financial risk of price fluctuations, and recited a series of steps for hedging risk, including:

(1) “initiating a series of transactions between [a] commodity provider and consumers of [a] commodity”; (2) “identifying market participants for [the] commodity having a counter-risk position to [the] consumers; and (3) “initiating a series of transactions between [the] commodity provider and [the] market participants . . . such that [the] series of market participant transactions balances the risk position of [the] series of consumer transactions.” *Bilski*, 651 U.S. at 599.

The Specification details, as mentioned above, the difficulties associated with identifying suitable offsetting transactions to reduce the risk of loss for IRS contract portfolios (Spec. ¶ 7), and variously describes the processes involved in identifying proposed trades (*see, e.g., id.* ¶¶ 35–36). But, we find no indication in the Specification, nor do Appellants direct us to any indication, that the operations recited in claim 1 invoke any assertedly inventive programming, require any specialized computer hardware or other inventive computer components, i.e., a particular machine, or that the claimed invention is implemented using other than generic computer components to perform generic computer functions. *See DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1256 (Fed. Cir. 2014) (“[A]fter *Alice*, there can remain no doubt: recitation of generic computer limitations does not make an otherwise ineligible claim patent-eligible.”). In fact, the Specification suggests just the opposite, i.e., that the claimed invention may be implemented using only generic computer components (*see, e.g.,* Spec. ¶¶ 43–45).

We also find no indication in the Specification that the claimed invention effects a transformation or reduction of a particular article to a different state or thing or reflects an improvement in computer technology

and/or functionality to the claimed invention. Nor do we find anything that otherwise indicates that the claimed invention integrates the abstract idea into a “practical application,” as that phrase is used in the USPTO’s “2019 Revised Patent Subject Matter Eligibility Guidance,” 84 Fed. Reg. 50, 55 (January 7, 2019).⁴

Appellants maintain that even if the “claimed providing proposed trades and minimizing risk of loss” were considered an abstract idea, the claims do not “entirely preempt or tie-up the mere hedging of risk, provision of trades or minimization of risk of loss” (App. Br. 7). Yet, to the extent that Appellants maintain that the claims are patent-eligible because there is no preemption (*id.* at 7–9), we note that preemption is not the sole test for patent-eligibility. *See Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 788 F.3d 1371, 1379 (Fed. Cir. 2015) (“[P]reemption may signal patent ineligible subject matter, [but] the absence of complete preemption does not demonstrate patent eligibility.”).

Appellants also misapprehend the controlling precedent to the extent Appellants maintain that the claimed invention is patent-eligible, i.e., that

⁴ In accordance with the USPTO’s revised guidance, a claim will be considered “directed to” an abstract idea if (1) the claim recites subject matter falling within one of the following groupings of abstract ideas: (a) mathematical concepts; (b) certain methods of organizing human interactions, e.g., fundamental economic principles or practices, commercial or legal interactions; and (c) mental processes, and (2) the claim does not integrate the abstract idea into a practical application. *See Revised Guidance*, 84 Fed. Reg. at 54–55. “A claim that integrates a judicial exception into a practical application will apply, rely on, or use the judicial exception in a manner that imposes a meaningful limitation on the judicial exception, such that the claim is more than a drafting effort designed to monopolize the judicial exception.” *Id.* at 54.

claims do not represent routine or conventional activity previously known in the industry, because the claims are allegedly novel and/or non-obvious in view of the prior art (App. Br. 10 (“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.”); *see also id.* (“[T]he claimed automated identification of proposed risk reducing trades for positions and counter positions based on data otherwise inaccessible to the participants . . . is a specific implementation which has NOT been used before and therefore is not well understood, routine or conventional in the art.”)). Neither a finding of novelty nor a non-obviousness determination automatically leads to the conclusion that the claimed subject matter is patent-eligible. Although the second step in the *Mayo/Alice* framework is termed a search for an “inventive concept,” the analysis is not an evaluation of novelty or non-obviousness, but rather, a search for “an element or combination of elements that is ‘sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the [ineligible concept] itself.’” *Alice Corp.*, 573 U.S. at 217–18 (citation omitted). “Groundbreaking, innovative, or even brilliant discovery does not by itself satisfy the § 101 inquiry.” *Ass’n for Molecular Pathology v. Myriad Genetics, Inc.*, 569 U.S. 576, 591 (2013). A novel and non-obvious claim directed to a purely abstract idea is, nonetheless, patent-ineligible. *See Mayo*, 566 U.S. at 90; *see also Diamond v. Diehr*, 450 U.S. 175, 188–89 (1981) (“The ‘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.”).

Appellants argue the claims are directed to a “specific, novel and patentable system” for selectively and automatically identifying, for portfolio data, accessible via an exchange computer system, representative of a given interest rate swap position held by a trader, “data, accessible via the exchange computer system, representative of a suitable counter-position held by another trader, which the first trader is not able to access, for a proposed trade which would result in a reduction in the risk of loss” (App. Br. 8). Appellants assert that, by providing a system which “efficiently computes proposed position modifications/risk reducing transactions among multiple users on behalf of those users who are not able to access the requisite data and compute such transactions for themselves,” the claimed invention improves the “technical field of data and transaction processing[,] specifically in a central party counter party based electronic trading system” and “solves a problem created by, and unique to such a system” (*id.* at 9; *see also* Reply Br. 10). Attempting to analogize the present claims to those in *DDR Holdings*, Appellants, thus, argue that the claimed invention, like that in *DDR Holdings*, is specifically rooted in technology and solves the technical problem of “indirect cross portfolio data access and review” with a technical solution which utilizes the claimed invention to “automatically access and analyze multiple portfolios and subsequently disseminate proposed transaction[s] to each user to effect the necessary changes without revealing one user’s identity to another” (*id.* at 12–13).

We are not persuaded, as an initial matter, that identifying proposed risk reducing transactions is a technical problem, as opposed to a business problem. Nor are we persuaded that using a transaction processing system to access and analyze multiple portfolios and subsequently disseminate

proposed transactions to each user to effect the necessary changes without revealing one user's identity to another, is a technical, rather than commercial, solution where, as described above, there is no indication here that the claimed operations, including "identifying . . . portfolio data representative of a counter-position in another portfolio accessible via the exchange computer system, which is not accessible to the market participant," as recited in claim 1, require any specialized computer hardware or other inventive computer components, invoke any assertedly inventive programming, or are implemented using other than generic computer components to perform generic computer functions.

Appellants argue that the "specifically disclosed and claimed combination of automated identifying of risk reducing transactions for a participant's portfolio across portfolio data not accessible thereto" are additional elements that provide "something more" than mere proposing of orders or risk reduction (App. Br. 11–12). Yet, claim 1, for example, merely recites a result (i.e., that the processor identifies portfolio data representative of a counter-position in another portfolio accessible via the exchange computer system, which is not accessible to the market participant), without any technical details for achieving that result. Appellants, by their argument, suggest such details exist, but those details are not reflected in the claim. For example, claim 1 does not specify the mechanism by which the processor identifies portfolio data via an exchange system, which are not accessible to the market participant. Instead, "the claim language here provides only a result-oriented solution with insufficient detail for how a computer accomplishes it. Our law demands more." *Intellectual Ventures I LLC v. Capital One Fin. Corp.*, 850 F.3d 1332, 1342 (Fed. Cir. 2017).

We also are not persuaded that identifying suitable transactions between a given market participant’s position and a counter position in a portfolio not otherwise accessible to the market participant is an additional element to be considered when determining whether the claims include additional elements or a combination elements that is sufficient to amount to significantly more than the judicial exception, as opposed to being part of the abstract idea itself, i.e., identifying and executing trades to minimize the risk of loss for a portfolio of IRS positions. It could not be clearer from *Alice*, that under step two of the *Mayo/Alice* framework, the elements of each claim are considered both individually and “as an ordered combination” to determine whether the additional elements, i.e., the elements *other* than the abstract idea itself, “transform the nature of the claim” into a patent-eligible application. *Alice Corp.*, 573 U.S. at 217. *See Mayo*, 566 U.S. at 72–73 (requiring that “a process that focuses upon the use of a natural law also contain *other* elements or a combination of elements, sometimes referred to as an ‘inventive concept,’ sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the natural law itself” (emphasis added)). In other words, the inventive concept under step two of the *Mayo/Alice* test cannot be the abstract idea itself:

It is clear from *Mayo* that the “inventive concept” cannot be the abstract idea itself, and *Berkheimer* . . . leave[s] untouched the numerous cases from this court which have held claims ineligible because the only alleged “inventive concept” is the abstract idea.

Berkheimer v. HP, Inc., 890 F.3d 1369, 1374 (Fed. Cir. 2018) (Moore, J., concurring). *See also BSG Tech. LLC v. BuySeasons, Inc.*, 899 F.3d 1281, 1290 (Fed. Cir. 2018) (“It has been clear since *Alice* that a claimed invention’s use of the ineligible concept to which it is directed cannot supply

the inventive concept that renders the invention ‘significantly more’ than that ineligible concept.”).

The Examiner determined here that claim 1 “includes the additional limitations of providing the data to the market participant for acceptance, receiving acceptance, and causing the trade to be executed,” i.e., steps (b) and (c), as recited in claim 1, and that “[t]hese limitations are considered insignificant post-solution activity that is well-understood, routine and conventional” (Final Act. 8). Appellants cannot reasonably contend, nor do they, that there is a genuine issue of material fact regarding whether these steps are well-understood, routine, or conventional.

Citing *Trading Technologies Int’l, Inc. v. CQG, Inc.*, 675 F. App’x 1001 (Fed. Cir. 2017) in their Reply Brief, Appellants assert that, as in *Trading Technologies*, the claimed invention is directed to “a specific improvement to the way computers operate:

As in *Trading Technologies Int’l, Inc. v. CQG, Inc.*, the presently claimed invention is directed to a specific improvement to the way computers operate as the claimed system and method for hybrid cross margining are directed to a specific implementation of a solution to a problem in the software arts, providing a system for selectively and automatically identifying, for portfolio data accessible via an exchange computer system representative of a given interest rate swap position held by a trader, data accessible via the exchange computer system representative of a suitable counter-position held by another trader, which the first trader is not able to access, for a proposed trade which would result in a reduction in the risk of loss for the trader, thereby improving the efficiency of the trading system allowing for the netting or otherwise, removal, of position data representing offset positions. See, e.g., Appellants’ Specification, paras. 7 and 19–23.

Reply Br. 12–13. But, we fail to see how, and Appellants do not adequately explain how identifying, for portfolio data representative of an interest rate swap position held by a trader, data representative of a counter-position held by another trader, which the first trader is not able to access, somehow improves the way the computer operates.

We also fail to see, and Appellants do not explain, how *Trading Technologies* impacts the patent-eligibility of the present claims. There, the Federal Circuit affirmed the district court’s holding that the patented claims (which recited a method and system for displaying market information on a graphical user interface) were not directed to an abstract idea because the district court found, and the Federal Circuit agreed, that the challenged patents did not simply claim displaying information on a graphical user interface; instead, the claims required “a specific, structured graphical user interface paired with a prescribed functionality directly related to the graphical user interface’s structure that is addressed to and resolves a specifically identified problem in the prior state of the art.” *Id.* at 1004.⁵ No graphical user interface improvement is involved here.

⁵ Specifically, the district court found that with prior art GUIs, the best bid and best ask prices changed based on updates received from the market; therefore, there was a risk with these GUIs that a trader would miss her intended price as a result of prices changing from under her pointer at the time she clicked on the price cell on the GUI. The patents-in-suit provided a system and method whereby traders could place orders at a particular, identified price level, not necessarily the highest bid or the lowest ask price by keeping the prices static in position, and allowing the quantities at each price to change. *Trading Techs. Int’l, Inc. v. CQG, Inc.*, No. 05-cv-4811, 2015 WL 774655 *4 (N.D. Ill. Feb. 24, 2015).

We are not persuaded, on the present record, that the Examiner erred in rejecting independent claim 1 under 35 U.S.C. § 101. Therefore, we sustain the Examiner's rejection of claim 1, and claims 2–5, 7–20, and 22–32, which fall with claim 1.

Written Description

Whether a specification complies with the written description requirement of 35 U.S.C. § 112, first paragraph (now 35 U.S.C. § 112(a)), is a question of fact and is assessed on a case-by-case basis. *See, e.g., Purdue Pharma L.P. v. Faulding, Inc.*, 230 F.3d 1320, 1323 (Fed. Cir. 2000) (citing *Vas-Cath, Inc. v. Mahurkar*, 935 F.2d 1555, 1561 (Fed. Cir. 1991)). The disclosure, as originally filed, need not literally describe the claimed subject matter (i.e., using the same terms or *in haec verba*) in order to satisfy the written description requirement. But the Specification must convey with reasonable clarity to those skilled in the art that, as of the filing date, Appellants were in possession of the claimed invention. *See id.*

In rejecting claims 1–5, 7–20, and 22–32 under § 112(a), the Examiner asserts that neither the drawings nor the Specification provides sufficient detail regarding how the exchange computer system accesses portfolio data (Ans. 8–11). The Examiner, thus, finds that the Specification fails to provide adequate written description support for “identifying, automatically by a processor for portfolio data accessible via an exchange computer system coupled with the processor . . . portfolio data . . . in another portfolio accessible via the exchange computer system,” as recited in independent claim 1, and similarly recited in independent claims 16, 31, and 32 (Ans. 8–11).

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We, however, agree with Appellants that the Specification includes the requisite written description support at least at paragraphs 20, 42, 50, 60, and 69 (Reply Br. 13). Therefore, we do not sustain the Examiner's rejection.

DECISION

The Examiner's rejection of claims 1–5, 7–20, and 22–32 under 35 U.S.C. § 101 is affirmed.

The Examiner's rejection of claims 1–5, 7–20, and 22–32 under 35 U.S.C. § 112(a) is reversed.

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