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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/545,413	08/21/2009	Andrew D. Flockhart	4366-564	1286

48500 7590 05/04/2017
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ART UNIT	PAPER NUMBER
3624	

NOTIFICATION DATE	DELIVERY MODE
05/04/2017	ELECTRONIC

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte ANDREW D. FLOCKHART and ROBERT C. STEINER

Appeal 2016-000033
Application 12/545,413[1]
Technology Center 3600

Before MURRIEL E. CRAWFORD, TARA L. HUTCHINGS, and SHEILA F. McSHANE, *Administrative Patent Judges*.

McSHANE, *Administrative Patent Judge*.

DECISION ON APPEAL

The Appellants seek our review under 35 U.S.C. § 134(a) of the Examiner's final decision to reject claims 1–21. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

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[1] According to the Appellants, the real party in interest is Avaya Inc. Appeal Brief filed December 4, 2014, hereafter "App. Br.," 2.

BACKGROUND

The invention relates to employing a routing engine to perform comparisons between bit tables to make work item routing decisions. Specification, hereafter "Spec." 2:24–3:2. This work routing is done in contact centers that service customer contacts. *Id.* at 1:9–13.

Representative claim 1 is reproduced from page 13 of the Claims Appendix of the Appeal Brief (Claims App.) as follows, with emphasis added to relevant claim limitations:

1. A method, comprising:

> receiving a work item at a work item routing mechanism, the work item routing mechanism configured to route work items among a plurality of processing resources;
>
> determining a skill associated with processing the work item;
>
> storing the determined skill as *a single bit value* for the work item in a sequence of bits having at least one bit, wherein the determined skill is stored in a *specific bit location* of the sequence of bits, and wherein the specific bit location serves to identify a particular skill associated with processing the work item;
>
> performing, by a processor executing an operation of the work item routing mechanism, a *bitwise value comparison of the single bit value* for the work item in the *specific bit location of the sequence of bits with a corresponding single bit value* for a processing resource in the plurality of processing resources, wherein the corresponding single bit value for the processing resource represents whether or not the processing resource has the particular skill to service the work item; and
>
> based on the bitwise value comparison, routing the work item to a selected processing resource among the plurality of processing resources, wherein the processing resource includes at least one of a microprocessor and memory.

In a Final Rejection, the Examiner rejects claims 1–21 under 35 U.S.C. § 103(a) as unpatentable over Schoeneberger[2] and Wang[3]. Final Action, hereafter "Final Act.," 2–15, mailed June 16, 2014; Answer, hereafter "Ans.," 3, mailed July 23, 2015. In the Answer, the Examiner enters a new ground of rejection for claims 1–21 under 35 U.S.C. § 101 on the basis that the claimed invention is directed to non-statutory subject matter. Ans. 3–6. The Appellants exercise the option to maintain the appeal with the filing of a Reply Brief, with the Reply Brief addressing each ground of rejection under 37 C.F.R. § 41.39(b)(2). Reply Brief, hereafter "Reply Br.," 2–6, filed September 23, 2015.

DISCUSSION

The Appellants argue the rejections of claims 1–21 under § 101 on common issues. *See* Reply Br. 2–6. We will address the issues in a similar manner, using claim 1 as representative. The obviousness rejections of independent claims 1, 8, and 15 are argued together, using claim 1 as representative, and with additional arguments presented for dependent claims 3, 6, and 7. *See* App. Br. 7–19. In light of our disposition of this Appeal as to the § 103(a) rejections, we need only address certain issues relating to these rejections.

35 U.S.C. § 101

The Examiner finds that claims 1–21 are directed towards the abstract idea of "comparing newly received work item information and stored skill information associated with processing the work item in a sequence of bits and using rules to identify options," which is a fundamental economic practice. *See* Ans. 3–4. The Examiner finds that the limitations of the claims do not amount to "significantly more" than an abstract idea. *See id.* at 4. The Examiner applies the machine-or-

[2] US Publication 2004/0141508 A1, published July 22, 2004.
[3] US Publication US 2010/0145969 A1, published June 10, 2010.

transformation test, finding that the claims "fail to recite any improvements to another technology or technical field, improvements to the functioning of the computer itself, and/or meaningful limitations beyond generally linking the use of an abstract idea to a particular environment." *Id.* at 5. Additionally, although the claims include the use of a computer, the Examiner finds that "nothing more than a generic computer, performing generic, well-understood and routine computer functions, would be required to implement the aforementioned abstract idea." *Id.*

The Appellants allege that the claims are not directed to abstract ideas because they "recite[] method steps that could not possibly be performed in a person's head." Reply Br. 4. The Appellants also argue that the features of claim 1 are "not anywhere near any judicially-recognized abstract idea." *Id.* More specifically, the Appellants allege that storing a single bit value is not an abstract idea, nor is storing the single bit value in a specific bit location. *Id.* The Appellants also contend that the claim recites a bitwise value comparison of the single bit value for the work item in the specific bit location of the sequence of bits with a corresponding single bit value for a processing resource, where the corresponding single bit value represents whether or not the processing resource has the particular skill needed, and routing the work item to a selected processing resource, which "are quite afar from an abstract idea." *Id.* The Appellants also contend that claim 8, reciting "routing work items" provides a "non-abstract solution" to process a work item quickly and efficiently. *Id.* at 5, 6.

The Appellants also allege that the claims amount to significantly more than the patentability exception because they are directed to more "quickly and efficiently routing work items to processing resources in a contact center environment" by leveraging information contained in a single bit value. Reply Br. 5–6. The Appellants contend that, prior to the invention, "a customer would be

required to suffer through extensive processing delay and wait time before a routing decision was made by a traditional contact center routing engine," but the claims allow the routing decision to be done more quickly and efficiently. *Id.* at 6.

To provide context, 35 U.S.C. § 101 provides that a new and useful "process, machine, manufacture, or composition of matter" is eligible for patent protection. The Supreme Court has made clear that the test for patent eligibility under Section 101 is not amenable to bright-line categorical rules. *See Bilski v. Kappos*, 130 S. Ct. 3218, 3229–30 (2010). There are, however, three limited, judicially-created exceptions to the broad categories of patent-eligible subject matter in § 101: laws of nature; natural phenomena; and abstract ideas. *See Mayo Collaborative Services v. Prometheus Labs., Inc.*, 132 S. Ct. 1289, 1293 (2012).

In *Alice Corporation Pty, Ltd. v. CLS Bank International*, 134 S. Ct. 2347 (2014) ("*Alice*"), the Supreme Court reiterated the framework set forth previously in Mayo, "for distinguishing patents that claim laws of nature, natural phenomena, and abstract ideas from those that claim patent-eligible applications of these concepts." *Alice*, 134 S. Ct. at 2355 (citation omitted). Under *Alice*, the first step of such analysis is to "determine whether the claims at issue are directed to one of those patent-ineligible concepts." *Id.* (citation omitted). If determined that the claims are directed to a patent-ineligible concept, the second step in the analysis is to consider the elements of the claims "individually and 'as an ordered combination' to determine whether the additional elements 'transform the nature of the claim' into a patent-eligible application." *Id.* (citing *Mayo*, 132 S. Ct. at 1298, 1297). In other words, the second step is to "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.* (citing *Mayo*, 132 S. Ct. at 1294).

With this context in mind, we evaluate the Examiner's rejection of representative claim 1.

We find no reversible error with the Examiner's findings. Although the wording of the representative claim 1 gives the appearance of greater complexity, the claim is directed to assigning a number to identify a required skill set for a work item, comparing the number to a determine a match to the skill set (with the same assigned numbers) of available resources available, and routing the work item to those with a matching skill set. This is akin, for instance, to a human operator receiving a call from a customer requiring assistance, determining that the customer needs assistance from a representative who speaks French, looking for a match in the "yes" list of customer assistance representatives who can speak French, and routing the call to one of the qualified representatives. The Federal Circuit directed that:

> the first step in the *Alice* inquiry in this case asks whether the focus of the claims is on the specific asserted improvement in computer capabilities (i.e., the self-referential table for a computer database) or, instead, on a process that qualifies as an "abstract idea" for which computers are invoked merely as a tool.

Enfish, LLC v. Microsoft Corp., 822 F.3d 1327, 1336 (Fed. Cir. 2016). Here we discern no improvement to computer technology or any allegation of any such improvement. Additionally, our reviewing court has found that if a method can be performed by human thought, these processes remain unpatentable even when automated to reduce burden to the user. *CyberSource Corp. v. Retail Decisions, Inc.,* 654 F.3d 1366, 1375 (Fed. Cir. 2011) ("That purely mental processes can be unpatentable, even when performed by a computer, was precisely the holding of the Supreme Court in *Gottschalk v. Benson*, [409 U.S. 63 (1972)]."). We therefore find no reversible error with the Examiner's findings that the claims are directed to a fundamental economic practices and/or methods of organizing human activity

and are, therefore, an abstract idea. *See Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709 (Fed. Cir. 2014).

Turning to the second step of *Alice*, we are not persuaded by the Appellants' arguments that the claims represent "significantly more" than the abstract idea exception.

Here, the Appellants argue that, not only does the method result in faster routing by the virtue of computer use, but, moreover, the routing is more quickly and efficiently accomplished by leveraging the information contained in a single bit value. *See* Reply Br. 6. The Appellants contrast the claimed bit comparison with that of a "traditional contact center routing engine" that introduces delays. *Id.* The Specification also identifies the issue of delays in routing calls, as well as the alleged benefit of the claimed bit match, which is "able to make fast logical operations." Spec. 2: 8–20, 3:2–5.

Although we agree that the single bit comparison may provide the benefit of reduced processing times compared with more complicated routing engine methods, the Appellants fail to address the Examiner's finding that the claimed method uses "a generic computer, performing generic, well-understood and routine computer functions" for implementation. *See* Ans. 5. Here, there is no showing that the bit matching claimed is anything but a routine and conventional way to match data. Although this method may be faster than matching other data formats, there is no evidence provided by the Appellants that the method is beyond a conventional, known practice that is applicable to the method claimed, and therefore does not transform the claimed abstract idea into a patent-eligible application of the abstract idea. As the Federal Circuit stated: "after *Alice*, there can remain no doubt: recitation of generic computer limitations does not make an

otherwise ineligible claim patent-eligible." *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1256 (Fed. Cir. 2014).

We therefore sustain the Examiner's rejection of claims 1–21 under § 101.

35 U.S.C. § 103

The Appellants contend that the Examiner fails to provide prior art teachings of the claim limitations of "storing a determined skill as a single bit value for the work item," where the determined skill is stored in a "specific bit location," and performing the bitwise value comparison in the manner claimed. App. Br. 7–13.

The Examiner finds that Schoeneberger teaches "storing the determined skill as a single bit value for the work item in a sequence of bits having at least one bit, wherein the determined skill is stored in a specific bitwise location of the sequence of bitwise." Final Act. 3 (citing Schoeneberger ¶ 64, Figs. 2A, 2B). The Examiner also finds that "Schoeneberger shows comparison of criteria for the purposes of routing inquiries ([0064]-[0065])," but "does not explicitly recite the term 'bitwise,'" so as a secondary reference, Wang is relied upon to also disclose this limitation. *Id.* at 5. The Examiner finds that Wang recites the term "bitwise comparison" to teach the claimed limitations. *See id.* (citing Wang ¶¶ 17–19, 29). The Examiner also provides a rationale to combine the references. *Id.* at 5–6.

The Examiner further finds that the term "bitwise" should be given its broadest reasonable interpretation "in light of the applicants' specification as being a bit to bit comparison," and that "bitwise value comparisons form the basis of any computer based program for performing any task." Ans. 8. With this, the Examiner finds that in Wang, "the arrangements of bits in the search string and the stored string have to fully match," so "every <u>*single*</u> bit in the search string is compared to its associated bit in the stored string." *Id.* at 8–9 (citing Wang ¶¶ 23, 24).

The Appellants refer to the Specification for disclosures to the comparisons on a "bit-by-bit basis." Reply Br. 7 (citing Spec. 16:15–18, 16:21–22, 18:11–25, 20:22–21:2). The Appellants also refer to the independent claims, which each recites that the determined skill is stored as a "single bit value," and the "bit-by-bit comparison" is performed on the "single bit value." *Id.* The Appellants allege that Schoeneberger is silent on any bit matching operations, and Wang teaches comparison of address bits, and fails to disclose "a bitwise value comparison of the single bit value for the work item in the specific bit location of the sequence of bits with a corresponding single bit value for a processing resource." *Id.* at 7.

After considering the Appellants' arguments and the evidence presented in this Appeal for the § 103 rejection, we are persuaded that the Appellants identify reversible error, and we therefore reverse the obviousness rejection of representative claim 1. We add the following for emphasis.

Representative claim 1 recites "storing the determined skill as a single bit value," storing that single bit in a "specific bit location," and performing a "bitwise value comparison of the single bit value for the work item." Claims App. 21. Our review of the Specification indicates that the skills of the available resources may be assigned a single bit only in a specific location, as well as a related comparison. *See* Spec. 19:2–5; Fig. 5. We do not discern that either Schoeneberger or Wang teaches the use of a single bit value for a determined skill, and we therefore we cannot sustain the Examiner's rejection of representative claim 1.

The rejection of the claims depending from the independent claims also cannot stand due to the failure of the prior art to teach the limitations of the independent claims, which the dependent claim rejections also fail to address.

SUMMARY

We affirm the Examiner's rejection of claims 1–21 under 35 U.S.C. § 101.

We reverse the Examiner's rejection of claims 1–21 under 35 U.S.C. § 103(a).

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a).

AFFIRMED