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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte DANIEL JENSEN, BJORN CARLSSON,
and TOBIAS HALLOR

Appeal 2017-003364
Application 13/467,263
Technology Center 2400

Before JOSEPH L. DIXON, CATHERINE SHIANG, and ALEX S. YAP,
Administrative Patent Judges.

SHIANG, *Administrative Patent Judge.*

DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134(a) from the Examiner's rejection of claims 1–6, 9–13, 15–24, and 27–36, which are all the claims pending and rejected in the application. We have jurisdiction under 35 U.S.C. § 6(b). We affirm.

STATEMENT OF THE CASE

Introduction

According to the Specification, the present invention relates to an automated exchange system. *See generally* Spec. 1. Claim 1 is exemplary:

1. A method of processing electronic trading exchange system trading data, the method comprising:

receiving, by a gateway node, a first trading data message from a trade order matching engine of an electronic trading exchange system for trading financial instruments, the first trading data message having a first data format compatible with a first protocol in which a trading entity associated with the first trading data message communicates, the first trading data message including identification information associated with the trading entity enabled to trade financial instruments on the electronic trading exchange system;

retrieving a first set of pre-selected trading information elements from the first trading data message including an indicator of a name of a financial instrument affected by the first trading data message;

modifying the first set of pre-selected trading information elements by discarding at least one trading information element from the first trading data message specific to the first data format, and retaining one or more trading information elements from the first set of pre-selected trading information elements;

creating, by processing circuitry, a second trading data message using the modified first set of pre-selected trading information elements including at least the retained one or more trading information elements, the second trading data message having a second data format different from the first data format and compatible with a second protocol in which multiple client devices associated with the identified trading entity communicate;

identifying, on the basis of the identification information of the received first trading data message, the trading entity from which the first trading data message is originating; and

transmitting, by the gateway node, the second trading data message to the multiple client devices associated with the

identified trading entity to provide the multiple client devices an aggregated view of a total trading order activity or a total trade activity of the trading entity for the financial instrument affected by the first trading data message.

References and Rejections¹

Claims 1–6, 9–13, 15–24, and 27–35 are rejected under 35 U.S.C. § 101 because they are directed to patent ineligible subject matter.

Claims 1–6, 9–13, 15, 19–24, 27–32, and 36 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Feilbogen (US 2002/0023045 A1, Feb. 21, 2002) and Kumar (US 2005/0144137 A1, June 30, 2005).

Claims 16, 18, 33 and 35 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Feilbogen, Kumar, NASDAQ-OMX1 (“OMnet API Conformance Document” April 2010), and NASDAQ-OMX2 (“NASDAQ OMX Update” June 2010).

Claims 17 and 34 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Feilbogen, Kumar, and Green (US 2011/0153521 A1).

ANALYSIS²

35 U.S.C. § 101

We disagree with Appellants’ arguments, and agree with and adopt the Examiner’s findings and conclusions in (i) the action from which this

¹ The Examiner withdrew a written description rejection. *See* Ans. 2.

² To the extent Appellants advance new arguments in the Reply Brief without showing good cause, Appellants have waived such arguments. *See* 37 C.F.R. § 41.41(b)(2).

appeal is taken and (ii) the Answer to the extent they are consistent with our analysis below.

The Examiner rejects the claims under 35 U.S.C. § 101 because they are directed to patent ineligible subject matter. *See* Final Act. 4–5, 15–17; Ans. 2–5. In particular, the Examiner finds the claims are directed to the abstract idea of “receiving data from one computer in one format and converting that data to a different format to transmit to another computer. The . . . conversion performed is analogous to re-organizing data to simply make the data accessible to different computers” and “[c]laims 1, 19, and 31 recite generic steps of retrieving a first message, modifying, and creating a second message all of which are essential parts of any abstract conversion process from one format to another.” Final Act. 4. The Examiner further finds the claims use generic computer components to perform generic computer functions. *See* Ans. 4. Appellants argue the Examiner erred. *See* App. Br. 15–18; Reply Br. 2–7.

Appellants have not persuaded us of error. Section 101 of the Patent Act provides “[w]hoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.” 35 U.S.C. § 101. That 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.*, 133 S. Ct. 2107, 2116 (2013)). According to the Supreme Court:

[W]e set forth a framework for distinguishing patents that claim

laws of nature, natural phenomena, and abstract ideas from those that claim patent-eligible applications of those concepts. First, we determine whether the claims at issue are directed to one of those patent-ineligible concepts. . . . If so, we then ask, “[w]hat else is there in the claims before us?” . . . To answer that question, we consider the elements of each claim both individually and “as an ordered combination” to determine whether the additional elements “transform the nature of the claim” into a patent-eligible application. . . . We have described step two of this analysis as a 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.”

Alice Corp., 134 S. Ct. at 2355.

The Federal Circuit has described the *Alice* step-one inquiry as looking at the “focus” of the claims, their “character as a whole,” and the *Alice* step-two inquiry as looking more precisely at what the claim elements add—whether they identify an “inventive concept” in the application of the ineligible matter to which the claim is directed. *See Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1353 (Fed. Cir. 2016); *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1335–36 (Fed. Cir. 2016); *Internet Patents Corp. v. Active Network, Inc.*, 790 F.3d 1343, 1346 (Fed. Cir. 2015).

Regarding *Alice* step one, the Federal Circuit has “treated *collecting information*, including when limited to particular content (which does not change its character as information), as within the realm of abstract ideas.” *Elec. Power*, 830 F.3d at 1353 (emphasis added); *see also Internet Patents*, 790 F.3d at 1348–49; *OIP Techs., Inc. v. Amazon.com, Inc.*, 788 F.3d 1359, 1363 (Fed. Cir. 2015); *Content Extraction & Transmission LLC v. Wells Fargo Bank, Nat’l Ass’n*, 776 F.3d 1343, 1347 (Fed. Cir. 2014). “In a similar vein, we have treated *analyzing information* [including manipulating

information] by steps people go through in their minds, or by mathematical algorithms, without more, as essentially mental processes within the abstract-idea category.” *Elec. Power*, 830 F.3d at 1354 (emphasis added); *see also Elec. Power*, 830 F.3d at 1351–1354; *In re TLI Commc’ns. LLC Patent Litig.*, 823 F.3d 607, 613 (Fed. Cir. 2016). “And we have recognized that *merely presenting the results of abstract processes of collecting and analyzing information, without more* (such as identifying a particular tool for presentation), is abstract as an ancillary part of such collection and analysis.” *Elec. Power*, 830 F.3d at 1354 (emphasis added); *see also Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 714–15 (Fed. Cir. 2014).

The rejected claims “fall into a familiar class of claims ‘directed to’ a patent-ineligible concept.” *Elec. Power*, 830 F.3d at 1353. Contrary to Appellants’ arguments (App. Br. 15–17; Reply Br. 2–6), the claims are similar to the claims of *Electric Power*, and are focused on the combination of abstract-idea processes or functions. *See Elec. Power*, 830 F.3d at 1354. For example, claim 1 is directed to receiving or collecting information (“receiving . . . a first trading data message . . .; transmitting . . . the second trading data message to . . .”), and analyzing and manipulating information (“retrieving . . . information elements . . .; modifying . . . information elements . . .; creating . . . a second trading data message . . .; identifying . . . the trading entity . . .”). Claim 19 is a system claim directed to similar functions. And claim 31 is directed to similar receiving or collecting information, and analyzing and manipulating information functions. *See Elec. Power*, 830 F.3d at 1353. The dependent claims are directed to similar functions or processes, and Appellants have not shown such claims are directed to other non-abstract functions or processes. *See* claims 2–6, 9–13,

15–18, 20–24, and 27–30, 32–36. In fact, Appellants acknowledge the claims “are directed to receiving data messages related to orders of financial transactions and modifying the data messages[.]” App. Br. 16; *see also* Reply Br. 4. Contrary to Appellants’ argument (Reply Br. 3) and as discussed above, the Examiner does not merely find the claims “are directed to just ‘communication of trading data for financial instruments,’” as Appellants assert (Reply Br. 3).

Regarding *Alice* step two, contrary to Appellants’ assertion (App. Br. 17–18; Reply Br. 6–7), Appellants have not shown the claims in this case require an arguably inventive set of components or methods, or invoke any assertedly inventive programming. *See Elec. Power*, 830 F.3d at 1355.

Further, contrary to Appellants’ arguments (App. Br. 17–18; Reply Br. 6–7), the claims are similar to the claims of *Electric Power*, because they do not require any nonconventional computer or network components, or even a “non-conventional and non-generic arrangement of known, conventional pieces,” but merely call for performance of the claimed information collection, analysis and manipulation functions on generic computer or network components. *See Elec. Power*, 830 F.3d at 1355; *see also* claim 1 (reciting “receiving, by a gateway node . . .; creating, by processing circuitry . . .; transmitting, by the gateway node . . .”) (emphases added); claim 19 (reciting “a receiver configured to receive . . .; processing circuitry configured to . . .; a transmitter configured to . . .”) (emphases added); claim 31 (reciting “a receiver configured to receive . . .; processing circuitry configured to . . .; a transmitter configured to . . .”) (emphases added). The dependent claims call for similar generic components and devices, and Appellants have not shown such claims require any non-

conventional components or devices. *See* claims 2–6, 9–13, 15–18, 20–24, and 27–30, 32–36.

Contrary to Appellants’ assertion (Reply Br. 5), the rejected claims are unlike the claims in *Enfish*. In *Enfish*, the court finds:

The . . . patents are directed to an innovative logical model for a computer database. . . . A logical model generally results in the creation of particular tables of data, but it does not describe how the bits and bytes of those tables are arranged in physical memory devices. Contrary to conventional logical models, the patented logical model includes all data entities in a single table, with column definitions provided by rows in that same table. The patents describe this as the “self-referential” property of the database.

Enfish, 822 F.3d at 1330.

[T]he plain focus of the claims is on an improvement to computer functionality itself, not on economic or other tasks for which a computer is used in its ordinary capacity.

[T]he claims . . . are directed to a specific improvement to the way computers operate, embodied in the self-referential table.

Enfish, 822 F.3d at 1336.

The rejected claims are unlike the claims of *Enfish* because they are not “an improvement to computer functionality itself.” *Enfish*, 822 F.3d at 1336. Instead, they are similar to the claims of *Electric Power*, because “the focus of the claims is not on such an improvement in computers as tools, but on certain independently abstract ideas that use computers as tools.” *Elec. Power*, 830 F.3d at 1354. In particular, the Examiner finds—and Appellants fail to persuasively dispute—discarding incompatible protocol-specific elements during data processing is routine and conventional technology. *See* Ans. 5. Appellants’ attorney arguments (App. Br. 18; Reply Br. 6) are unpersuasive because they are not supported by persuasive evidence.

In short, Appellants have not shown the claims, read in light of the Specification, require anything other than conventional computer and network technology for collecting, analyzing, and manipulating the desired information. *See Elec. Power*, 830 F.3d at 1354. Such invocations of computers and networks are “insufficient to pass the test of an inventive concept in the application” of an abstract idea. *See Elec. Power*, 830 F.3d at 1355.

Because Appellants have not persuaded us the Examiner erred, we sustain the Examiner’s rejection of claims 1–6, 9–13, 15–24, and 27–36 under 35 U.S.C. § 101.

35 U.S.C. § 103

On this record, the Examiner did not err in rejecting claim 1.

We disagree with Appellants’ arguments, and agree with and adopt the Examiner’s findings and conclusions in (i) the action from which this appeal is taken and (ii) the Answer to the extent they are consistent with our analysis below.

Appellants contend neither Feilbogen nor Kumar teaches:

modifying the first set of pre-selected trading information elements by discarding at least one trading information element from the first trading data message specific to the first data format, and retaining one or more trading information elements from the first set of pre-selected trading information elements; creating, by processing circuitry, a second trading data message using the modified first set of pre-selected trading information elements including at least the retained one or more trading information elements,

as recited in claim 1 (emphases added). *See* App. Br. 18–21; Reply Br. 7–9.

In particular, Appellants assert:

Feilbogen does not convert a data message specific to one format based on a first protocol of communication into a data message specific to a second format based on a second protocol of communication. Nor does Feilbogen do so by discarding data elements specific to the first format, while retaining data elements common to the first and second formats.

App. Br. 19.

Appellants have not persuaded us of error. The Examiner responds:

[Feilbogen'] Par. [0057] also describes using different communication protocols such as TCP/IP protocol of a web-based portal to the preferred protocol of a price provider. However, the Examiner interprets the terms “first protocol of communication” and “second protocol of communication” as used by the Appellant to mean the protocols of TOP, FIX, FpML, FinXML, OMNet, OUCH, and BD6 used by financial transaction systems.

As noted in the Office Action, *Feilbogen* teaches modifying the message during the conversion process through “*eliminating redundancy and ambiguity in the data and translating the data into a (preferred) format*”, [Par. [0057]]. The Examiner understands the terms “eliminating redundancy” to mean the same as the claim recitation of “retaining” common data elements between the two formats and “eliminating ambiguity” to mean “discarding” protocol-specific data elements. The fundamental step of protocol/format conversion where if a particular field or data element in one format does not map to a corresponding field or element in the other protocol/format, that element will be dropped is inherent in *Feilbogen*. Notice the use of look-up tables (LUTs) mentioned in Par. [0057].

Ans. 6–7.

Appellants' response that "simply mentioning the 'elimination of redundancy and ambiguity' does not at all reasonably correspond to retaining or discarding certain data elements" (Reply Br. 8) is unpersuasive, because it fails to respond to the Examiner's detailed explanation above, and fails to show why such explanation is incorrect. *See In re Baxter Travenol Labs.*, 952 F.2d 388, 391 (Fed. Cir. 1991) ("It is not the function of this court [or this Board] to examine the claims in greater detail than argued by an appellant, looking for [patentable] distinctions over the prior art."). *See Baxter Travenol Labs.*, 952 F.2d at 391.

Cumulatively, the Examiner also finds Feilbogen and Kumar *collectively* teach the disputed limitations. *See* Ans. 7. Appellants' arguments against Kumar *individually* (App. Br. 19–20; Reply Br. 8) are unpersuasive. Because the Examiner relies on the combination of Feilbogen and Kumar to teach the disputed claim limitations, Appellants cannot establish nonobviousness by attacking Kumar individually. *See In re Merck & Co.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986).

Because Appellants have not persuaded us the Examiner erred, we sustain the Examiner's rejection of independent claim 1, and independent claims 19 and 31 for similar reasons.

We also sustain the Examiner's rejection of corresponding dependent claims 2–5, 9, 11–13, 15–18, 20–23, 27, 29, 30, and 32–36, as Appellants do not advance separate substantive arguments about those claims.

Separately Argued Dependent Claims

Regarding dependent claims 6 and 24, we agree with Appellants that the Examiner has not adequately mapped "creating . . . an additional, third

trading data message using the retrieved second set of pre-selected trading information elements but not using the at least one discarded information element from the first data message,” as recited in claims 6, and similarly recited in claim 24. *See* App. Br. 21–22; Reply Br. 9–10. The Examiner cites Feilbogen’s Figure 8 and paragraphs 58 and 73 for teaching the disputed limitation (Final Act. 8–9, 11; Ans. 9–10), but the cited Feilbogen portions do not describe the detailed limitation required by the claims. Because the Examiner fails to provide sufficient evidence or explanation to support the rejection, we are constrained by the record to reverse the Examiner’s rejection of dependent claims 6 and 24.

Regarding dependent claims 10 and 28, we agree with Appellants that the Examiner has not adequately mapped the limitation “creating the fifth trading data message based on the retrieved trading information elements from the first data trading message and the fourth trading data message, respectively,” as recited in claim 10 and 28. *See* App. Br. 22–23; Reply Br. 10–11. The Examiner cites Feilbogen’s Figure 3 and a number of paragraphs for teaching the disputed limitation (Final Act. 10–11; Ans. 11), but the cited Feilbogen portions do not describe the detailed limitation required by the claims. Because the Examiner fails to provide sufficient evidence or explanation to support the rejection, we are constrained by the record to reverse the Examiner’s rejection of dependent claims 10 and 28.

DECISION

We affirm the Examiner’s decision rejecting claims 1–6, 9–13, 15–24, and 27–36 under 35 U.S.C. § 101.

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Application 13/467,263

We affirm the Examiner's decision rejecting claims 1–5, 9, 11–13, 15–23, 27, and 29–36, but reverse the Examiner's decision rejecting claims 6, 10, 24, and 28, under 35 U.S.C. § 103.

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