UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/139,876	12/24/2013	John P. Machnicki	TR01-034-01	2002

12394 7590 04/30/2018

Travelers Companies
c/o Fincham Downs LLC
90 Grove Street Suite 205
Ridgefield, CT 06877

EXAMINER	
TIBLJAS, SHACOLE C	

ART UNIT	PAPER NUMBER
3695	

NOTIFICATION DATE	DELIVERY MODE
04/30/2018	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

bripple@travelers.com
docketing@finchamdowns.com
docketing@cpaglobal.com

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte JOHN P. MACHNICKI, ROBERT J. KREUZER, and KEITH D. ANDERSEN

Appeal 2017-000965
Application 14/139,876
Technology Center 3600

Before JEAN R. HOMERE, KARA L. SZPONDOWSKI, and SHARON FENICK, *Administrative Patent Judges*.

SZPONDOWSKI, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134(a) from the Examiner's Final Rejection of claims 8–14, constituting all claims pending in the current application. App. Br. 1. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

STATEMENT OF THE CASE

Appellants' claimed subject matter is directed to insurance applications utilizing virtual engineering data to perform claim handling processes. Spec. ¶ 13. Claim 8, reproduced below, is representative of the claimed subject matter:

> 8. An insurance claim handling system for resolving an insurance claim for an insurance liability policy based on remotely measured engineering data, comprising:
>
> a first remote wireless sensor device coupled to measure first engineering data at a first location, the first engineering data being descriptive of a first value of an engineering parameter for a first object that is not covered by the insurance liability policy;
>
> a second remote wireless sensor device coupled to measure second engineering data at a second location, the second engineering data being descriptive of a second value of the engineering parameter for a second object that is not covered by the insurance liability policy;
>
> a processing device in communication via a telecommunications network with each of the first and second remote wireless sensor devices; and
>
> a non-transitory memory device in communication with the processing device, the non-transitory memory device storing instructions that when executed by the processing device result in:
>
> receiving, by the processing device and from the first remote wireless sensor device, the first engineering data;
>
> receiving, by the processing device and from the second remote wireless sensor device, the second engineering data;
>
> determining, based on the first and second engineering data and historic insurance claims data for the

first and second objects, a mathematical relationship between the engineering parameter and a likelihood of loss;

providing, by the processing device and to a remote mobile device, and after the determining of the mathematical relationship, an interface configured to receive current insurance claim data;

receiving, via the interface, the current insurance claim data, the current insurance claim data comprising a current value for the engineering parameter;

determining, based on an application of the mathematical relationship to the current value for the engineering parameter from the current insurance claim data, whether the current insurance claim should be (i) denied or (ii) allowed; and

outputting, via the interface, an indication of the determination.

REJECTIONS

Claims 8–14 stand rejected under 35 U.S.C. § 101 as being directed to non-patent eligible subject matter.

Claims 8, 12, and 14 stand rejected under 35 U.S.C. § 103 as being unpatentable over the combination of Ochs et al. (US 2006/0015374 A1; published Jan. 19, 2006) ("Ochs"), Collins (US 2011/0161119 A1; published June 30, 2011), and Huynh et al. (US 2015/0088557 A1; published Mar. 26, 2015) ("Huynh").

Claim 10 stands rejected under 35 U.S.C. § 103 as being unpatentable over the combination of Ochs, Collins, Huynh, and Finnell (US 2002/0139056 A1; published Oct. 3, 2002).

Claim 11 stands rejected under 35 U.S.C. § 103 as being unpatentable over the combination of Ochs, Collins, Stephens (US 2007/0203758 A1; published Aug. 30, 2007), and the NDT Resource Center, "Piezoelectric Transducers", available at https://www.nde-ed.org/Education Resources/CommunityCollege/Ultrasonics/EquipmentTrans/piezotransducers.htm (last visited April 16, 2018) ("NDT").

Claims 9 and 13 stand rejected under 35 U.S.C. § 103 as being unpatentable over the combination Ochs, Collins, Stephens, and Kumar et al. (US 2006/0100912 A1; published May 11, 2006) ("Kumar").

ANALYSIS

35 U.S.C. § 101 Rejections

Alice Corp. Pty. Ltd. v. CLS Bank International, 134 S. Ct. 2347 (2014) identifies a two-step framework for determining whether claimed subject matter is judicially-excepted from patent eligibility under 35 U.S.C. § 101. In the first step, "[w]e must first determine whether the claims at issue are directed to a patent-ineligible concept." *Alice*, 134 S. Ct. at 2355.

The Examiner determines the claims are "directed towards receiving information, comparing data, providing a way to receive data, receiving data, and determining an outcome which is simply collecting and comparing data to make a determination on an insurance claim using a mathematical relationship, both of which have identified by the court to be abstract ideas." Ans. 3; *see also* Final Act. 4.

Appellants argue the Examiner applies the wrong judicial exception. App. Br. 12–13. According to Appellants, the judicial exception within the claims is "the recited 'mathematical relationship,' which is akin to a 'law of

nature.'" App. Br. 13. Appellants contend the claims provide "a specific manner of defining and utilizing the 'law of nature' to determine whether a commercial insurance transaction is economically advantageous (*e.g.*, based on calculated risk)." App. Br. 13; *see also* Reply Br. 2–3. Appellants further argue the claims track those of *Diamond v. Diehr*, 450 U.S. 175, 188–189 (1981), where "a mathematical formula was utilized to effectuate an improvement in a commercial process." App. Br. 13.

Appellants argue the claims are not directed to an abstract idea, but, rather, are directed to a law of nature. In other words, Appellants admit the claims are directed to a judicial exception to patentability. *See Alice*, 134 S. Ct. at 2354. Appellants have not persuasively argued why the claimed mathematical relationship is a "law of nature" instead of an "abstract idea." Mathematical formulas have been labelled by the courts as both abstract ideas and laws of nature. *See* MPEP 2106.04; *Alice Corp. Pty. Ltd. v. CLS Bank Intern.*, 134 S. Ct. 2347, 2350 (2014) (citing to *Gottschalk v. Benson*, 93 S. Ct. 253 (1972), *Parker v. Flook*, 437 U.S. 584 (1987), and *Bilski v. Kappos*, 130 S. Ct. 3218 (2010). However, for purpose of the analysis, it does not specifically matter which judicial exception to patentability we find the claimed mathematical relationship to be. The Examiner has sufficiently identified a judicial exception.

We agree with the Examiner that Appellants' claims are directed to the abstract idea of resolving an insurance claim by receiving information, comparing data, providing a way to receive data, receiving data, and determining and outputting a result. *See, e.g., Elec. Power Grp. LLC v. Alstom*, 830 F.3d 1350 (Fed. Cir. 2016) (characterizing collecting information, analyzing information by steps people go through in their

minds, or by mathematical algorithms, and presenting the results of collecting and analyzing information, without more, as matters within the realm of abstract ideas); *Content Extraction & Transmission LLC v. Wells Fargo Bank*, 776 F.3d 1343 (Fed. Cir. 2014) (characterizing collecting data, recognizing certain data within the collected data set, and storing the recognized data in memory as drawn to an abstract idea); *SmartGene, Inc. v. Advanced Biological Labs.*, SA, 555 Fed. Appx. 950, 955 (Fed. Cir. 2014) ("comparing new and stored information and using rules to identify medical options" is an abstract idea); *Digitech Image Techs., LLC v. Electronics for Imaging, Inc.*, 758 F.3d 1344, 1351 (Fed. Cir. 2014) ("Without additional limitations, a process that employs mathematical algorithms to manipulate existing information to generate additional information is not patent eligible.").

Moreover, Appellants admit the claimed engineering analysis was performed manually by third party engineering resources in the prior art. *See* Spec. ¶ 1, 15. Thus, the recited steps involve no more than abstract concepts that could be performed in the human mind, or by a human using pen and paper, without the need of a computer. *See CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1375 (Fed. Cir. 2011) ("That purely mental processes can be unpatentable, even when performed by a computer, was precisely the holding of the Supreme Court in *Gottschalk v. Benson*."). *Bancorp Services L.L.C. v. Sun Life Assur. Co. of Canada*, 687 F.3d 1266 (Fed. Cir. 2012) ("Here, in contrast, the computer merely permits one to manage a stable value protected life insurance policy more efficiently than one could mentally. Using a computer to accelerate an ineligible mental process does not make that process patent-eligible.").

We are not persuaded the claims are similar to those in *Diehr*. In *Diehr*, an uncured product was transformed into a cured product when raising the temperature caused a chemical change in the physical state of the product. *Diehr*, 450 U.S. at 187. The Court held that the claimed method was patent eligible, notwithstanding its use of a known mathematical equation (the Arrhenius equation). *Diehr*, 450 U.S. at 177. The Court found the claims were not an attempt to patent an unpatentable principle (e.g., mathematical formula), but rather an industrial process "which, when considered as a whole, is performing a function which the patent laws were designed to protect" even though it implemented or applied a mathematical formula." *Id.* at 192. Unlike in *Diehr*, we fail to see a transformation to "a different state or thing," as a part of the claimed invention. *Diehr*, 450 U.S. at 184.

In the second step of the *Alice* analysis, 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." *Alice*, 134 S. Ct. at 2355 (quoting *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 78–79 (2012)). In other words, the second step is to "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.'" *Id.* (alteration in original) (quoting *Mayo*, 566 U.S. at 72–73).

The Examiner further determines the additional elements in the claims (e.g. sensor devices, processing device, and memory devices) do not provide meaningful limitations to transform the abstract idea into a patent eligible

application of the abstract idea such that the claims amount to significantly more than the abstract idea itself. Final Act. 4.

Appellants argue "the components of the recited system can[not] reasonably be characterized as 'a generic computer.'" App. Br. 14. According to Appellants, the "recited wireless sensors, such as the vibration sensor, a strain sensor, a displacement sensor, and a fluid sensor of claim **11**, are not 'generic', nor is the type of analysis required for determining of the mathematical relationship." App. Br. 14; *see also* Reply Br. 3. Appellants further argue "the functional limitations in addition to and supporting the utilization of the mathematical relationship comprise something more in and of themselves." App. Br. 14.

We are not persuaded by Appellants' arguments and agree with the Examiner. *See* Final Act. 4; Ans. 3. The claims recite a "remote wireless sensor device," a "processing device," a "memory device," and an "interface." *See* App. Br. 28–30. Claim 11, which is dependent on claim 8, further recites where "remote wireless sensor devices comprise one or more of a vibration sensor, a strain sensor, a displacement sensor, and a fluid sensor." *See* App. Br. 29. Appellants have not adequately shown how the claims are performed such that they are not routine, conventional functions of a generic computing device, nor have Appellants provided evidence why the claims are not routine and conventional functions of a generic computing device. The functions performed in the claims, i.e. measuring data, receiving data, analyzing data, and outputting data, are routine, conventional, and well-known functions, and require nothing more than a generic computer performing generic computer functions. As such, the claims amount to nothing significantly more than an instruction to

implement the abstract idea on a generic computer -- which is not enough to transform an abstract idea into a patent-eligible invention. *See Alice*, 134 S. Ct. at 2360.

Accordingly, we sustain the Examiner's 35 U.S.C. § 101 rejection of claims 8–14.

35 U.S.C. § 103 Rejections

Claim 8

Appellants argue the Examiner erred in finding the combination of Ochs, Collins, and Huynh teaches or suggests "determining, based on the first and second engineering data and historic insurance claims data for the first and second objects, a mathematical relationship between the engineering parameter and a likelihood of loss," as recited in independent claim 8. App. Br. 16–22.

Appellants argue "it is unclear how [Ochs'] 'first yield per unit land' is reasonably believed to be equivalent to the claimed *first and second engineering data*." App. Br. 19. According to Appellants, the "first yield per unit land" is described as "measurement of actual yield for a crop grown in a given field" and even under the broadest reasonable interpretation of the claim language, "engineering data does not encompass crop yield data." App. Br. 19. Appellants further argue it is not clear "how it can reasonably be asserted that the single 'first yield' data is equivalent to two (2) separate pieces of engineering data ('first' and 'second') as claimed." App. Br. 19.

We are not persuaded. Appellants do not explicitly define "engineering data" in the Specification, nor do Appellants direct our attention to or provide an explicit definition. Appellants' Specification states, in part, "engineering data . . . may, for example, be descriptive of

structure characteristics, machinery characteristics, event characteristics (e.g., details descriptive of construction activities and/or events and/or details of weather events), soil types, flood zone, flood history, and/or other flood related data." Spec. ¶ 39.

Ochs teaches a sensor measuring a first yield per land unit of a particular crop associated with a field, where the sensor can comprise one or more of a mass sensor, weight sensor, flow sensor, moisture sensor, piezoelectric transducer, grain flow sensor, grain moisture sensor, ground speed sensor, head position switch, impact force sensor, plate displacement sensor, volume measurement device, load cell system, radiometric system, and a capacitance sensor. Ochs ¶ 31. For example, the sensor "may include a moveable member (e.g., a plate) that is associated with the path of harvested agricultural product and mounted via a piezoelectric transducer or another electromechanical device for measuring force or displacement associated with the flow of the agricultural product (e.g., grain)." Ochs ¶ 26. During operation of the sensor, "the movable member is displaced by the flow of agricultural product (e.g., grain) associated with a harvester, combine or other agricultural equipment such that the amount of displacement or force measured by piezoelectric transducer indicates the quantity, volume, or weight of harvested grain." Ochs ¶ 26. The sensor may also include a moisture detector for measuring the moisture content of the grain, and used to adjust the weight, volume, or quantity of the harvested grain "to compensate for grain moisture to accurately determine the yield of a particular crop." Ochs ¶ 26. Ochs also describes that "each soil zone within the field may be associated with a corresponding yield or yield range for the particular crop." Ochs ¶ 45. In other words, Ochs' first yield per

land unit is determined based on data from one or more sensors, which collect or measure a range of different types of data. Under the broadest reasonable interpretation in light of the Specification, particularly Appellants' description of engineering data in paragraph 39, we agree with the Examiner that the first yield per land unit teaches or suggests engineering data. For example, the first yield per land unit may be descriptive of a machinery characteristic (force) and/or an event characteristic (moisture) and/or soil type (soil zone). Moreover, we agree with the Examiner that because more than one sensor may be used, the first yield per land unit data can encompass first and second pieces of engineering data. *See* Ans. 4–5; *see also*, e.g., ¶ 45 ("each distinct soil zone within the field may be associated with a corresponding yield or yield range for the particular crop").

Appellants further argue "it is unclear how [Ochs'] 'second yield per unit land' is reasonably believed to be the equivalent to the claimed *historic insurance claims data for the first and second objects*." App. Br. 19. Appellants argue "[h]istoric crop yield data is simply not equivalent to historic insurance claim data." App. Br. 19.

We are not persuaded. Appellants do not explicitly define "historic insurance claims data" in the Specification, nor do they provide a definition in the Briefs. Under the plain and ordinary meaning of the claim language, we interpret "historic insurance claims data" to refer to any historic data relating to an insurance claim.

Ochs describes estimating a second yield per land unit of the particular crop associated with the defined geographic area. Ochs ¶ 32. The second yield per land unit data is estimated using historic yield data and may

be estimated in accordance with various techniques, including estimating excluding yields associated with compliant fields (e.g., compliance with insurance policy requirements) or estimating excluding yields associated with noncompliant fields (e.g., noncompliant with insurance policy requirements.) Ochs ¶ 17, 32. Because the second yield per land unit may take into account historic compliance or noncompliance with insurance policy requirements, we agree with the Examiner that the second yield per land unit teaches or at least suggests historic insurance claims data.

Appellants also argue "the pending claims recite a determination of a *mathematical relationship between the engineering parameter and a likelihood of loss*, a feature which the Examiner ignores, and which Ochs simply and entirely fails to contemplate." App. Br. 20. Appellants argue the "comparison of the crop yield data in Ochs has nothing to do with a 'risk (likeliness) of loss'. Instead, it is reviewed upon an **actual occurrence of a loss** to determine if the grower should be paid or not." Reply Br. 4.

We are not persuaded. Ochs is generally directed to an insurance management system that "may be applied to *managing an insurance policy* or endorsement for yield-monitored crop insurance, Best Management Practices (BMP) crop insurance, another form of crop insurance, or *risk management of growing practices*." Ochs ¶ 27, Fig. 1 (emphasis added). Ochs describes "[a]*n insurance product comprises a crop risk insurance policy* and an endorsement assembly associated with the crop insurance policy. *The crop risk insurance policy component may insure against risk of loss* for drought or another type of loss, for example. An endorsement assembly is associated with the crop risk insurance policy component." Ochs ¶ 83 (emphasis added). Ochs describes determining the difference or

variation between the first yield unit data and the second yield unit data. Ochs ¶ 16. The difference or an indicator based thereon may be provided to another entity, such as a person or business associated with claims and insurance on the field. Ochs ¶¶ 16, 62. Under another embodiment, the difference or indicator is only transmitted if it the difference exceeds a minimum threshold. Ochs ¶ 21. In other words, Ochs teaches managing an insurance policy, including risk management and insuring against risk of loss, as well as providing an indicator or difference to the insurer of the comparison between the first yield unit data and second yield unit data. Based on these disclosures, we agree with the Examiner that Ochs teaches or at least suggests the disputed limitation.

Appellants further argue "the motivation to combine the cited references is not supported by the references themselves and is not relevant to the pending claims." App. Br. 21. Appellants argue "given the disparate setups and functionality disclosed in both Ochs and Collins, it is unclear why anyone would have looked to these references to search for a different manner of claim analysis, much less the specifically recited system for deriving a mathematical formula to facilitate claims handling based on acquired engineering data." App. Br. 21–22.

We are not persuaded by Appellants' arguments because they do not persuasively address the Examiner's findings. The Examiner has articulated how the claimed features are met by the proposed combination of the reference teachings with some rational underpinning consistent with the guidelines stated in *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398 (2007). *See* Final Act. 7. Contrary to Appellants' contentions, the motivation for combining the references need not be found in the references sought to be

combined, but may be found in any number of sources, including common knowledge, the prior art as a whole, or the nature of the problem itself. *Dystar Textilfarben GmbH & Co. Deustchland KG v. C.H. Patrick Co.*, 464 F.3d 1356, 1361 (Fed. Cir. 2007). In addition, although Appellants argue that the combination is no more than impermissible hindsight (App. Br. 22), this argument is not persuasive because Appellants do not identify, nor do we discern, any knowledge that the Examiner relied upon that was gleaned only from Appellants' disclosure and that was not otherwise within the level of ordinary skill at the time of the invention. *In re Cree, Inc.*, 818 F.3d 694, 702 n.3 (Fed. Cir. 2016) (Appellant's hindsight argument of no moment where the Examiner provides a sufficient, non-hindsight reason to combine the references).

Accordingly, we are not persuaded the Examiner erred in rejecting independent claim 8 under 35 U.S.C. § 103 and we, therefore, sustain the rejection. For the same reasons, we sustain the 35 U.S.C. § 103 rejection of dependent claims 11–14, which were not separately argued.

Claim 10

Appellants argue the Examiner errs in finding the combination of Ochs, Collins, Huynh, and Finnell teaches or suggests "wherein the engineer parameter is descriptive of at least one of: (1) a utility strike event; (ii) a building collapse event; (iii) a reactive aggregate event; (iv) a mold event; (v) an expansive soils event; (vi) a pipe-related event; (vii) a sprinkler damage event; (viii) a fire event; (ix) a retaining wall failure event; (x) an ice dam event; (xi) a concrete failure event; (xii) a roof damage event; (xiii) a dezincification event; (xiv) a galvanization event; and (xv) a soil settlement

event," as recited in dependent claim 10. App. Br. 23–26. Specifically, Appellants dispute "that a heat sensor detecting heat of an approaching fire is equivalent to the claimed *engineering parameter . . . descriptive of . . . a fire event*." App. Br. 24. Appellants argue "[t]he claimed engineering parameter as-claimed . . . is recited as being utilized to develop a mathematical relationship with respect to a likelihood of loss . . . [and] [n]o such relationship or determination is described in Finnell." App. Br. 24.

We are not persuaded by Appellants' arguments. The Examiner relies on Finnell's heat sensor that is used to detect an approaching fire to teach or suggest an engineering parameter descriptive of a (viii) fire event. Final Act. 8, citing Finnell ¶ 8. The Examiner modifies the sensing system of Ochs, Collins, and Stevens to monitor fire events as taught by Finnell. Appellants' arguments do not address the combination of references as relied upon by the Examiner. The Examiner relies on Ochs, not Finnell, to teach or suggest the mathematical relationship with respect to a likelihood of loss, as discussed above. Accordingly, we are not persuaded the Examiner erred.

Appellants present similar arguments as to the combination of Ochs, Collins, Stephens, and Finnell, as presented above with respect to claim 8. For the same reasons as discussed above, we are not persuaded by Appellants' arguments.

Accordingly, we sustain the Examiner's 35 U.S.C. § 103 rejection of dependent claim 8.

DECISION

The Examiner's 35 U.S.C. § 101 rejection of claims 8–14 is affirmed.

The Examiner's 35 U.S.C. § 103 rejection of claims 8–14 is affirmed.

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