

No. 21-

IN THE
Supreme Court Of The United States

YANBIN YU, ZHONGXUAN ZHANG,
Petitioners,

v.

APPLE INC., SAMSUNG ELECTRONICS CO. LTD.,
SAMSUNG ELECTRONICS AMERICA, INC.,
Respondents.

On Petition for Writ of Certiorari to the
United States Court of Appeals for the
Federal Circuit

PETITION FOR WRIT OF CERTIORARI

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QUESTION PRESENTED

Whether, when applying the test for patent eligibility set forth in *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, 566 U.S. 66 (2012), a patent claim should be considered “as a whole” in accordance with *Diamond v. Diehr*, 450 U.S. 175 (1981), or instead, whether all conventional elements of the claim must be disregarded prior to determining its “point of novelty” as set forth in this Court’s older precedent in *Parker v. Flook*, 437 U.S. 584 (1978).

PARTIES TO THE PROCEEDING

All parties to the proceeding are identified in the caption.

CORPORATE DISCLOSURE STATEMENT

Petitioners are the individual named inventors and owners of the patent-in-suit.

RELATED PROCEEDINGS

The following proceedings are directly related to the case within the meaning of Rule 14.1(b)(iii):

United States District Court (N.D. Cal.)

Yanbin Yu, et al. v. Apple Inc., No. 3:18-cv-06181-JD (March 24, 2020)

Yanbin Yu, et al. v. Samsung Electronics Co., Ltd., et al., No. 3:18-cv-06339-JD (March 24, 2020)

United States Court of Appeals (Federal Circuit)

Yanbin Yu, et al. v. Apple Inc., No. 20-1760 (June 11, 2021)

Yanbin Yu, et al. v. Samsung Electronics Co., Ltd., et al., No. 20-1803 (June 11, 2021)

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PETITION FOR A WRIT OF CERTIORARI

Yanbin Yu, Ph.D. (“Yu”) and Zhongxuan Zhang, Ph.D. (“Zhang”) (collectively “Petitioners”) respectfully petition for a writ of certiorari to review the judgment of the Federal Circuit in this case.

OPINIONS BELOW

The Federal Circuit’s opinion (App. 1a-19a) is reported at 1 F.4th 1040. The Federal Circuit’s order denying rehearing *en banc* (App. 20a-21a) is unreported. The opinion of the District Court regarding motion to dismiss amended complaint (App. 22a-38a) is available at 2020 WL 1429773. The opinion of the District Court regarding motion to dismiss complaint (App. 39a-56a) is reported at 392 F.Supp.3d 1096.

JURISDICTION

The Federal Circuit entered judgment on June 11, 2021. Petitioners filed a timely petition for rehearing *en banc* on July 12, 2021. The Federal Circuit denied the petition for rehearing *en banc* on August 30, 2021. This Court has jurisdiction pursuant to 28 U.S.C. § 1254(1).

STATUTORY PROVISION INVOLVED

Section 101 of Title 35 of the U.S. Code provides: “Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.”

INTRODUCTION

For more than thirty years, from the time of this Court’s decision in *Diamond v. Diehr*, 450 U.S. 175 (1981) until its decisions in *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, 566 U.S. 66 (2012) and *Alice Corp. Pty. Ltd. v. CLS Bank Intern.*, 573 U.S. 208 (2014), issues of patent-eligibility under Section 101 were decided using an approach set forth in *Diehr* that considers claims “as a whole” to determine if they are drawn to an ineligible concept (*i.e.*, a law of nature, natural phenomenon, or abstract idea) or instead to a patent-eligible application of that concept.

In *Mayo* and *Alice*, this Court reframed the patent-eligibility inquiry under Section 101 as a two-step test (the “*Alice/Mayo* test”), with the intent of providing a clearer framework for distinguishing claims drawn to patent-ineligible concepts from claims drawn to patent-eligible applications of those concepts. But neither *Mayo* nor *Alice* abandoned the “claim as a whole” approach nor in any way abrogated the holding of *Diehr*.

In the time since this Court’s *Mayo* and *Alice* decisions, however, Congressional intent to allow a broad scope of patents and settled expectations have been subverted by a series of increasingly expansive, concerning, and inconsistent Section 101 decisions from the Federal Circuit. Some Federal Circuit Section 101 decisions appear to turn on the belief that *Mayo* implicitly abandoned or restricted the “claim as a whole” approach of *Diehr* in favor of the far reaching and more patent-antagonistic approach set forth earlier in *Parker v. Flook*, 437 U.S. 584, 593 (1978).

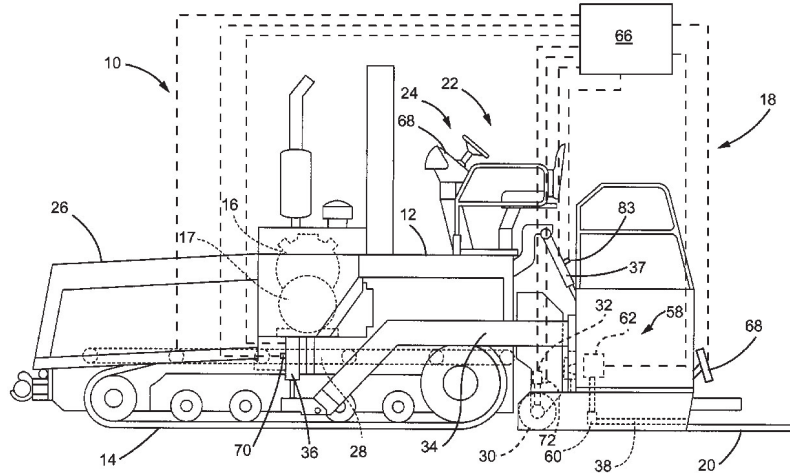
Under *Flook*, a claim is ineligible if its “point of novelty” is an ineligible concept and the remaining

limitations are all well known. Panels that apply *Mayo* as abandoning or restricting *Diehr* in favor of *Flook*, dissect claims into their constituent elements. In step one of the *Mayo* test, the determination as to whether the “point of novelty” of a claim is an ineligible concept is made only after disregarding any additional elements that *individually* are deemed “generic” or “conventional.” A claim deemed to include an ineligible concept in step one only survives if the additional elements provide a significant advance. But in most cases, this is a self-fulfilling prophecy because the remaining previously disregarded claim elements are the “conventional” and “routine” elements are unlikely to be found to constitute a significant advance.

The *Flook* approach transforms the eligibility test at step one into a subjective assessment of what the dissected claim—minus the “generic” and “conventional” elements—is “really about.” And it transforms step two into an equally subjective determination of whether the additional elements by themselves provide an advance that rises to the level of an “inventive concept.” This leaves the ultimate determination on patent-eligibility up to gut instincts on factual questions about novelty and conventionality that are otherwise addressed in the patent laws as promulgated by Congress without the need to import them into the Section 101 analysis.

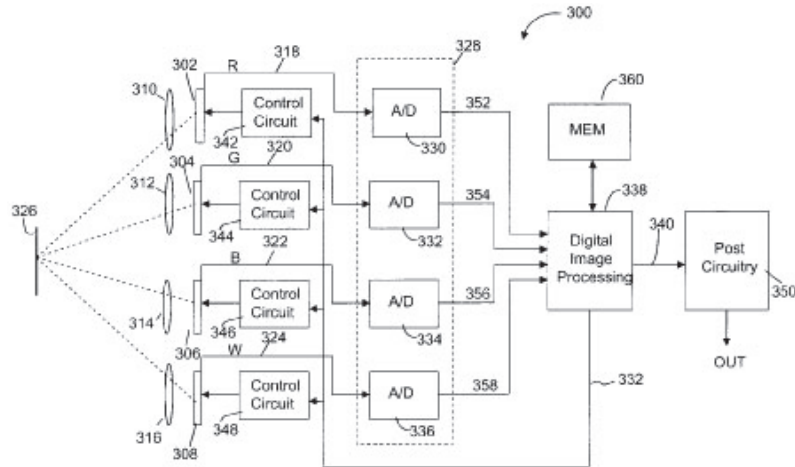
Remarkably, in most cases, all of this is determined at the pleading stage, without the benefit of claim construction, or inventor or expert testimony. This approach ignores the pleadings, and casts aside defining structure that would otherwise ground the claim and mitigate against preemption. It can lead to

unpredictable and absurd results, as here and in many other cases. For example:



Abstract Paving Machine

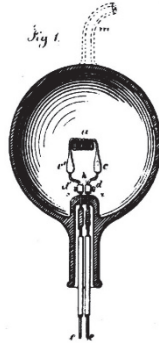
See Certain Road Constr. Machs. & Components Thereof, Inv. 337-TA-1088, Comm'n Op. (July 15, 2019) *aff'd without opinion*, *Wirtgen GMBH v. Intl. Trade Commn.*, 829 Fed. App'x 528 (Fed. Cir. 2020); U.S. Pat. No. 9,045,871.



Abstract Multi-Sensor Camera System

See App. 1a: “directed to the abstract idea of taking two pictures (which may be at different exposures) and using one picture to enhance the other in some way,” and utilizing the “conventional camera components” of “two image sensors, two lenses, an analog-to-digital converting circuitry, an image memory, and a digital image processor.”

Indeed, this once-rejected approach can be plausibly applied to almost any patent—subject only to the willingness of a court to play along. For example, U.S. Pat. 233,898 to T.A. Edison is directed to the abstract idea of providing light, and utilized the then conventional components of “glass,” “metallic wires,” and “carbon filament” treated with “lamp-black and tar.”



Abstract Electric Lamp

As each broadly drawn “point of novelty” is accepted by a court and cited by analogy in subsequent cases, entire technological fields are eventually carved out in practice from patent eligibility.

In contrast, when the “claim as a whole” approach of *Diehr* is applied to the *Mayo* test, step one involves determining whether the focus of the claim “as a whole” performs a function that the patent laws were designed to protect, and step two involves determining whether any additional limitations by themselves or in combination with an ineligible concept provide an advance over the prior art. This “claim as a whole” approach allows for the traditional development of the record and results in more predictable and fair outcomes than the subjective reductionism of the “point of novelty” approach.

In view of these significant differences between the “claim as a whole” approach of *Diehr* and the “point of novelty” approach of *Flook*, the choice between these two approaches is often dispositive of the eligibility determination. And as a result of the disagreement and uncertainty over which approach should be used in view of *Mayo*, the Federal Circuit has been “slowly

creating a panel-dependent body of law and destroying the ability of American businesses to invest with predictability.” See *Am. Axle & Mfg., Inc. v. Neapco Holdings LLC*, 977 F.3d 1379, 1382 (Fed. Cir. 2020) (Moore, J., concurring with denial of petition to stay mandate).

This case is an ideal vehicle for resolving the Federal Circuit’s disagreement and uncertainty over this issue. The representative claim here is for an apparatus, specifically an “improved digital camera” having multiple lenses and multiple image sensors of a *specific* type, arranged in a *specific* configuration, and used in a *specific* manner to produce a “resultant digital image.” In a split decision, the panel majority (Judges Prost and Taranto) found the claim ineligible under both steps one and two of the *Alice/Mayo* test. The majority disregarded all the structural limitations in the claim as being “generic,” “well-understood,” “routine,” and “conventional,” even though neither the claimed combination of structural limitations nor its use to produce a resultant digital image has been shown to exist in the prior art.

Judge Newman wrote a strong dissent in which she challenged the majority’s disregard of the structural limitations in the claim, relying on *Diehr* for the proposition that “[a] device that uses known components does not thereby become an abstract idea, and is not on that ground ineligible for access to patenting.” Put simply, if *Diehr* remains good law, then there is no plausible analysis by which the representative claim in this case can be found patent-ineligible.

The Federal Circuit has already made clear that the disagreement over *Diehr* cannot be resolved by *en banc* review and has asked the Supreme Court to

intervene. Multiple judges who are applying the “point of novelty” test have stated their concerns that they are invalidating claims that *should* be found patent-eligible because *Mayo* requires them to do so. Judge Moore has recently acknowledged that “[w]hat we have here is worse than a circuit split—it is a court bitterly divided,” and she has expressed her belief that “[i]f a circuit split warrants certiorari, such an irreconcilable split in the nation’s only patent court does likewise.” *See Am. Axle*, 977 F.3d at 1382 (Moore, J., concurring with denial of petition to stay mandate).

The issues presented by this case are of exceptional importance. As many have observed, the panel majority decision could be applied to call into question the patent-eligibility of virtually every machine that uses a processor to perform any part of its functionality, regardless of the specificity with which the structural components are defined in the claim.¹ This includes countless modern machines, from common household items such as toasters, refrigerators, and washing machines, to vehicles such as airplanes and automobiles, to industrial equipment such as semiconductor fabrication equipment and robotics. Under the majority’s “point of novelty” analysis, paving machines, cameras, even Edison’s lightbulb for “giving light by incandescence,” with its conventional glass, wires, and lamp-black, would be at risk.

¹ *See, e.g.*, <https://www.ipwatchdog.com/2021/06/20/you-v-apple-settles-cafc-suffering-prolonged-version-alice-wonderland-syndrome/id=134765/>; <https://www.patentdocs.org/2021/06/you-v-apple-fed-cir-2021.html>; <https://www.b2ipreport.com/swip-report/lessons-of-you-v-apple-the-law-of-§-101-patent-eligibility-is-chaos/>; <https://nydailyrecord.com/2021/09/13/ip-frontiers-you-v-apple-inc-yet-another-alice-disaster/>.

Disagreement and uncertainty over application of *Mayo* at the Federal Circuit engenders disruptive uncertainty among scientists, engineers, and their patent lawyers about the extent to which inventions can be protected, and how any individual claim will be assessed if put to a Section 101 challenge.

This Court should grant the petition.

STATEMENT OF THE CASE

A. Statutory Background

Section 101 of the Patent Act broadly defines patent-eligible subject matter. This broad statutory language was chosen because “Congress plainly contemplated that the patent laws would be given wide scope.” *Diamond v. Chakrabarty*, 447 U.S. 303, 308 (1980). The Patent Act also requires that claims satisfy additional requirements to be allowable, such as novelty, *see* 35 U.S.C. § 102, and non-obviousness, *see* 35 U.S.C. § 103. The patent specification must also satisfy written description and enablement requirements, *see* 35 U.S.C. § 112(a). Patentees disclose their inventions to the public in reliance on the law’s protection of their right to their discoveries.

This Court has “long held that [Section 101] contains an important implicit exception. ‘[L]aws of nature, natural phenomena, and abstract ideas’ are not patentable.” *Mayo*, 566 U.S. at 70. The concern addressed by this exclusionary rule is that “monopolization of those tools through the grant of a patent might tend to impede innovation more than it would tend to promote it.” *Id.* at 71. On the other hand, this Court has also acknowledged that “too broad an interpretation of this exclusionary principle could eviscerate patent law.” *Id.* This is because “all inventions at some level embody, use, reflect, rest

upon, or apply laws of nature, natural phenomena, or abstract ideas.” *Id.* To balance these concerns, this Court has long applied the principle that while ineligible concepts themselves are not patent-eligible, their application to some new and useful end may be. *See, e.g., Funk Bros. Seed Co. v. Kalo Inoculant Co.*, 333 U.S. 127, 130 (1948) (“He who discovers a hitherto unknown phenomenon of nature has no claim to a monopoly of it which the law recognizes. If there is to be invention from such a discovery, it must come from the application of the law of nature to a new and useful end.”)

In *Flook*, this Court utilized a “point of novelty” approach to determining patent-eligibility under Section 101. *See Flook*, 437 U.S. at 588; *see also, e.g., Athena Diagnostics, Inc. v. Mayo Collaborative Services, LLC*, 927 F.3d 1333, 1347 (Fed. Cir. 2019) (Chen, J., concurring with denial of petition for rehearing *en banc*). The claim in *Flook* was drawn to a method for updating the value of an “alarm limit” (*i.e.*, a number representing an abnormal operating condition in a catalytic chemical conversion process such as temperature, pressure, or flow rate). *Flook*, 437 U.S. at 585, 596-98. The Court set forth the following analytical approach:

Even though a phenomenon of nature or mathematical formula may be well known, an *inventive application* of the principle may be patented. Conversely, the discovery of such a phenomenon cannot support a patent unless there is some other *inventive concept* in its application.

Flook, 437 U.S. at 594.

In accordance with this framework, when analyzing the claim at issue in *Flook*, this Court

first discarded the “well known” or conventional elements of the claim, and in particular, the recited field of use of catalytic conversion of hydrocarbons. In the absence of this element, the Court then concluded that the claim was not patent eligible. *Flook*, 437 U.S. at 594-596. Although the Court stated that it had considered the claim “as a whole,” as Judge Chen described in his concurrence in the denial of the en banc petition in *Athena Diagnostics, Inc. v. Mayo Collaborative Services, LLC*:

it did so by reviewing the claim on an element-by-element basis in search of something new and inventive, discounting the formula as “assumed to be within the prior art.” In so doing, the Court found no novel “inventive concept” in the claim.

927 F.3d 1333, 1344 (Fed. Cir. 2019) (Chen, J., concurring with denial of petition for rehearing *en banc*) (internal citations omitted).

In *Diehr*, this Court adopted a different framework, the “claim as a whole” approach to determining patent-eligibility. *Diehr*, 450 U.S. at 188-89; *see also, e.g., Athena*, 927 F.3d at 1344 (Chen, J., concurring with denial of petition for rehearing *en banc*). The claims in *Diehr* were drawn to methods for performing precision molding by “constantly measuring the actual temperature inside the mold,” feeding those measurements “into a computer which repeatedly recalculates the cure time by use of the Arrhenius equation,” and finally signaling a device to open the press “[w]hen the recalculated time equals the actual time that has elapsed since the press was closed” *Diehr*, 450 U.S. at 177-79. The Court explained its analytical approach as follows:

In determining the eligibility of respondents' claimed process for patent protection under § 101, their claims must be considered *as a whole*. It is inappropriate to dissect the claims into old and new elements and then to ignore the presence of the old elements in the analysis. This is particularly true in a process claim because a new combination of steps in a process may be patentable even though all the constituents of the combination were well known and in common use before the combination was made. The 'novelty' of any element or steps in a process, or even of the process itself, is of no relevance in determining whether the subject matter of a claim falls within the § 101 categories of possibly patentable subject matter.

Id. at 188-89 (emphasis added). The Court also noted that:

when a claim containing a mathematical formula implements or applies that formula in a structure or process which, when considered *as a whole*, is performing a function which the patent laws were designed to protect (*e. g.*, transforming or reducing an article to a different state or thing), then the claim satisfies the requirements of § 101.

Id. at 192. This "claim as a whole" approach is deemed by many to be incompatible with—and an outright rejection of—the "point of novelty" approach of *Flook*. *See, e.g., Athena*, 927 F.3d at 1344-45 (Chen, J., concurring with denial of petition for rehearing en banc). The Court found the claims patent-eligible because when viewed "as a whole," they were not "an attempt to patent a mathematical formula, but rather

. . . drawn to an industrial process for the molding of rubber products.” *Diehr*, 450 U.S. at 192.

In *Mayo*, this Court reframed the patent-eligibility inquiry as a two-step test. *Mayo*, 566 U.S. at 72-73 . The claims at issue in *Mayo* were drawn to diagnostic methods for use in treating certain autoimmune disorders. *Id.* at 73-74. The Court approached its Section 101 analysis in view of its precedents, which:

insist that a process that *focuses upon* the use of a natural law also contain *other elements* or a *combination of elements*, sometimes referred to as an “*inventive concept*,” sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the natural law itself.

Id. at 72-73 (emphasis added) (citing *Flook*, 437 U.S. at 594). This language sets forth the two-step *Alice/Mayo* test, but some also believe that it at least implicitly rejects the “claim as a whole” approach of *Diehr* in favor of the “point of novelty” approach of *Flook*. See, e.g., *Athena*, 927 F.3d at 1344, 47 (Fed. Cir. 2019) (Chen, J., concurring with denial of petition for rehearing *en banc*). This belief was reinforced by the Court’s finding that:

the process claims at issue here do not satisfy these conditions. In particular, the *steps in the claimed processes (apart from the natural laws themselves)* involve *well-understood, routine, conventional activity* previously engaged in by researchers in the field. At the same time, upholding the patents would risk disproportionately tying up the use of the underlying natural laws, inhibiting their use in the making of further discoveries.

Mayo, 566 U.S. at 73 (emphasis added). Applying these principles, the Court found that “the patent claims at issue here effectively claim the underlying laws of nature themselves ...” and “are consequently invalid.” *Id.* at 92.

In *Alice*, the Court went a step further by expressly articulating the test for patent-eligibility as a two-step test, drawing heavily from the principles set forth by the Court two years earlier in *Mayo*. *Alice*, 573 U.S. at 217-18. The Court applied this two-step test to claims for “a computer-implemented scheme for mitigating ‘settlement risk’ (*i.e.*, the risk that only one party to a financial transaction will pay what it owes) by using a third-party intermediary.” *Id.* at 212. The Court found that the method claims failed under step one because they are “drawn to the abstract idea of intermediate settlement,” *id.* at 218, and that they also failed step two because “the method claims, which merely require generic computer implementation, fail to transform the abstract idea into a patent-eligible invention,” *id.* at 221. Accordingly, the Court found the claims patent-ineligible under Section 101. *Id.* at 212.

Neither *Mayo* nor *Alice* expressly overruled *Diehr* or stated that its “claim as a whole” approach should no longer be followed. Nonetheless, some Federal Circuit 101 decisions appear premised on the notion that *Diehr* may no longer be good law in view of *Mayo*. See *Athena*, 927 F.3d at 1349 (Chen, J., concurring with denial of petition for rehearing *en banc*) (“Through it all, there is a serious question today in patent law as to what extent *Diehr* remains good law in light of *Mayo*. We are not in a position to resolve that question, but the Supreme Court can.”)

B. Factual Background

U.S. Patent No. 6,611,289 (“’289 Patent”), entitled “Digital Cameras Using Multiple Sensors With Multiple Lenses,” was filed on January 15, 1999 and issued on August 26, 2003. C.A.J.A.14. The named inventors are Petitioners Yu and Zhang. C.A.J.A.14. Yu holds a doctorate in electrical engineering from Imperial College in London, England. Zhang holds a doctorate in microelectronics from Tsinghua University in Beijing, People’s Republic of China. The inventions described and claimed in the ’289 Patent arose from Yu’s work in the field of image processing in the 1990s, and from Zhang’s work in the field of complementary metal-oxide-silicon (“CMOS”) image sensors during that same timeframe.

Digital cameras were gaining in popularity in the 1990s, but the technological limitations of then-existing image sensors—used as the capture mechanism—caused digital cameras to produce lower quality images compared with those produced by traditional film cameras. C.A.J.A.24. Those technological limitations included low image resolution, low dynamic range, low signal-to-noise ratio (“SNR”), inaccurate color reproduction, and low image quality. C.A.J.A.24-28. Petitioners understood that while it was theoretically possible to design a better image sensor to address at least some of these image quality problems, doing so would simply introduce different problems and would also be cost prohibitive. C.A.J.A.24. Petitioners realized, however, that by combining their expertise in the fields of CMOS image sensors and image processing, they could address these limitations and develop a digital camera that could solve these problems and therefore rival traditional film cameras in terms of image quality.

Therefore, Petitioners pursued a more innovative approach by developing a new multi-lens and multi-sensor digital camera architecture that could capture multiple digital images of the same scene using separate image sensors, and then use one of the images to improve the other. C.A.J.A.14-30. Their efforts led to the development of the improved digital camera described and claimed in the '289 Patent. C.A.J.A.14-30. Claim 1, which is representative for purposes of this petition, recites an embodiment having at least two image sensors:

1. An improved digital camera comprising:
 - a first and a second image sensor closely positioned with respect to a common plane, said second image sensor sensitive to a full region of visible color spectrum;
 - two lenses, each being mounted in front of one of said two image sensors;
 - said first image sensor producing a first image and said second image sensor producing a second image;
 - an analog-to-digital converting circuitry coupled to said first and said second image sensor and digitizing said first and said second intensity images to produce correspondingly a first digital image and a second digital image;
 - an image memory, coupled to said analog-to-digital converting circuitry, for storing said first digital image and said second digital image; and
 - a digital image processor, coupled to said image memory and receiving said first digital image and said second digital image, producing a

resultant digital image from said first digital image enhanced with said second digital image.

C.A.J.A.28. Claim 1 recites a *specific* digital camera architecture, and a *specific* use of that architecture, to produce a resultant digital image. It requires that: (1) the image sensors must be “closely positioned with respect to a common plane”; (2) at least one of the image sensors must be “sensitive to a full region of visible color spectrum”; and (3) a digital image captured by the image sensor that is “sensitive to a full region of visible color spectrum” must be used to enhance a digital image captured by the other image sensor to produce a resultant digital image. C.A.J.A.28.

Most digital cameras at that time of the '289 Patent's filing used a *single* image sensor to capture a scene. C.A.J.A.24. Although less prevalent, cameras having *multiple* image sensors also existed at the time of the '289 Patent's filing. C.A.J.A.25. Those prior multi-sensor cameras, however, were fundamentally different from the improved digital camera of the '289 Patent. C.A.J.A.25. Prior multi-sensor cameras used three separate image sensors and a prism that split the light reflected from a scene into three distinct bands (*e.g.*, red, green, and blue bands), such that each image sensor would react to light from only one band to create a component image (*e.g.*, a red, green, or blue component image). C.A.J.A.25. The three component images, each being from one of the three image sensors, could then be combined to reproduce an image having the original colors of the scene. C.A.J.A.16; C.A.J.A.25. Prior multi-sensor cameras did *not* include image sensors that were “closely positioned with respect to a common plane” (since they instead used a prism to split light into bands), they did *not* use

an image sensor that was “sensitive to a full region of visible color spectrum” (since they needed to capture composite images from separate color bands), and they did not produce a digital image “enhanced with” another digital image (since they merely combined composite images to create a color image).

The '289 Patent improved upon *both* prior single-sensor *and* prior multi-sensor digital cameras and solved the problems associated with then-existing image sensors by adding an ***additional image sensor*** that is “sensitive to a full region of visible color spectrum” and using that additional sensor to capture information that is used to enhance the image(s) captured by the other sensor(s). C.A.J.A.25-28. The '289 patent also made the image sensors “closely positioned with respect to a common plane” so that they could capture images of the same scene without the use of the prism of prior multi-sensor cameras. C.A.J.A.26-27. The improved digital camera of the '289 Patent could produce higher-quality images while using both smaller image sensors (having higher yield, higher sensitivity, less cross-talking, and lower clocking rate) and smaller optical lenses compared with prior digital cameras. C.A.J.A.24; C.A.J.A.27-28.

The '289 Patent discloses both a two-sensor embodiment and a four-sensor embodiment of its improved digital camera. The patent teaches that the teachings of the four-sensor embodiment also apply to the two-sensor, stating that while “[t]he following description is based on the [four-sensor] embodiment illustrated in FIG. 3, those skilled in the art can appreciate that the description is equally applied to the [two-sensor] black-and-white digital cameras.” C.A.J.A.27. Moreover, both the two- and four-sensor embodiments are implementations of claim 1, since

the claim only specifies that the *second image sensor* must be “sensitive to a full region of visible color spectrum,” but does not include any restrictions on the *first image sensor*. Thus, the *first image sensor* of claim 1 can be a B/W image sensor of the two-sensor embodiment, a color image sensor (*e.g.*, a red sensor, a green sensor, or a blue sensor) of the four-sensor embodiment, or any other type of image sensor. Essentially, the two-sensor embodiment practices claim 1 once, whereas the four-sensor embodiment practices claim 1 three times (once for each of its three image enhancement steps). Since the advantages of the invention disclosed in the patent specification arise from the *image enhancement step*, and *not* the *image combination step*, those advantages apply equally to both the four-sensor embodiment and the two-sensor embodiment. C.A.J.A.28.

In summary, the claimed advances over the prior art include: (1) the inclusion of an additional image sensor (*i.e.*, the “second image sensor”) that is “sensitive to a full region of visible color spectrum”; (2) the positioning of multiple image sensors (*i.e.*, the “first image sensor” and the “second image sensor”) so that they are “closely positioned with respect to a common plane”, allowing them to capture images of the same scene (without using the prism of prior multi-sensor cameras); and (3) the use of the second image sensor to capture a digital image that is used to enhance a digital image captured by the first image sensor. Neither the claimed digital camera architecture using an additional image sensor that is “sensitive to a full region of visible color spectrum,” nor the claimed use of that digital camera architecture to produce a resultant digital image, has been shown to exist in the prior art, regardless of whether the

invention is implemented in a four-sensor or a two-sensor configuration.

Eventually—as anyone who has looked at the back of a modern smartphone can attest—multi-sensor, multi-lens camera systems with digital processing became ubiquitous. But when Yu and Zhang tried to enforce their rights in the '289 Patent they had obtained in exchange for disclosing their invention to the world, they lost those rights to the patent shredder on the wrong side of today's unpredictable patent eligibility jurisprudence.

C. Proceedings Below

1. District Court Dismissal

Petitioners filed complaints for infringement of the '289 Patent against Apple Inc. (“Apple”) on October 9, 2018, and against Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc. (collectively “Samsung”) on October 16, 2018, both in the U.S. District Court for the Northern District of California. C.A.J.A.47-91. Apple and Samsung both filed motions to dismiss the complaints on the grounds that the asserted claims are patent-ineligible under Section 101. C.A.J.A.92-147. The district court dismissed both complaints on July 2, 2019, but granted Petitioners leave to amend. C.A.J.A.222-234; App. 39a-56a. Petitioners filed first amended complaints against both Apple and Samsung on July 22, 2019. C.A.J.A.235-296. Apple and Samsung filed a joint motion to dismiss on August 5, 2019 on the same grounds as before. C.A.J.A.297-315. The district court dismissed both amended complaints on March 24, 2020, and entered judgment against Petitioners in both cases on the same day. Petitioners filed timely

notices of appeal on April 22, 2020. C.A.J.A.1-13; App. 22a-38a.

2. Federal Circuit Panel Majority Opinion

A split panel affirmed the district court's dismissal in a precedential decision issued on June 11, 2021. App. 1a-13a. Under step one of the *Alice/Mayo* test, the panel majority agreed with the district court's characterization of claim 1 as being "directed to the abstract idea of taking two pictures (which may be at different exposures) and using one picture to enhance the other in some way." App. 5a. The majority disregarded the digital camera components recited in the claim, finding that they "are recited to effectuate the resulting 'enhanced' image," "were well-known and conventional," "perform only their basic functions," and "are set forth at a high degree of generality," and therefore merely provide "a generic environment in which to carry out the abstract idea." App. 6a.

The majority did not dispute Petitioners' assertion that the claimed invention improves the functionality of digital cameras, but nonetheless dismissed it based on finding that the claim's solution to the problems in the prior art "is the abstract idea itself—to take one image and 'enhance' it with another." App. 7a.

This circularity illustrates a fundamental problem with the "point of novelty" approach. It invites a district court or a panel to engage in a reductionist isolation and removal of all the structural building blocks that ground a claim and limit its preemptive effect. Particularly when they are stripped of structure, "all inventions at some level embody, use, reflect, rest upon, or apply laws of nature, natural

phenomena, or abstract ideas.” *Mayo*, 566 U.S. at 70. Stripped of structure, most descriptions of the improvement or point of novelty of a patent sound abstract. *See, e.g.*, U.S. Pat. 233,898 at 2:74-78 (“giving light by incandescence”).

Under the Federal Circuit’s divided eligibility jurisprudence, whether a claim survives the inquiry depends how much attention is given to the structural limitations. (Newman, J. dissenting) (“This camera is a mechanical and electronic device of defined structure and mechanism; it is not an “abstract idea.” Observation of the claims makes clear that they are for a specific digital camera”).

Moving on to step two, the panel majority found that claim 1 does not include an “inventive concept” because it “is recited at a high level of generality and merely invokes well-understood, routine, conventional components to apply the abstract idea identified above” App. 9a. With regard to the claimed digital camera architecture, the majority found that “the *claimed* hardware configuration itself is not an advance and does not itself produce the asserted advance of enhancement of one image by another, which, as explained, is an abstract idea.” App. 10a. The majority rejected Petitioners’ argument that the claimed digital camera architecture has not been shown to exist in the prior art, stating that “even if claim 1 recites novel subject matter, that is insufficient by itself to confer eligibility.” App. 9a-10a. Thus, in the majority’s view, even if a claim recites a new combination of *structural* limitations that would by itself qualify as a machine within the plain language of Section 101, those structural limitations are insufficient to confer patent-eligibility under step

two if it is perceived that the advance of the invention comes at least in part from an abstract idea.

Finally, the panel majority rejected—without any meaningful analysis—Petitioners’ argument that the district court had improperly ignored the plausible allegations in the first amended complaints on issues relating to patent-eligibility such as the absence of preemption, the technological problems solved by the claimed invention, and the unconventional aspects of the claimed invention. App. 10a-11a.

3. Judge Newman’s Dissent

The panel majority’s decision elicited a sharp dissent from Judge Newman, who strongly disagreed with the panel majority’s analysis and finding of ineligibility. App. 14a-19a. In her dissent, she offered a different characterization of the claimed invention, one that properly reflects the claim as a whole: “[t]his camera is a mechanical and electronic device of defined structure and mechanism; it is not an ‘abstract idea.’” App. 13a. According to Judge Newman, mere “[o]bservation of the claims makes clear that they are for a specific camera” App. 13a. With regard to the “enhanced with” language in the sixth and final limitation of claim 1, Judge Newman noted that “[a] statement of purpose or advantage does not convert a device into an abstract idea.” App. 14a.

Citing to *Diehr*, Judge Newman rebuked the majority for ignoring the statutory distinction between Section 101 (patentable subject matter) and Section 102 (novelty), stating that:

In contravention of this explicit distinction between Section 101 and Section 102, the majority now holds that the ’289 camera is an abstract idea because the camera’s components

were well-known and conventional and perform only their basic functions. That is not the realm of Section 101 eligibility.

App. 15a-16a. She further explained that “[a] device that uses known components does not thereby become an abstract idea, and is not on that ground ineligible for access to patenting,” and that “[d]etermination of patentability of a new device is not a matter of eligibility under Section 101, but of compliance with all the statutory provisions.” App. 16a-17a.

Judge Newman also expressed deep concern over the further enlargement of Section 101 effected by the panel majority’s decision, as well as the current state of Section 101 jurisprudence at the Federal Circuit:

In the current state of Section 101 jurisprudence, inconsistency and unpredictability of adjudication have destabilized technologic development in important fields of commerce. Although today’s Section 101 uncertainties have arisen primarily in the biological and computer-implemented technologies, all fields are affected. The case before us enlarges this instability in all fields, for the court holds that the question of whether the components of a new device are well-known and conventional affects Section 101 eligibility, without reaching the patentability criteria of novelty and nonobviousness.

App. 18a-19a. According to Judge Newman, “[t]he fresh uncertainties engendered by the majority’s revision of Section 101 are contrary to the statute and the weight of precedent, and contrary to the public’s interest in a stable and effective patent incentive.” App. 19a.

Judge Newman concluded that “[t]he digital camera described and claimed in the ’289 patent is a mechanical/electronic device that easily fits the standard subject matter eligibility criteria.” App. 19a.

REASONS FOR GRANTING THE PETITION

I. **There Is Disagreement And Uncertainty At the Federal Circuit Over Whether, And To What Extent, Claims Must Be Considered “As A Whole” In View Of *Mayo***

The outcome below turned on whether, and to what extent, claims must be considered “as a whole” when determining patent-eligibility under Section 101. The extent of the disagreement and uncertainty at the Federal Circuit on this issue became exceedingly clear in *Athena Diagnostics, Inc. v. Mayo Collaborative Services, LLC*, 915 F.3d 743 (Fed. Cir. 2019). In a split decision, the panel majority (Judges Lourie and Stoll) found claims for a method of diagnosing neurotransmission or development disorders to be patent-ineligible under Section 101. *Id.* at 746-47. In doing so, the majority applied a textbook “point of novelty” analysis that disregarded all “routine” steps in the claims. *Id.* at 750-54. Judge Newman dissented, criticizing the majority for disregarding those routine steps and not considering the claims “as a whole” as required by *Diehr*. *Id.* at 761-62.

Under step one, the majority in *Athena* found the claims to be “directed to” a natural law (*i.e.*, a correlation between the presence of certain autoantibodies in bodily fluid and certain neurological diseases) because “the claimed advance was only in the discovery of a natural law, and . . . the additional recited steps only apply conventional techniques to detect that natural law.” *Athena*, 915 F.3d at 751. The majority acknowledged that the claims included

concrete steps for detecting antibodies were “set forth with some specificity,” and that the claims “leave[] open to the public other ways” of detecting that correlation in a bodily fluid. *Id.* at 752. Nonetheless, the majority completely disregarded those concrete steps in defining the “focus” of the claims because they were “routine.” *Id.*

Under step two, the majority found that the claims lacked an “inventive concept” because “the steps *not drawn to ineligible subject matter*, whether viewed individually or as an ordered combination, only require standard techniques to be applied in a standard way.” *Athena*, 915 F.3d at 753 (emphasis added). The majority rejected the argument that the claim elements for detecting the natural law were unconventional because they had never before been used to detect the types of antibodies that are detected by the claimed invention, reasoning that:

Even accepting that fact, we cannot hold that performing standard techniques in a standard way to observe a newly discovered natural law provides an inventive concept. This is because “[t]he inventive concept necessary at step two ... cannot be furnished by the unpatentable law of nature . . . itself.”

Id. at 754. Rather, “[t]he transformative ‘inventive concept’ supplied by the claim elements *not drawn to eligible subject matter* must be ‘sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the [ineligible concept] itself.” *Id.* at 753. This is a textbook explanation of a “point of novelty” approach to step two of the *Alice/Mayo* test.

Judge Newman dissented. She stated that the majority’s approach of ignoring conventional steps in

the claims when analyzing patent-eligibility was incorrect since “[e]ligibility is determined for the claim considered as a whole, including all its elements and limitations.” *Athena*, 915 F.3d at 758. According to Judge Newman, under *Diehr*, “[c]laim limitations cannot be discarded when determining eligibility under Section 101” *Id.* Moreover, she stated that the majority’s flawed approach of disregarding conventional and routine claim elements during the Section 101 analysis was never mandated by *Mayo*:

The requirement that a claim is considered as a whole was not changed by the *Mayo/Alice* protocol of searching for an inventive concept within a claim that is directed to a law of nature or an abstract idea. It is incorrect to excise from the claims any steps that are performed by conventional procedures. This is misconstruction of claims, and misapplication of Section 101.

Athena, 915 F.3d at 758–59. Again citing *Diehr*, she further explained that the reason why “[i]t is incorrect to separate the claim steps into whether a step is performed by conventional techniques, and then to remove those steps from the claims and their ‘conjunction with all of the other steps’ for the purpose of Section 101 analysis,” is because “a new process may be a combination of known steps.” *Id.* at 761. Without reaching step two, Judge Newman stated that *Athena*’s claims are patent-eligible under step one since the claimed method “is not a law of nature, but a man-made chemical-biomedical procedure.” *Id.* at 762.

The nature of this disagreement was thoughtfully explored in great detail by Judge Chen in his opinion concurring with the denial of *Athena*’s petition for

rehearing *en banc*. He explained that *Diehr* set forth a “claim as a whole” approach under which Athena’s claims would likely have been found valid, but that in *Mayo* the Court employed a more far-reaching aggressive “inventive concept/point of novelty” approach that is largely incompatible with *Diehr*’s core principles. *Athena*, 927 F.3d at 1344. Specifically, Judge Chen explained the approach employed in *Flook* by stating that “[t]he Court indicated that it had considered the claim ‘as a whole,’ but it did so by reviewing the claim on an element-by-element basis in search of something new and inventive, discounting the formula as ‘assumed to be within the prior art,’ and that “[i]n so doing, the Court found no novel ‘inventive concept’ in the claim.” *Athena*, 927 F.3d at 1344. In contrast, he explained that in *Diehr*, “[t]he Court advanced a very different analytic approach for the judicial exceptions” under which “ [t]he ‘novelty’ of any element or steps in a process, or even of the process itself, is of no relevance in determining whether the subject matter of a claim falls within the § 101 categories of possibly patentable subject matter.” *Id.* at 1344-45.

According to Judge Chen, *Diehr* as the more recent opinion was recognized as controlling law for three decades until this Court’s decision in *Mayo*. *Athena*, 927 F.3d at 1346. But then in *Mayo*, this Court employed an analysis that Judge Chen believes “strongly tracked the reasoning of *Flook* and the *Diehr* dissent.” *Id.* In Judge Chen’s view, “*Mayo*’s rationale thus follows the point of novelty/inventive concept reasoning of *Flook* and the *Diehr* dissent,” and therefore “*Mayo* is in considerable tension with *Diehr*’s instruction to consider claims ‘as a whole’ and *Diehr*’s disapproval of dissecting claims into elements and ignoring non-novel elements in the § 101 analysis.” *Id.*

at 1347. He also noted, however, that Mayo never expressly overruled *Diehr*, and stated that the Federal Circuit would benefit from an explanation from the Supreme Court regarding what it intended to accomplish in *Mayo*. *Id.* at 1344.

The tension between *Diehr*'s "claim as a whole" approach and *Flook*'s "point of novelty" approach was at the heart of the decision in this case. The panel majority completely disregarded the structural limitations in the claims under both steps of its *Alice/Mayo* analysis. App. 5a-10a. Under step one, the majority excluded the structural limitations from its characterization of the "focus" if the claim based on its finding that those structural limitations "are recited to effectuate the resulting 'enhanced' image," "were well-known and conventional," "perform only their basic functions," and "are set forth at a high degree of generality," and therefore merely provide "a generic environment in which to carry out the abstract idea." App. 6a. Likewise, under step two, the majority again discounted the structural limitations based on its finding that "the *claimed* hardware configuration itself is not an advance and does not itself produce the asserted advance of enhancement of one image by another, which, as explained, is an abstract idea." App. 10a. This is a textbook application of *Flook*'s "point of novelty" approach.

In her dissent, Judge Newman countered by echoing her position from her previous dissent in *Athena*, 915 F.3d at 757-764. Specifically, she stated that it was improper for the majority to exclude the structural limitations from its analysis, explaining that:

In contravention of [the] explicit distinction between Section 101 and Section 102, the

majority now holds that the '289 camera is an abstract idea because the camera's components were well-known and conventional and perform only their basic functions. That is not the realm of Section 101 eligibility.

App. 15a-16a. She then cited *Diehr* for the proposition that “[a] device that uses known components does not thereby become an abstract idea, and is not on that ground ineligible for access to patenting,” and that the majority’s approach of discounting components that are deemed to be well known “was long ago discarded.” App. 16a. Applying these principles from *Diehr*, Judge Newman concluded that “claim 1 is for a digital camera having a designated structure and mechanism that perform specified functions; claim 1 is not for the general idea of enhancing camera images.” App. 14a.

There is disagreement and uncertainty at the Federal Circuit over whether, and to what extent, claims must be considered “as a whole” when determining patent-eligibility. Moreover, the Federal Circuit judges themselves have openly acknowledged that their court is irreconcilably fractured on the issue of patent-eligibility under Section 101. Therefore, this conflict cannot be resolved by *en banc* review. The extent of the conflict was expressed by Judge Moore in a concurring opinion in *American Axle*, in which she stated that:

As the nation's lone patent court, we are at a loss as to how to uniformly apply § 101. All twelve active judges of this court urged the Supreme Court to grant certiorari in *Athena* to provide us with guidance regarding whether diagnostic claims are eligible for patent protection. There is very little about which all twelve of us are unanimous, especially when it

comes to § 101. We were unanimous in our unprecedented plea for guidance. But, as we acknowledged in our decisions in *Athena*, that holding was at heart a reticent application of *Mayo* to similar claims.

Am. Axle, 977 F.3d at 1382 (Moore, J., concurring with denial of petition to stay mandate), This disagreement, according to Judge Moore, has resulted in a Federal Circuit that is “worse than a circuit split—it is a court bitterly divided.” *Id.*

But as the divided decision and confounding result in this case demonstrates, it is time for this Court to resolve this dispute.

II. Whether, And To What Extent, Claims Must Be Considered “As A Whole” In View Of *Mayo* Is A Critically Important And Recurring Issue

The question of whether, and to what extent, claims must be considered “as a whole” when determining patent-eligibility under Section 101 is of vital importance to the patent system. The view that *Mayo* abandoned the “claim as a whole” approach of *Diehr* in favor of the “point of novelty” approach of *Flook* has resulted in the invalidation of every medical diagnostics patent the Federal Circuit has reviewed since *Mayo*. See *Athena*, 927 F.3d at 1352 (Moore, J., Dissenting) (“Since *Mayo*, we have held every single diagnostic claim in every case before us ineligible.”). It is evident that if *Diehr*’s principles had been applied in these diagnostics cases, the claims would have instead be found valid. See *Athena*, 927 F.3d at 1344 (Chen, J., concurring in denial of petition for rehearing en banc) (“Under *Diehr*’s ‘claim as a whole’ principle, which does not divide the claim into new versus old elements, *Athena*’s claims, particularly claims 7 and

9, likely would have been found to be directed to a patent-eligible process comprising a set of technical, transformative steps to test a patient for a particular medical condition.”).

With the decision below in this case, the highly aggressive “point of novelty” approach that was employed by the panel majority in *Athena* has now been extended to mechanical devices that include a processor to perform a part of their functionality. This is alarming considering the vast array of modern machines that fall within this category. Now the patent-eligibility of virtually all household appliances, transportation vehicles, manufacturing equipment, and countless other types of machines will be susceptible to a Section 101 challenge. And given the fact that *all* medical diagnostics patents have been invalidated by the Federal Circuit since *Mayo*, it stands to reason that mechanical devices having a processor will suffer a similar fate.

In her dissent in this case, Judge Newman made the following admonition:

In the current state of Section 101 jurisprudence, inconsistency and unpredictability of adjudication have destabilized technologic development in important fields of commerce. Although today’s Section 101 uncertainties have arisen primarily in the biological and computer-implemented technologies, all fields are affected. The case before us enlarges this instability in all fields, for the court holds that the question of whether the components of a new device are well-known and conventional affects Section 101 eligibility, without reaching the patentability criteria of novelty and nonobviousness.

App. 18a-19a. She concluded that “[t]he fresh uncertainties engendered by the majority’s revision of Section 101 are contrary to the statute and the weight of precedent, and contrary to the public’s interest in a stable and effective patent incentive.” App. 19a. This Court should heed Judge Newman’s warning and put an end to the Federal Circuit’s continued expansion of Section 101 and the resulting erosion of the patent incentive.

III. The Decision Below Is Incorrect

The panel majority’s decision is incorrect regardless of whether the “point of novelty” approach of *Flook*, or the “claim as a whole” approach of *Diehr*, is employed. Taking the “claim as a whole” approach first, it is clear that if the structural digital camera components are not improperly excluded from the analysis, then Judge Newman’s characterization of the claims is correct: “This camera is a mechanical and electronic device of defined structure and mechanism; it is not an “abstract idea.” App. 13a. Under this proper characterization, claim 1 falls squarely with the statutory language of Section 101.

But even if the “point of novelty” approach is used, the panel majority’s decision is nonetheless wrong. The claimed invention improves the functionality of digital cameras by allowing them to take better pictures than prior digital cameras. C.A.J.A.24; C.A.J.A.27-28. The sixth and final claim limitation recites “producing a resultant digital image from said first digital image enhanced with said second digital image.” C.A.J.A.28. It would be illogical to find that a digital camera is merely a “conduit” for producing digital images.

The panel majority dismissed Petitioners’ argument that the claimed invention improves the

functionality of digital cameras by finding that “claim 1’s solution to those problems is the abstract idea itself—to take one image and “enhance” it with another.” App. 7a. But this finding is pertinent at most to step two of the *Alice/Mayo* test (even under the “point of novelty” approach); it is not pertinent to step one. *Athena*, 915 F.3d at 750 (“The step one “directed to” inquiry focuses on the claim as a whole.”). An advance from the application of an abstract idea can confer patent-eligibility under step one under *either* the “point of novelty” approach *or* the “claim as a whole” approach. *See Athena*, 927 F.3d at 1344-45 (Chen, J., concurring with denial of petition for rehearing *en banc*). It is *never* permissible to exclude an ineligible concept in the analysis under step one regardless of which approach is used. *See id.*

The panel majority’s decision is grounded in the confusion that has ensued from the *Flook/Diehr* dichotomy and is a further—and quite risky—extension of Section 101. Clarity is needed, and this case is the vehicle to provide it.

CONCLUSION

The petition for a writ of certiorari should be granted.

Respectfully submitted,

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NOVEMBER 29, 2021

APPENDICES

**APPENDIX A — OPINION AND DISSENT OF
THE UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT JUNE 11, 2021**

UNITED STATES COURT OF APPEALS FOR THE
FEDERAL CIRCUIT

2020-1760

YANBIN YU, ZHONGXUAN ZHANG,

Plaintiffs-Appellants,

v.

APPLE INC.,

Defendant-Appellee.

Appeal from the United States District Court for the
Northern District of California in No. 3:18-cv-06181-
JD, Judge James Donato.

UNITED STATES COURT OF APPEALS FOR THE
FEDERAL CIRCUIT

2020-1803

YANBIN YU, ZHONGXUAN ZHANG,

Plaintiffs-Appellants,

v.

SAMSUNG ELECTRONICS CO., LTD., SAMSUNG
ELECTRONICS AMERICA, INC.,

Defendants-Appellees.

Appeal from the United States District Court for the Northern District of California in No. 3:18-cv-06339-JD, Judge James Donato.

OPINION ISSUED: June 11, 2021.

Before NEWMAN, PROST, and TARANTO, *Circuit Judges*.

Opinion for the court filed by *Circuit Judge* PROST.

Dissenting opinion filed by *Circuit Judge* NEWMAN.

PROST, *Circuit Judge*.

Yanbin Yu and Zhongxuan Zhang (collectively, “Yu”) sued Apple and Samsung (collectively, “Defendants”), alleging that Defendants infringed claims 1, 2, and 4 of U.S. Patent No. 6,611,289 (“the ’289 patent”). The district court granted Defendants’ motion to dismiss on the basis that the asserted claims were invalid under 35 U.S.C. § 101. Yu appeals. Because the district court did not err, we affirm.

BACKGROUND

The ’289 patent is titled “Digital Cameras Using Multiple Sensors with Multiple Lenses.” Claim 1 is representative² and recites:

1. An improved digital camera comprising:

² The district court treated claim 1 as representative for purposes of its eligibility analysis. Neither party disputes that treatment on appeal, and Yu does not separately argue the eligibility of dependent claims 2 or 4. We therefore treat claim 1 as representative for purposes of our eligibility analysis. *See Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1352 (Fed. Cir. 2016).

a first and a second image sensor closely positioned with respect to a common plane, said second image sensor sensitive to a full region of visible color spectrum;

two lenses, each being mounted in front of one of said two image sensors;

said first image sensor producing a first image and said second image sensor producing a second image;

an analog-to-digital converting circuitry coupled to said first and said second image sensor and digitizing said first and said second intensity images to produce correspondingly a first digital image and a second digital image;

an image memory, coupled to said analog-to-digital converting circuitry, for storing said first digital image and said second digital image; and

a digital image processor, coupled to said image memory and receiving said first digital image and said second digital image, producing a resultant digital image from said first digital image enhanced with said second digital image.

Defendants filed a Rule 12(b)(6) motion to dismiss, which the district court granted with prejudice after concluding that each asserted claim was patent ineligible under § 101. The district court held that the asserted claims were directed to “the abstract idea of taking two pictures and using those pictures to enhance each other in some way.” *Yu v. Apple Inc.*, Nos. 18-cv-6181, 18-cv-6339, — F.Supp.3d —, —, 2020 WL 1429773, at *3 (N.D. Cal. Mar. 24, 2020) (“*District Court Opinion*”). The court explained that “photographers ha[ve] been using multiple pictures to

enhance each other for over a century.” *Id.* at —, 2020 WL 1429773 at *4. The district court further concluded that the asserted claims lack an inventive concept, noting “the complete absence of any facts showing that the[] [claimed] elements were not well-known, routine, and conventional.” *Id.* at —, 2020 WL 1429773 at *6.

The district court entered judgment. Yu timely appealed. We have jurisdiction under 28 U.S.C. § 1295(a)(1).

DISCUSSION

We review a district court's grant of a Rule 12(b)(6) motion under the law of the regional circuit. *Simio, LLC v. FlexSim Software Prods., Inc.*, 983 F.3d 1353, 1358 (Fed. Cir. 2020). Under Ninth Circuit law, we review such dismissals de novo, construing all allegations of material fact in the light most favorable to the nonmoving party. *Yagman v. Garcetti*, 852 F.3d 859, 863 (9th Cir. 2017). And we review de novo a district court's determination of patent ineligibility under § 101. *Visual Memory LLC v. NVIDIA Corp.*, 867 F.3d 1253, 1257 (Fed. Cir. 2017).

In analyzing whether claims are patent eligible under § 101, we employ the two-step *Mayo/Alice* framework. *Alice Corp. v. CLS Bank Int'l*, 573 U.S. 208, 217, 134 S.Ct. 2347, 189 L.Ed.2d 296 (2014); *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 70–73, 132 S.Ct. 1289, 182 L.Ed.2d 321 (2012). First, we determine whether a patent claim is directed to an unpatentable law of nature, natural phenomenon, or abstract idea. *Alice*, 573 U.S. at 217, 134 S.Ct. 2347. If so, we then determine whether the claim nonetheless includes an “inventive concept” sufficient to “‘transform the nature of the claim’ into

a patent-eligible application.” *Id.* (quoting *Mayo*, 566 U.S. at 72, 78, 132 S.Ct. 1289).

I

We begin our analysis with step one. We agree with the district court that claim 1 is directed to the abstract idea of taking two pictures (which may be at different exposures) and using one picture to enhance the other in some way. *See District Court Opinion*, — F.Supp.3d at —, —, 2020 WL 1429773, at *3, *6.

“We have approached the Step 1 directed to inquiry by asking what the patent asserts to be the focus of the claimed advance over the prior art. In conducting that inquiry, we must focus on the language of the [a]sserted [c]laims themselves, considered in light of the specification.” *TecSec, Inc. v. Adobe Inc.*, 978 F.3d 1278, 1292 (Fed. Cir. 2020) (cleaned up). Given the claim language and the specification, we conclude that claim 1 is “directed to a result or effect that itself is the abstract idea and merely invoke[s] generic processes and machinery” rather than “a specific means or method that improves the relevant technology.” *Smart Sys. Innovations, LLC v. Chi. Transit Authority*, 873 F.3d 1364, 1371 (Fed. Cir. 2017).

At the outset, we note that claim 1 results in “producing a resultant digital image from said first digital image enhanced with said second digital image.” Yu does not dispute that, as the district court observed, the idea and practice of using multiple pictures to enhance each other has been known by photographers for over a century. *See District Court Opinion*, — F.Supp.3d at —, 2020 WL 1429773, at *4. Rather, Yu contends that claim 1 is directed to a patent-eligible application of this idea as opposed to just the idea itself.

The claim's remaining limitations undercut Yu's contention. Only conventional camera components are recited to effectuate the resulting "enhanced" image—two image sensors, two lenses, an analog-to-digital converting circuitry, an image memory, and a digital image processor. Indeed, it is undisputed that these components were well-known and conventional. *See, e.g.,* Reply Br. 12 ("It is true that the individual digital camera components recited in the claims are themselves generic and conventional." (emphasis omitted)). And, as claimed, these conventional components perform only their basic functions (e.g., "said first image sensor producing a first image," "said second image sensor producing a second image," "an analog-to-digital converting circuitry [for] digitizing ... images," "an image memory ... for storing said first digital image and said second digital image") and are set forth at a high degree of generality. This is consistent with the specification's identification of the "great need for a *generic* solution that makes digital cameras capable of producing high resolution images without [high] cost." '89 patent col. 2 ll. 3–6 (emphasis added). What is claimed is simply a generic environment in which to carry out the abstract idea. *See In re TLI Commc'ns LLC Pat. Litig.*, 823 F.3d 607, 611 (Fed Cir. 2016) ("[T]he recited physical components merely provide a generic environment in which to carry out the abstract idea of classifying and storing digital images in an organized manner.").

Yu's contrary arguments are unpersuasive.³ For example, Yu argues that the asserted claims "are

³ We note that Yu's claimed invention is couched as an improved machine (an "improved digital camera"). But whether a device is "a tangible system (in § 101 terms, a 'machine') is not

directed to a patent-eligible improvement in digital camera functionality” by “providing a specific solution” to problems such as “low resolution caused by low pixel counts” and “inability to show vivid colors caused by limited pixel depth.” Appellant's Br. 36–38; *see also id.* at 56. But claim 1's solution to those problems is the abstract idea itself—to take one image and “enhance” it with another. *See* '289 patent col. 10 ll. 54–58 (“[A] digital image processor ... produc[es] a resultant digital image from said first digital image enhanced with said second digital image.”).

Yu further points to portions of the specification to support the contention that the asserted advance in the claims is the particular configuration of lenses and image sensors. But “[e]ven a specification full of technical details about a physical invention may nonetheless conclude with claims that claim nothing more than the broad law or abstract idea underlying the claims.” *ChargePoint, Inc. v. Sema-Connect, Inc.*, 920 F.3d 759, 769 (Fed. Cir. 2019). Such is the case here.

Each time the specification of the '289 patent suggests that a particular configuration is the asserted advance over the prior art, it does so in a four-lens, four-image-sensor configuration in which three of the sensors are color-specific while the fourth is a black-and-white sensor. *See* '289 patent col. 9 ll. 23–27 (“One of the key features of the present multiple sensors is to use the intensity image from B/W sensor 308 to expand the dynamic ranges of images from

dispositive. *See Alice*, 573 U.S. at 224, 134 S.Ct. 2347; *In re TLI Commc'ns*, 823 F.3d at 611 (“[N]ot every claim that recites concrete, tangible components escapes the reach of the abstract-idea inquiry.”). As discussed herein, the focus of claim 1 is the abstract idea.

sensors 302, 304 and 306 so as to increase overall dynamic range of the resultant color images.”); *see also id.* at col. 10 ll. 17–25 (“What sets the present invention fundamentally apart from existing technologies is the use of the black-and-white intensity image from the image sensor with a full transparent filter or no filter at all. The B/W image sensor can capture full information including details that may be missed by those color image sensors.”). Indeed, the portion of the specification describing the “many obvious benefits and advantages” of the “unique configuration” hinges on that particular four-lens, four-image-sensor configuration in which three of the sensors are color-specific while the fourth is a black-and-white sensor. *Id.* at col. 2 ll. 52–57 (“Second each of the image sensors is only responsible for one color; thereby the expensive process of coating a mosaic of selectively transmissive filters superimposed in pixel-based registration on one image sensor is eliminated and subsequently no micro-lenses process is needed.”). Yet representative claim 1 requires only a two-lens, two-image-sensor configuration in which none of the image sensors must be color.⁴ In these circumstances, the mismatch between the specification statements that Yu points to and the breadth of claim 1 underscores that the focus of the claimed advance is the abstract idea and not the particular configuration discussed in the specification that allegedly departs from the prior art.

⁴ In the '289 patent, a sensor “sensitive to a full region of visible color spectrum” is a black-and-white sensor. '289 patent claim 1; *see id.* at col. 2 ll. 39–49, col. 5 ll. 28–39, col. 10 ll. 17–23; Oral Arg. at 2:54–3:20, 19:05–46, No. 20-1760, http://oralarguments.cafc.uscourts.gov/default.aspx?fl=20-1760_03032021.mp3.

Accordingly, at step one, we agree with the district court that claim 1 of the '289 patent is directed to an abstract idea.

II

Turning to step two, we conclude that claim 1 does not include an inventive concept sufficient to transform the claimed abstract idea into a patent-eligible invention. Because claim 1 is recited at a high level of generality and merely invokes well-understood, routine, conventional components to apply the abstract idea identified above, *see, e.g.*, '289 patent claim 1; *id.* at col. 2 ll. 3–5; J.A. 117–20, claim 1 fails at step two, *see, e.g.*, *Alice*, 573 U.S. at 225–26, 134 S.Ct. 2347; *Mayo*, 566 U.S. at 73, 132 S.Ct. 1289; *see also, e.g.*, *In re TLI Commc'ns*, 823 F.3d at 615 (concluding patent claims ineligible at step two in part because “the recited physical components behave exactly as expected according to their ordinary use”).

Yu's contrary arguments again fail. For example, Yu argues that “[t]he unconventional nature of the digital camera architecture is demonstrated by the prosecution history of the '289 Patent” because the asserted claims “were allowed ... over multiple prior art references.” Appellant's Br. 56. But even if claim 1 recites novel subject matter, that fact is insufficient by itself to confer eligibility. *See SAP Am., Inc. v. InvestPic, LLC*, 898 F.3d 1161, 1163 (Fed. Cir. 2018); *Two-Way Media Ltd. v. Comcast Cable Commc'ns, LLC*, 874 F.3d 1329, 1340 (Fed. Cir. 2017) (“Eligibility and novelty are separate inquiries.”).

Yu further argues that the claimed “hardware configuration is vital to performing the claimed image enhancement” and that, “[t]herefore, the claimed combination of limitations ... is unconventional.” Appellant's Br. 59. But the conclusion does not follow

from the premise. Conventional computer equipment can be “vital” to an advance that is still abstract, but not suffice to avoid ineligibility at *Alice* step two. *See, e.g., SAP*, 898 F.3d at 1168–70 (ineligibility holding where abstract, mathematical data manipulation had to be implemented on computers, but only conventional computer equipment was required). Here, the *claimed* hardware configuration itself is not an advance and does not itself produce the asserted advance of enhancement of one image by another, which, as explained, is an abstract idea. The claimed configuration does not add sufficient substance to the underlying abstract idea of enhancement—the generic hardware limitations of claim 1 merely serve as “a conduit for the abstract idea.” *In re TLI Commc'ns*, 823 F.3d at 612. In other words, “[t]he main problem that [Yu] cannot overcome is that the *claim*—as opposed to something purportedly described in the specification—is missing an inventive concept.” *Two-Way Media*, 874 F.3d at 1338.

In sum, we see no inventive concept in claim 1 that would confer patent eligibility at step two.

III

Yu also argues that the district court erred at the pleadings stage in making certain adverse findings of fact and failing to accept certain allegations in the complaint.

According to Yu, the district court (1) should not have considered the undisputed fact that the practice of using multiple pictures to enhance each other was well-known for over a century; (2) should not have ruled on the “highly complex” technology at issue without first hearing expert testimony; and (3) improperly disregarded Yu’s allegations of patent eligibility.

Yu's arguments are misplaced. First, the district court's recognition at the pleadings stage in the context of § 101 of the century-old practice of using multiple pictures to enhance each other concerns a pertinent "fundamental ... concept[] and technological development[] [and thus] is well supported by our precedents." *Affinity Labs of Tex., LLC v. Amazon.com Inc.*, 838 F.3d 1266, 1270 (Fed. Cir. 2016). Second, patent eligibility can be determined at the Rule 12(b)(6) stage without the aid of expert testimony. *See, e.g., Genetic Techs. Ltd. v. Merial L.L.C.*, 818 F.3d 1369, 1373–74 (Fed. Cir. 2016). It was not error for the district court to do so here. Last, "[i]n ruling on a 12(b)(6) motion, a court need not accept as true allegations that contradict matters properly subject to judicial notice or by exhibit, such as the claims and the patent specification." *Secured Mail Sols. LLC v. Universal Wilde, Inc.*, 873 F.3d 905, 913 (Fed. Cir. 2017) (cleaned up). Here, the district court considered the intrinsic record and concluded that the claims were directed to patent-ineligible subject matter, despite Yu's allegations to the contrary. This is not error.

CONCLUSION

We have considered Yu's remaining arguments and find them unpersuasive. In view of the foregoing, the judgment of the United States District Court for the Northern District of California is affirmed.

AFFIRMED

NEWMAN, *Circuit Judge*, dissenting.

The invention described and claimed in U.S. Patent No. 6,611,289 (“the ’89 patent”) is a digital camera having two lenses mounted in front of separate image sensors, with analog to digital conversion circuitry, a memory that stores the images, and a digital processor that enhances the images. This camera is a mechanical and electronic device of defined structure and mechanism; it is not an “abstract idea.” Observation of the claims makes clear that they are for a specific digital camera:

1. An improved digital camera comprising:

a first and second image sensor closely positioned with respect to a common plane, said second image sensor sensitive to a full region of visible color spectrum;

two lenses, each being mounted in front of one of said two image sensors;

said first image sensor producing a first image and said second image sensor producing a second image;

an analog-to-digital converting circuitry coupled to said first and said second image sensor and digitizing said first and said second intensity images to produce correspondingly a first digital image and a second digital image;

an image memory, coupled to said analog-to-digital converting circuitry, for storing said first digital image and said second digital image; and

a digital image processor, coupled to said image memory and receiving said first digital image and said second digital image, producing a

resultant digital image from said first digital image enhanced with said second digital image.

2. The improved digital camera as recited in claim 1, wherein said first image sensor sensitive to said full region of visible color spectrum.

4. The improved digital camera as recited in claim 1, wherein said analog-to-digital converting circuitry comprises two individual analog-to-digital converters, each integrated with one of said first and second image sensors so that said first and second digital images are digitized independently and in parallel to increase signal throughput rate.

The '289 patent specification states that the digital camera described therein achieves superior image definition. A statement of purpose or advantage does not convert a device into an abstract idea. From the court's further enlargement of Section 101 to deny access to patenting, and further obfuscation of the statute, I respectfully dissent.

DISCUSSION

The majority states that this digital camera is ineligible for consideration for patenting because "claim 1 is directed to the abstract idea of taking two pictures (which may be at different exposures) and using one picture to enhance the other in some way." Maj. Op. at 1042–43. I repeat: claim 1 is for a digital camera having a designated structure and mechanism that perform specified functions; claim 1 is not for the general idea of enhancing camera images. The camera of the '289 patent may or may not ultimately satisfy all the substantive requirements of patentability, for this is an active field of technology. However, that does

not convert a mechanical/electronic device into an abstract idea.

Section 101 states the general classes of patentable subject matter

The purpose of Section 101 is to define the subject matter of patents as distinguished from the subject matter of copyright—for both arise from the same clause of the Constitution. Section 101's words first appeared in the Patent Act of 1793, where the Act defined the subject matter of patents as “any new and useful art, machine, manufacture or composition of matter, or any new and useful improvement on any art, machine, manufacture or composition of matter.” Patent Act of 1793, ch. 11, § 1; 1 Stat. 318 (1793). Thomas Jefferson's words remain in today's statute; *see* 35 U.S.C. § 101 (defining patentable subject matter as “any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof.”).

The issues here debated have long been settled. The Court in *Diamond v. Diehr*, 450 U.S. 175, 101 S.Ct. 1048, 67 L.Ed.2d 155 (1981), discussed the codification of Section 101 in Title 35, and summarized:

The Senate Report stated: “Section 101 sets forth the subject matter that can be patented, ‘subject to the conditions and requirements of this title.’ The conditions under which a patent may be obtained follow, and *Section 102 covers the conditions relating to novelty.*”

Id. at 190, 101 S.Ct. 1048 (emphasis in *Diehr*) (quoting S. Rep. No. 82-1979, at 5 (1952), *reprinted in* 1952 U.S.C.C.A.N. 2399). In contravention of this explicit distinction between Section 101 and Section 102, the

majority now holds that the '289 camera is an abstract idea because the camera's components were well-known and conventional and perform only their basic functions. That is not the realm of Section 101 eligibility. The Supreme Court disposed of this position in *Diehr*:

It has been urged that novelty is an appropriate consideration under § 101. Presumably, this argument results from the language in § 101 referring to any “new and useful” process, machine, etc. Section 101, however, is a general statement of the type of subject matter that is eligible for patent protection “subject to the conditions and requirements of this title.” Specific conditions for patentability follow and § 102 covers in detail the conditions relating to novelty. The question therefore of whether a particular invention is novel is “wholly apart from whether the invention falls into a category of statutory subject matter.”

Diehr, 450 U.S. at 189–90, 101 S.Ct. 1048 (quoting *In re Bergy*, 596 F.2d 952, 961 (C.C.P.A. 1979), vacated as moot, *Diamond v. Chakrabarty*, 444 U.S. 1028, 100 S.Ct. 696, 62 L.Ed.2d 664 (1980)). I stress this history, for the principle that the majority today invokes was long ago discarded. A device that uses known components does not thereby become an abstract idea, and is not on that ground ineligible for access to patenting.

The “abstract idea” concept with respect to patent-eligibility is founded in the distinction between general principle and specific application. An oft-cited illustration is *O'Reilly v. Morse*, 56 U.S. 62, 15 How. 62, 14 L.Ed. 601 (1853), where the Court rejected Samuel Morse's claim 8 to the scientific principle he

called “galvanic current,” or electromagnetism, as used for printing at a distance. The Court explained:

The eighth [claim] is too broad and covers too much ground. It is this. ‘I do not propose to limit myself to the specific machinery or parts of machinery described in the foregoing specification and claims; the essence of my invention being the use of the motive power of the electric or galvanic current, which I call electro-magnetism, however developed, for making or printing intelligible characters, signs or letters at any distances, being a new application of that power, of which I claim to be the first inventor or discoverer.’

Id. However, the Court sustained Morse's claims to the structure and details of the invention that he named the telegraph.

Over the ensuing decades, this reasoning has solidified the foundations of eligibility, drawing on the fundamental distinction between breadth of general scientific principle, and its embodiment in practical application. This distinction between a general concept and its specific application is implemented in the Patent Act. Determination of patentability of a new device is not a matter of eligibility under Section 101, but of compliance with all the statutory provisions.

Patent-eligible subject matter must meet the substantive standards of patentability in order to receive a patent, but Section 101 ineligibility does not arise simply because a device embodies minor and predictable differences from the prior art, as the majority holds. *Maj. Op.* at 1042–44 – ——. “The question ... of whether a particular invention is novel is wholly apart from whether the invention falls into a

category of statutory subject matter.” *Diehr*, 450 U.S. at 190, 101 S.Ct. 1048 (internal quotation marks and citation omitted).

As technology advanced, the Supreme Court was cognizant of the importance of technology to the nation's economy and well-being, and resolved significant new issues. For example, as the field of biotechnology evolved, the Court reiterated that Section 101 embraces any new or useful “manufacture” or “composition of matter,” and reminded us that “Congress intended statutory subject matter to ‘include anything under the sun that is made by man.’” *Diamond v. Chakrabarty*, 447 U.S. 303, 309, 100 S.Ct. 2204, 65 L.Ed.2d 144 (1980) (quoting S. Rep. No. 82-1979, at 5 (1952), *reprinted in* 1952 U.S.C.C.A.N. 2399; and H.R. Rep. No. 82-1923, at 6H.R. Rep. No. 82-1923, at 6 (1952)).

And as litigation burgeoned in computer-implemented technologies, in *Alice Corp. Pty. Ltd. v. CLS Bank International*, 573 U.S. 208, 134 S.Ct. 2347, 189 L.Ed.2d 296 (2014), the Court sought to provide guidance by proposing a two-step analytical process to distinguish abstract idea from specific embodiment. The *Alice* two-step analysis does not produce the majority's now-effected enlargement of Section 101.

In the current state of Section 101 jurisprudence, inconsistency and unpredictability of adjudication have destabilized technologic development in important fields of commerce. Although today's Section 101 uncertainties have arisen primarily in the biological and computer-implemented technologies, all fields are affected. The case before us enlarges this instability in all fields, for the court holds that the question of whether the components of a new device are well-known and conventional affects Section 101

eligibility, without reaching the patentability criteria of novelty and nonobviousness.

The digital camera described and claimed in the '289 patent is a mechanical/electronic device that easily fits the standard subject matter eligibility criteria. Neither the panel majority nor the district court decided patentability under Section 102 or Section 103, having eliminated the claims under Section 101. The '289 claims warrant review under the substantive criteria of patentability—a review that they have never received.

The fresh uncertainties engendered by the majority's revision of Section 101 are contrary to the statute and the weight of precedent, and contrary to the public's interest in a stable and effective patent incentive.

I respectfully dissent.

**APPENDIX B — ORDER ON PETITION FOR
REHEARING EN BANC OF THE UNITED
STATES COURT OF APPEALS FOR THE
FEDERAL CIRCUIT, DATED AUGUST 30, 2021**

UNITED STATES COURT OF APPEALS FOR THE
FEDERAL CIRCUIT

2020-1760

YANBIN YU, ZHONGXUAN ZHANG,

Plaintiffs-Appellants,

v.

APPLE INC.,

Defendant-Appellee.

Appeal from the United States District Court for the
Northern District of California in No. 3:18-cv-06181-
JD, Judge James Donato.

UNITED STATES COURT OF APPEALS FOR THE
FEDERAL CIRCUIT

2020-1803

YANBIN YU, ZHONGXUAN ZHANG,

Plaintiffs-Appellants,

v.

SAMSUNG ELECTRONICS CO., LTD., SAMSUNG
ELECTRONICS AMERICA, INC.,

Defendants-Appellees.

Appeal from the United States District Court for the Northern District of California in No. 3:18-cv-06339-JD, Judge James Donato.

ON PETITION FOR REHEARING EN BANC

Before MOORE, *Chief Judge*, NEWMAN, LOURIE, DYK, PROST, REYNA, TARANTO, CHEN, HUGHES, and STOLL, *Circuit Judges*.*

PER CURIAM.

ORDER

Yanbin Yu and Zhongxuan Zhang filed a petition for rehearing en banc. A response to the petition was invited by the court and filed by Samsung Electronics and Sam-sung Electronics America, Inc. The petition was first referred as a petition for rehearing to the panel that heard the appeal, and thereafter the petition for rehearing en banc was referred to the circuit judges who are in regular active service.

IT IS ORDERED THAT:

The petition for panel rehearing is denied.

The petition for rehearing en banc is denied.

The mandate of the court will issue on September 7, 2021.

FOR THE COURT

August 31, 2021

Date

/s/ Peter R. Marksteiner

Peter R. Marksteiner
Clerk of Court

* Circuit Judge Kathleen M. O'Malley did not participate.

**APPENDIX C — OPINION OF THE UNITED
STATES DISTRICT COURT FOR THE
NORTHERN DISTRICT OF CALIFORNIA,
DATED MARCH 24, 2020**

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA

3:18-cv-06181-JD

YANBIN YU, et al.,

Plaintiffs,

v.

APPLE INC.,

Defendant.

Appeal from the United States District Court for the
Northern District of California in No. 3:18-cv-06181-
JD, Judge James Donato.

UNITED STATES COURT OF APPEALS FOR THE
FEDERAL CIRCUIT

3:18-cv-06339-JD

YANBIN YU, at al.,

Plaintiffs,

v.

SAMSUNG ELECTRONICS CO., LTD., et al.,

Defendants.

ORDER RE MOTION TO DISMISS

JAMES DONATO, United States District Judge

In these related actions, Yanbin Yu and Zhongxuan Zhang (“Yu”) allege Apple and Samsung cell phones with dual-lens cameras infringe U.S. Patent No. 6,611,289, “Digital Cameras Using Multiple Sensors with Multiple Lenses” (the “289 patent”).¹ The Court dismissed the original complaints under 35 U.S.C. § 101 (“Section 101”) and *Alice Corp. Pty. Ltd. v. CLS Bank International*, 573 U.S. 208, 134 S.Ct. 2347, 189 L.Ed.2d 296 (2014). *Yu v. Apple Inc.*, 392 F. Supp. 3d 1096 (N.D. Cal. 2019). Yu filed first amended complaints (“FACs”). Dkt. No. 66 in Case No. 18-cv-06181; Dkt. No. 61 in Case No. 18-cv-6339. Apple and Samsung filed a joint motion to dismiss for lack of patentability. Dkt. No. 68 in Case No. 18-cv-6181; Dkt. No. 64 in Case No. 18-cv-6339.

Samsung also seeks to dismiss Yu’s willful and induced infringement claims. Dkt. No. 63 in Case No. 18-cv-6339.

The Court finds the motion suitable for decision on the papers pursuant to Civil Local Rule 7-1(b). The FACs are dismissed, and all remaining motions, including Samsung’s separate motion to dismiss, are terminated as moot.

BACKGROUND

Before turning to the merits, an observation is warranted. Yu characterizes the prior dismissal order as making no less than 21 distinct “factual findings” and not properly crediting the allegations in the

¹ Unless otherwise noted, all docket references are to *Yu v. Apple*, Case No. 18-cv-6181. The motions and arguments in the two cases are virtually identical.

complaints. Dkt. No. 64 at 3-8. Yu appears to believe that every allegation in a complaint must be taken as true, and that any departure from this purported rule is in effect a finding of fact. That is not the law. On a motion to dismiss, “the tenet that a court must accept as true all of the allegations contained in a complaint is inapplicable to legal conclusions.” *Ashcroft v. Iqbal*, 556 U.S. 662, 678, 129 S.Ct. 1937, 173 L.Ed.2d 868 (2009) (citing *Bell Atl. Corp. v. Twombly*, 550 U.S. 544, 555, 127 S.Ct. 1955, 167 L.Ed.2d 929 (2007)). And specifically in a patent case, “a court need not accept as true allegations that contradict matters properly subject to judicial notice or by exhibit, such as the claims and the patent specification.” *Secured Mail Sols. LLC v. Universal Wilde*, 873 F.3d 905, 913 (Fed. Cir. 2017) (internal quotation and citation omitted). Yu’s original complaint failed under the application of these well-established principles, as informed by the Court’s “judicial experience and common sense.” *Iqbal*, 556 U.S. at 679, 129 S.Ct. 1937. To suggest otherwise, as Yu does, is to fundamentally misunderstand the Court’s order and our federal motion to dismiss practice.

Yu’s comments about the prior order are also at odds with the rule “that patent eligibility can be determined at the Rule 12(b)(6) stage.” *Aatrix Software, Inc. v. Green Shades Software, Inc.*, 882 F.3d 1121, 1125 (Fed. Cir. 2018); *see also Genetic Techs. Ltd. v. Merial L.L.C.*, 818 F.3d 1369, 1373-74 (Fed. Cir. 2016) (same). Yu is perfectly free to try to establish a material issue of fact that might forestall a motion to dismiss, but he cannot simply declare that such disputes exist without any support in the record, or make them up out of whole cloth in a motion brief.

With respect to the merits, the salient facts are not meaningfully disputed and are detailed in the prior dismissal order. In summary, the '289 patent was issued to Yu on August 26, 2003, and expired on January 15, 2019. Dkt. No. 66-1. Yu alleges Apple and Samsung have infringed “at least Claims 1, 2, and 4” of the '289 patent. Dkt. No. 66 ¶¶ 38, 49 in Case No. 18-cv-6181; Dkt. No. 61 ¶¶ 36, 47 in Case No. 18-cv-6339. No other claims are asserted.

Neither party has disagreed with treating claim 1 as the representative independent claim, as the Court did in the prior order, or suggested another approach. *Yu*, 392 F. Supp. 3d at 1101 (citing *Elec. Power Grp. v. Alstom S.A.*, 830 F.3d 1350, 1352 (Fed. Cir. 2016)); see also *Berkheimer v. HP Inc.*, 881 F.3d 1360, 1365 (Fed. Cir. 2018). The Court will again use claim 1 as representative.

Claim 1 recites:

1. An improved digital camera comprising:

a first and a second image sensor closely positioned with respect to a common plane, said second image sensor sensitive to a full region of visible color spectrum;

two lenses, each being mounted in front of one of said two image sensors;

said first image sensor producing a first image and said second image sensor producing a second image;

an analog-to-digital converting circuitry coupled to said first and said second image sensor and digitizing said first and said second intensity images to produce correspondingly a first digital image and a second digital image;

an image memory, coupled to said analog-to-digital converting circuitry, for storing said first digital image and said second digital image; and

a digital image processor, coupled to said image memory and receiving said first digital image and said second digital image, producing a resultant digital image from said first digital image enhanced with said second digital image.

Dkt. No. 66-1 at 10:38-58. Claims 2 and 4 are dependent on claim 1. *Id.* at 10:59-11:6.

The parties have not called for claim construction as part of the eligibility inquiry, and as with the prior motion to dismiss, no material construction disagreements were identified in the briefs. *Aatrix*, 882 F.3d at 1125 (citing *Genetic Techs.*, 818 F.3d at 1373). Yu makes a cursory reference to the Federal Circuit's decision in *ChargePoint, Inc. v. SemaConnect, Inc.*, 920 F.3d 759, 767 (Fed. Cir. 2019), for the proposition that the *Alice* inquiry “may require claim construction,” Dkt. No. 70 at 10, but makes no effort to show how that might apply here. Consequently, the Court need not wait on claim construction for resolution of the Section 101 inquiry.

DISCUSSION

I. LEGAL STANDARDS

The prior dismissal order discussed in detail the standards governing review of a Rule 12(b)(6) motion and patentability under Section 101. *Yu*, 392 F. Supp. 3d at 1101-04. The parties do not challenge that discussion, or point to any intervening change in law that might warrant a different approach here.

To recap, Rule 8(a)(2) of the Federal Rules of Civil Procedure requires a complaint to provide “a short and plain statement of the claim showing that the pleader is entitled to relief.” A plaintiff must allege “enough facts to state a claim to relief that is plausible on its face.” *Twombly*, 550 U.S. at 570, 127 S.Ct. 1955. This calls for enough “factual content that allows the court to draw the reasonable inference that the defendant is liable for the misconduct alleged.” *Iqbal*, 556 U.S. at 678, 129 S.Ct. 1937 (citing *Twombly*, 550 U.S. at 556, 127 S.Ct. 1955).

A patentee cannot avoid dismissal of ineligible claims purely on the basis of conclusory or generalized factual allegations. *See id.* In addition, allegations about inventiveness that are “wholly divorced from the claims or the specification” will not defeat a motion to dismiss on Section 101 grounds. *Cellspin Soft, Inc. v. Fitbit, Inc.*, 927 F.3d 1306, 1317 (Fed. Cir. 2019).

The scope of patentable subject matter includes “any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof.” 35 U.S.C. § 101. The “laws of nature, physical phenomena, and abstract ideas” are “specific exceptions to § 101's broad patent-eligibility principles.” *Bilski v. Kappos*, 561 U.S. 593, 601, 130 S.Ct. 3218, 177 L.Ed.2d 792 (2010) (citation omitted).

In *Alice*, the Supreme Court set out the now-familiar test of patent-eligibility under Section 101. First, the Court “determine[s] whether the claims at issue are directed to a patent-ineligible concept” such as an abstract idea. *Id.* at 218, 134 S.Ct. 2347. The “purely functional nature of the claim confirms [whether it] is directed to an abstract idea, not to a concrete embodiment of that idea.” *Affinity Labs of Tex., LLC v. Amazon.com, Inc.*, 838 F.3d 1266, 1269

(Fed. Cir. 2016). “For an application of an abstract idea to satisfy step one, the claim's focus must be something other than the abstract idea itself.” *BSG Tech LLC v. Buyseasons, Inc.*, 899 F.3d 1281, 1287 (Fed. Cir. 2018). Oversimplifying the claims should be avoided because “[a]t some level, ‘all inventions ... embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas.’” *Alice*, 573 U.S. at 217, 134 S.Ct. 2347 (second alteration in original) (citation omitted).

89If a patent is directed to an ineligible subject matter, the second step in *Alice* is to look for an “‘inventive concept’ -- *i.e.*, an element or combination of elements that is sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the [ineligible concept] itself.” *Id.* at 217-18, 134 S.Ct. 2347 (alteration in original) (internal quotation and citation omitted). This step asks, “[w]hat else is there in the claims before us?” *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 78, 132 S.Ct. 1289, 182 L.Ed.2d 321 (2012). As in step 1, the answer must include something “significantly more” than the abstract idea itself. *BSG Tech*, 899 F.3d at 1290. It is also “well-settled that mere recitation of concrete, tangible components is insufficient to confer patent eligibility to an otherwise abstract idea. Rather, the components must involve more than performance of ‘well-understood, routine, conventional activit[ies] previously known to the industry.’” *In re TLI Commc'ns LLC Patent Litig.*, 823 F.3d 607, 613 (Fed. Cir. 2016) (alteration in original) (quoting *Alice*, 573 U.S. at 225, 134 S.Ct. 2347).

II. THE CLAIMED INVENTION IS NOT PATENTABLE

A. Claim 1 Is Directed to an Abstract Idea

Courts “have crafted various tools to analyze whether a claim is ‘directed to’ ineligible subject matter.” *ChargePoint*, 920 F.3d at 766. The patent specification may be considered in this inquiry, but “reliance on the specification must always yield to the claim language in identifying” the claim's focus. *Id.*

The plain language of claim 1 of the '289 patent establishes that it is directed to a patent-ineligible concept, namely the abstract idea of taking two pictures and using those pictures to enhance each other in some way. It claims “[a]n improved digital camera” with elements like “image sensor[s],” “lenses,” “analog-to-digital converting circuitry,” “image memory,” and “a digital image processor.” Dkt. No. 66-1 at 10:38-58. These components are described as performing their normal functions. Each lens is “mounted in front of” an image sensor. The image sensors “produc[e]” images. The analog-to-digital converting circuitry “digitize[s]” the images. Image memory “stor[es]” those digital images. The digital image processor “produc[es]” an “enhanced” final digital image.

In effect, claim 1 claims a digital camera with basic digital camera parts, performing their basic functions, except that the final digital image is produced “from said first digital image enhanced with said second digital image.” *Id.* at 10:57-58. The whole point of the claim is to provide two digital images so that a generic “digital image processor” can enhance one with the other. That is an abstract idea.

While this is enough to answer step 1 under *Alice*, a useful cross-check is to look for “fundamental [and] long prevalent” implementations or practices of the same basic concept. *See Intellectual Ventures I LLC v. Symantec Corp.*, 838 F.3d 1307, 1314 (Fed. Cir. 2016)

(quoting *Alice*, 573 U.S. at 219, 134 S.Ct. 2347). The Court's prior order noted that photographers had been using multiple pictures to enhance each other for over a century and concluded claim 1 was directed to that abstract idea. *Yu*, 392 F. Supp. 3d at 1104-05. Plaintiffs do not challenge that comparison in any way here. Dkt. No. 70 at 3-4, 11. They try to sidestep it as an unwarranted factual conclusion, but the Federal Circuit has expressly determined that “taking note of fundamental ... concepts” on a motion to dismiss is not the equivalent of “making factual findings.” *Affinity Labs*, 838 F.3d at 1270.

Yu suggests that the patent is not directed to an abstract idea because claim 1 recites camera architecture elements. The point is not well taken. In the similar context of a patent for “taking, transmitting, and organizing digital images” on cell phones, the Federal Circuit held that the presence of “concrete, tangible components such as ‘a telephone unit’ and a ‘server’” did not disturb the conclusion that the claim at issue was “drawn to the concept of classifying an image and storing the image based on its classification.” *In re TLI Commc'ns LLC Patent Litigation*, 823 F.3d at 609, 611. So too, here.

Yu also says that the architecture in claim 1 is a specific improvement to a technical problem, and so not an abstract idea under step 1. Dkt. No. 66 ¶ 15.

But Yu presents this point only as a conclusory allegation, with no facts alleged in support. In addition, the critical question is “whether the focus of the claims is on the specific asserted improvement in computer capabilities ... or, instead, on a process that qualifies as an ‘abstract idea’ for which computers are invoked merely as a tool.” *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1335-36 (Fed. Cir. 2016). The

answer goes against Yu. The FAC says that the “problems that are described in the specification, and that were addressed by the ’289 Patent, demonstrate that the focus of the claimed invention is an improvement in the functionality of digital cameras.” Dkt. No. 66 ¶ 14. But the specification makes clear that the focus of the patent is on “improving image qualities.” Dkt. No. 66-1 at 2:31-35. While this goal may be shaped by a desire to avoid “incurring substantial costs” in digital cameras, *id.*, “the need [for better images] is not a unique technical problem.” *Cellspin*, 927 F.3d at 1316.

The “essentially result-focused functional character of claim language” amply establishes that claim 1 does not propose a specific solution to a technical problem. *Am. Axle & Mfg., Inc. v. Neapco Holdings LLC*, 939 F.3d 1355, 1365 (Fed. Cir. 2019) (citation omitted). “To be patent-eligible, the claims must recite a specific means or method that solves a problem in an existing technological process.” *Koninklijke KPN N.V. v. Gemalto M2M GmbH*, 942 F.3d 1143, 1150 (Fed. Cir. 2019). The ’289 patent expressly disclaims such specificity in favor of “a generic solution that makes digital cameras capable of producing high resolution images.” Dkt. No. 66-1 at 2:4-5. No particular or special equipment is required. *Id.* at 4:67-5:4. The “analog-to-digital converting circuitry” digitizes, the “image memory” stores, and the “digital image processor” produces images. There is no description of how the claimed invention achieves these results, and this wide-open space leaves room to claim “all solutions for achieving a desired result” of the enhancement of digital images. *Am. Axle & Mfg.*, 939 F.3d at 1365 (citation omitted).

A “look at the focus of the claimed advance over the prior art” also shows that “the claim's character as a whole is directed to excluded subject matter.” *Koninklijke*, 942 F.3d at 1150 (citation omitted). All the claimed advances in the patent are attributable to the use of “an additional image sensor ... to modify image qualities of the original image sensor.” Dkt. No. 66-1 at 7:41-43; *see also id.* at 9:19-27; *id.* at 10:1-5. This further demonstrates that claim 1 is not directed to an improvement in computer functionality, as was true for the digital image patent in *In re TLI*. *See* 823 F.3d at 611-13.

Other allegations in the FAC buttress this conclusion. The only arguably special component Yu identifies for the Apple or Samsung cameras is the processor required “to perform the complex computations necessary to take advantage of the dual-lens camera.” Dkt. No. 66 ¶¶ 26-31 in Case No. 18-cv-6181; Dkt. No. 61 ¶¶ 27-29 in Case No. 18-cv-6339. As in *SAP America, Inc. v. InvestPic, LLC*, 898 F.3d 1161, 1169-70 (Fed. Cir. 2018), “it is clear, from the claims themselves and the specification, that [the] limitations require no improved computer resources [Yu] claims to have invented, just already available computers, with their already available basic functions, to use as tools in executing the claimed process.”

“[T]he extent to which the claim would preempt building blocks of science and technology” is properly considered at *Alice* step 1. *ChargePoint*, 920 F.3d at 768. Yu says that, because the patent does “not cover a system that includes only red, green, and blue monochromatic image sensors,” Dkt. No. 70 at 13, preemption is not a concern. But the Federal Circuit has rejected similar efforts to evaluate preemption in

such all-or-nothing terms. “While preemption may signal patent-ineligible subject matter, the absence of complete preemption does not demonstrate patent eligibility. [Plaintiffs'] attempt to limit the breadth of the claims by showing alternative[s] ... outside of the scope of the claims does not change the conclusion that the claims are directed to patent ineligible subject matter.” *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 788 F.3d 1371, 1379 (Fed. Cir. 2015).

Yu himself takes a very broad reading of the scope of the '289 patent. The specification describes how the claimed invention increases the resolution of photographs from digital cameras and extends their dynamic range, Dkt. No. 66-1 at 1:66-2:16, among other enhancements, *id.* at 7:3-7. But Yu has sued Apple and Samsung for cell phone cameras with a better zoom and portrait mode, neither of which were actually mentioned in the patent. Dkt. No. 66 ¶ 25 in Case No. 18-cv-6181; Dkt. No. 61 ¶¶ 22-23 in Case No. 18-cv-6339.

B. Claim 1 Lacks an Inventive Concept

Under the second step of *Alice*, Yu has not shown that claim 1 embodies an “ ‘inventive concept’ sufficient to ‘transform’ the claimed abstract idea into a patent-eligible invention.” *Alice*, 573 U.S. at 221, 134 S.Ct. 2347 (quoting *Mayo*, 566 U.S. at 72-73, 132 S.Ct. 1289). The presence of an inventive concept ensures a patent contains “an element or combination of elements that is ‘sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the ineligible concept itself.’ ” *Id.* at 217-218, 134 S.Ct. 2347 (quoting *Mayo*, 566 U.S. at 72-73, 132 S.Ct. 1289). The “inventive concept must be evident in the claims” themselves. *RecogniCorp, LLC*

v. Nintendo Co., Ltd., 855 F.3d 1322, 1327 (Fed. Cir. 2017).

No individual “additional elements transform the nature of the claim into a patent-eligible application.” *Alice*, 573 U.S. at 217, 134 S.Ct. 2347. The FACs focus on the patent's use of “at least one image sensor that is sensitive to a full region of visible color spectrum” and “making the image sensors closely positioned with respect to a common plane.” Dkt. No. 66 ¶ 10. But Yu offers no evidence or good argument that these elements individually were not “well-understood, routine, conventional activities previously known to the industry.” *Alice*, 573 U.S. at 225, 134 S.Ct. 2347. In any event, the question is readily “answered adversely to the patentee based on the sources properly considered on a motion to dismiss, such as the complaint, the patent, and materials subject to judicial notice.” *Aatrix*, 882 F.3d at 1128. The whole purpose of the patent was to create better images without “incurring the cost of photosensitive chips with multimillion photocells.” Dkt. No. 66-1 at 2:6-7. There is no suggestion by Yu that image sensors “sensitive to a full region of visible color spectrum” were not well-known.

The allegations in the FACs also undermine any claim that close positioning of image sensors was unconventional. Both prior art patents discussed in the FACs exhibited that feature, and one placed sensors “closely positioned with respect to a common plane.” Dkt. No. 66 ¶ 17. While the “mere fact something is disclosed in a piece of prior art ... does not mean it was well-understood, routine, and conventional,” *Berkheimer*, 881 F.3d at 1369, in the complete absence of any facts showing that these elements were not well-known, routine, and

conventional, the close positioning of image sensors cannot supply the necessary inventive concept in this case.

Nor does an inventive concept emerge from viewing the elements as an ordered combination. Yu has not demonstrated that the application of the abstract idea of taking two pictures and using those pictures to enhance each other in some way might be unconventional. The decision in *Cellspin* highlights this deficiency. *Cellspin* involved a series of patents for “connecting a data capture device, *e.g.*, a digital camera, to a mobile device so that a user can automatically publish content from the data capture device to a website.” *Cellspin*, 927 F.3d at 1309. The Federal Circuit reversed a dismissal on *Alice* grounds because “Cellspin's allegations identify several ways in which its application of capturing, transferring, and publishing data was unconventional.” *Id.* at 1316. “Cellspin alleged that it was unconventional to separate the steps of capturing and publishing data so that each step would be performed by a different device linked via a wireless, paired connection. This two-step, two-device structure is discussed throughout the shared specification. Cellspin also alleged that this structure provided various benefits over prior art systems.” *Id.* at 1316-17.

Yu did not make similar allegations here, and has not otherwise shown that the '289 patent entails an unconventional application of any sort. The patent requires only a generic “digital image processor ... producing a resultant digital image from said first digital image enhanced with said second digital image.” Dkt. No. 66-1 at 10:54-58. The specification recognizes that image sensors being closely positioned does not fundamentally transform this process, noting

that images “from image sensors even very closed [*sic*] positioned, are not in registration” and that “[t]he pixel registration process based on each pixel is very computationally extensive and therefore preferably carried in predefined blocks. Pixels in registered blocks are then further registered in pixel bases using linear interpolation that is known in mathematical books.” *Id.* at 7:67-8:1; 8:50-55. The FACs' allegation that prior art registration issues were resolved by lenses being “closely positioned with respect to a common plane” Dkt. No. 66-1 ¶ 10, is undermined by the patent itself, which attributes the solution to that problem to “linear interpolation that is known in mathematical books.” Yu has not plausibly alleged that the use of closely positioned sensors “is a technical improvement over prior art,” and so that cannot help claim 1 pass step 2 under *Alice*. See *BASCOM Glob. Internet Servs., Inc. v. AT&T Mobility LLC*, 827 F.3d 1341, 1350 (Fed. Cir. 2016).

So too for the use of an image sensor “sensitive to a full region of visible color spectrum,” which also does not provide the necessary inventive concept. According to the specification, it is not a particular image sensor, but rather the use of “images independently [obtained] from multiple sensors with multiple lenses ... [that makes] complementary expansions of the respective dynamic ranges become possible.” Dkt. No. 66-1 at 9:49-51. The patent describes how images from only limited-range “color sensors” can be combined to increase dynamic range if each is “separately controlled with different exposure time and other system parameters.” *Id.* at 9:44-45. The specification notes that “images from a single image sensor with a single lens can be hardly enhanced for a larger dynamic range without sacrificing one end or the other of the dynamic range.”

Id. at 9:46-49. This makes clear that it is the use of multiple images, not that one image sensor is sensitive to the full color spectrum, which provides for the benefits of the claimed invention, like increased dynamic range. *See also id.* at 9:53-10:5 (same for increased resolution).

Consequently, “the alleged ‘inventive concept’ that solves problems identified in the field is that [digital images are combined]. But [combining images] is the abstract idea itself, and a claimed invention's use of the ineligible concept to which it is directed cannot supply the inventive concept that renders the invention ‘significantly more’ than that ineligible concept.” *ChargePoint*, 920 F.3d at 774.

The allegations in the FACs from the '289 patent's prosecution history do not lead to a different conclusion. The FACs say that the “prosecution history of the '289 Patent makes clear that the United States Patent and Trademark Office (“USPTO”) considered the claimed invention to include an unconventional camera architecture.” Dkt. No. 66 ¶ 17. But for step 2, “[t]he appropriate question is not whether the entire claim as a whole was well-understood, routine and conventional to a skilled artisan (*i.e.*, whether it lacks novelty).” *Chamberlain Grp., Inc. v. Techtronic Indus. Co.*, 935 F.3d 1341, 1348-49 (Fed. Cir. 2019). The prosecution history demonstrates only that the patent examiner found the use of “image sensors being sensitive to a full visible color spectrum in combination with other limitations” had not been disclosed in the prior art and was patentable for that reason. Dkt No. 66 ¶ 17. That is not the “inventiveness” required under *Alice* at step 2.

Plaintiffs try to make a final stand against dismissal on the contention that defendants' motions are

“disingenuous in view of their own attempts to patent very similar technology.” Dkt. No. 70 at 14. How this argument fits into the Section 101 inquiry is not at all clear, and Yu makes no effort to explain that. It is no bar to the motions.

CONCLUSION

The FACs against Apple in Case No. 18-cv-6181 and Samsung in Case No. 18-cv-6339 are dismissed. In the prior dismissal order, the Court expressed doubt that plaintiffs could amend around *Alice* “[i]n light of the plain language of the claims in the patent.” *Yu*, 392 F. Supp. 3d at 1108. The FACs did not succeed in that effort, and the Court’s “discretion to deny leave to amend is particularly broad where the plaintiff has previously amended the complaint.” *S.F. Herring Assoc. v. Dep’t of the Interior*, 946 F.3d 564, 582 (9th Cir. 2019). Consequently, the cases are dismissed with prejudice. All other pending motions are terminated.

IT IS SO ORDERED.

**APPENDIX D — OPINION OF THE UNITED
STATES DISTRICT COURT FOR THE
NORTHERN DISTRICT OF CALIFORNIA,
DATED JULY 2, 2019**

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA

3:18-cv-06181-JD

YANBIN YU, et al.,

Plaintiffs,

v.

APPLE INC.,

Defendant.

Appeal from the United States District Court for the
Northern District of California in No. 3:18-cv-06181-
JD, Judge James Donato.

UNITED STATES COURT OF APPEALS FOR THE
FEDERAL CIRCUIT

3:18-cv-06339-JD

YANBIN YU, at al.,

Plaintiffs,

v.

SAMSUNG ELECTRONICS CO., LTD., et al.,

Defendants.

ORDER RE MOTION TO DISMISS

JAMES DONATO, United States District Judge

These cases are related actions brought by the patentees over dual-lens cameras in cell phones. Yanbin Yu and Zhongxuan Zhang (“Yu”) sued Apple Inc. in Case No. 18-cv-06181-JD. Dkt. No. 1 (the Apple complaint is designated “AC”).¹ They filed a substantively similar complaint against Samsung Electronics Co., Ltd. and its subsidiary, Samsung Electronics America, Inc. (together “Samsung”), in Case No. 18-cv-06339-JD. Dkt. No. 1 (the Samsung complaint is designated “SC”). The cases involve one patent owned by Yu: U.S. Patent No. 6,611,289, entitled “Digital Cameras Using Multiple Sensors with Multiple Lenses” (the “289 patent”). AC ¶ 8-12; SC ¶ 10-14.

Yu alleges that the dual-lens cameras in Apple and Samsung cell phones infringe the ’289 patent. AC ¶ 13-25; SC ¶ 15-26.

Apple has moved to dismiss for patent ineligibility under 35 U.S.C. § 101, and Samsung has joined the motion on the basis of Apple's arguments. Dkt. No. 43; Dkt. No. 40 at 5 in Case No. 18-cv-06339. In defendants' view, the asserted claims cannot be patented because they “are directed to the abstract idea of creating an image by using one image to enhance another image,” without any saving inventive concept. Dkt. No. 43 at 6. In light of “the sources properly considered on a motion to dismiss, such as the complaint, the patent, and materials subject to judicial notice,” *Aatrix Software, Inc. v. Green Shades*

¹ Unless otherwise noted, all docket references are to *Yu v. Apple*, Case No. 18-cv-6181. The motions and arguments in the two cases are virtually identical.

Software, Inc., 882 F.3d 1121, 1128 (Fed. Cir. 2018), the AC and SC are dismissed under Section 101 and *Alice Corp. Pty. Ltd. v. CLS Bank International*, 573 U.S. 208, 134 S.Ct. 2347, 189 L.Ed.2d 296 (2014), with leave to amend.

BACKGROUND

The '289 patent was issued to Yu on August 26, 2003, and expired January 15, 2019. Dkt. No. 1-1. The patent was directed to improving digital photos, which were said to lack the resolution and dynamic color range of traditional film images. See AC ¶ 10; SC ¶ 12; Dkt. No. 1-1 at 1:24-2:22. The inventors described “a great need” to improve the quality of digital photos without “enormously incurring the cost of photosensitive chips with multimillion photocells.” Dkt. No. 1-1 at 2:3-7. To that end, the patent claims an invention of a digital camera “capable of producing high resolution images” with “better colors and details in a greater range.” *Id.* at 2:4-16. The patent proposes an arrangement of multiple image sensors, lenses and a processor to “produce high quality and film-like true color digital images.” *Id.* at 2:36-49.

The parties' briefing focuses on claim 1 as the representative independent claim. Dkt. No. 43 at 8; Dkt. No. 45 at 8; Dkt. No. 46 at 8. See *Elec. Power Grp. v. Alstom S.A.*, 830 F.3d 1350, 1352 (Fed. Cir. 2016) (approving treatment of claims as representative in Section 101 challenge). Claim 1 recites:

1. An improved digital camera comprising:
a first and second image sensor closely positioned with respect to a common plane, said second image sensor sensitive to a full region of visible color spectrum;

two lenses, each being mounted in front of one of said two image sensors;

said first image sensor producing a first image and said second image sensor producing a second image;

an analog-to-digital converting circuitry coupled to said first and said second image sensor and digitizing said first and said second intensity images to produce correspondingly a first digital image and a second digital image;

an image memory, coupled to said analog-to-digital converting circuitry, for storing said first digital image and said second digital image; and

a digital image processor, coupled to said image memory and receiving said first digital image and said second digital image, producing a resultant digital image from said first digital image enhanced with said second digital image.

Dkt. No. 1-1 at 10:38-58. All the remaining asserted claims are dependent on claim 1. *Id.* at 10:59-11:6.

The patent expressly eschews any special hardware or software in favor of a “generic solution.” *See id.* at 2:3-7. The patent states that different types of sensors may be used as part of the invention. *Id.* at 4:67-5:4. The lenses in the patent are contrasted to a special process. *Id.* at 2:56-57 (“[N]o micro-lenses process is needed.”). The analog-to-digital circuitry is described simply as “digitiz[ing] the output signals.” *Id.* at 5:41-43. The image memory is not detailed. The image processor is described functionally. *Id.* at 2:44-49 (“Using a set of digital image processes embedded in a digital signal processing chip, images ... are

processed ... and subsequently produce high quality and film-like true color digital images.”).

DISCUSSION

I. LEGAL STANDARDS

Rule 8(a)(2) of the Federal Rules of Civil Procedure requires the complaint to provide “a short and plain statement of the claim showing that the pleader is entitled to relief.” To meet that rule and survive a Rule 12(b)(6) motion to dismiss, a plaintiff must allege “enough facts to state a claim to relief that is plausible on its face.” *Bell Atl. Corp. v. Twombly*, 550 U.S. 544, 570, 127 S.Ct. 1955, 167 L.Ed.2d 929 (2007). This does not impose a probability requirement at the pleading stage. It simply calls for enough “factual content that allows the court to draw the reasonable inference that the defendant is liable for the misconduct alleged.” *Ashcroft v. Iqbal*, 556 U.S. 662, 678, 129 S.Ct. 1937, 173 L.Ed.2d 868 (2009) (citing *Twombly*, 550 U.S. at 556, 127 S.Ct. 1955). The plausibility analysis is “context-specific” and not only invites, but “requires the reviewing court to draw on its judicial experience and common sense.” *Id.* at 679, 129 S.Ct. 1937.

The Federal Circuit has “repeatedly recognized that in many cases it is possible and proper to determine patent eligibility under 35 U.S.C. § 101 on a Rule 12(b)(6) motion. In many cases, too, evaluation of a patent claim's subject matter eligibility under § 101 can proceed even before a formal claim construction.” *Genetic Techs. Ltd. v. Merial L.L.C.*, 818 F.3d 1369, 1373-74 (Fed. Cir. 2016) (citations omitted); *see also Aatrix*, 882 F.3d at 1125. But as the circuit has recently emphasized, the question of eligibility may be determined at the pleadings stage “only when there are no factual allegations that, taken as true, prevent resolving the eligibility question as a

matter of law.” *Aatrix*, 882 F.3d at 1125 (citing *FairWarning IP, LLC v. Iatric Sys., Inc.*, 839 F.3d 1089, 1097 (Fed Cir. 2016)); *see also Cellspin Soft, Inc. v. Fitbit, Inc.*, 927 F.3d 1306, 1319-20 (Fed. Cir. 2019) (vacating Rule 12(b)(6) and Rule 12(c) dismissals where complaint made plausible and “well-pleaded allegations” of eligibility). This is particularly true for the element of an inventive concept, which raises a question of fact that can be resolved in a motion to dismiss only if the answer may be found in the complaint, the patent, and matters subject to judicial notice. *Aatrix*, 882 F.3d at 1128.

To be sure, a patentee cannot avoid dismissal for ineligible claims purely on the basis of conclusory or generalized statements, and fanciful or exaggerated allegations that later prove to be unsupported may lead to fee shifting or other sanctions. *See Cellspin*, 927 F.3d at 1317-18 (“While we do not read *Aatrix* to say that any allegation about inventiveness, wholly divorced from the claims or the specification, defeats a motion to dismiss, plausible and specific factual allegations that aspects of the claims are inventive are sufficient.”); *Berkheimer v. HP Inc.*, 890 F.3d 1369, 1373 (Fed. Cir. 2018) (Moore, J., concurring in denial of rehearing en banc) (“[I]f the allegations in the complaint about the invention as claimed ultimately lack evidentiary support or if the case is exceptional, district courts can award attorneys' fees to the accused infringer under either Rule 11 or [35 U.S.C.] § 285 to compensate the accused infringer for any additional litigation costs it incurs.”). But the inquiry in a motion to dismiss is typically confined to the contents of the complaint and the plain words of the patent that is incorporated by reference. To the extent claim construction issues might arise, the Court should adopt the patentee's proposed constructions. *Aatrix*,

882 F.3d at 1125; *IPLearn-Focus, LLC v. Microsoft Corp.*, 2015 WL 4192092, at *3 (N.D. Cal. July 10, 2015), *aff'd*, 667 F. App'x 773 (Fed. Cir. 2016).

Here, the Rule 12(b)(6) evaluation has been substantially streamlined by the complaint and the parties' arguments. Plaintiffs do not object to resolving the Section 101 question in the context of defendants' motion and have not identified any factual disputes that might make resolution on the pleadings inappropriate. The complaint does not allege anything about the inventive concept aspect of eligibility, and the parties raise no disputes of fact about inventiveness. Neither side has called for claim construction as part of the eligibility inquiry, and no construction disagreements were identified in the briefs or arguments. Consequently, the Section 101 inquiry may properly be made at this stage of the case.

For the merits of the Section 101 issue, the scope of patentable subject matter includes “any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof.” 35 U.S.C. § 101. The “laws of nature, physical phenomena, and abstract ideas” are “specific exceptions to § 101's broad patent-eligibility principles.” *Bilski v. Kappos*, 561 U.S. 593, 601, 130 S.Ct. 3218, 177 L.Ed.2d 792 (2010) (citation omitted). These exclusions are intended to guard against undue preemption of innovation and invention. *Alice*, 573 U.S. at 216, 134 S.Ct. 2347 (citing U.S. Const., Art. I, § 8, cl. 8). The Court must “distinguish between patents that claim the ‘buildin[g] block[s]’ of human ingenuity and those that integrate the building blocks into something more,” because overbroad patent protection “would risk disproportionately tying up the use of the underlying ideas.” *Id.* at 217, 134 S.Ct. 2347

(alterations in original) (internal quotation marks and citation omitted).

In *Alice*, the Supreme Court set out a two-part test for Section 101. First, the Court determines “whether the claims at issue are directed to a patent-ineligible concept” such as an abstract idea, law of nature or natural phenomenon. *Id.* at 218, 134 S.Ct. 2347. It is often “sufficient to compare claims at issue to those claims already found to be directed to an abstract idea in previous cases” for purposes of the step one analysis. *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1334 (Fed. Cir. 2016); *see also Alice*, 573 U.S. at 221, 134 S.Ct. 2347 (“In any event, we need not labor to delimit the precise contours of the ‘abstract ideas’ category in this case. It is enough to recognize that there is no meaningful distinction between the concept of risk hedging in *Bilski* and the concept of intermediated settlement at issue here.”).

The “purely functional nature of the claim confirms [whether the patent] is directed to an abstract idea, not to a concrete embodiment of that idea.” *Affinity Labs of Tex., LLC v. Amazon.com, Inc.*, 838 F.3d 1266, 1269 (Fed. Cir. 2016); *see also SAP Am., Inc. v. InvestPic, LLC*, 898 F.3d 1161, 1167 (Fed. Cir. 2018) (describing “abstract” as turning on “the specificity required to transform a claim from one claiming only a result to one claiming a way of achieving it”). Oversimplifying the claims should be avoided because “[a]t some level, ‘all inventions ... embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas.’” *Alice*, 573 U.S. at 217, 134 S.Ct. 2347 (second alteration in original) (internal citation omitted). For the digital technology involved here, the relevant inquiry is “whether the claims are directed to an improvement to computer functionality

versus being directed to an abstract idea.” *Enfish*, 822 F.3d at 1335; *see also BSG Tech LLC v. BuySeasons, Inc.*, 899 F.3d 1281, 1287 (Fed. Cir. 2018) (“For an application of an abstract idea to satisfy step one, the claim's focus must be on something other than the abstract idea itself.”).

If a patent is directed to a patent-ineligible concept, the second step in *Alice* is to look for an “‘inventive concept’—*i.e.*, an element or combination of elements that is sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the [ineligible concept] itself.” *Alice*, 573 U.S. at 217-18, 134 S.Ct. 2347 (alteration in original) (internal quotation marks and citation omitted). This step asks, “[w]hat else is there in the claims before us?” *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 78, 132 S.Ct. 1289, 182 L.Ed.2d 321 (2012). The answer must include something “significantly more” than the abstract idea itself. *BSG Tech*, 899 F.3d at 1290. “It is well-settled that mere recitation of concrete, tangible components is insufficient to confer patent eligibility to an otherwise abstract idea. Rather, the components must involve more than performance of ‘well-understood, routine, conventional activit[ies] previously known to the industry.’” *In re TLI Commc'ns LLC Patent Litig.*, 823 F.3d 607, 613 (Fed. Cir. 2016) (alteration in original) (quoting *Alice*, 573 U.S. at 225, 134 S.Ct. 2347). In addition, merely reducing an abstract concept to a particular technical platform is not enough to provide the inventive element needed to support a patent. *Elec. Power Grp.*, 830 F.3d at 1354; *TriDim Innovations LLC v. Amazon.com, Inc.*, 207 F. Supp. 3d 1073, 1080 (N.D. Cal. 2016). “If a claim's only ‘inventive concept’ is the application of an abstract idea using conventional and well-understood

techniques, the claim has not been transformed into a patent-eligible application of an abstract idea.” *BSG Tech*, 899 F.3d at 1290-91.

II. THE CLAIMED INVENTION IS NOT PATENTABLE

A. Claim 1 Is Directed to an Abstract Idea

Turning to the '289 patent and representative claim 1, the first task is to ascertain “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.” *Intellectual Ventures I LLC v. Capital One Fin. Corp.*, 850 F.3d 1332, 1338 (Fed. Cir. 2017) (internal quotation marks omitted) (quoting *Affinity Labs of Tex., LLC v. DIRECTV, LLC*, 838 F.3d 1253, 1257 (Fed. Cir. 2016)). To that end, the claim may be “considered in light of the specification.” *Enfish*, 822 F.3d at 1335; see also *IPLearn-Focus*, 2015 WL 4192092, at *4.

In pertinent part, claim 1 recites a digital camera, comprising “[1] a first and a second image sensor closely positioned with respect to a common plane ... [2] two lenses ... [3] said first image sensor producing a first image and said second image sensor producing a second image ... [4] an analog-to-digital converting circuitry coupled to said first and said second image sensor ... [5] an image memory ... and [6] a digital image processor ... producing a resultant digital image from said first digital image enhanced with said second digital image.” Dkt. No. 1-1 at 10:38-58. The specification clearly identifies the deployment of multiple image sensors as the “claimed advance over the prior art.” See *id.* at 4:64-67 (“Fundamentally and distinctly different from existing digital cameras, improved digital camera ... uses four identical image sensors.”); *id.* at 9:55-57 (“Different from existing

digital cameras, the disclosed improved digital camera uses multiple sensors with multiple lenses.”).

As this plain language makes clear, claim 1 is drawn to the abstract idea of taking two pictures and using those pictures to enhance each other in some way. Defendants say that this same idea can be found in the mental processes that produce human vision from inputs from two eyes, Dkt. No. 43 at 8-9, but the Court need not go so far afield. Since the earliest years of the photographic medium, those having skill in the art have used multiple exposures, or the combining of multiple images, to enhance images. *See The Breaking Wave*, The J. Paul Getty Museum, <http://www.getty.edu/art/collection/objects/61917/gust-ave-le-gray-the-breaking-wave-french-1857/> (last visited July 2, 2019) (“Balancing the different light intensities of the sea and sky in one simultaneous exposure was not easily solved Le Gray surmounted this dilemma [in 1857] by montaging several paper or glass plate negatives with different exposures.”). Such a “fundamental [and] long prevalent” practice is a quintessential abstract idea. *Intellectual Ventures I LLC v. Symantec Corp.*, 838 F.3d 1307, 1314 (Fed. Cir. 2016) (quoting *Alice*, 573 U.S. at 219, 134 S.Ct. 2347); *see also DIRECTV*, 838 F.3d at 1258 (merely adding computer components to well-known practice does not make invention non-abstract).

Additionally, like the unpatentable subject matter in *TLI Communications*, which was directed to “the abstract idea of classifying and storing digital images,” the claims here are defined only in terms of their functions. *In re TLI Commc'ns*, 823 F.3d at 609; *see also id.* at 612 (“The specification fails to provide any technical details for the tangible components, but

instead predominately describes the system and methods in purely functional terms.”). For example, the ’289 patent does not require special hardware or software. *See* Dkt. No. 1-1 at 2:3-7 (“[T]here is a great need for a generic solution that makes digital cameras capable of producing high resolution images without enormously incurring the cost of photosensitive chips with multimillion photocells.”). The complaint also does not allege anything other than a generic environment of image sensors and lenses for the invention. *See, e.g.*, AC ¶ 10-11; SC ¶ 12-13.

Yu’s arguments to the contrary are not well taken. He says that *Thales Visionix Inc. v. United States*, 850 F.3d 1343 (Fed. Cir. 2017), mandates a denial of defendants’ motion. Dkt. No. 45 at 13-14. *Thales* upheld a patent that dealt with an arrangement of sensors, and Yu contends the result should be the same here because the ’289 patent similarly instructs a “particular configuration” of sensors. *Id.* at 13. But *Thales* is distinguishable because its patent-in-suit stated why and how the “particular configuration” of sensors contributed to an advancement over the prior art. *Thales*, 850 F.3d at 1345. The only configuration to which “benefits and advantages” are attributed in the specification in the ’289 patent is the mere use of multiple lenses and sensors. Dkt. No. 1-1 at 2:50-65. There is scant mention of, and certainly no emphasis on, the relative positions of the lenses and sensors. *See id.* at 6:21-26 (“Regardless of other possible arrangements of image sensors behind four lenses ... it can be appreciated to those skilled in the art that four images ... resulting respectively from four lenses ... will have to be registered before forming a color image therefrom.”). Yu raises the ’289 patent prosecution history, but that too simply highlighted a combination of components defined by the number and

type of image sensors. Dkt. No. 45 at 10; *see Khoja v. Orexigen Therapeutics, Inc.*, 899 F.3d 988, 999 (9th Cir. 2018) (judicial notice of public records); *Data Engine Techs. LLC v. Google LLC*, 906 F.3d 999, 1008 n.2 (Fed. Cir. 2018) (“Prosecution histories constitute public records.”). Thus, while the Federal Circuit has “held claims focused on various improvements of systems directed to patent eligible subject matter under § 101,” those cases, like *Thales*, are distinguishable because the claims were “directed to a particular manner” of improving computer functionality, whereas the ’289 patent goes entirely to the abstract idea of using multiple images to enhance an image. *Core Wireless Licensing S.A.R.L. v. LG Elecs., Inc.*, 880 F.3d 1356, 1362 (Fed. Cir. 2018).

Yu’s reliance on the unreported decision in *Electronic Scripting Products, Inc. v. HTC America Inc.*, Case No. 17-cv-05806-RS, 2018 WL 1367324 (N.D. Cal. Mar. 16, 2018), is also misplaced. There, the plaintiff had demonstrated that “the sensors are not mere conduits for abstract principles, but instead their placement is integral to the improved functioning of the system.” *Id.* at *5. Yu has not done the same.

Yu suggests that the ’289 patent describes a non-abstract improvement to camera technology and hardware, but the plain text of the patent shows otherwise. The sections Yu points to simply describe the principle that combining images with different dynamic ranges creates an image with a higher dynamic range. Dkt. No. 1-1 at 9:28-40; *id.* at 9:46-52; *see also* Dkt. No. 45 at 15. It does not describe a specific asserted improvement in digital photo capabilities. The rest of the specification does nothing more than state the abstract idea of using multiple lenses and image sensors to produce enhanced images. The

complaint also does not allege any facts plausibly showing that the claimed invention overcomes a problem uniquely arising in the digital context. *See DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1257-59 (Fed. Cir. 2014); *see also* AC ¶ 11; SC ¶ 13 (“The improved digital camera is not limited to performing any particular type of image enhancement.”).

B. Claim 1 Lacks an Inventive Concept

The question of whether claim 1 features an inventive concept sufficient to save it from ineligible abstraction is also answered against Yu. Yu acknowledges that the inventive concept “must be significantly more than the abstract idea itself,” *BASCOM Glob. Internet Servs., Inc. v. AT & T Mobility LLC*, 827 F.3d 1341, 1349 (Fed. Cir. 2016), and it must be more than “well-understood, routine, conventional activity,” *Mayo*, 566 U.S. at 79, 132 S.Ct. 1289. *See* Dkt. No. 45 at 12. Claim 1 fails on both counts.

Although it is true that deciding whether a claim features an inventive concept outside the conventional may entail questions of fact, *see Cellspin*, 927 F.3d at 1314-15, that is not the case here. Yu makes no argument to that end, and the complaint does not allege that the claimed invention contains unconventional digital camera elements beyond the abstract idea to which the patent is directed. There are no allegations that the asserted combination and arrangement of “well-understood, routine [and] conventional” digital camera components goes beyond the abstract idea of using multiple images to enhance one image. *See Chargepoint, Inc. v. SemaConnect, Inc.*, 920 F.3d 759, 774 (Fed. Cir. 2019) (a “claimed invention's use of the ineligible concept to which it is

directed cannot supply the inventive concept that renders the invention ‘significantly more’ more than that ineligible concept”) (quoting *BSG Tech*, 899 F.3d at 1290); *see also InvestPic*, 898 F.3d at 1168-69 (“Here, all of the claim details identified by [plaintiff] ... fall into one or both of two categories: they are themselves abstract; or there are no factual allegations from which one could plausibly infer that they are inventive.”). Once the abstract idea is removed from the claim, all that is left here is the “conventional technology” of a digital camera, such as image sensors, lenses, circuitry, memory and a processor being used in conventional ways. The Federal Circuit has consistently held “that claims are not saved from abstraction merely because they recite components more specific than a generic computer.” *BSG Tech*, 899 F.3d at 1286.

The silence of the complaint sets this case apart from *Aatrix*, *Cellspin*, and *Berkheimer v. HP Inc.*, 881 F.3d 1360 (Fed. Cir. 2018), where the plaintiffs made non-conclusory allegations establishing an inventive concept. In *Aatrix*, for example, the plaintiff alleged that the unique importation of data from third-party programs improved the functioning of the computer. *Aatrix*, 882 F.3d at 1127. In *Cellspin*, the amended complaint identified “several ways in which its application of capturing, transferring, and publishing data was unconventional.” *Cellspin*, 927 F.3d at 1315-16. And in *Berkheimer*, the Federal Circuit cited the specification's description of “an inventive feature that stores parsed data in a purportedly unconventional manner,” in denying summary judgment. *Berkheimer*, 881 F.3d at 1369.

In contrast, the portions of the '289 patent and the complaint that Yu highlights as describing a “unique

and unconventional combination and arrangement of digital camera components constitut[ing] an inventive concept” and “improved operation and capabilities over prior single-sensor and single-lens digital cameras,” Dkt. No. 45 at 15, are entirely conclusory and merely describe multiple sensors and lenses. There is no “non-conventional and non-generic arrangement of known, conventional pieces.” *BASCOM Glob. Internet Servs.*, 827 F.3d at 1350. Any benefits and improvements that might accrue simply from instantiation of the abstract idea of using multiple images to enhance a particular image do not aid Yu’s case for patent-eligibility. As the Federal Circuit concluded in *BSG Tech*, which found that a patent related to indexing information in wide access databases claimed ineligible subject matter, “[t]hese benefits, however, are not improvements to database functionality. Instead, they are benefits that flow from performing an abstract idea in conjunction with a well-known database structure.” *BSG Tech*, 899 F.3d at 1288. None of the purported benefits for digital photography alleged in the complaint, *see, e.g.*, AC ¶ 10; SC ¶ 12, or in the ’289 specification or claims contribute to patentability because they are attributable to the abstract idea of using multiple images to enhance one image, and not anything substantially beyond that.

The other elements of the patent are all well-understood, routine and conventional in themselves, and ordered in a conventional manner. The record from the patent prosecution notes that earlier patents had disclosed multiple image sensors “closely positioned with respect to a common plane with reference to an image target, with lenses mounted in front of all sensors,” “individual A/D conversion circuitry,” “a digital image processor,” and “image

memory.” Dkt. No. 44-1 at 4-5. While the “mere fact that something is disclosed in a piece of prior art, for example, does not mean it was well-understood, routine, and conventional,” *Berkheimer*, 881 F.3d at 1369, in combination with all the other evidence, a motion to dismiss is proper on this record. *See Aatrix*, 882 F.3d at 1128 (“There are concrete allegations in the second amended complaint that individual elements and the claimed combination are not well-understood, routine, or conventional activity. There are also concrete allegations regarding the claimed combination's improvement to the functioning of the computer.”); *BSG Tech*, 899 F.3d at 1291 (“Here, the only alleged unconventional feature of BSG Tech's claims is the requirement that users are guided by summary comparison usage information or relative historical usage information. But this simply restates what we have already determined is an abstract idea.”). “There is, in short, nothing ‘inventive’ about any claim details, individually or in combination, that are not themselves in the realm of abstract ideas.” *InvestPic*, 898 F.3d at 1170.

C. PREEMPTION

While the failure of claim 1 to survive the two-prong inquiry under *Alice* is enough to warrant dismissal of the complaint, the Court also finds the scope of potential preemption to weigh against patent eligibility. *See Athena Diagnostics, Inc. v. Mayo Collaborative Servs., LLC*, 915 F.3d 743, 752 (Fed. Cir. 2019) (“Preemption is sufficient to render a claim ineligible under § 101, but it is not necessary.”). Yu contends that “virtually all dual-lens cameras on the market today use the techniques claimed in the ’289 Patent.” AC ¶ 12; SC ¶ 14. In addition, the final limitation in claim 1 of the ’289 patent is that the

digital image processor produces an image “from said first digital image enhanced with said second digital image.” Dkt. No.1-1 at 10:54-58. As a result, while the ’289 patent’s specification is replete with discussions of how the patent increases resolution and dynamic range, *id.* at 1:66-2:16, and mentions noise removal and color correction, *id.* at 10:13-16, the AC, for example, alleges infringement through iPhone features such as “improved digital zoom, ‘portrait mode,’ ‘portrait lighting,’ and Face ID.” AC ¶ 24.

These allegations underscore the breadth of potential preemption Yu envisions, which further supports a finding of ineligibility.

CONCLUSION

Because the ’289 patent is directed to an abstract idea and does not add an inventive concept, the AC and SC are dismissed. In light of the plain language of the claims in the patent, the Court has substantial doubt that Yu can amend around this problem. Even so, the Court cannot say that any amendment would necessarily be futile, and so plaintiffs may file amended complaints by July 23, 2019. *See Smith v. Pac. Props. & Dev. Corp.*, 358 F.3d 1097, 1106 (9th Cir. 2004) (“[A] district court should grant leave to amend even if no request to amend the pleading was made, unless it determines that the pleading could not be cured by the allegation of other facts.” (quoting *Doe v. United States*, 58 F.3d 494, 497 (9th Cir. 1995))). Failure to meet that deadline will result in dismissal with prejudice under Rule 41(b). Defendants’ motions to dismiss the claims for willful infringement are denied without prejudice as moot.

IT IS SO ORDERED.

**APPENDIX E — RELEVANT STATUTORY
PROVISIONS**

35 U.S.C.A. § 101

§ 101. Inventions patentable

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title [35 U.S.C.A. §§ 1 *et seq.*].

**APPENDIX F — CORRECTED PETITION FOR
REHEARING EN BANC OF THE UNITED
STATES COURT OF APPEALS FOR THE
FEDERAL CIRCUIT, DATED JULY 12, 2021**

UNITED STATES COURT OF APPEALS FOR THE
FEDERAL CIRCUIT

2020-1760

YANBIN YU, ZHONGXUAN ZHANG,

Plaintiffs-Appellants,

v.

APPLE INC.,

Defendant-Appellee.

Appeal from the United States District Court for the
Northern District of California in No. 3:18-cv-06181-
JD, Judge James Donato.

UNITED STATES COURT OF APPEALS FOR THE
FEDERAL CIRCUIT

2020-1803

YANBIN YU, ZHONGXUAN ZHANG,

Plaintiffs-Appellants,

v.

SAMSUNG ELECTRONICS CO., LTD., SAMSUNG
ELECTRONICS AMERICA, INC.,

Defendants-Appellees.

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Appeal from the United States District Court for the
Northern District of California in No. 3:18-cv-06339-
JD, Judge James Donato.

**CORRECTED PETITION FOR REHEARING EN
BANC OF PLAINTIFFS-APPELLANTS YANBIN
YU AND ZHONGXUAN ZHANG**

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Dated: July 12, 2021

Counsel for Plaintiffs-Appellants

CERTIFICATE OF INTEREST

Counsel for Appellants Yanbin Yu and Zhongxuan Zhang certify the following:

1. The full names of the parties represented by me are:

Yanbin Yu and Zhongxuan Zhang

2. The names of the real parties in interest represented by me are:

Yanbin Yu and Zhongxuan Zhang

3. All parent corporations and publicly held companies that own 10% or more of stock in the parties represented by me are:

None

4. The names of all law firms and the partners or associates that appeared for the party now represented by me in the trial court or agency or are expected to appear in this court (and who have not or will not enter an appearance in this case) are:

Dan Johnson Law Group, LLP: Nathan W. McCutcheon, Mario Moore

5. The title and number of any case known to counsel to be pending in this or any other court or agency that will directly affect or be directly affected by this court's decision in the pending appeal:

The patent at issue in this appeal was also the subject of a pair of *inter partes* review proceedings before the Patent Trial and Appeal Board ("PTAB") of the United States Patent and

Trademark Office (“USPTO”): *Apple Inc. v. Yanbin Yu, et al.*, IPR2019-01258; *Samsung Electronics Co., Ltd., et al. v. Yanbin Yu, et al.*, IPR2020-00492. A decision in those proceedings was issued by the PTAB on January 5, 2021, and that decision is presently on appeal to this Court in consolidate Case Nos. 2021-1723, 2021-1724, and 2021-1766.

6. All information required by Fed. R. App. P. 26.1(b) and (c) that identifies organizational victims in criminal cases and debtors and trustees in bankruptcy cases:

None

Dated: July 12, 2021

/s/ Daniel Johnson Jr.
Daniel Johnson Jr.

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[TABLES INTENTIONALLY OMITTED]

STATEMENT OF COUNSEL

Based on my professional judgment, I believe this appeal requires an answer to one or more precedent-setting questions of exceptional importance:

- 1) Whether the specific requirements recited in the language of a claim can be disregarded in determining the “focus” of the claim under step one of the *Alice/Mayo* test for patent-eligibility.
- 2) Whether a claimed combination of non-abstract (*e.g.*, structural) limitations that has not been shown to exist in the prior art can be found to be “generic” and “conventional.”
- 3) Whether a court can make adverse findings of fact against the non-moving party at the pleadings stage that are inconsistent with the patent specification, the file history, and/or plausible allegations in the complaint.
- 4) Whether a claim that presents no danger of preempting an “abstract idea,” either generally or in a particular field of use or technological environment, can be found ineligible for patent protection under 35 U.S.C. § 101.

Based on my professional judgment, I believe the decision of the panel is contrary to at least the following decisions of the Supreme Court of the United States and precedents of this Court: *Alice Corp. Pty. v. CLS Bank Int’l*, 573 U.S. 208 (2014); *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66 (2012); *McRO, Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299 (Fed. Cir. 2016); *Visual*

Memory LLC v. NVIDIA Corp., 867 F.3d 1253 (Fed. Cir. 2017); *Thales Visionix Inc. v. United States*, 850 F.3d 1343 (Fed. Cir. 2017); *Diamond v. Diehr*, 450 U.S. 175 (1981); *Bascom Glob. Internet Servs., Inc. v. AT&T Mobility LLC*, 827 F.3d 1341 (Fed. Cir. 2016); and, *Amdocs (Israel) Limited v. Openet Telecom, Inc.*, 841 F.3d 1288 (2016).

Dated: July 12, 2021

/s/ Daniel Johnson Jr.
Daniel Johnson Jr.

PRELIMINARY STATEMENT

The panel majority upheld the district court's dismissals—at the pleadings stage—of the two cases in this consolidated appeal on the ground that the following claim is ineligible for patent protection under 35 U.S.C. § 101:

1. An improved digital camera comprising:
 - a first and a second image sensor closely positioned with respect to a common plane, said second image sensor sensitive to a full region of visible color spectrum;
 - two lenses, each being mounted in front of one of said two image sensors;
 - said first image sensor producing a first image and said second image sensor producing a second image;
 - an analog-to-digital converting circuitry coupled to said first and said second image sensor and digitizing said first and said second intensity images to produce correspondingly a first digital image and a second digital image;
 - an image memory, coupled to said analog-to-digital converting circuitry, for storing said first digital image and said second digital image;
 - and
 - a digital image processor, coupled to said image memory and receiving said first digital image and said second digital image, producing a resultant digital image from said first digital image enhanced with said second digital image.

Majority at 3-4. It is unprecedented for a claim drawn with to a machine of such precisely defined structure

to be invalidated under Section 101. As Judge Newman correctly stated in her dissent, “[t]his camera is a mechanical and electronic device of defined structure and mechanism; it is not an ‘abstract idea.’” Dissent at 2. This claim plainly recites patent-eligible subject matter.

The patent at issue in this appeal, U.S. Patent No. 6,611,289 (“289 Patent”), was filed on January 15, 1999, more than twenty years ago.⁷ Appx14. Existing digital cameras at that time typically used a *single* image sensor to capture a scene. Appx24[1:26-30]. An image sensor is a photosensitive device that can react to light reflected from the scene and translate the strength of that reaction into a numerical equivalent. Appx24[1:30-32]. If a mosaic of filters (*e.g.*, red, green, and blue filters) is superimposed over the image sensor, the reaction of the image sensor can be measured for those different regions of the color spectrum, and those measurements can be combined and evaluated by software to determine the specific color at each location in the picture, thus creating a full color image. Appx15[Fig.1]; Appx24[1:32-36; 1:50-57].

Although less prevalent, cameras having *multiple* image sensors also existed at the time of the ’289 Patent’s filing. Appx25[4:47-61]. Instead of using just a single image sensor with a superimposed mosaic filter, these multi-sensor cameras used three separate image sensors and a prism that split the light reflected from a scene into three distinct bands (*e.g.*, red, green, and blue bands), such that each image sensor would

⁷ For context, the first Apple accused product, the iPhone 7 Plus, became available in September 2016 (Appx251[¶24]), and the first Samsung accused product, the Galaxy Note 8, became available in September 2017 (Appx282[¶27]).

react to light from only one band to create a component image. Appx25[4:53-61]. The three component images, each being from one of the three image sensors, could then be combined to reproduce the original colors of the scene. Appx16[Fig.2]; Appx25[4:34-53].

Both single-sensor and multi-sensor digital cameras that were available at the time of the '289 Patent's filing suffered from problems associated with the technological limitations of then-existing image sensors. Appx24[1:40-49; 1:66-2:3; 2:8-22]. These problems included low image resolution, low dynamic range, low signal-to-noise ratio ("SNR"), inaccurate color reproduction, and low image quality. Appx24[1:40-49; 1:66-2:3; 2:8-22]. The '289 Patent solved these problems by adding an ***additional image sensor*** that is "sensitive to a full region of visible color spectrum" and using that additional sensor to capture information that is used to enhance the image(s) captured by the other sensor(s). Appx25-26[4:62-5:40]; Appx27[7:36-46]; Appx28[9:4-40]. The '289 patent also made the image sensors "closely positioned with respect to a common plane" so that they could capture images of the same scene without the use of the prism of prior multi-sensor cameras. Appx26[5:58-6:26]; Appx27[8:30-32].

Thus, the '289 Patent did not merely state the concept of image enhancement and add the words "apply it," nor did it merely apply image enhancement to an existing digital camera architecture. Rather, it created a completely *new* digital camera architecture that could be used in a specific way to provide a technological solution to technological problems associated with prior digital cameras. The improved digital camera of the '289 Patent could produce higher-

quality images while using both smaller image sensors (having higher yield, higher sensitivity, less cross-talking, and lower clocking rate) and smaller optical lenses compared with prior digital cameras. Appx24[2:36-65]; Appx27[7:3-7]; Appx28[10:13-16].

The '289 Patent discloses both a two-sensor embodiment and a four-sensor embodiment of its improved digital camera. The ***four-sensor embodiment*** operates by: (1) capturing four separate images (*e.g.*, red, green, blue, and black-and-white (“B/W”) images) of the same scene using four separate image sensors, three of which have color filters (*e.g.*, fully red, fully green, and fully blue filters), and an additional fourth sensor that does not have a color filter; (2) enhancing the red image using the B/W image; (3) enhancing the green image using the B/W image; (4) enhancing the blue image using the B/W image; and (5) combining the enhanced red, enhanced green, and enhanced blue images to create a full color image. Appx22[Fig.7]; Appx23[Fig.8]; Appx28[9:4-40; 10:7-17]. Importantly, image combination (which was performed in prior multi-sensor cameras) is not image enhancement; these are separate steps, with image enhancement being performed before image combination in the disclosed four-sensor embodiment. The image enhancement described in the patent with respect to Fig. 7 is dynamic range expansion, and the patent also identifies noise removal and color correction as other examples of image enhancement that can be performed in accordance with the invention. Appx22[Fig.7]; Appx28[9:4-40; 10:7-16].

The ***two-sensor embodiment*** replaces the three image sensors having color filters of the four-sensor embodiment with a single image sensor that is used to capture a B/W image of the scene, but retains the

additional sensor that does not have a color filter. Appx27[7:36-46]. The two-sensor embodiment operates by: (1) capturing two separate images (*e.g.*, first and second B/W images) of the same scene using the two separate image sensors; and (2) enhancing the first B/W image using the second B/W image. Appx27[7:40-43]. Thus, whereas the four-sensor embodiment performs *three image enhancement steps* to form component images (*e.g.*, enhanced red, enhanced green, and enhanced blue images) followed by an image combination step, the two-sensor embodiment performs *one image enhancement step* and eliminates the image combination step. But otherwise, the patent teaches that two-sensor embodiment functions the same as the four-sensor embodiment, stating that while “[t]he following description is based on the [four-sensor] embodiment illustrated in FIG. 3, those skilled in the art can appreciate that the description is equally applied to the [two-sensor] black-and-white digital cameras.” Appx27[7:43-46].

Both the two-sensor embodiment and the four-sensor embodiment disclosed in the '289 Patent are implementations of claim 1, since the claim only specifies that the *second image sensor* must be “sensitive to a full region of visible color spectrum,” but does not include any restrictions on the *first image sensor*. Thus, the *first image sensor* of claim 1 can be a B/W image sensor of the two-sensor embodiment, a color image sensor (*e.g.*, a red sensor, a green sensor, or a blue sensor) of the four-sensor embodiment, or any other type of image sensor. Essentially, the two-sensor embodiment practices claim 1 once, whereas the four-sensor embodiment practices claim 1 three times (once for each of its three image enhancement steps). Since the advantages of the invention disclosed

in the patent specification arise from the *image enhancement step*, and *not* the *image combination step*, those advantages apply equally to both the four-sensor embodiment and the two-sensor embodiment. Appx28[10:13-16].

The advances of the claimed invention over the prior art include: (1) the inclusion of an additional image sensor (*i.e.*, the “second image sensor”) that is “sensitive to a full region of visible color spectrum”; (2) the positioning of multiple image sensors (*i.e.*, the “first image sensor” and the “second image sensor”) so that they are “closely positioned with respect to a common plane”, allowing them to capture images of the same scene (without using the prism of prior multi-sensor cameras); and (3) the use of the second image sensor to capture a digital image that is used to enhance a digital image captured by the first image sensor. Neither the claimed digital camera architecture using an additional image sensor that is “sensitive to a full region of visible color spectrum,” nor the claimed use of that digital camera architecture to produce a resultant digital image, has been shown to exist in the prior art, regardless of whether the invention is implemented in a four-sensor or a two-sensor configuration.

The majority’s decision would not only invalidate the claims at issue here, which are plainly drawn to a patent-eligible improved digital camera, but also drastically expand the exclusionary principle under Section 101 for laws of nature, natural phenomena, and abstract ideas far beyond any prior decisions of either this Court or the Supreme Court. As Judge Newman warned in her dissent, “[t]he fresh uncertainties engendered by the majority’s revision of Section 101 are contrary to the statute and the weight

of precedent, and contrary to the public’s interest in a stable and effective patent incentive.”

ARGUMENT

In its decisions in *Alice Corp. Pty.*, 573 U.S. 208 and *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66 (2012), the Supreme Court set forth “a framework for distinguishing patents that claim laws of nature, natural phenomena, and abstract ideas from those that claim patent-eligible applications of those concepts.” *Alice*, 573 U.S. at 217. At *step one* of this two-step framework—referred to herein as the *Alice/Mayo* test—the court must “determine whether the claims at issue are directed to one of those patent-ineligible concepts.” *Alice*, 573 U.S. at 217. If yes, the court must proceed to *step two*, which requires the court to “search for an ‘inventive concept’”—*i.e.*, an element or combination of elements that is ‘sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the [ineligible concept] itself.’ ” *Alice*, 573 U.S. at 217-18 (quoting *Mayo*, 566 U.S. at 72–73).

In finding claim 1 of the ’289 Patent ineligible for patent protection under Section 101, the majority improperly turned the *Alice/Mayo* test for patent-eligibility on its head. They took a claim that recites a patent-eligible machine (the claimed digital camera architecture) and improperly searched for “something more” (the “enhanced with” limitation) to transform that machine into an “abstract idea.” The majority’s approach is manifestly wrong, but was particularly improper in this case since the claimed machine here has not been shown to exist in the prior art and therefore, based upon the record on appeal, could stand on its own as a patentable invention.

To reach their erroneous conclusion of patent-ineligibility, the majority committed errors at every stage of the *Alice/Mayo* test. They compounded these errors by impermissibly ignoring plausible allegations in the pleadings supporting patent-eligibility, and improperly making *new* findings of fact—at the pleadings stage—that are not only adverse to Appellants, but also plainly incorrect in view of the evidence of record. When the *Alice/Mayo* test is applied properly in accordance with the precedent of this Court and the Supreme Court, and in view of both the pleadings and a proper understanding the full evidence of record, it is apparent that the claims at issue here are patent-eligible under Section 101.

I. THE MAJORITY FAILED TO ACCOUNT FOR THE SPECIFIC REQUIREMENTS OF CLAIM 1 WHEN ARTICULATING THE “FOCUS” OF THE CLAIM

This Court has repeatedly warned that when articulating the “focus” of claims at step one of the *Alice/Mayo* test, “courts ‘must be careful to avoid oversimplifying the claims’ by looking at them generally and failing to account for the specific requirements of the claims.” *McRO, Inc.*, 837 F.3d at 1313 (quoting *In re TLI Commc’ns LLC Pat. Litig.*, 823 F.3d 607, 611 (Fed. Cir. 2016)). Despite this warning, the majority “agree[d] with the district court that claim 1 is directed to the abstract idea of taking two pictures (which may be at different exposures) and using one picture to enhance the other in some way.” This characterization of claim 1 is completely untethered from the language of the claim, as it not only excludes all of the first five limitations in their entirety, but also rewrites the “enhanced with” language to sound as broad as possible.

Claim 1 requires that the images must be *digital* images (not *film* images). It requires that the digital images must be captured by *different* image sensors (not by the *same* image sensor). It requires that the digital image which is used to enhance the other digital image must be captured by an image sensor that is “sensitive to a *full* region of visible color spectrum” (and not one that is sensitive to only a *portion* of the visible color spectrum, as was the case with prior multi-sensor cameras). And it requires that the images must be captured by image sensors that are “closely positioned with respect to a common plane” (so that they capture images of the same scene in the absence of the prism of prior multi-sensor cameras).

The majority included *none* of these specific requirements from the claim language in their characterization of the “focus” of the claim. Instead, the majority improperly added the superfluous phrases “which may be at different exposures” and “in some way” to their characterization. Neither of these phrases is included—or even suggested—in the language of claim 1 itself.

Because the majority adopted a characterization of the “focus” of claim 1 that is improperly overbroad, ignoring the specific requirements of the claim, their step one inquiry was rendered meaningless. *See Thales Visionix Inc.*, 850 F.3d at 1347 (“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.”)

II. THE MAJORITY IMPROPERLY DISCOUNTED THE CLAIMED COMBINATION OF LIMITATIONS

It has long been established that “a new combination ... may be patentable even though all the constituents of the combination were well known and in common use before the combination was made.” *Diamond*, 450 U.S. at 188; *see also Bascom Glob. Internet Servs., Inc.*, 827 F.3d at 1350 (“an inventive concept can be found in the non-conventional and non-generic arrangement of known, conventional pieces.”). The majority improperly disregarded this fundamental principle of patent law by relying heavily on the purported lack of novelty of the *individual* claim elements, but then improperly discounting the claimed *combination* of limitations.

The majority relied heavily on the lack of novelty of the *individual* digital camera components recited in claim 1 for purposes of their analyses under both step one and step two of the *Alice/Mayo* test. For example, in concluding that claim 1 is “directed to” an “abstract idea” under step one, the majority found that:

Given the claim language and the specification, we conclude that claim 1 is “directed to a result or effect that itself is the abstract idea and merely invoke[s] generic processes and machinery” rather than “a specific means or method that improves the relevant technology.”

Majority at 5. Also under step one, the majority found that:

Only conventional camera components are recited to effectuate the resulting “enhanced” image—two image sensors, two lenses, an analog-to-digital converting circuitry, an image memory, and a digital image processor. Indeed, it is undisputed that these components were well-known and conventional.

Majority at 6. Based in these findings, the majority concluded that “[w]hat is claimed is simply a generic environment in which to carry out the abstract idea.” *Id.*

Similarly, under step two of the *Alice/Mayo* test, the majority concluded that:

Because claim 1 is recited at a high level of generality and merely invokes well-understood, routine, conventional components to apply the abstract idea identified above, ... claim 1 fails at step two

Majority at 9. Thus, the lack of novelty of the *individual* components was the linchpin of the majority’s conclusions that the claims merely provide a “generic environment” to carry out an “abstract idea” under step one, and do not include an “inventive concept” under claim two.

But when addressing the claimed *combination* of limitations that define the digital camera architecture, the majority changed their tune, dismissively stating:

But even if claim 1 recites novel subject matter, that fact is insufficient by itself to confer eligibility.

Majority at 9. Thus, the majority took that position that the lack of novelty of the *individual* digital camera components recited in the limitations can invalidate the claims under Section 101, but the novelty of the claimed *combination* of those components, which together form the digital camera architecture, cannot save them. The majority cannot have it both ways; either novelty matters, or it does not.

Moreover, the majority's statement that "even if claim 1 recites novel subject matter, that fact is insufficient to confer eligibility" cannot be true if that novel subject matter is a combination of *structural* limitations (*i.e.*, a *machine*) and therefore patent-eligible in its own right under the express language of Section 101. As Judge Newman stated in her dissent, "[a] statement of purpose or advantage does not convert a device into an abstract idea." Dissent at 3. The cases relied on by the majority do not suggest otherwise, as those cases simply held that the novelty of ineligible subject matter (*i.e.*, laws of nature, natural phenomena, or abstract ideas), or matter that does not appear in the claim, cannot confer patent-eligibility; those cases say nothing as to the novelty of a combination of structural limitations (*i.e.*, a machine) that actually are recited in the claim. See *SAP Am., Inc. v. InvestPic, LLC*, 898 F.3d 1161, 1163 (Fed. Cir. 2018) ("The claims here are ineligible because their innovation is an innovation in ineligible subject matter."); *Two-Way Media Ltd. v. Comcast Cable Commc'ns, LLC*, 874 F.3d 1329, 1339 (Fed. Cir. 2017) ("While the specification may describe a purported innovative 'scalable architecture,' claim 1 of the '187 patent does not.").

To the extent that there is a difference in meaning between the terms "unconventional" and "novel," that difference must favor patent-eligibility, since something can be unconventional and yet not novel, but the opposite cannot be true; something that is novel will always be unconventional.

III. THE MAJORITY IMPROPERLY MADE NEW AND ERRONEOUS FINDINGS OF FACT AGAINST APPELLANTS

The majority rejected Appellants’ argument that claim 1 is “directed to a patent-eligible improvement in digital camera functionality” under step one of the *Alice/Mayo* test based on a purported “mismatch between the specification ... and the breath of claim 1 ...” Majority at 8. Specifically, the majority found that:

Each time the specification of the ’289 patent suggests that a particular configuration is the asserted advance over the prior art, it does so in a four-lens, four-image-sensor configuration in which three of the sensors are color-specific while the fourth is a black-and-white sensor.

...

Yet representative claim 1 requires only a two-lens, two-image sensor configuration in which none of the image sensors must be color.

Majority at 8. The majority used this as an additional basis for finding that claim 1 does not include an “inventive concept” under step two, concluding that “[i]n other words, [t]he main problem that [Yu] cannot overcome is that the *claim*—as opposed to something purportedly described in the specification—is missing an inventive concept.” Majority at 10 (emphasis in original) (quoting *Two-Way Media*, 874 F.3d at 1338.). Moreover, the majority also used this finding as a basis for rejecting the plausible allegations in the pleadings, stating that “a court need not accept as true allegations that contradict matters properly subject to judicial notice or by exhibit, such as the claims and the patent specification.” Majority at 11.

This *new finding against Appellants*, made at the *pleadings stage* where all factual inferences must be drawn in favor of the non-moving party, was

impermissible. See *Visual Memory LLC v. NVIDIA Corp.*, 867 F.3d 1253, 1261 (Fed. Cir. 2017) (“Such an assumption is improper when reviewing a dismissal under Rule 12(b)(6), where all factual inferences must be drawn in favor of the non-moving party.”); *Bascom*, 827 F.3d at 1352 (“As explained above, construed in favor of BASCOM as they must be in this procedural posture, the claims of the ’606 patent do not preempt the use of the abstract idea of filtering content on the Internet or on generic computer components performing conventional activities.”)

Aside from the prohibition against making findings against the non-moving party at the pleadings stage, the majority’s finding is factually erroneous, and demonstrates the danger of deciding matters at the pleadings stage in patent cases involving highly complex technologies. As explained above, claim 1 covers both the two-sensor embodiment and the four-sensor embodiment described in the specification, and all of the advantages described in the specification apply equally to both embodiments, since those advantages arise from the image enhancement step that is performed by both embodiments, and not by the unclaimed image combination step that is performed only by the four-sensor embodiment. At a minimum, Appellants must be allowed to submit expert testimony on the issue before such an issue can be decided against them.

IV. THE MAJORITY FAILED TO ADDRESS THE ISSUE OF PREEMPTION

The Supreme Court has repeatedly “described the concern that drives [the] exclusionary principle [for laws of nature, natural phenomena, and abstract ideas] as one of pre-emption ...,” *Alice*, 573 U.S. at 216, reasoning that to allow patent protection to extend so

far could “ ‘... inhibit further discovery by improperly tying up the future use of these building blocks of human ingenuity ...,” *id.* (quoting *Mayo*, 566 U.S. at 85). Accordingly, the Supreme Court addresses the issue of preemption as a matter of course in its Section 101 decisions. Yet the majority completely failed to address the issue of “preemption” in its decision.

In fact, claim 1 has been “narrowly circumscribed to the particular system outlined ...,” and therefore the claimed “arrangement is not so broadly described to cause preemption concerns.” *See Amdocs (Israel) Limited*, 841 F.3d at 1301. The “narrowly circumscribed particular system” of claim 1 is the claimed combination of multiple image sensors that are of a *specific type*, arranged in a *specific configuration*, and used in a *specific manner* to produce a resultant digital image. As an example of the absence of preemption, some cameras (including some multi-sensor cameras) include modes of operation—such as a single-sensor high dynamic range (“HDR”) mode—that use one captured digital image to enhance another, yet do not infringe claim 1 because they capture those multiple images using the same image sensor. Appx238[¶11]; Appx271[¶13].

Appellants clearly did not preempt the field of image enhancement, nor did they attempt to monopolize the use of image enhancement in a particular field of use or technological environment.

CONCLUSION AND STATEMENT OF RELIEF SOUGHT

For the above reasons, the Court should grant rehearing *en banc*, and rehear this appeal.

Respectfully Submitted,

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