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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte KONSTANTIN ABRAHAM VAYNBERG,
JENNIFER M. BUCKLEY, MATTHEW REUBEN DURST,
BRIAN OWENS, STEPHEN JAMES WEATHERS, and
DANIEL APPEL WILKINS

Appeal 2018-004196
Application 13/710,086
Technology Center 2800

Before JEFFREY B. ROBERTSON, JAMES C. HOUSEL, and
JANE E. INGLESE, *Administrative Patent Judges*.

INGLESE, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant¹ requests our review under 35 U.S.C. § 134(a) of the Examiner's decision to finally reject claims 1 and 3–18. We have jurisdiction over this appeal under 35 U.S.C. § 6(b).

We REVERSE.

¹ Appellant is the applicant, Hercules Incorporated. Application Data Sheet filed December 10, 2012. According to the Appeal Brief, the real party in interest is Ashland Licensing and Intellectual Property LLC. Appeal Brief filed July 14, 2017 (“App. Br.”), 1.

STATEMENT OF THE CASE

Appellant claims a product testing assembly and method. Independent claims 1 and 16 illustrate the subject matter on appeal and are reproduced below:

1. A product testing assembly, comprising:

a panel configured to support at least one of a substrate and a test subject having at least one surface configured to receive an application of a product to be tested; and

at least one measuring device configured to sense measured quantities as product is applied to the at least one of the substrate and the test subject and output one or more signals representative of a sequence of forces and/or moments being applied to the surface by the application of the product to be tested;

at least one data processing system having an interface device coupled to the at least one measuring device via a wired or a wireless communication link, and one or more processors configured to receive the one or more signals representative of the sequence of forces and/or moments being applied to the surface via the interface device, and to convert the one or more signals into an output signal representative of one or more quantitative application performance characteristics of the product to be tested; and

wherein the one or more quantitative application performance characteristics are correlated with calibration data collected during application of one or more calibration products that had been determined by a human to meet or exceed subjectively determined expectations related to the way the application of the calibration product felt

to the human as the calibration product was applied.

16. A method, comprising:

receiving, by a processor of at least one data processing system, a sequence of data via an interface device coupled to at least one measuring device via a wired or a wireless communication link indicative of measured quantities measured by at least one measuring device of a product testing assembly as a product is applied to a surface of at least one of a substrate and a test subject in the product testing assembly, the measured quantities representative of a sequence of forces and/or moments being applied to the surface by the application of the product; and

translating, by the processor, the sequence of data indicative of measured quantities into an output signal using calibration data collected during application of one or more calibration products that had been determined by a human to meet or exceed subjectively determined expectations related to the way the application of the calibration product felt to the human as the calibration product was applied, the output signal representative of one or more application performance characteristics of the product being tested.

App. Br. 29, 32–33 (Claims Appendix).

The Examiner sets forth the rejection of claims 1 and 3–18 under 35 U.S.C. § 101 in the Final Office Action entered May 3, 2017 (“Final Act.”), and maintains the rejection in the Examiner’s Answer entered December 14, 2017 (“Ans.”).

DISCUSSION

Upon consideration of the evidence relied upon in this appeal and each of Appellant's contentions, we reverse the Examiner's rejection of claims 1 and 3–18 under 35 U.S.C. § 101 for the reasons set forth in the Appeal Brief and below.

In *Alice Corp. Pty. Ltd. v. CLS Bank International*, 134 S. Ct. 2347 (2014), the Court identified a two-step framework for determining whether claimed subject matter is judicially excepted from patent eligibility under § 101. In the first step, “[w]e must . . . determine whether the claims at issue are directed to a patent-ineligible concept,” such as an abstract idea. *Alice*, 134 S. Ct. at 2355. The second step involves “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,’” and is more than “‘well-understood, routine, conventional activit[y].’” *Alice*, 134 S. Ct. at 2355, 2359 (first alteration in original) (quoting *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 72–73 (2012)).

The Examiner applies *Alice*'s two-step framework in rejecting claim 1 under 35 U.S.C. § 101. Final Act. 1–3. For the first step, the Examiner determines that the following limitations of claim 1 are directed to an abstract idea:

at least one data processing system having an interface device coupled to the at least one measuring device via a wired or a wireless communication link, and one or more processors configured to receive the one or more signals representative of the sequence of forces and/or moments being applied to the surface via the interface device, and to convert the one or more signals into an output signal representative of one or more

quantitative application performance characteristics of the product to be tested; and

wherein the one or more quantitative application performance characteristics are correlated with calibration data collected during application of one or more calibration products that had been determined by a human to meet or exceed subjectively determined expectations related to the way the application of the calibration product felt to the human as the calibration product was applied.

Final Act. 1.

The Examiner determines that these limitations involve subject matter that is similar to concepts identified by the Federal Circuit as abstract. Specifically, the Examiner determines that the following limitation is similar to an algorithm for calculating parameters indicating an abnormal condition:

at least one data processing system . . . configured to receive the one or more signals representative of the sequence of forces and/or moments being applied to the surface . . . and to convert one or more signals into an output signal representative of one or more quantitative application performance characteristics of the product to be tested

Final Act. 2 (citing *In re Grams*, 888 F.2d 835 (Fed. Cir. 1989)). And the Examiner determines that the following limitation is similar to organizing information through mathematical correlations; (*Digitech Image Techs., LLC v. Elecs. for Imaging, Inc.*, 758 F.3d 1344 (Fed. Cir. 2014); collecting and comparing known information (*Classen Immunotherapies, Inc. v. Biogen IDEC*, 659 F.3d 1057 (Fed. Cir. 2011)); and collecting information, analyzing the information, and displaying certain results of the collection and analysis (*Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350 (Fed. Cir. 2016)):

wherein the one or more quantitative application performance characteristics are correlated with calibration data collected during application of one or more calibration products that had been determined by . . . exceed subjectively determined expectations related to the way the application of the calibration product felt to the human as the calibration product was applied

Final Act. 2.

For the second step of the *Alice* framework, the Examiner determines that the additional elements recited in claim 1, taken individually or in a combination, do not amount to significantly more than the judicial exception (the abstract idea) because these elements “must be used/taken by others to apply the judicial exception(s).” Final Act. 3. The Examiner finds that a panel to support a substrate, a surface to receive an application of a product, a measuring device, “presumable sensors,” a data processor, and a wire or wireless interface, are “well-understood, purely conventional or routine in the relevant field.” *Id.* The Examiner also finds that a “measuring device to sense measured quantities as product is applied to the substrate, is a conventional process needed to test a subject using the output[] signals of [] forces or moments.” *Id.*

The Examiner determines that independent claim 16 “is directed to [a] similar abstract idea (algorithm) as in claim 1.” Final Act. 3.

To address the first step of the *Alice* framework, we first look to Appellant’s Specification to inform our understanding of the product testing assembly of claim 1 and the method of claim 16. The Specification explains that conventional evaluation of the application feel of products such as paint, construction materials, cosmetic creams or ointments, and hair treatments, is subjectively determined by evaluators who apply a consumer product and then answer various questions related to application of the product, such as

the ease of application, the ease of spreading, or the degree of stickiness. Spec. ¶¶ 1, 3. The Specification explains that Appellant's invention relates to "a product testing assembly that allows collection of real time physical data during a sensorial evaluation of product application feel." Spec. ¶ 3. The Specification indicates that the data "may offer a detailed quantitative understanding of the product's application feel which helps to understand the reasons behind [a] given subjective sensorial assessment, and may be an invaluable tool in product performance design." Spec. ¶ 9.

The Specification describes an embodiment of Appellant's invention in which test participants first apply a product to a substrate and then fill out a questionnaire about the application characteristics of the product. Spec. ¶ 9. A product that meets expectations based on the test participants' evaluations is then tested with Appellant's product testing assembly, and the forces and moments applied when the product is applied to a surface of a substrate in the assembly are concurrently measured/calculated by a measuring device, and the resulting data are stored. Spec. ¶¶ 8, 9. The stored data are compared to data collected/calculated when the product testing assembly is used to test a product having unknown application performance characteristics. Spec. ¶ 9. This comparison is used to convert the data collected/calculated by the product testing assembly for the unknown product into an output signal representative of one or more application performance characteristics of the product being tested. Spec. ¶ 9.

Consistent with this description in Appellant's Specification, the product testing assembly of claim 1 and method of claim 16 use a measuring device to sense a sequence of forces and/or moments applied to the surface

of a substrate as a product is applied to the surface, convert the measured forces and/or moments into one or more quantitative application characteristics of the product, correlate the application characteristics with calibration data previously collected during application of a calibration product determined by a human to meet subjective application expectations, and output a signal representing the application characteristics of the product being tested

“Whether at step one or step two of the *Alice* test, in determining the patentability of a method, a court must look to the claims as an ordered combination, without ignoring the requirements of the individual steps.” *McRO, Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299, 1313 (Fed. Cir. 2016).

As Appellant correctly argues (Reply Br. 4), the assembly and method of claims 1 and 16, respectively, when considered as an ordered combination, improve the technical area of product testing by automating sensorial assessments that previously could be performed only by humans, similar to the claims in *McRO*. *McRO*, 837 F.3d at 1314 (“The computer here is employed to perform a distinct process to automate a task previously performed by humans.”). Claims 1 and 16 do not encompass all assemblies and methods for automating sensorial assessments in the field of product testing. Instead, claims 1 and 16 are limited to a specific assembly and process that use particular equipment, particular techniques, and particular information. *Id.* (“The abstract idea exception prevents patenting a result where ‘it matters not by what process or machinery the result is accomplished.’”) (quoting *O’Reilly v. Morse*, 56 U.S. (15 How.) 62, 113, 14 L. Ed. 601 (1854)).

Although the assembly and method of claims 1 and 16 involve use of an algorithm to convert signals output by the measuring device into quantitative application performance characteristics, and correlate the characteristics with calibration data, claims 1 and 16 do more than simply limit use of the algorithm to a particular technological environment. Rather, claims 1 and 16 apply the algorithm in the context of a particular assembly and method to provide “a quantitative understanding of the product’s application feel to aid in replacing or understanding subjective sensorial assessments.” Reply Br. 4. When claims 1 and 16 are each considered as an ordered combination, therefore, they are directed to application of an algorithm to achieve a technological improvement over existing product testing approaches. *See Thales Visionix Inc. v. U.S.*, 850 F.3d 1343, 1349 (Fed. Cir. 2017) (“At step one, ‘it is not enough to merely identify a patent-ineligible concept underlying the claim; we must determine whether that patent-ineligible concept is what the claim is ‘directed to.’”) (quoting *Rapid Litig. Management Ltd. v. CellzDirect, Inc.*, 827 F.3d 1042, 1050 (Fed. Cir. 2016)); *McRO*, 837 F.3d at 1316 (“When looked at as a whole, claim 1 is directed to a patentable, technological improvement over the existing, manual 3–D animation techniques. The claim uses the limited rules in a process specifically designed to achieve an improved technological result in conventional industry practice.”)

Although the Examiner finds that a “measuring device to sense measured quantities as product is applied to the substrate, is a conventional process needed to test a subject using the outputs signals of a forces or moments,” the Examiner does not provide a factual basis grounded in evidence of record to support this assertion. Final Act. 3. Our reviewing

court has explained that the second step of the *Alice* framework requires a factual determination as to whether a claim element or combination of elements is well-understood, routine, and conventional to a skilled artisan in the relevant field. *Berkheimer v. HP Inc.*, 881 F.3d 1360, 1368–69 (Fed. Cir. 2018); *Content Extraction & Transmission LLC v. Wells Fargo Bank, Nat’l Ass’n*, 776 F.3d 1343, 1347–48 (Fed. Cir. 2014) (quoting *Alice*, 134 S. Ct. at 2359) (The second step of the *Alice* test is satisfied when the claim limitations “involve more than performance of ‘well-understood, routine, [and] conventional activities previously known to the industry.’”). Factual determinations must be made on the basis of the preponderance of the evidence of record. Because the Examiner does not direct our attention to credible evidence of record establishing that sensing measured quantities as a product is applied to a substrate was conventional in the product testing art at the time of Appellant’s invention, the Examiner’s analysis of step two of the *Alice* framework is based on reversible error

We accordingly do not sustain the Examiner’s rejection of claims 1 and 16 under 35 U.S.C. § 101, and of claims 1, 3–15, 17, and 18, which each depend from claim 1 or 16.

DECISION

We reverse the Examiner’s rejection of claims 1 and 3–18 under 35 U.S.C. § 101.

REVERSED