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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte DANIEL F. GRUHL, JOSEPH M. KAUFMANN, JOSEPH N. KOZHAYA, PABLO N. MENDES, and SRIDHAR SUDARSAN

Appeal 2018-006469
Application 15/010,366
Technology Center 2600

BEFORE DAVID M. KOHUT, BETH Z. SHAW, and NORMAN H. BEAMER, *Administrative Patent Judges*.

KOHUT, *Administrative Patent Judge*.

DECISION ON APPEAL

Pursuant to 35 U.S.C. § 134(a), Appellant[1] appeals from the Examiner's decision to reject claims 7, 9–13, 15–19, and 21–29. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

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[1] We use the word "Appellant" to refer to "applicant" as defined in 37 C.F.R. § 1.42. Appellant identifies the real party in interest as International Business Machines Corporation. Appeal Br. 3.

BACKGROUND

According to Appellant, the invention is directed to identifying components from a large body of content that is related to specific content. Spec. ¶ 1. The invention attempts to solve the problem of "sifting through an abundance of data to ascertain that data which is useful or otherwise relevant to the task at hand." Spec. ¶ 2.

Claims 7, 13, and 19 are the independent claims on appeal. Claim 7, reproduced below, is illustrative of the claimed subject matter:

> 7. A computer program product for automatically identifying linguistically related material within a computing environment, the computer program product comprising:
>
> a computer readable storage device readable by a processing unit and having stored instructions for execution by the processing unit for performing a method comprising:
>
> initializing a target corpus;
>
> identifying one or more initial key phrases from a domain corpus related to the target corpus, the identification is based on a statistical analysis of the domain corpus:
>
> extracting the identified initial key phrases,
>
> storing the extracted initial key phrases in a master list at a first memory location;
>
> employing an application to automatically expand the target corpus, the automatic expansion including:
>
> selecting one or more documents from a source corpus stored at a second memory location;
>
> selectively filtering the selected documents based on a value associated with each key phrase in the master list and a first linguistic relationship between each key phrase in the master list and the selected one or more documents;

populating the target corpus with the filtered documents; identifying one or more new key phrases from the populated target corpus;

assigning a first value to the identified one or more new key phrases based on a second linguistic relationship to the target corpus; and

adding the identified new key phrases to the master list, and applying a union of the new key phrases to extract a second set of related documents for populating to the populated target corpus;

learning from the document filtering comprising:

identifying one or more secondary documents present in the filtered list and absent from the target corpus;

identifying one or more secondary key phrases associated with the secondary documents;

assigning a second value to the identified secondary key phrases based on a third linguistic relationship to the target domain; and

updating the master list for subsequent iterations, wherein the master list update discounts the second value assigned to at least one secondary key phrase; and

concluding the automatic expansion responsive to a criteria of the target corpus.

REJECTIONS

Claims 7, 9–13, 15–19, and 21–29 stand rejected under 35 U.S.C. § 101 as being directed to patent-ineligible subject matter.

ANALYSIS

Rejection of Claims 7, 9–13, 15–19, and 21–23, 25–26, and 28–29

An invention is patent-eligible if it claims a "new and useful process, machine, manufacture, or composition of matter." 35 U.S.C. § 101. However, the Supreme Court has long interpreted 35 U.S.C. § 101 to include implicit exceptions: "[l]aws of nature, natural phenomena, and abstract ideas" are not patentable. *E.g.*, *Alice Corp. v. CLS Bank Int'l*, 573 U.S. 208, 216 (2014).

In determining whether a claim falls within an excluded category, we are guided by the Supreme Court's two-step framework, described in *Mayo* and *Alice*. *Id.* at 217–18 (citing *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 75–77 (2012)). In accordance with that framework, we first determine what concept the claim is "directed to." *See Alice*, 573 U.S. at 219 ("On their face, the claims before us are drawn to the concept of intermediated settlement, *i.e.,* the use of a third party to mitigate settlement risk."); *see also Bilski v. Kappos*, 561 U.S. 593, 611 (2010) ("Claims 1 and 4 in petitioners' application explain the basic concept of hedging, or protecting against risk.").

Concepts determined to be abstract ideas, and thus patent ineligible, include certain methods of organizing human activity, such as fundamental economic practices (*Alice*, 573 U.S. at 219–20; *Bilski*, 561 U.S. at 611); mathematical formulas (*Parker v. Flook*, 437 U.S. 584, 594–95 (1978)); and mental processes (*Gottschalk v. Benson*, 409 U.S. 63, 69 (1972)).

If the claim is "directed to" an abstract idea, we turn to the second step of the *Alice* and *Mayo* framework, where "we must examine the elements of the claim to determine whether it contains an 'inventive

concept' sufficient to 'transform' the claimed abstract idea into a patent-eligible application." *Alice*, 573 U.S. at 221 (quotation marks omitted). "A claim that recites an abstract idea must include 'additional features' to ensure 'that the [claim] is more than a drafting effort designed to monopolize the [abstract idea].'" *Id.* (quoting *Mayo*, 566 U.S. at 77). "[M]erely requir[ing] generic computer implementation[] fail[s] to transform that abstract idea into a patent-eligible invention." *Id.*

The PTO published revised guidance on the application of § 101. USPTO's January 7, 2019 Memorandum, *2019 Revised Patent Subject Matter Eligibility Guidance*, 84 Fed. Reg. 50 ("Memorandum"). Under that guidance, we first look to whether the claim recites:

> (1) any judicial exceptions, including certain groupings of abstract ideas (i.e., mathematical concepts, certain methods of organizing human activity such as a fundamental economic practice, or mental processes); and
>
> (2) additional elements that integrate the judicial exception into a practical application (*see* MPEP § 2106.05(a)–(c), (e)–(h)).

Id. at 52–55. Only if a claim (1) recites a judicial exception and (2) does not integrate that exception into a practical application, do we then look to whether the claim:

> (3) adds a specific limitation beyond the judicial exception that is not "well-understood, routine, conventional" in the field (*see* MPEP § 2106.05(d)); or
>
> (4) simply appends well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality, to the judicial exception.

See 84 Fed. Reg. at 56.

Step 2A, Prong 1: "recites a judicial exception"

Under the first step of the *Alice/Mayo* framework, the Examiner determines the claims are directed to the abstract idea of "analyzing text for inclusion in a master list of text (i.e.[,] text analysis)" which the Examiner asserts is a mental process. Final Act. 6; Ans. 2. The Examiner further asserts the claims involve "comparing new and stored information and using rules to identify options, and organizing, storing and transmitting information" which are "steps that can be accomplished by a human using a pen and paper." Ans. 2. Appellant disagrees and argues that rather than being directed to an abstract idea, the claims are directed to a "*specific method* based on Appellant's claimed elements (*e.g.,* rules) for automatically expanding a target corpus." Appeal Br. 11–12; Reply Br. 2. We agree with the Examiner.

Under step one of the *Alice* framework, we "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 Tex., LLC v. DIRECTV, LLC*, 838 F.3d 1253, 1257 (Fed. Cir. 2016) (quoting *Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1353 (Fed. Cir. 2016)).

> The "directed to" inquiry . . . cannot simply ask whether the claims *involve* a patent-ineligible concept, because essentially every routinely patent-eligible claim involving physical products and actions *involves* a law of nature and/or natural phenomenon . . . . Rather, the "directed to" inquiry applies a stage-one filter to claims, considered in light of the specification, based on 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).

Enfish, LLC v. Microsoft Corp., 822 F.3d 1327, 1335 (Fed. Cir. 2016). In other words, the first step of the *Alice* framework "asks whether the focus of the claims is on the specific asserted improvement in [the relevant technology] or, instead, on a process that qualifies as an 'abstract idea' for which computers are invoked merely as a tool." *Id.* at 1335–36; *see also* Memorandum at 54–55.

The Specification provides evidence as to what the claimed invention is directed to. In this case, the Specification discloses that the invention relates to "identifying components from a large body of content that is related to specific content," or more specifically, to "identifying linguistically relevant content." Spec. ¶ 1. In order to identify linguistically related content, the Specification states that

> A target corpus is initialized to receive content, and a domain corpus is provided in communication with the target corpus. At least one initial key phrase is extracted from the domain corpus. The extracted key phrase(s) is stored in a master list at a first memory location. A user interface is employed to facilitate a structured process for populating the target corpus with linguistically related documents. More specifically, the user interface is employed as a platform to: review the key phrase(s), select one or more documents from a source corpus for potential inclusion in the target corpus, filter a list of the selected documents, populate the target corpus with one or more documents from the filter list, and examine the target corpus. The act of populating the target corpus may take place in multiple iterations of key phrase review and document filtering.

Spec. ¶ 4.

Claim 7 provides further evidence. Claim 7 recites steps for "initializing a target corpus" including "identifying one or more initial key phrases from a domain corpus related to the target corpus . . . extracting the

identified initial key phrases, storing the extracted initial key phrases in a master list." Claim 7 further recites "selecting one or more documents from a source corpus . . . selectively filtering the selected documents based on a value associated with each key phrase in the master list and a first linguistic relationship between each key phrase in the master list and the selected one or more documents . . . populating the target corpus with the filtered documents; identifying one or more new key phrases from the populated target corpus." In short, claim 7 is directed to the mental process of identifying components from a large body of content that is related to specific content by identifying linguistically relevant content. *See* Memorandum at 52. A person can mentally perform the above-mentioned functions of claim 7 using pen and paper by analyzing collections of documents, identifying key phrases, and recording the identified key phrases. Ans. 5.

Step 2A, Prong 2: "does not integrate that exception into a practical application"

The Examiner further asserts that the claims "do not seek to improve any type of computer capability," and "do not incorporate any rules in improving text analysis or the identification [of] new text." Ans. 4, 7.

Appellant argues that just as in *Enfish*, claim 7 is directed towards a "specific implementation of a solution to a problem in the software arts." Appeal Br. 12 (citing *Enfish*, 822 F.3d at 1327). Appellant asserts that the claimed master list has a parallel function to that of the self-referential table claimed by *Enfish* in that the master list is a specific structure that functions to improve the population of the target corpus. *Id.* Specifically, Appellant asserts

> Appellant's claims recite a master list which comprises a specific structure to automatically expand a corpus. Namely, Appellant's claimed master list is stored in memory and includes key phrases which have an assigned value which may be discounted if it was not originally in the corpus. Appellant's master list populates the corpus with only linguistically relevant material based on the key phrases and the associated value(s).

Id. We are not persuaded as we find no parallel between the self-referential table of *Enfish* and the master list of the present claims. The self-referential table of *Enfish* "is a specific type of data structure designed to improve the way a computer stores and retrieves data in memory." *Id.* (citing *Enfish*, 822 F.3d at 1339). Unlike the self-referential table of *Enfish*, the master list claimed here is merely a generic storage for key phrases, values, and linguistically relevant material. Appeal Br. 12; Spec. ¶ 4 ("The extracted key phrase(s) is stored in a master list at a first memory location. . . . As new documents are identified for inclusion in the target corpus, new key phrases associated with the new documents are added to the master list."). To put it another way, Appellant's master list merely acts as a storage for "key phrases (208), which would be updated in subsequent iterations for identifying relevant documents for expanding the target corpus." Spec. ¶ 21. As the master list recited here merely stores data for use in the claimed process, it is not "a specific type of data structure designed to improve the way a computer stores and retrieves data in memory." *See Enfish*, 822 F.3d at 1339.

We also do not find persuasive Appellant's argument that the claimed invention is not directed to a mental process. Appeal Br. 11–13. First, Appellant asserts that the claims are similar in structure to those found eligible in *McRO.* Appeal Br. 11–12 (citing *McRO, Inc. v. Bandai Namco*

Am. Inc., 837 F.3d 1299, 1314 (Fed. Cir. 2016)). Specifically, Appellant asserts that the claims are directed to "a *specific* method based on Appellant's claimed elements (*e.g.,* rules) for automatically expanding a target corpus and are not directed towards a *result* of analyzing text as asserted by the Examiner." *Id.* at 11; Reply Br. 4. However, we are not persuaded that such rules amount to "a specific means or method [e.g., patentable subject matter] *that improves the relevant technology*." *McRO*, 822 F.3d at 1314 (emphasis added). Rather, the recited rules merely describe iteratively expanding a target corpus by selectively filtering one or more documents based on a value associated with each key phrase. *See* Appeal Br. 12. These rules do not incorporate an improvement to the computer itself or any technological improvement in the iterative process, text analysis or the identification of new text. Ans. 4–5.

To be sure, independent claim 7 does utilize computer components such as a "computer readable storage device," "processing unit," and a "memory" for performing the steps of identifying linguistically related material. These components, however, are used in an ordinary manner, and for their ordinary functions, and we are thus unpersuaded that independent claim 7 recites any improvement to those components themselves. *See* Manual Patent Examining Procedure ("MPEP") § 2106.05(a); Spec. ¶ 49 ("These computer readable program instructions may be provided to a processor of a general purpose computer, special purpose computer, or other programmable data processing apparatus to produce a machine . . . which execute via the processor of the computer."). Claim 7 merely uses the processing unit to analyze and store data. Hence, instead of a technical improvement, the claimed steps merely automate the mental process of

identifying linguistically related material. *See* Spec. ¶ 2. Moreover, the asserted "reduction in 'sifting through an abundance of data to [more readily] ascertain that data which is useful or otherwise relevant to the task at hand,'" results from the use of the computer to automate the mental process, not on any claimed improvement to technology. The mere automation of the mental process does not integrate the abstract idea into a practical application. *See OIP Techs., Inc. v. Amazon.com, Inc.*, 788 F.3d 1359, 1363 (Fed. Cir. 2015) ("relying on a computer to perform routine tasks more quickly or more accurately is insufficient to render a claim patent eligible.").

Accordingly, we conclude the claims recite identifying components from a large body of content that is related to specific content, which is an abstract idea in the form of a mental process because the steps of receiving content and analyzing and filtering content using key phrases mimic human thought processes of observation, evaluation, judgment, and opinion. *See* Memorandum at 52.

Step 2B: "well-understood, routine, conventional"

We must now determine whether independent claim 7 recites any elements additional to the abstract idea that are *not* well-understood, routine, or conventional. *See* MPEP § 2106.05(d). We are unable to identify any.

The Examiner asserts,

> The additional elements or combination of elements in the claims other than the abstract idea per se (e.g.[,] use of computer, system phrase "automatically", application, and computer readable medium, processing unit, target manager, extraction manager, computer program product, user interface) amount to no more than mere instructions to implement the idea on a computer, and/or recitation of generic computer structure that serves to

> perform generic computer functions that are well-understood, routine, and conventional activities previously known to the pertinent industry. Viewed as a whole, these additional claim elements do not provide meaningful limitations to transform the abstract idea into a patent eligible application of the abstract idea such that the claims amounts to significantly more than the abstract idea itself.

Final Act. 6–7. Appellant argues,

> In contrast to the system alluded to by the Examiner as being conventional and nonstatutory, Appellant directs the PTAB to elements in independent claims 7, 13, and 19, and specifically, the claimed "value". Details of the value as related to subsequent iterations are supported in paragraph 0027 of Appellant's Specification. Appellant's claimed value, whether it is an initial value or the value directed at a subsequent iteration, corresponds to a numerical weight of a linguistic relationship of the key phrases of a document, and therefore, the document itself.

Appeal Br. 14. Appellant argues that "[e]mployment of conventional pen and paper cannot and does not apply a numerical value to the linguistic relationship, whether utilizing the initial value or a subsequent discount value, as claimed by Appellant." *Id.*

We are not persuaded by Appellant's argument. As an initial matter, we note that the use of a value as a weighting of a linguistic relationship of the key phrases of a document is a constituent step of identifying components from a large body of content that is related to specific content, which is the abstract idea itself. Because the claimed "value" is part of the abstract idea itself, it is not relevant to step 2B analysis. *BSG Tech LLC v. BuySeasons, Inc.*, 899 F.3d 1281, 1290 (Fed. Cir. 2018) ("It has been clear since *Alice* that a claimed invention's use of the ineligible concept to which it is directed cannot supply the inventive concept that renders the invention

'significantly more' than that ineligible concept."). Appellant's argument that the Examiner has failed to produce evidence that the claims, and specifically the "value," are not well-understood, routine, or convention as required by *Berkheimer* is also unpersuasive for this reason. *See* Reply Br. 6 (citing *Berkheimer v. HP Inc.*, 881 F.3d 1360, 1365 (Fed. Cir. 2018)).

Even if the use of the "value" was not part of the abstract idea itself, its use is purely conventional as a person performing the mental process of analyzing collections of documents, identifying key phrases, and recording the identified key phrases necessarily applies some value or weighting when determining a linguistic relationship or relevance. Ans. 11. Moreover, the use of a "value" in analyzing, comparing, and storing information are basic computer functions, i.e., they are well-understood, routine, and conventional functions previously known to the industry. *See Elec. Power Grp.*, 830 F.3d at 1356 (The claims "do not include any requirement for performing the claimed functions of gathering, analyzing, and displaying in real time by use of anything but entirely conventional, generic technology. The claims therefore do not state an arguably inventive concept . . . ."); *see also In re Katz Interactive Call Processing Patent Litig.*, 639 F.3d 1303, 1316 (Fed. Cir. 2011) ("Absent a possible narrower construction of the terms 'processing,' 'receiving,' and 'storing,' . . . those functions can be achieved by any general purpose computer without special programming.").

Considered as an ordered combination, the generic computer of Appellant's method adds nothing that is not already present when the steps are considered separately. For example, claim 7 does not, as discussed above, purport to improve the functioning of the computer itself. Nor does it affect an improvement in any other technology or technical field. Instead,

claim 7 amounts to nothing significantly more than an instruction to apply the abstract idea using a generic computer. That is not enough to transform an abstract idea into a patent-eligible invention. *See Alice*, 573 U.S. at 225–26.

In view of the above, we are not persuaded that the Examiner erred in rejecting claim 7. Claims 9–13, 15–19, and 21–23, 25–26, and 28–29 fall with claim 7. *See* 37 C.F.R. § 41.37(c)(1)(iv).

35 U.S.C. § 101 Rejection of Claims 24 and 27

Appellant separately argues claims 24 and 27 asserting that the claims provide limitations "beyond the abstract aspect of collecting and comparing." Appeal Br. 17. Specifically, Appellant argues that the claimed step of ranking documents is not known or routine or conventional. *Id.* at 18. Further, Appellant asserts that the claimed step of ranking adds significantly more to the abstract idea because it addresses a technological problem in document storage and document management. *Id.* at 19–20 (citing *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1259 (Fed. Cir. 2014)).

However, just as above, the claimed step of ranking documents is a constituent step of identifying components from a large body of content that is related to specific content, which is the abstract idea itself. Because the claimed "ranking" is part of the abstract idea itself, it cannot supply the inventive concept that renders the invention 'significantly more' than that ineligible concept. *BSG Tech*, 899 F.3d at 1290. Hence, for the same reasons described above, we are not persuaded that the Examiner erred in rejecting claims 24 and 27.

CONCLUSION

We AFFIRM the rejection of claims 7, 9–13, 15–19, and 21–29 under 35 U.S.C. § 101.

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
7, 9–13, 15–19, 21–29	101	Eligibility	7, 9–13, 15–19, 21–29	

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