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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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*Ex parte* STEVEN J. POLETTI, CHANDLER K. VARMA, and DENNIS R. BOUSE

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Appeal 2019-002526
Application 13/608,457
Technology Center 3600

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Before JOSEPH L. DIXON, JOHNNY A. KUMAR, and CATHERINE SHIANG, *Administrative Patent Judges*.

SHIANG, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant[1] appeals under 35 U.S.C. § 134(a) from the Examiner's rejection of claims 8–14 and 23, which are all the claims pending and rejected in the application. We have jurisdiction under 35 U.S.C. § 6(b).

We reverse.

[1] We use "Appellant" to refer to "applicant" as defined in 37 C.F.R. § 1.42. Appellant identifies The Boeing Company as the real party in interest. Appeal Br. 1.

## STATEMENT OF THE CASE

### *Introduction*

The present invention relates to "a process to proactively manage ergonomics risks for manufacturing." Spec. 1:6.

> Example embodiments of the present disclosure are generally directed to an integrated safety-evaluation with labor-time-standard system, and corresponding method and computer-readable storage medium. Example embodiments may be integrated into plan authoring and engineering design systems to retrieve work-related information, which may be used to automatically calculate and determine the ergonomic risk evaluation and labor time standard values. Example embodiments may be configured to proactively and concurrently provide an ergonomic safety evaluation and labor time standard prior to release to the worker, which may eliminate any potential risk from the work task.

Spec. 3:5–13.

Claim 8 is exemplary:

> 8. A method of manufacturing a vehicle, the method comprising:
>
> producing an engineering design of a vehicle including a plurality of subassemblies;
>
> generating a plurality of work plans for respective ones of the plurality of subassemblies to formalize instruction to manufacture the plurality of subassemblies according to the engineering design of the vehicle, wherein each work plan of the plurality of work plans includes a plurality of work instructions;
>
> performing ergonomic safety evaluations of the plurality of work plans by one or more non-ergonomic skilled users using a computer system, including for each work instruction:
>
> determining a plurality of non-changing tasks using pre-determined components of one of the plurality of work plans without subjective observations;
>
> determining work elements applicable to the work instruction, the work elements having respective associated

elemental unit times, elemental risk ratings and frequency values, each elemental risk rating of a work element representing a potential for ergonomic injury to an average worker of a standard normal population of workers when performing one repetition of the work element at a pace indicated by an elemental unit time of the work element;

calculating a labor time standard from the elemental unit times and frequency values, and calculate an ergonomic safety rating from the elemental unit times, frequency values and elemental risk ratings, the ergonomic safety rating being a numeric value representing the potential for ergonomic injury to the average worker when performing the work instruction; and

performing an ergonomic safety evaluation of the work instruction from the labor time standard and ergonomic safety rating, the ergonomic safety evaluation indicating an ergonomic risk of the plurality of non-changing tasks and being performed to determine whether to release or reject the work instruction;

releasing the plurality of work plans based on the ergonomic safety evaluations; and thereafter,

manufacturing the plurality of subassemblies according to the plurality of work plans and thereby the engineering design of the vehicle.

*Rejection*[2]

| Claims Rejected | 35 U.S.C. § | Reference(s)/Basis |
|---|---|---|
| 8–14, 23 | 101 | Eligibility |

[2] Throughout this opinion, we refer to the (1) Final Office Action dated June 11, 2018 ("Final Act."); (2) Appeal Brief dated October 17, 2018 ("Appeal Br."); (3) Examiner's Answer dated Dec. 14, 2018 ("Ans."); and (4) Reply Brief dated February 8, 2019 ("Reply Br.").

## ANALYSIS[3]

### *35 U.S.C. § 101*

We have reviewed the Examiner's rejection in light of Appellant's contentions and the evidence of record. We concur with Appellant's contentions that the Examiner erred in this case.

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. 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. Pty. Ltd. v. CLS Bank Int'l*, 573 U.S. 208, 216 (2014) (internal quotation marks and citation omitted).

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.").

[3] Appellant raises additional arguments. Because the identified issues are dispositive of the appeal, we do not need to reach the additional arguments.

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, 67 (1972)). Concepts determined to be patent eligible include physical and chemical processes, such as "molding rubber products" (*Diamond v. Diehr*, 450 U.S. 175, 191 (1981)); "tanning, dyeing, making water-proof cloth, vulcanizing India rubber, smelting ores" (*id.* at 182 n.7 (quoting *Corning v. Burden*, 56 U.S. (15 How.) 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 187; *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.* (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.").

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.* (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 United States Patent and Trademark Office published revised guidance on the application of § 101. USPTO's 2019 REVISED PATENT SUBJECT MATTER ELIGIBILITY GUIDANCE, 84 Fed. Reg. 50 (Jan. 7, 2019) ("Guidance").[4] 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) (Step 2A, Prong 1); and
>
> (2) additional elements that integrate the judicial exception into a practical application (*see* Manual of Patent Examining Procedure ("MPEP") § 2106.05(a)–(c), (e)–(h)) (9th ed. rev. 08.2017 2018) (Step 2A, Prong 2).

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:

[4] The Guidance was updated in October 2019.

> (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. (Step 2B.)

*See* Guidance, 84 Fed. Reg. at 54–56.

Turning to Step 2B of the Guidance, "[t]he 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.'" *Berkheimer v. HP Inc.*, 881 F.3d 1360, 1367 (Fed. Cir. 2018) (quoting *Content Extraction & Transmission LLC v. Wells Fargo Bank, Nat'l Ass'n*, 776 F.3d 1343, 1347–48 (Fed. Cir. 2014) and *Alice*, 573 U.S. at 225). "Whether something is well-understood, routine, and conventional to a skilled artisan at the time of the patent is a factual determination." *Berkheimer*, 881 F.3d at 1369.

In this case, we agree with Appellant that the Examiner has not provided the evidence required by *Berkheimer* to support the finding that the additional limitation "manufacturing the plurality of subassemblies according to the plurality of work plans and thereby the engineering design of the vehicle" was well-understood, routine, and conventional. *See* Final Act. 10; *Berkheimer*, 881 F.3d at 1369. In particular, the Examiner has not provided any of the four categories of information required by the USPTO Memorandum, dated April 19, 2018, of Changes in Examination Procedure Pertaining to Subject Matter Eligibility, Recent Subject Matter Eligibility Decision (*Berkheimer v. HP, Inc.*) ("*Berkheimer* Memorandum"):

> 1. A citation to an express statement in the specification or to a statement made by an applicant during prosecution that

demonstrates the well-understood, routine, conventional nature of the additional element(s). . . .

2. A citation to one or more of the court decisions discussed in MPEP § 2106.05(d)(II) as noting the well-understood, routine, conventional nature of the additional element(s).
3. A citation to a publication that demonstrates the well-understood, routine, conventional nature of the additional element(s). . . .
4. A statement that the examiner is taking official notice of the well-understood, routine, conventional nature of the additional element(s). . . .

*Berkheimer* Memorandum at 3–4.

Therefore, the Examiner erred with respect to Step 2B of the Guidance, and we are constrained by the record to reverse the Examiner's rejection of claims 8–14 and 23 on procedural grounds.[5]

## CONCLUSION

We reverse the Examiner's decision rejecting claims 8–14 and 23 under 35 U.S.C. § 101.

In summary:

| Claims Rejected | 35 U.S.C. § | Basis | Affirmed | Reversed |
|---|---|---|---|---|
| 8–14, 23 | 101 | Eligibility | | 8–14, 23 |

REVERSED

[5] If the prosecution reopens, we leave it to the Examiner to determine whether the limitation "manufacturing the plurality of subassemblies according to the plurality of work plans and thereby the engineering design of the vehicle" is enabled under 35 U.S.C. § 112.