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UNITED STATES PATENT AND TRADEMARK OFFICE
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BEFORE THE PATENT TRIAL AND APPEAL BOARD
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Ex parte ROBERT H. SCHEER[1]
_____

Appeal 2018-001114
Application 12/536,777
Technology Center 3600
_____

Before MURRIEL E. CRAWFORD, ANTON W. FETTING, and BIBHU R. MOHANTY, *Administrative Patent Judges*.

MOHANTY, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

The Appellant seeks our review under 35 U.S.C. § 134(a) of the final rejection of claims 7–13, which are all the claims pending in the application. We have jurisdiction under 35 U.S.C. § 6(b).

SUMMARY OF THE DECISION

We AFFIRM.

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[1] Appellant identifies W.W. Grainger, Inc. as the real party of interest. (App. Br. 2).

THE INVENTION

The Appellant's claimed invention is directed to a method for managing inventory within an integrated supply chain (Spec., page 1, lines 10–12). Claim 7, reproduced below with the italics added, is representative of the subject matter on appeal.

> 7.   A computer-readable media having computer-executable instructions for managing inventory of an item within a supply chain having a plurality of geographically distinct distribution points, the instructions performing steps comprising:
>   *providing a forecast of demand over a forecast period for the item*;
>   *using the forecast of demand for the item to establish a critical stocking ratio for the item*, the critical stocking ratio indicating a total quantity of the item which can be held in inventory over the forecast period;
>   *using the critical stocking ratio for the item to apportion the total quantity of the item which can be held in inventory over the forecast period* in shares to the plurality of geographically distinct distribution points in the supply chain *by assigning over the forecast period a base stock level for the item at each of the plurality of geographically distinct distribution points in the supply chain and a reorder point for the item at each of the plurality of geographically distinct distribution points in the supply chain*;
>   using an ontology, in which frames acting as nodes in a semantic network define attributes indicative of restrictions and allowable locations within the supply chain for the item, to determine a shipping method for replenishing the item at each of the plurality of geographically distinct distribution points in the supply chain; and
>   *executing the shipping method when any of the plurality of geographically distinct distribution points in the supply chain fails to have a base stock level for the item* thereby causing inventory within the supply chain to be managed in accordance with the critical stocking ratio.

THE REJECTION

Claims 7–13 are rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter.

FINDINGS OF FACT

We have determined that the findings of fact in the Analysis section below are supported at least by a preponderance of the evidence.[2] Additionally, we make the following enumerated facts below:

FF1. Ontology may be defined in one definition as: 2. A set of concepts and categories in a subject area or domain that shows their properties and the relations between them. (Obtained from https://www.lexico.com/en/definition/ontology on September 9, 2019, definition number 2).

FF2. The Frame node is a useful tool for organizing nodes by collecting related nodes together in a common area. Frames are useful when a node setup becomes large and confusing yet the re-usability of a Node Group is not required. (Obtained from https://docs.blender.org/manual/en/latest/interface/controls/nodes/frame.html September 11, 2019).

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[2] *See Ethicon, Inc. v. Quigg*, 849 F.2d 1422, 1427 (Fed. Cir. 1988) (explaining the general evidentiary standard for proceedings before the Patent Office).

ANALYSIS

Rejection under 35 U.S.C. § 101

The Appellant argues that the rejection of claim 7 is improper because the claim "set[s] forth the use of a programmatic structure that improves the functioning of technology" (App. Br. 5) (emphasis omitted). Specifically, the Appellant argues the claimed use of an "an ontology, in which frames acting as nodes in a semantic network define attributes indicative of restrictions and allowable locations with the supply chain for the item" (App. Br. 5) (emphasis omitted). The Appellant argues that "the use of this specific type of programmatic structure is an improvement over ontologies that simply use plain nodes in the semantic network" which eliminates the need for substantial amounts of redundancy in the physical implementation of the database. (Emphasis omitted). The Appellant cites to the Specification at page 36 as demonstrating this (App. Br. 5).

In contrast, the Examiner has determined that the rejection of record is proper (Final Action 2–4; Ans. 2, 3).

We agree with the Examiner. 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,

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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)). Concepts determined to be patent eligible include physical and chemical processes, such as "molding rubber products" (*Diamond v. Diehr*, 450 U.S. 175, 192 (1981)); "tanning, dyeing, making water-proof cloth, vulcanizing India rubber, smelting ores" (*id.* at 182 n.7 (quoting *Corning v. Burden*, 56 U.S. 252, 267–68 (1854))); and manufacturing flour (*Benson*, 409 U.S. at 69 (citing *Cochrane v. Deener*, 94 U.S. 780, 785 (1876))).

In *Diehr*, the claim at issue recited a mathematical formula, but the Supreme Court held that "[a] claim drawn to subject matter otherwise statutory does not become nonstatutory simply because it uses a mathematical formula." *Diehr*, 450 U.S. at 176; *see also id.* at 191 ("We view respondents' claims as nothing more than a process for molding rubber products and not as an attempt to patent a mathematical formula."). Having said that, the Supreme Court also indicated that a claim "seeking patent protection for that formula in the abstract . . . is not accorded the protection of our patent laws, and this principle cannot be circumvented by attempting

to limit the use of the formula to a particular technological environment."
Id. (internal citation omitted) (citing *Benson* and *Flook*); *see, e.g.*, *id*. at 187
("It is now commonplace that an *application* of a law of nature or
mathematical formula to a known structure or process may well be deserving
of patent protection.").

The PTO recently published revised guidance on the application of
§ 101. *2019 Revised Patent Subject Matter Eligibility Guidance*, 84 Fed.
Reg. 50 (Jan. 7, 2019) ("Guidance"). Under the 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)).

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 Guidance.

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 (citation 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.* (alterations in original) (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.*

Here, the Examiner has determined that the claim is directed to the concept of forecasting and replenishing supply chains*,* which is considered a fundamental economic practice and therefore an abstract idea (Ans. 2). We substantially agree with the Examiner in this regard as claim 7 is directed to the steps in italics in the claim above. These steps are directed to the forecasting and replenishing of supply chains*,* which is considered a fundamental economic practice and an abstract idea. Here, the claim is also directed to organizing and manipulating information through mathematical correlations and is directed to a judicial exception. A system, like the claimed system, "a process that employs mathematical algorithms to manipulate existing information to generate additional information is not patent eligible." *See Digitech Image Techs, LLC v. Elecs. for Imaging, Inc.*, 758 F.3d 1344, 1351 (Fed. Cir. 2014). In *Intellectual Ventures I LLC v. Capital One Financial*, 850 F.3d 1332, 1340 (Fed. Cir. 2017) it was held that collecting, displaying, and manipulating data was directed to an abstract idea. *See Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350 (Fed. Cir. 2016) (collecting information, analyzing it, and displaying results from certain results of the collection and analysis was held to be an abstract idea).

Thus, we consider the claim to be directed to a judicial exception as identified above.

The claims do not improve computer functionality, improve another field of technology, utilize a particular machine, or effect a physical transformation. Rather, we determine that nothing in the claims imposes a meaningful limit on the judicial exception, such that the claims are more than a drafting effort to monopolize the judicial exception.

For example, in claim 7 the steps of [1] "providing a forecast of demand over a forecast period for the item"; [2] "using the forecast of demand for the item to establish a critical stocking ratio for the item"; [3] "using the critical stocking ratio for the item to apportion the total quantity of the item which can be held in inventory over the forecast period"; [4] "assigning over the forecast period a base stock level for the item at each of the plurality of geographically distinct distribution points in the supply chain"; [4] "using an ontology, in which frames acting as nodes in a semantic network define attributes indicative of restrictions and allowable locations within the supply chain for the item, to determine a shipping method for replenishing the item"; and [5] "executing the shipping method when any of the plurality of geographically distinct distribution points in the supply chain fails to have a base stock level for the item thereby causing inventory within the supply chain to be managed in accordance with the critical stocking ratio," are merely conventional computer steps performed by a generic computer that do not improve computer functionality. That is, these recited steps [1]–[5] "do not purport to improve the functioning of the computer itself" but are merely generic functions performed by a conventional processor. Likewise, these same steps [1]–[5] listed above do not improve the technology of the technical field and merely use generic computer components and functions to perform the steps. Also, the recited

method steps [1]–[5] above do not require a "particular machine" and can be utilized with a general purpose computer, and the steps performed are purely conventional. In this case, the general purpose computer is merely an object on which the method operates in a conventional manner. Further, the claim as a whole fails to effect any particular transformation of an article to a different state. The recited steps [1]–[5] fail to provide meaningful limitations to limit the judicial exception and rather are mere instructions to apply the method to a generic computer.

Considering the elements of the claim both individually and as "an ordered combination" the functions performed by the computer system at each step of the process are purely conventional. Each step of the claimed method does no more than require a generic computer to perform a generic computer function. Thus, the claimed elements have not been shown to integrate the judicial exception into a practical application. *See* Guidance, 84 Fed. Reg. at 54–55. The Revised Guidance references the MANUAL OF PATENT EXAMINING PROCEDURE ("MPEP") §§ 2106.05(a)–(c) and (e)–(h).

Turning to the second step of the *Alice* and *Mayo* framework, we determine that the claim does not contain an inventive concept sufficient to "transform" the abstract nature of the claim into a patent-eligible application. The claim fails to add a specific limitation beyond the judicial exception that is not well-understood, routine, and conventional in the field. Rather, the claim uses well-understood, routine, and conventional activities previously known in the art at a high level of generality. The Specification at pages 14 and 15 for example describes using conventional computer components such as general purpose computing devices, computers, servers, and monitors in a conventional manner. The claim specifically includes recitations for a

computer-executable instructions to implement the method but these computer components described in the Specification are all used in a manner that is well-understood, routine, and conventional in the field. The Appellant has not shown that the generic computer components which are used to implement the claimed method are not well understood, routine, or conventional in the field. The Appellant has not demonstrated that the computers described in the Specification at pages 14 and 15 for instance are not a general purpose computer components beyond those known to be routine and conventional known to perform similar functions in a well-understood manner.

The Appellant has specifically argued that the claimed "programmatic structure . . . improves the functioning of the technology" (App. Br. 5). The Appellant argues that the claims recite "the use of an ontology, *in which frames acting as nodes in a semantic network define attributes indicative of restrictions and allowable locations within the supply chain for the item*, to determine a shipping method for replenishing the item at each of the plurality of geographically distinct distribution points in the supply chain" (App. Br. 5). The Appellant argues that this is an improvement over ontologies that simply use plain nodes in the semantic network and this improvement, in turn provides the benefit of "eliminat[ing] the need for substantial amounts [of] redundancy in the physical implementation of the ontology database." *Id.* (emphasis omitted). In contrast, the Examiner has determined that the "feature related to using an ontology *in which frames act as nodes in a semantic network is merely a particular, routine use of well-known schemes* for knowledge representation" (Ans. 3, emphasis added).

We disagree with this contention by the Appellant. The Specification at page 36 states that the "ontology 92 is a description of concepts and relationships that can exist for a community of agents." The Specification also states at page 36 that there is a querying of the ontology 92 but such a query of an ontology is conventional to obtain the desired data. Further, the use of frames as nodes is a conventional use of frames in large systems (FF2) and, is, thus, a conventional use of known computer components.

We find no indication in the Specification, nor do Appellant directs us to any indication, that the operations recited in independent claim 7 invoke any inventive programming, require any specialized computer hardware or other inventive computer components, i.e., a particular machine, or that the claimed invention is implemented using other than generic computer components to perform generic computer functions. *See DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1256 (Fed. Cir. 2014) ("[A]fter *Alice*, there can remain no doubt: recitation of generic computer limitations does not make an otherwise ineligible claim patent-eligible.").

We find no indication in the Specification that the claimed invention effects a transformation or reduction of a particular article to a different state or thing. Nor do we find anything of record, short of attorney argument, that attributes any improvement in computer technology and/or functionality to the claimed invention or that otherwise indicates that the claimed invention integrates the abstract idea into a "practical application," as that phrase is used in the revised Guidance. *See* Guidance, 84 Fed. Reg. at 55."

The Appellant in the Appeal Brief at page 4 have cited to *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327 (Fed. Cir. 2016) to show that the claim is not abstract but the claims in that case were not similar in scope to those

here in contrast and were in contrast directed to a self-referential data table. The Appellant in the Appeal Brief at page 4 have also cited to *McRO, Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299 (Fed. Cir. 2016) but the claims in that case are distinguished from this case in being directed to rules for lip sync and facial expression animation. The Appellant cites to *DDR Holdings, LLC v. Hotels*, L.P., 773 F.3d 1245 (Fed. Cir. 2014) and argue that the claim is "rooted in computer technology" (App. Br. 4). We disagree as the Appellant has not shown how the claimed subject matter is rooted in technology given that the Specification describes only the use of generic computer equipment used in routine, conventional, and generic manner.

For these above reasons, the rejection of the claim is sustained. The remaining claims are directed to similar subject matter for which the same arguments have been presented and the rejection of these claims is sustained for the same reasons given above.

CONCLUSIONS OF LAW

We conclude that Appellant has not shown that the Examiner erred in rejecting claims 7–13 under 35 U.S.C. § 101.

DECISION

The Examiner's rejection of claims 7–13 is sustained.

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). *See* 37 C.F.R. § 41.50(f).

AFFIRMED