No. 07-1404

In The Supreme Court of the United States

PETRUS A.C.M. NUIJTEN,

Petitioner,

v.

JONATHAN W. DUDAS, UNDER SECRETARY OF COMMERCE FOR INTELLECTUAL PROPERTY AND DIRECTOR, PATENT AND TRADEMARK OFFICE,

Respondent.

On Petition For Writ Of Certiorari To The United States Court Of Appeals For The Federal Circuit

BRIEF OF AMERICAN INTELLECTUAL PROPERTY LAW ASSOCIATION AS *AMICUS CURIAE* IN SUPPORT OF PETITIONER

JAMES POOLEY
President
AMERICAN INTELLECTUAL PROPERTY LAW ASS'N
241 Eighteenth St., South
Suite 700
Arlington, VA 22202
(703) 415-0780

**Counsel of Record*

DENISE M. KETTELBERGER*
MERCHANT & GOULD PC
80 South Eighth St.
Minneapolis, MN 55402
(612) 371-5268

MEREDITH MARTIN ADDY
BRINKS HOFER GILSON & LIONE
455 N. Cityfront Plaza Dr.
Chicago, IL 60611
(312) 321-4200

Counsel for Amicus Curiae

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INTEREST OF THE *AMICUS CURIAE*

The American Intellectual Property Law Association (AIPLA) is a national bar association of more than 17,000 members engaged in private and corporate practice, in government service, and in the academic community. AIPLA represents a wide and diverse spectrum of individuals, companies, and institutions involved directly and indirectly in the practice of patent, trademark, copyright, and unfair competition law, as well as other fields of law affecting intellectual property. AIPLA members represent both owners and users of intellectual property.

AIPLA has no interest in any party to this litigation or stake in the outcome of this case, other than its desire for a correct interpretation and application of the United States Patent Laws.

In accordance with Supreme Court Rule 37, AIPLA has obtained written consent to the filing of this brief from counsel of record for the parties. The letters of consent have been filed with the clerk of the court.[1]

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[1] In accordance with Supreme court Rule 37, AIPLA states that this brief was not authored, in whole or in part by counsel to a party, and that no monetary contribution to the preparation or submission of this brief was made by any person or entity other than the *amicus curiae* or its counsel. The parties were notified ten days prior to the due date of this brief of the intention to file.

SUMMARY OF THE ARGUMENT

A hallmark of the United States Patent System is its ability to adapt and embrace cutting edge technologies in a timely manner to provide commercially significant protection and incentives for the development of new enterprises. At the time of the industrial age, the space age, the computer age, the pharmaceutical age, the biotech age, and the electronics age, the U.S. patent system stood ready to process "new age" inventions and to stimulate new economic growth in these technology sectors. This flexibility has permitted new industries to flourish in this country far before others, and has provided fertile ground for economic growth.

This Court has interpreted the Constitution and the U.S. patent laws to contain few limitations on patent-eligible subject matter, finding the boundaries of the four statutory classes of subject matter to encompass virtually any "new and useful" technology.

At issue in this case is whether the U.S. Court of Appeals for the Federal Circuit erred by adding new requirements to 35 U.S.C. § 101 that are not supported by the Constitution, not required by the Patent Statute, and not consistent with this Court's interpretation of the patent statute in view of Congressional and Constitutional intent. The added limitations require patent-eligible manufactures to be non-transitory, tangible articles that are perceived without special equipment, and would deny access to the patent system for signals and other important

advances in technology that do not meet the new requirements, no matter how innovative, unique, or useful they may be.

The limitations proposed by the Federal Circuit to be added to the four otherwise expansive statutory categories of patent-eligible subject matter threaten to open a slippery slope of judicial exceptions having unforeseen consequences. The delicate balance of innovation, investment, commercialization, and movement of technology into the public domain tilts heavily on the side of open access to the patent system.

The critical nature of this issue compels AIPLA to urge the Court to grant certiorari in this case to preserve broad access to the U.S. patent system as conceived by the founding fathers, preserved by congress, and historically interpreted by this court.

INTRODUCTION

Section 101 sets forth four general categories of statutory subject matter: "any new and useful process, machine, *manufacture,* or composition of matter." 35 U.S.C. § 101 (2000) (emphasis added). Section 101 is written and interpreted broadly. No legislative history or Supreme Court case law suggests limiting the subject matter of these four categories; in fact, the case law teaches the opposite. *See, e.g., Diamond v. Chakrabarty*, 447 U.S. 303, 309 (1980) (patentable subject matter includes "anything under the sun

made by man.") (citations to legislative history omitted); *Diamond v. Diehr*, 450 U.S. 175, 182-83 (1981). This Court's decisions on the issue of patentable subject matter do not exclude new or unusual technologies. *Diehr*, 450 U.S. at 182-83; *Parker v. Flook*, 437 U.S. 584, 590-91 (1978). Rather, the Court reviewed each case on its particular facts set in the appropriate technological era. *Id.*; *see Gottschalk v. Benson*, 409 U.S. 63, 71 (1972).[2]

Within this broad framework, the Court also has recognized that certain basic principles, such as laws of nature, natural phenomena, and abstract ideas, exist in the public domain for all time. These limited exclusions are distinguished from practical, and therefore patent-eligible, applications of the same.[3] An inventor is not entitled to remove one of these basic principles from the public by claiming it in isolation.[4] This protection of the public commons provides guidance to the decision-maker to prevent

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[2] For example, in *Benson*, the Court held claims to a formula for converting BCD numerals using a computer unpatentable because that claim would wholly preempt the mathematical formula. Yet, the Court in *Benson* was clear that its holding did not apply to all computer programs: "It is said that the decision precludes a patent for any program servicing a computer. We do not so hold." 409 U.S. at 72; *see Diehr*, 450 U.S. at 198 nn.10-11 (Stevens, J., dissenting).

[3] *Diehr*, 450 U.S. 175, 185, 187-88 (1981) ("It is now commonplace that an application of a law of nature or a mathematical formula to a known structure or process may well be deserving of patent protection.").

[4] *Id.*

removal from the public of natural or broad scientific principles.

Courts have explored the expansive nature of the four statutory categories with each new phase of technological growth. While this Court has required a patent-eligible invention to fall within one of the stated statutory categories,[5] it also has broadly construed the boundaries of these categories.[6] An expansive interpretation of patent-eligible subject matter permits the U.S. patent system to capture and reward innovation in new and evolving technologies and thereby stimulate economic growth in those areas.[7]

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[5] *See, e.g., Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470, 483 (1974) (excluding mere discoveries from patentable subject matter).

[6] *Diehr*, 450 U.S. at 182-83; *Chakrabarty*, 447 U.S. at 308-09; *Benson*, 409 U.S. at 67.

[7] *See* F. Scott Kieff, *A keiretsu approach to patents*, INTELLECTUAL ASSET MANAGEMENT, Feb./Mar. 2007, at 52, *available at* http://www.iam-magazine.com (last visited June 5, 2008).

ARGUMENT

I. *DIER* AND *CHAKRABARTY* SET FORTH THE PROPER STANDARD FOR DETERMINING PATENT-ELIGIBLE SUBJECT MATTER UNDER SECTION 101

This Court has established the proper test for determining eligibility under 35 U.S.C. § 101: Whether a claim incorporating an abstract idea is statutory subject matter depends on whether the claim, when viewed as a whole, recites a practical and definite application of the abstract idea with a useful result. *See Diehr*, 450 U.S. at 188; *see also Flook*, 437 U.S. at 590-91; *Chakrabarty*, 447 U.S. at 309-10.[8]

In reaching its decision, the *Diehr* Court reviewed the patent statute, the legislative history, and prior case law and crafted a test that was forward thinking and industry independent. First, the Court relied upon *Mackay Radio & Telegraph Co. v. Radio of America*, 306 U.S. 86, 94 (1939) for the proposition that "a novel and useful structure created with the aid of knowledge of scientific truth may be" patentable. The Court then applied *Funk Brothers Seed Co. v. Kalo Co.*, 333 U.S. 127, 130 (1948) to point out

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[8] The invention must be considered as a whole because extraordinary inventions may come from the combination of ordinary and known elements. *See Diehr*, 450 U.S. at 193 ("The patents were warranted not by the novelty of their elements but by the novelty of the combination they represented.") (quoting *Great A. & P. Tea Co. v. Supermarket Equip. Corp.*, 340 U.S. 147, 152 (1950)).

that use of a "law of nature" within a claim does not, by itself, render the claim non-statutory: "[i]f 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."

Although the Court in *Diehr* applied this test to a process, the test applies to section 101 generally, and the Court in *Chakrabarty* applied it to a "manufacture":

> In choosing such expansive terms as 'manufacture' and 'composition of matter', modified by the comprehensive 'any', Congress plainly contemplated that the patent laws would be given wide scope.[9]

Devoid of limiting language, section 101 readily accommodates the rapid pace of innovation and the assimilation of new technologies, including technologies never anticipated at the time section 101 was enacted.

Since 1796, the broad and expansive terms of the Patent Act have embraced inventions in fields as diverse as mechanics, chemistry, electricity, plants, animals, biotechnology, nanotechnology, computers, and software. The lack of exclusionary limitations permits entry of yet unknown innovations and technologies.[10]

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[9] *Chakrabarty,* 447 U.S. at 308.

[10] *See* Robert Greene Sterne & Lawrence B. Bugaisky, *The Expansion of Statutory Subject Matter Under the 1952 Patent Act,* 37 Akron L. Rev. 217, 225 (2004) ("Based on this history,

(Continued on following page)

Limiting access to the U.S. patent system should thus be avoided except in rare instances.

That the threshold for patent-eligible subject matter is readily crossed does not cause harm to the public. Issuance of a patent requires much more than just reciting patent-eligible subject matter under section 101. The public domain is well-protected by other, more stringent criteria for patentability, including novelty (§ 102), non-obviousness (§ 103), and adequate written disclosure (§ 112).

The test for patent-eligible subject matter set out in *Chakrabarty*, *Diehr*, and *Benson* makes clear that section 101 is to be interpreted broadly. An analysis of the Nuijten claim for patent-eligible subject matter should focus on the nature of the subject matter, its practical utility, and its creation, rather than applying exclusionary limitations not provided in the statute or case law.

A. The *Chakrabarty* Standard Embraces Signal Claims as Statutory Subject Matter

In *Chakrabarty*, this Court considered the boundaries of the statutory categories "manufacture"

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there appears to be no compelling reason why future patentable subject matter in any technology area cannot be addressed under the current statutory provision.").

and "composition of matter."[11] The Court held Chakrabarty's man-made microorganism, to be patent-eligible subject matter:

> [The altered] microorganism plainly qualifies as patentable subject matter. His claim is not to a hitherto unknown natural phenomenon, but to a non-naturally occurring manufacture or composition of matter – a product of human ingenuity "having a distinctive name, character [and] use."[12]

However, the Court distinguished Chakrabarty's microorganism from that found in nature. Because his discovery "is not nature's handiwork, but his own" the Court held that the microorganism was patentable under section 101.[13] In making this distinction, the Court emphasized the intent of Congress to keep an open scope of patentable subject matter. Because the Chakrabarty microorganism was a human-made invention, it was patent-eligible.

The *Chakrabarty* Court cited Senate and House Reports on this issue:

> There is a clear and logical distinction between the discovery of a new variety of plant

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[11] *Chakrabarty*, 447 U.S. at 308, citing *Am. Fruit Growers, Inc. v. Brogdex Co.*, 283 U.S. 1, 11 (1931) and *Shell Dev. Co. v. Watson*, 149 Supp. 279, 280 (D.C. 1957).

[12] *Id.* at 309-10, quoting *Hartranft v. Wiegmann*, 121 U.S. 609, 615 (1887).

[13] *Id.* at 310.

> and of certain inanimate things, such, for example, as a new and useful natural mineral. The mineral is created wholly by nature unassisted by man. . . . On the other hand, a plant discovery resulting from cultivation is unique, isolated, and is not repeated by nature, nor can it be reproduced by nature unaided by man. . . .[14]

Congress recognized, and this Court reaffirmed, that the relevant distinction was not between living and inanimate things, but between products of nature and human-made inventions.[15]

In the instant case, the Nuijten signal claim stands rejected as patent-ineligible because the claimed signal is transitory, intangible, and imperceptible without equipment. However, like the non-statutory rejection that Chakrabarty faced, the Nuijten rejection was equally unjustified. Nothing in the legislative history or judicial precedent requires the claimed invention to be non-transitory or tangible to the unaided human. There is no duration prerequisite that would require the invention to exist for any particular period of time. Likewise, nothing in the statute excludes subject matter that "to be perceived, must be measured at a certain point in space and time by equipment capable of detecting and

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[14] *Id.* at 313 (quoting S. Rep. No. 315, 71st Cong. 6 (2d Sess. 1930); H.R. Rep. No. 1129, 71st Cong. 7 (2d Sess. 1930)).

[15] *Id.*

interpreting"[16] it; nor is there any indication that the substance must last any longer than is necessary to be useful[17] Quite the contrary, transitory, intangible subject matter, for example, chemical intermediates, has been found to be patent-eligible subject matter, despite being transitory, unstable, and incapable of isolation.[18]

Importantly, the *Chakrabarty* Court cited Justice Douglas's discussion in *Great A. & P. Tea Co. v. Supermarket Corp.*, that "the inventions most benefiting mankind are those that push back the frontiers of chemistry, physics, and the like," and "Congress employed broad general language in drafting 101 precisely because such inventions are often unforeseeable."[19] New and unnecessary limitations that exclude otherwise statutory subject matter are clearly not intended by section 101.

B. Section 101 Eligibility Is Different than the Required Analysis Under Sections 102, 103, and 112

Section 101 ends with the caveat that, even though a claim may be said to contain patentable subject matter, it still must satisfy the other requirements of sections 102, 103, and 112. "The understanding that

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[16] *In re Nuijten*, 500 F.3d 1346, 1356 (Fed. Cir. 2007).

[17] *Id.* at 1359 (Linn, J., dissenting).

[18] *See In re Breslow*, 616 F.2d 516, 521-22 (C.C.P.A. 1980).

[19] *Chakrabarty*, 447 U.S. at 316.

these three requirements are *separate and distinct* is long-standing and has been universally accepted." *In re Bergy*, 596 F.2d 952, 960 (C.C.P.A. 1979) (emphasis in original). The late Judge Giles Rich described them as doors that require separate keys. *Id.* at 960-62. In other words, simply because an invention contains patentable subject matter does not mean that a patent should issue.

Section "101 was never intended to be a 'standard of patentability'; the standards, or conditions as the statute calls them, are in § 102 and § 103." *Bergy*, 596 F.2d at 963; *see also Diehr,* 450 US. at 189 (reinforcing that section 101 is a "general statement of the type of subject matter that is eligible for patent protection" and section 102 "covers in detail the conditions relating to novelty" (citations omitted)). The legislative history is consistent with this view. "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." S. Rep. No. 1979, 82d Cong., 2d Sess., 5 (1952), U.S. Code Cong. & Admin. News, 1952, p. 2399. Once section 101 is satisfied, the inventor still must satisfy sections 102, 103, and 112 before he will be entitled to a patent. *See Bergy*, 596 F.2d at 960-62 (discussing separate doors for sections 102 and 103).

Critics of a broad reading of section 101 express concern that if the scope of patentable subject matter is not cabined, innovation will be reduced. However,

these arguments disregard the other sections of the patent statute – the other doors in Judge Rich's analysis that must be unlocked before a patent may issue. *See Bergy*, 596 F.2d at 960.

The profound truth underlying Congress' broad statement of eligibility is that it fosters *more* innovation. Indeed, the foundation of our patent system is the notion that a U.S. patent provides incentives that encourage creativity. Filing an application provides the applicant's *quid pro quo* – disclosure and publication[20] – to the benefit of the public. Even if those applications do not issue as patents, the public benefits because of their dedication. A cramped reading of section 101 would discourage filings, and we would never know what the public lost without them.

Recognizing that section 101 opens only that first door to substantive examination provides a lead toward resolving this Court's questions. The applicant still must open three more doors to sections 102, 103, and 112. *See, e.g., SmithKline Beecham Corp. v. Apotex Corp.*, 403 F.3d 1331, 1342, 1346 (Fed. Cir. 2005) (concluding that the claim at issue was directed to eligible subject matter under section 101, but holding the claim anticipated under section 102).

This approach also is compatible with the concerns expressed by Justice Breyer in *Laboratory*

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[20] U.S. patent applications are published at 18-months past the priority filing date unless a non-publication request is granted under 35 U.S.C. § 122(b)(2)(B)(i).

Corp. of America Holdings v. Metabolite Labs., Inc., 548 U.S. 124 (2008) (Breyer, J., dissenting from dismissal for improvidently granted review) about the risk to innovation from too many patents. The issue is not whether those concerns are legitimate, but which valve to adjust to effect the necessary control. In this case and in others, the appropriate valve is found in the "conditions for patentability," i.e., where the claims are examined under sections 102, 103, and 112. It is not in the scope of subject matter under section 101, the contraction of which would risk foreclosing valuable and unforeseeable future innovations.

Questions of patent-eligible subject matter most often arise at the dawning of a new technological era. Because of the lack of available prior art, rejections under sections 102 and 103 may be difficult to apply. This does not mean, however, that the threshold for satisfying section 101 should be narrowed to foreclose new technologies. Rather, it means that better methods of examination might be needed as exemplified, for example, by the Peer to Patent Community Patent Review pilot project.[21]

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[21] Peer to Patent, http://www.peertopatent.org (last visited June 11, 2008).

C. Section 112, Rather Than Section 101, Guards Claim Scope

Section 101 is not intended to guard against overbroad claims. That function is performed by section 112 and based on the detail provided in the specification. Section 112 requires claims "particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention." 35 U.S.C. § 112, ¶ 2 (2000). *O'Reilly v. Morse*, 56 U.S. 62, 112-13 (1853) more closely tracks the language of today's section 112 than section 101. 56 U.S. 62, 112-13. In *Morse*, the court held that "[w]e perceive no well-founded objection to the *description* which is given of the whole invention and its separate parts, nor to his right to patent for the first seven inventions set forth in the *specification of his claims*. The difficulty arises on the eighth." *Id.* at 112 (emphasis added). The Court held that claim 8 was too broad:

> In fine he claims an exclusive right to use a manner and process which *he has not described* and indeed had not invented, and therefore *could not describe* when he obtained his patent. The court is of opinion that the *claim is too broad*, and not warranted by law.

Id. at 113 (emphasis added). Ultimately, *Morse* is not entirely about statutory subject matter, but about the scope of the claims compared with the underlying description of the invention. Under current patent

law, we deal with that issue under section 112 in the form of written description and enablement.[22]

II. NUIJTEN'S SIGNAL CLAIMS ARE STATUTORY SUBJECT MATTER

A. A Signal Claim Is a "Manufacture"

The Federal Circuit in *Nuijten* held that a signal "is man-made and physical – it exists in the real world and has tangible causes and effects." *Nuijten*, 500 F.3d at 1356. Under 35 U.S.C. § 101, that should be enough.[23]

The appellate court continued to describe a signal as a "change in electric potential that, to be *perceived* must be measured at a certain point in space and

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[22] The first and second paragraphs of section 112 read:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.
>
> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

[23] An invention qualifies as patentable subject matter if it (1) is "made by man," and (2) does not involve an attempt to patent "laws of nature, physical phenomena, [or] abstract ideas." *Chakrabarty*, 447 U.S. at 309-10.

time by *equipment* capable of detecting and interpreting the signal." *Id.* (emphasis added). The claim at issue makes no attempt to cover every signal. Rather, the claimed signal is specific to "embedded supplemental data" and is "encoded in accordance with a given encoding process." *Id.* at 1351. This is the type of subject matter that the drafters of the 1952 Patent Act contemplated in section 101.[24]

Yet, the Federal Circuit came to the opposite conclusion. The court interpreted the definitions of "articles" of "manufacture" under section 101 as mired in early- to mid-20th century dictionary definitions:

> These definitions address "articles" of "manufacture" as being tangible articles or commodities. A transient electric or electromagnetic transmission does not fit within that definition.

Nuijten, 500 F.3d at 1356. By stunting the definition of "manufacture" in the mid-twentieth century (frankly, to mid-*nineteenth* century sorts of "manufactures"), the court also threatens to stunt future innovation and the patent system. This was not the intent of the drafters of the Constitution, of the Congress in enacting section 101, or of this Court's interpretations of section 101. *See supra*, Sec. I. "In determining the scope of patentable subject matter, we must reconcile cutting-edge technologies with a

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[24] *Diehr*, 450 U.S. at 182.

statute, the language of which dates back to the beginning of the Republic." *Nuijten*, 500 F.3d at 1358 (Linn, J., dissenting).

The court should not become sidetracked by whether the invention is perceptible without a machine or whether the term "manufacture" is limited to non-transitory, tangible things. Many patentable inventions cannot be perceived without equipment, including inventions that exist for only a brief moment in time.[25]

Indeed, under the Federal Circuit's interpretation of "manufacture," a claim to a laser beam, which cures diseases and makes modern telecommunication systems possible, would have been ineligible for examination.[26]

"Myriad inventions, particularly in the chemical arts, can only be detected using equipment – this is inevitable if patents are to cover advanced technologies." *Id.* at 1359; *see also In re Breslow*, 616 F.2d 516, 519, 521-22 (C.C.P.A. 1980) (recognizing compounds as "composition[s] of matter" and holding that chemical intermediates are patentable compositions of matter under section 101 even if "transitory, unstable, and non-isolatable."); *Zenith Labs. v. Bristol-Myers*

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[25] Examples include: chemical intermediates, certain subatomic particles, and active enzymes. Even the altered bacteria of Chakrabarty are perceived only using specialized equipment and have a limited lifespan.

[26] *See, e.g.*, U.S. Patent No. 6,651,888 (claims 6-8).

Squibb Co., 19 F.3d 1418, 1422 (Fed. Cir. 1994) (pharmaceutical converted into claimed chemical compound in vivo).

So many of the scientific and technological advances of the last 100 years embrace a steady journey into worlds measured not by inches or days, but by femtometers and picoseconds; where real-world effects result from what seem like invisible quantum-mechanical processes (resulting in now conventional inventions such as the transistor, laser, and LCD displays). Indeed, quantum mechanics and modern physics demonstrate an unequivocal relationship between matter and energy, particles and waves, signals and tangible "things."

Against the backdrop of all of these scientific and industrial advances of the last century, the Federal Circuit provides no support for its new section 101 requirements that an invention be tangible, nontransitory, and perceivable. These may have been characteristics of inventions considered and presented to the Court fifty or even one hundred years ago, but the statute should not be limited to historical forms of innovation. If it were, many deserving inventions would not have been patented. "[R]ather than delineate specific, narrow categories, Congress has consistently intended statutory subject matter to cover the full scope of technological ingenuity, however it might be best claimed." *Nuijten*, 500 F.3d at 1362 (Linn, J., dissenting).

B. Signal Claims Satisfy Section 101's New and Useful Criteria

1. Nuijten's Signal Claims Are New

Section 101 requires the discovery to be "new." Whereas "novelty" is a requirement of section 102, the "newness" that section 101 requires is the creation that is "*made by man*," rather than the discovery of preexisting principle. *See* 35 U.S.C. § 101 (2000).

This Court observed in *Funk Brothers* that "patents cannot issue for the discovery of the phenomena of nature" because such phenomena "are part of the storehouse of knowledge of all men. They are manifestations of laws of nature, free to all men and reserved exclusively to none." 333 U.S. at 130. Invention comes from the application of a law of nature to a new and useful end. *Id.*

The Court in *Chakrabarty* also dealt with the requirement that statutory subject matter be "new" in section 101:

> This is not to suggest that § 101 has no limits, or that it embraces every discovery. The laws of nature, physical phenomena, and abstract ideas have been held not patentable. [citations omitted] Thus, a new mineral discovered in the earth or a new plant found in the wild is not patentable subject matter. Likewise, Einstein could not patent his celebrated law that $E=mc^2$; nor could Newton have patented the law of gravity. Such discoveries are "manifestations of . . . nature,

> free to all men and reserved exclusively to none." [Citations omitted.]

Chakrabarty, 447 U.S. at 309-10 *citing* H.R. Rep. No. 1923, 82d Cong., 2d Sess., 6 (1952).

In contrast to laws of nature, Nuijten claims a specific altered signal with new and useful properties. Nuijten "embedded supplemental data" into a signal, "encoded" the signal, and "sampled" the signal. Nuijten applied the altered electrical signal to a new and useful end: a more efficient and less noisy watermark to reduce audio and video piracy.[27] This signal does not simply exist in nature; it is man-made for a specific and practical purpose. However, the Federal Circuit held that this new and useful innovation failed to satisfy the threshold of section 101. Under the court's technology-specific standard, many future innovations will likely suffer the same fate.

2. Signal Claims Are Useful

Section 101 also requires patent-eligible subject matter to be "useful." As Judge Linn stated in dissent, "[T]he outer limits of statutory subject matter

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[27] *See Chakrabarty,* 447 U.S. 303, 309-10 ("[R]espondent's micro-organism plainly qualifies as patentable subject matter. His claim is not to a hitherto unknown natural phenomenon, but to a nonnaturally occurring manufacture or composition of matter – a product of human ingenuity 'having a distinctive name, character [and] use.' ").

should not depend on metaphysical distinctions such as those between hardware and software or matter and energy, but rather with the requirements of the patent statute: is an invention a 'process,' 'machine,' 'manufacture,' or 'composition of matter,' and is it 'new' and 'useful'?" *Nuijten*, 500 F.3d at 1367 (Linn, J., dissenting). Nuijten's signal claim recites a new and useful innovation. The embedded signal provides a tool that is "useful to publishers of sound and video recordings" to protect against unauthorized copying. *Id.*, 500 F.3d at 1348. Hence, it is patentable subject matter under section 101.

III. ECONOMIC AND POLICY POSITIONS SUPPORT A BROAD INTERPRETATION OF SECTION 101

Patents are often credited as providing incentives for inventors to invent. Patents also provide incentives for a cascade of events leading to the commercialization of the invention so that it becomes available to the public. Patents provide financial stimulation for many business activities, such as investment, development, marketing, manufacturing, and distribution.[28]

This is clearly seen in the development of the U.S. biotechnology industry. Unlike Japan and Europe, where patents in biotechnology were

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[28] *See* Kieff, *supra* note 6, at 52.

precluded, the U.S. patent system embraced the new technology. "Only in the U.S. and only since 1980 have patents been available in modern biotechnology. In parallel, only in the U.S. and only since 1980 has the biotechnology industry included a steady pool of roughly 1,400 small and medium sized companies that is constantly turning over."[29]

Creating technological preclusions such as signal claims would become the first step in slowing and then retarding the growth and development of an industry segment that depends on innovation in electronic signals. By contrast, an expansive interpretation of section 101 with a wide threshold for patent-eligible subject matter, yet still subject to the other requirements of the patent statute, provides a needed stimulus for business development. That stimulus should not be burdened with unnecessary and unsupported limitations that could upset the balance between encouraging innovation and maintaining proper standards of patentability.

The most dangerous question society can ask about the patent system is "what technology should be barred from patenting?" In a constitutional sense, we may as well be asking what kind of speech should be subject to prior restraint. There may be some, but the exception must be narrow and compelling, closely examined in the light of the cherished principle it constrains.

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[29] *Id.*

As technology again ventures from the recognized into the unknown, under the time-tested mandates of the Constitution, innovation should be no less protectable than in previous eras of transition. "The sea-changes in both law and technology stand as a testament to the ability of law to adapt to new and innovative concepts, while remaining true to basic principles."[30]

CONCLUSION

For the foregoing reasons, AIPLA respectfully request that the Court grant certiorari to preserve broad access to the U.S. patent system.

Respectfully submitted,

JAMES POOLEY
President
AMERICAN INTELLECTUAL PROPERTY LAW ASS'N
241 Eighteenth St., South
Suite 700
Arlington, VA 22202
(703) 415-0780

*Counsel of Record

DENISE M. KETTELBERGER*
MERCHANT & GOULD PC
80 South Eighth St.
Minneapolis, MN 55402
(612) 371-5268

MEREDITH MARTIN ADDY
BRINKS HOFER GILSON & LIONE
455 N. Cityfront Plaza Dr.
Chicago, IL 60611
(312) 321-4200

Counsel for Amicus Curiae
American Intellectual Property Law Association

[30] *AT&T Corp. v. Excel Commc'ns, Inc.*, 172 F.3d 1352, 1356 (Fed. Cir. 1999).