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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte INDERDEEP SINGH¹

Appeal 2016-007568
Application 13/355,092
Technology Center 3600

Before JAMES R. HUGHES, ERIC S. FRAHM, and
JAMES W. DEJMEK, *Administrative Patent Judges*.

HUGHES, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellant seeks our review under 35 U.S.C. § 134(a) of the Examiner’s Final Rejection of claims 1–15, which constitute all the claims pending in this application. Final Act. 1–2; App. Br. 2.² We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

¹ According to Appellant, the real party in interest is Chicago Mercantile Exchange Inc. App. Br. 2.

² We refer to Appellant’s Specification (“Spec.”) filed Jan. 20, 2012 (claiming benefit of US 61/579,811, filed Dec. 23, 2011); Appeal Brief (“App. Br.”) filed Jan. 4, 2016; and Reply Brief (“Reply Br.”) filed Aug. 3, 2016. We also refer to the Examiner’s Answer (“Ans.”) mailed June 6, 2016; and Final Office Action (Final Rejection) (“Final Act.”) mailed Aug. 4, 2015.

Appellant's Invention

The invention relates to apparatuses and methods for publishing market information. The method includes receiving financial market information (a market information feed containing current market information for financial instruments) by a network device from a financial market center, storing the current market information in the computing system, establishing an electronic communication link between the network device and a client device. The electronic communication link determines when the client device is ready for receiving market information based on receipt of previously transmitted data. The electronic communication link also provides a feedback signal to the network device indicative of the receipt of the previously transmitted data and informs the network device when the client device is ready to receive market information. The method then publishes current market information to the client device. Spec. ¶¶ 2, 10–14; Abstract.

Representative Claim

Independent claim 1, reproduced below, further illustrates the invention:

1. A method implemented within a computing system for publishing market information relating to a financial instrument received from a financial market center to a client device over an electronic network, the method comprising:
 - receiving by a network device of the computing system from a financial market center a market information feed containing current market information for a financial instrument;
 - storing with the computing system current market information received from the market information feed;
 - establishing with the computing system an electronic communication link between the network device and a client

device, said electronic communication link being configured to determine when the client device is ready for receiving market information based on receipt thereby of previously transmitted data and provide a feedback signal to the network device indicative of the receipt of the previously transmitted data and for informing the network device when the client device is ready to receive market information; and

publishing with the computing system current market information to the client device when, based on the receipt of the feedback signal, the electronic communications link has determined that the client device is ready to receive market information.

Rejections on Appeal

1. The Examiner rejects claims 1–15 under 35 U.S.C. § 101 as being directed to patent-ineligible subject matter.

2. The Examiner rejects claims 1–3, 5, 6, and 13–15 under 35 U.S.C. § 103(a) as being unpatentable over Ritter et al. (US 2011/0270732 A1, published Nov. 3, 2011) (“Ritter”) and Lee et al. (US 2008/0279143 A1, published Nov. 13, 2008) (“Lee”).

3. The Examiner rejects claims 4 and 7–12 under 35 U.S.C. § 103(a) as being unpatentable over Ritter, Lee, and Morris (US 2008/0077653 A1, published Mar. 27, 2008).

ISSUES

Based upon our review of the record, Appellant’s contentions, and the Examiner’s findings and conclusions, the issues before us follow:

1. Did the Examiner err in rejecting claims 1–15 under 35 U.S.C. § 101 as being directed to patent-ineligible subject matter?

2. Did the Examiner err in finding that Ritter and Lee collectively would have taught or suggested

[a]communication link being configured to determine when the client device is ready for receiving market information based on receipt thereby of previously transmitted data and provide a feedback signal to the network device indicative of the receipt of the previously transmitted data and for informing the network device when the client device is ready to receive market information

(claim 1) within the meaning of Appellant's claim 1 and the commensurate limitations of Appellant's claims 7 and 13?

ANALYSIS

The 35 U.S.C. § 101 Rejection

Appellant argues independent claims 1, 7, and 13 together as a group with respect to the § 101 rejection. *See* App. Br. 5–8. We select independent claim 1 as representative of Appellant's arguments with respect to claims 1–15. 37 C.F.R. § 41.37(c)(1)(iv)(2015).

The Examiner rejects the claims as being directed to patent-ineligible subject matter in that “[t]he claims . . . are directed to an abstract idea of publishing market information relating to a financial instrument” and the elements of the claims “are well-understood, routine, and conventional elements that amount to no more than implementing the abstract idea with a computerized system” (Ans. 15). *See* Final Act. 3–5; Ans. 14–16.

Appellant contends that claims are not directed to an abstract idea because “the claimed invention is not a mere statement of a general concept,” “the Examiner has not shown . . . by objective evidence . . . that the claims are directed to, nor do they pre-empt or otherwise tie up a fundamental

economic practice” (App. Br. 5), “Appellant’s claims do . . . entirely preempt or tie up . . . mere transmission of market information over a network” (App. Br. 6), and instead “are directed to a specific, novel and patentable communications protocol which improves the efficiency of the transmission of data over a network” (App. Br. 6). *See* App. Br. 5–8; Reply Br. 1–3.

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. Pty. Ltd. 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, 77–80 (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. Assuming that a claim nominally falls within one of the statutory categories of machine, manufacture, process, or composition of matter, the first step in the analysis is to “determine whether the claims at issue are directed to one of those patent-ineligible concepts” (*id.*), e.g., to an abstract idea. For example, abstract ideas include, but are not limited to, fundamental economic practices, methods of organizing human activities, an idea of itself, and mathematical formulas or relationships. *Id.* at 2355–57. If the claims are not directed to 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 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 78, 79). This second step is described as “a search for an “inventive concept””—*i.e.*, an element or combination of elements that is ‘. . . significantly more than . . . the [ineligible concept] itself.’” *Id.* at 2355 (alteration in original) (quoting *Mayo*, 566 U.S. at 72–73).

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. We, therefore, 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 merely invoke generic processes and machinery. *See Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1336 (Fed. Cir. 2016).

Alice Step 1 Analysis

Turning to the first step of the eligibility analysis, “[t]he first step in the *Alice* inquiry . . . asks whether the focus of the claims is 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*, 822 F.3d at 1335–36. “The abstract idea exception prevents patenting a result where ‘it matters not by what process or machinery the result is accomplished.’” *McRO, Inc. v. Bandai Namco Games America Inc.*, 837 F.3d 1299, 1312 (Fed. Cir. 2016) (quoting *O’Reilly v. Morse*, 56 U.S. (15 How.) 62, 113 (1853)). “We therefore 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 merely invoke generic processes and machinery.” *McRO*, 837 F.3d at 1314.

The Examiner finds claim 1 is directed to the abstract idea of “publishing market information relating to a financial instrument.” Ans. 15. The Examiner further explains that the claims are similar to claims previously found to be directed to abstract ideas — “publishing market information relating to a financial instrument, as recited in the independent claims . . . is similar to an idea of itself found by the courts to be abstract ideas (*e.g.*, using categories to organize, store and transmit information in *Cyberfone*).” Ans. 14–15; *see* Final Act. 3–5; Ans. 14–16. Conversely, the Appellant simply attacks the Examiner’s findings, alleging the Examiner has not properly mapped the abstract concept to specific precedent, without actually addressing any of the Examiner’s findings. *See* App. Br. 5–6; Reply Br. 1–4. We agree with the Examiner that Appellant’s claim 1 (and the other pending claims) are directed to a patent-ineligible abstract idea.

Instead of using a fixed definition of an abstract idea and analyzing how claims fit (or do not fit) within the definition, “the decisional mechanism courts now apply is to examine earlier cases in which a similar or parallel descriptive nature can be seen — what prior cases were about, and which way they were decided.” *Amdocs (Isr.) Ltd. v. Openet Telecom, Inc.*, 841 F.3d 1288, 1294 (Fed. Cir. 2016) (citing *Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1353–54 (Fed. Cir. 2016)). 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 Texas, LLC v. DirecTV, LLC*, 838 F.3d 1253, 1257 (Fed. Cir. 2016).

Here, Appellant’s claims generally, and independent claim 1, 7, and 13 in particular, relate to publishing (streaming) financial information. *See* Abstract; Spec. ¶ 2. This is consistent with how Appellant describes the claimed invention. *See* Spec. ¶¶ 2, 10. Contrary to Appellant’s assertions, the present claims are analogous to a number of cases in which courts have identified similar claims as encompassing abstract ideas (*see* App. Br. 5; Reply Br. 1–4).

Our reviewing court has held that abstract ideas include presenting or displaying (i.e., publishing) information. *See Elec. Power*, 830 F.3d at 1354 (finding “gathering and analyzing information of a specified content, then displaying the results,” to be directed to an abstract idea).

Here, the publishing market information is similar to the abstract idea of collecting, analyzing, and manipulating information discussed in *Elec. Power*. Additional analogous cases where the Federal Circuit has found claims involving no more than data collection, manipulation, and/or display to be directed to abstract ideas include *OIP Technologies, Inc. v. Amazon.com, Inc.*, 788 F.3d 1359, 1362–63 (Fed. Cir. 2015) (offer-based price optimization), *Intellectual Ventures I LLC v. Capital One Bank (USA)*, 792 F.3d 1363, 1370 (Fed. Cir. 2015) (tailoring information presented to a user based on particular information), *Versata Development Group v. SAP Am., Inc.*, 793 F.3d 1306, 1333 (Fed. Cir. 2015) (“determining a price, using organizational and product group hierarchies”), *Digitech Image Technologies, LLC v. Electronics For Imaging, Inc.*, 758 F.3d 1344, 1351 (Fed. Cir. 2014) (employing “mathematical algorithms to manipulate

existing information to generate additional information”), and *Accenture Global Services, GmbH v. Guidewire Software, Inc.*, 728 F.3d 1336, 1344–46 (Fed. Cir. 2013) (generating tasks based on rules in response to events). Thus, we agree with the Examiner that the claims are directed to an abstract idea of publishing market information. Notably, this characterization is consistent with Appellant’s description of the claimed invention. *See* Spec. ¶ 2.

Alice Step 2 Analysis

Having found Appellant’s claims are directed to an abstract concept under *Alice*’s step 1 analysis, we next address whether the claims add significantly more to the alleged abstract idea. As directed by our reviewing Court, we search for an “‘inventive concept’ sufficient to ‘transform the nature of the claim into a patent-eligible application.’” *McRO*, 837 F.3d at 1312 (quoting *Alice*, 134 S. Ct. at 2355). The implementation of the abstract idea involved must be “more than performance of ‘well-understood, routine, [and] conventional activities previously known to the industry.’” *Content Extraction & Transmission LLC v. Wells Fargo Bank, N.A.*, 776 F.3d 1343, 1347–48 (Fed. Cir. 2014) (alteration in original) (quoting *Alice*, 134 S. Ct. at 2359). The “inventive concept” “must be significantly more than the abstract idea itself, and cannot simply be an instruction to implement or apply the abstract idea on a computer.” *Bascom Global Internet Services, Inc. v. AT&T Mobility LLC*, 827 F.3d 1341, 1349 (Fed. Cir. 2016).

Here, the Examiner found that Appellant’s claims do not add significantly more. *See* Final Act. 3–5; Ans. 14–16. Appellant, on the other hand, contends the claims do add significantly more, similar to the claims in *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245 (Fed. Cir. 2014)

(*see* App. Br. 8; Reply Br. 1–4) and also contends the claims “are directed to a specific, novel and patentable communications protocol which improves the efficiency of the transmission of data over a network,” “at least solves the technical problem of reducing data communications network congestion and overloading of recipient devices,” and do not completely preempt the concept of publishing financial information (App. Br. 6).

With respect to Appellant’s *DDR Holdings* arguments, Appellant misconstrues *DDR Holdings*. In *DDR Holdings*, the court held that a claim may amount to more than an abstract idea recited in the claims when it addresses and solves problems *only* encountered with computer technology and online transactions, e.g., by providing (serving) a composite web page rather than adhering to the routine, conventional functioning of Internet hyperlink protocol. *See DDR Holdings*, 773 F.3d at 1257–59. In contrast, claim 1 performs a process that collects and publishes financial market information when a client device acknowledges receipt of previously received data, utilizing conventional computer networks and systems. *See* Ans. 15–16; Spec. ¶¶ 2–6, 10, 17; *cf.* App. Br. 6–8; Reply Br. 1–4. Despite Appellant’s arguments to the contrary, nothing in the claim recites a “novel” “communications protocol” (*supra*), the collection and streaming of market data (albeit based on a determination that a client device has acknowledged receipt of previous data), is not a solution to a technical problem as discussed in *DDR Holdings*. Conditionally streaming data is a commercial solution to an efficiency (congestion) problem, not a technical solution. This commercial solution may be assisted using a general purpose computer to perform the data collection, analysis, and manipulation processes, but does not arise specifically in the realm of computer networking or improve how

the computer itself functions. As we previously explained, the instant claims are more akin to the claims for analyzing information found to be abstract in *Elec. Power*, 830 F.3d at 1353.

With respect to Appellant’s preemption arguments, “[w]hile preemption may signal patent ineligible subject matter, the absence of complete preemption does not demonstrate patent eligibility.” *FairWarning IP, LLC v. Iatric Sys., Inc.*, 839 F.3d 1089, 1098 (Fed. Cir. 2016) (quoting *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 788 F.3d 1371, 1379 (Fed. Cir. 2015)); *see also OIP Techs.*, 788 F.3d at 1362–63 (“[T]hat the claims do not preempt all price optimization or may be limited to price optimization in the e-commerce setting do not make them any less abstract.”). Further, “[w]here a patent’s claims are deemed only to disclose patent ineligible subject matter under the *Mayo* framework, as they are in this case, preemption concerns are fully addressed and made moot.” *Ariosa*, 788 F.3d at 1379.

We agree with the Examiner that the additional limitations, separately, or as an ordered combination, do not provide meaningful limitations (i.e., do not add significantly more) to transform the abstract idea into a patent eligible application. *See e.g.*, Ans. 15–16. Indeed, the claim merely recites processes for increasing efficiency and reducing network congestion by conditionally streaming data. Such steps are all routine and conventional and well-understood computer functions (i.e., mathematical operations) of a general processor. The Specification supports this view in discussing the processes implemented in software which operates on generic computers to perform the recited data manipulation steps. *See Spec.* ¶¶ 2, 10. “[T]he use of generic computer elements like a microprocessor” to perform

conventional computer functions “do not alone transform an otherwise abstract idea into patent-eligible subject matter.” *FairWarning IP*, 839 F.3d at 1096 (citing *DDR Holdings*, 773 F.3d at 1256).

For at least the reasons above, we are not persuaded of Examiner error in the rejection of claim 1 under 35 U.S.C. § 101. Thus, we sustain the Examiner’s rejection under § 101 of independent claims 1, 7, and 13, and also dependent claims 2–6, 8–12, 14, and 15, which are not argued separately.

The 35 U.S.C. § 103(a) Rejection

Appellant argues independent claims 1, 7, and 13 and dependent claims 2–6, 8–12, 14, and 15 together as a group with respect to the § 103(a) rejection. *See* App. Br. 13–15. We select independent claim 1 as representative of Appellant’s arguments with respect to claims 1–15. 37 C.F.R. § 41.37(c)(1)(iv).

The Examiner rejects independent claim 1 as being obvious in view of Ritter and Lee. *See* Final Act. 5–7; Ans. 16–18. Appellant contends Ritter and Lee do not teach the disputed features of claim 1. *See* App. Br. 8–13; Reply Br. 4–5. Specifically, Appellant contends that “Ritter merely discloses sending [market] data to the workstation upon request, i.e. when the user of the workstation selects a tradable item via the graphic user interface” (App. Br. 9). *See* App. Br. 8–10. Appellant further contends Lee describes a wireless handshake protocol (App. Br. 13) — specifically, a Time Division Duplexing-Orthogonal Frequency Division Multiple Access (TDD-OFDMA) frame structure (App. Br. 11–12) — in which “the receiver acknowledges correct receipt of data using a feedback signal and, based thereon, the transmitter immediately either sends the next data or retransmits

the previously sent data” (App. Br. 13); however, Lee does not describe utilizing “the feedback signal to indicate to the transmitter that [the receiver] is ready to receive the next data” or “that the receiver contemplates whether it is, in fact, ready to receive that data, e.g. because it is busy or otherwise still processing previously received data” (App. Br. 13). Appellant also contends that one of ordinary skill in the art would not have combined Ritter and Lee, absent hindsight and, even if the references are combined, Ritter and Lee do not teach the recited limitation—that is, publishing market information to the client device when client device is ready to receive the market information, based on the received feedback signal. *See* App. Br. 13.

Appellant persuades us of error in the Examiner’s obviousness rejection for the reasons set forth by Appellant (*supra*). The Examiner provides no clear explanation of how Ritter and Lee would be combined to provide feedback on the readiness of a receiver to receive streamed market data and transmitting the market data under such a condition. Simply pointing to Ritter for teaching market data transmission and Lee for providing feedback in a (wireless) communication network (a “disparate technology” (App. Br. 13)) is insufficient. Because the Examiner has not fully developed the record to establish how Ritter and Lee teach or suggest the disputed limitation, we find speculation would be required to affirm the Examiner on this record.

We decline to engage in speculation. “A rejection . . . must rest on a factual basis” *In re Warner*, 379 F.2d 1011, 1017 (CCPA 1967). “The Patent Office has the initial duty of supplying the factual basis for its rejection. It may not . . . resort to speculation, unfounded assumptions or hindsight reconstruction to supply deficiencies in its factual basis.” *Id.*

With respect to independent claim 7, rejected as being obvious in view of Ritter, Lee, and Morris (*see* Final Act. 9–14), the Examiner has not established on this record that the additionally cited Morris reference overcomes or cures the aforementioned deficiencies of the Ritter and Lee combination.

Consequently, we are constrained by the record before us to find that the Examiner erred in finding Ritter and Lee teach the disputed limitations of Appellant’s claim 1. Independent claims 7 and 13 include limitations of commensurate scope. Dependent claims 2–6, 8–12, 14, and 15 depend on claims 1, 7, and 13, respectively, and stand with their respective independent claims. Accordingly, we reverse the Examiner’s obviousness rejections of claims 1–15.

CONCLUSIONS

Appellant has not shown that the Examiner erred in rejecting claims 1–15 under 35 U.S.C. § 101.

Appellant has shown that the Examiner erred in rejecting claims 1–15 under 35 U.S.C. § 103(a).

Because we have affirmed at least one ground of rejection with respect to each claim on appeal, the Examiner’s decision is affirmed. *See* 37 C.F.R. § 41.50(a)(1).

DECISION

We affirm the Examiner’s rejection of claims 1–15.

Appeal 2016-007568
Application 13/355,092

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