NOTE: This disposition is nonprecedential.

United States Court of Appeals for the Federal Circuit

FICEP CORPORATION,
Plaintiff-Appellant

v.

PEDDINGHAUS CORPORATION,
Defendant-Appellee

2022-1590

Appeal from the United States District Court for the District of Delaware in No. 1:19-cv-01994-RGA, Judge Richard G. Andrews.

Decided: August 21, 2023

MATTHEW B. LOWRIE, Foley & Lardner LLP, Boston, MA, argued for plaintiff-appellant. Also represented by KEVIN M. LITTMAN; SARAH E. RIEGER, Milwaukee, WI.

NATHANIEL C. LOVE, Sidley Austin LLP, Chicago, IL, argued for defendant-appellee. Also represented by STEPHANIE P. KOH, LEIF E. PETERSON, II.

Before PROST, WALLACH, and CHEN, *Circuit Judges*.

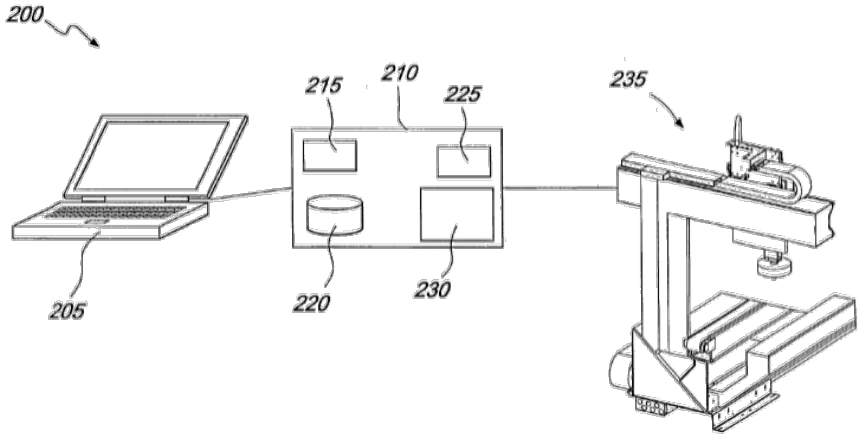
CHEN, *Circuit Judge*.

Ficep Corporation (Ficep) appeals from the United States District Court for the District of Delaware's grant of summary judgment holding claims of U.S. Patent 7,974,719 ('719 patent) patent ineligible under 35 U.S.C. § 101. *Ficep Corp. v. Peddinghaus Corp.*, 587 F. Supp. 3d 115 (D. Del. 2022) (*Opinion*). Because we agree that the claims are directed to an abstract idea, we *affirm*.

BACKGROUND

I

The '719 patent is directed to the automatic transfer of design data contained in a computer-aided design (CAD) model[1] to a machine that can manufacture an object based on that design data. '719 patent col. 2 ll. 9–25. Figure 2 shows the system of the '719 patent, which includes a computer (205), programmable logic controller (210) having a receiver (215), storage unit (220), transmitter (225) and monitor (230), and manufacturing machine (235). '719 patent col. 5 l. 4 – col. 6 l. 8.



[1] The specification explains that a CAD model is "a three-dimensional scale model of a structure or device" that may be "visually produced on a computer display or printed as a schematic diagram." '719 patent col. 1 ll. 14–20.

The computer stores a design model, e.g., a CAD model, and communicates the design model to the programmable logic controller. '719 patent, col. 5 ll. 17–26, col. 6 ll. 21–40. The programmable logic controller then identifies and extracts information from the design model for transmission to the manufacturing machine. '719 patent col. 3 ll. 53–62, col. 6 ll. 41–57. The design model includes information such as "design specifications related to the structure or device"[2] and "intersection and/or manufacturing parameters," which are "design parameters related to intersections and points of contact or connection between components that come into contact with other components."[3] '719 patent col. 1 ll. 20–53, col. 4 ll. 11–14.

With prior methods of manufacturing a component from a CAD model, "a human operator typically must program manually the manufacturing machines associated with an assembly line based on the computer-aided design display." '719 patent col. 1 ll. 26–30; *see also id.* col. 1 ll. 32–36 ("Human intervention is generally necessary to review the computer-aided design information and to provide the necessary information to the automated assembly line apparatus so that the structure or device may be manufactured."). A problem arises, however, "when the specialized human operator, capable of inputting data into the manufacturing machine, is unavailable." '719 patent col. 1 ll. 37–43. The '719 patent thus observes that "there is a direct need to improve the way in which the design

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[2] Examples of design specifications include "welding characteristics, names of parts and components, dimensional references for squaring, and so forth." '719 patent col. 1 ll. 20–25.

[3] Examples of intersection and/or manufacturing parameters include "distance from the floor, bolts fixing point, the point of support of the beam, et cetera." '719 patent col. 4 ll. 24–27.

parameters for all the components of an object . . . are provided to a manufacturing machine." '719 patent col. 1 ll. 43–49. The patent's proposed solution to improve efficiency and accuracy, lower cost, and "eliminate the possibility of operator error when providing instructions to automated assembly line equipment" is to remove the human operator from the data transfer equation and instead automatically extract and transfer information from the design model to the manufacturing machine. '719 patent col. 1 ll. 9–14, col. 1 ll. 49–58, Abstract.

Claim 7 is representative[4] and recites:

> 7. An apparatus for automatic manufacture of an object, comprising:
>
> a computing device adapted to create a design model of an object having multiple individual components, at least two of the individual components defining an intersection at which the two components are in contact with one another;
>
> at least one programmable logic controller in communication with the computing device and with at least one manufacturing machine;
>
> a receiver associated with the programmable logic controller for receiving the design model of the object;
>
> a database unit adapted to store the design model received at the receiver;
>
> a processor which is associated with the programmable logic controller and extracts from the design

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[4] The district court treated claim 7 as representative. *Opinion*, 587 F. Supp. 3d at 120. The parties do not dispute this on appeal. Appellant's Br. 16; Appellee's Br. 15 n.1.

> model a plurality of dimensions of components which define a plurality of components of the object;
>
> wherein the processor identifies a plurality of intersection parameters which define the intersection of the two components;
>
> wherein the processor extracts from the design model the intersection parameters;
>
> a transmitter associated with the processor for transmitting the intersection and machining parameters and the component dimensions from the programmable logic controller to the at least one manufacturing machine; and
>
> wherein the at least one manufacturing machine manufactures the components based at least in part on the transmitted component dimensions and on the transmitted intersection and manufacturing parameters.

'719 patent at claim 7.

II

Ficep sued Peddinghaus Corporation (Peddinghaus) in the District of Delaware, alleging infringement of one or more claims of the '719 patent. *Opinion*, 587 F. Supp. 3d at 118. Peddinghaus moved for summary judgment on the basis that the '719 patent's claims are patent ineligible under 35 U.S.C. § 101. *Id.* The district court granted Peddinghaus's motion, concluding that the claims of the '719 patent are directed to an abstract idea without an inventive concept. *Id.* at 118, 125, 127. The district court identified the abstract idea as "identifying, extracting, and transferring data from a design file for the purpose of manufacturing an object," finding that the '719 patent "seeks to simply automate the prior art methods to minimize human error and fails to recite any specific technological

improvement to manufacturing or computer technology." *Id.* at 123, 125. The district court also determined that the claims contain no inventive concept because the claims "simply replac[e] the human operator with a conventional machine," which "is not sufficient to transform the claims into patent-eligible subject matter." *Id.* at 125–26.

Ficep timely appealed. We have jurisdiction under 28 U.S.C. § 1295(a)(1).

DISCUSSION

We review the grant of summary judgment under the law of the regional circuit, here the Third Circuit. *Frolow v. Wilson Sporting Goods Co.*, 710 F.3d 1303, 1308 (Fed. Cir. 2013). The Third Circuit reviews the grant of summary judgment de novo. *DiFiore v. CSL Behring, LLC*, 879 F.3d 71, 75 (3d Cir. 2018). Patent eligibility under 35 U.S.C. § 101 is ultimately an issue of law that we review de novo. *Berkheimer v. HP Inc.*, 881 F.3d 1360, 1365 (Fed. Cir. 2018).

Section 101 provides that "[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" Title 35 of the United States Code. The Supreme Court has long held that "[l]aws of nature, natural phenomena, and abstract ideas are not patentable" under § 101. *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 573 U.S. 208, 216 (2014) (quoting *Ass'n for Molecular Pathology v. Myriad Genetics, Inc.*, 569 U.S. 576, 589 (2013)).

In *Alice* and *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, 566 U.S. 66 (2012), the Supreme Court set forth a two-step test for determining whether claimed subject matter falls within one of the judicial exceptions to patent eligibility. *Alice*, 573 U.S. at 217–18; *Mayo*, 566 U.S. at 77–78. First, we "determine whether the claims at

issue are directed to a patent-ineligible concept," such as an abstract idea. *Alice*, 573 U.S. at 218. Second, if the claims are directed to a patent-ineligible concept, we "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." *Id.* at 221 (cleaned up).

I. *Alice/Mayo* Step One

We agree with the district court that claim 7 is directed to the patent-ineligible abstract idea of extracting and transferring information from a design file to a manufacturing machine.

To determine whether the claims are directed to an abstract idea, we evaluate "the focus of the claimed advance over the prior art to determine if the claim's character as a whole is directed to excluded subject matter." *Affinity Labs of Texas, LLC v. DIRECTV, LLC*, 838 F.3d 1253, 1257 (Fed. Cir. 2016) (cleaned up). Where the "focus of the claimed advance over the prior art" shows that "the claim's 'character as a whole' is directed to" steps that "can be performed in the human mind, or by a human using a pen and paper" the claim is for a patent-ineligible abstract idea. *In re Killian*, 45 F.4th 1373, 1379 (Fed. Cir. 2022).

Here, the focus of the claimed advance, as the patent specification indicates, is automating a previously manual process of transferring information from a CAD design model to a manufacturing machine. The manual activity required a human to identify and extract information from a design model and transfer the information to a manufacturing machine. '719 patent col. 1 ll. 26–36. The parties' representations to the district court in their joint claim construction brief further confirms this: "The specification of the '719 patent explains that 'a problem arises when the ***specialized*** human operator, capable of inputting data into the manufacturing machine, is unavailable' to perform this function," where "[t]he 'specialized' operator is a

human who can translate the CAD drawing into the instructions that program the machine on where to make marks." J.A. 1278 (emphasis in original). The '719 patent claims "a programmable logic controller" that automates the identification, extraction, and transfer of information from a design model. '719 patent at claim 7, col. 1 ll. 8–13 ("[T]he present invention relates to systems and methods for automatic manufacture of an object based on automatic transmission of a three-dimensional rendering of the object, such as a rendering from a CAD to an assembly line for manufacture."), col. 7 ll. 33–38 ("[S]ystems and methods . . . capable of extracting automatically from a design model the dimensions of the components and the intersection and/or machining parameters of the components and of instructing a manufacturing machine to manufacture an object based on this information."), col. 1 ll. 53–55 ("[I]t is desirable to eliminate the possibility of operator error when providing instructions to automated assembly line equipment.").

Automating a previously manual process is not sufficient for patent eligibility. The '719 patent is a "quintessential 'do it on a computer' patent," much like the one we held abstract in *University of Florida Research Foundation, Inc. v. General Electric Co.*, 916 F.3d 1363, 1367 (Fed. Cir. 2019). There, the patent at issue sought to improve upon "pen and paper methodologies" of acquiring, analyzing, and displaying bedside patient information from various bedside machines by using device drivers to synthesize and present the data from multiple bedside devices in a single interface. *Id.* We held the claims abstract because the patent "acknowledge[d] that data from bedside machines was previously collected, analyzed, manipulated, and displayed manually" and "simply propose[d] doing so with a computer." *Id.*; *accord Intell. Ventures I LLC v. Capital One Fin. Corp.*, 850 F.3d 1332, 1340 (Fed. Cir. 2017) (holding abstract claims "directed to . . . collecting, displaying, and manipulating data"); *Elec. Power Grp., LLC v.*

Alstom S.A., 830 F.3d 1350, 1353–54 (Fed. Cir. 2016) (holding abstract claims directed to "collecting information, analyzing it, and displaying certain results of the collection and analysis").

Ficep likens its patent claims to the patent-eligible claims in *McRO, Inc. v. Bandai Namco Games America Inc.*, 837 F.3d 1299, 1314 (Fed. Cir. 2016), on the view that its claims identify intersection parameters differently than a human. Appellant's Br. 49–53. Ficep asserts that the manual method of identifying intersection parameters required using a crane to take a component off the manufacturing line, taking a two-dimensional print-out of the design to identify the parts that intersected and the location of the intersection, using a ruler and soapstone to mark the intersection, and then using a crane to move the component back to the manufacturing line. Appellant's Br. 12–13, 52. In contrast to the prior manual methods, according to Ficep, the claimed invention identifies the intersection parameters from the three-dimensional CAD design model. Appellant's Br. 51–52.

We are not persuaded, however, that the claims require a novel means of garnering the intersection parameters for an object. On its face, claim 7 simply calls for a "computing device" to create a design model, and then a "processor" that "identifies" and "extracts from the design model the intersection parameters;" the claim does not specify whether the design model somehow on its own generates the intersection parameter data based on some other, unmentioned data, or whether the intersection parameter data is simply fed into the computing device by hand to help create the design model. The short patent specification likewise offers no clues as to the means for how the intersection parameters were derived; that information simply exists in the design model. Thus, when focusing on the relevant aspect of the claims—automatically providing information to a manufacturing machine—we do not see any difference between the manual process and the

automated process, other than performance of the step by a computer. [5]

Even accepting Ficep's argument that that the manual process and claimed automated process differ because the intersection parameters can be extracted directly from the design model, this difference alone does not make the claims non-abstract. The claims do not require any particular method of deriving intersection parameters and are broad enough to encompass a human deriving intersection parameters and adding this information to the design model for later extraction. Ficep itself admits that humans could calculate intersection parameters from other data contained in the design model. Appellant's Br. 12 ("A CAD model would include a complete design, and thus intersection parameters *could* be derived from CAD models."); *see also* Appellant's Br. 28; Appellant's Reply Br. 27 (analogizing identifying intersection parameters from a CAD model to calculating the hypotenuse of a triangle using information in the CAD model). Thus, deriving intersection parameters from a design model still encompasses an abstract idea because it can be performed by the human mind or a human using a pen and paper. *In re Killian*, 45 F.4th at 1379, 1382; *PersonalWeb Techs. LLC v. Google LLC*, 8 F.4th 1310, 1317 (Fed. Cir. 2021); *Ericsson Inc. v. TCL Commc'n Tech. Holdings Ltd.*, 955 F.3d 1317, 1327

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[5] At oral argument, Ficep's counsel contended that the "computing device" could generate the intersection parameters when creating the design model, but the "processor" alternatively could be the device that generates the intersection parameters when it "identifies" them. Oral Arg. at 11:10–13:40; '719 patent at claim 7. The fact that Ficep could not settle on one understanding of claim 7 as to the origins of the intersection parameters underscores how unlimited the claim is as to this feature.

(Fed. Cir. 2020); *see also SAP America, Inc. v. Investipic, LLC*, 898 F.3d 1161, 1167–68 (Fed. Cir. 2018).

As to Ficep's *McRO* argument, the claimed automated process differed from the manual process in that case, but the claim also provided "a specific means or method that improves the relevant technology." *See McRO*, 837 F.3d at 1314–15. In *McRO*, the claims were not abstract because they were directed to "a specific asserted improvement in computer animation, i.e., the automatic use of rules of a particular type." *McRO*, 837 F.3d at 1314. "The claimed improvement was to how the physical display operated (to produce better quality images)." *SAP*, 898 F.3d at 1167.

Unlike the claims in *McRO*, the claims here do not recite any specific means or method for deriving intersection parameters. Ficep repeatedly emphasizes that the invention is not directed to *how* to identify intersection parameters from a design model. Appellant's Br. 51 ("[T]he invention here was not *how* to identify intersection parameters using a computer, but rather, when setting up one's manufacturing line, the decision to do so from a 3D CAD model and to use them within the manufacturing line rather than outside it"); Appellant's Reply Br. 26 ("The improvement to manufacturing technology does not depend on the specific algorithm for identifying parameters"). As drafted, the claims of the '719 patent do not recite any specific means or method for identifying intersection parameters and are unlike the technical-improvement claims of *McRO*.

Ficep also analogizes its claims to those in *Diamond v. Diehr*, 450 U.S. 175 (1981) and other inventions directed to "real world" systems. Appellant's Br. 39–43 (citing *Thales Visionix Inc. v. United States*, 850 F.3d 1343, 1345, 1349 (Fed. Cir. 2017); *XY, LLC v. Trans Ova Genetics, LC*, 968 F.3d 1323, 1330–31 (Fed. Cir. 2020); *CardioNet LLC v. InfoBionic, Inc.*, 955 F.3d 1358, 1370–71 (Fed. Cir. 2020); and *Ecoservices, LLC v. Certified Aviation Services, LLC,* 830 F.

App'x 634, 636, 642–43 (Fed. Cir. 2020)); Appellant's Reply Br. 4–10. But the claims in these cases were patent eligible because, like *McRO*, they recited specific means for technological improvements. *Diehr*, 450 U.S. at 184, 187 (claims "describe[d] in detail a step-by-step method" for curing synthetic rubber that would "significantly lessen[] the possibility of 'overcuring' or 'undercuring'")[6]; *Thales Visionix*, 850 F.3d at 1345, 1349 (claims used inertial sensors in a nonconventional manner to reduce errors in measuring the relative position and orientation of a moving object, which provided a technological improvement in the accuracy with which inertial sensors measure the object); *XY*, 968 F.3d at 1331–32 (claims "include[d] a detailed recitation of the means" of operating a flow cytometry apparatus to sort individual particles in the same sample in real time, providing a technological improvement in the accuracy of highly pure particle separation of similar particles); *CardioNet*, 955 F.3d at 1368–70 (claims "focus[ed] on a specific means or method" and provided "a specific technological improvement" by achieving "speedier, more accurate, and clinically significant detection" of atrial fibrillation or atrial flutter in a patient improved cardiac monitoring technology); *Ecoservices*, 830 F. App'x at 642–43, 643 n.5 (claims for systems for washing jet engines directed to "a specific combination of a type of washing unit, information detector, and control unit, configured in a certain way" provided technical improvements such as a higher degree of quality of an engine washing procedure).

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[6] We have previously explained that *Diehr* preceded the evolution of the modern-day *Alice/Mayo* test, but at step one "the *Diehr* claims were directed to an improvement in the rubber curing process, not a mathematical formula." *Thales Visionix*, 850 F.3d at 1348, 1348 n.2 (Fed. Cir. 2017).

In contrast, the claims of the '719 patent do not recite any means of technical improvements to an existing process. While the '719 patent eliminates human error by automating the data transfer step, this type of improvement does not make the claims patent eligible. *See FairWarning IP, LLC v. Iatric Sys., Inc.*, 839 F.3d 1089, 1095 (Fed. Cir. 2016) ("While the claimed system and method certainly purport to accelerate the process of analyzing audit log data, the speed increase comes from the capabilities of a general-purpose computer, rather than the patented method itself."); *Bancorp Servs., L.L.C. v. Sun Life Assurance Co. of Can. (U.S.)*, 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."). Indeed, "mere automation of manual processes using generic computers does not constitute a patentable improvement in computer technology." *Credit Acceptance Corp. v. Westlake Servs.*, 859 F.3d 1044, 1055 (Fed. Cir. 2017).

Ficep also asserts that the extraction of intersection parameters from a CAD model allows for an automated manufacturing process that is different from prior methods because the claimed manufacturing machine marks the components rather than a human. Appellant's Br. 51–53. But claim 7 does not require marking a manufacturing component, and simply recites "manufactur[ing] the components" based at least in part on the transmitted intersection parameters. *See* '719 patent at claim 7. Thus, Ficep's asserted distinction is not in the claim and therefore not relevant to our inquiry.

Accordingly, we conclude that the claims of the '719 patent are directed to an abstract idea.

II. *Alice/Mayo* Step Two

At step two, we agree with the district court the '719 patent claims do not contain an inventive concept. Beyond

the abstract idea, claim 7 recites generic, conventional elements of a computing device, a programmable logic controller, a receiver, a database unit, a processor, a transmitter, and a manufacturing machine. '719 patent at claim 7. "An inventive concept . . . cannot simply be an instruction to implement or apply the abstract idea on a computer." *BASCOM Glob. Internet Servs., Inc. v. AT&T Mobility LLC*, 827 F.3d 1341, 1349 (Fed. Cir. 2016). Further, the recited generic manufacturing machine that manufactures the component based on received data is no different than the conventional machine and, in the context of this claim, is merely post-solution activity. *Diehr*, 450 U.S. at 191–92 ("[I]nsignificant post-solution activity will not transform an unpatentable principle into a patentable process"). Thus, the additional elements in the claims do not provide an inventive concept.

Ficep contends that identifying intersection parameters from a CAD model was unconventional and thus establishes an inventive concept. Appellant's Br. 54–55 (citing J.A. 780–82 ¶¶ 15–16; J.A. 838–840 ¶¶ 6–9). We disagree. As we explained above, adding data to a CAD model and then identifying that data is an abstract idea. Moreover, neither the claims nor the specification explain the process for obtaining the intersection parameters from the design model and leave open the possibility that a human determines the intersection parameters and inputs this information into the design model—also an abstract idea. An abstract idea, however, "cannot supply the inventive concept that renders the invention 'significantly more' than that [abstract idea]." *BSG Tech LLC v. Buyseasons, Inc.*, 899 F.3d 1281, 1290 (Fed. Cir. 2018).

Ficep also argues that the claims move the location of the marking from the manual layout stations to the automated manufacturing line, which provides an inventive concept much like the claims in *BASCOM*. Appellant's Br. 55 (citing *BASCOM*, 827 F.3d at 1350). But the claims do not require marking, so this unclaimed feature cannot

provide an inventive concept. *Two-Way Media Ltd. v. Comcast Cable Commc'ns, LLC*, 874 F.3d 1329, 1338 (Fed. Cir. 2017) ("To save a patent at step two, an inventive concept must be evident in the claims.").

Finally, Ficep relies on evidence of secondary considerations to show an inventive concept. Appellant's Br. 56–57. Questions of nonobviousness such as secondary considerations, however, are irrelevant when considering eligibility. *See SAP*, 898 F.3d at 1163 (explaining that it is not "enough for subject-matter eligibility that claimed techniques be novel and nonobvious in light of prior art, passing muster under 35 U.S.C. §§ 102 and 103."); *Intell. Ventures I LLC v. Symantec Corp.*, 838 F.3d at 1315 ("While the claims may not have been anticipated or obvious . . . that does not suggest that the idea . . . is not abstract, much less that its implementation is not routine and conventional.").

In sum, the claims of the '719 patent lack an inventive concept.

CONCLUSION

We have considered Ficep's remaining arguments and find them unpersuasive. For the foregoing reasons, we affirm.

AFFIRMED