2022-1590

United States Court of Appeals for the Federal Circuit

FICEP CORPORATION,

Plaintiff-Appellant,

-v.-

PEDDINGHAUS CORPORATION,

Defendant-Appellee.

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

APPELLANT FICEP CORPORATION'S PETITION FOR REHEARING EN BANC

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CERTIFICATE OF INTEREST

Counsel for Plaintiff-Appellant Ficep Corporation ("Ficep") certifies the following:

 Provide the full names of all entities represented by undersigned counsel in this case.

Ficep Corporation

 Provide the full names of all real parties in interest for the entities. Do not list the real parties if they are the same as the entities.

Not applicable

3. Provide the full names of all parent corporations for the entities and all publicly held companies that own 10% or more stock in the entities.

Ficep S.p.A.

4. List all law firms, partners, and associates that (a) appeared for the entities in the originating court or agency or (b) are expected to appear in this court for the entities. Do not include those who have already entered an appearance in this court. Fed. Cir. R. 47.4(a)(4).

Young Conaway Stargatt & Taylor LLP: Adam W. Poff and Robert M. Vrana

5. Other than the originating case(s) for this case, are there related or prior cases that meet the criteria under Fed. Cir. R. 47.5(a)?

No

6. Provide any information required under Fed. R. App. P. 26.1(b)

(organizational victims in criminal cases) and 26.1(c) (bankruptcy case

debtors and trustees). Fed. Cir. R. 47.4(a)(6).

Not applicable

Dated: September 21, 2023

<u>/s/ Sarah E. Rieger</u> Sarah E. Rieger

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I. Statement Pursuant to Fed. Cir. R. 35(b)(1)

Based on my professional judgment, I believe this appeal requires an answer

to the following precedent-setting questions of exceptional importance.

- 1. Does a claim directed to a patent-eligible (manufacturing) process or system remain eligible if part of the process is automated?
- 2. Can a claim involving more than *merely* automating steps be patent eligible, e.g., if automation processes are done differently than by hand or have material advantages beyond speed of processing?
- 3. Should an "abstract idea" for a claim be defined with reference to the claimed invention, i.e., what makes the patent claim patentable?
- 4. When inventiveness of a claim is evaluated under Step 2 of *Alice*, should the Court examine evidence of inventiveness <u>as defined under the Patent Act</u>?
 - a. Is it improper to ignore at summary judgment facts and evidence of inventiveness?
 - b. Is Ficep entitled to a jury trial on inventiveness, based on evidence of inventiveness including objective indicia?

Based on my professional judgment, I also believe the panel decision is

contrary to at least the following decision(s) of the Supreme Court of the United

States or the precedent of this court: Diamond v. Diehr, 450 U.S. 175, 185 (1981)

(manufacturing process eligible; automation eligible if result is superior). Also:

Alice Corp. Pty. Ltd. v. CLS Bank Int'l, 573 U.S. 208, 216-17 (2014) (preemption

distinguishes eligible from ineligible); McRO, Inc. v. Bandai Namco Games Am.

Inc., 837 F.3d 1299, 1313-16 (Fed. Cir. 2016) (automation eligible if different than

manual process); *Data Engine Techs. LLC* v. *Google LLC*, 906 F.3d 999, 1008-11
(Fed. Cir. 2018) (automation eligible if result is better process); *EcoServices, LLC*v. *Certified Aviation Servs., LLC*, 830 F. App'x 634, 642-45 (Fed. Cir. 2020)
(same); *Berkheimer v. HP Inc.*, 881 F.3d 1360, 1369-70 (Fed. Cir. 2018)
(inventiveness is a triable fact issue).

/s/ Matthew B. Lowrie Matthew B. Lowrie

II. The Invention

U.S. Patent No. 7,974,719 ("the '719 patent") was directed to manufacturing structural steel. Ficep's fabrication systems practice the invention (Appx837 (¶4); Appx838 (¶5)); Voortman's fabrication lines were found to infringe in an earlier proceeding (Appx1564-1570); Peddinghaus's accused systems are for making structural steel (*e.g.*, Appx798-813; Appx39 (¶16); Appx52-56 (¶35)); and the only discussion of any "conventional" practice was manufacturing structural steel (*see*, *e.g.*, Appx781-782 (¶16); Appx838-839 (¶¶6-8); Appx819; Appx504-505; Appx11 (citing Appx787-788 (¶24)); Appx13; Appx15-16; Appx802; Dkt. 30 ("Panel Op.") at 3).

Three-dimensional computer aided design ("CAD") is used. Appx23 (1:20-25). E.g.:



Appx290.

The components (e.g., I-beams) of the structure (e.g., a building) are produced on massive manufacturing lines, e.g.:



Appx287.

Steel enters the line at the bottom-right, is automatically moved to the shot blaster which cleans the surface, then (automatically) from the lower to the upper track where the saw cuts the beam to length, and then to a drill. The coper then etches lines ("scribes") onto the part.

Conventionally, scribing only placed an identification code on the beam. Voortman's change to the line, using a coper and controls to scribe the shape of an intersecting beam onto a beam being manufactured, infringed. Appx1569-1570.

The '719 patent first notes that some component parameters were included in CAD design models, like "dimensional references," *but* they were not used to automatically control machines. Appx23 (1:20-25). Rather, they were input by hand. *Id.* (1:37-43).

The patent then identifies two things the invention addresses.

The first is the above issue – automating use of parameters like length that are in the CAD model. *Id.* (1:43-49).

The second addresses something *not* in prior art CAD files – intersection parameters. Appx779-783 (¶13; ¶¶16-17); Appx787-788 (¶24); Appx838-842 (¶¶5-13); Appx23 (1:49-55). Intersection parameters were not there to be read. Appx781-782 (¶16). And there was no coper or other machine capable of receiving and using *the definition of an intersection* anyway. Appx787-788 (¶24).

An example in the patent is to scribe lines onto steel to indicate where one steel beam "intersects" another. *See, e.g.*, Appx20 ("instructing a manufacturing

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machine to *mark out* the position of the components") (emphasis added); Appx23 (1:55-58) ("*marking-out* operations").

The '719 patent shows a scribing tool to do so (Appx22, FIG. 2):



Scribing tools (like FIG. 2) are large industrial machines:



Appx801.







Appx837 (¶4).

Examples of scribed intersections are:



Appx294; Appx821. Both show the cross-section of an intersecting I-beam scribed onto a part.

Intersection parameters did not exist in CAD files before Ficep's invention.

Appx781-782 (¶16); Appx838-840 (¶¶6-9). So one had to take the component off the manufacturing line to mark it at separate layout stations. Appx838-839 (¶¶6-8); Appx781-783 (¶¶16-17). A skilled engineer would take a (2-dimensional) print-out and try to figure out what parts intersected, where and how. Appx838-839 (¶¶6-8); Appx781-782 (¶16). Using a ruler and a soapstone/marker, a person could then mark an intersection (Appx839 (¶8); Appx781-782 (¶16), e.g.:



Appx839 (¶8); Appx846-863; Appx819.

Peddinghaus summed up the change in a brochure touting the very process that infringes Ficep's patent. The brochure shows the "old way" (by hand, off-theline, with a ruler) and the "new way" (automated by a scriber on the line):



Appx802; see also Appx781 n.1.

Peddinghaus's brochure explains the tremendous advantages (Appx802):

	MANUAL METHODS	PEDDIWRITER	
Overall Speed	SLOW - Completely Manual	FAST - Fully Automatic	
Slows Other Processes	YES - Requires Regular Crane Use	NO - Standalone	
Accuracy	UNPREDICTABLE - Manual	SUPERIOR - CNC Controlled	
Repeatability	UNPREDICTABLE - Manual	SUPERIOR - CNC Controlled	
Labor Cost	HIGH - Multiple Employees	LOW - 1 Operator	
Material Handling	HIGH - Requires Regular Crane Use	LOW - Roller Handling System	
Labor Skill Level	HIGH - Skilled Trade	MINIMAL - Automated Program	
Footprint	HIGH - Several Fitup Stations	MINIMAL - 1 Machine and Handling	

What's the Difference? Old Way vs. New Way

And the benefits are not limited to manufacturing. The piece coming off the line is better than possible conventionally, allowing better and more reliable construction. Appx842 (¶13); Appx786-787 (¶21).

Thus, there was overwhelming and unrebutted proof of inventiveness.

Ficep's expert and a named inventor both explained how the '719 patent contains

an inventive concept. They described how the process in the patent was not well known, routine, or conventional, and was a concrete improvement to manufacturing. Appx787-789 (¶¶23-26); Appx841-842 (¶¶11-13).

Virtually every objective indicium of inventiveness was proved: industry recognition (including an article specifically lauding the invention), copying by competitors (including Voortman and Peddinghaus), commercial success (including demand for the patented feature), and litigation and licensing success. Appx787-792 (¶¶24-30); Appx842 (¶¶13-15); Appx819-822; Appx179-180.

Claim 7 of the '719 patent recites:

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 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.

Appx26.

The claims are directed to a manufacturing line ("at least one manufacturing

machine" for "manufactur[ing] the components") (claim 7) and a corresponding

method of manufacture (claim 1). Both are eligible, with or without automation.

III. This Court Should Rule That a Claim Directed to Enumerated Statutory Subject Matter Is Statutory Subject Matter; Automation Does Not Deprive Eligible Subject Matter of Its Eligibility.

The panel opinion purports to agree with the district court that the "idea" is no more than "identifying, extracting, and transferring data from a design file for the purpose of manufacturing an object." Panel Op. at 5, 7. But that "idea" is never discussed. Instead, the opinion focuses on the supposed "claimed advance" of "[a]utomating a previously manual process" to find that this idea "is not sufficient for patent eligibility." *Id.* at 8.

The statement does not fit the doctrine. "Automation" is not an "abstract idea" when applied to a particular process. Certainly claim 7 does not preempt

either generically using data or generically automating a known process. If one or the other is the "idea," the claims are eligible because neither remotely preempts those general ideas. *See Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 573 U.S. 208, 216-17 (2014) (preemption distinguishes eligible from ineligible).

But the '719 patent is "directed to" a manufacturing process. That is statutory, whether or not parts of that process are automated. The claims may be unpatentable as not new or as obvious. *Merely* automating generally is obvious. *See, e.g.*, MPEP 2144.04[III]; *Soverain Software LLC v. Newegg Inc.*, 705 F.3d 1333, 1340 & 1344 (Fed. Cir. 2013) ("routine incorporation of Internet technology into existing processes" is obvious).

Manufacturing lines and processes are well within the subject matter enumerated in §101. Partial automation does not change that. *See Data Engine Techs. LLC* v. *Google LLC*, 906 F.3d 999, 1008-11 (Fed. Cir. 2018) (user interface eligible because users no longer had to search menus by hand). The United States agrees, twice urging the Supreme Court to review and reverse panel decisions of ineligibility. *Am. Axle & Mfg., Inc. v. Neapco Holdings LLC*, No. 20-891, 2022 U.S. S. CT. BRIEFS LEXIS 1638, at *19-21 (S. Ct. May 24, 2022); *Interactive Wearables, LLC v. Polar Electro OY*, Nos. 21-1281 and 22-22, 2023 U.S. S. CT. BRIEFS LEXIS 1123, at *21-23 & *29-32 (S. Ct. Apr. 5, 2023).

That conclusion is inescapable when comparing *Diehr* and *Flook*.

Diehr was directed to (no more than) using the (known) Arrhenius equation to determine when to *automatically* open a press in a known process for curing rubber.¹ Because the claim was for a "method of operating a rubber-molding press," it was statutory. *Diehr*, 450 U.S. at 191-93. Automating part of that process (opening the press) did not remove the process from eligibility.

Flook on the other hand claimed calculating (or updating) a number – *and no more*.² *Flook*, 437 U.S. at 594-95. The claim was directed only to a calculation and not even an automated one.

¹ The *Diehr* claim (emphasis added):

A method of operating a rubber-molding press for precision molded compounds with the aid of a digital computer, comprising: providing said computer with a data base ..., repetitively calculating in the computer, at frequent intervals during each cure, the Arrhenius equation ..., repetitively comparing ... each said calculation... and said elapsed time, and opening the press automatically when a said comparison indicates equivalence.

Diamond v. Diehr, 450 U.S. 175, 179 n.5 (1981).

² The *Flook* claim (emphasis added):

- A method for updating the value of at least one alarm limit ... which comprises:
 - (1) ... [performing identified calculations]...
 - (3) Determining an updated alarm limit which is defined as B1 + K; and thereafter
 - (4) Adjusting said alarm limit to said updated alarm limit value.

Thus, where the "abstract idea" involves automation of eligible matter, the context *in the claim* determines eligibility. If the (claimed) context is eligible, as curing rubber and manufacturing lines plainly are, the claim is eligible and patentable (to the extent provided in the remainder of the Patent Act).

Supreme Court precedent after *Diehr* has not altered this principle.

Alice involved a claim to a "method of exchanging obligations as between parties." *CLS Bank Int'l v. Alice Corp. Pty. Ltd.*, 717 F.3d 1269, 1285 (Fed. Cir. 2013), *aff'd sub nom.*, *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 573 U.S. 208 (2014). That is not statutory, whether or not automated.

In *Bilski*, the claims were directed to "the concept of hedging risk." *Bilski v. Kappos*, 561 U.S. 593, 609 & 611-12 (2010). That too is not statutory, irrespective of automation. *Mayo* was directed to a law of nature – also not statutory irrespective of automation. *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 92 (2012).

Put another way, automation may not save otherwise ineligible subject matter. The converse is not true. Automation does not remove eligible subject matter from eligibility.

This principle is reflected in this Court's body of law.

Parker v. Flook, 437 U.S. 584, 596-97 (1978).

Limited to real-world statutory matter (eligible)	Not limited to statutory matter (ineligible)
<i>EcoServices, LLC v. Certified Aviation</i> <i>Servs., LLC</i> , 830 F. App'x 634, 642-43 (Fed. Cir. 2020) (automated washing of jet engines)	Univ. of Fla. Research Found., Inc. v. Gen. Elec. Co., 916 F.3d 1363, 1368 (Fed. Cir. 2019) (taking conventional bedside data, changing format, and displaying)
XY, LLC v. Trans Ova Genetics, LC, 968 F.3d 1323, 1330-31 (Fed. Cir. 2020) (math used to improve flow cytometry)	<i>Yu v. Apple, Inc.</i> , 1 F.4th 1040, 1043-45 (Fed. Cir. 2021) (using one digital image to enhance another)
CardioNet LLC v. InfoBionic, Inc., 955 F.3d 1358, 1370-71 (Fed. Cir. 2020) ("Cardionet 1") (automated detection of heart afibrillation)	<i>Cardionet, LLC v. InfoBionic, Inc.</i> , 2020-2123, 2020-2150, 2021 WL 5024388, at *3-6 (Fed. Cir. Oct. 29, 2021) (" <i>Cardionet 2</i> ") ("collecting," "filtering," and "displaying" data)

Indeed, Federal Circuit cases invalidating claims generally involve no more than an abstract concept, irrespective of automation. *E.g., BSG Tech LLC v. Buyseasons, Inc.*, 899 F.3d 1281, 1284 (Fed. Cir. 2018) ("indexing and retrieving data"); *Clarilogic, Inc. v. FormFree Holdings Corp.*, 681 F. App'x 950, 952 (Fed. Cir. 2017) ("providing certified financial data"); *Credit Acceptance Corp. v. Westlake Servs.*, 859 F.3d 1044, 1047 (Fed. Cir. 2017) ("generating financing packages"); *Dropbox, Inc. v. Synchronoss Techs., Inc.*, 815 F. App'x 529, 532

(Fed. Cir. 2020) ("provides an information resource").

The Supreme Court has noted that "some business method patents raise special problems." *Bilski*, 561 U.S. at 608. But manufacturing, like curing rubber, does not. It is squarely eligible. This is the first case to (incorrectly) hold that automation deprives a statutory process of eligibility. The panel opinion only cites cases where claims are ineligible, regardless of automation.³ Here, the process claims require manufacture of a component. The system claims are "directed to" a manufacturing line capable of doing so. The claims are eligible.

IV. Holding That Automation is *Per Se* Ineligible Requires Correction *En Banc*.

Even if automation could remove a process from eligibility (it should not), not *all* automation does so. Automation that is more than "mere" is patent-eligible.

For example, automation that performs differently is not "merely" automating. *See McRO, Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299, 1313-16 (Fed. Cir. 2016) ("no evidence that the process previously used by animators is the same"); *CardioNet 1*, 955 F.3d at 1370.

Automation leading to a better process or result, beyond mere speed of calculation, is also more than "mere" automation. *E.g.*, *Diehr*, 450 U.S. at 193 n.15

³ Credit Acceptance, 859 F.3d at 1055 (processing loan applications); FairWarning IP, LLC v. Iatric Sys., Inc., 839 F.3d 1089, 1095 (Fed. Cir. 2016) ("collecting and analyzing information to detect misuse and notifying"); Bancorp Servs., L.L.C. v. Sun Life Assurance Co. of Can. (U.S.), 687 F.3d 1266, 1278 (Fed. Cir. 2012) ("tracking the value of life insurance policies").

(automation produced "synthetic rubber product that has been *perfectly cured*");⁴

EcoServices, 830 F. App'x at 642 ("automation that provides an improvement over

the prior art human-operated washing systems"); Enfish, LLC v. Microsoft Corp.,

822 F.3d 1327, 1335-36 (Fed. Cir. 2016).

Both are present here. Although Peddinghaus has the burden, Ficep proved

(without rebuttal) that:

- the prior art did not generate intersection parameters from a 3D model – rather, a paper (2D) print-out was made first and then analyzed and measured in 2D using a ruler;
- manual measurement of a print-out using a ruler, and hand marking with a ruler, is a completely different process than calculating the parameters in 3D and automatically using them within the line; and
- the result is a powerfully different and superior manufacturing process/line, beyond just speed of calculation.

See Appx838-842 (¶¶6-13); Appx781-782 (¶16).

⁴ The panel opinion purports to distinguish *Diehr* as "recit[ing] specific means for technological improvements" (Panel Op. at 12). Neither the panel opinion, nor *Thales Visionix* which it cites, explain what those improvements might be *other than a better outcome*. *Thales Visionix – which finds eligibility* –cites footnote 15 of *Diehr*. *Thales Visionix Inc. v. U.S.*, 850 F.3d 1343, 1347 (Fed. Cir. 2017). *Diehr*'s footnote 15 describes nothing different from the manual process, beyond automating it using the Arrhenius equation. *Diehr* Note 15 does cite the "perfect curing every time," i.e., the superior outcome. That is, superior outcome is a technological improvement and not *mere* automation.

For the latter, Ficep proved the invention improved accuracy, reliability, ability to manufacture without taking the component off-line, eliminating space requirements for manual layout stations, and materially reducing cost – none depending on speed of calculation (though there is also that). *See* Appx788-789 (¶26); Appx842 (¶13). Peddinghaus's brochure acknowledges its significance.

While Peddinghaus raised no genuine dispute otherwise, at a minimum, Ficep is entitled to have a fact-finder (a jury) weigh the evidence to determine if Ficep merely automated a known process or if the invention was something more. *Berkheimer v. HP Inc.*, 881 F.3d 1360, 1370 (Fed. Cir. 2018) (summary judgment improper when difference between conventionality and claim in dispute).

V. "Automation" Is Too High a Level of Abstraction for §101 Analysis; The "Idea" Should Include the Reasons For Patentability.

For patent claims depending on laws of nature or mathematical equations, the "idea" of the invention is readily identified. And the determination of whether there is more to a claim than that "idea" is also comparatively concrete. *See e.g.*, *Mayo*, 566 U.S. at 77-80; *Flook*, 437 U.S. at 594-95.

Testing a claim's "idea" in the absence of an equation, law of nature, or business method has proved troublesome. Every claim involves an abstract idea. Selecting a level of abstraction is difficult, has little guidance on how to do it, and frankly, is highly panel dependent. The panel decision illustrates the problem. The opinion describes the "idea" as "identifying, extracting and transferring data... for the purpose of manufacturing" generically, but without discussing that "idea" or whether it is the right level of abstraction. Panel Op. at 5. The opinion then analyzes a "claimed advance" of "automating a previously manual process of transferring information from a CAD design model to a manufacturing machine," but fails to explain why that is abstract or not eligible. *Id.* at 7.

If either is the "idea," the claims are patentable because they fall far short of preempting those generic ideas. *Alice*, 573 U.S. at 217 ("The former 'would risk disproportionately tying up the use of the underlying' ideas..., and are therefore ineligible for patent protection. The latter pose no comparable risk of pre-emption, and therefore remain eligible....").⁵

On appeal, Peddinghaus did not defend the supposedly abstract idea as preempting anything. Instead, Peddinghaus argued the claims preempted the idea of:

(1) identifying the dimensions and intersections of the components of a three-dimensional design,

⁵ One year after *Alice*, *Ariosa* suggested that preemption is not relevant if a claim is drawn to ineligible subject matter. *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 788 F.3d 1371, 1379 (Fed. Cir. 2015). This is circular, in conflict with *Alice*, and should also be addressed *en banc*.

(2) extracting that information from a [3D] design model, and

(3) converting that information to instructions for manufacturing the object.Peddinghaus Br. at 2. Peddinghaus's position on appeal was close, but Claim 7further recites the machines, or:

(4) manufacturing machine(s) to make the component, which (unlike any conventional machine) can receive and use instructions about dimensions *and intersections* to manufacture the component.

See Appx26. That neither Peddinghaus nor the panel could defend an idea as posited as being preempted confirms that it was drawn too generally.

As a matter of simple logic, the basis for patentability of a claim should be part of the claim's "idea." The claims define the invention. And that is certainly what was done in other contexts, like *Mayo*'s identification of the natural law that was the only difference between the claim and conventional treatment. *Mayo*, 566 U.S. at 72-73.

Here, the Patent Office proceedings – both the original prosecution and the denial of Peddinghaus's IPR petition – establish that patentability was tied to identifying and using intersection parameters from a 3D CAD model of a multi-component object and using those parameters in an automated manufacturing line capable of using them. Appx1254-1255; Appx1260-1262; Appx1199-1206. That is in accord with Peddinghaus's argument on appeal, set out above.

And that idea is neither so general nor so abstract as to be outside the statutory realm of eligibility.

VI. This Court Should Rule That, When Assessing Inventiveness Under Step 2 of *Alice*, a Fact-Finder Must Consider Evidence of Inventiveness.

The panel opinion ignores evidence on nonobviousness in determining

whether the '719 patent is inventive. Panel Op. at 15. This Court's precedent is not

fully in accord. Compare with Internet Pats. Corp. v. Active Network, Inc., 790

F.3d 1343, 1347 (Fed. Cir. 2015) ("analysis of §101 is facilitated by considerations

analogous to those of §§102 and 103"); Trading Techs. Int'l, Inc. v. CQG, Inc., 675

F. App'x 1001, 1005 (Fed. Cir. 2017).

As discussed above, the claim here is:

- Meaningfully more accurate.
- Meaningfully more reliable.
- Requires less floor space (since layout stations are not required).
- Free of requiring a crane to move components back and forth from the manufacturing machines.
- Less expensive in labor cost by almost half.
- Meaningfully faster because components do not have to be taken on and off the manufacturing line.
- Meaningfully faster than humans trying to decipher 2D drawings.

Appx842 (¶13); Appx786-787 (¶21).

Moreover, Ficep proved industry recognition (including an article specifically lauding the claimed invention), copying of Ficep by others in the industry including Peddinghaus, commercial success including demand for the patented feature, litigation success, and licensing success. Appx787-792 (¶¶24-30); Appx842 (¶¶13-15); Appx819-822; Appx179-180.

So Ficep's claim resulted in tremendous advantages. And the invention has virtually all the objective indicia of inventiveness that this Court has recognized. Yet no one did it before Ficep. How could it not be inventive? Before a court concludes that Peddinghaus carried its burden to prove non-inventiveness by clear and convincing evidence, Peddinghaus and a fact-finder should be able to answer that question. None has.

The Supreme Court and this Court have developed a large body of precedent to distinguish what is obvious from what is an invention. To set all this aside to permit a court to decide inventiveness under §101, without a trial, without factfinding, and without articulated guidance on how to do so, sets patent jurisprudence back almost 60 years, to before *Graham v. John Deere Co.*, 383 U.S. 1 (1966).

The Patent Act created a right to a jury trial on inventiveness. If left to stand, the panel decision would take away that right in favor of an "inventiveness" test

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unmoored from the patent claim limitations and unmoored from any articulated standards or tests for deciding inventiveness. That cannot be the law.

At a minimum, Ficep raised a factual question as to the inventiveness of its claims. Ficep is entitled to a determination by a jury of whether Peddinghaus carried its burden to prove the claims not-inventive by clear and convincing evidence. *See Patlex Corp. v. Mossinghoff*, 758 F.2d 594, 603 (Fed. Cir. 1985) ("The right to a jury trial on issues of patent validity that may arise in a suit for patent infringement is protected by the Seventh Amendment."); *In re Tech. Licensing Corp.*, 423 F.3d 1286, 1290 (Fed. Cir. 2005). So far, Peddinghaus has offered no such evidence at all.

Ficep respectfully requests reconsideration en banc.

Dated: September 21, 2023

Respectfully submitted,

/s/Matthew B. Lowrie

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ADDENDUM

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

Ι

The '719 patent is directed to the automatic transfer of design data contained in a computer-aided design (CAD) model¹ 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.

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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

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 representative⁴ and recites:

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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

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.

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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.

Π

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

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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.

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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 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 Comme'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.

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(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.

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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).

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).

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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 mat-Indeed, "mere automation of manual processes ter."). 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 ("[]]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

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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

FORM 19. Certificate of Compliance with Type-Volume Limitations

Form 19 July 2020

UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

CERTIFICATE OF COMPLIANCE WITH TYPE-VOLUME LIMITATIONS

Case Number: 22-1590

Short Case Caption: <u>Ficep Corporation v. Peddinghaus Corporation</u>

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Name:

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