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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/609,642	09/11/2012	John Bruce Carter	AUS920120240US1	1646

75916 7590 03/28/2018

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EXAMINER
NAOREEN, NAZIA

ART UNIT	PAPER NUMBER
2458	

NOTIFICATION DATE	DELIVERY MODE
03/28/2018	ELECTRONIC

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte JOHN BRUCE CARTER, COLIN KIMM DIXON, WESLEY MICHAEL FELTER, BRENT EDWARD STEPHENS, and JAMES XENIDIS

Appeal 2017-009038
Application 13/609,642
Technology Center 2400

Before THU A. DANG, ERIC S. FRAHM, and JOHNNY A. KUMAR, *Administrative Patent Judges*.

DANG, *Administrative Patent Judge.*

DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134(a) from the Examiner's Final Rejection of claims 1– 20, which constitute all claims pending in the application. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

STATEMENT OF THE CASE

The Claimed Invention

According to Appellants, the claimed invention relates generally to "organizing data," and more particularly to "compacting a non-biased results multiset." Spec. ¶ 1. Claims 1, 7, and 15 are independent. Claim 1 is illustrative of the invention and the subject matter of the appeal, and reads as follows:

> 1. A computer implemented method for compacting a non-biased results multiset, the method comprising:
>
> identifying a set of references and a multiset of values, wherein the multiset of values comprises a plurality of sets of values, wherein a first set of values and a second set of values together occupy an uncompacted amount of storage space in a computer usable data storage device, wherein the first set of values and the second set of values in the plurality of sets of values each includes a first value, and wherein a first reference in the set of references refers to the first set of values and a second reference in the set of references refers to the second set of values;
>
> performing a first operation to re-arrange, using a processor and a memory, the values in the first set of values to form a permuted first set of values;
>
> performing a second operation to re-arrange the values in the second set of values to form a permuted second set of values, wherein the first operation and the second operation cause the first value to be stored in a data storage location in the first set of values, and wherein the second set of values reuses the location; and
>
> reducing a utilization of the uncompacted storage space in the computer usable data storage device by compacting the multiset, to form a compacted multiset, by overlaying the permuted first

> and second sets of values in a portion such that the permuted first set of values and the permuted second set of values together occupy a smaller amount of storage space in the computer usable data storage device as compared to the uncompacted amount of storage space occupied in the computer usable data storage device by the first set of values and the second set of values.

The Rejection on Appeal

Claims 1–20 stand rejected under 35 U.S.C. § 101 as directed to ineligible subject matter.

ISSUE

The principal issue before us is whether the Examiner erred in finding that the claimed "computer implemented method for compacting" data (claim 1) is directed to patent ineligible subject matter.

ANALYSIS

We have reviewed the Examiner's rejection in light of Appellants' arguments presented in this appeal. Arguments which Appellants could have made, but did not make in the Brief are deemed to be waived. *See* 37 C.F.R. § 41.37(c)(1)(iv). On the record before us, we are unpersuaded the Examiner has erred. We adopt as our own the findings and reasons set forth in the rejections from which the appeal is taken and in the Examiner's Answer, and provide the following for highlighting and emphasis.

Rejection Under 35 U.S.C. § 101

Appellants argue the Examiner erred in concluding the claims are directed to an abstract idea and, therefore, constitute patent ineligible subject

matter. App. Br. 10–12.[1] However, Appellants merely contend "reduction of computer usable storage space by data manipulation is neither a human activity nor a function of generic hardware elements." *Id.* at 11. In particular, Appellants contend "[t]he claimed invention reduces the utilization of the data storage space in a computer usable data storage device using a novel data manipulation." *Id.* Appellants further contend "the claim also includes substantially more than abstract subject matter," and directs our attention to *Enfish*. *Id.* at 12, citing *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1339 (Fed. Cir. 2016).

As a preliminary matter, we note Appellants' contention consists of repeating the claim language (App. Br. 10), and mere conclusory statements that the claim language "is neither a human activity nor a function of generic hardware elements," without any factual support. App. Br. 11. Our reviewing court guides that such mere attorney conclusory statements which are unsupported by factual evidence are entitled to little probative value. *In re Geisler*, 116 F.3d 1465, 1470 (Fed. Cir. 1997); *In re De Blauwe*, 736 F.2d 699, 705 (Fed. Cir. 1984); and *Ex parte Belinne*, 2009 WL 2477843, at *3^4 (BPAI Aug. 10, 2009) (informative).

Nevertheless, based on the record before us, we are not persuaded of Examiner error.

Under 35 U.S.C. § 101, the Supreme Court has long interpreted § 101 to include an implicit exception: "[l]aws of nature, natural phenomena, and abstract ideas" are not patentable. *See, e.g., Alice Corp. Pty Ltd. v. CLS*

[1] Appellants argue all claims as a group for purposes of the ineligible subject matter rejection, and we choose claim 1 as representative of the group. 37 C.F.R. § 41.37(c)(1)(iv).

Bank Int'l, 134 S. Ct. 2347, 2354 (2014). The Supreme Court, in *Alice*, reiterated the two-step framework previously set forth in *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, 132 S. Ct. 1289, 1300 (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. The first step is to "determine whether the claims at issue are directed to one of those patent-ineligible concepts," such as an abstract idea, as the Examiner concludes in this case. 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 there are additional elements that "'transform the nature of the claim' into a patent-eligible application." *Alice*, 134 S. Ct. at 2355 (quoting *Mayo*, 132 S. Ct. at 1297).

Here, the Examiner concludes the claims are directed to "an abstract idea of calculating a compacted set of values by rearranging and permuting a multiset of values which is an example of organizing human activities and relationships." Final Act. 2. According to the Examiner,

> Abstract ideas identified by the courts by way of example including certain methods of organizing human activities and fundamental economic practices. The types of concepts courts have found to be abstract ideas are shown by cases which are intended to be illustrative and not limiting, such as: (i) "comparing new and stored information and using rules to identify options" *Smartgene Inc vs Advanced Biological Labs*, 555 Fed. Appx. 950 (Fed. Cir. 2014), (ii) "using categories to organize, store and transmit information" *Cyberfone Sys. V. CNN Interactive Grp.*, 558 Fed. Appx. 988 (Fed. Cir. 2014)

> and (iii) "processing information through a clearinghouse" *Dealertrack Inc. V. Huber*, 674 F. 3d 1315 (Fed. Cir. 2012).

Id.

Thus, the Examiner finds, "[t]he claims are directed to an abstract idea because they contain data collecting steps along with calculating a mathematical algorithm to determine a result." Ans. 2. We agree.

In particular, as Appellants point out, the claims are directed to "data manipulation." App. Br. 11. Our reviewing court has held that abstract ideas include manipulation of data. *Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1353 (Fed. Cir. 2016) (finding "gathering and analyzing information of a specified content," to be directed to an abstract idea). Here, the "overlaying" of data to reduce utilization of storage space is similar to the abstract idea of manipulating information discussed in *Elec. Power*. Additional analogous cases where the Federal Circuit has found claims involving no more than data collection and/or manipulation to be directed to abstract ideas include *Versata Development Group, Inc. v. SAP Am., Inc.*, 793 F.3d 1306, 1333 (Fed. Cir. 2015) ("determining a price, using organizational and product group hierarchies"), and *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").

Furthermore, abstract ideas have been identified by the courts by way of example, including fundamental economic practices, certain methods of organizing human activities, an idea 'of itself,' and mathematical relationships/formulas. *Alice,* 134 S. Ct. at 2355–56. Appellants' attention is also directed to *CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d

1366, 1371 (Fed. Cir. 2011) (holding that a method for verifying the validity of a credit card transaction over the Internet to be nonstatutory as an abstract idea capable of being performed in the human mind or by a human using a pen and paper). Here, we are unpersuaded that the Examiner erred in finding "[d]ata manipulations are methods of organized human activity which incorporate mathematical algorithms to determine compaction of data." Final Act. 3.

Thus, we agree with the Examiner that the claims are directed to an abstract idea under step one of *Alice*.

As to *Alice* step two, the Examiner finds, and we agree, Appellants' "data manipulation is determined using a mathematical algorithm executed on generic hardware elements." Ans. 2. As the Examiner explains, "[t]he mathematical algorithm … is not applied to a computing system in a manner which would be an improvement to existing data manipulation systems." Ans. 3. That is, "the claims do not include additional elements that are sufficient to amount to significantly more than the judicial exception." *Id.* at 4.

Although Appellants contend "the claim also includes substantially more than abstract subject matter," and directs our attention to *Enfish* (App. Br. 12), we are unpersuaded. Here, the claims do not improve "the way a computer stores and retrieves data in memory." *Enfish*, 822 F.3d at 1339. Rather, the claim merely recites the steps of identifying data and performing re-arrangement and overlaying of data "using a processor and a memory" (claim 1). We agree with the Examiner that "the additional elements in the claim language are data transmitting steps that don't significantly amount to more than an abstract idea." Final Act. 3.

We note that, in the Reply Brief, Appellants provide additional arguments that the claims are similar to the claims in *McRO*. Reply Br. 5–6 (*citing McRO, Inc. v. Bandai Namco Games America Inc.*, 837 F.3d 1299 (Fed. Cir. 2016)). In particular, Appellants contend the claims solve specific problems by "minimizing a utilization of data storage in computer usable data storage devices." *Id.* However, the present claims do not recite a specific improvement to the way computers operate and Appellants do not present evidence to establish these claims recite a specific improvement to the computers. Unlike the claims in *McRO*, the claims in the present application fail to recite the technical details that describe the alleged improvement of the technical process of minimizing the utilization of data storage.

Thus, on this record, we sustain the ineligible subject matter rejection of claims 1–20.

DECISION

We affirm the Examiner's rejection of claims 1–20.

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. § 41.50(f).

AFFIRMED