

UNITED STATES INTERNATIONAL TRADE COMMISSION

Washington, D.C.

In the Matter of

**CERTAIN ROAD CONSTRUCTION
MACHINES AND COMPONENTS
THEREOF**

Inv. No. 337-TA-1088

**ORDER NO. 18: INITIAL DETERMINATION GRANTING RESPONDENTS'
MOTION FOR SUMMARY DETERMINATION OF INVALIDITY
OF U.S. PATENT NO. 9,045,871 UNDER 35 U.S.C. § 101**

(May 24, 2018)

I. BACKGROUND

A. Procedural Summary

On January 9, 2018, Respondents Wirtgen GmbH, Joseph Vögele AG, Wirtgen Holding GmbH, and Wirtgen America, Inc. (collectively, "Wirtgen") filed a motion for summary determination that claims 1-5, 8, 9, and 12-17 of U.S. Patent No. 9,045,871 (the "'871 patent") are directed to ineligible subject matter under 35 U.S.C. § 101. Motion Docket No. 1088-005 (the "motion"). On January 26, 2018, Complainants Caterpillar Inc. and Caterpillar Paving Products, Inc. (collectively, "Caterpillar") filed their opposition. On February 7, 2018, Wirtgen filed its reply brief.

B. The '871 patent

The patent describes a paving machine including an adjustable screed assembly. '871 patent, Abstract. "A screed assembly may be attached at the rear end of the paving machine to

spread and compact paving material into a layer of mat of desired thickness, size and uniformity on a paving surface.” *Id.* at 2:50-53. Figure 1 depicts a paving machine towing a screed assembly. *Id.* at 2:29-31. The screed assembly can be adjusted so that the screed plate smooths and compresses the asphalt material used to pave roads. *Id.* at 1:14-32. Actuators are configured to adjust the screed assembly into different configurations, and sensors are configured to sense the various configurations of the screed assembly. *Id.* at 1:49-53. The patent describes the use of an electronic controller in communication with the sensors to save and recall the parameters sensed by the sensors, so that the machine can be adjusted automatically. *Id.* at 2:4-25; 6:19-22.

As described in the patent, “[t]he controller can include a microprocessor, an application specific integrated circuit (“ASIC”), or other appropriate circuitry and can have memory or other data storage capabilities.” *Id.* at 5:7-10. The controller also can include “functions, steps, routines, data tables, data maps, charts and the like saved in and executable from read only memory to control the paving machine.” *Id.* at 5:10-13. Controller 66 is depicted in Figure 1 of the patent as a box. *Id.*, Fig. 1. The controller is in communication with various sensors in the screed assembly to “monitor and control the various different possible adjustments to the configuration of the screed assembly.” *Id.* at 6:19-22. For the convenience of machine operators, user interfaces in communication with the controller are provided. *Id.* at 5:28-33, 5:40-65. The controller may be in communication with other mechanisms of the paving machine, as well. *Id.* at 6:58-7:5.

The patent describes in detail how set-up of the screed assembly is enhanced by the controller, which saves configuration and operation parameters “to simplify recall of the data.” *Id.* at 7:6-42. “More particularly, upon recall of the configuration parameters associated with the screen assembly, the controller may automatically direct the various actuators associated with

each of the saved first configuration parameters to perform any adjustments in the configuration of the screen assembly.” *Id.* at 7:52-59. According to the patent, “[t]he memory and secondary storage devices may be in the form of read-only memory (ROM) or random access memory (RAM) or integrated circuitry that is accessible by the controller.” *Id.* at 7:44-47. The patented invention shortens and simplifies set-up procedures “applicable to paving machines that include an adjustable screed assembly.” *Id.* at 8:30-41.

Claim 1, which is representative,¹ recites:

1. A paving machine comprising:

a screed assembly having a plurality of adjustable components, the plurality of adjustable components being configured to adjust the screed assembly into a plurality of different configurations; a plurality of actuators, each actuator being associated with a respective adjustable component of the screed assembly and being supported and configured to adjust the respective adjustable component into different configurations;

a plurality of sensors each configured to sense a configuration parameter of a respective adjustable component of the screed assembly indicative of the configuration of the respective adjustable component; and

an operator input device configured to allow an operator of the paving machine to enter a first save command, a second save command and a recall command; and

a controller in communication with the operator input device and the sensors and configured to control operation of the actuators, the controller being configured to:

save in memory in response to the first save command a first set of the configuration parameters sensed by the plurality of sensors and corresponding to the configurations of the adjustable components

¹ Claims 2-5 and 8 depend from independent claim 1, claim 12 depends from independent claim 9; and claims 14-17 depend from independent claim 13. Although claims 1, 9, and 13 are independent, they have similar limitations. Caterpillar advances no “meaningful arguments regarding limitations found only” in claims 2-5, 8, 9, and 12-17. *Berkheimer v. HP Inc.*, 881 F.3d 1360, 1365 (Fed. Cir. 2018). Caterpillar simply mentions that, “to the extent the Court agrees that the independent claims are patent-eligible subject matter, the dependent claims that add even further, specific limitations are also patent-eligible subject matter.” *Opp.* at 10, n.2. Accordingly, I find that claim 1 is representative.

of the screed assembly that exist at the time of entry of the first save command in association with a first paving operation;

save in memory in response to the second save command a second set of the configuration parameters sensed by the plurality of sensors and corresponding to the configurations of the adjustable component of the screed assembly then being used that exist at the time of entry of the second save command in association with a second paving operation;

recall one of the first set or second set of the configuration parameters from memory in response to the recall command in association with a third paving operation; and

adjust automatically the adjustable components of the screed assembly in association with the third paving operation to correspond to the configuration parameters included in the recalled first set or second set of the configuration parameters.

Id. at 9:50-10:25.

II. LEGAL STANDARDS

A. Summary Determination

For the purposes of this discussion, the summary determination standard may be summarized as follows.²

² The standard for granting summary determination often is complex and can affect the substantive outcome of a legal dispute. In this instance, the discussion of the standard has been simplified. The standard set forth above was unreviewed by the Commission in a previous case deciding eligibility, *Certain Automated Teller Machines, ATM Products, Components Thereof, and Prods. Containing the Same*, Inv. No. 337-TA-972 (Jun. 28, 2016), *unreviewed by Comm'n* Notice dated July 28, 2016. In opinions granting summary determination, this version of the summary determination standard signals that the greatest possible advantage has been provided to the non-movant. For a more extensive discussion of the correct standard for determining whether summary determination is appropriate, *see Certain Carbon & Alloy Steel Prods.*, Inv. No. 337-TA-1002, Order No. 103, 2017 WL 5167413, at *11-12 (Oct. 2, 2017), *unreviewed by Comm'n* Notice dated Nov. 1, 2017, 2017 WL 6434923. The more detailed (and more balanced) discussion in *Carbon & Alloy Steel* is of course applicable to this case as well, but does not need repeating because so many courts, including the Federal Circuit, as well as the Commission, have recognized that eligibility under section 101 may be decided appropriately on motion for summary disposition. *See, e.g., Automated Teller Machines, supra; Certain Activity Tracking Devices, Systems, and Components Thereof*, Inv. No. 337-TA-963, 2016 WL 2770226 (Apr. 27,

Commission Rule 210.18 governing summary determination states, in part:

The determination sought by the moving party shall be rendered if pleadings and any depositions, answers to interrogatories, and admissions on file, together with the affidavits, if any, show that there is no genuine issue as to any material fact and that the moving party is entitled to a summary determination as a matter of law.

19 C.F.R. § 210.18(b).

By analogy to Fed. R. Civ. P. 56 (a), in deciding whether to grant summary determination, the evidence “must be viewed in the light most favorable to the party opposing the motion . . . with doubts resolved in favor of the nonmovant.” *Crown Operations Int’l, Ltd. v. Solutia, Inc.*, 289 F.3d 1367, 1375 (Fed. Cir. 2002) (citations omitted); *see also Xerox Corp. v. 3Com Corp.*, 267 F.3d 1361, 1364 (Fed. Cir. 2001) (“When ruling on a motion for summary judgment, all of the nonmovant’s evidence is to be credited, and all justifiable inferences are to be drawn in the nonmovant’s favor.”). The court should “assure itself that there is no reasonable version of the facts, on the summary judgment record, whereby the nonmovant could prevail, recognizing that the purpose of summary judgment is not to deprive a litigant of a fair hearing, but to avoid an unnecessary trial.” *EMI Group N. Am., Inc. v. Intel Corp.*, 157 F.3d 887, 891 (Fed. Cir. 1998) (citations omitted). “In other words, ‘[s]ummary judgment is authorized when it is quite clear what the truth is’ . . . and the law requires judgment in favor of the movant based upon facts not in genuine dispute.” *Paragon Podiatry Lab., Inc. v. KLM Labs., Inc.*, 984 F.2d 1182, 1185 (Fed. Cir. 1993) (citations omitted).

2016), *unreviewed by Comm’n Notice*, 2016 WL 4013495 (Jun. 2, 2016); *Certain Activity Tracking Devices, Systems, and Components Thereof*, Order No. 40, 2016 WL 1459535 at *20 (Mar. 3, 2016), *aff’d as modified by Comm’n Notice*, 2016 WL 4013490 at *1 (Apr. 4, 2016).

Neither party in this investigation has pointed to a genuine factual dispute that would be relevant to determining the question of patent eligibility.³ At the tail end of its brief, Caterpillar appends a footnote saying that if there is any dispute as to whether the “claims’ arrangement of features is an inventive concept or merely conventional,” the motion must be denied. Opp. at 32 n. 7. Caterpillar cannot salvage its patent with a mere place marker. As discussed herein, by now many courts have concluded that whether a patent presents an inventive concept can be decided as a matter of law. The record contains no information that would create a genuine dispute of material fact concerning whether the claimed invention described in the ’871 patent, or any element of the claimed invention, is unconventional. Thus, in accordance with the established post-*Alice* practice, eligibility may be decided here as a matter of law.⁴

³ A *Markman* hearing was held on May 22, 2018. Neither party contends that any disputed claim term bears on the patentability issue. Further, “[a]lthough claim construction is often desirable, and may sometimes be necessary, to resolve whether a patent claim is directed to patent-eligible subject matter, the Federal Circuit has explained that ‘claim construction is not an inviolable prerequisite to a validity determination under § 101.’” *Twilio, Inc. v. Telesign Corp.*, 249 F. Supp. 3d 1123, 1136 (N.D. Cal. 2017) (quoting *Bancorp Servs., L.L.C. v. Sun Life Assur. Co. of Can. (U.S.)*, 687 F.3d 1266, 1273–74 (Fed. Cir. 2013)). Indeed, “[w]here the court has a ‘full understanding of the basic character of the claimed subject matter,’ the question of patent eligibility may properly be resolved on the pleadings.” *Id.* (citing *Content Extraction*, 776 F.3d at 1349); see also *Cardpool, Inc. v. Plastic Jungle, Inc.*, 2013 WL 245026, at *4 (N.D. Cal. Jan. 22, 2013) (same), *aff’d*, 817 F.3d 1316 (Fed. Cir. 2016).

⁴ Caterpillar misstates the standard for granting summary determination. Only justifiable inferences must be drawn in favor of the non-movant. Such inferences depend on the non-movant’s showing of genuine material facts in dispute that would make a difference to the outcome. “While there may be cases in which the legal question as to patentable subject matter may turn on subsidiary factual issues,” a patentee must identify the fact issues that must be resolved. See *In re Comiskey*, 554 F.3d 967, 975 (Fed. Cir. 2009). Caterpillar has presented no disputed facts here, only legal argument. In the absence of a genuine dispute of material fact regarding patent eligibility, the clear and convincing evidence standard does not apply (see *Berkheimer v. HP Inc.*, 881 F.3d 1360, 1368 (Fed. Cir. 2018)), but even if the standard were clear and convincing, the outcome in this case would be the same. See Notice of Commission Determination (1) to Review an Initial Determination Granting Respondents’ Motion for Summary Determination that Certain Asserted Claims are Directed to Ineligible Subject Matter Under 35 U.S.C. § 101; and (2) on Review to Affirm the Initial Determination with

In a supplemental filing, Caterpillar cites *Berkheimer v. HP Inc.*, 881 F.3d 1360 (Fed. Cir. 2018). Caterpillar’s citation to *Berkheimer* does not compel abandonment of the well-established standards for adjudicating a motion for summary determination under section 101. The Federal Circuit in *Berkheimer* specifically recognized that “[p]atent eligibility has in many cases been resolved on motions to dismiss or summary judgment,” and stated plainly that “[n]othing in this decision should be viewed as casting doubt on the propriety of those cases.” *Id.* at 1368. *Berkheimer* involved alleged improvements to computer functionality. *Id.* at 1365, 1369-70 (“These claims recite a specific method of archiving that, according to the specification, provides benefits that improve computer functionality.”). As stated by the Federal Circuit in *Berkheimer*, “[w]here there is no genuine issue of material fact regarding whether the claim element or claimed combination is well-understood, routine, and conventional to a skilled artisan in the relevant field, this issue can be decided on summary judgment as a matter of law.” *Id.* at 1368. Summary judgment is precluded only where there is a genuine factual dispute concerning whether the challenged invention is technologically innovative. *Id.* at 1369-70. As discussed below, the ’871 patent discloses no technological innovation in the paving machine, or in the electronic controller that automates its functions, and Caterpillar specifies no other feature of the machine that constitutes a technological innovation.

The Federal Circuit has stated that a court may “dispose of patent-infringement claims under § 101 whenever procedurally appropriate.” *Bascom Global Internet Servs., Inc. v. AT&T Mobility LLC*, 827 F.3d 1341, 1347 (Fed. Cir. 2016) (citing *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245 (Fed. Cir. 2014)). Indeed, the recent decision in *Berkheimer* affirmed the district court’s dismissal on motion for summary judgment of claims that did not recite “any of

Modification, Inv. No. 337-TA-963 (Apr. 4, 2016) at 2 (stating that the record warranted a finding of ineligibility regardless of whether the presumption of patent validity applied).

the purportedly unconventional activities disclosed in the specification.” *Berkheimer*, 881 F.3d at 1369. Claim 1 of the ’871 patent similarly fails to describe any “arguably unconventional inventive concept.” *Id.* at 1370. As discussed below, what is described in Claim 1 and throughout the specification is a generic electronic controller with the capability of saving, storing, and recalling conventional adjustments to a paving machine.⁵

B. Patent Eligibility Under 35 U.S.C. §101

The basic outlines of section 101 jurisprudence are by now familiar. “A patent may be obtained for ‘any new and useful process, machine, manufacture, or composition of matter of any new and useful improvement thereof.’” *Bascom*, 827 F.3d at 1347 (quoting 35 U.S.C. § 101). “The Supreme Court has ‘long held that this provision contains an important implicit exception: Laws of nature, natural phenomena, and abstract ideas are not patentable.’” *Id.* (quoting *Ass’n for Molecular Pathology v. Myriad Genetics, Inc.*, 133 S.Ct. 2107, 2116 (2013)). [T]he Supreme Court set forth a two-step analytical framework to identify patents that, in essence, claim nothing more than abstract ideas.” *Id.* In the first step, the court determines “whether the claims at issue are directed to a patent-ineligible concept.” *Id.* (quoting *Alice*, 1334 S.Ct. at 2355). If so, the court determines whether, “considering the elements of each

⁵ Caterpillar relies on *Bascom*, where the Federal Circuit found patent-eligible a tool for filtering content on the Internet “at a special location, remote from the end-users, with customizable filtering features specific to each end user.” *Id.* at 1350. The invention in *Bascom* rested on the ability of at least some internet service providers “to identify individual accounts that communicate with the ISP server, and to associate a request for Internet content with a specific individual account.” *Id.* The Federal Circuit found that the claims at issue “did not merely recite the abstract idea of filtering content along with the requirement to perform it on the Internet, or to perform it on a set of generic computer components.” *Id.* As a result of the inventive nature of the claims, the *Bascom* court reversed and remanded the district court’s summary dismissal under Fed. R. Civ. P. 12(b)(6), concluding that, “on this limited record, this specific method of filtering Internet content cannot be said, as a matter of law, to have been conventional or generic.” *Id.* In comparison, the ’871 patent contains nothing remotely resembling a specific, unconventional, or non-generic use of electronic technology, and Caterpillar has not alleged any facts that would preclude summary determination.

claim both individually and ‘as an ordered combination,’” “the additional elements ‘transform the nature of the claim’ into a patent-eligible application.” *Id.* (quoting *Alice*, 134 S.Ct. at 2355).

Under step one of the *Alice* analysis, the Federal Circuit holds that claims focused “on collecting information, analyzing it, and displaying certain results of the collection and analysis,” “fall into a familiar class of claims ‘directed to’ a patent-ineligible concept.” *Electric Power Group, LLC v. Alstom S.A.*, 830 F.3d 1350, 1353 (Fed. Cir. 2016). At step two, the question is whether anything in the claim elements, scrutinized “more microscopically,” removes “the claims from the class of subject matter ineligible for patenting.” *Id.* at 1354. What is required to establish eligibility, under both steps one and two, is an element of technological innovation that amounts to more than the abstract idea itself. “[I]t is ‘relevant to ask whether the claims are directed to an improvement in computer functionality versus being directed to an abstract idea, even at the first step of the *Alice* analysis.’” *Procter & Gamble Co. v. QuantifiCare Inc.*, 288 F. Supp. 3d 1002, 1022 (N.D. Cal. 2017). A patentee may be required to present “an arguably inventive set of components or methods, such as measurement devices or techniques, that would generate new data.” *Electric Power*, 830 F.3d at 1355.

Another consideration under step two is the “machine-or-transformation” test. *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 82 (2012) (citing *Bilski v. Kappos*, 561 U.S. 593 (2010)). This test is satisfied when a patent “does not merely claim a principle, but a machine embodying a principle.” *Id.* at 82-84 (quoting *Neilson v. Harford*, Webster's Patent Cases, at 371). As explained by the Supreme Court in *Mayo*, the patentability of the invention in *Neilson* depended not on the mere existence of a mechanical apparatus applied to furnaces, but on “interposing a receptacle for heated air between the blowing apparatus and the furnace.” *Id.*

at 83. The receptacle “accomplished the object of applying the blast, which was before of cold air, in a heated state to the furnace.” *Id.* The “claimed process [thus] included not only a law of nature but also several unconventional steps (such as inserting the receptacle, applying heat to the receptacle externally, and blowing the air into the furnace) that confined the claims to a particular, useful application of the principle.” *Id.* at 84.

The principle announced in *Nielson* and adopted in *Mayo* has resulted in several decisions finding patent eligibility based on demonstrable technological innovation.⁶ No such innovation is disclosed in the ’871 patent, as discussed below.

III. DISCUSSION

Alice Step One

Identifying the abstract idea is a key exercise in determining ineligibility. The Federal Circuit has cautioned courts not to describe claims at too high a level of abstraction, and to ensure that the actual language of the claims is given appropriate weight. Eligibility must be “considered in light of the specification, based on whether” the “character” of the claims “as a

⁶ This line of cases, sometimes identified as the *McRO-Enfish-DDR* line of authority, “stand for the proposition that specific technological modifications to solve a problem or improve the functioning of a known system generally produce patent eligible subject matter.” *Phoenix Licensing, L.L.C. v. Consumer Cellular, Inc.*, No. 2:16-CV-0152-JRG-RSP, 2017 WL 1065938, at *18 (E.D. Tex. Mar. 8, 2017), *report and recommendation adopted*, No. 16CV00152JRGRSP, 2017 WL 1177988 (E.D. Tex. Mar. 30, 2017) (citing *Trading Techs. Int’l*, 675 F. App’x. 1001, 1005 (Fed. Cir. 2017)). The *McRO* court found patent eligibility in specific rules for improving computer animation. *McRO, Inc. v. Bandai Namco Games Am.*, 837 F.3d 1299 (2016). The Circuit found that “patents that automated part of a preexisting method for 3-D facial expression animation were not abstract because the patent ‘focused on a specific asserted improvement in computer animation, *i.e.*, the automatic use of rules of a particular type.” *Id.* at 1314. “[I]n *Enfish*, the Federal Circuit determined that claims directed to a specific type of self-referential table constituted a specific ‘solution to a problem in the software arts’ such that they were ‘non-abstract improvements to computer technology.’” *Finjan, Inc. v. Blue Coat Sys.*, Case No. 15-cv-03295 (BLF), 2016 WL 7212322 at *5 (quoting *Enfish*, 822 F.3d at 1339). In *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1248 (Fed. Cir. 2014), the court found eligible patents based on “systems and methods of generating a composite web page that combines certain visual elements of a ‘host’ website with content of a third-party merchant.”

whole is directed to excluded subject matter.” *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1335 (Fed. Cir. 2016) (quoting *Internet Patents Corp. v. Active Network, Inc.*, 790 F.3d 1343, 1346 (Fed. Cir. 2015)). The correct inquiry focuses on “the claimed advance over the prior art.” *Genetic Techs. v. Merial L.L.C.*, 818 F.3d 1369, 1375 (Fed. Cir. 2016). “We must therefore ensure at step one that we articulate what the claims are directed to with enough specificity to ensure the step one inquiry is meaningful.” *Thales Visionix Inc. v. United States*, 850 F.3d 1343, 1347 (Fed. Cir. 2017).

To a degree, both parties lose the thread of proper analysis under step one by confusing patent eligibility with novelty. Whether a paving machine with some or all of the features described in the ’871 patent was known in the prior art is not the proper question under section 101.⁷ Step one of the *Alice* test does not ask whether the invention has been thought of before, but whether the invention is drawn to an abstract idea. In this instance, the abstract idea is that of automating a paving machine by using electronic components that substitute for human control of the machine’s functions. Limiting the abstract idea to paving machines does not make the idea patentable. *See, e.g., Alice*, 134 S.Ct. at 2358) (Thus, “*Flook* stands for the proposition that the prohibition against patenting abstract ideas cannot be circumvented by attempting to limit the use of [the idea] to a particular technological environment.” *Bilski*, 561 U.S. at 610–611 (internal quotation marks omitted). To save a patent that is drawn to an abstract idea from ineligibility requires evidence that the patented invention is technologically innovative. *E.g., Thales*, 850 F.3d at 1346 (“First, we ‘determine whether the claims at issue are directed to a patent-ineligible concept’ If so, we ‘examine the elements of the claim to determine whether

⁷ Caterpillar, in an effort to refute some of Wirtgen’s arguments, spends a good deal of effort debating novelty. *See* Opposition at 18-30. Novelty is a distinct concept in patent law, *see* 35 U.S.C. § 102, and is not at issue in this motion. An invention may be drawn to an abstract idea that no one has thought of before. Such an invention still would be ineligible.

it contains an “inventive concept” sufficient to “transform” the claimed abstract idea into a patent-eligible application.” (quoting *Alice*, 134 S.Ct. at 2357).

The '871 patent does not claim or describe as innovative any feature of either the paving machine or the electronic controller that is disclosed. The elements of the machine are described at a high level of generality and as conventional components. *See, e.g.*, '871 patent at 3:8-10 (“While an endless path conveyor is shown, one or more feed augers or other material feed components may be used instead of or in addition to the conveyor”); 3:49-51 (“The tow arm actuators may be any suitable actuators, such as, for example, hydraulic cylinders”); 3:58-61 (“The screed assembly may be any of a number of configurations known in the art such as a fixed width screed, screed extender or a multiple section screed that includes extensions.”); 4:27-29 (“The method by which a screed assembly can be adjusted to control the height of the upper surface of the paving material is well known.”) (emphasis added).

The critical element of the invention consists of the generic electronic controller that permits coordination and control of “the various systems and components associated with the paving machine including the screed assembly.” '871 patent at 5:1-3. The controller permits “operators of the paving machine to enter and receive information concerning operation of the paving machine” *Id.* at 5:28-32. The controller also permits automation of the machine’s functions, such as pile height or conveyor speed. *Id.* at 5:62-65. The controller “may be configured to determine paving output data such as mat thickness, mat smoothness, mat temperature, mat elevation, and mat cross-slope from information it receives from various sensors associated with the paving machine. *Id.* at 6:2-6. The controller also may “communicate with various sensors on the screed assembly.” *Id.* at 6:21-22. “To provide further control over

the paving process, the controller may be in communication with a variety of other mechanisms of the paving machine. . . .” *Id.* at 6:58-7:5.

In addition to these features, the controller may be configured to make set-up of the screed assembly “quicker and easier,” *id.* at 7:8-10, “to save more than one set of configuration and operation parameters,” *id.* at 7:38-39, “to recall the saved sets of parameters,” *id.* at 7:48-52, and to automate any necessary “adjustments of the various systems.” *Id.* at 8:3-5. The patent declares, “Because much of the set-up procedures can be automated when using saved set-up parameters, the disclosed control system and method can substantially shorten set-up times for the paving machine, for example, when an operator encounters job site conditions that are similar to those encountered previously.” *Id.* at 8:30-36. “Moreover . . . the disclosed control system and method simplifies the set-up process, reducing the potential for set-up errors.” *Id.* at 8:36-41.

The specification’s focus on conventional elements and components is consistent with the generality of claim 1. Claim 1 describes a “paving machine” that is “configured” to permit adjustments to the screed assembly. ’871 patent at 9:51-54. The machine has “actuators” associated with adjustable components of the screen assembly. *Id.* at 9:56-60. The machine has sensors to sense the configurations of the screen assembly. *Id.* at 9:61-64. The machine has an “input device” to allow an operator to enter commands. *Id.* at 9:65-67. The machine has a “controller” in communication with the other generic components that can save commands in memory and recall them later, thus making adjustments “automatically” to correspond with the recalled information. *Id.* at 10:1-25.

The character of the ’871 patent, viewed “as a whole,” *Enfish LLC v. Microsoft Corp.*, 822 F.3d 1327, 1339 (Fed. Cir. 2016), describes a controller configured to direct the operation of

a paving machine by means of saving configuration parameters, recalling configuration parameters, and automatically adjusting the screed assembly “to correspond to the configuration parameters.” ’871 patent at 9:50-1-:35. The patent specification discloses nothing more than the utilization of generic devices to automate functions of the paving machine. *See id.*, Fig. 4; 2:35-36 (“Fig. 4 is a flow chart for a method of operating a paving machine in accordance with the disclosure”); 1:7-10 (“This patent disclosure relates generally to paving machines and, more particularly, to a system for automatically performing one or more set-up functions for a screed assembly of a paving machine.”).

As noted above, the description of the paving machine itself does not indicate that there is anything innovative or unconventional about the mechanical parts or their configuration. *See* ’871 patent at 2:40-46; *see also, id.* at 3:58-61 (“The screed assembly may be any of a number of configurations *known in the art* such as a fixed width screed, screed extender or a multiple section screed that includes extensions.”) (emphasis added). The description of the electronic or computerized components also is completely generic, *id.* at 5:1-6:18, as is the description of the how the sensors function, *id.* at 19-57. The patent describes nothing technologically innovative about linking up the controller with the various parts of the machine. *Id.* at 6:58-7:5. The specification notes only that the invention can make set-up of the screed assembly “quicker and easier.” *Id.* at 7:8-9. *See also id.* at 8:32-34 (“Because much of the set-up procedures can be automated when using saved set-up parameters, the disclosed control system and method can substantially shorten set-up times for the paving machine. . . .”), 8:39-41 (“[T]he disclosed control system and method simplifies the set-up process, reducing the potential for set-up errors.”). The patent describes only conventional memory and storage devices. *Id.* at 7:44-47

(“The memory and secondary storage devices may be in the form of read-only memory (ROM) or random access memory (RAM) or integrated circuitry that is accessible by the controller.”)

The ’871 patent thus discloses the abstract idea of collecting, analyzing, storing and displaying information about a paving machine so that the information can be reproduced, accurately and efficiently, for use in future paving. This type of activity is in essence a memory exercise. Although various technological means can be used to execute the idea, it remains just that—an idea. “[M]ethods which can be performed mentally, or which are the equivalent of human mental work, are unpatentable abstract ideas” *CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1371 (Fed. Cir. 2011). See *Return Mail, Inc. v. U.S. Postal Service*, 868 F.3d at 1368 (“finding “processes that can, and have been, performed in the human mind” unpatentable); *Electric Power*, 830 F.3d at 1353 (“[W]e have treated collecting information, including when limited to particular content (which does not change its character as information) as within the realm of abstract ideas.”).⁸

Monitoring, recording, and inputting information represent insignificant “data-gathering steps,” and “thus add nothing of practical significance to the underlying abstract idea.” *CyberSource*, 654 F.3d at 1370. That such monitoring is enabled by conventional sensors communicating information to other electronic components does not change the abstract idea into a patentable invention. *Certain Activity Tracking Devices, Systems, and Components Thereof*, Inv. No. 337-TA-963, 2016 WL 2770226 (Apr. 27, 2016) (holding invalid a patent that

⁸ The ’871 patent includes both apparatus and method claims. See ’871 patent at 12:26-13:32. For purposes of section 101, it makes no difference whether the abstract idea is embodied in one type of claim or the other. See *discussion, infra*. Neither complexity nor tangibility precludes a finding of ineligibility. In *Electric Power*, “[a]lthough the claims were lengthy and included power-grid-specific limitations, the Federal Circuit found their ‘character as a whole’ was ‘collecting information, analyzing it, and displaying certain results of the collection and analysis.’” *Procter & Gamble*, 288 F. Supp. 3d at 1018-19 (quoting *Electric Power*, 830 F.3d at 1353).

used multiple sensors to generate data indicative of a “physiological parameter” of an individual), *unreviewed*, Comm’n Notice , 2016 WL 4013495 (Jun. 2, 2016). “[M]erely selecting information, by content or source, for collection, analysis, and display does nothing significant to differentiate a process from ordinary mental processes, whose implicit exclusion from § 101 undergirds the information-based category of abstract ideas.” *Electric Power*, 830 F.3d at 1355.

The greater efficiency and accuracy that automation offers have not been recognized as features that make an abstract idea patentable. *See Smart Systems Innovations, LLC v. Chicago Transit Authority*, 873 F.3d 1364, 1372 (Fed. Cir. 2017) (rejecting argument of patent eligibility based on “speeding up the process.”); *Bancorp. Servs., LLC v. Sun Life Assurance Co. of Canada*, 687 F.3d 1266, 1278 (Fed. Cir. 2012) (“[T]he fact that the required calculations could be performed more efficiently via a computer does not materially alter the patent eligibility of the claimed subject matter.”)

Similarly, the fact that asserted claims are directed to physical phenomena “‘is beside the point.’” *Smart Systems*, 873 F.3d at 1373 (quoting *Alice*, 134 S.Ct. at 2358). The requisite element of a patent-eligible invention is technological innovation, which means more than “‘well-understood, routine, conventional activities.’” *Id.* at 1374 (quoting *Alice*, 134 S.Ct. at 2357, 2359). It is “‘well settled that mere recitation of concrete, tangible components is insufficient to confer patent eligibility to an otherwise abstract idea’” where those components simply perform their ‘well-understood, routine, conventional’ function.” *Procter & Gamble*, 288 F. Supp. 3d at 1014 (quoting *In re TLI Commc’ns LLC Patent Litigation*, 823 F.3d 607, 613 (Fed. Cir. 2016).

Caterpillar's defense to the motion is that the claims of the '871 patent are directed to a "mechanical invention." Opp. at 1. None of the cases Caterpillar cites is on point. *Diamond v. Diehr*, 450 U.S. 175 (1981), involved the use of an abstract mathematical formula to change a physical process. The '871 patent, in contrast, does not disclose any change in the physical process of paving a road, it simply discloses a method of improving the process by adding an electronic controller. The claims in *Thales* recited an innovative method for tracking inertial motion of an object on a moving platform. 850 F.3d at 1348. As in *Diehr*, mathematical principles were used in *Thales* "in a non-conventional manner." *Id.* In both cases, what saved the patents from ineligibility is not that they improved practical outcomes or involved mechanical elements, but that they used innovative methods to achieve the improvements. *See Id.* at 1349 ("The claims specify a particular configuration of inertial sensors and a particular method of using the raw data from the sensors . . .").

The '871 patent, in contrast, specifies no particular configuration of the electronic components. *See, e.g.*, '871 patent at 6:2-6 ("For example, the controller may be configured to determine paving output data such as mat thickness, mat smoothness, mat temperature, mat elevation, and mat cross-slope from information it receives from various sensors associated with the paving machine."), 6:19-22 ("To monitor and control the various different possible adjustments to the configuration of the screed assembly, the controller may communicate with various sensors on the screed assembly."), 6:64-7:5 ("Additionally, the controller may be in communication with and be configured to monitor and control operation of the vibration mechanism including parameters such as vibration frequency. The controller may also be in communication with the drive systems for the conveyors and the auger and be configured to monitor and control operation the speed of the conveyors in the hopper and the speed of the

auger in order to adjust parameters such as mix height.”). The description of the various configurations is uniformly general. The ’871 patent simply recites the implementation of computer technology in a complex machine, enabling the machine to perform faster and more accurately the same functions that were performed previously, without computers.

Courts have found similar claims ineligible in other contexts. *See Concaten, Inc. v. Ameritrak Fleet Sols., LLC*, 131 F. Supp. 3d 1166 (*D. Colo. 2015), *aff’d*, 669 F. App’x 571 (Fed. Cir. 2016) (finding invalid a system for using sensors and user interface to collect information to allocate snowplow resources). The court concluded in *Concaten* that the patent consisted of “nothing more than taking steps routinely performed by humans—determining an instruction for a snow plow based on road conditions and vehicle locations—and applying them on a computer through unexplained ‘processing’ of data.” *Id.* at 1174. *See, e.g., Wireless Media Innovations, LLC v. Maher Terminals, LLC*, 100 F. Supp. 3d 405, 413-14 (D.N.J. 2015), *aff’d*, 636 F. App’x 1014 (Fed. Cir. 2016) (“Plaintiff’s arguments that the patent claims are not abstract because they require physical steps and include the use of tangible components is beside the point: the claims merely recite the abstract idea of monitoring the location and load status of containers in a yard.”). As Wirtgen argues, the “recitation of physical hardware does not render the claims any less abstract.” Reply at 8 (citing *TLI*, 823 F.3d at 611 (“[P]hysical components merely provide a generic environment in which to carry out the abstract idea”)); *Content Extraction & Transmission LLC v. Wells Fargo Bank Nat’l Ass’n*, 776 F.3d 1343, 1347 (Fed. Cir. 2014) (finding claim ineligible notwithstanding that the involved “not only a computer but also an additional machine—a scanner”); *Affinity Labs of Texas, LLC v. DIRECTV, LLC*, 838 F.3d 1253 (Fed. Cir. 2016) (finding claims involving the operation of cellular telephones invalid)). *See also Return Mail*, 868 F.3d 1350, 1368 (Fed. Cir. 2017) (rejecting argument that

“specific improvement to technology” was patent-eligible where the patent recited “steps analogous to . . . ‘collecting data,’ ‘recognizing certain data’ . . . and ‘storing that . . . data in memory”) (quoting *Content Extraction*, 776 F.3d at 1347)). See also *Electric Power*, 830 F.3d at 1351-52 (invalidating patent for detecting and automatically analyzing events on an interconnected electric power grid).

The absence of a specific, identifiable technological innovation distinguishes the ’871 patent from those that are eligible under section 101. As the Federal Circuit stated in *Intellectual Ventures I LLC v. Erie Indemn. Co.*, 711 F. App’x. 1012, 1017 (2017) (quoting *Bancorp Servs. v. L.L.C. v. Sun Life Assurance Co. of Canada (U.S.)*, 687 F.3d 1266, 1278 (Fed. Cir. 2012), “speed and accuracy increases stemming from the ordinary capabilities of a general-purpose computer “do [] not materially alter the patent eligibility of the claimed subject matter.” To be eligible, claims must be directed to a specific, identifiable improvement in technology, as in *Enfish* and *McRO*; more is required than using generic electronic elements. In this case, as in many decisions invalidating patents since *Alice*, the claims merely describe abstract ideas that use computers as tools instead of “an improvement in computers as tools.” *Elec. Power*, 830 F.3d at 1354. The ’871 patent “does not sufficiently describe how to achieve” the improved functionality of focused navigation “in a non-abstract way.” *Two-Way Media Ltd. v. Comcast Cable Comm’ns, LLC*, 874 F.3d 1329, 1337 (Fed. Cir. 2017) (citing *Affinity*, 838 F.3d at 1337).

Alice Step Two

Step two requires courts to consider the claims “individually and as an ordered combination,” to see whether they contain “an inventive set of components or methods,” “inventive programming,” or an inventive approach in “how the desired result is achieved.” *Electric Power*, 830 F.3d at 1355. Under step two, claims must be “specific,” “narrowly drawn”

and “technological.” *Amdocs (Israel) Limited v. Openet Telecom, Inc.*, 841 F.3d 1288, 1306 (Fed. Cir. 2016). “Claims that fail to recite how a desired goal is accomplished do not recite an inventive concept.” *Amdocs* at 1311.⁹

The machine-or-transformation test may be helpful in deciding eligibility at step two, but it is not the “sole test governing § 101 analyses.” *Smart Systems*, 873 F.3d at 1375 (quoting *Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 716 (Fed. Cir. 2015)). Using that test, patentability may be conferred on claims that transform “a particular article into a different state or thing.” *Certain Activity Tracking Devices, Systems, and Components Thereof*, Order No. 40, 2016 WL 1459535 at *20 (Mar. 3, 2016) (citing *in re Bilski*, 545 F.3d at 954), *aff’d as modified by Comm’n Notice*, 2016 WL 4013490 at *1 (Apr. 4, 2016).

The ’871 patent recites the use of standard electronic components to improve the functionality of a paving machine. Significantly, the patent describes no innovative system for implementing the invention. The key element of the invention is the controller, which is depicted as a box and described in a non-specific and non-technological algorithm. *See* ’871 patent, Fig. 4 (“Start,” “Sense,” “Monitor,” “Save,” “Save,” “Recall,” “Automatically Adjust,” “Automatically Adjust,” “End”). As set forth in claim 1 and described in the ’871 patent, the controller is a standard electronic device that functions in a conventional way to collect, manipulate, and communicate data.

The ’871 patent discloses no transformation of anything. The patent does not identify any mechanical distinction between the screed assembly in the patented invention and screed

⁹ Few cases have found patents eligible only under step two. *E.g.*, *BASCOM*, 827 F.3d at 1350 (Fed. Cir. 2016) (claims reciting “the installation of a filtering tool at a specific location, remote from the end-users, with customizable filtering features specific to each end user”); *Amdocs*, 841 F.3d at 1303 (concluding that the conventional computing functions of “collection, filtering, aggregating, and completing (including enhancing steps) all depend upon the system’s unconventional distributed architecture”).

assemblies in other paving devices; the invention focuses on the electronic elements. The only differences identified are speed and accuracy which, the Federal Circuit has held, do not indicate patent eligibility. *See Intellectual Ventures I LLC v. Capital One Bank (USA)*, 792 F.3d at 1367 (“Nor, in addressing the second step of *Alice*, does claiming the improved speed or efficiency inherent with applying the abstract idea on a computer provide a sufficient inventive concept.”); *TLI*, 823 F.3d at 607 (finding that limitations describing a telephone unit, server, image analysis unit and control unit were drawn to the abstract idea of classifying and storing digital images in an organized manner). The ’871 patent describes a useful invention but not an innovative one. “The rewards of the patent system do not flow to ideas—even good ones—outside of the technological arena.” *Ultramercial*, 772 F.3d at 721 (Mayer, J., concurring).

The essence of Caterpillar’s argument is that cases of ineligibility under *Alice* “involved software implemented on generic computer components.” Opp. at 12. “[C]laims involving the *physical* operation of a *mechanical* device” are not subject to the same ineligibility analysis, Caterpillar asserts. *Id.* As discussed above, however, the case law contains several instances where inventions that involved physical and mechanical devices were found ineligible. As the Federal Circuit stated in *Smart Systems*, “the use of generic computer components and machinery” “is not enough to find . . . an inventive concept.” 873 F.3d. at 1375 (citing *Ultramercial*, 772 F.3d at 716). In the absence of any technological innovations, the ’871 patent fails the eligibility test under step two of *Alice*.

IV. CONCLUSION

For the foregoing reasons, Motion Docket No. 1088-005 is GRANTED. The asserted claims of U.S. Patent No. 9,045,871 are directed to ineligible subject matter under 35 U.S.C. § 101, and it is my Initial Determination that this patent is terminated from the Investigation.

This Initial Determination, along with supporting documentation, is hereby certified to the Commission. This Initial Determination shall become the determination of the Commission unless a party files a petition for review of the Initial Determination pursuant to Commission Rule 210.54(a), or the Commission, pursuant to Commission Rule 210.44, orders, on its own motion, a review of the initial Determination or certain issues contained herein. 19 C.F.R. § 210.42(d).

SO ORDERED.



Dee Lord
Administrative Law Judge

PUBLIC CERTIFICATE OF SERVICE

I, Lisa R. Barton, hereby certify that the attached **ORDER** has been served to the following parties as indicated, on May 24, 2018



Lisa R. Barton, Secretary
U.S. International Trade Commission
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