

UNITED STATES DISTRICT COURT
CENTRAL DISTRICT OF CALIFORNIA

CIVIL MINUTES - GENERAL

Case No. SACV 15-1689 JVS (JCGx) Date June 8, 2016

Title Femto-Sec Tech, Inc. v. Lensar, Inc.

Present: The Honorable James V. Selna

Karla J. Tunis

Not Present

Deputy Clerk

Court Reporter

Attorneys Present for Plaintiffs:

Attorneys Present for Defendants:

Not Present

Not Present

Proceedings: (IN CHAMBERS) Order Denying Defendant’s Motion to Dismiss

Defendant Lensar, Inc. (“Lensar”) moves to dismiss the intervenor complaint¹ of Plaintiff-Intervenor Lawrence Livermore National Security, LLC (“LLNS”). (Mot. Dismiss, Docket (“Dkt.”) No. 42.) Lensar moves to dismiss on grounds that the claims of U.S. Patent No. 5,720,894 (the “’894 Patent”) are directed toward patent-ineligible subject matter because, as Lensar argues, the ’894 Patent is directed to “natural phenomena and laws of nature.” (*Id.* at p. 1.) LLNS opposes. (Opp’n, Dkt. No. 43.)² Lensar has replied. (Reply, Dkt. No. 44.)

For the foregoing reasons, Lensar’s motion is **denied**.

I. Background

This case is a patent-infringement suit where LLNS and Femto-Sec Tech. Inc. have both alleged that Lensar infringes the ’894 Patent. (See Dkt. Nos. 1, 20.)

The ’894 Patent is directed to the field of “ultrashort pulse duration laser systems suitable for material and biological tissue processing.” (’894 Patent at 1:16–18.) The patent purportedly improved upon the prior art of the use of lasers as a therapeutic and

¹ Dkt. No. 20.

² After LLNS submitted its opposition in this matter, the Federal Circuit issued its opinion in Enfish, LLC v. Microsoft Corp., --- F.3d ---, 2016 WL 2756255 (Fed. Cir. May 16, 2016) and LLNS submitted a notice of supplementary authority regarding the same. (See Dkt. No. 46.)

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preventive tool in various fields, such as surgery, by increasing ablation efficiency while minimizing collateral damage to adjacent material. (See '894 Patent at 1:25–51.)

The '894 Patent recites two independent claims.

Claim one recites:

“A method for selective material removal processing comprising:
providing a pulsed laser;
operating said laser so as to produce a pulsed output beam, the beam comprising individual pulses each having a pulse duration in the range of from about 1 femtosecond to about 100 picoseconds;
directing said pulsed output beam onto a target material from which removal is desired, wherein each pulse interacts with a thin layer portion of said material so as to form a plasma;
allowing said formed plasma to decay, such that said material portion is removed; and
repeating said plasma formation step at a pulse repetition rate greater than 10 pulses per second until a sufficient depth of material has been removed with substantially no transfer of thermal or mechanical energy into the remaining material and substantially no collateral damage thereto.”

('894 Patent at 16:15–53.)

Claim eleven recites:

“A laser system adapted for selective material removal processing, the system comprising:
a laser operative so as to produce a pulsed output beam, the beam comprising individual pulses each pulse having a pulse duration in the range of from about 1 femtosecond to about 100 picoseconds, the pulses being provided by the beam at a pulse repetition rate of greater than about 10 pulses per second; and
means for directing the pulsed output beam onto a target material from which removal is desired. wherein each pulse interacts with a thin layer portion of said material so as to form a plasma, each successive pulse forming an additional plasma until a sufficient amount of material has been removed with substantially no transfer of thermal or

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mechanical energy into the remaining material and substantially no collateral damage thereto.”

(Id. at 17: 20–36.)

All other claims in the '894 Patent depend on either claim one or claim eleven.

II. Legal Standard

A. Motion to Dismiss 12(b)(6)

Under Rule 12(b)(6), a defendant may move to dismiss for failure to state a claim upon which relief can be granted. A plaintiff must state “enough facts to state a claim to relief that is plausible on its face.” Bell Atl. Corp. v. Twombly, 550 U.S. 544, 570 (2007). A claim has “facial plausibility” if the plaintiff pleads facts that “allow[] the court to draw the reasonable inference that the defendant is liable for the misconduct alleged.” Ashcroft v. Iqbal, 556 U.S. 662, 678 (2009).

In resolving a 12(b)(6) motion under Twombly, the Court must follow a two-pronged approach. First, the Court must accept all well-pleaded factual allegations as true, but “[t]hreadbare recitals of the elements of a cause of action, supported by mere conclusory statements, do not suffice.” Iqbal, 556 U.S. at 678. Nor must the Court “accept as true a legal conclusion couched as a factual allegation.” Id. at 678-80 (quoting Twombly, 550 U.S. at 555). Second, assuming the veracity of well-pleaded factual allegations, the Court must “determine whether they plausibly give rise to an entitlement to relief.” Id. at 679. This determination is context-specific, requiring the Court to draw on its experience and common sense, but there is no plausibility “where the well-pleaded facts do not permit the court to infer more than the mere possibility of misconduct.” Id.

B. Alice Standard

Under § 101, an invention is patent-eligible if it claims a “new and useful process, machine, manufacture, or composition of matter.” 35 U.S.C. § 101. However, § 101 has a longstanding, “important implicit exception: [l]aws of nature, natural phenomena, and

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abstract ideas are not patentable.” Alice Corp. Pty. Ltd. v. CLS Bank Int’l, 134 S. Ct. 2347, 2354 (2014) (quoting Assoc. for Molecular Pathology v. Myriad Genetics, Inc., 133 S. Ct. 2107, 2116 (2013)). “[A]n invention is not rendered ineligible for patent simply because it involves an abstract concept,” but only applications of an abstract concept “to a new and useful end” remain eligible for patent protection. Alice, 134 S. Ct. at 2354 (internal quotation marks omitted) (citing Diamond v. Diehr, 450 U.S. 175, 187 (1981); Gottschalk v. Benson, 409 U.S. 63, 67 (1972)).

The U.S. Supreme Court has set forth a two-step “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, 134 S. Ct. at 2355 (citing Mayo Collaborative Servs. v. Prometheus Labs., Inc., 132 S. Ct. 1289 (2012)). First, the Court must “determine whether the claims at issue are directed to one of those patent-ineligible concepts.” Alice, 134 S. Ct. at 2355 (citing Mayo, 132 S. Ct. at 1296–97). If so, then the second step requires the Court to search for an “inventive concept” by considering the elements of each claim—both individually and as an ordered combination—“to determine whether the additional elements ‘transform the nature of the claim’ into a patent-eligible application.” Alice, 134 S. Ct. at 2355 (citing Mayo, 132 S. Ct. at 1297–98). If the claims at issue are directed to a patent-ineligible concept and the elements of each claim do not transform it into a patent-eligible application, then the claims are patent-ineligible under 35 U.S.C. § 101. See Alice, 134 S. Ct. at 2355, 2360.³

C. Nuijten Standard

Claims that encompass transitory forms of signal transmission (e.g., transitory electrical and electromagnetic signals propagated through some medium) are invalid because those transitory embodiments are not directed to statutory subject matter. In re Nuijten, 500 F.3d 1346, 1353 (Fed. Cir. 2007). A transitory signal is not one of the four categories of patentable subject matter. Id. at 1354–57.⁴

³ For the remainder of this Order, this two-step analysis will be referred to as the “Alice analysis.”

⁴ For the remainder of this Order, this analysis will be referred to as the “Nuijten analysis.”

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III. Discussion

At the outset, the Court notes that Lensar has not correctly stated two distinct tests of patent eligibility. Contrary to the impression one may have by reading Lensar's briefs, the analyses of patent ineligibility under Alice/Myriad/Mayo and under Nuijten are distinct.

Under Alice, courts determine whether claims are directed to patent-ineligible concepts such as natural phenomena, laws of nature and abstract ideas, and, if so, whether the claims add a sufficient inventive concept that transforms the claim into a patent-eligible application of those patent-ineligible concepts.

In In re Nuijten, the Federal Circuit found that a signal *per se* is not within one of the four categories of statutory subject matter: process, machine, manufacturer, or composition of matter. Contrary to Lensar's assertion, the Federal Circuit did not find the electromagnetic signal to be a patent-ineligible natural phenomenon.⁵ Rather, the Federal Circuit could not find a statutory category that would encompass "a transitory, propagating signal." See Nuijten, 500 F.3d at 1357 (finding a signal is not a process, machine, manufacture, or composition of matter). Contrary to an assertion made repeatedly in Lensar's opening brief,⁶ no part of the opinion in Nuijten analyzes whether a signal is a "natural phenomenon" or whether method or apparatus claims that use signals are patent ineligible for being directed to a natural phenomenon or a law of nature. Courts applying Nuijten do not strike patents that improperly claim natural phenomenon, but, rather, patents that improperly claim transitory signals. E.g., Digitech Image Tech., LLC v. Electronics for Imaging, Inc., 758 F.3d 1344, 1348–50 (Fed. Cir.

⁵ The majority of the panel in Nuijten did not even appear to consider whether Nuijten's claim was directed to an attempt to patent laws of nature, natural phenomena, or abstract ideas. Such discussion of this fundamental precept of patent law—previously articulated in Diehr, Diamond v. Chakrabarty, 447 U.S. 303 (1980), and other cases predating Nuijten—would be expected if the Federal Circuit's analysis in Nuijten was related to the analysis under Alice/Myriad/Mayo.

⁶See, e.g., Mot. pp. 3, 8, 10–11, n.1. Lensar largely abandons the argument in reply, although Lensar does unfairly fault LLNS for not providing authority to refute this non-existent holding of Nuijten. (See Reply p. 8.)

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2014); Icon Health & Fitness, Inc. v. Garmin Int'l, 2015 WL 5714248, at *3–5 (D. Utah Sept. 29, 2015).

Because both the Alice/Myriad/Mayo line of cases and In re Nuijten are cited throughout Lensar's briefs, the Court discusses both lines of cases and why the '894 Patent is patent eligible under both analyses.

A. Nuijten Analysis

As discussed above, the Federal Circuit has held that transitory signals are not patent eligible because they are not directed to one of the four categories of statutory subject matter: process, machine, manufacturer, or composition on matter. See Nuijten, 500 F.3d 1346, 1354–57. A question that this analysis prompts is whether or not a laser beam is among those statutory categories. The Court, however, need not address the question because neither of the two independent claims of the '894 Patent purports to claim a laser beam *per se*.

First, independent claim one does not claim a laser beam. Instead, independent claim one clearly claims only a “method” which includes, as a required step in the process, the use of a “pulsed laser.” ('894 Patent at 16:35–53.) Unlike the disallowed claim in Nuijten, a method claim is a “process” under 35 U.S.C. § 101 and is, thus, directed to statutory subject matter. See Nuijten, 500 F.3d 1346, 1351 (explaining that claim one of Nuijten's patent, “a method for embedding supplemental data in a signal . . .” was allowed by the Patent and Trademark Office because it was a “claim[] to a process he invented”). See also id. at 1357 n.9 (citing O'Reilly v. Morse, 56 U.S. 62 (1853) (discussing that Morse was entitled to a patent on his claim to a process covering his particular method of signaling (*i.e.*, Morse code), even though his claim to the use of “the motive power of the electric or galvanic current . . . for making or printing intelligible characters . . . at any distances” was disallowed).⁷

⁷ Although Lensar relies heavily on Morse, Lensar obscures the actual substance of Morse in two ways. First, Lensar asserts that the Supreme Court invalidated the entirety of Samuel Morse's patent because it involved electromagnetism. (See, e.g., Mot. Dismiss pp. 3, 16–17.) Not so. Only a single claim of Morse's patent was invalidated as directed toward patent ineligible subject matter. See Morse, 56 U.S. at 112 (“We perceive no well-founded objection to the description . . . nor to [Morse's] right to a patent for the first seven inventions set forth in the specification of his claims.”) Second, among the

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Dependent claims two through ten similarly claim only methods.

Second, independent claim eleven does not claim a laser beam. Instead, independent claim eleven claims a “laser system.” The fact that “laser system” does not encompass the beam itself is obvious from the claim language of claim eleven. Without conducting a full construction of the terms of claim eleven, the claim goes on to recite that the system comprises “a laser operative so as to produce a pulsed output beam.” (See ’894 Patent at 17:23) The “beam” is distinct from the “system” and distinct from the “laser.” The system⁸ has a component, the laser, that is capable of producing a beam, but the beam *per se* is not claimed by independent claim eleven. A device capable of producing a beam—*i.e.*, a laser—is, instead, a limitation of the claim.

A “system” or a “laser” capable of producing a “beam” is clearly a machine eligible for patent and dissimilar from the beam itself. Nuijten, 500 F.3d at 1356 n.4. Claim eleven is directed toward statutory subject matter and Nuijten is inapposite. See id., at 1351 (explaining that claims 11–13 of Nuijten’s patent, directed to a device that performs the process, was allowed by the Patent and Trademark Office.)

Dependent claims 12 through 21 similarly claim only apparatuses based on independent claim 11. These claims also claim machines and are thus well-within the four statutory categories of patent eligible subject matter.

B. Alice Analysis

claims that survived review by the Supreme Court were claims that clearly involved the *use* of electromagnetism. Id. at 85–86. For example, claim one, which survived review by the Supreme Court, was “making use of the motive power of magnetism . . . which may be used to imprint signals upon paper . . . or produce sounds in any desired manner, for the purpose of telegraphic communication at any distance.” The claims were not, however, directed to electricity itself and thus did not attempt to claim a natural phenomenon. Samuel Morse was claiming an inventive use of electricity to generate signals at a distance. (See generally id.) The claim that was disallowed as patent-ineligible was Morse’s eighth claim for the abstract concept of using electricity to generate a signal, divorced from any “specific machinery, or parts of machinery.”

⁸ Further intrinsic evidence that the “laser system” does not claim a laser beam *per se*, is the specification’s descriptions of Figures 6 and Figures 7. (See generally ’894 Patent at 11:52–15:33).

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The more nuanced analysis required in this case is an analysis of whether or not the claims of the '894 Patent violate the “important implicit exception” of patent-eligibility: “[l]aws of nature, natural phenomena, and abstract ideas are not patentable.” Alice, 134 S. Ct. at 2354 (2014) (quoting Myriad, 133 S. Ct. at 2116).

Under the framework set forth by the Supreme Court in Mayo and Alice, the Court first determines “whether the claims at issue are directed to one of those patent-ineligible concepts.” Alice, 134 S. Ct. at 2355 (citing Mayo, 132 S. Ct. at 1296–97).

1. Alice Step One

Lensar argues that the claims are directed toward natural phenomena and the laws of nature. The Court disagrees.

Although Lensar frequently cites to the portion of Mayo indicating that Einstein could not have patented $E=mc^2$ and Newton could not have patented the laws of gravity, Lensar fails to indicate what portion of the patent claims appear to claim for itself a particular equation or law of nature. This is not an example of simply stating “apply it” after reciting a law of nature. The patent does not, in fact, recite a law of nature.

Lensar’s characterization of what constitutes a law of nature or a natural phenomena for purposes of the Alice step one analysis is precisely what the Alice Court warned would “swallow all of patent law” when the analysis goes too far. Alice, 134 S. Ct. at 2354. The Supreme Court reiterated that a “patent is not rendered ineligible for patent simply because it *involves*” a patent-ineligible concept. Id. (emphasis added) (citing Diehr, 450 U.S. 175, 187 (1981).) See also Enfish, LLC v. Microsoft Corp., --- F.3d ---, 2016 WL 2756255, at *6 (Fed. Cir. May 12, 2016) (“describing the claims at such a high level of abstraction and untethered from the language of the claims all but ensures that the exceptions to § 101 swallow the rule.”) Instead, a patent is ineligible if it is *directed* to the patent ineligible concept, for example by claiming an essential building block of human ingenuity or a scientific principle. Patenting the concept of lift is inappropriate under § 101. Patenting a particular airplane wing is not.

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Here, the claims of the '894 Patent are not directed towards the broad, generalized use of electromagnetic spectrum. Instead, the '894 Patent has claimed a particularized, specific use of a specific range of the electromagnetic spectrum; a use that the '894 Patent claims has particular and useful effects. Here, the plain focus of the claim is not directed, broadly, to laser beams. Instead, the focus of the claim is the operation of a pulse laser of an ultrashort duration (between a femtosecond (quadrillionth of a second) and 100 picoseconds (trillionth of a second)) repeatedly to achieve the desired results of material removal with substantially no collateral damage. (See '894 Patent at 16:35–53, 17:20–35.) The claims are not directed to the use of the electromagnetic spectrum, or the qualities of light broadly, but are specifically directed to a method and system of using laser beams of ultrashort duration. The Court will not read out the specific claim limitations that the pulse laser must be of ultrashort duration, nor the claim limitations that the pulse laser must be operated at a high frequency. The specific way to use the electromagnetic spectrum claimed here is not simply reciting a natural law regarding the functioning of lasers and claiming to “apply it.” See also Enfish, --- F.3d ----, 2016 WL 2756255, at *6 (discussing that a patent was not ineligible as abstract because it was not directed simply to the idea of storing tabular data and was instead directed to a particular self-referential table for a computer database). Although this invention, *like all patent-eligible inventions*, may at some level “apply laws of nature,” that does not mean that the present invention is directed at that law of nature. Mayo, 132 S Ct. at 1293.

Lensar also fails to show how ultrashort pulse laser beams are naturally occurring phenomena. Nothing about the '894 Patent indicates this to be the case. Instead, the specification indicates that the ultrashort pulse laser beams have to be generated from a specialized piece of equipment. (See '894 Patent Fig. 6, '894 Patent at 11:52–14:26.) No part of the independent claims of the '894 Patent are directed towards naturally occurring phenomena or laws of nature. This is not the simple capture of a feature of nature that was not developed by human ingenuity. Compare Funk Bros. Seed Co. v. Kalo Inoculant Co., 333 U.S. 127, 130–31 (1948) (no patent where the discovery is “no more than the discovery of some of the handiwork of nature”) with Chakrabarty, 447 U.S. at 309–10 (creation of a micro-organism may qualify as patentable subject matter). The discovery that the material-removing properties of ultrashort pulsed lasers have beneficial effects is “not nature’s handiwork” but rather the work of the inventor of the subject matter here. Chakrabarty, 447 U.S. at 310.

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In short, the '894 Patent does not monopolize the use of laser beams for research or medical applications; instead, it discloses an improvement as to which laser beams and which qualities of laser beams lead to an advantageous material removal process. The claims of the '894 Patent are not directed to natural laws or natural phenomena; instead, they are the application of a narrow and specific principle: ultrashort lasers have advantageous material removing properties. No law of nature directs that a laser must be operated in an ultrashort pulse manner. Because the claims of the '894 Patent are not directed towards any of the categories of patent-ineligible subject matter—laws of nature or natural phenomena—the Court may conclude its analysis at step one of the Alice framework.

2. Alice Step Two

Although the Court concludes that the claims of the '894 Patent survive scrutiny under step one of the Alice analysis, the Court determines that the claims of the '894 Patent would also survive under step two of the Alice framework.

The second step of the Alice analysis requires the Court to search for an “inventive concept” by considering the elements of each claim—both individually and as an ordered combination—“to determine whether the additional elements ‘transform the nature of the claim’ into a patent-eligible application.” Alice, 134 S. Ct. at 2355 (citing Mayo, 132 S. Ct. at 1297–98).

Here, the Court finds such an inventive concept. As described in the '894 Patent's specification, in the 1970s it was concluded that due to deficiencies in the material removal qualities of traditional lasers (namely, unacceptable collateral damage to tooth surface and tooth pulp), lasers would not have wide application for dental drilling purposes. (See '894 Patent at 1:33–50.) Beginning in the 1990s, dental drilling operating by pulses in the nanosecond-microsecond range could prove to be an effective drill. (Id. at 1:52–62.) The '894 Patent improved upon this prior art by proposing even shorter duration pulsed beams. (Id. at 3:60–63.)

According to the '894 Patent, use of ultrashort pulsed beams permits a greater pulse repetition rate with minimal collateral damage. A greater pulse repetition rate means greater material removal rates and less transfer of thermal energy. (See id. at

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10:14–42, 11:39–51.) The inventive aspect of this invention was the discovery that many benefits could be achieved if a pulsed laser was configured to operate at ultrashort duration at a higher frequency.

Lensar presents no persuasive argument or citation to the contrary. Lensar instead relies on the inapposite cases of Morse and Nuijten. Lensar’s further citation to Ultramercial, Inc. v. Hulu, LLC, 772 F.3d 709 (Fed. Cir. 2014), is also inapposite. The Federal Circuit in Ultramercial dealt with a “general purpose computer,” not a vague notion of a general purpose machine. A general purpose computer can, as the Supreme Court has recognized, speed up computational tasks. This is particularly useful when performing the steps of certain abstract concepts. But there is no reason to believe that the “laser” or “laser system” described in the ’894 Patent is a general purpose machine. A laser is simply not analogous to a computer in the manner that computers are considered “general purpose” by cases such as Ultramercial. A computer can be an instrument through which the entirety of the abstract concept is performed. See id., 772 F.3d at 714–15. A laser, by contrast, has to have particular components to produce the specific output laser beam required. See, e.g., ’894 Patent at 14–29 (identifying that commercially available oscillators are suitable for the practice of the invention).

At the hearing, Lensar also compared the present case to Mayo. In Mayo, the patent holder’s patent described a law of nature (i.e. relationships between concentrations of certain metabolites in the blood and the likelihood that a dosage of a drug would prove ineffective or cause harm) and then added certain steps such as administering a greater dose of the drug if the administrator determined that the dosage was not yet at the effective level. 132 S. Ct. at 1296–98. The Supreme Court found that these additional steps were “well-understood, routine, conventional activity.” Id. at 1298. Moreover, these steps were either “pre-solution” activity or “post-solution” activity that added no inventive concept to the claims. Id. In contrast, here, the discovery that ultrashort pulse beams, when used at a high frequency, are effective is not pre-solution or post-solution activity. Nothing about the claims of the ’894 Patent instructs the reader of the patent to gather data and apply the information gathered. Rather, the ’894 Patent tells the reader to use laser beam pulses of a particular quality. The use of ultra short burst lasers are the solution, and such use is an inventive solution.

