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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte ANDREW LYNN GARDNER¹

Appeal 2017-009575
Application 13/782,549
Technology Center 2100

Before JAMES R. HUGHES, JOHN D. HAMANN, and
MATTHEW J. McNEILL, *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 decision rejecting claims 1–7, 9–12, 14–19, 21, and 22. Claims 8, 13, and 20 have been canceled. Non-Final Act. 1–2; Br. 4.² We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

¹ According to Appellant, the real party in interest is Storagecraft Technology Corp. Br. 4.

² We refer to Appellant's Specification ("Spec.") filed Mar. 1, 2013, and Appeal Brief ("Br.") filed Nov. 4, 2016. We also refer to the Examiner's Non-Final Office Action (Non-Final Rejection) ("Non-Final Act.") mailed May 6, 2016, and Answer ("Ans.") mailed Apr. 21, 2017.

Appellant's Invention

The invention generally relates to computer storage and related techniques, including “multiphase deduplication performed during the creation of backups” (Spec. ¶ 1). More particularly, the invention relates to computer-readable media having stored thereon programs configured to cause a processor to perform a multiphase deduplication process. The multiphase deduplication process analyzes all allocated blocks stored in a source storage targeted for backup, determines if the blocks are duplicated in a vault storage, and stores all of the blocks that are unique non-duplicate blocks in the vault storage. Spec. ¶¶ 9–12; Abstract.

Representative Claim

Independent claim 1, reproduced below with key disputed limitations emphasized, further illustrates the invention:

1. One or more non-transitory computer-readable media storing one or more programs that are configured, when executed, to cause one or more processors to perform a method of multiphase deduplication, the method comprising:

an analysis phase that includes analyzing all allocated blocks that are stored in a source storage at a point in time and that are targeted for backup to determine if the blocks are duplicated in a vault storage; and

a backup phase that is performed after completion of the analysis phase and that includes storing, in the vault storage, all of the blocks that are unique nonduplicate blocks.

Rejections on Appeal

1. The Examiner rejects claims 1–7, 9–12, 14–19, 21, and 22³ under 35 U.S.C. § 101 as being directed to patent ineligible subject matter.

2. The Examiner rejects claims 1, 3–7, 9, 11, 12, 14–17, 19, 21, and 22 under Pre-AIA 35 U.S.C. § 102(e) as being anticipated by Vaikar et al. (US 8,650,162 B1, issued Feb. 11, 2014 (filed Mar. 31, 2009)) (“Vaikar”).

3. The Examiner rejects claims 2, 10, and 18 under Pre-AIA 35 U.S.C. § 103(a) as being unpatentable over Vaikar and McCain (US 2009/0164529 A1, published June 25, 2009).

ISSUES

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

1. Did the Examiner err in finding Appellant’s claims were directed to patent ineligible subject matter under 35 U.S.C. § 101?

2. Did the Examiner err in finding that Vaikar discloses “analyzing all allocated blocks that are stored in a source storage at a point in time and that are targeted for backup to determine if the blocks are duplicated in a vault storage” within the meaning of Appellant’s claim 1 and the commensurate limitations of claims 9 and 14?

³ The Examiner’s rejection lists claims 1–7, 9–12, 14, 15, 15, 17–19, 21, and 22, omitting claim 16. *See* Non-Final Act. 3. The Examiner’s Answer, however, includes claim 16. *See* Ans. 2. Appellant does not address the omission of claim 16 with respect to the § 101 rejection. We find the Examiner’s omission of claim 16, a typographical error, harmless and include claim 16 in the statement of the rejection for clarity and consistency of the record.

ANALYSIS

The 35 U.S.C. § 101 Rejection

Appellant argues independent claims 1, 9, and 14 (as well as dependent claims 2–7, 10–12, 15–19, 21, and 22) together as a group with respect to the § 101 rejection. *See* Br. 12. We select independent claim 1 as representative of Appellant’s arguments with respect to claims 1–7, 9–12, 14–19, 21, and 22. 37 C.F.R. § 41.37(c)(1)(iv) (2015).

The Examiner rejects claim 1 as being directed to patent-ineligible subject matter in that “the claimed invention is directed to a judicial exception (. . . an abstract idea) without significantly more” and the claims simply recite “analyzing and storing information which can be performed mentally and is an idea of itself.” Non-Final Act. 3; *see* Ans. 2–4.

Appellant contends that claim 1 is not directed to an abstract idea because the Examiner’s interpretation of the claim is a “gross oversimplification” (Br. 10) and claim 1 (and the claims generally) “are directed to a specific improvement to the way computers operate” (Br. 10 (quoting *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1336 (Fed. Cir. 2016)); *see* Br. 10–12).

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*, 822 F.3d at 1336.

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 “analyzing and storing information” (Non-Final Act. 3). The Examiner also finds that the analyzing and storing of information “can be performed mentally and is[, therefore,] an idea of itself” (*id.*). The Examiner further explains that the claims are similar to claims previously found to be directed to abstract ideas — “such as using rules or categories to organize, store and transmit information in Cyberfone” (citing *Cyberfone Systems, LLC v. CNN Interactive Group, Inc.*, 558 Fed.Appx. 988, 991–92 (Fed. Cir. 2014)). Non-Final Act. 3; *see* Ans. 2–4. Additionally, the Examiner explains that the claims are similar to concepts (and claims) previously found to be abstract such as: data recognition and storage (in *Content Extraction*); collecting and analyzing information, and displaying the analyzed information (in *Electric*

Power Grp); collecting and analyzing information to detect misuse (in *FairWarning*); and collecting and comparing information (in *In re BRCA1* (identified as “Ambry/Myriad CAFC” by the Examiner)). See Ans. 2–3 (citing in *FairWarning IP, LLC v. Iatric Systems, Inc.*, 839 F.3d 1089, 1093–95 (Fed. Cir. 2016); *Electric Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1353–54 (Fed. Cir. 2016); *Content Extraction and Transmission LLC v. Wells Fargo Bank, Nat. Ass’n.*, 776 F.3d 1343, 1347 (Fed. Cir. 2014); and *In re BRCA1– & BRCA2–Based Hereditary Cancer Test*, 774 F.3d 755, 762–64 (Fed. Cir. 2014))

Conversely, the Appellant simply attacks the Examiner’s findings as being a “gross oversimplification” (Br. 10) and contends the claims improve the operation of computers by explaining in detail the operation of his invention, without actually addressing any of the Examiner’s findings. See Br. 10–11. 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*, 830 F.3d at 1353–54). 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 claims 1, 9, and 14 in particular, relate to analyzing information (analyzing data blocks to be backed-up (copied), which are stored in a storage or memory) to determine if they are duplicated (a copy already exists) in a different storage location (vault storage)—that is, analyzing data utilizing an un-recited process or algorithm to determine a result (if the blocks are duplicated in the vault storage). If the result is negative (the blocks are not duplicated) the analyzed information (the unique non-duplicate data blocks) is stored in the alternate storage location (the vault storage). Therefore, the claims broadly recite analyzing and storing information (data). *See* Abstract; Spec. ¶¶ 3–7, 9–12. This is consistent with how Appellant describes the claimed invention. *See* Spec. ¶¶ 26, 57–65; Figs 1, 8. Contrary to Appellant’s assertions, the present claims are “directed to [an] abstract idea” (Br. 12), in that the instant claims are analogous to a number of cases in which courts have identified similar claims as encompassing abstract ideas. *See* Non-Final Act. 3; Ans. 2–4.

Our reviewing court has held that abstract ideas include gathering, analyzing, and displaying 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). Similarly, our reviewing court has held that abstract ideas include gathering, analyzing, and storing information. *See Content Extraction*, 776 F.3d at 1345, 1347 (finding the “claims generally recite . . . recognizing specific information from the extracted data, and . . . storing that information in a memory” (*id.* at 1345) and that the “claims are drawn to the basic concept of data recognition and storage” (*id.* at 1347)).

Here, the analysis and storage of information (data blocks) is similar to the abstract idea of collecting, analyzing, and manipulating information discussed in *Elec. Power* and *Content Extraction*. Similarly, the Federal Circuit has found claims involving no more than data collection (recording images), data classification (extracting classification information), and data storage (storing recorded images in a server) to be directed to abstract ideas. See *In re TLI Communications LLC Patent Litigation*, 823 F.3d 607, 609–13 (Fed. Cir. 2016). Thus, we agree with the Examiner that the claims are directed to an abstract idea of analyzing and storing information. Notably, this characterization is consistent with Appellant’s description of the claimed invention. See Abstract; Spec. ¶¶ 3–7, 9–12.

Alice Step 2 Analysis

Having found Appellant’s claims are directed to an abstract idea 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*, 776 F.3d at 1347–48 (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* Non-Final Act. 3; Ans. 3–4. Appellant, on the other hand, merely contends the claims “are directed to a specific improvement to the way computers operate” (Br. 10), “improve the functioning of a computer itself” (Br. 11), “improve the technical field of backup and disaster recovery (BDR)” (Br. 11), and “amount to ‘significantly more’ than the purported abstract idea itself” (Br. 12 (quoting *Amdocs*, 841 F.3d at 1294)).

Appellant fails to persuade us of error in the Examiner’s rejection with respect to the second *Alice* step. Here Appellant conflates the *Alice* two-part analysis and does not address the Examiners’ findings. To the extent Appellant’s arguments might be interpreted as invoking *DDR Holdings* (*see* Br. 10–12)—in that the instant claims improve the operation of a computer system (*supra*)—we disagree. In *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245 (Fed. Cir. 2014), 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 of analyzing and storing information, utilizing conventional computer networks and systems. *See* Ans. 3–4; Spec. ¶¶ 26, 75–76; Figs 1. Despite Appellant’s arguments to the contrary, nothing in the claim recites a “specific improvement to the way computers operate” (*supra*), the analysis and storage of data blocks, is not a solution to a technical problem as discussed in *DDR Holdings*. Conditionally storing data is a commercial solution to an efficiency (duplication) problem, not a

technical solution. This commercial solution may be assisted using a general purpose computer to perform the data collection, analysis, manipulation, and storage processes, but does not 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.

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. 3–4. Indeed, the claim merely recites processes for decreasing duplication during backup (copying) by conditionally storing data. Such steps are all routine, conventional, and well-understood computer functions 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.* ¶¶ 75–76. The “[c]omputer-executable instructions comprise, for example, instructions and data which cause a general purpose computer . . . to perform a certain function or group of functions” (*Spec.* ¶ 76). Such convention computer processes “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, 9, and 14, and also dependent claims 2–7, 10–12, 15–19, 21, and 22, which were not argued separately.

The 35 U.S.C. § 102(e) Rejection

Appellant argues independent claims 1, 9, and 14 and dependent claims 3–7, 11, 12, 15–17, 19, 21, and 22 together as a group with respect to the § 102(e) rejection. *See* Br. 13, 16. We select independent claim 1 as representative of Appellant’s arguments with respect to claims 1, 3–7, 9, 11, 12, 14–17, 19, 21, and 22. 37 C.F.R. § 41.37(c)(1)(iv).

The Examiner rejects independent claim 1 as anticipated by Vaikar. *See* Final Act. 4–5; Ans. 4–7. We adopt as our own: (1) the findings and reasons set forth by the Examiner in the action from which this appeal is taken (Final Act. 4–5), and (2) the reasons set forth by the Examiner in the Examiner’s Answer (Ans. 4–7) in response to Appellant’s Appeal Brief. We concur with the findings and conclusions reached by the Examiner, and we address specific findings, conclusions, and arguments for emphasis as follows.

Appellant contends Vaikar does not disclose the disputed features of claim 1. *See* Br. 13–16. Specifically, Appellant contends that the cited portions of Vaikar “teach an incremental backup technique that operates on a *file by file* basis” and, therefore, Vaikar describes the “analysis and backing up . . . [being] repeated over and over for each file that changed since the last backup, instead of a backup phase for an entire source storage being performed ‘*after completion of*’ an analysis phase for the entire source storage, as required by claim 1.” Br. 14; *see also* Br. 13–16. Appellant further contends that, to the extent Vaikar describes a “volume level backup,” Vaikar still “only teaches analyzing and the backing up blocks of data on a *file-by-file* basis.” Br. 15; *see also* Br. 15–16.

We agree with the Examiner and find a preponderance of the evidence demonstrates that Vaikar discloses the disputed features of Appellant’s claim 1. As explained by the Examiner, Vaikar discloses deduplication analysis of a full backup or image backup in addition to an incremental backup. *See* Ans. 5–6 (citing Vaikar, col. 4, l. 49–col. 5, l. 16). Appellant’s recited analysis phase reads on the deduplication analysis described in Vaikar (*supra*).

Appellant’s Specification explains that during image backup each allocated block is analyzed:

Another common technique for backing up a source storage ignores the locations of individual files stored in the source storage and instead simply backs up all allocated blocks stored in the source storage. This technique is often referred to as image backup because the backup generally contains or represents an image, or copy, of the entire allocated contents of the source storage. Using this approach, individual allocated blocks are backed up if they have been modified since the previous backup. Because image backup backs up all allocated blocks of the source storage, image backup backs up both the blocks that make up the files stored in the source storage as well as the blocks that make up the file system metadata.

Spec ¶ 5. In other words, Appellant describes backing up all allocated blocks in a source storage (performing an image backup) by determining the individual allocated blocks that have been modified since the previous backup and backing up (storing) the modified blocks in different storage location. Vaikar discloses just such image backups. *See* Vaikar, col. 4, ll. 49–53; col. 5, ll. 4–8; col. 5, ll. 53–58.

Next, Appellant’s claim 1 recites performing additional analysis on the individual allocated blocks to be backed up in the image backup—
“analyzing all allocated blocks that are stored in a source storage at a point

in time and that are targeted for backup to determine if the blocks are duplicated in a vault storage” (claim 1). Vaikar discloses performing just such deduplication on the blocks to be backed up. *See* Vaikar, col. 4, ll. 49–53; col. 4, l. 58–col. 5, l. 3. Appellant does not sufficiently explain why the broad recitation of “determin[ing] if the blocks are duplicated” in Appellant’s claim 1 is not anticipated by Vaikar’s deduplication. Further, Appellant failed to file a Reply Brief addressing the Examiner’s clarified findings and additional discussion of the disputed limitations, or otherwise rebutting the findings and responsive arguments made by the Examiner in the Answer.

Thus, Appellant does not persuade us of error in the Examiner’s anticipation rejection of representative independent claim 1. Accordingly, we affirm the Examiner’s rejection of representative claim 1, as well as independent claims 9 and 14 and dependent claims 3–7, 11, 12, 15–17, 19, 21, and 22, not separately argued with particularity (*supra*).

The 35 U.S.C. § 103 Rejection

The Examiner rejects dependent claims 2, 10, and 18, as being obvious in view of Vaikar and McCain. *See* Final Act. 17–21. Appellant does not separately argue claims 2, 10, and 18, or address the Examiner’s § 103(a) rejection. *See* Br. 16. Thus, Appellant does not persuade us of error in the Examiner’s obviousness rejection of dependent claims 2, 10, and 18, which depend from independent claims 1, 9, and 14, respectively. Accordingly, we sustain the Examiner’s obviousness rejection of claims 2, 10, and 18 for the same reasons as claim 1 (*supra*).

CONCLUSIONS

Appellant has not shown that the Examiner erred in rejecting claims 1–7, 9–12, 14–19, 21, and 22, under 35 U.S.C. § 101.

Appellant has not shown that the Examiner erred in rejecting claims 1, 3–7, 9, 11, 12, 14–17, 19, 21, and 22, under 35 U.S.C. § 102(e).

Appellant has not shown that the Examiner erred in rejecting claims 2, 10, and 18 under 35 U.S.C. § 103(a).

DECISION

We affirm the Examiner’s rejections of claims 1–7, 9–12, 14–19, 21, and 22.

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