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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte AMIT AVNER and OMER DROR

Appeal 2017-007667
Application 13/225,055
Technology Center 3600

Before CARL W. WHITEHEAD JR., MICHAEL J. STRAUSS and
NABEEL U. KHAN, *Administrative Patent Judges*.

WHITEHEAD JR., *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellants are appealing the final rejection of claims 1–6 and 9–21 under 35 U.S.C. § 134(a). Appeal Brief 8. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

Introduction

The invention is directed to “A method for bidding for an advertisement placement of an on-line advertisement.” Abstract.

Illustrative Claim

1. A computer-implemented method for bidding for an advertisement placement of an on-line advertisement, the method is being performed by an analysis unit including at least a control server, the control server comprising a processor and a memory, and storage, comprising:

identifying at least a trend for at least a first term appearing in at least one data source by performing at least a statistical analysis respective of the at least first term to determine a frequency of the same at least first term appearing in two different data sources out of the plurality of data sources;

extracting at least a second term from at least one on-line advertisement; performing a correlation analysis, under control of said processor, responsive of a desired trend of the at least first term, between the at least first term and the at least second term; and

placing a bid for placement of the at least one on-line advertisement for any one of the at least first term and the at least second term based on the correlation analysis, wherein the at least one term is at least a term taxonomy generated by associating between at least one non-sentiment phrase and at least one sentiment phrase appearing in the at least one data source.

Rejections on Appeal

Claims 1–6 and 9–21 stand rejected under 35 U.S.C. § 101 because the claimed invention is directed to non-statutory subject matter. The claimed invention is directed to non-statutory subject matter because the claims as a whole, considering all claim elements both individually and in combination, do not amount to significantly more than an abstract idea.

Specifically, claims 1–6 and 9–21 are directed to the concept of recommending ads based on trends established through statistical analysis, which is considered to be an abstract idea inasmuch as such activity is considered a fundamental economic practice. Final Action 2.

Claims 1–3, 11–15 and 19–21 stand rejected under 35 U.S.C. § 103 (a) as being unpatentable over Kim (U.S. Patent Application Publication 2007/0050389 A1; published March 1, 2007) and Druzgalski (U.S. Patent Application Publication 2010/0100537 A1; published April 22, 2010). Final Action 5–7.

Claim 4 stands rejected under 35 U.S.C. § 103 (a) as being unpatentable over Kim, Druzgalski and Hamilton (U.S. Patent Application Publication 2010/0036718 A1; published February 11, 2010). Final Action 7.

Claims 5, 6 and 16 stand rejected under 35 U.S.C. § 103 (a) as being unpatentable over Kim, Druzgalski and Libby (U.S. Patent Application Publication 2010/0004974 A1; published January 7, 2010). Final Action 8–9.

Claims 9, 10, 17 and 18 stand rejected under 35 U.S.C. § 103 (a) as being unpatentable over Kim, Druzgalski and Deaton (U.S. Patent Application Publication 2009/0125374 A1; published May 14, 2009). Final Action 9–10.

ANALYSIS

Rather than reiterate the arguments of Appellant and the Examiner, we refer to the Appeal Brief (filed March 31, 2016), the Reply Brief (filed

April 26, 2017), the Answer (mailed February 27, 2017) and the Final Action (mailed August 12, 2015) for the respective details.

35 U.S.C. § 101 Rejection

Section 101 defines patentable subject matter: “Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.” 35 U.S.C. § 101. The Supreme Court, however, has “long held that this provision contains an important implicit exception” that “[l]aws of nature, natural phenomena, and abstract ideas are not patentable.” *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 70 (2012) (quotation omitted). To determine patentable subject matter, the Supreme Court has set forth a two-part test.

“First, we determine whether the claims at issue are directed to one of those patent-ineligible concepts” of “laws of nature, natural phenomena, and abstract ideas.” *Alice Corp. Pty. Ltd. v. CLS Bank Int’l*, 134 S. Ct. 2347, 2355 (2014). “The inquiry often is whether the claims are directed to ‘a specific means or method’ for improving technology or whether they are simply directed to an abstract end-result.” *RecogniCorp, LLC v. Nintendo Co.*, 855 F.3d 1322, 1326 (Fed. Cir. 2017) (citation omitted). A court must be cognizant 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), and “describing the claims at . . . a high level of abstraction and untethered from the language of the claims all but ensures that the

exceptions to § 101 swallow the rule” (*Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1337 (Fed. Cir. 2016)). Instead, “the claims are considered in their entirety to ascertain whether their character as a whole is directed to excluded subject matter.” *Internet Patents Corp. v. Active Network, Inc.*, 790 F.3d 1343, 1346 (Fed. Cir. 2015)).

The Supreme Court has identified as abstract ideas claims employing mathematical relationships or formulas, which are similar to the instant claimed invention. Specifically, the Supreme Court stated that the concept of applying a mathematical formula to hedging risk and the application of that concept to energy markets was not patentable because of similarities to *Gottschalk v. Benson*, 409 U.S. 63 (1972), *Parker v. Flook*, 437 U.S. 584 (1978), and *Diamond v. Diehr*, 450 U.S. 175 (1981). *Bilski v. Kappos*, 561 U.S. 593, 611–12 (2010). Further, the Supreme Court noted that the claims, like those in *Flook*, were unpatentable because “*Flook* established that limiting an abstract idea to one field of use or adding token postsolution components did not make the concept patentable.” *Bilski*, 561 U.S. at 612.

Additionally, the Federal Circuit has identified abstract ideas that do not describe an inventive concept that is more than an abstract idea, even when embodied in specific system or structure. Specifically, the Federal Circuit stated “not every claim that recites concrete, tangible components escapes the reach of the abstract-idea inquiry,” including a finding that “claims reciting an ‘interface,’ ‘network,’ and a ‘database’ are nevertheless directed to an abstract idea.” *In re TLI Commc’ns LLC Patent Litig.*, 823 F.3d 607, 611 (Fed. Cir. 2016) (citing *Mortg. Grader, Inc. v. First Choice Loan Serv. Inc.*, 811 F.3d 1314, 1324–25 (Fed. Cir. 2016)). The Federal

Circuit found the “eleven steps for displaying an advertisement in exchange for access to copyrighted media” was directed to an abstract idea, despite the claim at issue reciting “certain additional limitations . . . [that] add a degree of particularity.” *Ultramerical, Inc. v. Hulu, LLC*, 772 F.3d 709, 714–15 (Fed. Cir. 2014). Further, the Federal Circuit noted “the concept embodied by the majority of the limitations describes only the abstract idea of showing an advertisement before delivering free content,” and the addition of novel or non-routine components did not “necessarily turn[] an abstraction into something concrete.” *Id.* at 715.

In contrast, the Federal Circuit has found claims that “are not simply directed to *any* form of storing tabular data, but instead are specifically directed to a *self-referential* table for a computer database” are “directed to an improvement of an existing technology . . . achiev[ing] other benefits over conventional databases, such as increased flexibility, faster search times, and smaller memory requirements.” *Enfish*, 822 F.3d at 1337. However, the heart of the claimed invention must be focused on the underlying technology itself and *how* the underlying technology is altered “in a way that leads to an improvement in the technology.” *Intellectual Ventures I v. Erie Indem. Co.*, 850 F.3d 1315, 1328 (Fed. Cir. 2017) (citing *Enfish*, 822 F.3d 1327); *see also TLI Commc’ns*, 823 F.3d at 612.

If the claims are not directed to a patent-ineligible concept, the inquiry ends. Otherwise, the inquiry proceeds to the second step, where we “consider the elements of each claim both 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). The Supreme Court has “described step two of this analysis as a search for an ‘inventive concept’—*i.e.*, 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.” *Id.* (brackets and quotation omitted). For computer-related technology, the Federal Circuit has held that a claim may pass the second step if “the claimed solution is necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of computer [technology],” e.g., “a challenge particular to the Internet.” *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1257 (Fed. Cir. 2014).

The Federal Circuit has also identified when abstract ideas do not amount to significantly more than the judicial exception. The Federal Circuit held the abstract idea of classifying and storing digital images in an organized manner was not significantly more than an abstract idea because “the recited physical components behave exactly as expected according to their ordinary use” and the claimed invention “fails to provide the requisite details necessary to carry out th[e] idea.” *TLI Commc’ns*, 823 F.3d at 615. Moreover, the Federal Circuit held the idea of “receiving copyrighted media, selecting an ad, offering the media in exchange for watching the selected ad, displaying the ad, allowing the consumer access to the media, and receiving payment from the sponsor of the ad” was not significantly more than the abstract idea because “the claims simply instruct the practitioner to implement the abstract idea with routine, conventional activity.” *Ultramercial, Inc.*, 772 F.3d at 715. Additionally, the Federal Circuit noted

“[n]one of these eleven individual steps, viewed ‘both individually and ‘as an ordered combination,’” transform the nature of the claim into patent-eligible subject matter.” *Id.* (citations omitted).

In contrast, the Federal Circuit held claims directed to methods of organizing human activity may be significantly more “when the claim limitations were considered individually and as an ordered combination, they recited an invention that is not merely the ‘routine or conventional use’ of technology.” *Amdocs (Israel) Ltd. v. Openet Telecom, Inc.*, 841 F.3d 1288, 1301–02 (Fed. Cir. 2016) (citing *DDR Holdings*, 773 F.3d at 1259; *BASCOM Global Internet Serv., Inc. v. AT&T Mobility LLC*, 827 F.3d 1341 (Fed. Cir. 2016)). Additionally, the Federal Circuit held the ordered combination of the claim limitations recited an inventive concept because “the distributed, remote enhancement that *produced an unconventional result*,” which represented “a technical improvement over prior art technologies and served to improve the performance of the system itself.” *Amdocs*, 841 F.3d at 1302 (emphasis added); *see also BASCOM*, 827 F.3d at 1352 (“an inventive concept can be found in the ordered combination of claim limitations that transform the abstract idea of filtering content into a particular, practical application”).

Step One: Whether the Claims Are Directed to a Patent-Ineligible Concept (Abstract Idea)

Appellants argue “the claimed method and system **cannot** be properly interpreted as an abstract idea”:

The claims are directed to a computer-implemented method for bidding for an advertisement placement of an on-line advertisement, the method being performed by an analysis unit including at least a control server, the control server including a processor and a memory. Thus, the claims are directed to a concrete and non-theoretical concept which differs significantly from the examples laid out in the Interim Guidance.

Appeal Brief 9.

Despite characterizing the claimed invention as using computer technology to overcome a problem specific to the operation of a computer or a computer network per se, Appellants do not present sufficient persuasive evidence or argument that the claims are directed to an improvement specific to a computer network or the Internet *itself* (e.g., improving the network's operation or configuration, or retaining website visitors). *Compare, e.g., Elec. Power*, 830 F.3d at 1354, with *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1257 (Fed. Cir. 2014).

Appellants contend their “claims are directed to overcoming the technical drawbacks of conventional tools as outlined in the background section of their application, namely an inability to determine a true intent of a target ad recipient.” Appeal Brief 10. Appellants further contend, “It would also be advantageous to determine based on such trends bidding [sic] preferences on advertisement placements as would the ability be to detect in real-time the appearance and subsiding of a trend.” Appeal Brief 10.

Regardless of the specificity (or alleged novelty) of Appellants' claims, we agree with the Examiner's determination that the claims here are directed to abstract ideas. In particular, as the Examiner determines, and we agree, Appellants' claims are directed to the fundamental economic practice

of targeting information (“the concept of recommending ads based on trends established through statistical analysis”) to consumers. Final Action 2; Answer 2–3. As such, Appellants’ claims are similar to claims that have been determined by courts to be directed to abstract ideas. *See Intellectual Ventures I LLC v. Capital One Bank*, 792 F.3d 1363, 1369-70 (Fed. Cir. 2015) (finding the practice of tailoring advertising to individual customers to be a “fundamental . . . practice long prevalent in our system”).

Appellants argue the, “[I]nvention as claimed does **not** preempt an abstract idea. Rather, the rejection, as stated, has turned the exception on its head, by stating that a specific technical solution is an abstract pre-emption of a fundamental building block, and as such the rejection is **not** proper.” Appeal Brief 14.

We agree, the Supreme Court has described “the concern that drives this exclusionary principle [i.e., the exclusion of abstract ideas from patent eligible subject matter] as one of pre-emption.” *Alice*, 134 S. Ct. at 2354. But characterizing pre-emption as a driving concern for patent eligibility is not the same as characterizing preemption as the sole test for patent eligibility. As our reviewing court has explained, “[t]he 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*, 134 S. Ct. at 2354). And although “preemption may signal patent ineligible subject matter, the absence of complete preemption does not demonstrate patent eligibility.” *Id.* Moreover, “[w]here a patent’s claims are deemed only to

disclose patent ineligible subject matter under the *[Alice/Mayo]* framework . . . , preemption concerns are fully addressed and made moot.” *Id.*; *see also OIP Techs., Inc. v. Amazon.com, Inc.*, 788 F.3d 1359, 1362–63 (Fed. Cir. 2015), *cert. denied*, 136 S. Ct. 701 (2015) (“[T]hat the claims do not preempt all price optimization or may be limited to price optimization in the ecommerce setting do not make them any less abstract.”).

Because we agree with the Examiner’s finding that at step one of the *Alice* analysis, the claims are directed to one or more abstract ideas, we turn to the second step of the *Alice* analysis, in which we must determine whether the additional elements of the claims transform them into patent-eligible subject matter.

Step Two: Whether Additional Elements Transform the Idea into Patent-Eligible Subject Matter

Appellants contend, “[T]he claims nevertheless amount to significantly more than an abstract idea and, thus, are allowable at least under the second part of the analysis.” Appeal Brief 14. Appellants argue: “The claim limitations do much more than merely implement an abstract idea on a computer or perform generic computer functions that are well-understood, routine, and conventionally known in the industry.” Appeal Brief 14.

The claims recite a control server, a processor, and a memory that are employed in an ordinary configuration or manner wherein the Specification fails to provide any indication to the contrary. *See Answer 4–5*. We find Appellants’ claims are distinguished from those claims that our reviewing

court has found to be patent eligible by virtue of reciting technological improvements to a computer system. *See, e.g., DDR Holdings*, 773 F.3d at 1249, 1257 (holding that claims reciting computer processor for serving “composite web page” were patent eligible because “the claimed solution is necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of computer networks”).

Appellants further argue, “The claim limitations offer improvements to the field in which the subject matter of the present application is directed by increasing the effectiveness of the advertising campaigns and in particular, the appropriateness of ad placements.” Appeal Brief 14. We find this argument unpersuasive as directed to an improvement to the underlying abstract idea rather than to a technological advance. Increasing the effectiveness of advertising campaigns or the appropriateness of ad placements through trend analysis is akin to tailoring advertisements to customers, which, as we explained above, is an abstract idea. Non-technical improvements to such a field are therefore still directed to an abstract idea.

We agree with the Examiner’s determination and therefore we do not find that the claims recite *significantly more* to transform the abstract idea into a patent-eligible application. We sustain the Examiner’s 35 U.S.C. §101 rejection of claims 1–18.

35 U.S.C. § 103 (a) Rejection

The Examiner finds Kim discloses the claimed invention with the exception that “Kim fails to explicitly disclose a method that performs statistical analysis on terms in order to determine their frequency.” Final

Action 5. However, the Examiner finds that Druzgalski “discloses a method that performs calculations for determining that frequency of various terms (keywords) on various sites.” Final Action 5 (*citing* Druzgalski paragraphs 95–97).

The Examiner further finds:

Kim explicitly discloses a method in which ads are presented to users based on trends that are monitored through online expressions. Furthermore, the language in Kim is virtually identical to the concepts of “sentiment” and/or “non-sentiment” phrases that are presented in Applicant’s specification. For example, paragraph 63 of Kim provides an example in which the phrase “I love my car!” is analyzed as a sentiment phrase. Paragraph 53 provides an example in which “Jane Smith is a great actress!” is divided into its sentiment (“great”) and non-sentiment (Jane Smith, actress) components, which are then used to determine a trend that is worthy of receiving targeted ads.

Final Action 13.

Appellants contend:

The Examiner is correct in asserting that Kim identifies positive polarities and negative polarities in an expression and the subject of such expressions. However, Kim’s disclosed method does **not** include at least one non-sentiment **and** at least one sentiment phrase appearing in the at least one data source. The examples cited by the Examiner comprise phrases analyzed singularly, as opposed to Appellants’ claim 1, which utilizes a term taxonomy

generated by associating at least one non-sentiment **and** at least one sentiment phrase appearing in the at least one data source.

Appeal Brief 17.

Appellants' Specification discloses in paragraph 27:

The text coming in from the one or more data source(s) 210 is mined for such phrases, for example, by using a reference for phrases stored in a database, such as the phrase database 120. The mining process includes understanding that a complex phrase such as "I hate I Love Lucy" actually contains a sentiment phrase "love" and a non-sentiment phrase "I Love Lucy", where the word "love" in the non-sentiment phrase is not to be analyzed as a standalone phrase. Furthermore, the sentence "I saw the movie I love Lucy" does not comprise any sentiment phrase, and therefore would not cause the mining unit 220 using the mining process to associate a sentiment phrase to the non-sentiment phrase.

Kim discloses in paragraph 43, "In the case of positive and negative polarity classes, expressions could generally be classified into, but not limited to, three categories, such as for example":

[0044] 1. Expression about the subject of the sentence:

[0045] a. Jane Smith is a great actress!

[0046] b. The film was a disappointment.

[0047] 2. Expression about an object within the sentence:

[0048] a. The children ate all the delicious cookies!

[0049] b. We had a terrible lunch.

[0050] 3. Expressions about the subject's attitude about something:

[0051] a. I love my car!

[0052] b. The audience hated the movie.

We do not find Appellants' arguments persuasive. Kim discloses analyzing sentence structure and distinguishes between sentiment and non-sentiment terms, although Kim does not refer to the terms as sentiment/non-sentiment. Kim also categorizes the terms grammatically thus creating associations, and therefore a taxonomy, between the sentiment and non-sentiment terms. *See* Kim ¶ 53. Appellant's argument that Kim analyzes the phrases singularly is not commensurate with the scope of the claim, which does not require analyzing phrases "singularly."

Appellants further contend, "Additionally, at paragraph [0106], Kim teaches that one could count the relative number of occurrences of expression-topic combinations in relation to a target content **page**. This is in contrast to two **different** data sources out of the plurality of data sources required by Appellants' claim 1." Appeal Brief 17. We do not find Appellants' arguments persuasive and we agree with the Examiner's determination that the employment of multiple data sources is well within the realm of obviousness to one of ordinary skill in the art. *See* Final Action 13. We also do not find Appellants' arguments that Druzgalski fails to address the alleged deficiencies of Kim persuasive because for the reasons

stated above, we did not find Kim deficient. *See* Appeal Brief 17–18. Accordingly, we do not find Appellants’ arguments that the Examiner’s motivation to combine the references should fall because the Examiner has mischaracterized the claimed invention persuasive because we find the Examiner did not mischaracterize the claimed invention. *See* Appeal Brief 18–20.

Appellants argue that Kim teaches away from determining trends and Druzgalski teaches away from a combination with Kim because Druzgalski “does **not** teach that the advertisements should be based on **trends**, i.e., the trends detected by Druzgalski. Instead, per paragraph [0042], the advertisements are based on the content of the aggregated feeds, which is conventional.” Appeal Brief 20–22. We do not find Appellants’ arguments persuasive because, “A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant.” *In re Kahn*, 441 F.3d 977, 990 (Fed. Cir. 2006) (citations and internal quotation marks omitted). *See also In re Fulton*, 391 F.3d 1195, 1201 (Fed. Cir. 2004) (noting that merely disclosing more than one alternative does not teach away from any of these alternatives if the disclosure does not criticize, discredit, or otherwise discourage the alternatives). Neither Kim nor Druzgalski discourages combining the references in the manner set forth by the Examiner. *See* Final Action 5–10. Consequently, we sustain the Examiner’s obviousness rejection of independent claims 1, 12 and 13, argued without

distinction, as well as, the obviousness rejections of dependent claims 2–6 and 14–21 argued without distinction. *See* Appeal Brief 22–25.

DECISION

The Examiner’s 35 U.S.C. § 101 rejection of claims 1–6 and 9–21 is affirmed.

The Examiner’s 35 U.S.C. § 103 rejections of claims 1–6 and 9–21 are affirmed.

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). *See* 37 C.F.R. § 1.136(a)(1)(v).

AFFIRMED